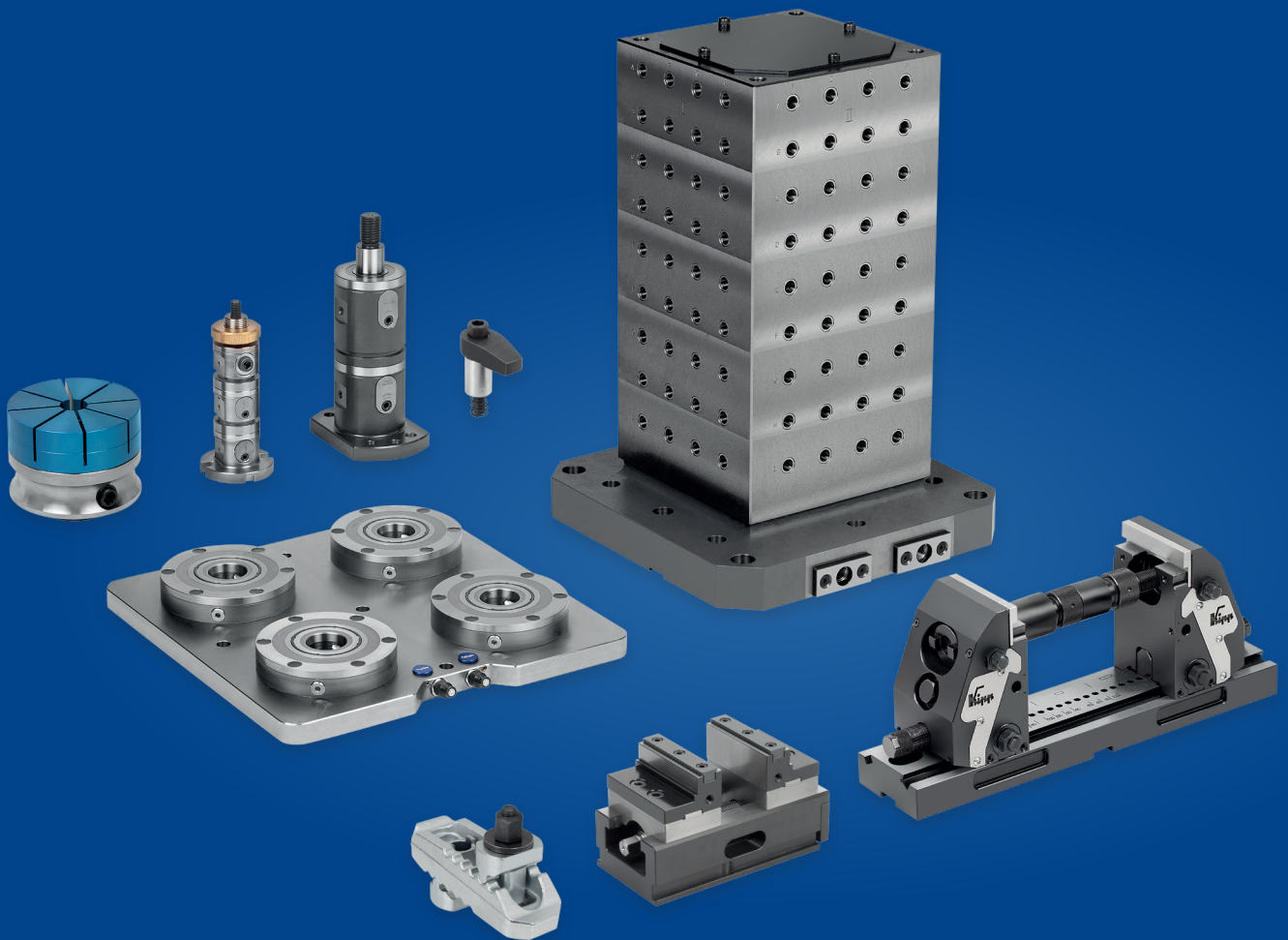




HEINRICH KIPP WERK



CLAMPING TECHNOLOGY

Clamping Technology

Standard Elements

Operating Parts

CONTENTS



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COMPANY

The specialist for clamping technology 4

PRODUCT GROUPS 6

SERVICE

New catalogue logic 8

Maximum compatibility 10

CAD 12

CONTENTS

Alphabetical index 14

Numerical index 18

Product overview 20

PRODUCTS 48



Reg. Nr. 002081 QM



SERVICE HOURS (CET)

MONDAY-THURSDAY 07.00 - 17.30

FRIDAY 07.00 - 15.30



THE SPECIALIST FOR CLAMPING TECHNOLOGY **TRUST IN KIPP**

HEINRICH KIPP WERK is a manufacturer of clamping technology, standard elements and operating parts.

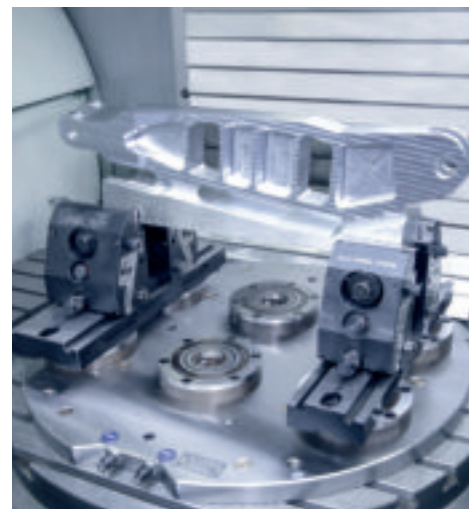
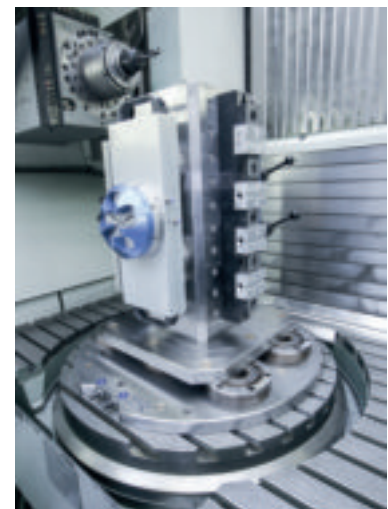
We offer around 2800 components in the specialist field of workholding and clamping technology. The systems are of modular design and compatible with each other. This guarantees maximum setup time optimisation for your machine tools.

95% of our standard components are available ex-stock and so can be quickly delivered. Our team of experts are also available should you have any questions. We develop clamping fixtures for small to medium batch work - individually tailored to your projects.

KIPP supplies products and solutions of which we are 100% convinced. This is what this owner-managed traditional company stands for.

N. Kipp *Heinrich Kipp*
Nicolas Kipp Heinrich Kipp





Product groups

WORKHOLDING TECHNOLOGY



Clamping elements



Page
49



Positioning elements



Page
147



Support and stop elements



Page
159



Form holding systems



Page
227



Workpiece stabiliser



Page
245



Connecting elements

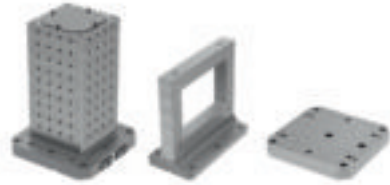


Page
255

MODULAR CLAMPING TECHNOLOGY



Basic elements



Page
273



Mineral cast



Page
303



Add-on elements



Page
309



Accessories



Page
321



NEW PRODUCTS



Page
9

ZERO-POINT CLAMPING TECHNOLOGY



Zero-point clamping system



Page
329



5-axis module clamping system 80



Page
345



5-axis module clamping system 50



Page
373



Positioning and clamping systems



Page
385



VICE CLAMPING TECHNOLOGY



5-axis clamping system compact



Page
395



3-axis and 5-axis vices



Page
419



Centric vices



Page
435



NC vices



Page
445



Multi-clamping systems



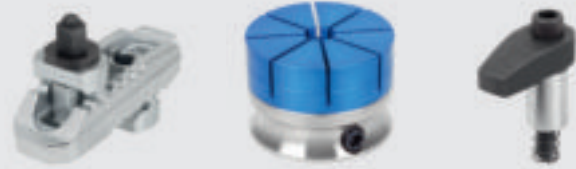
Page
451



New catalogue logic

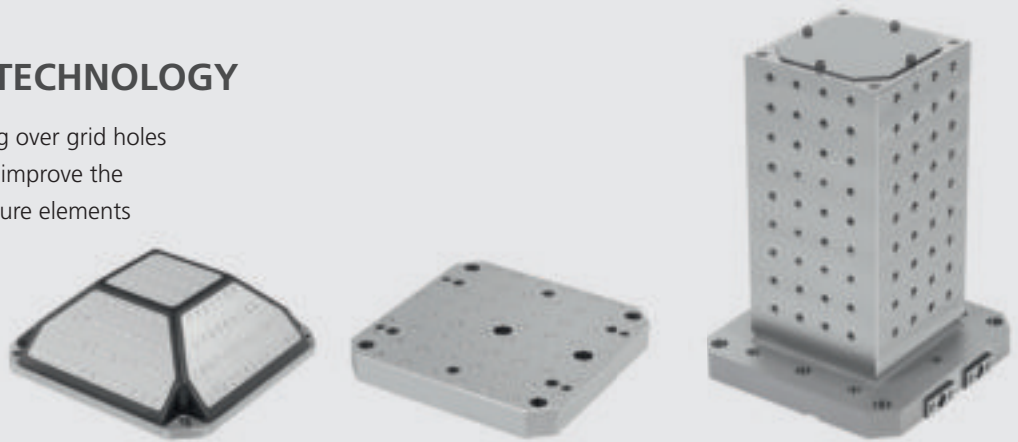
WORKHOLDING TECHNOLOGY

Diverse component program for the universal clamping of workpieces. Logically structured product groups such as clamping elements, positioning elements and clamping accessories for machine tools. Freely combinable and very flexible.



MODULAR CLAMPING TECHNOLOGY

Basic elements for modular workholding over grid holes. Standardised plates, towers and angles improve the flexibility and reduce the number of fixture elements in machining to a minimum.



ZERO-POINT CLAMPING TECHNOLOGY

Systems for quick, precise clamping and referencing with the zero-point clamping technology. The 5-axis module clamping system is available for multi-side machining. Other quick-change systems are the mechanical and pneumatic positioning and clamping systems.



VICE CLAMPING TECHNOLOGY

Various vice types. 5-axis clamping systems for 5-sided machining. NC vices for 3-axis milling machines. Multi-clamping systems for large quantities. Centric vices with zero-point and automaton interface.





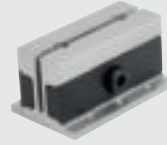
NEW

K1205 Power clamps



NEW

K1168 Flat clamps



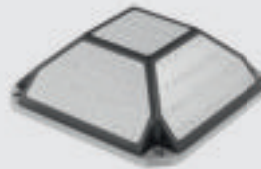
NEW

K1169 Machinable jaws rectangular



NEW

K1170 Workpiece stabiliser



NEW

K1235 Workholding pyramid mineral cast



NEW

K1225 Tombstone double-sided



NEW

K1122 UNI lock double clamping module



NEW

K1117 5-axis basic module system size 50



NEW

K1123 UNI lock manual clamping module



NEW

K1219 Locating cylinder pneumatic



NEW

K1238 NC vice



NEW

K1236 Centric vice jaw width 65 mm

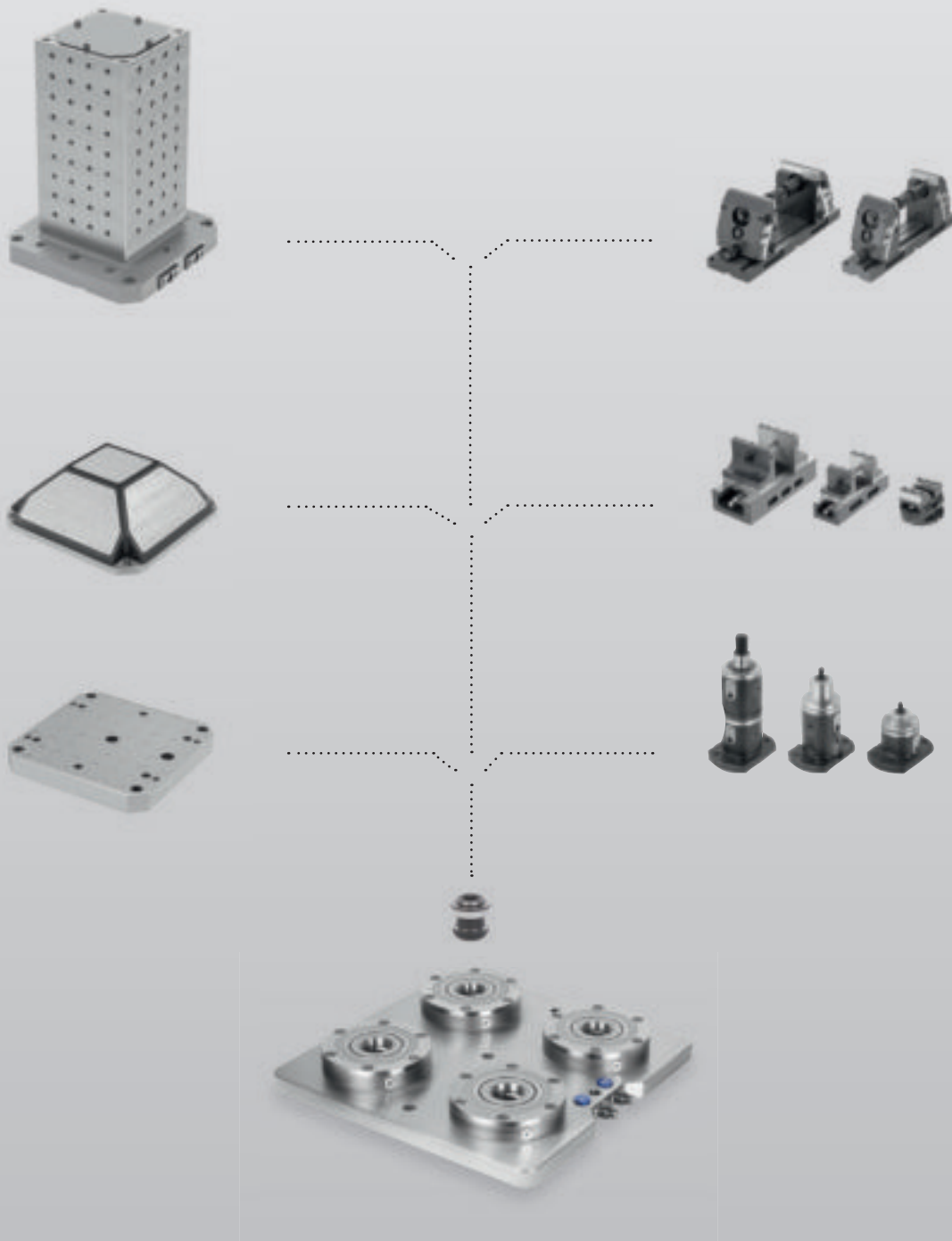


NEW

K1115 Step jaw attachment for 5-axis machining



Maximum compatibility



Our systems are compatible with each other – The basis for this is the zero-point clamping system. All other components are clearly defined over the uniform clamping pin interface. Workpieces can be exchanged within seconds. These highly flexible KIPP clamping systems and minimum set-up times prepare you for any challenges in clamping technology.

CAD

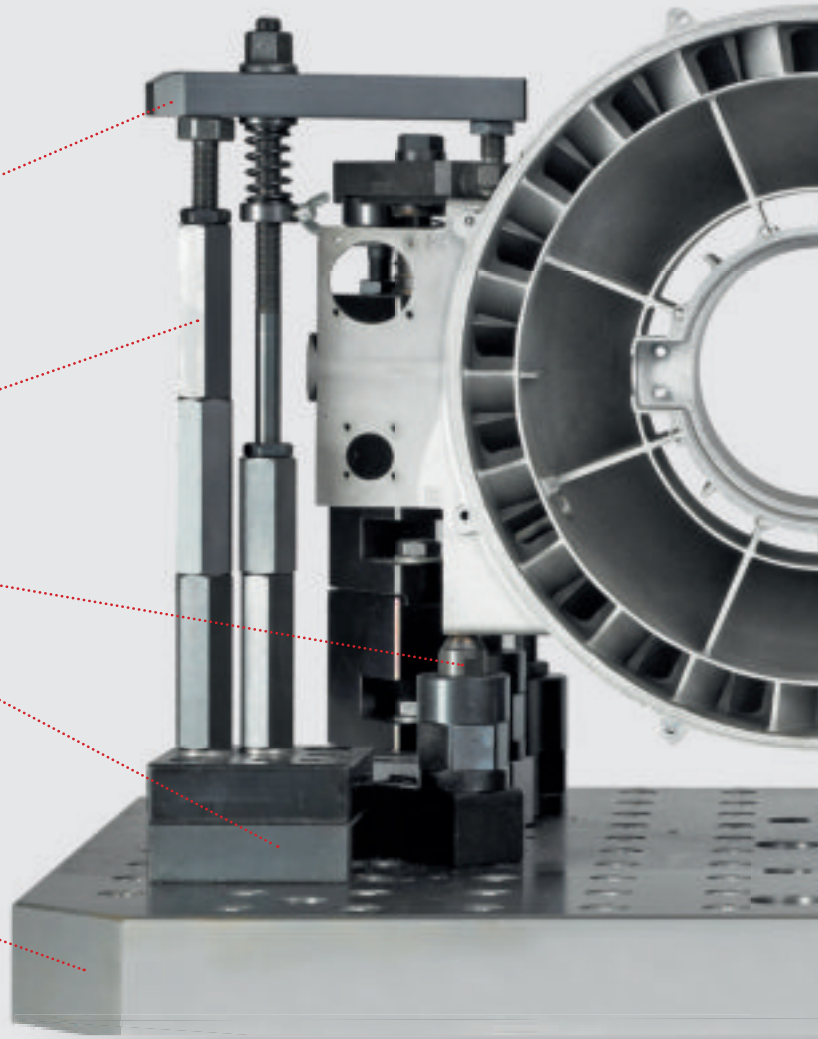
Long slot clamping strap

Extension pieces for height adjustment

Self-aligning pad for support

Precision riser blocks for pitch subdivision

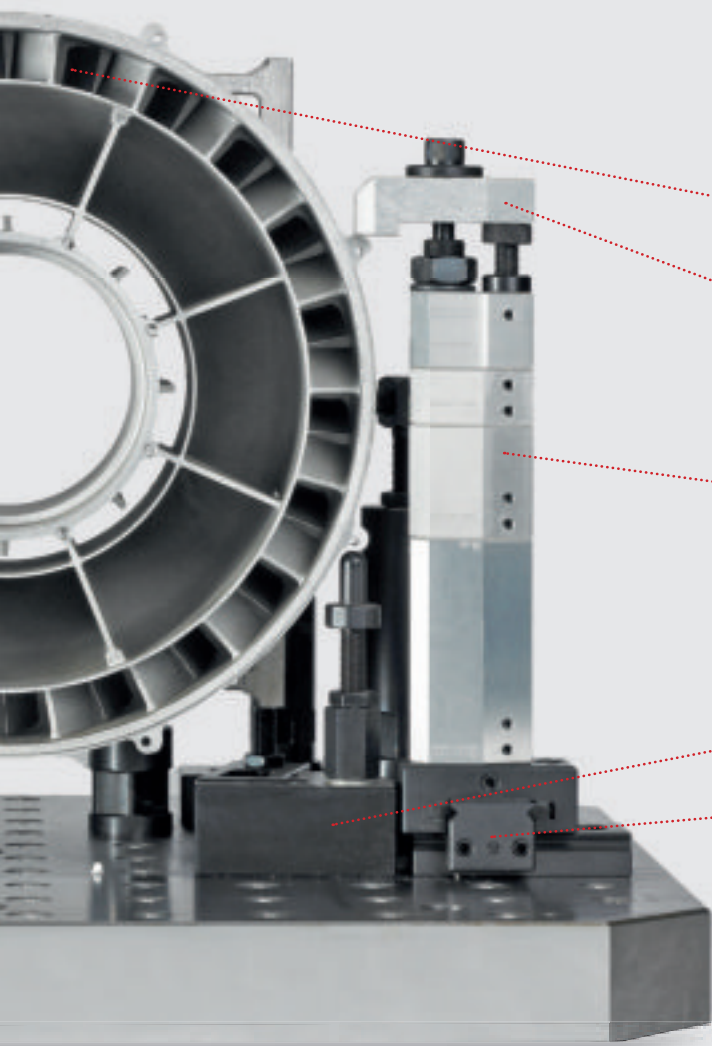
Tooling plate



The KIPP CAD DVD offers:

- Product selection over several search criteria
- 3D product display, drawings, dimension tables and product information
- CAD download (2D and 3D)





Workpiece

Adjustable clamping unit

Various riser blocks

Adjustable seating block

Adjustable positioning unit



2D and 3D CAD data can now be downloaded directly from the selected product. Once you have registered, this service will be available to you each time you log in. Of course, it is still possible to order the KIPP CAD on a data medium.

1-9	page		
3-axis clamping system 5-axis clamping system	419-421	Centring pins for aligning hole	323-324
3-axis clamping system for grid plates	422	Centring pins for central hole	323
3-axis clamping system for T-slots	423	Clamping arms for swing clamp	88
5-axis clamping system compact	371, 383, 395, 407, 412, 417	Clamping balls with cup for workpiece stabiliser	252
5-axis clamping system compact smooth vice jaws	400	Clamping bolts	96
5-axis clamping system for grid plates	424	Clamping claw sets	416
5-axis clamping system for T-slots	425	Clamping collets machinable	240
5-axis module clamping system 50	373	Clamping elements	49
5-axis module clamping system 80	345	Clamping pins	101
5D workpiece stops	225	Clamping pins (high force)	103
A	page	Clamping screws	101
Adjustable stops	223	Clamping screws (high force)	103
Adjustable supports	172	Clamping units	60
Aluminium protection plugs	325	Clamping units pin-end strap	52-53
Angle clamp adapters size 80 mm	362	Clamp springs	76
Atlas jack with locknut	174	Clamp strap assemblies	54-55, 57
Attachment jaws stepped, with grip rail	440	Clamp straps	72
Attachment step jaw with gripper for NC vice	448	Clamp straps goose-neck	71
B	page	Clamp straps pin-end	70
Ball-end thrust screws with head	188-189	Clamp straps tapped both ends	73
Ball-end thrust screws without head with flattened ball	192-193	Clamp straps tapped heel	74-75
Ball-end thrust screws without head with flattened ball and rotation lock	194	Clamp straps with adjustment unit	51
Ball-end thrust screws without head with full ball	190-191	Clamp strap unit	61
Baseplate for centric vice	443	Claw clamp for workpiece stabiliser	251
Base plates	405	Collets for external clamping	236-237
Base rails	460	Collets for external or internal clamping	232
Basic elements	273-277	Collets for internal clamping	238-239
C	page	Connecting blocks	322
Cam clamps with riser	137, 139	Connecting bolts	68
Cam screws with hexagon washer	136	Connecting bushes	66, 69
Cam screws with hexagon washer, for T-slots	137	Connecting screws long	63
Cam screws with knife edge washer	137	Connecting screws short	63
Centre jaws	410	Couplings for cross-clamping	414
Centric clamp	435	C-washers captive, with shoulder screw	269
Centric vices jaw width 65 mm	437	C-washers DIN 6372, enhanced	261
Centric vices jaw width 80–125 mm	438-439	Cylinder clamping sets	413
Centring bushes	389	D	page
Centring clamping bolts size 80 mm	370	Draw-down jaws	429
Centring clamps	141	E	page
Centring clamps round	144-145	Extension pieces	182
Centring clamps with ball or hexagon segments	142-143	Extensions for jack screws	185
		Extension shafts	404
		Extension shafts for workpiece stabiliser	248

Extension shafts with union nut	431
Extractor	270
F	page
Fastener elements	255
Fastening blocks Form M	315
Fastening set for T-slots	432
Fastening set for T-slot tables	250
Fastening set with clamping ball for workpiece stabiliser	251
Fastening set workpiece stabiliser	250
Fine adjustment for workpiece stabiliser	249
Fixture clamps machinable	138
Fixture clamps unequal hexagon	138
Flat clamps	123
Floating clamp	98
Floating clamp with separate workpiece clamp and interlock	99
Form holding systems	227
G	page
Gripper pads square	221
Grippers and inserts round	218-219
Gripper screws hexagonal	220
Gripper studs	222
Grub screws with thrust pad	186
H	page
Handles screw-in	89
Handles screw-in with torque limit	90-91
Hexagon head bolts DIN EN ISO 4014 / DIN EN 24014	267
Hexagon head bolts full thread DIN 933	267
Hexagon nuts height 1.5xD, DIN 6330 enhanced	259
Hexagon nuts with collar height 1.5xD, DIN 6331 enhanced	258
Hinged stops	442
Hook clamp holders	78-79
Hook clamps	82
Hook clamps ground Form A/B/C	77-78, 81
Hook clamps with collar	80, 83
I	page
Inserts	173
Inserts for stepped jaws	442
Interchangeable subplates for UNI lock zero point clamping system	337
J	page
Jack screws	183
Jack screws extended	184
Jaw adapters for round workpieces	429
Jaw pins	412, 430

Jaw plates machinable	402
Jaw plates machinable	428
Jaw plates smooth	401
Jaw plates smooth for centre jaws	411
Jaw plates smooth for pendulum jaws	409
Jaw plates standard	428
Jaw plates with pins	401
Jaw plates with pins for centre jaws	411
Jaw plates with pins for pendulum jaws	409
K	page
Keyway nuts round	461
L	page
Locating and clamping systems	385
Locating bushes for locating pins	155
Locating bushes for pneumatic locating cylinder	393
Locating bushings for grid systems	325
Locating cylinders Ball Lock	387
Locating cylinders pneumatic	392
Locating cylinder with quick clamping system	388
Locating elements	147
Locating pins	322
Locating pins expanding	156
Locating pins with ball-end Form A	150
Locating pins with ball-end Form B	152
Locating pins with flattened ball-end Form C	151
Locating pins with flattened ball-end Form D	153
Locating pins with internal thread	154
Locating sleeve	324
Locating supports	165
Low-profile clamps	125
M	page
Machinable collet system for grid plates	231
Machinable collet system for self-installation	230
Machinable jaws rectangular	242-243
Magnet for workpiece stabiliser	249
Mandrel collets	140
Mineral cast	303-304
Mini tooling blocks	313
Mounting plates for clamping collets	241
Multi-clamping system	451-453
Multi-clamping system hard stops	454
Multi-clamping system soft stops	455

N **page**

NC vice jaw width 125 mm	447
NC Vices	445
Nuts for T-slots DIN 508 enhanced	269

P **page**

Pendulum jaws	408
Positioning elements	91, 104-105
Positioning units	65-67, 157
Positioning units spring-loaded	170-171
Positive Clamping System	229
Power clamp	58
Precision riser blocks Form D	316
Precision riser blocks Form E	318
Precision riser blocks Form M	317
Protection bolts	340
Protective plug	340
Pull clamps	100
Pull clamps (high force)	102

Q **page**

Quick-fit couplings	341
---------------------	-----

R **page**

Rack plates CL	122
Receiver bushes Form A (pressed in from rear)	390
Receiver bushes Form B (screwed down from front)	390
Removable locating pins Forms A and C	149
Removable locating pins Forms B and D	149
Rest and stop elements	159
Rest pads	68, 181, 187
Riser bars	81
Riser blocks	62
Riser blocks Form H	314
Riser blocks Form P	53
Riser plates	426
Risers for power clamp	59
Robust side clamps	106
Round positioning plates	319

S **page**

Screw stop adjustable	224
Seating blocks adjustable	167
Seating ledges	403, 427, 461
Seating ledges screw-on	403
Self-aligning pads	196-197
Self-aligning pads adjustable	206

Self-aligning pads adjustable with o-ring	208-209
---	---------

Self-aligning pads adjustable with O-ring, exchangeable inserts and hexagon socket	216-217
--	---------

Self-aligning pads adjustable with O-ring and exchangeable inserts	210-213
--	---------

Self-aligning pads adjustable with O-ring and hexagon socket	214-215
--	---------

Self-aligning pads swivel angle 12°	198
-------------------------------------	-----

Self-aligning pads swivel angle 14° and 20°	200-201
---	---------

Self-aligning pads with o-ring	202-203
--------------------------------	---------

Self-aligning pads with O-ring and exchangeable inserts	204-205
---	---------

Shoulder screws Form A	148
------------------------	-----

Shoulder screws Form B	148, 432
------------------------	----------

Side clamps	107-108, 110-114
-------------	------------------

Side clamps with rest pad	115
---------------------------	-----

Side stops	109
------------	-----

Slot keys	268
-----------	-----

Socket head screws DIN 912 / DIN EN ISO 4762	266
--	-----

Spacing washers	262
-----------------	-----

Spherical washers DIN 6319, 10/01	264-265
-----------------------------------	---------

Step jaw attachment for 5-axis machining	441
--	-----

Stop carbide-coated and serrated	458
----------------------------------	-----

Stop prism	459
------------	-----

Stops	458
-------	-----

Stop set	431
----------	-----

Stop sets	415
-----------	-----

Stop with positive down force	459
-------------------------------	-----

Studs DIN 6379	256-257
----------------	---------

Subplates	282-285
-----------	---------

Support blocks	69, 166
----------------	---------

Support bolts	179-180
---------------	---------

Support elements	169
------------------	-----

Supports	164
----------	-----

Swing clamps	84-85
--------------	-------

Swing clamps (high force)	86-87
---------------------------	-------

Swing clamps mini	93
-------------------	----

Swing clamps mini, with cam lever	92
-----------------------------------	----

Swivel hold-down clamp mini, with cam lever	94
---	----

T **page**

Tension cone for internal clamping collet	233
---	-----

Threaded bushings for grid systems	326
------------------------------------	-----

Thrust clamps	95
---------------	----

Thrust pads for power clamp	59
-----------------------------	----

Toe clamps	116-117, 120
------------	--------------

Toe clamps compact	135
Toe clamps stepped	118
Toe stops	121
Toe stops stepped	119
Toe stops stepped	119
Tombstones cube grey cast iron	300
Tombstones cube with grid holes	296-297
Tombstones cube without grid holes	298-299
Tombstones double-sided grey cast iron	294
Tombstones double-sided with grid holes	290-291
Tombstones double-sided without grid holes	292-293
Tombstones single-sided with grid holes	286-287
Tombstones single-sided without grid holes	288-289
Tombstones window frame	295
Tooling angle plates	310-311
Tooling blocks	312
Tooling plates	278-281
Traction cone for internal clamping collet	238
T-slot clamps	124
T-slot keys	268
T-slot plate	433
U	page
UNI lock 5-axis add-on clamping module size 80 mm	357
UNI lock 5-axis add-on module adjustable system size 50 mm	380
UNI lock 5-axis add-on module system size 50 mm	379
UNI lock 5-axis basic module adjustable system size 50 mm	377, 380
UNI lock 5-axis basic module double clamp size 80 mm	355
UNI lock 5-axis basic module double clamp system size 50 mm	378
UNI lock 5-axis basic module system size 50 mm	376
UNI lock 5-axis basic module system size 80 mm	354
UNI lock 5-axis collet adapter size 80 mm	358
UNI lock 5-axis face-grip adapter size 80 mm	359
UNI lock 5-axis mounting base for general clamping size 80 mm	356
UNI lock 5-axis reducer adapter size 80 mm	360-361
UNI lock 5-axis reducer adapter system size 50 mm	381
UNI lock 5-axis shoulder screws for fastening to workpieces size 80 mm	369
UNI lock 5-axis shoulder screws size 80 mm	368
UNI lock clamping bolts for fastening to workpieces size 80 mm	368
UNI lock clamping pin one-piece size 80 mm	366
UNI lock clamping pin size 80 mm	338-339, 364-365
UNI lock clamping pin system size 50 mm	382
UNI lock clamping pin with threaded pin size 80 mm	367

UNI lock clamping station	332-333
UNI lock double clamping module	335
UNI lock installation clamp	334
UNI lock manual clamping module	336
UNI lock T-slot centring clamp bolt size 80 mm	363
V	page
V-blocks, vertical	160-161
V-blocks split	162
Vice jaws complete	406
W	page
Washers for clamps DIN 6340	260
Washers medium, DIN EN ISO 7089 A	263
Wedge clamps	132, 134
Wedge clamps double jaw faces serrated	130-131
Wedge clamps jaw face smooth or serrated	126, 456
Wedge clamps jaw faces serrated	128, 131
Wedge clamps machinable	127, 129, 133, 457
Workholding pyramid mineral cast	306
Workpiece stabiliser	245, 248
Workpiece support cylinders	178
Workpiece supports	168, 177
Workpiece supports adjustable	175-176
Z	page
Zero-point clamping system	329

Numerical index



Art. group No.	page	Art. group No.	page	Art. group No.	page	Art. group No.	page
K0002	71	K0385	218-219	K0829	186	K0893	141
K0003	57	K0386	220	K0830	107	K0902	454
K0004	51	K0387	221	K0831	108	K0903	455
K0012	82	K0388	222	K0832	109	K0904	460
K0013	83	K0500	230	K0833	52-53	K0905	458
K0014	77-78, 81	K0501	231	K0834	70	K0906	459
K0015	80	K0502	232-233	K0835	72	K0907	459
K0017	78	K0587	440	K0836	73	K0908	461
K0018	81	K0591	442	K0837	74	K0909	461
K0022	138	K0607	442	K0838	75	K0910	100-101
K0023	138	K0649	127, 457	K0839	53	K0911	102-103
K0025	137	K0697	256-257	K0841	60	K0912	84-85, 88
K0026	136	K0701	258	K0842	61	K0913	86-87
K0027	137	K0702	259	K0843	62	K0914	95
K0028	137, 139	K0729	264-265	K0844	63	K0915	89
K0033	111	K0730	261	K0845	63	K0916	90-91
K0036	135	K0800	278-280	K0846	65-67	K0917	170-171
K0037	132	K0801	281	K0847	68	K0918	157
K0038	133	K0802	286-289	K0848	68	K0919	175
K0039	126, 456	K0803	290-293	K0849	69	K0920	176
K0040	128, 131	K0804	295	K0850	66, 69	K0921	177
K0041	129	K0805	296-299	K0851	79	K0922	178
K0042	130-131	K0806	282-285	K0853	118-122	K0923	184
K0282	196-197	K0807	310	K0854	322	K0924	185
K0283	200-201	K0808	311	K0855	322	K0925	92
K0284	202-203	K0809	312-313	K0856	323	K0926	93
K0285	204-205	K0810	315	K0857	323	K0927	94
K0287	206	K0811	314, 316-318	K0858	324	K0928	112
K0288	208-209	K0812	319	K0859	76	K0929	113
K0289	210-213	K0813	223	K0860	262	K0930	114
K0290	214-215	K0814	324	K0861	325	K0931	115
K0291	216-217	K0815	148, 432	K0862	325	K0932	116
K0294	187	K0816	165	K0863	326	K0933	117
K0297	179	K0817	149	K0864	268	K0934	240-241
K0302	198	K0818	149	K0865	258	K0935	387-388
K0307	181	K0819	160-162	K0867	260	K0936	389
K0308	183	K0820	224	K0868	263	K0937	390
K0350	150-151	K0821	182	K0869	266	K0938	390
K0351	152-153	K0822	163	K0870	267	K0939	422, 424
K0356	156	K0823	164	K0871	267	K0940	423, 425
K0357	140	K0824	167	K0872	269	K0941	426
K0358	142-143	K0825	172	K0873	270	K0942	427
K0377	269	K0826	173	K0889	168	K0943	428
K0380	188-189	K0827	166	K0890	110	K0944	428
K0383	190-194	K0828	180	K0891	106	K0945	429

Numerical index



Art. group No.	page	Art. group No.	page
K0946	412, 430	K1119	379-380
K0947	431	K1120	381
K0948	431	K1121	382
K0951	432	K1122	335
K0952	433	K1123	336
K0953	429	K1165	54-55
K0954	268	K1166	144-145
K0960	354	K1167	134
K0961	355	K1168	123
K0962	356	K1169	242-243
K0963	357	K1170	248
K0964	358	K1183	235
K0965	359	K1184	236-239
K0966	360-361	K1185	238
K0967	338-339, 364-367	K1186	248
K0968	368	K1187	249
K0969	363	K1188	249
K0970	368	K1189	250
K0971	369	K1190	250
K0973	400	K1191	251
K0974	403	K1192	251
K0975	401-402	K1193	252
K0976	406	K1204	56
K0987	410	K1205	58
K0988	408	K1206	59
K0989	413	K1215	59
K0990	404	K1218	337
K0991	404	K1219	392
K0992	414	K1220	393
K0993	415	K1224	169
K0994	405	K1225	294
K1001	409	K1226	300
K1002	411	K1227	99
K1003	334	K1228	98
K1008	416	K1229	125
K1009	332-333	K1230	124
K1010	340	K1232	96
K1011	341	K1233	174
K1012	370	K1234	225
K1013	362	K1235	306
K1094	154	K1236	437
K1095	155	K1237	438-439
K1115	441	K1238	447
K1117	376-377, 380	K1273	448
K1118	378	K1274	443



Clamping elements



Risers
for power clamp
K1206



Page 59

Thrust pads
for power clamp
K1215



Page 59

Clamp straps
with adjustment unit
K0004



Page 51

Clamping units
K0841



Page 60

Clamping units
pin-end strap
K0833



Page 52

Clamp strap unit
K0842



Page 61

Riser blocks
Form P
K0839



Page 53

Riser blocks
K0843



Page 62

Clamp strap assemblies
K1165



Page 55

Connecting screws short
K0844



Page 63

Adjustable heel supports
for clamp strap assembly
K1204



Page 56

Connecting screws long
K0845



Page 63

Clamp strap assemblies
K0003



Page 57

Positioning units
K0846



Page 65

Power clamp
K1205



Page 58

Connecting bolts
K0847



Page 68



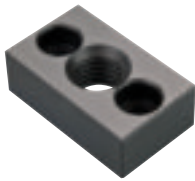
Clamping elements

Rest pads
K0848



Page 68

Support blocks
K0849



Page 69

Connecting bushes
K0850



Page 69

Clamp straps
pin-end
K0834



Page 70

Clamp straps
goose-neck
K0002



Page 71

Clamp straps
K0835



Page 72

Clamp straps
tapped both ends
K0836



Page 73

Clamp straps
tapped heel
K0837



Page 74

Clamp straps
tapped heel
K0838



Page 75

Clamp springs
K0859



Page 76

Hook clamps ground
Form A/B/C
K0014



Page 77

Hook clamp holders
K0017



Page 78

Hook clamp holders
K0851



Page 79

Hook clamps
with collar
K0015



Page 80

Riser bars
K0018



Page 81

Hook clamps
K0012



Page 82

Hook clamps
with collar
K0013



Page 83

Swing clamps
K0912



Page 84





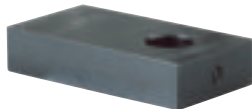
Clamping elements

Swing clamps (high force)
K0913



Page 86

Clamping arms
for swing clamp
K0912



Page 88

Handles screw-in
K0915



Page 89

Handles screw-in
with torque limit
K0916



Page 90

Swing clamps
mini, with cam lever
K0925



Page 92

Swing clamps mini
K0926



Page 93

Swivel hold-down clamp
mini, with cam lever
K0927



Page 94

Thrust clamps
K0914



Page 95

Clamping bolts
K1232



Page 96



Floating clamp
K1228



Page 98



Floating clamp
with separate workpiece
clamp and interlock
K1227



Page 99



Pull clamps
K0910



Page 100

Clamping pins
K0910



Page 101

Clamping screws
K0910



Page 101

Pull clamps
(high force)
K0911



Page 102

Clamping pins
(high force)
K0911



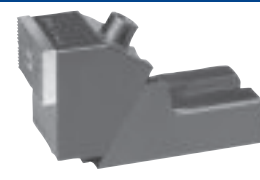
Page 103

Clamping screws
(high force)
K0911



Page 103

Robust side clamps
K0891





















Page 106



expanded article

Clamping elements

Side clamps K0830		Page 107
Side clamps K0831		Page 108
Side stops K0832		Page 109
Side clamps K0890		Page 110
Side clamps K0033		Page 111
Side clamps K0928		Page 112
Side clamps K0929		Page 113
Side clamps K0930		Page 114
Side clamps with rest pad K0931		Page 115

Toe clamps K0932		Page 116
Toe clamps K0933		Page 117
Toe clamps stepped K0853		Page 118
Toe clamps stepped K0853		Page 118
Toe stops stepped K0853		Page 119
Toe stops stepped K0853		Page 119
Toe clamps K0853		Page 120
Toe clamps K0853		Page 120
Toe stops K0853		Page 121





Clamping elements

Toe stops
K0853



Page 121

Rack plates CL
K0853



Page 122

Flat clamps
K1168



Page 123



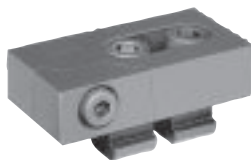
T-slot clamps
K1230



Page 124



Low-profile clamps
K1229



Page 125



Wedge clamps
jaw face smooth or serrated
K0039



Page 126, 456

Wedge clamps
machinable
K0649



Page 127, 457

Wedge clamps
jaw faces serrated
K0040



Page 128

Wedge clamps
machinable
K0041



Page 129

Wedge clamps double
jaw faces serrated
K0042



Page 130

Wedge clamps
K0037



Page 132

Wedge clamps
machinable
K0038



Page 133

Wedge clamps
K1167



Page 134



Toe clamps compact
K0036



Page 135

Cam screws
with hexagon washer
K0026



Page 136

Cam screws
with hexagon washer,
for T-slots
K0027



Page 137

Cam screws
with knife edge washer
K0025



Page 137

Fixture clamps machinable
K0022



Page 138

Clamping elements

Fixture clamps
unequal hexagon
K0023



Page 138

Cam clamps with riser
K0028



Page 139

Mandrel collets
K0357



Page 140

Centring clamps
K0893



Page 141

Centring clamps
with ball or hexagon
segments
K0358



Page 143

Centring clamps
round
K1166



Page 144





Locating elements



Shoulder screws
Form A
K0815



Page 148

Shoulder screws
Form B
K0815



Page 148,

Removable locating pins
Forms A and C
K0817



Page 149

Removable locating pins
Forms B and D
K0818



Page 149

Locating pins
with ball-end Form A
K0350



Page 150

Locating pins with flattened
ball-end Form C
K0350



Page 151

Locating pins with ball-end
Form B
K0351



Page 152

Locating pins with flattened
ball-end Form D
K0351



Page 153

Locating pins
with internal thread
K1094



Page 154

Locating bushes
for locating pins
K1095



Page 155

Locating pins expanding
K0356



Page 156

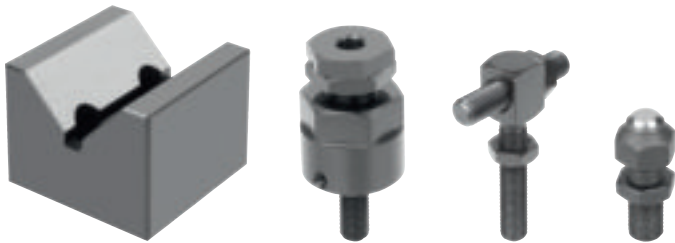
Positioning units
K0918



Page 157



Rest and stop elements



Locating supports
K0816



Page 165

Support blocks
K0827



Page 166

Seating blocks adjustable
K0824



Page 167

Workpiece supports
K0889



Page 168

Support elements
K1224



Page 169

Positioning units
spring-loaded
K0917



Page 170

Adjustable supports
K0825



Page 172

Inserts
K0826



Page 173

Atlas jack
with locknut
K1233



Page 174

V-blocks, vertical
K0819



Page 160

V-blocks, vertical
K0819



Page 160

V-blocks, vertical
K0819



Page 161

V-blocks, vertical
K0819



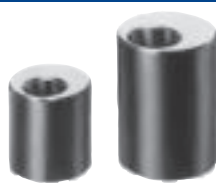
Page 161

V-blocks split
K0819



Page 162

Eccentric supports
K0822



Page 163

Supports
K0823



Page 164



Rest and stop elements

Workpiece supports
adjustable
K0919



Page 175

Workpiece supports
adjustable
K0920



Page 176

Workpiece supports
K0921



Page 177

Workpiece support cylinders
K0922



Page 178

Support bolts
K0297



Page 179

Support bolts
K0828



Page 180

Rest pads
K0307



Page 181

Extension pieces
K0821



Page 182

Jack screws
K0308



Page 183

Jack screws extended
K0923



Page 184

Extensions for jack screws
K0924



Page 185

Grub screws with thrust pad
K0829



Page 186

Rest pads
K0294



Page 187

Ball-end thrust screws with head
K0380



Page 188

Ball-end thrust screws without head
with full ball
K0383



Page 190

Ball-end thrust screws without head
with flattened ball
K0383



Page 193

Ball-end thrust screws without head
with flattened ball and
rotation lock
K0383



Page 194

Self-aligning pads
K0282

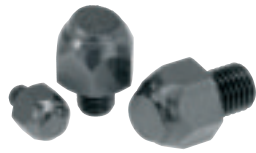


Page 197



Rest and stop elements

Self-aligning pads
swivel angle 12°
K0302



Page 198

Self-aligning pads
swivel angle 14° and 20°
K0283



Page 201

Self-aligning pads
with o-ring
K0284



Page 203

Self-aligning pads
with O-ring and exchangeable
inserts
K0285



Page 204

Self-aligning pads
adjustable
K0287



Page 206

Self-aligning pads adjustable
with o-ring
K0288



Page 209

Self-aligning pads adjustable
with O-ring and exchangeable
inserts
K0289



Page 211

Self-aligning pads adjustable
with O-ring and hexagon socket
K0290



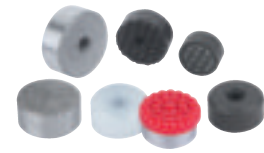
Page 215

Self-aligning pads adjustable
with O-ring, exchangeable inserts
and hexagon socket
K0291



Page 216

Grippers and inserts round
K0385



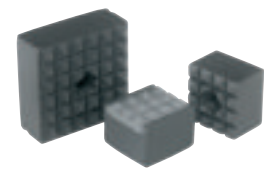
Page 219

Gripper screws
hexagonal
K0386



Page 220

Gripper pads
square
K0387



Page 221

Gripper studs
K0388



Page 222

Adjustable stops
K0813



Page 223

Screw stop
adjustable
K0820



Page 224

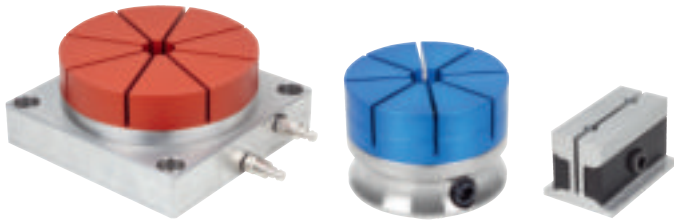
5D workpiece stops
K1234



Page 225



Form holding systems



Traction cone
for internal clamping collet
K1185



Page 238

Clamping collets machinable
K0934



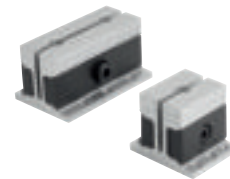
Page 240

Mounting plates
for clamping collets
K0934



Page 241

Machinable jaws rectangular
K1169



Page 242

Machinable collet system
for self-installation
K0500



Page 230

Machinable collet system
for grid plates
K0501



Page 231

Collets for external or
internal clamping
K0502



Page 232

Tension cone
for internal clamping collet
K0502



Page 233

Adapter for collets
K1183



Page 235

Collets
for external clamping
K1184



Page 236

Collets
for internal clamping
K1184



Page 238



Workpiece stabiliser



Workpiece stabiliser
K1170



Page 248

Extension shafts
for workpiece stabiliser
K1186



Page 248

Fine adjustment
for workpiece stabiliser
K1187



Page 249

Magnet
for workpiece stabiliser
K1188



Page 249

Fastening set
for T-slot tables
K1189



Page 250

Fastening set
workpiece stabiliser
K1190



Page 250

Fastening set with clamping ball
for workpiece stabiliser
K1191



Page 251

Claw clamp
for workpiece stabiliser
K1192



Page 251

Clamping balls with cup
for workpiece stabiliser
K1193



Page 252





Fastener elements



Studs
DIN 6379
K0697



Page 256

Extension nuts
height 3xD
K0865



Page 258

Hexagon nuts with collar
height 1.5xD, DIN 6331
enhanced
K0701



Page 258

Hexagon nuts height 1.5xD,
DIN 6330 enhanced
K0702



Page 259

Washers for clamps
DIN 6340
K0867



Page 260

C-washers
DIN 6372, enhanced
K0730



Page 261

Spacing washers
K0860



Page 262

Washers
medium, DIN EN ISO 7089 A
K0868



Page 263

Spherical washers
DIN 6319, 10/01
K0729



Page 264

Socket head screws
DIN 912 / DIN EN ISO 4762
K0869



Page 266

Hexagon head bolts
DIN EN ISO 4014 / DIN EN 24014
K0870



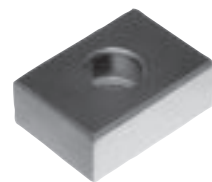
Page 267

Hexagon head bolts
full thread DIN 933
K0871



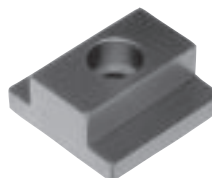
Page 267

Slot keys
K0864



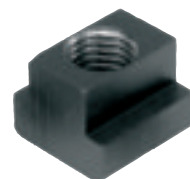
Page 268

T-slot keys
K0954



Page 268

Nuts for T-slots
DIN 508 enhanced
K0377



Page 269

C-washers
captive, with shoulder screw
K0872



Page 269



Fastener elements

Extractor
K0873

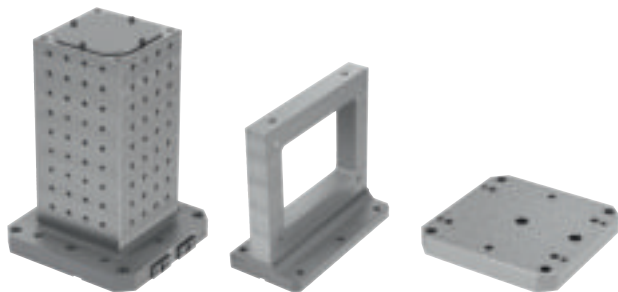


Page 270





Basic elements



Tombstones single-sided
without grid holes
K0802



Page 288

Tombstones double-sided
with grid holes
K0803



Page 290

Tombstones double-sided
without grid holes
K0803



Page 292

Tombstones double-sided
grey cast iron
K1225



Page 294



Tombstones window frame
K0804



Page 295

Tombstones cube
with grid holes
K0805



Page 296

Tombstones cube
without grid holes
K0805



Page 298

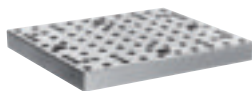
Tombstones cube
grey cast iron
K1226



Page 300

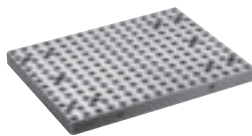


Tooling plates
K0800



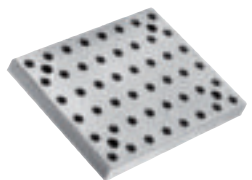
Page 278

Tooling plates
K0800



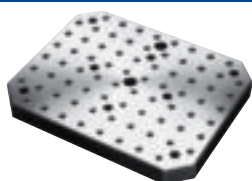
Page 280

Tooling plates
K0801



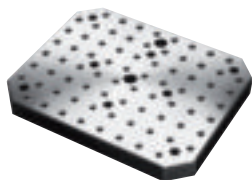
Page 281

Subplates
K0806



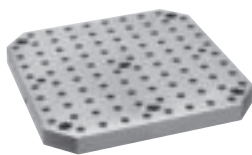
Page 282

Subplates
K0806



Page 283

Subplates
K0806



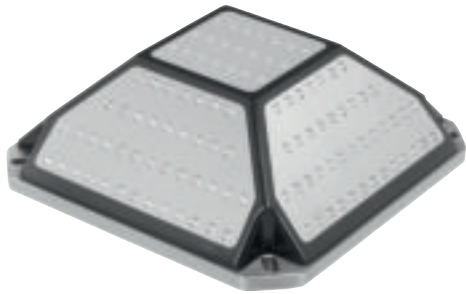
Page 284

Tombstones single-sided
with grid holes
K0802

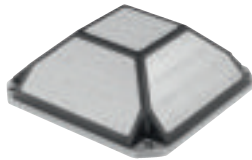


Page 286

Mineral cast



Workholding pyramid
mineral cast
K1235



Page 306

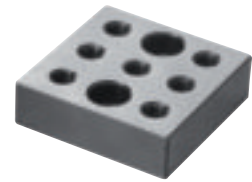




Add-on elements



Precision riser blocks
Form M
K0811



Page 317

Precision riser blocks
Form E
K0811



Page 318

Round positioning plates
K0812



Page 319

Tooling angle plates
K0807



Page 310

Tooling angle plates
K0808



Page 311

Tooling blocks
K0809



Page 312

Mini tooling blocks
K0809



Page 313

Riser blocks
Form H
K0811



Page 314

Fastening blocks
Form M
K0810



Page 315

Precision riser blocks
Form D
K0811



Page 316



Accessories



Aluminium protection plugs
K0862



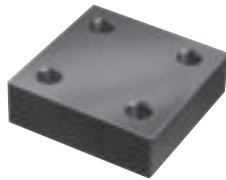
Page 325

Threaded bushings
for grid systems
K0863



Page 326

Connecting blocks
K0854



Page 322

Locating pins
K0855



Page 322

Centring pins
for central hole
K0856



Page 323

Centring pins
for aligning hole
K0857



Page 323

Centring pins
for aligning hole
K0858



Page 324

Locating sleeve
K0814



Page 324

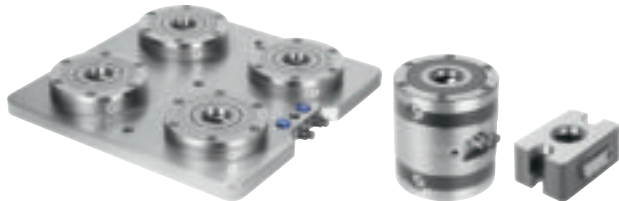
Locating bushings
for grid systems
K0861



Page 325



Zero-point clamping system



Protection bolts
K1010



Page 340

Protective plug
K1010



Page 340

Quick-fit couplings
K1011



Page 341

UNI lock clamping station
K1009



Page 332

UNI lock clamping station
K1009



Page 333

UNI lock installation clamp
K1003



Page 334

UNI lock double clamping module
K1122



Page 335



UNI lock manual clamping module
K1123



Page 336



Interchangeable subplates
for UNI lock zero point clamping system
K1218



Page 337



UNI lock clamping pin
size 80 mm
K0967



Page 339, 365





5-axis module clamping system 80



UNI lock 5-axis basic module system size 80 mm
K0960

Page 354

UNI lock 5-axis basic module double clamp size 80 mm
K0961



Page 355

UNI lock 5-axis mounting base for general clamping size 80 mm
K0962



Page 356

UNI lock 5-axis add-on clamping module size 80 mm
K0963



Page 357

UNI lock 5-axis collet adapter size 80 mm
K0964



Page 358

UNI lock 5-axis face-grip adapter size 80 mm
K0965



Page 359

UNI lock 5-axis reducer adapter size 80 mm
K0966



Page 360

UNI lock 5-axis reducer adapter size 80 mm
K0966



Page 361

Angle clamp adapters size 80 mm
K1013



Page 362

UNI lock T-slot centring clamp bolt size 80 mm
K0969



Page 363

UNI lock clamping pin size 80 mm
K0967



Page 339, 365

UNI lock clamping pin one-piece size 80 mm
K0967



Page 366

UNI lock clamping pin with threaded pin size 80 mm
K0967



Page 367

UNI lock clamping bolts for fastening to workpieces size 80 mm
K0968



Page 368

UNI lock 5-axis shoulder screws size 80 mm
K0970



Page 368

UNI lock 5-axis shoulder screws for fastening to workpieces size 80 mm
K0971



Page 369

5-axis module clamping system 80

Centring clamping bolts
size 80 mm
K1012



Page 370

5-axis module clamping system 50



UNI lock 5-axis basic module
system size 50 mm
K1117



Page 376

UNI lock 5-axis basic module
adjustable
system size 50 mm
K1117



Page 377

UNI lock 5-axis basic module
double clamp
system size 50 mm
K1118



Page 378

UNI lock 5-axis add-on module
system size 50 mm
K1119



Page 379

UNI lock 5-axis add-on module
adjustable
system size 50 mm
K1119



Page 380

UNI lock 5-axis reducer adapter
system size 50 mm
K1120



Page 381

UNI lock clamping pin
system size 50 mm
K1121



Page 382



Locating and clamping systems



Locating cylinders
Ball Lock
K0935



Page 387

Locating cylinder
with quick clamping system
K0935



Page 388

Centring bushes
K0936



Page 389

Receiver bushes
Form A (pressed in from rear)

K0937



Page 390

Receiver bushes
Form B (screwed down from front)

K0938



Page 390

Locating cylinders
pneumatic
K1219



Page 392

Locating bushes
for pneumatic locating cylinder
K1220

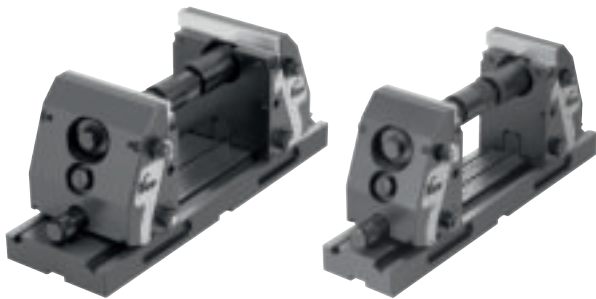


Page 393





5-axis clamping system compact



Adapter shafts
K0991



Page 404

Base plates
K0994



Page 405

5-axis clamping system compact
smooth vice jaws
K0973



Page 400

Vice jaws complete
K0976



Page 406

Jaw plates smooth
K0975



Page 401

Pendulum jaws
K0988



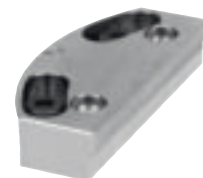
Page 408

Jaw plates with pins
K0975



Page 401

Jaw plates smooth
for pendulum jaws
K1001



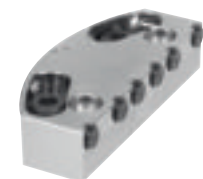
Page 409

Jaw plates
machinable
K0975



Page 402

Jaw plates with pins
for pendulum jaws
K1001



Page 409

★
Seating ledges
K0974



Page 403

Centre jaws
K0987



Page 410

Seating ledges
screw-on
K0974



Page 403

Jaw plates smooth
for centre jaws
K1002



Page 411

Extension shafts
K0990



Page 404

Jaw plates with pins
for centre jaws
K1002



Page 411



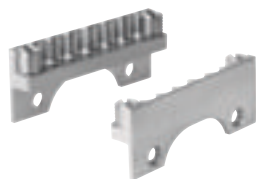
5-axis clamping system compact

Jaw pins
K0946



Page 412, 430

Cylinder clamping sets
K0989



Page 413

Couplings
for cross-clamping
K0992



Page 414

Stop sets
K0993



Page 415

Clamping claw sets
K1008



Page 416



3-axis and 5-axis vices



3-axis clamping system
for grid plates
K0939

Page 422

3-axis clamping system
for T-slots
K0940



Page 423

5-axis clamping system
for grid plates
K0939



Page 424

5-axis clamping system
for T-slots
K0940



Page 425

Riser plates
K0941



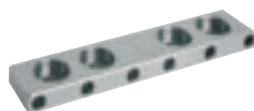
Page 426

Seating ledges
K0942



Page 427

Jaw plates standard
K0943



Page 428

Jaw plates machinable
K0944



Page 428

Draw-down jaws
K0953



Page 429

Jaw adapters
for round workpieces
K0945



Page 429

Jaw pins
K0946



Page 412, 430

Extension shafts
with union nut
K0947



Page 431

Stop set
K0948



Page 431

Shoulder screws
Form B
K0815



Page 432

Fastening set
for T-slots
K0951



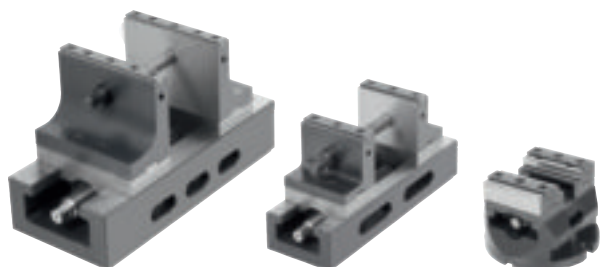
Page 432

T-slot plate
K0952



Page 433

Centric vices



Centric vices
jaw width 65 mm
K1236



Page 437

Centric vices
jaw width 80–125 mm
K1237



Page 438

Attachment jaws
stepped, with grip rail
K0587



Page 440

Step jaw attachment
for 5-axis machining
K1115



Page 441

Inserts
for stepped jaws
K0591



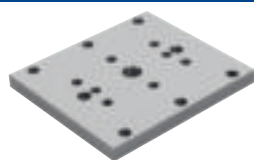
Page 442

Hinged stops
K0607



Page 442

Baseplate
for centric vice
K1274

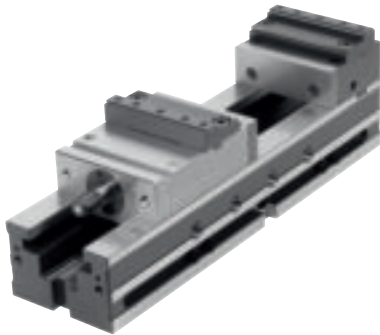


Page 443





NC vices



NC vice
jaw width 125 mm
K1238



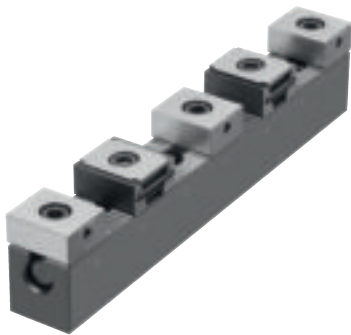
Page 447

Attachment step jaw
with gripper for NC vice
K1273



Page 448

Multi-clamping system



Stop with positive down force
K0907



Page 459

Base rails

K0904



Page 460

Seating ledges
K0908



Page 461

Keyway nuts round
K0909



Page 461

Multi-clamping system
hard stops

K0902



Page 454

Multi-clamping system
soft stops

K0903



Page 455

Wedge clamps
jaw face smooth or serrated
K0039



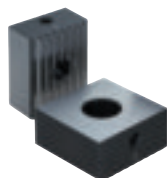
Page 126, 456

Wedge clamps
machinable
K0649



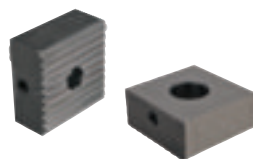
Page 127, 457

Stops
K0905



Page 458

Stop
carbide-coated and serrated
K0905



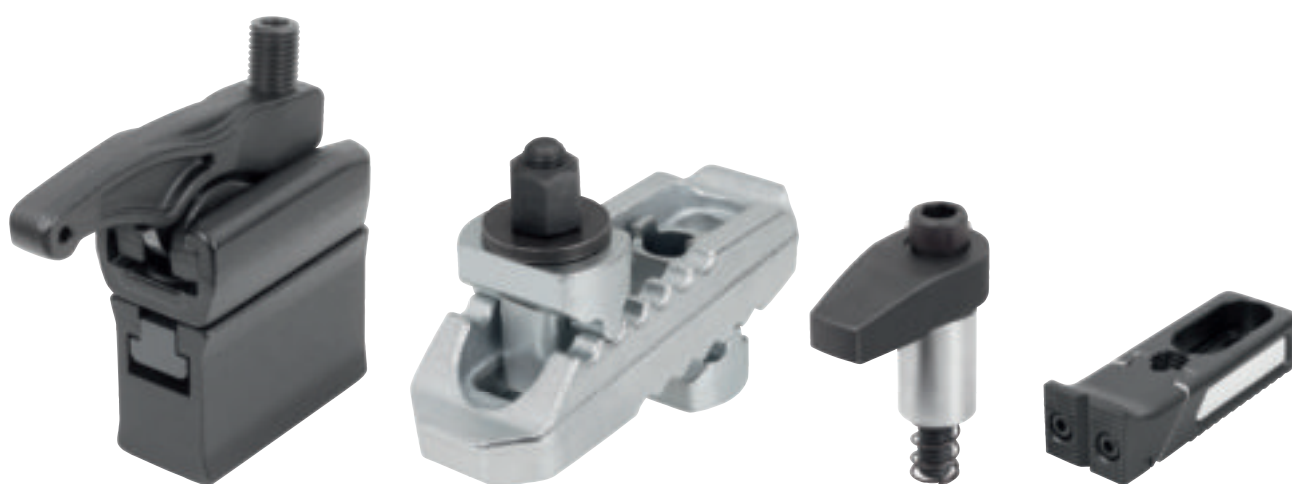
Page 458

Stop prism
K0906



Page 459

Clamping elements



Clamp straps

with adjustment unit



Material:

Base, ductile iron.

Clamp strap and clamping screw carbon steel.

Version:

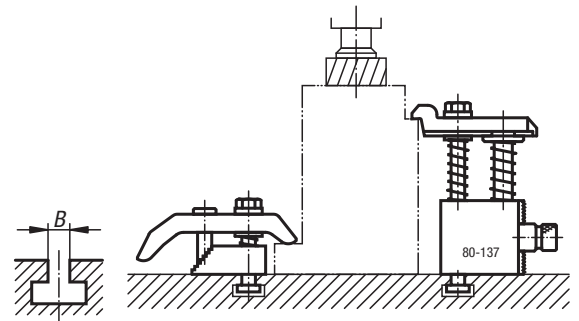
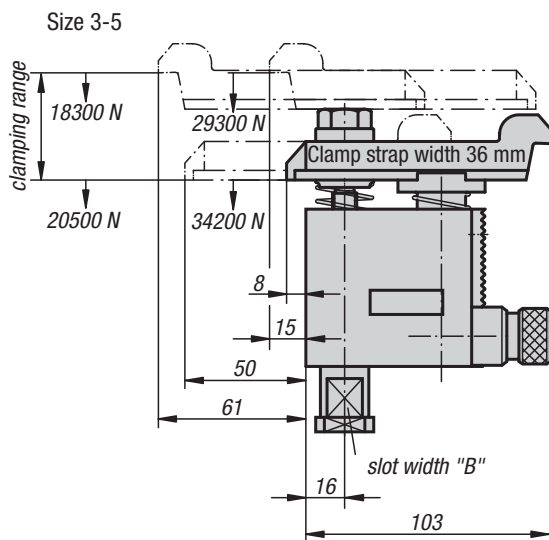
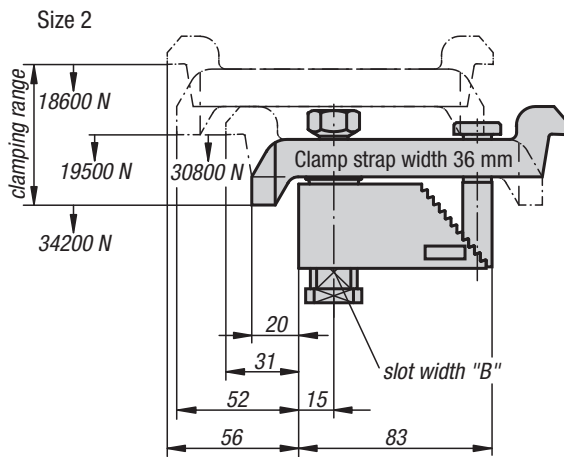
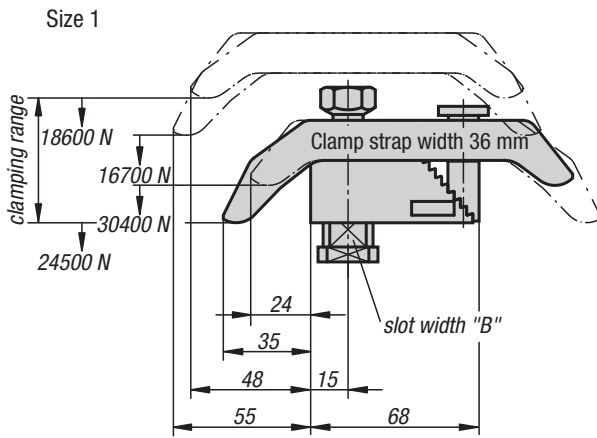
Black oxidised.

Sample order:

K0004.40X16 (include slot width B)

Note:

These clamp strap modules are universal, flexible clamps constructed from individual components building a compact unit. There are no loose parts which first have to be altered for a clamping operation. The compact design allows these clamps to be placed close to the workpiece enabling the full area of the machine table to be used.

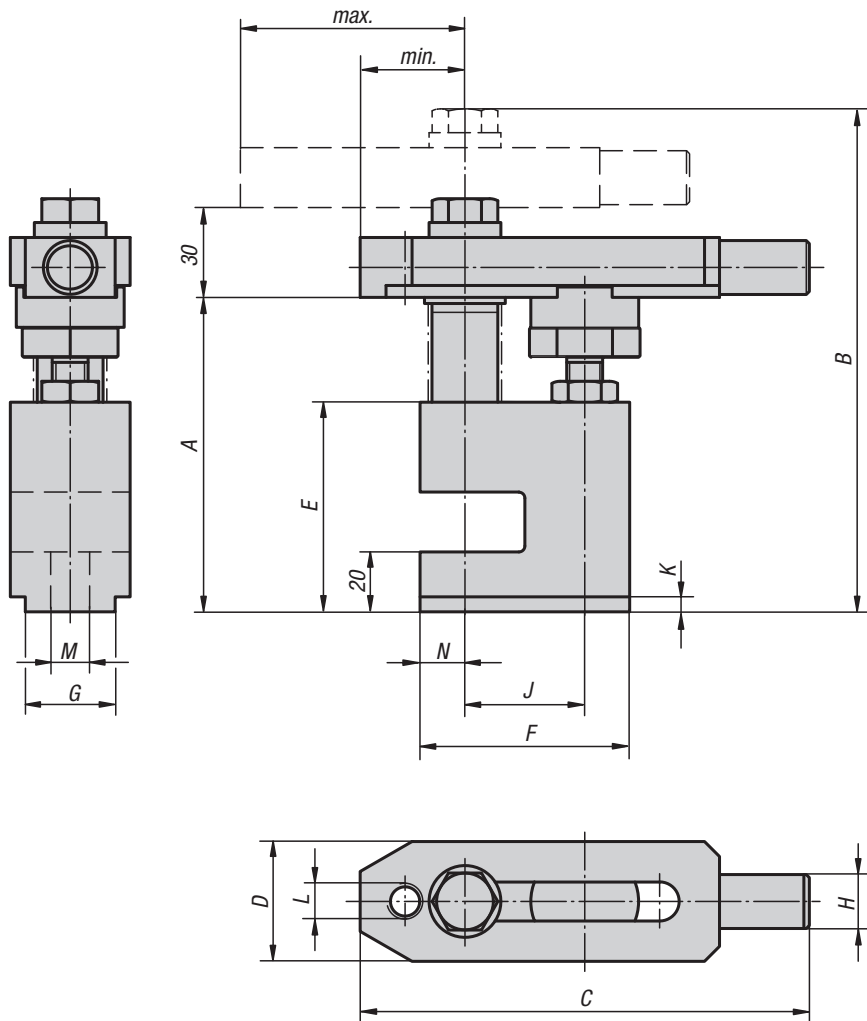


KIPP Clamp straps with adjustment unit

Order No.	Size	Clamp range	Slot width B to DIN 650
K0004.10X	1	0-35	12/14/16/18
K0004.20X	2	25-85	12/14/16/18
K0004.30X	3	80-137	12/14/16/18
K0004.40X	4	125-224	12/14/16/18
K0004.50X	5	160-300	12/14/16/18

Clamping units

pin-end strap



Material, version:

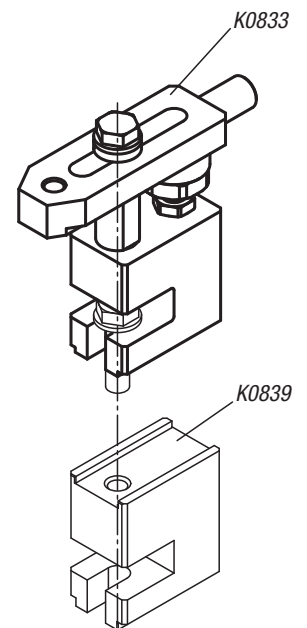
Body carbon steel, black oxidised.
Strap carbon steel, tempered and black oxidised.
Clamping screw carbon steel, tempered and black oxidised.

Sample order:

K0833.12105

Note:

Both ends of the strap can be used for clamping workpieces. The clamps can be combined with other fixture elements, such as K0839, K0821, K0307.

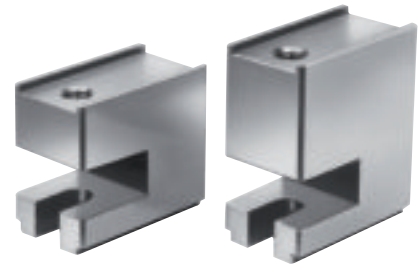


KIPP Clamping units, pin-end strap

Order No.	A	B	C	D	E	F	G	H	J	K	L	M	N	min.	max.
K0833.12105	105	168	150	40	70	70	30	18	40	5	M12	13	15	35	75
K0833.16110	110	188	190	50	75	90	40	24	50	5	M16	17	20	45	95

Riser blocks

Form P

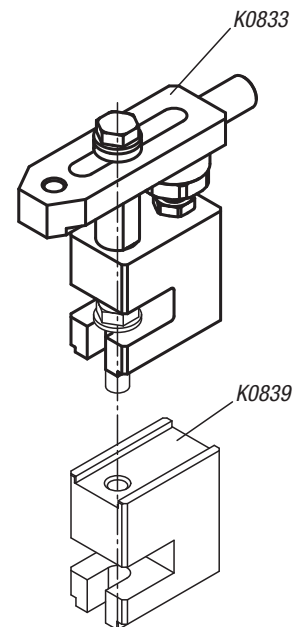
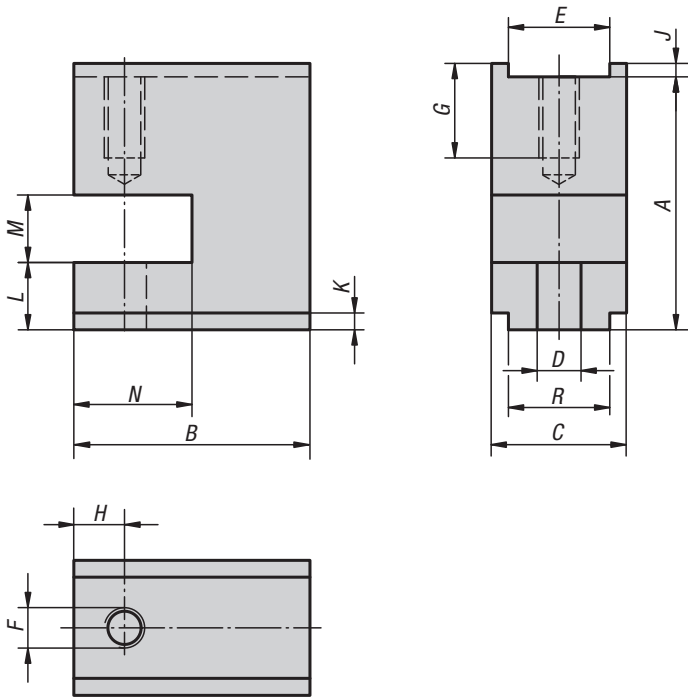


Material:
Carbon steel.

Version:
Black oxidised.

Sample order:
K0839.12075

Note:
These riser blocks Form P are used together with clamping straps to clamp high workpieces.



KIPP Riser blocks Form P

Order No.	A	B	C	D	E	F	G	H	J	K	L	M	N	R
K0839.12075	75	70	40	13	30	M12	24	15	4	5	20	20	35	30
K0839.12100	100	70	40	13	30	M12	24	15	3	5	20	20	35	30
K0839.16075	75	90	50	17	40	M16	30	20	4	5	20	20	45	40
K0839.16100	100	90	50	17	40	M16	30	20	3	5	20	20	45	40

Clamp strap assemblies



Material:
Steel.

Version:

Form A: Tempered and galvanized.

Form B: Tempered and galvanized.

Complete with DIN 787 screw for T-slots, DIN 6340 washer and DIN 6330B nut.

Form C: Tempered and galvanized.

Complete with DIN 6379 stud, DIN 6340 washer and DIN 6330B nut.

Sample order:

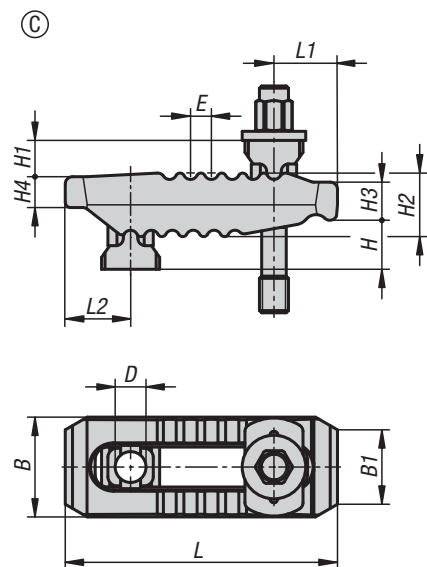
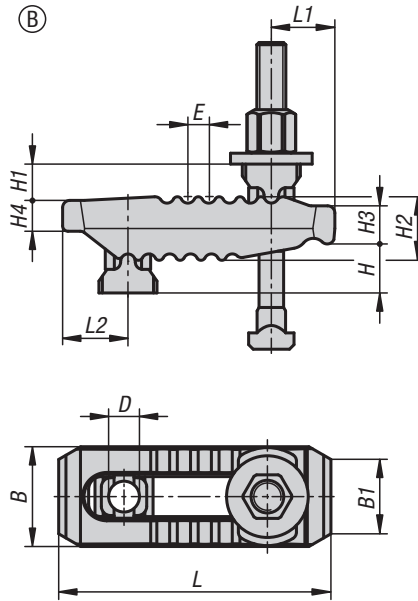
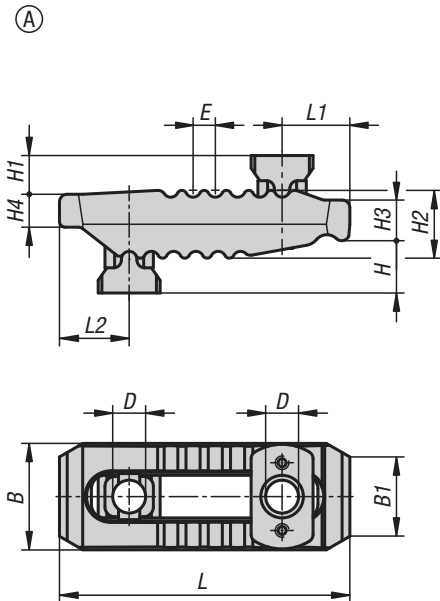
K1165.113115

Note:

These clamp strap assemblies can be quickly and infinitely adapted to the clamping situation. The clamp straps have different heel types both sides enabling the best end to be selected depending on the specific application. These extremely versatile clamp straps are suitable for use by metal cutting or non-cutting machining and also for press and injection-moulding applications.

Accessories:

K1204 Adjustable heel supports





KIPP Clamp strap assemblies

Order No.	Form	B	B1	D	E	H clamping range	H1	H2	H3	H4	L	L1	L2	Nominal slot size	Clamping force kN
K1165.113115	A	44	30	13	11	0-55	18	27	17	12	115	25	30	10-12-14	30
K1165.117150	A	55	41	17	12	0-70	20	36	21	17	150	35	36	12-14-16-18	40
K1165.121187	A	62	30	21	14	0-80	30	42	27	20	187	44	44	16-18-20-22	60
K1165.125235	A	70	30	25	17	0-100	31	51	34	24	235	60	47	20-22-24-28	75
K1165.125285	A	73	30	25	17	0-100	35	56	35	24	285	62	51	20-22-24-28	75

Order No. with T-slot nut	Form	B	B1	D	E	H clamping range	H1	H2	H3	H4	L	L1	L2	Nominal slot size	Fastening screw(s)	Clamping force kN
K1165.210115100	B	44	30	13	11	0-40	18	27	17	12	115	25	30	10	M10X100	25
K1165.212115125	B	44	30	13	11	0-55	18	27	17	12	115	25	30	12	M12X125	30
K1165.214115125	B	44	30	13	11	0-55	18	27	17	12	115	25	30	14	M12X125	30
K1165.212150160	B	55	41	17	12	0-70	20	36	21	17	150	35	36	12	M12X160	35
K1165.214150160	B	55	41	17	12	0-70	20	36	21	17	150	35	36	14	M12X160	35
K1165.216150160	B	55	41	17	12	0-70	20	36	21	17	150	35	36	16	M16X160	40
K1165.218150160	B	55	41	17	12	0-70	20	36	21	17	150	35	36	18	M16X160	40
K1165.216187200	B	62	30	21	14	0-80	30	42	27	20	187	44	44	16	M16X200	55
K1165.218187200	B	62	30	21	14	0-80	30	42	27	20	187	44	44	18	M16X200	55
K1165.220187200	B	62	30	21	14	0-80	30	42	27	20	187	44	44	20	M20X200	60
K1165.222187200	B	62	30	21	14	0-80	30	42	27	20	187	44	44	22	M20X200	60
K1165.220235250	B	70	30	25	17	0-100	31	51	34	24	235	60	47	20	M20X250	70
K1165.222235250	B	70	30	25	17	0-100	31	51	34	24	235	60	47	22	M20X250	70
K1165.224235250	B	70	30	25	17	0-100	31	51	34	24	235	60	47	24	M24X250	75
K1165.228235250	B	70	30	25	17	0-100	31	51	34	24	235	60	47	28	M24X250	75

Order No. with stud	Form	B	B1	D	E	H clamping range	H1	H2	H3	H4	L	L1	L2	Fastening screw(s)	Clamping force kN
K1165.312115100	C	44	30	13	11	0-30	18	27	17	12	115	25	30	M12X100	30
K1165.312115125	C	44	30	13	11	0-55	18	27	17	12	115	25	30	M12X125	30
K1165.312150125	C	55	41	17	12	0-50	20	36	21	17	150	35	36	M12X125	40
K1165.312150160	C	55	41	17	12	0-70	20	36	21	17	150	35	36	M12X160	40
K1165.316150125	C	55	41	17	12	0-40	20	36	21	17	150	35	36	M16X125	40
K1165.316150160	C	55	41	17	12	0-70	20	36	21	17	150	35	36	M16X160	40
K1165.320187160	C	62	30	21	14	0-40	30	42	27	20	187	44	44	M20X160	60
K1165.320187200	C	62	30	21	14	0-80	30	42	27	20	187	44	44	M20X200	60
K1165.320235200	C	70	30	25	17	0-70	31	51	34	24	235	60	47	M20X200	75
K1165.320235250	C	70	30	25	17	0-100	31	51	34	24	235	60	47	M20X250	75
K1165.324235200	C	70	30	25	17	0-50	31	51	34	24	235	60	47	M24X200	75
K1165.324235250	C	70	30	25	17	0-100	31	51	34	24	235	60	47	M24X250	75

Adjustable heel supports

for clamp strap assembly

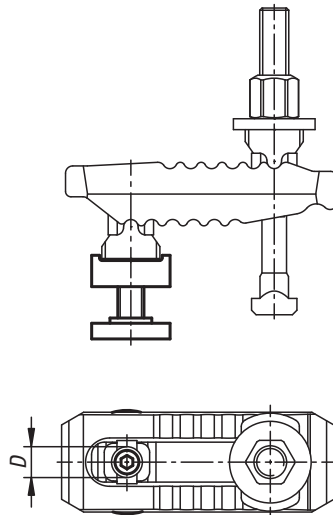
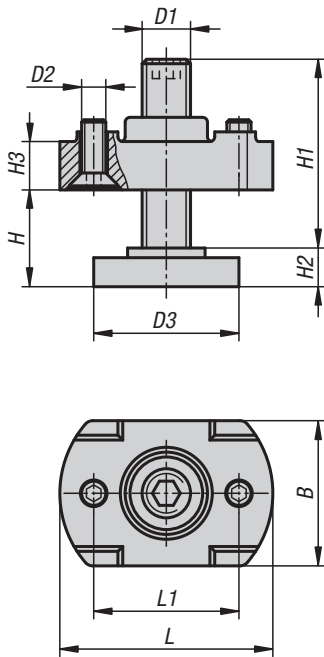


Material:
Carbon steel.

Version:
Body tempered and galvanized.
Support bolt tempered, grade 8.8.

Sample order:
K1204.1039

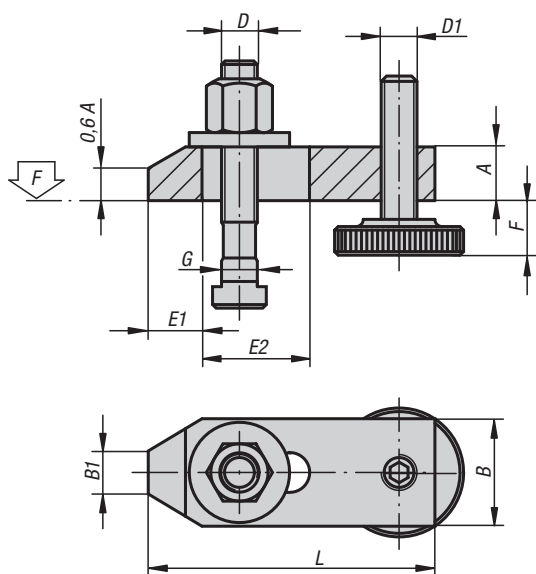
Note:
These adjustable heel supports consist of support plate, support bolt and fastening screws for the strap heel support.
Adjustable heel supports are used to increase the clamping height of the clamp strap assemblies.



KIPP Adjustable heel supports for clamp strap assembly

Order No.	B	D	D1	D2	D3	H clamping range	H1	H2	H3	L	L1
K1204.1039	30	13	M10	M5	30	8-30	39	8	10	44	30
K1204.1249	42	17	M12	M5	36	10-37	49	10	16	54	35
K1204.1294	42	17	M12	M5	36	10-80	94	10	16	54	35
K1204.1655	50	21	M16	M5	42	13-41	55	13	20	60	40
K1204.1690	50	21	M16	M5	42	13-73	90	13	20	60	40
K1204.2069	50	25	M20	M6	50	16-52	69	16	25	70	50
K1204.20109	50	25	M20	M6	50	16-91	109	16	25	70	50

Clamp strap assemblies



Material:

Carbon steel.
Screws tempered to 8.8.

Version:

Clamp painted. Screws black oxidised.

Sample order:

K0003.1616

Note:

“F” is dependent on the depth of slot according to DIN 650.

KIPP Clamp strap assemblies

Order No.	L	A	B	B1	E1	E2	F	G for T-slot	D	D1	F kN
K0003.1010	80	15	30	12	15	30	8-32	10	M10x80	M10	13,9
K0003.1212	100	20	40	14	21	40	10-40	12	M12x100	M12	20,2
K0003.1214	100	20	40	14	21	40	10-38	14	M12x100	M12	20,2
K0003.1616	125	25	50	18	26	45	13-49	16	M16x125	M16	37,8
K0003.1618	125	25	50	18	26	45	13-46	18	M16x125	M16	37,8
K0003.2020	160	30	60	22	30	60	16-65	20	M20x160	M20	58,8
K0003.2022	160	30	60	22	30	60	16-65	22	M20x160	M20	58,8

Power clamp



Material:

Carbon steel.

Version:

Forged, black galvanized.

Sample order:

K1205.012135

Note:

We recommend using a lubricating paste to reduce wear to the adjustment screw.

Risers are available to increase the height of the power clamp.

Supplied with clamping element, support element, DIN 508 slot key and grade 12.9 bolt.

Application:

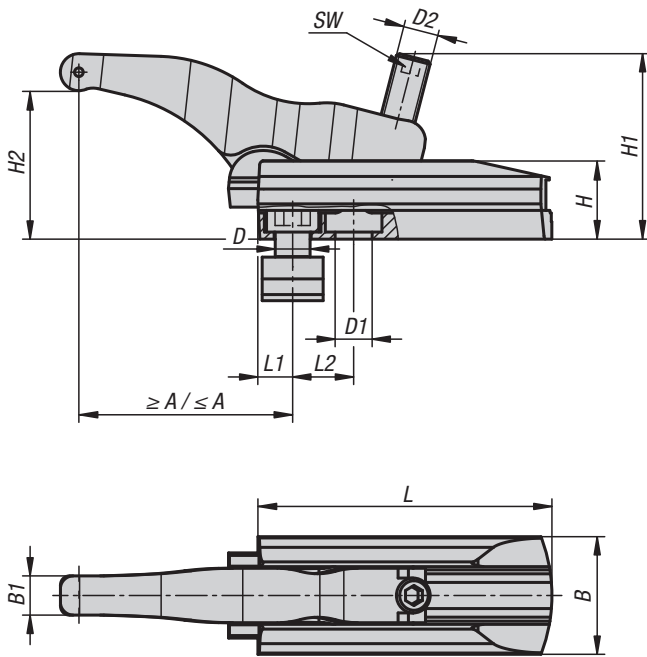
The height of the clamping arm can be infinitely adjusted using the adjustment screw and the workpiece can then be clamped.

Advantages:

- Very high retaining forces of 30–49 kN.
- Low height.
- Simple element assembly.
- Enables very fast, simple clamping.
- Infinitely adjustable height and length.
- Use in 14–28 mm T-slots or M12, M16, M20 grid systems.
- Thrust pad available in smooth and serrated versions.

Accessories:

Raiser K1206

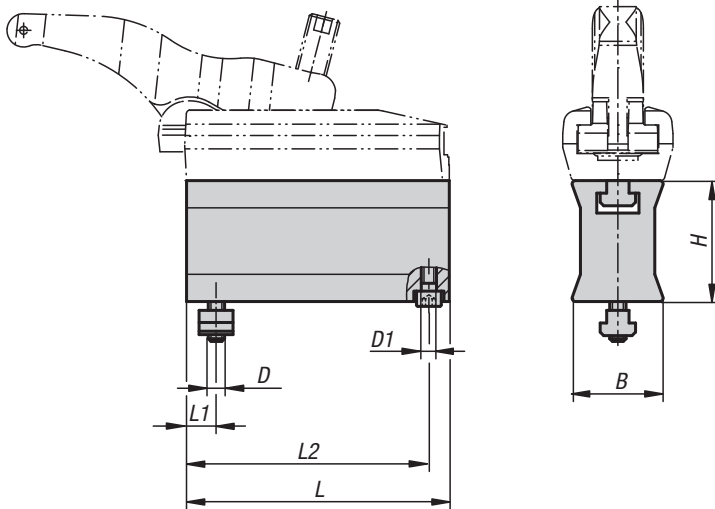


KIPP Power clamp

Order No.	Version	H2	A min.	A max.	B	B1	Slot width	D	D1	D2	H	H1	L	L1	L2	SW	Clamping force kN
K1205.112135	long	6-68	13	110	54	18	14	M12	13	M16	36	85	135	13	25	8	30
K1205.116135	long	6-68	16	114	54	18	18	M16	17	M16	36	85	135	16	28	8	30
K1205.116155	long	5-80	16	134	60	20	18	M16	17	M20	42	105	155	16	32	10	43
K1205.120175	long	7-88	19	165	75	25	22	M20	21	M24	52	125	175	19	36	12	49
K1205.212095	short	6-50	12	82	54	18	14	M12	13	M16	36	78	95	12	20	8	32
K1205.216110	short	6-50	15	95	60	20	18	M16	17	M20	42	92	110	15	26	10	40

Risers

for power clamp



Material:
Carbon steel.

Version:
Forged, black galvanized.

Sample order:
K1206.012060

Application:
The raiser is positioned and fastened to the machine table, the power clamp is then screwed onto the raiser.

By turning the adjustment screw on the power clamp, the height of the clamping arm can be infinitely adjusted and the workpiece clamped.

Advantages:

- Other clamping heights can be achieved by mounting multiple risers one on the other.
- Infinite transition between clamping heights.
- Simple element assembly.
- For use in 14-28 mm T-slots or M12, M16, M20 grid systems.

KIPP Raiser for power clamp

Order No.	Version	Slot width	B	D	D1	H	L	L1	L2	Clamping force kN
K1206.012060	long	14	45	M12	M8	60	135	12	127	30
K1206.016070	long	18	48	M16	M12	70	155	16	145	43
K1206.020080	long	22	58	M20	M12	80	175	19	165	49
K1206.112060	short	14	44,5	M12	M8	60	95	12	88	32
K1206.116070	short	18	47,5	M16	M12	70	110	16	100	40

K1215

Thrust pads

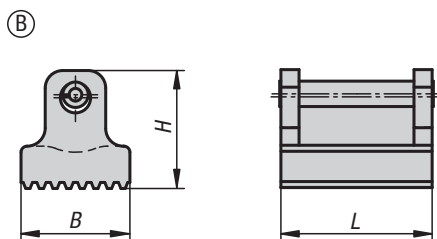
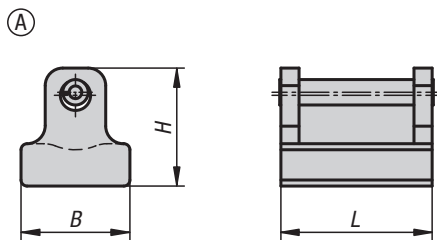
for power clamp



Material:
Stainless steel

Sample order:
K1215.025

Note:
Power clamps can be fitted with serrated or smooth thrust pads.



KIPP Thrust pads for power clamp

Order No. Form A smooth	Order No. Form B serrated	B	H	L
K1215.025	K1215.125	18	19,5	25
K1215.030	K1215.130	20	24	30
K1215.036	K1215.136	25	28	36

Clamping units



Material:

Riser and clamp strap high-strength aluminium.
Accessories carbon steel.

Version:

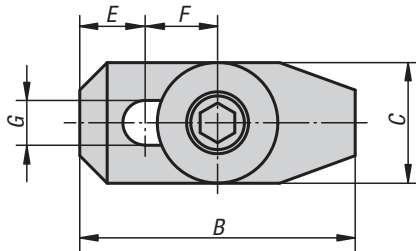
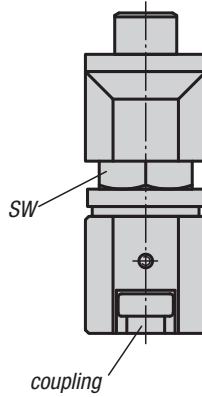
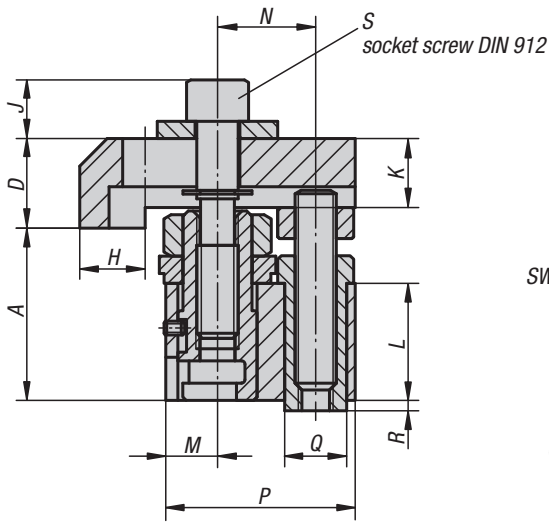
Riser and clamp strap anodized.
Accessories black oxidised.

Sample order:

K0841.12050055

Note:

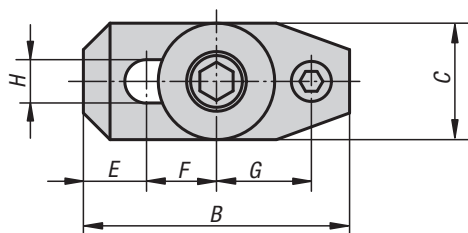
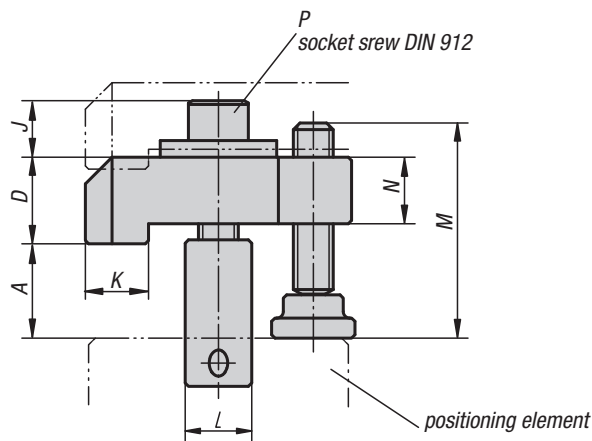
Clamping units can be combined with risers and positioning units to form a clamping module. By using risers the height of the clamping units can be increased almost indefinitely.



KIPP Clamping units

Order No.	Version	A	B	C	D	E	F	G	H	J	K	L	M	N	P	Q	R	S	SW
K0841.16055068	short	55-80	100	45	34	24	26	17	24	22	27	36,5	18	35	68	22	4	M16x75	32
K0841.16055093	long	55-80	150	45	34	24	51	17	24	22	27	36,5	18	60	93	22	4	M16x75	32

Clamp strap unit

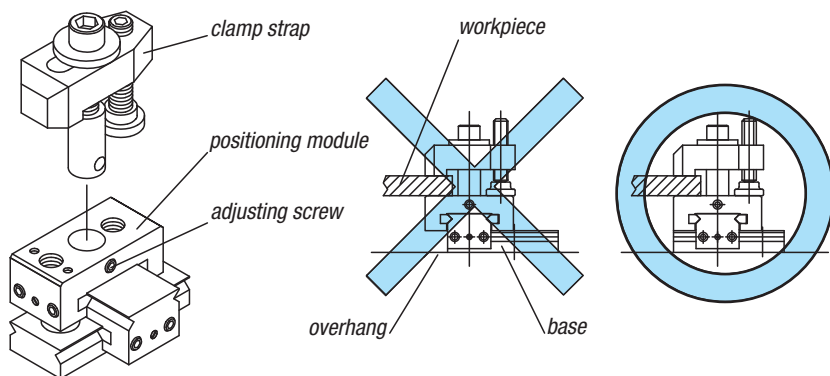


Material:
Strap high-strength aluminium.
Accessories carbon steel.

Version:
Clamp strap anodized.
Accessories black oxidised.

Sample order:
K0842.30016025

Note:
The clamp strap unit is mounted directly onto a positioning module.
The height of the clamp strap can be individually adjusted with a socket head screw (height adjustment 23-55 mm). For clamping heights 0-23 mm a connecting bush (K0850.700) must be used.



To secure the clamp tighten the adjusting screw located on the wide face of the upper slide.

The upper part of the positioning module must not project over the edge of the base if this is used to support a workpiece.

KIPP Clamp strap unit

Order No.	A	B	C	D	E	F	G	H	J	K	L	M	N	P
K0842.30016025	25-55	100	45	34	24	26	35	17	22	24	25	85	27	M16 x 75

Riser blocks



Material:

Riser blocks high-strength aluminium.
Connecting bolts and clamp screws carbon steel.

Version:

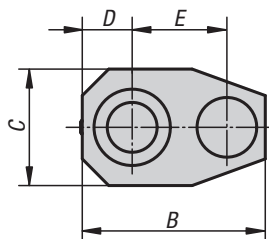
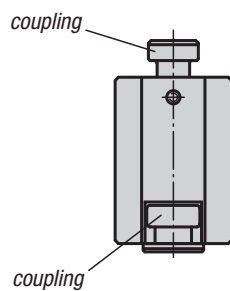
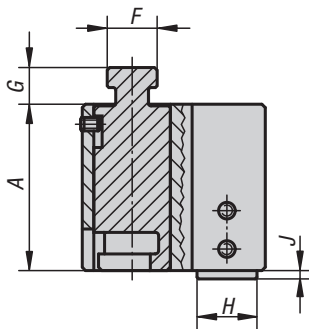
Riser blocks anodized.
Connecting bolts and clamp screws black oxidised.

Sample order:

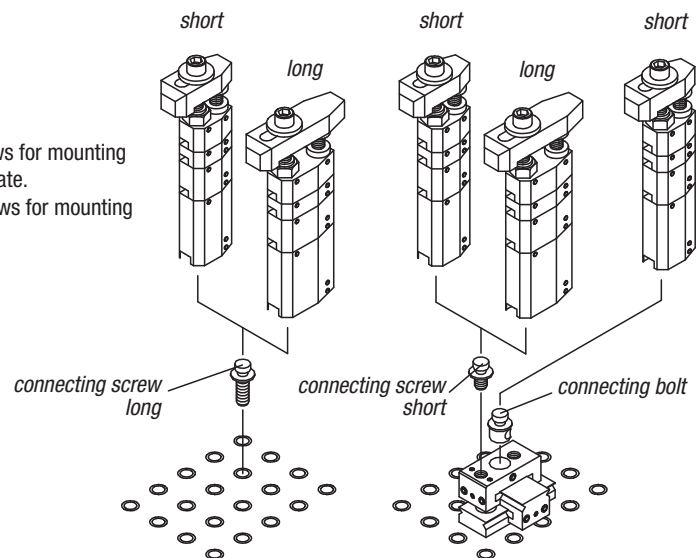
K0843.16025068

Note:

The height of clamping units can be increased as required using these riser blocks.



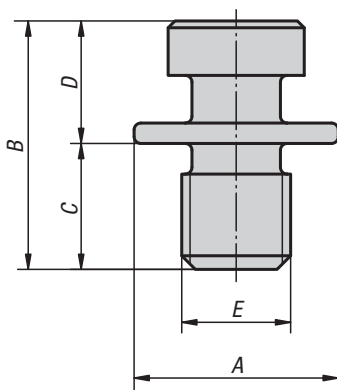
Use long connecting screws for mounting directly onto the tooling plate.
Use short connecting screws for mounting onto a positioning unit.



KIPP Riser blocks

Order No.	Version	A	B	C	D	E	F	G	H	J	Matching clamping units
K0843.16025068	short	25	68	45	18	35	25	9	22	4	K0841.16055068
K0843.16050068	short	50	68	45	18	35	25	9	22	4	K0841.16055068
K0843.16100068	short	100	68	45	18	35	25	9	22	4	K0841.16055068
K0843.16025093	long	25	93	45	18	60	25	9	22	4	K0841.16055093
K0843.16050093	long	50	93	45	18	60	25	9	22	4	K0841.16055093
K0843.16100093	long	100	93	45	18	60	25	9	22	4	K0841.16055093

Connecting screws short



Material:
Carbon steel.

Version:
Black oxidised.

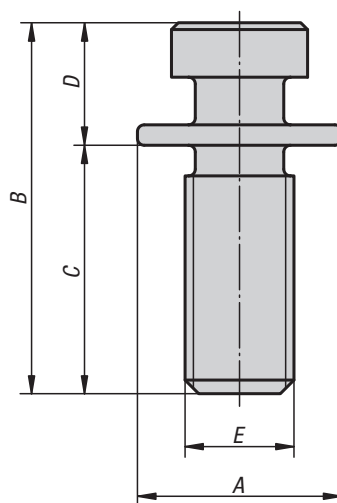
Sample order:
K0844.16025

Note:
Short connecting screws are used for the quick positioning and locking of clamping units onto positioning units.
See application example K0843.

KIPP Connecting screws short

Order No.	A	B	C	D	E
K0844.16025	28	35	19	16	M16

Connecting screws long



Material:
Carbon steel.

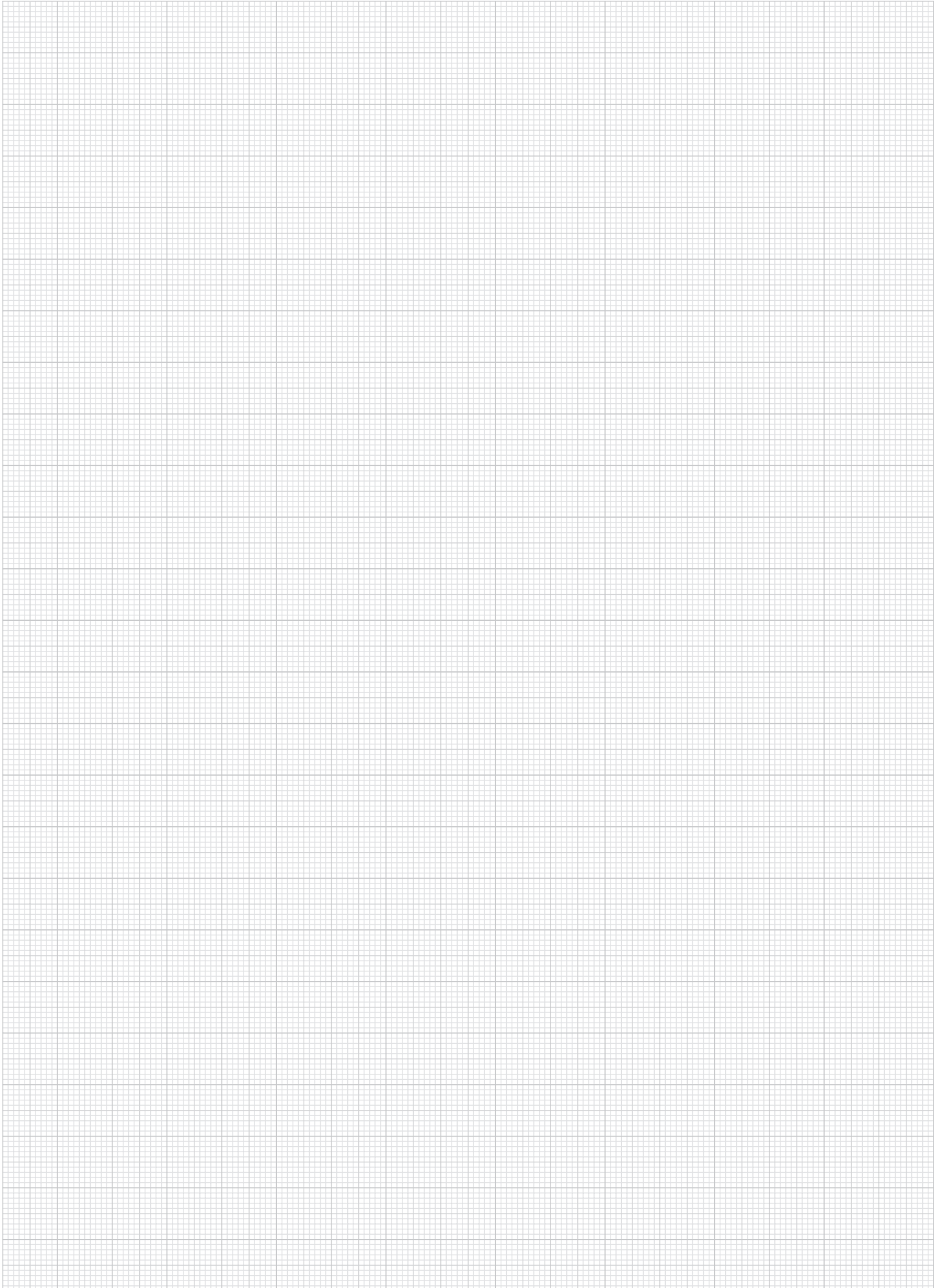
Version:
Black oxidised.

Sample order:
K0845.42216025

Note:
Long connecting screws are used for quick positioning and locking the clamping units directly onto a tooling plate.
See application example K0843.

KIPP Connecting screws long

Order No.	A	B	C	D	E
K0845.42216025	28	51	35	16	M16



Positioning units

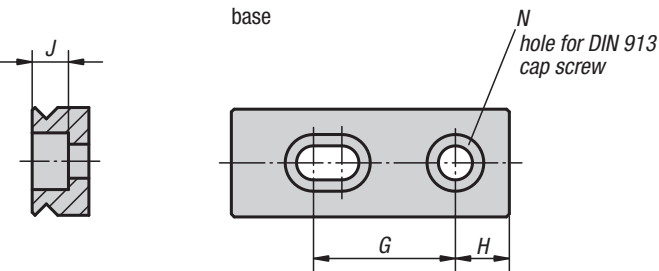
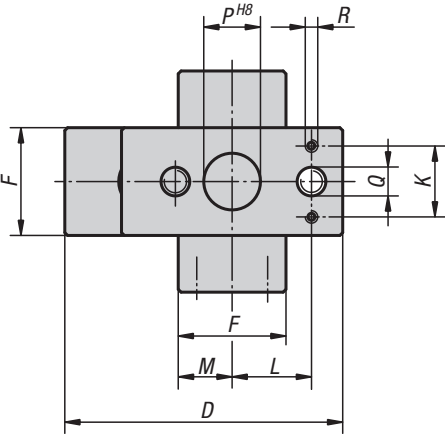
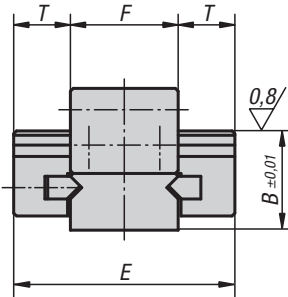
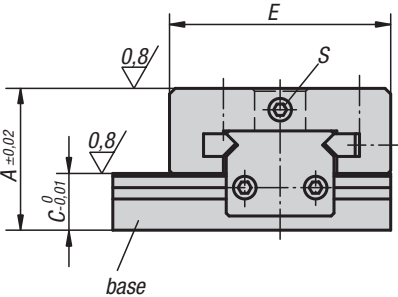


Material:
Carbon steel.

Version:
Ground, black oxidised.

Sample order:
K0846.20012050

Note:
Positioning units allow workpieces and clamping units to be positioned anywhere on the tooling plate (travel 40-50 mm).
Graduation marks on the slides allow the position to be read, and the clamping fixture construction to be documented.
Positioning units are modules that can be combined with wedge clamps, stops and clamping units to form a flexible clamping fixture.



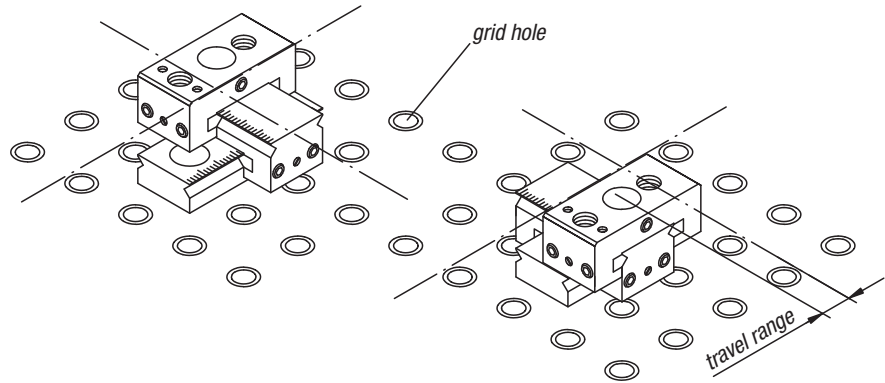
KIPP Positioning units

Order No.	A	B	C	D	E	F	G	H	J	K	L	M	N	P	Q	R	S	T
K0846.20016063	63	43	23	123	98	48	50	24	17	32	34	25	M16	25	M16x19	M6x12	M10	25

Technical notes for positioning units



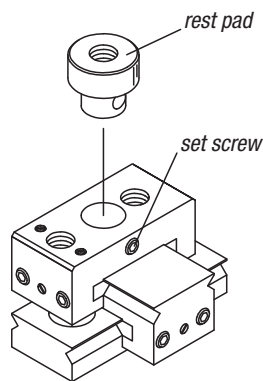
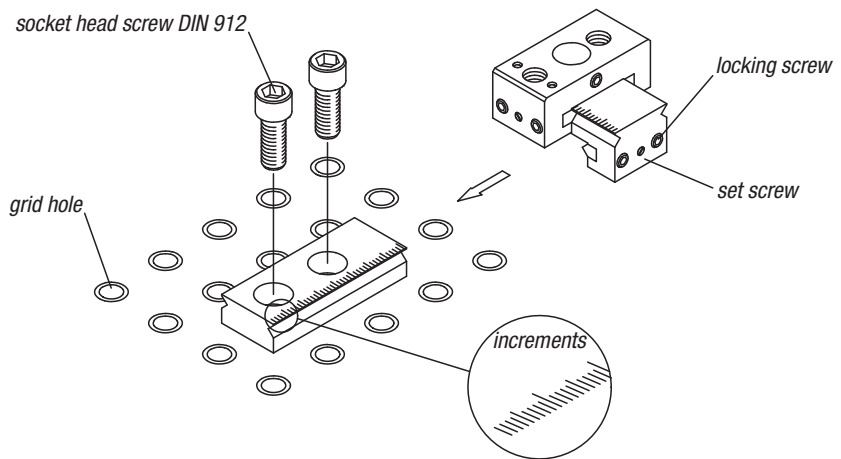
Positioning units allow parts to be located at any desired position on the grid plate.



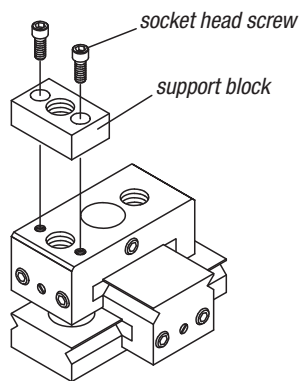
Note:

Use socket head screws to secure the base.
Tighten locking screws to lock the lower slide after positioning.

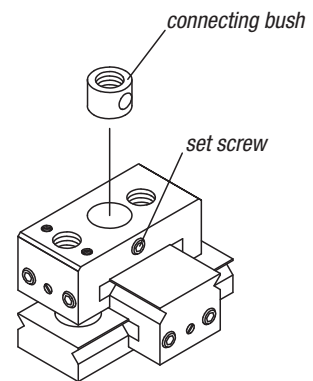
The set screw allows the slide pressure to be adjusted.
The graduations on the base unit allow you to read off the position and to document the adjustment path.



To secure, tighten the set screw.



Secure support block on top slide with socket head screws.

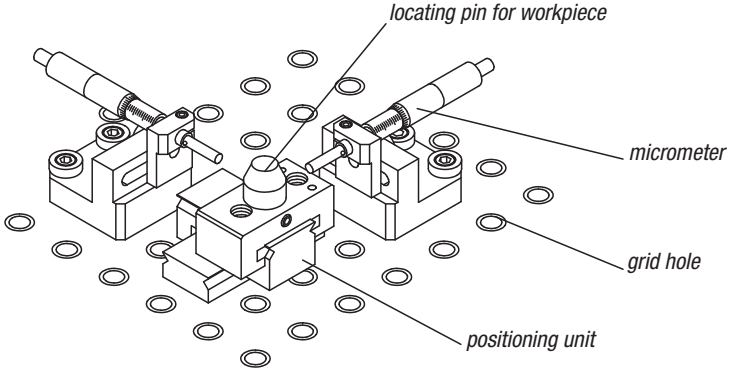


To secure, tighten the set screw.

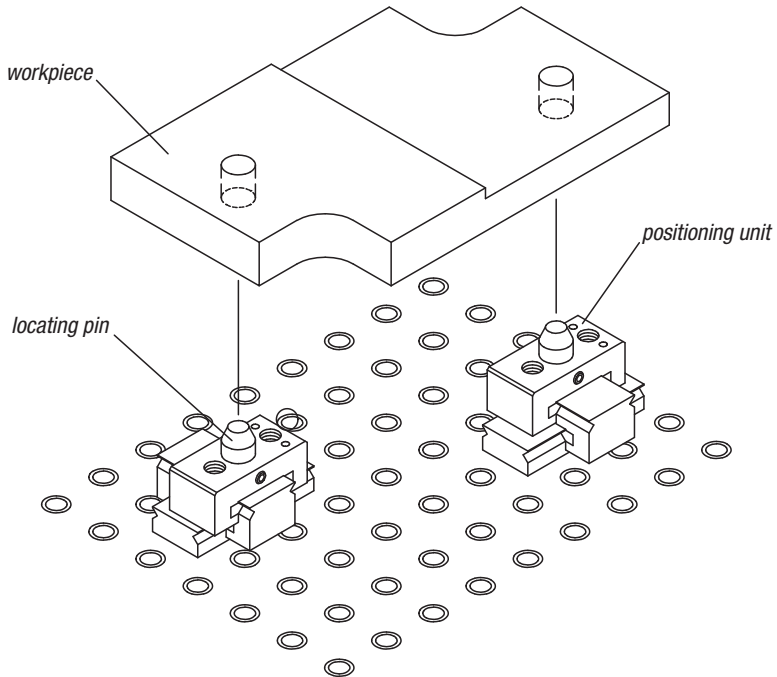
Example of positioning unit use



The micrometer eases the precise positioning of the locating pin on the base unit to a desired distance from a grid hole on the grid plate.

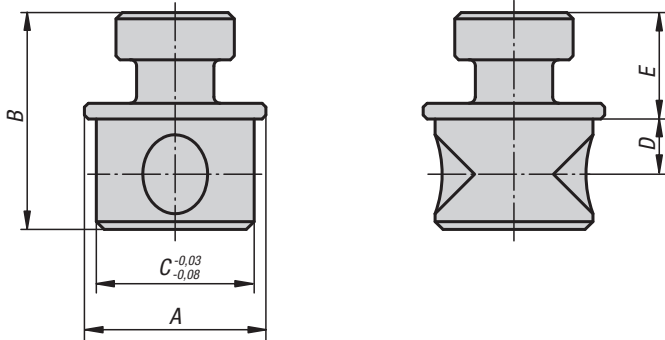


One application is positioning workpieces which have pre-drilled holes.



K0847

Connecting bolts



Material:
Carbon steel.

Version:
Black oxidised.

Sample order:
K0847.42016025

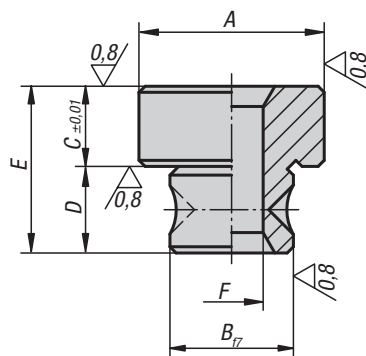
Note:
Connecting bolts are used for quickly positioning and locking clamping units (K0841.16055068) on positioning units.
See application example K0843.

KIPP Connecting bolts

Order No.	A	B	C	D	E
K0847.42016025	28	35	25	9,5	16

K0848

Rest pads



Material:
Carbon steel.

Version:
Case-hardened and ground.

Sample order:
K0848.55016040

Note:
These rest pads are for supporting workpieces on positioning units.

KIPP Rest pads

Order No.	A	B	C	D	E	F
K0848.55016040	40	25	17	19	36	M16

K0849

Support blocks

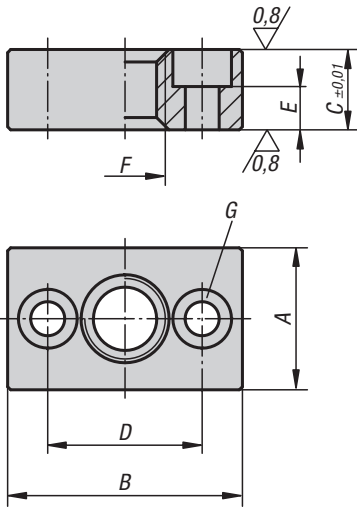


Material:
Carbon steel.

Version:
Case-hardened, ground, black oxidised.

Sample order:
K0849.60016017

Note:
Support blocks are used to support workpieces on positioning units.



KIPP Support blocks

Order No.	A	B	C	D	E	F	G for socket head screw
K0849.60016017	30	48	17	32	10	M16	M6

K0850

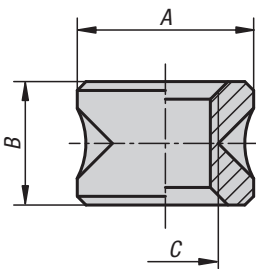
Connecting bushes



Material:
Carbon steel.

Version:
Case-hardened and black oxidised.

Sample order:
K0850.70016025



KIPP Connecting bushes

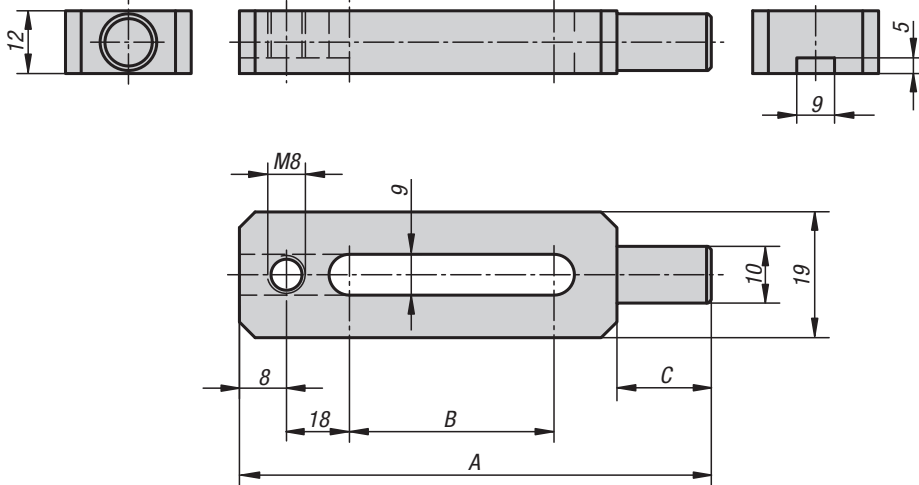
Order No.	A	B	C
K0850.70016025	25	18	M16

Clamp straps

pin-end



K0834.08063
K0834.08075



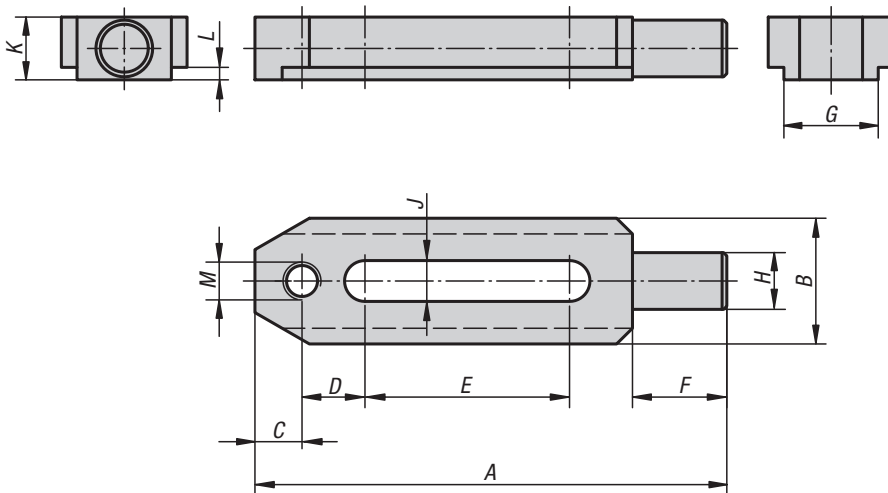
Material:
Carbon steel.

Version:
Tempered and black oxidised.

Sample order:
K0834.08063

Note:
Pin-end straps can be used in conjunction with other fixture elements, such as K0839, K0821, K0307.

K0834.12150
K0834.16190



KIPP Pin-end straps

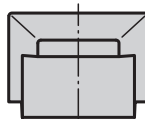
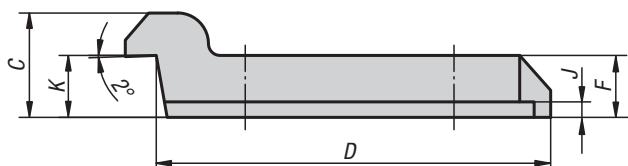
Order No.	A	B	C
K0834.08063	63	15	14
K0834.08075	75	20	20

KIPP Pin-end straps

Order No.	A	B	C	D	E	F	G	H	J	K	L	M
K0834.12150	150	40	15	20	65	30	30	18	13	20	4	M12
K0834.16190	190	50	20	25	80	36	40	24	18	28	5	M16

Clamp straps

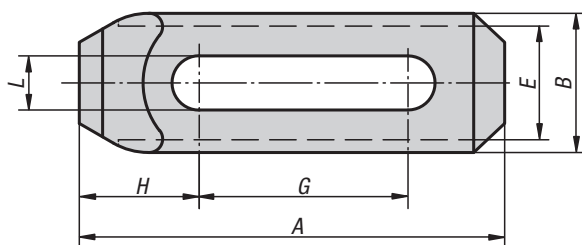
goose-neck



Material:
Carbon steel 1.7225

Version:
Tempered to 1000 N/mm², black oxidised.

Sample order:
K0002.10



KIPP Clamp straps goose-neck

Order No.	A	B	C	D	E	F	G	H	J	K	L
K0002.10	110	36	27	102	29	16	54	31	4	15	13
K0002.16	165	50	50	145	40	25	70	60	5	24,5	18

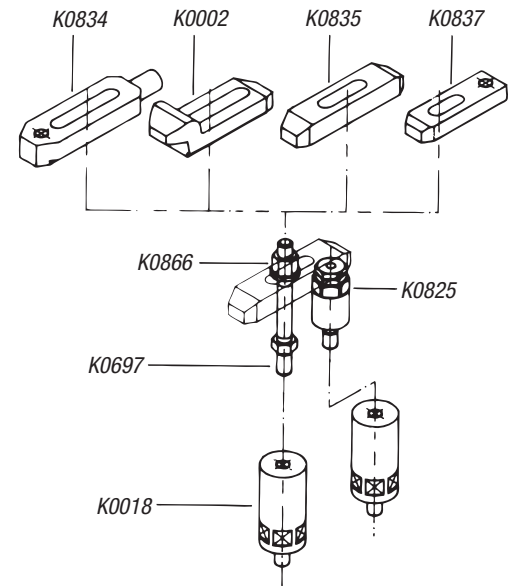
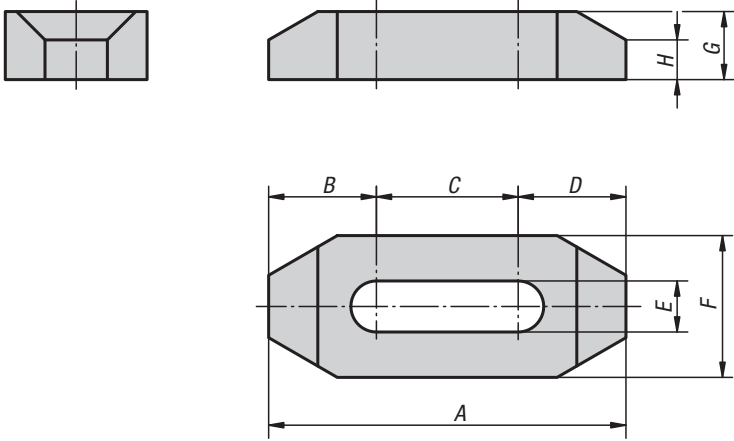
Clamp straps



Material:
Carbon steel.

Version:
Tempered and black oxidised.

Sample order:
K0835.08063

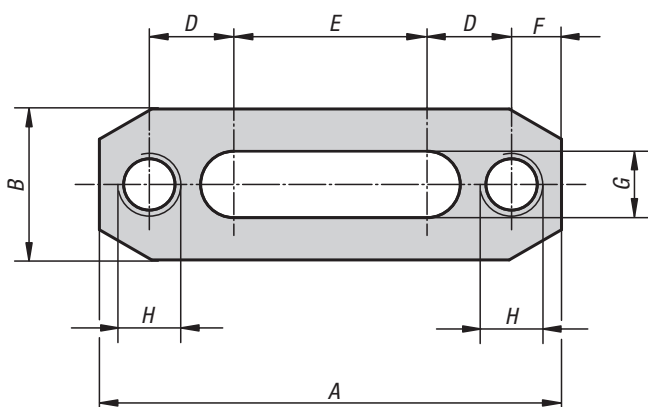
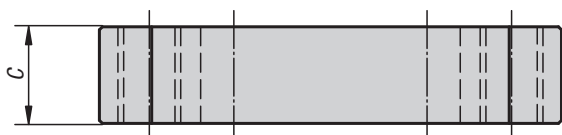


KIPP Clamp straps

Order No.	A	B	C	D	E	F	G	H
K0835.08063	63	19	25	19	9	25	12	7
K0835.08080	80	24	32	24	9	25	12	7
K0835.08100	100	30	40	30	9	25	16	10
K0835.10063	63	19	25	19	11	25	12	7
K0835.10080	80	24	32	24	11	25	16	10
K0835.10100	100	30	40	30	11	25	16	10
K0835.10125	125	40	45	40	11	32	19	13
K0835.10160	160	55	50	55	11	32	19	13
K0835.12063	63	19	25	19	13	32	16	10
K0835.12080	80	24	32	24	13	32	16	10
K0835.12100	100	30	40	30	13	32	19	13
K0835.12125	125	40	45	40	13	32	19	13
K0835.12160	160	55	50	55	13	32	25	15
K0835.16080	80	27,5	25	27,5	17	32	16	10
K0835.16100	100	34	32	34	17	38	19	13
K0835.16125	125	42,5	40	42,5	17	38	19	13
K0835.16160	160	55	50	55	17	38	25	15
K0835.20100	100	34	32	34	21	38	19	13
K0835.20125	125	42,5	40	42,5	21	38	25	15
K0835.20160	160	55	50	55	21	38	25	15
K0835.20200	200	68,5	63	68,5	21	50	25	15

Clamp straps

tapped both ends



Material:

Carbon steel 1.0503.

Version:

Tempered and black oxidised.

Sample order:

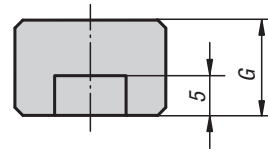
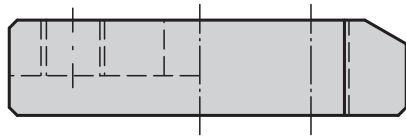
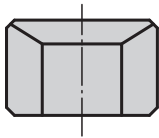
K0836.08063

KIPP Clamp straps, tapped both ends

Order No.	A	B	C	D	E	F	G	H	Clamping force N	Tightening torque max. Nm
K0836.08063	63	25	12	12	25	7	9	M8	6900	22
K0836.08080	80	25	12	17	32	7	9	M8	6900	22
K0836.10080	80	25	16	14	32	10	11	M10	11300	45
K0836.10100	100	25	16	20	40	10	11	M10	11300	45
K0836.10125	125	25	16	30	45	10	11	M10	11300	45
K0836.12100	100	32	19	20	40	10	13	M12	16700	80
K0836.12125	125	32	19	30	45	10	13	M12	16700	80
K0836.12160	160	32	22	45	50	10	13	M12	16700	80
K0836.16125	125	38	19	30,5	40	12	17	M16	18000	115
K0836.16160	160	38	22	43	50	12	17	M16	18000	115
K0836.16200	200	38	25	58	60	12	17	M16	20200	129
K0836.20125	125	38	22	27,5	40	15	21	M20	19700	157
K0836.20160	160	38	22	40	50	15	21	M20	19700	157
K0836.20200	200	50	25	55	60	15	21	M20	22900	183

Clamp straps

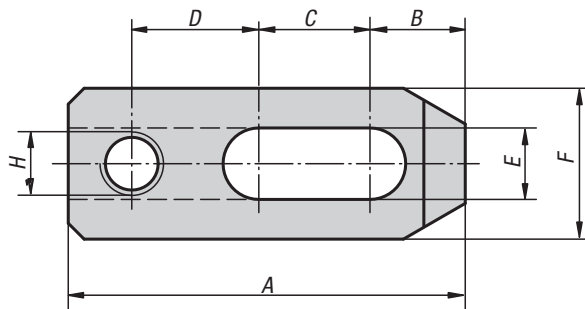
tapped heel



Material:
Carbon steel.

Version:
Tempered and black oxidised.

Sample order:
K0837.08040



KIPP Clamp straps, tapped heel

Order No.	A	B	C	D	E	F	G	H
K0837.08040	40	10	6	16	9	19	12	M8
K0837.08050	50	12	14	16	9	19	12	M8
K0837.08063	63	12	27	16	9	19	12	M8
K0837.10050	50	12	8	20	11	25	12	M10
K0837.10063	63	15	18	20	11	25	12	M10
K0837.10080	80	15	32	23	11	25	16	M10
K0837.10100	100	15	40	35	11	25	16	M10
K0837.10125	125	15	50	50	11	25	16	M10
K0837.12063	63	14	14	24	13	32	16	M12
K0837.12080	80	20	25	24	13	32	16	M12
K0837.12100	100	20	40	29	13	32	19	M12
K0837.12125	125	20	50	44	13	32	19	M12
K0837.12160	160	20	60	69	13	32	19	M12
K0837.16080	80	18	17	30	17	38	19	M16
K0837.16100	100	25	30	30	17	38	25	M16
K0837.16125	125	25	45	40	17	38	25	M16
K0837.16160	160	25	65	55	17	38	25	M16
K0837.20160	160	32	60	52	21	50	25	M20
K0837.20200	200	32	80	72	21	50	25	M20

Clamp straps

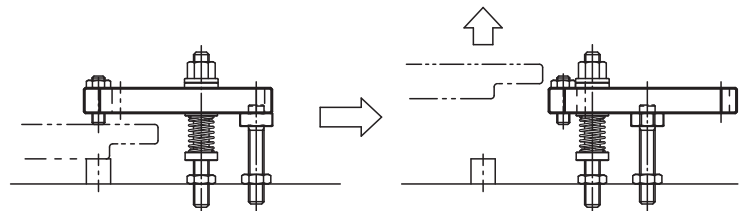
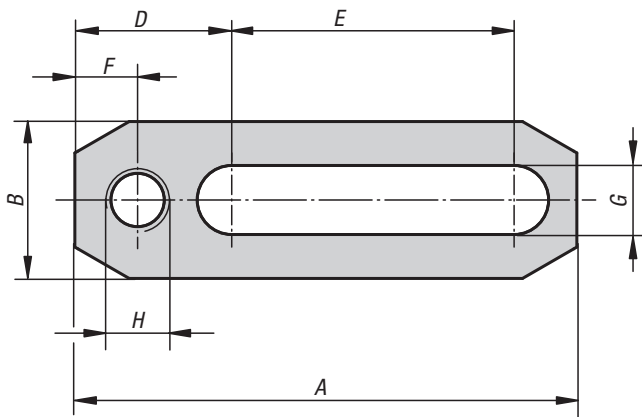
tapped heel



Material:
Carbon steel 1.0503.

Version:
Tempered and black oxidised.

Sample order:
K0838.08063



KIPP Clamp straps, tapped heel

Order No.	A	B	C	D	E	F	G	H	Clamping force N	Tightening torque max. Nm
K0838.08063	63	19	12	19	36	7	9	M8	3200-8000	17
K0838.08080	80	19	12	19	53	7	9	M8	3500-8600	17
K0838.10080	80	25	16	25	45	10	11	M10	6800-16900	45
K0838.10100	100	25	16	25	65	10	11	M10	7300-18300	45
K0838.10125	125	25	16	25	90	10	11	M10	7700-19300	45
K0838.12100	100	32	19	28	60	10	13	M12	10200-25600	80
K0838.12125	125	32	19	28	85	10	13	M12	11000-27500	80
K0838.12160	160	32	19	28	120	10	13	M12	11600-29000	80
K0838.16125	125	38	25	36	73	12	17	M16	12100-30300	129
K0838.16160	160	38	25	36	108	12	17	M16	13200-33000	129
K0838.16200	200	38	25	36	148	12	17	M16	13900-34700	129
K0838.20160	160	50	25	45	90	15	21	M20	15000-36000	183
K0838.20200	200	50	32	45	130	15	21	M20	16000-37000	183
K0838.20250	250	50	32	45	180	15	21	M20	17000-38000	183

Clamp springs



Material:

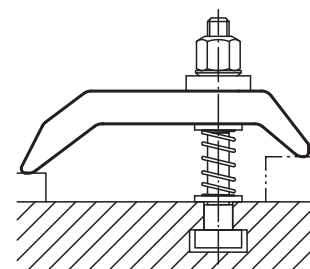
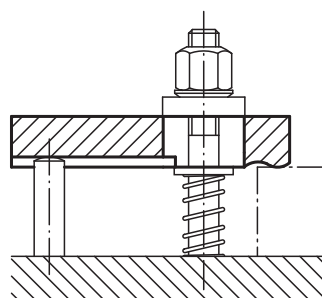
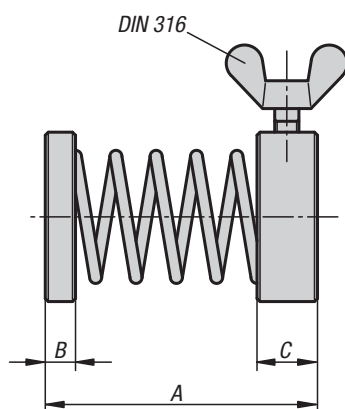
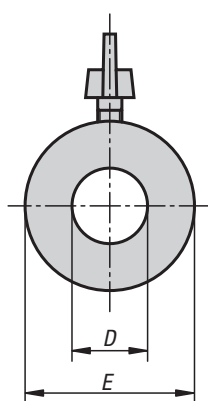
Thrust and retaining ring carbon steel, spring spring steel

Version:

Thrust and retaining ring black oxidised. Spring bright.

Sample order:

K0859.12046

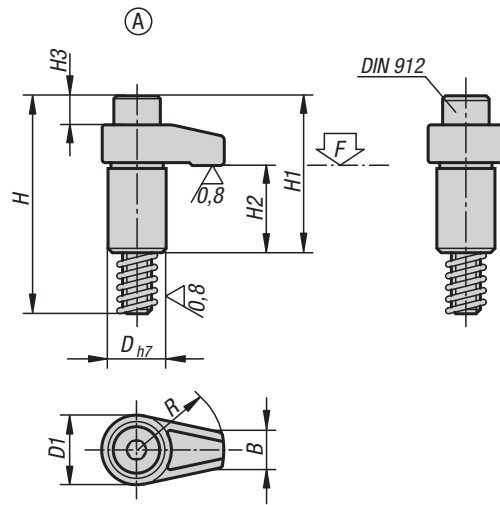


KIPP Clamp springs

Order No.	A	B	C	D	E	Wing nuts to DIN 316
K0859.08029	29	2	6	8,5	16	M4x6
K0859.12046	46	3	8	13	25	M4x10
K0859.16050	50	4	8	16,5	28	M5x10

Hook clamps ground

Form A/B/C

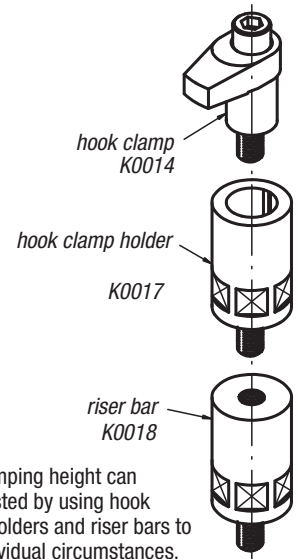
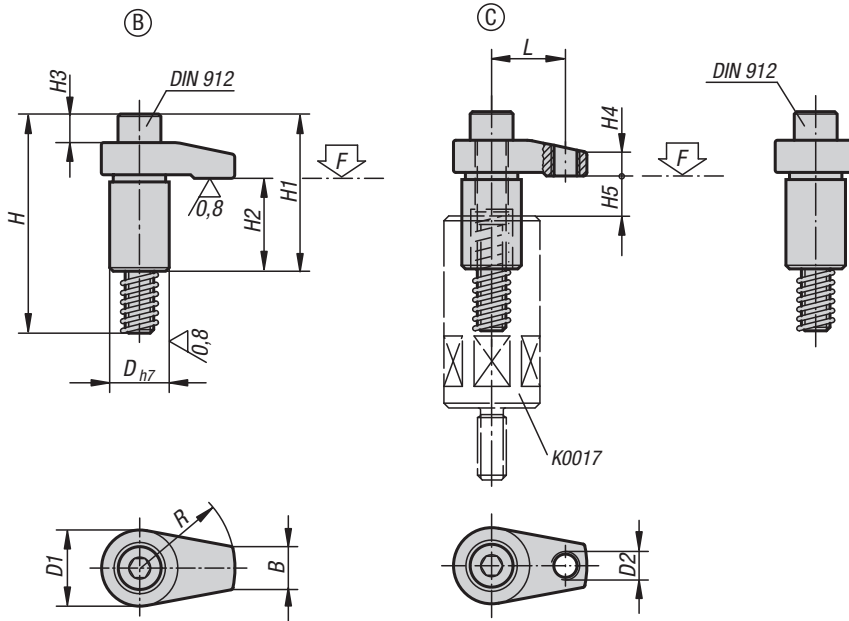


Material:
Carbon steel, tempered.

Version:
Black oxidised. Shaft OD ground.

Sample order:
K0014.216040

Note:
The stated clamping forces (F max.) and tightening torques are valid within the stated clamping ranges (H5).



The clamping height can be adjusted by using hook clamp holders and riser bars to suit individual circumstances.

KIPP Hook clamps, ground, Form A/B/C

Order No.	Form	D	D1	D2	H	H1	H2	H3	H4	H5 max. clamping range	B	L	R	Socket head screw DIN 912	Tightening torque max. Nm	F max. kN
K0014.110030	A	20	25	-	75	54	30	9	10	12	12	-	30	M10x65	37,2	13
K0014.110040	A	20	25	-	75	54	30	9	10	12	12	-	40	M10x65	31,4	9,8
K0014.208020	B	18	22	-	58	37	23	2	7	10	10	-	20	M8x50	37,2	13,6
K0014.208025	B	18	22	-	58	37	23	2	7	10	10	-	25	M8x50	32,3	10,9
K0014.208030	B	18	22	-	58	37	23	2	7	10	10	-	30	M8x50	29,4	9
K0014.212040	B	25	32	-	92	66	39	11	12	15	18	-	40	M12x80	58,8	17,5
K0014.212050	B	25	32	-	92	68	39	11	12	15	18	-	50	M12x80	49	14
K0014.212060	B	25	32	-	92	68	39	11	12	15	18	-	60	M12x80	45,1	11,6
K0014.216040	B	32	36	-	101	75	39	15	15	15	22	-	40	M16x85	166,6	37,9
K0014.216050	B	32	36	-	101	75	39	15	15	15	22	-	50	M16x85	147	30,4
K0014.216060	B	32	36	-	101	75	39	15	15	15	22	-	60	M16x85	127,4	25,2
K0014.312140	C	25	32	M12	92	66	39	11	10	15	18	31	40	M12x80	58,8	22,6
K0014.312150	C	25	32	M12	92	68	39	11	13	15	18	38	50	M12x80	49	18,5
K0014.312160	C	25	32	M12	92	68	39	11	13	15	18	46	60	M12x80	45,1	15,2
K0014.316150	C	32	36	M12	101	75	39	15	16	15	22	38	50	M16x85	147	38
K0014.316160	C	32	36	M12	101	75	39	15	16	15	22	46	50	M16x85	127,4	33

Hook clamp holders

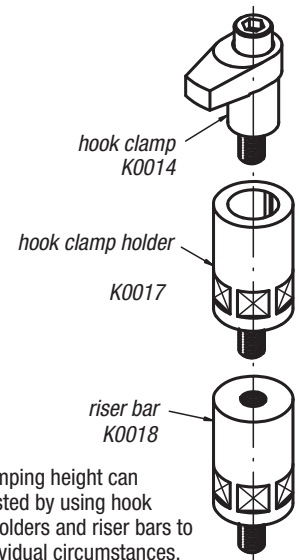
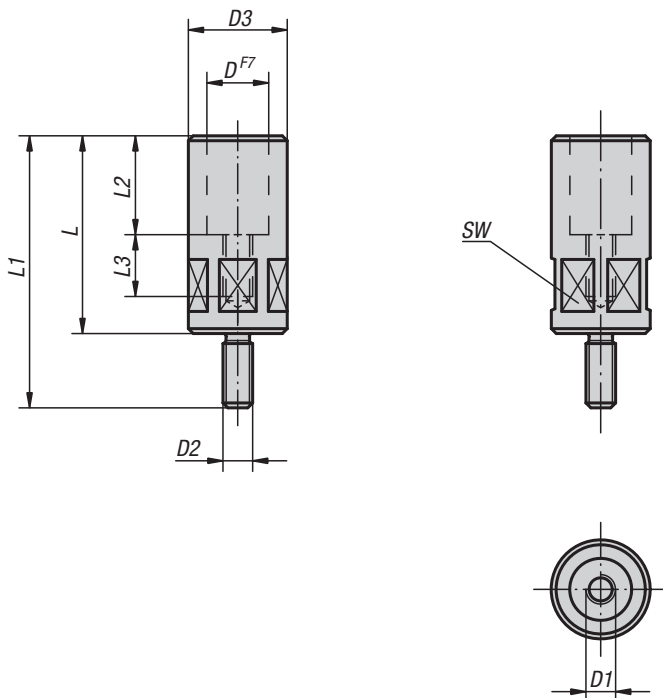


Material:
Carbon steel.

Version:
Black oxidised.

Sample order:
K0017.12080

Note:
Hook clamp holders are for holding and raising hook clamps.

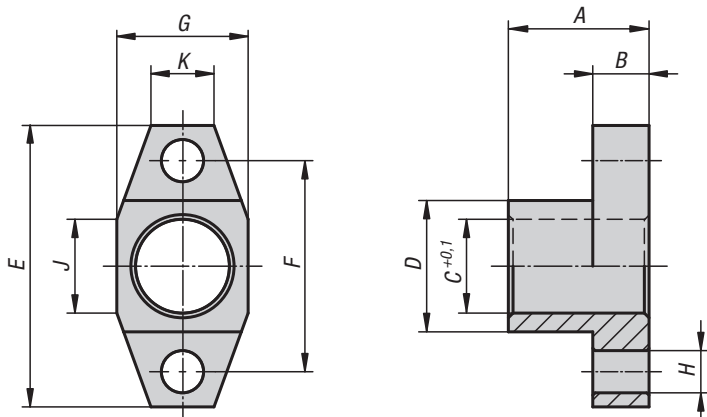


The clamping height can be adjusted by using hook clamp holders and riser bars to suit individual circumstances.

KIPP Hook clamp holders

Order No.	D	D1	D2	D3	L	L1	L2	L3	SW	Tightening torque max. Nm
K0017.08055	18	M8	M8	24	55	74	25	20	22	29,4
K0017.10063	20	M10	M12	32	63	93	30	21	30	39,2
K0017.10080	20	M10	M12	32	80	110	30	23	30	39,2
K0017.12080	25	M12	M12	40	80	110	40	25	36	49
K0017.12100	25	M12	M12	40	100	130	40	28	36	49
K0017.16080	32	M16	M16	50	80	110	40	25	46	78,4
K0017.16100	32	M16	M16	50	100	130	40	28	46	78,4

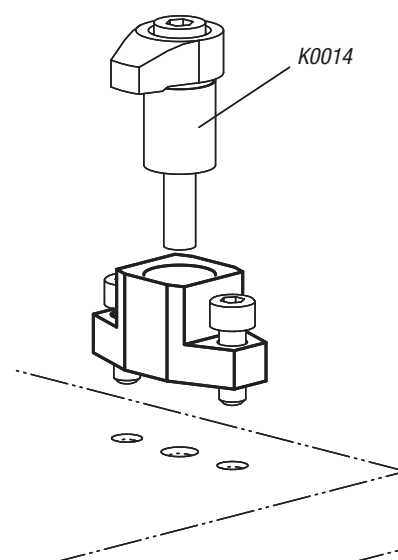
Hook clamp holders



Material:
Carbon steel 1.0503.

Version:
Black oxidised.

Sample order:
K0851.08025



KIPP Hook clamp holders

Order No.	A	B	C	D	E	F	G	H	J	K
K0851.08025	25	10	18	24	50	38	24	6,6	15	11,3
K0851.10030	30	12	20	28	60	45	28	9	20	13,4
K0851.12040	40	14	25	35	75	55	35	11	20	15
K0851.16040	40	16	32	42	85	65	42	13,5	25	20,2

Hook clamps

with collar



Material:

Hook clamps and hook clamp holders carbon steel, tempered.

Version:

Black oxidised.

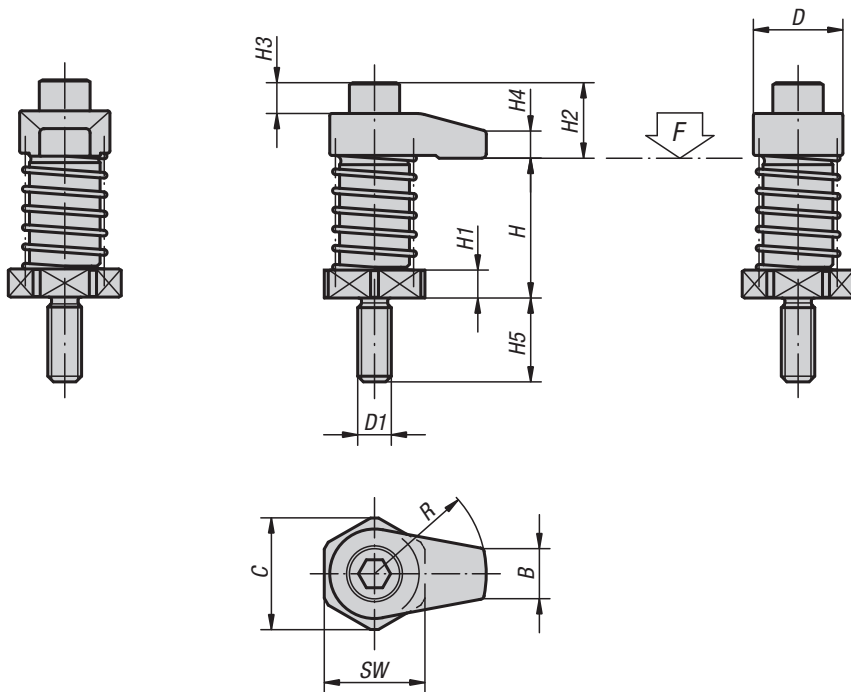
Sample order:

K0015.12060

Note:

Hook clamps with collar can be screwed directly into grid holes etc. without counterbore.

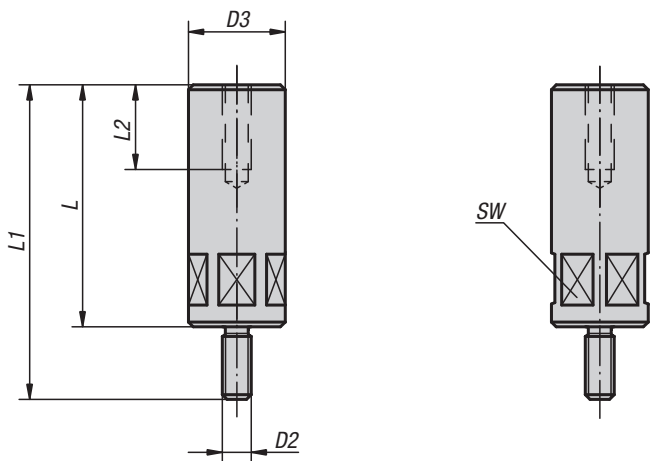
For suitable riser elements, see riser bars K0018.



KIPP Hook clamps with collar

Order No.	D	D1	H clamping range	H1	H2	H3	H4	H5	B	C	R	SW	Tightening torque max. Nm	F max. kN
K0015.08020	22	M8	35 - 45	6	14	2	7	19	10	25	20	22	20	7,9
K0015.08025	22	M8	35 - 45	6	14	2	7	19	10	25	25	22	20	7,3
K0015.08030	22	M8	35 - 45	6	14	2	7	19	10	25	30	22	20	6,7
K0015.08120	22	M8	45 - 55	16	14	2	7	19	10	25	20	22	20	7,9
K0015.08125	22	M8	45 - 55	16	14	2	7	19	10	25	25	22	20	7,3
K0015.08130	22	M8	45 - 55	16	14	2	7	19	10	25	30	22	20	6,7
K0015.12040	32	M12	50 - 65	10	27	11	10	30	18	40	40	36	45	13,5
K0015.12050	32	M12	50 - 65	10	29	11	12	30	18	40	50	36	45	12,6
K0015.12060	32	M12	50 - 65	10	29	11	12	30	18	40	60	36	45	11,7
K0015.12140	32	M12	65 - 80	25	27	11	10	30	18	40	40	36	45	13,5
K0015.12150	32	M12	65 - 80	25	29	11	12	30	18	40	50	36	45	12,6
K0015.12160	32	M12	65 - 80	25	29	11	12	30	18	40	60	36	45	11,7
K0015.16040	36	M16	50 - 65	10	36	15	15	30	22	40	40	36	60	13,4
K0015.16050	36	M16	50 - 65	10	36	15	15	30	22	40	50	36	60	12,4
K0015.16060	36	M16	50 - 65	10	36	15	15	30	22	40	60	36	60	12
K0015.16140	36	M16	65 - 80	25	36	15	15	30	22	40	40	36	60	13,4
K0015.16150	36	M16	65 - 80	25	36	15	15	30	22	40	50	36	60	12,4
K0015.16160	36	M16	65 - 80	25	36	15	15	30	22	40	60	36	60	12

Riser bars

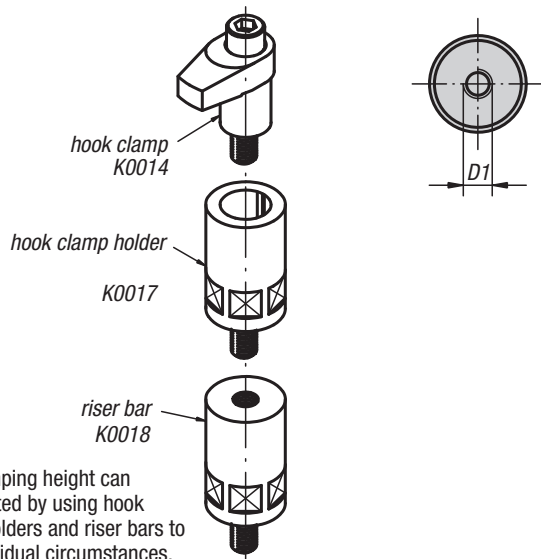


Material:
Carbon steel.

Version:
Black oxidised.

Sample order:
K0018.16050

Note:
The height of the hook clamps and hook clamp holders can be raised using these riser bars.



The clamping height can be adjusted by using hook clamp holders and riser bars to suit individual circumstances.

KIPP Riser bars

Order No.	D1	D2	D3	L	L1	L2	SW	Tightening torque max. Nm
K0018.08032	M8	M8	24	32	51	20	22	29,4
K0018.08040	M8	M8	24	40	59	20	22	29,4
K0018.08050	M8	M8	24	50	69	20	22	29,4
K0018.08065	M8	M8	24	65	84	20	22	29,4
K0018.12050	M12	M12	40	50	80	35	36	49
K0018.12065	M12	M12	40	65	95	35	36	49
K0018.12080	M12	M12	40	80	110	35	36	49
K0018.12100	M12	M12	40	100	130	35	36	49
K0018.12125	M12	M12	40	125	155	35	36	49
K0018.12160	M12	M12	40	160	190	35	36	49
K0018.12200	M12	M12	40	200	230	35	36	49
K0018.16050	M16	M16	50	50	80	35	46	78,4
K0018.16065	M16	M16	50	65	95	35	46	78,4
K0018.16080	M16	M16	50	80	110	35	46	78,4
K0018.16100	M16	M16	50	100	130	35	46	78,4
K0018.16125	M16	M16	50	125	155	35	46	78,4
K0018.16160	M16	M16	60	160	190	35	55	78,4
K0018.16200	M16	M16	60	200	230	35	55	78,4

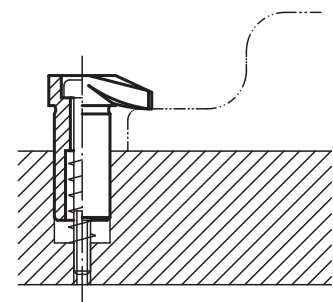
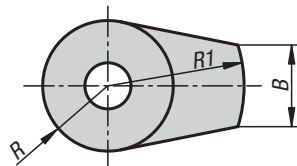
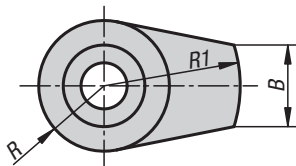
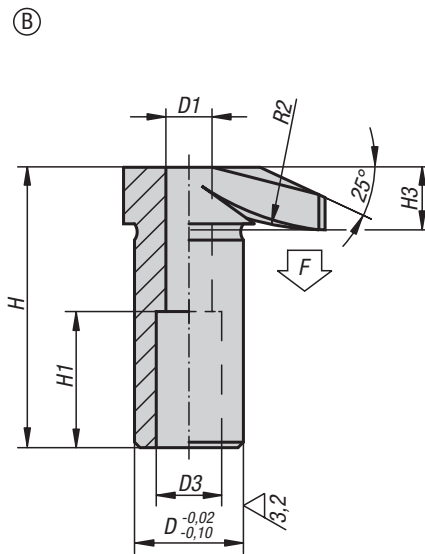
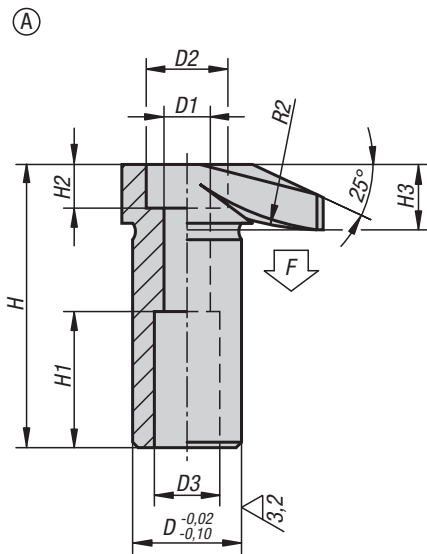
Hook clamps



Material:
Carbon steel, tempered.

Version:
Black oxidised.

Sample order:
K0012.10



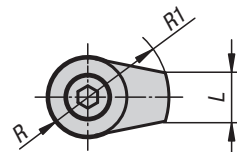
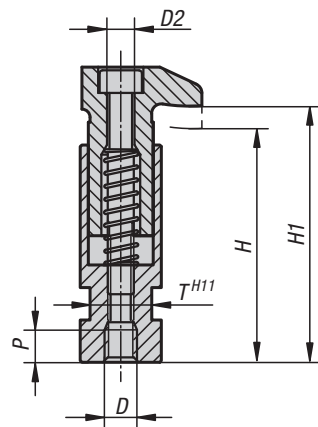
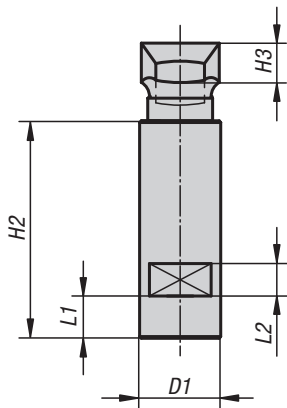
KIPP Hook clamps

Order No.	Form	D	D1	D2	D3	H	H1	H2	H3	B	R	R1	R2	F max. kN
K0012.06	A	16	6,5	11	10	42	20	6	10	11	9	20	30	4,8
K0012.08	A	20	8,5	15	12	52	25	8	12	15	12	25	50	8,8
K0012.10	A	25	10,5	18	14	66	32	10	16	17	14	32	60	13,9
K0012.12	A	32	12,5	20	17	83	40	12	20	20	18	40	80	20,2

Order No.	Form	D	D1	D3	H	H1	H3	B	R	R1	R2	F max. kN
K0012.106	B	16	6,5	10	41,5	20	9,5	11	9	20	30	4,8
K0012.108	B	20	8,5	12	51,5	25	11,5	15	12	25	50	8,8
K0012.110	B	25	10,5	14	65,5	32	15,5	17	14	32	60	13,9
K0012.112	B	32	12,5	17	82,5	40	19,5	20	18	40	80	20,2

Hook clamps

with collar



Material:
Carbon steel.

Version:
Tempered and black oxidised.

Sample order:
K0013.06

KIPP Hook clamps with collar

Order No.	D	D1	D2	H	H1	H2	H3	L	L1	L2	P	R	R1	T	Clamping force kN
K0013.06	M6	20	6	56	60	53	10	11	9	8	8	9	20	17	4,82
K0013.08	M8	20	6	56	60	53	10	11	9	8	8	9	20	17	8,77
K0013.10	M10	25	8	72	79	67	12	15	13	10	10	12	25	19	13,9
K0013.12	M12	32	10	88	96	82	16	17	18	12	12	14	32	27	20,2
K0013.16	M16	40	12	109	118	102	20	20	22	12	16	18	40	32	37,8

Swing clamps



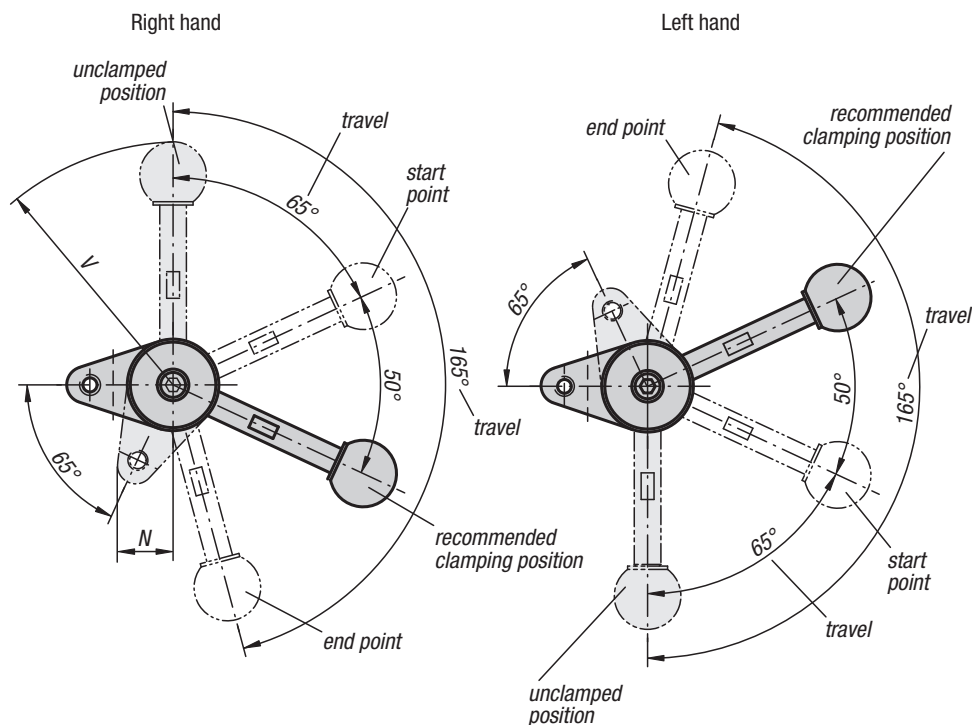
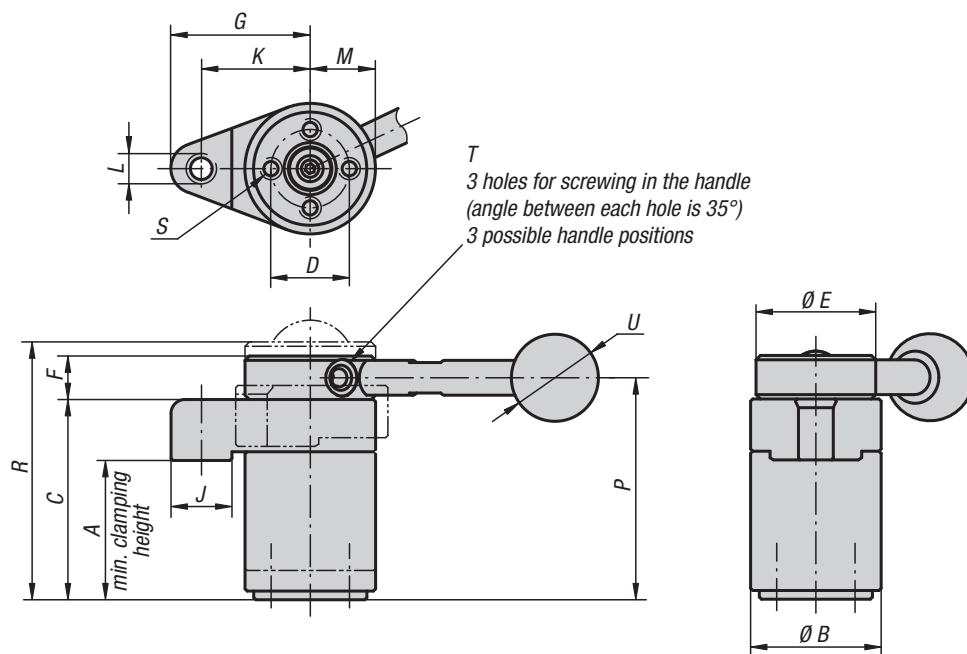
Material:
Carbon steel.
Ball knob plastic.

Version:
Tempered and black oxidised.
Ball knob Duroplast PF 31, black.

Sample order:
K0912.013232

Note:
* Admissible hand force to operate the handle.

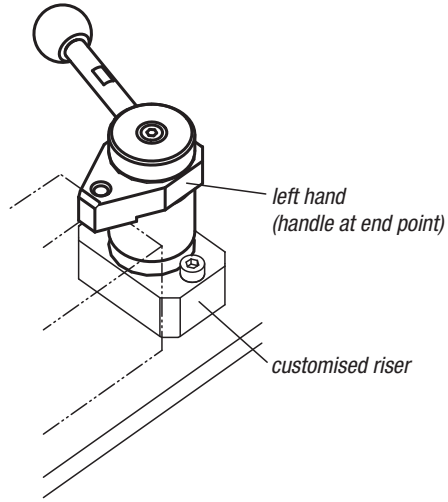
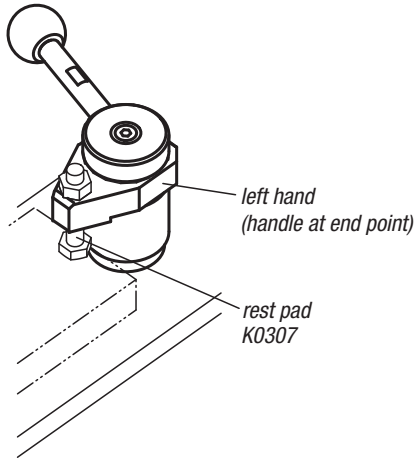
Accessories:
Standard handles K0915.
Screw-in handles with adjustable torque K0916.
Clamping arm for swing clamp K0912.03006010 and K0912.04007516.



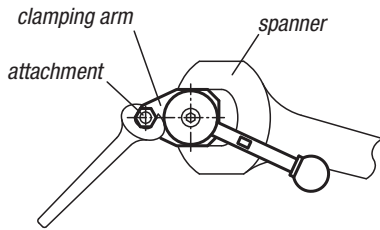
KIPP Swing clamps

Order No. left	Order No. right	Grip	A min.	A max.	B	C	D	E	F	G	J	K	L	M	N	P	R	S	T	U	V	Clamping force N	Hand force FH N
K0912.003232	K0912.103232	without grip	31,4	32,6	30	46	18	30	10	32	14	25	M6	15	17	51	57,5	M4x8	M5	-	-	800	150*
K0912.004540	K0912.104540	without grip	44,1	45,9	40	63	25	38	13	40	16	32	M8	20	22,5	69,5	78,1	M6x12	M6	-	-	1200	200*
K0912.013232	K0912.113232	with grip	31,4	32,6	30	46	18	30	10	32	14	25	M6	15	17	51	57,5	M4x8	M5	20	73	800	150*
K0912.014540	K0912.114540	with grip	44,1	45,9	40	63	25	38	13	40	16	32	M8	20	22,5	69,5	78,1	M6x12	M6	25	107	1200	200*

Technical Information for swing clamps

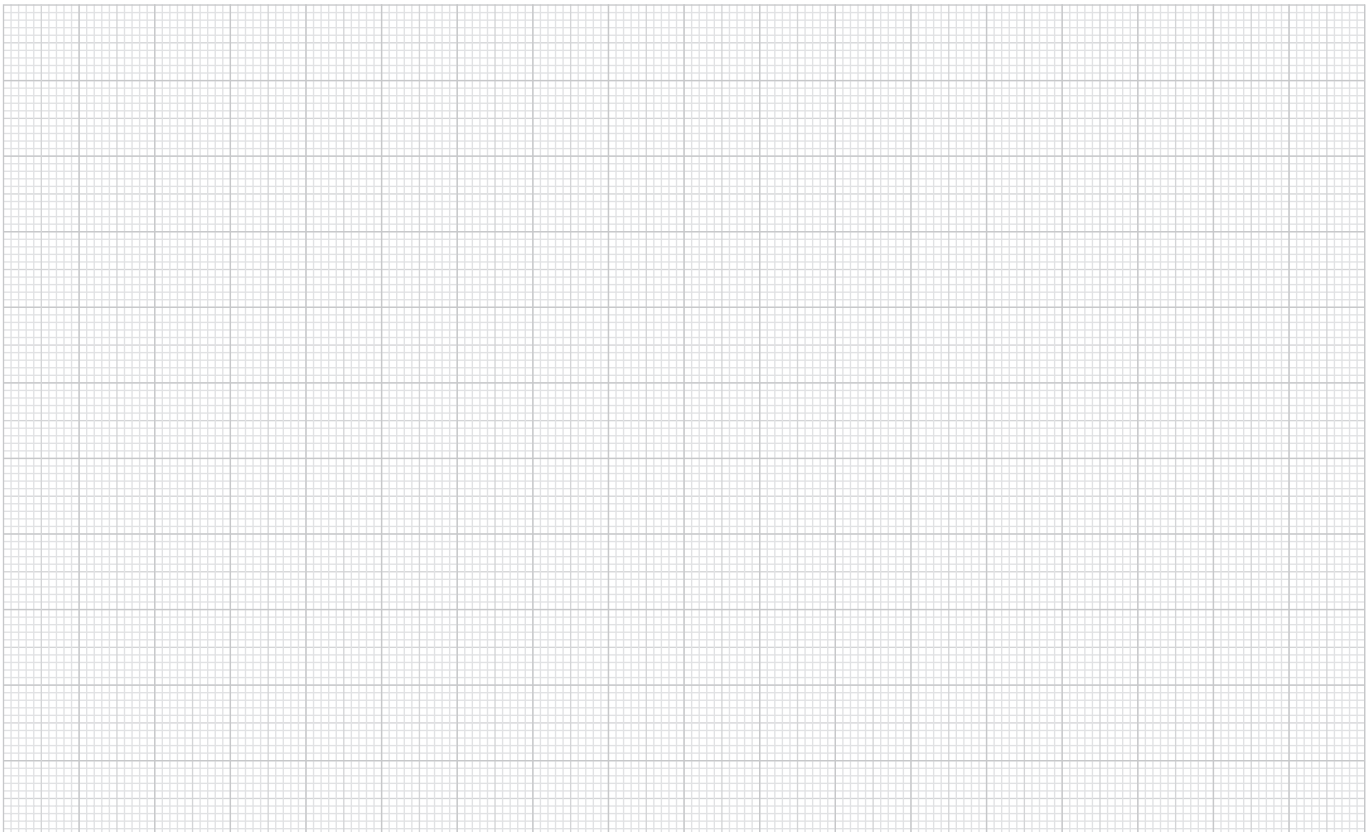


Mounting an attachment

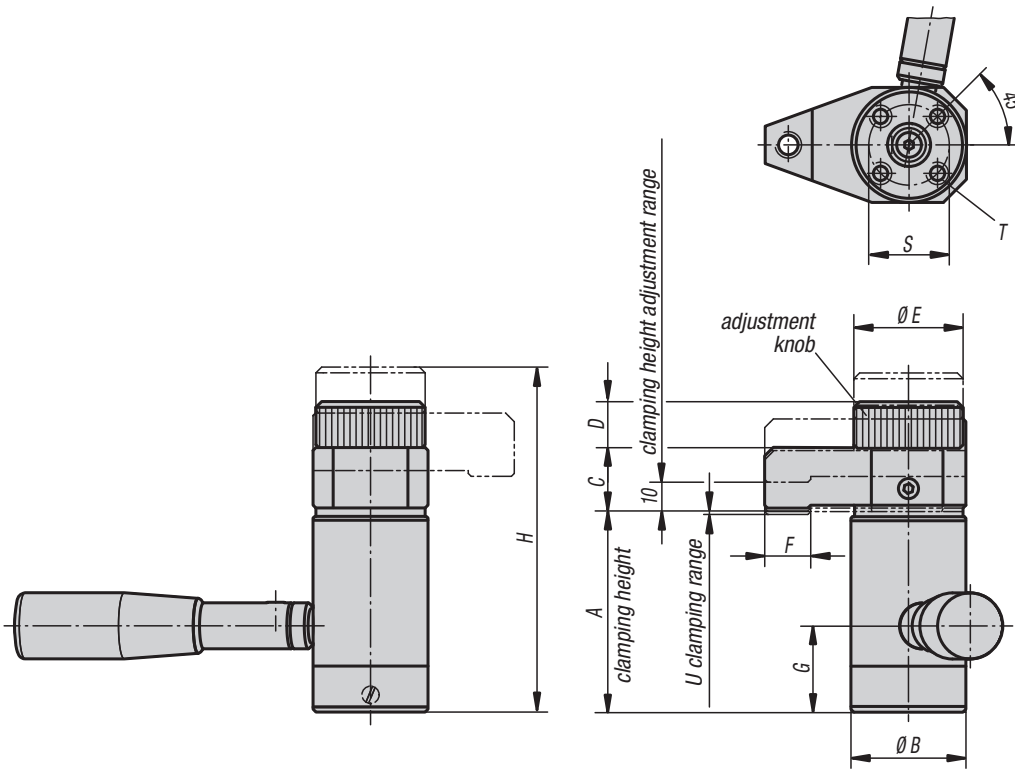


When mounting an attachment on the clamping arm, use a spanner to lock the arm and prevent it from turning.

Notes



Swing clamps (high force)

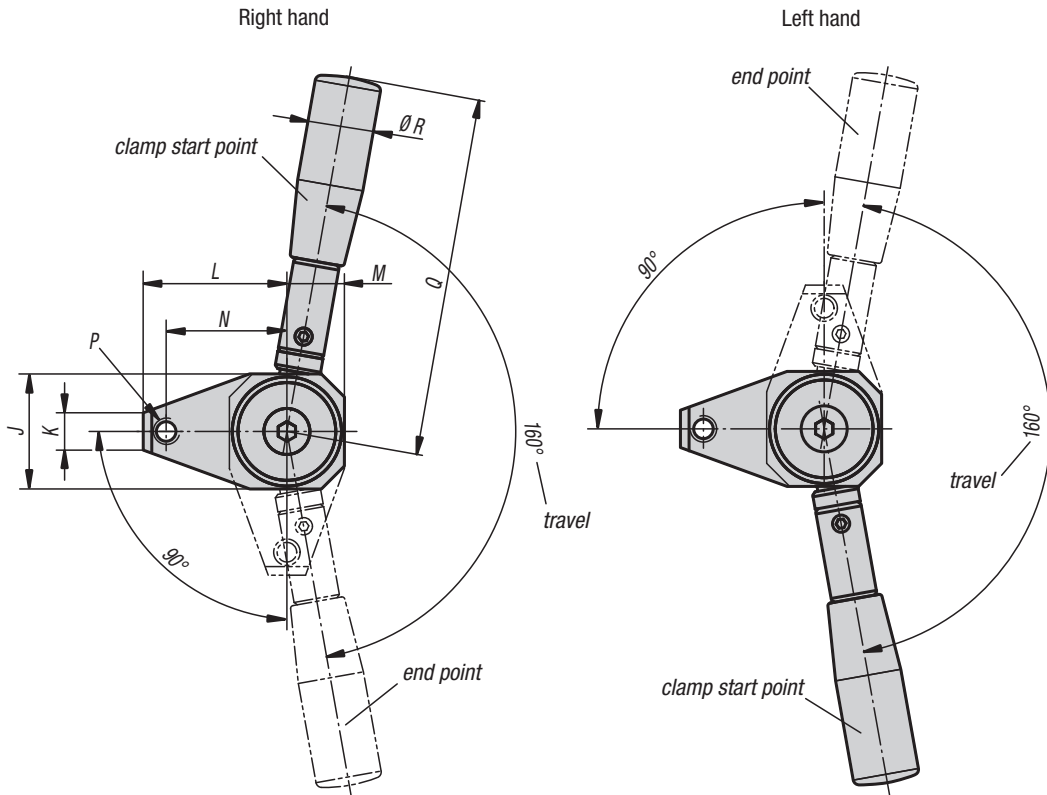


Material:
Carbon steel.
Grip plastic.

Version:
Tempered and black oxidised.
Grip black Duroplast PF 31.

Sample order:
K0913.017030

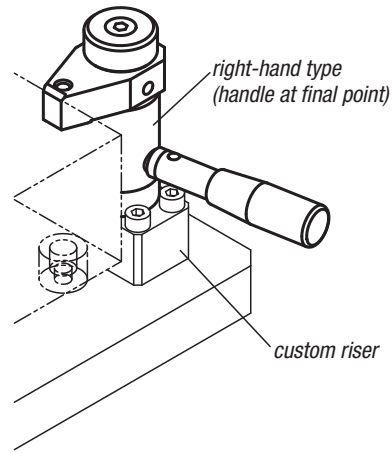
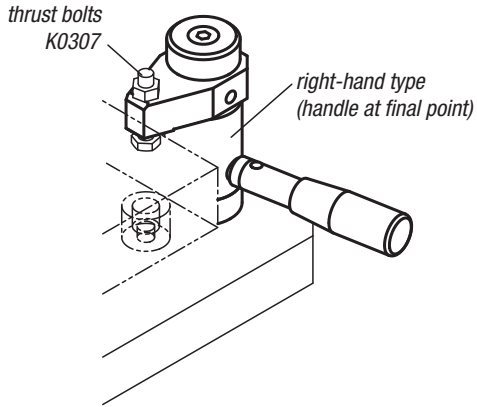
Note:
* Admissible hand force for the handle.



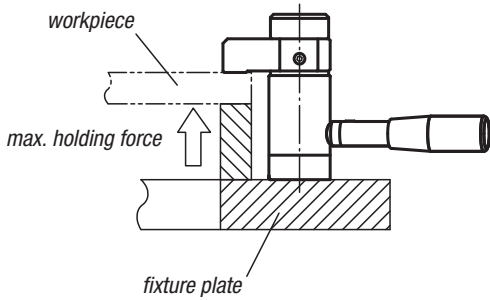
KIPP Swing clamps (high force)

Order No. left	Order No. right	A min.	A max.	B	C	D	E	F	G	H	J	K	L	M	N	P	Q	R	S	T	U	Clamping force N	Hand force FH N	Holding force N
K0913.017030	K0913.117030	70	80	40	22	16	38	16	30	120	40	13	50	20	42	M8	125	23	28	M6x12	1,2	3500	600*	8000
K0913.018038	K0913.118038	80	90	50	25	20	48	24	38	137	50	18	60	25	48	M12	160	28	35	M8x16	1,6	6000	600*	14000

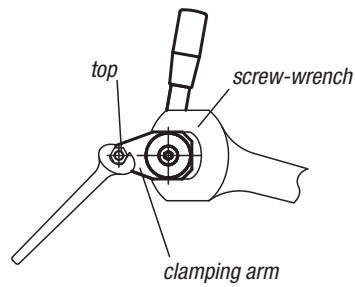
Technical information for swing clamps (high force)



Holding forces for workpiece processing

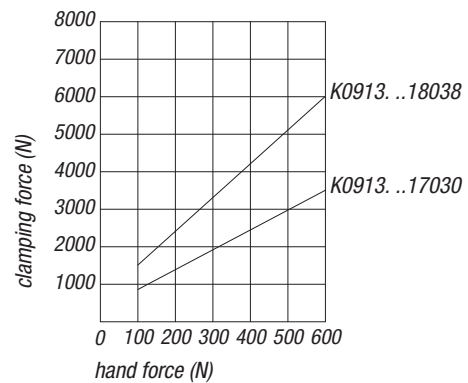


Top Installation



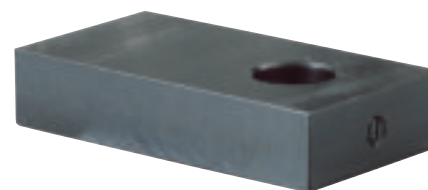
When mounting an attachment on the clamping arm, use a spanner to lock the arm and prevent it from turning.

K0913. performance curve



Clamping arms

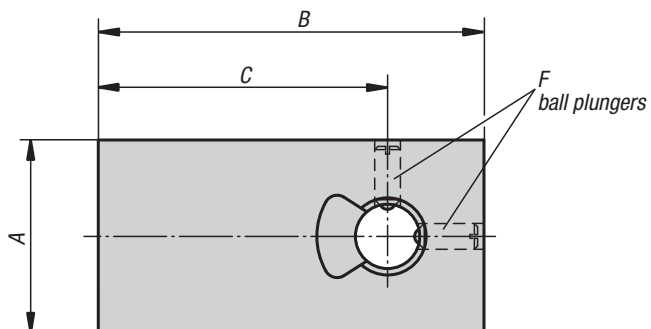
for swing clamp



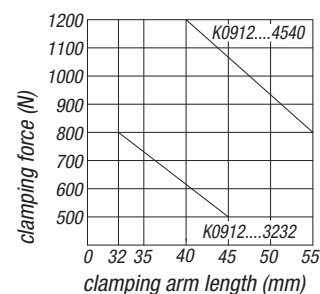
Material:
Carbon steel.

Version:
Black oxidised.

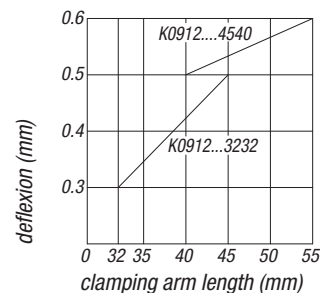
Sample order:
K0912.03006010



clamping arm length C vs. clamping force



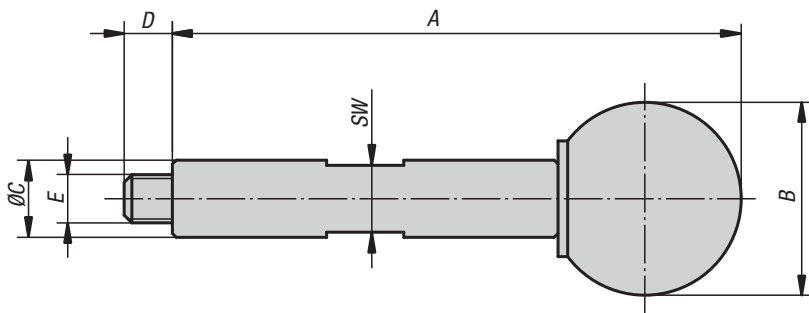
clamping arm length C vs. deflexion during clamping



KIPP Clamping arms for swing clamp

Order No.	A	B	C	D	E	F
K0912.03006010	30	60	45	12	10	M4
K0912.04007516	40	75	55	16	16	M5

Handles screw-in



Material:
 Grip carbon steel.
 Ball knob Duroplast PF 31.

Version:
 Grip, black oxidised.
 Ball knob, black.

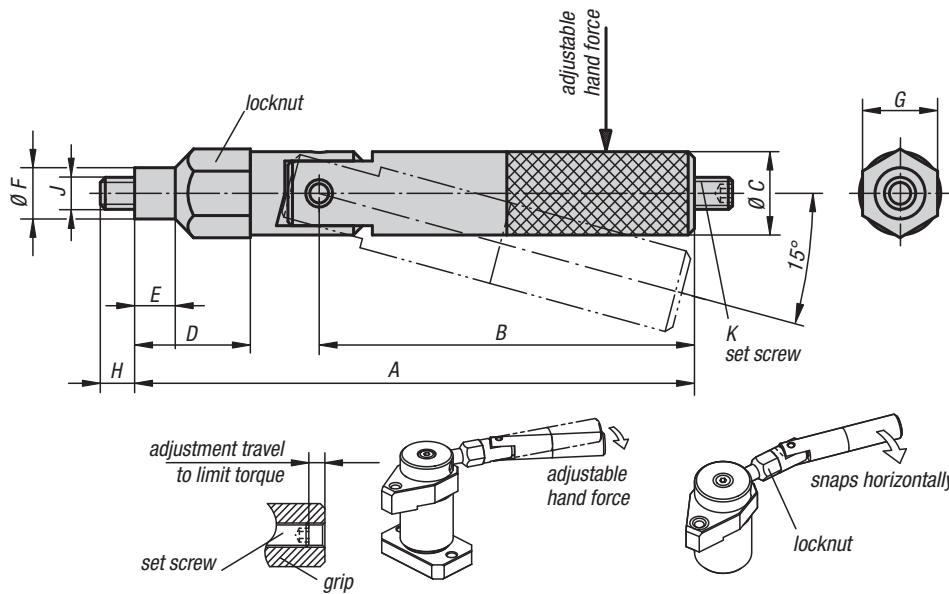
Sample order:
 K0915.5059

KIPP Handles screw-in

Order No.	A	B	C	D	E	SW
K0915.05059	59	20	8	5	M5	7
K0915.06089	89	25	10	6	M6	8

Handles screw-in

with torque limit



Material:
Carbon steel.

Version:
Hardened, black oxidised.

Sample order:
K0916.05090

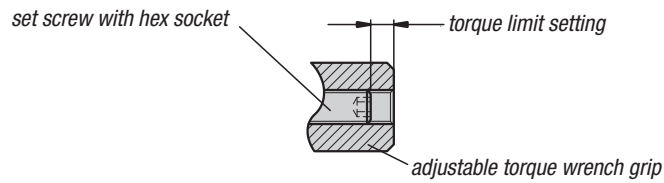
Note:
The desired clamping force can be set by using the set screw to alter the torque. The handle snaps 15° when the set torque is achieved.

Note:
Ensure that the handle is set to snap horizontally.

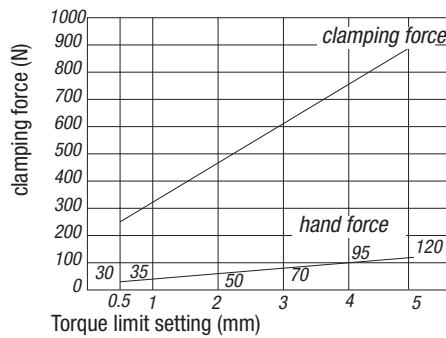
KIPP Handles, screw-in, with torque limit

Order No.	A	B	C	D	E	F	G	H	J	K	Hand force FH N
K0916.05090	89,5	60	13	18,5	6,5	8	12	5,5	M5	M5x16	0-150
K0916.06119	119	84	15	23	8	10	14	6,5	M6	M6x20	0-200

Performance curves

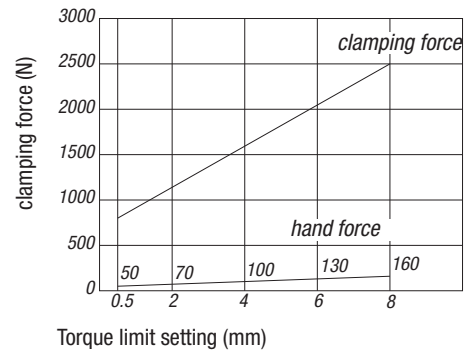


Pull Clamps K0910.3240...

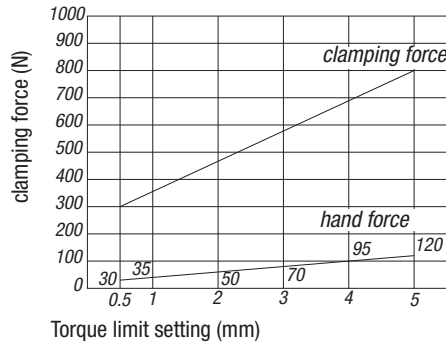


If clamping force is 900 N, Load-Setting Distance will be 5 mm. Hand force will be 120 N.

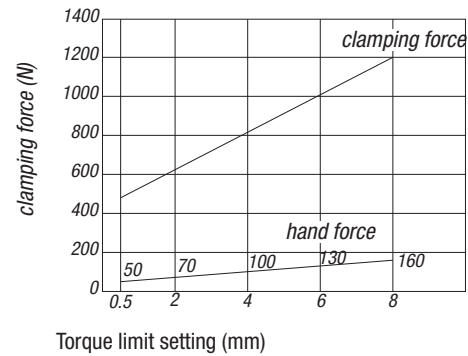
Pull Clamps K0910.4050...



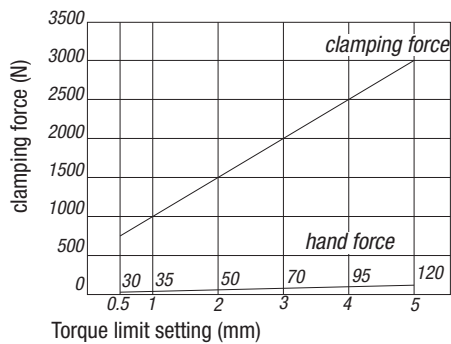
Swing Clamps K0912....3232



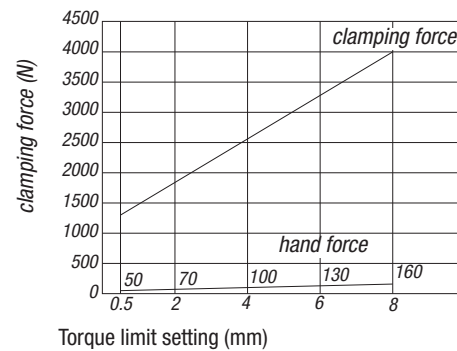
Swing Clamps K0912....4540



Side Clamps K0928.0500
Side Clamps K0928.0501



Side Clamps K0928.0800
Side Clamps K0928.0801



Note:
The above performance curves apply to degreased clamps



Swing clamps

mini, with cam lever



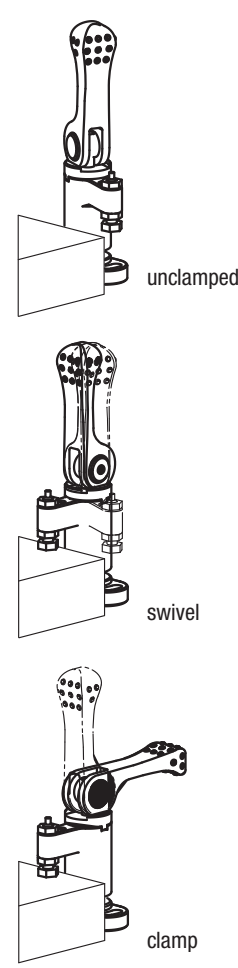
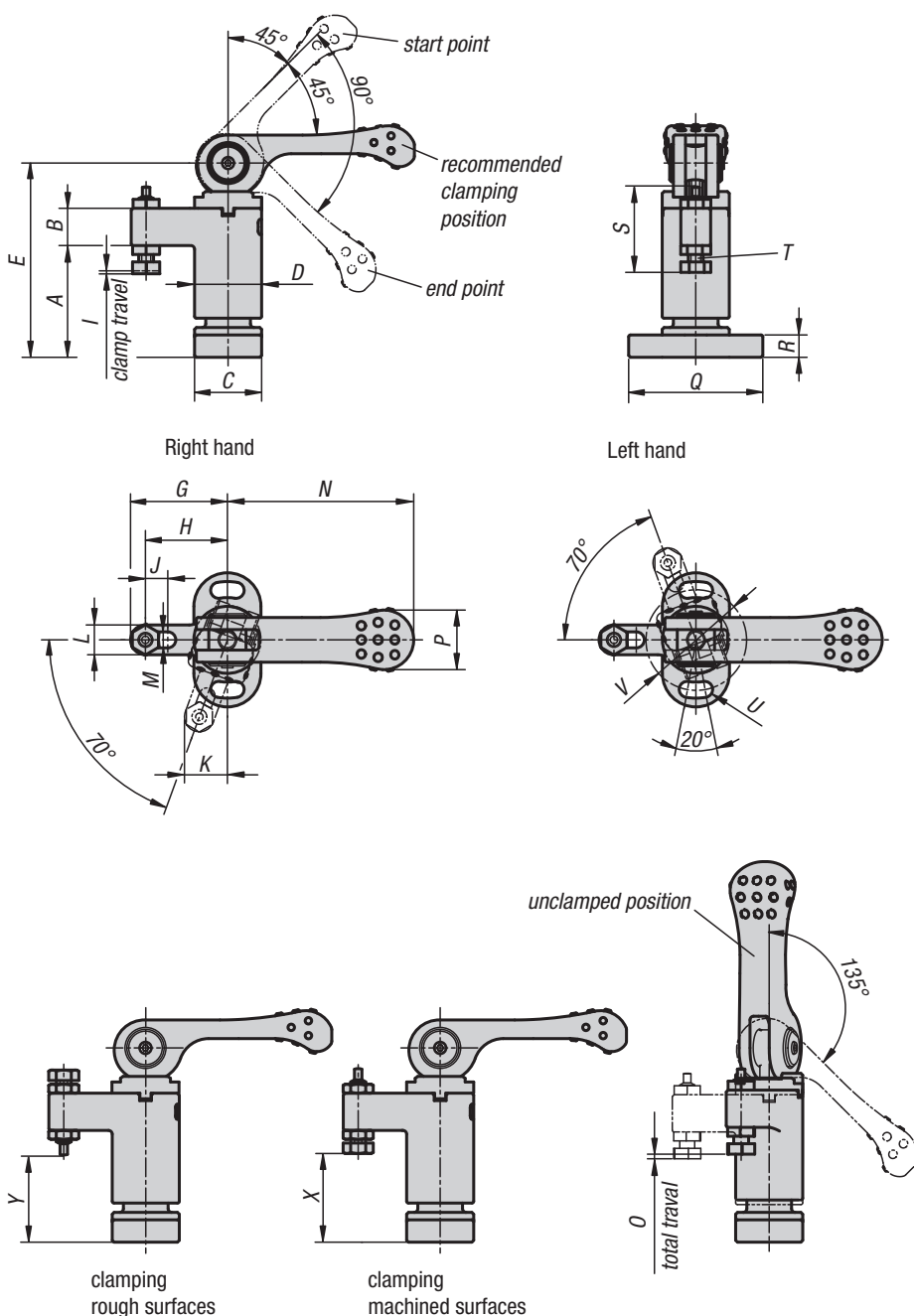
Material:
Carbon steel.

Version:
Tempered and black oxidised.

Sample order:
K0925.0100

Note:
Swing clamps are used where the clamping points must be free when the workpiece is loaded or removed.

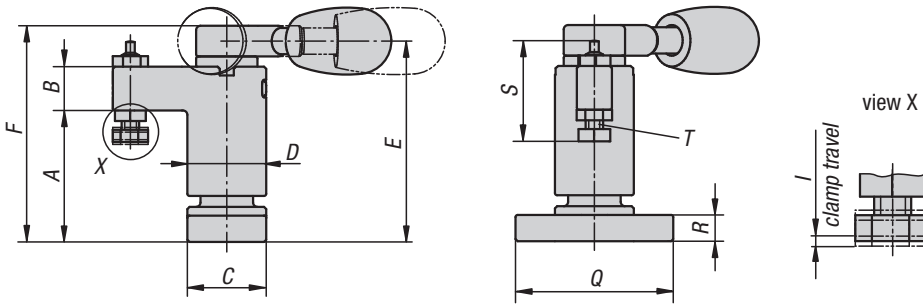
* Admissible hand force for the handle.



KIPP Swing clamps, mini, with cam lever

Order No. left	Order No. right	A	B	C	D	E	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	X min.	X max.	Y min.	Y max.	Clamping force N	Hand force FH N
K0925.0100	K0925.1100	30	10	18	18	52	26	22	0,8	6	11,5	8	4,3	50	1,2	16	36	6	22,8	M4	4,3	27	22,4	25,2	22	24,8	800	100*
K0925.0150	K0925.1150	40	14	23	23	68	35	30	1	8	15,3	10	5,3	63	1,5	19	45	8	28,5	M5	5,3	34	30,8	33,8	31,7	34,7	1500	150*
K0925.0200	K0925.1200	50	18	30	30	87	45	37	1,2	8	20,7	16	8,4	80	1,8	24	65	12	45,5	M8	8,4	48	31,9	39,6	32,9	40,6	2100	200*
K0925.0300	K0925.1300	60	22	40	40	107	55	45	1,5	8	25,4	20	10,4	100	2,3	30	85	15	57	M10	10,5	64	35,7	46,7	38,2	49,2	2800	300*

Swing clamps mini



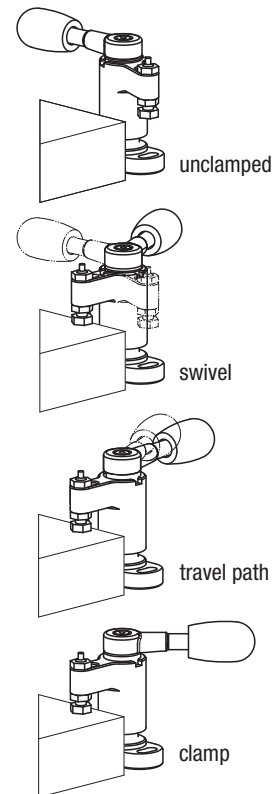
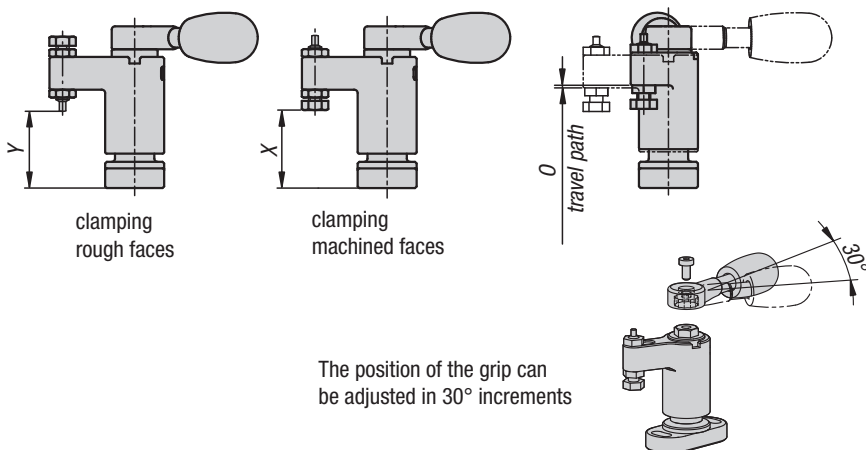
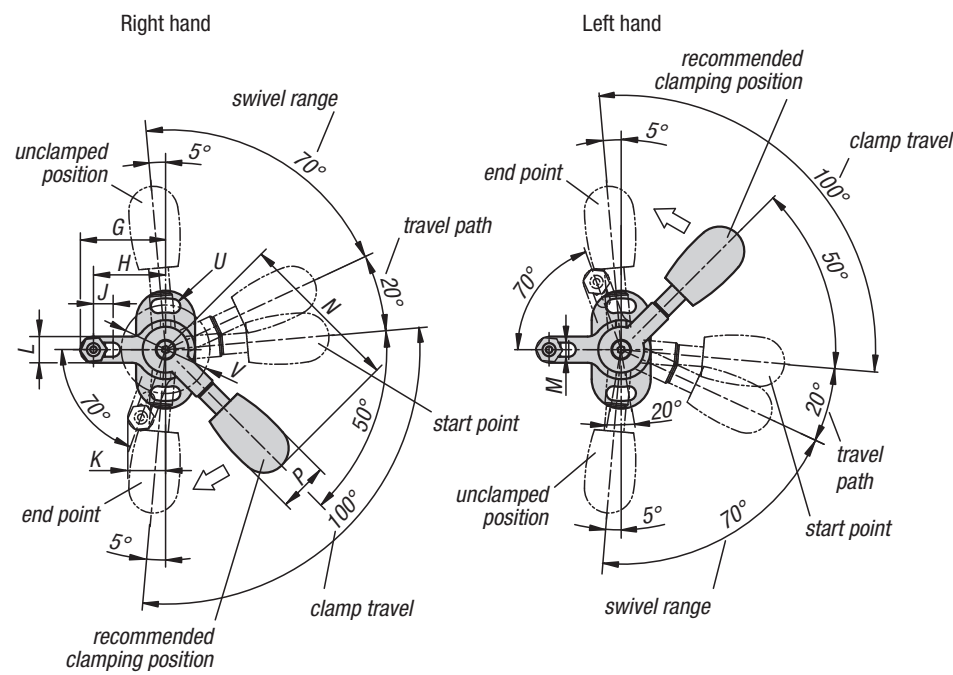
Material:
Carbon steel.
Grip plastic.

Version:
Tempered, black oxidised.
Grip black.

Sample order:
K0926.0100

Note:
Swing clamps are used where the clamping points must be free when the workpiece is loaded or removed.

* Admissible hand force for the handle.

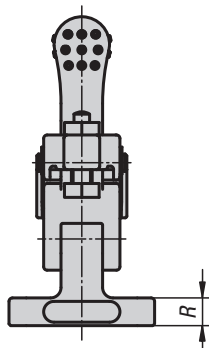
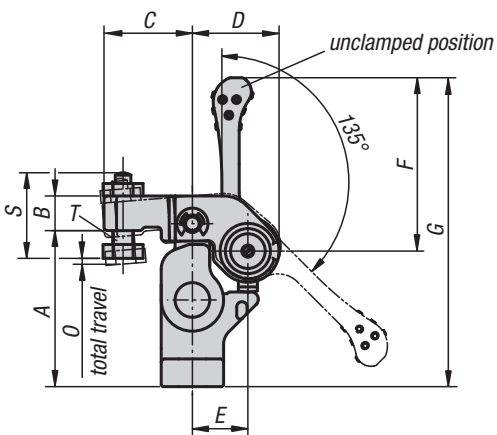


KIPP Swing clamps mini

Order No. left	Order No. right	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	X min.	X max.	Y min.	Y max.	Clamping force N	Hand force FH N
K0926.0100	K0926.1100	30	10	18	18	45,8	49	26	22	1	6	11,5	8	4,3	50	0,8	15	36	6	22,8	M4	4,3	27	22,3	25,3	21,9	24,9	1100	100*
K0926.0150	K0926.1150	40	14	23	23	61,3	66	35	30	1,4	8	15,3	10	5,3	63	1,1	20	45	8	28,5	M5	5,3	34	30,6	34	31,5	34,9	1800	150*
K0926.0200	K0926.1200	50	18	30	30	76,5	82	45	37	1,5	8	20,7	16	8,4	80	1,4	26	65	12	45,5	M8	8,4	48	31,7	39,7	32,7	40,7	2200	200*
K0926.0300	K0926.1300	60	22	40	40	93	100	55	45	1,9	8	25,4	20	10,4	100	1,7	33	85	15	57	M10	10,5	64	35,5	46,9	38	49,4	3500	300*

Swivel hold-down clamp

mini, with cam lever

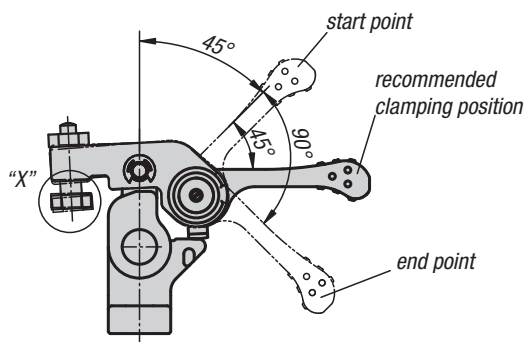
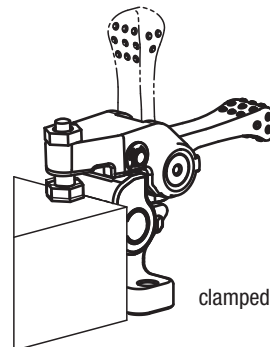
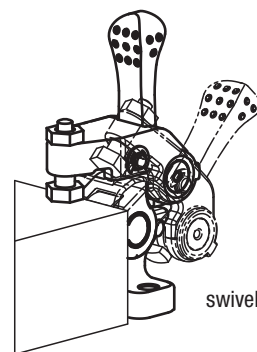
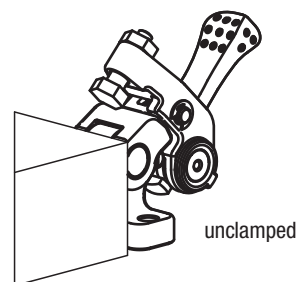
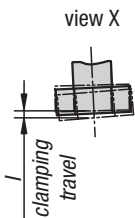
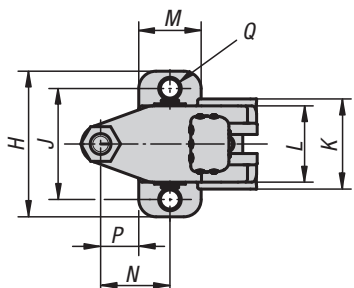


Material:
Carbon steel.

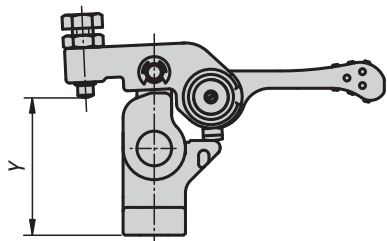
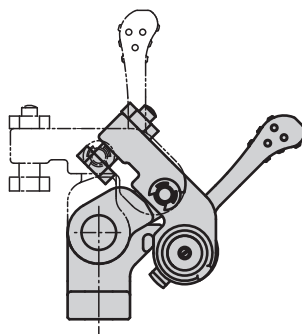
Sample order:
K0927.100

Note:
Swing clamps are used where the clamping points must be free when the workpiece is loaded or removed.

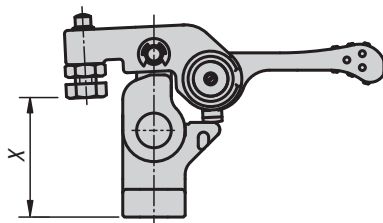
* Admissible hand force for the handle.



unclamped



clamping rough faces

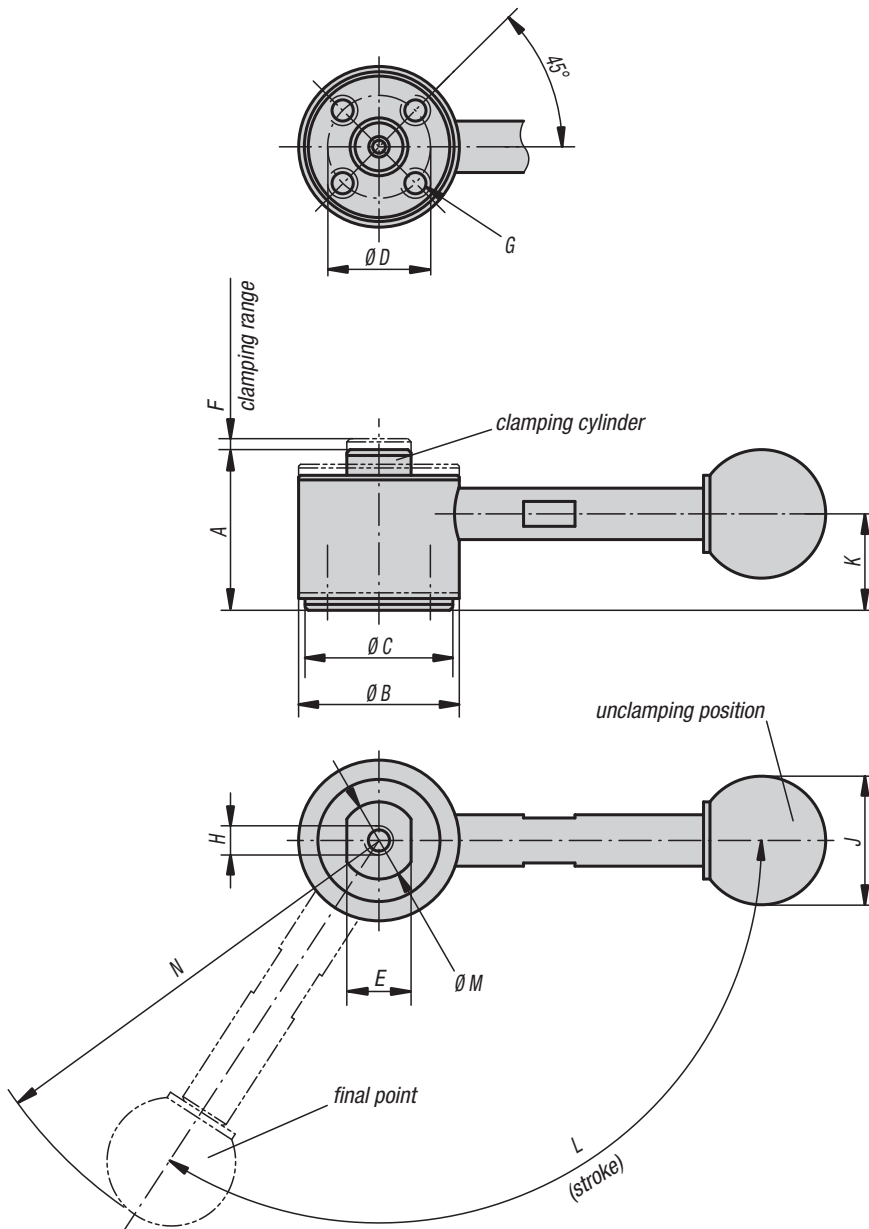


clamping machined faces

KIPP Swivel hold-down clamp, mini, with cam lever

Order No.	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	X min.	X max.	Y min.	Y max.	Clamping force N	Hand force FH N
K0927.100	45	10	25,5	25	16	50	89	42	1	32	26	22	18	20	1,5	11	5,5	8	24	M6	31,5	40,5	34,5	43,5	700	100*
K0927.150	55	12	32	31	20	63	109	52	1,2	40	32	28	22	25	1,8	14	6,6	10	30,5	M8	36,4	48,6	41,4	53,6	1100	150*

Thrust clamps



Material, version:

Cam tool steel, hardened and black oxidised.
 Shaft carbon steel, hardened and black oxidised.
 Grip carbon steel, black oxidised.
 Ball knob black Duroplast PF 31.

Sample order:

K0914.252501

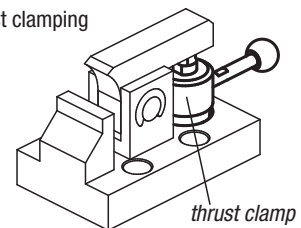
Note:

* Admissible hand force for the handle.

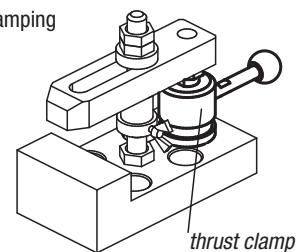
Accessories:

Standard handles K0915.
 Screw-in handles with torque limit K0916.

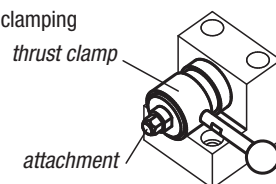
downthrust clamping



vertical clamping



horizontal clamping



When mounting an attachment on the clamping cylinder, hold the shaft using a spanner to prevent turning.

KIPP Thrust clamps

Order No.	Version	A min.	A max.	B	C	D	E	F	G	H	J	K	L	M	N	Clamping force N	Hand force FH N
K0914.252500	without grip	25	26,7	25	23	16	10	1,7	M4x6	M4x6	-	15	123°	12	-	3000	150*
K0914.252501	with grip	25	26,7	25	23	16	10	1,7	M4x6	M4x6	20	15	123°	12	69,5	3000	150*
K0914.323200	without grip	32	34,5	32	30	20	13	2,5	M6x9	M6x9	-	19,5	135°	15	-	4000	200*
K0914.323201	with grip	32	34,5	32	30	20	13	2,5	M6x9	M6x9	25	19,5	135°	15	103	4000	200*

Clamping bolts



Material:

Clamping bolt, steel.
Clamping screw, carbon steel.
Clamping ring brass.

Version:

Clamping bolt hardened and black oxidised.
Clamping screw black oxidised.
Clamping ring bright.

Sample order:

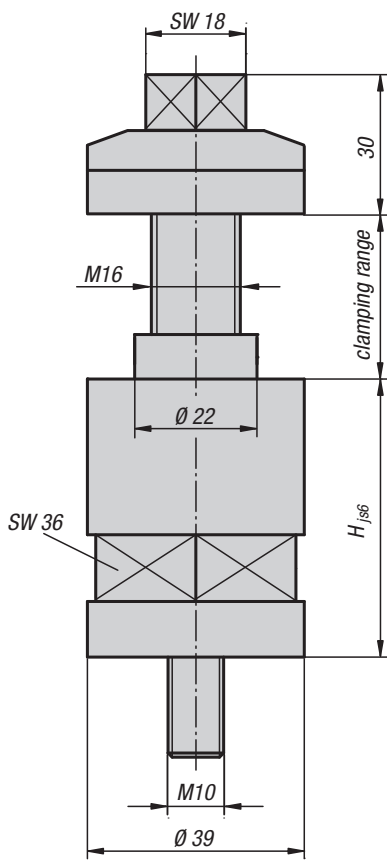
K1232.100

Note:

The clamping bolts can be fixed to the machine table directly with T-slot nuts. Clamping parallel to the table is guaranteed by low tolerance classes (js6) for the height.

The clamping range is 8 – 40 mm. Clamping screws for the ranges 40 – 67 and 65 – 87 mm are also available.

The intermediate plate prevents damage to the machine table, as well as shifting during tightening. The brass clamping ring prevents impressions on the workpiece.

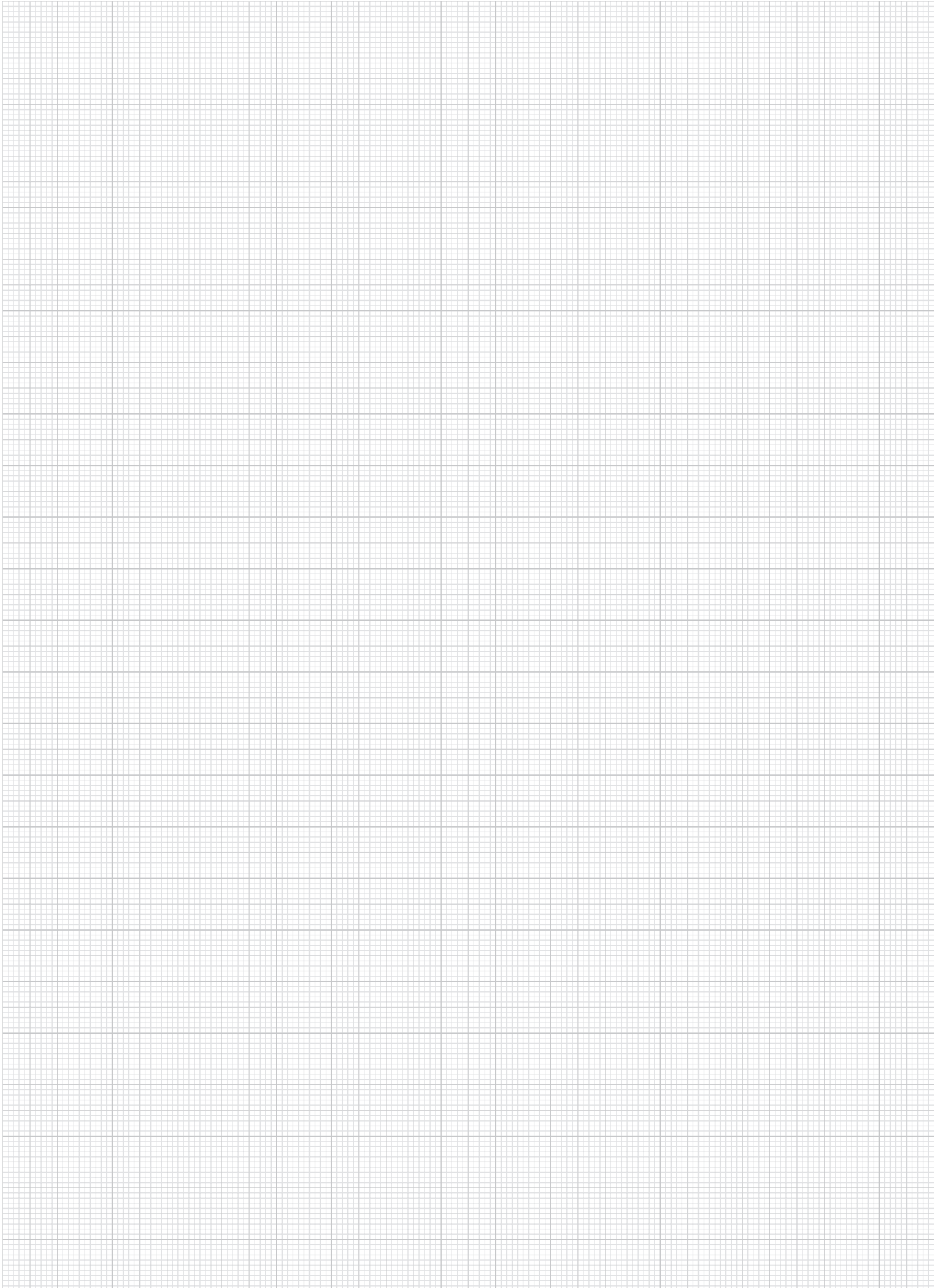


KIPP Clamping bolts

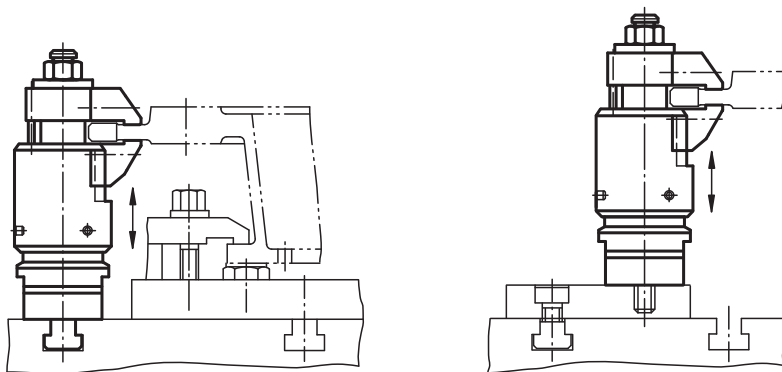
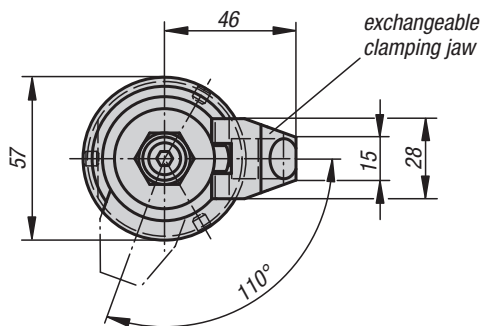
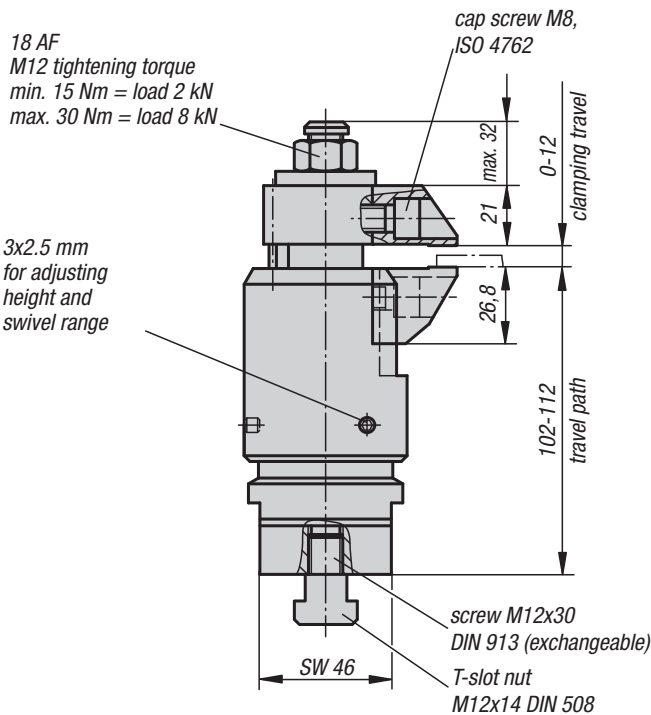
Order No.	H	Clamp range
K1232.100	100	8 - 40
K1232.050	50	8 - 40

KIPP Clamping screws

Order No.	Clamp range
K1232.6587	65 - 87
K1232.4067	40 - 67



Floating clamp



Material:

Base body and jaws steel.
Housing aluminium.

Version:

Body nitrided, black oxidised and ground.
Jaws nitrided and black oxidised.
Housing red anodized.

Sample order:

K1228.100812

Note:

The floating clamp is used to clamp and support overhanging clamping points on components. It prevents vibrations and deflection during machining.

Method of operation:

1. Push the floating clamp down.
2. Pivot the jaws to the stop. The floating clamp contacts the bottom of the workpiece with a light spring force.
3. Tighten the floating clamp with the SW 18 hexagon nut (note the min. and max. torque). During clamping the workpiece is clamped and simultaneously supported.
4. Reverse the process to release.

Assembly:

Fasten the floating clamp to the fixture with the M12 screw.

Adjust the height stop and swivel range using the red sleeve and lock with the 3x2.5 mm grub screws. When setting the height leave generous clearance above.

For safe operation the M12 tapped hole must always be closed.

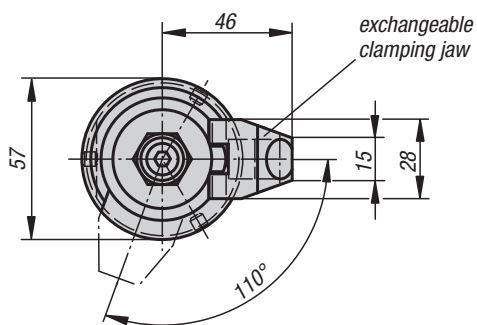
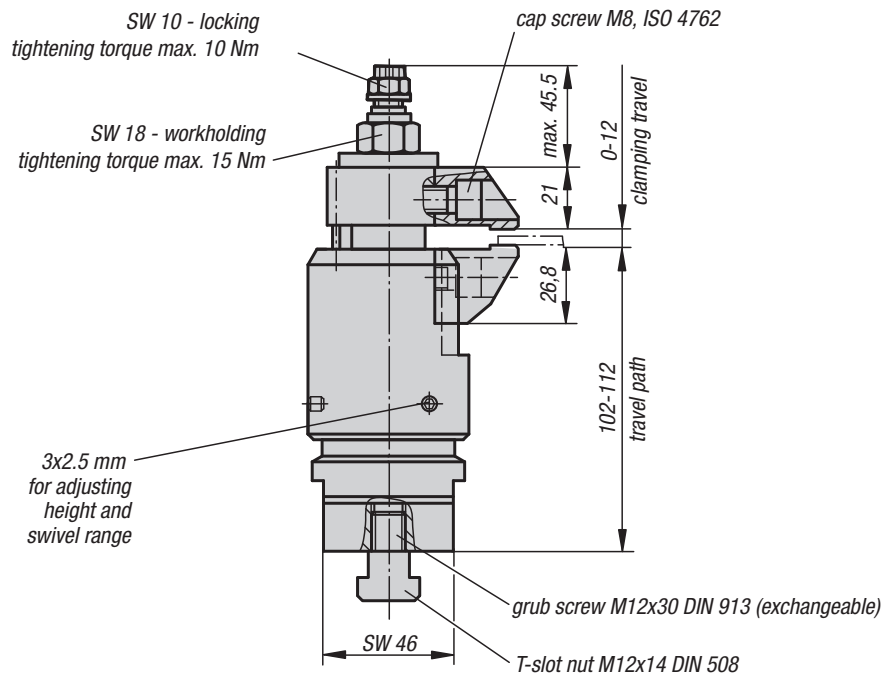
For specific clamping applications the standard jaws can be altered or replaced.

KIPP Floating clamp

Order No.	Travel path	max. clamping stroke	Load capacity N	Clamping force N
K1228.100812	10	12	8000	8000

Floating clamp

with separate workpiece clamp and interlock



Material:

Base body and jaws steel.
Housing aluminium.

Version:

Body nitrided, black oxidised and ground.
Jaws nitrided and black oxidised.
Housing blue anodised.

Sample order:

K1227.100812

Note:

This floating clamp is used to clamp and support overhanging clamping points on thin components. It prevents vibrations and deflection during machining.

Method of operation:

1. Push the floating clamp down.
2. Pivot the jaws. The lower jaw contacts the workpiece with a light spring force.
3. Tighten the SW 18 hexagon nut. The jaws clamp the workpiece, the clamp is still floating.
4. Tighten the SW 10 hexagon nut. The clamping process is completed.
5. Reverse the process to release.

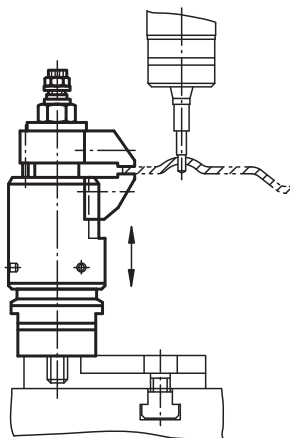
Assembly:

Fasten the floating clamp to the fixture with the M12 screw.

Adjust the height stop and the swivel range using the blue sleeve and lock with the 3x2.5 mm grub screws. When setting the height leave generous clearance above.

For safe operation the M12 tapped hole must always be closed.

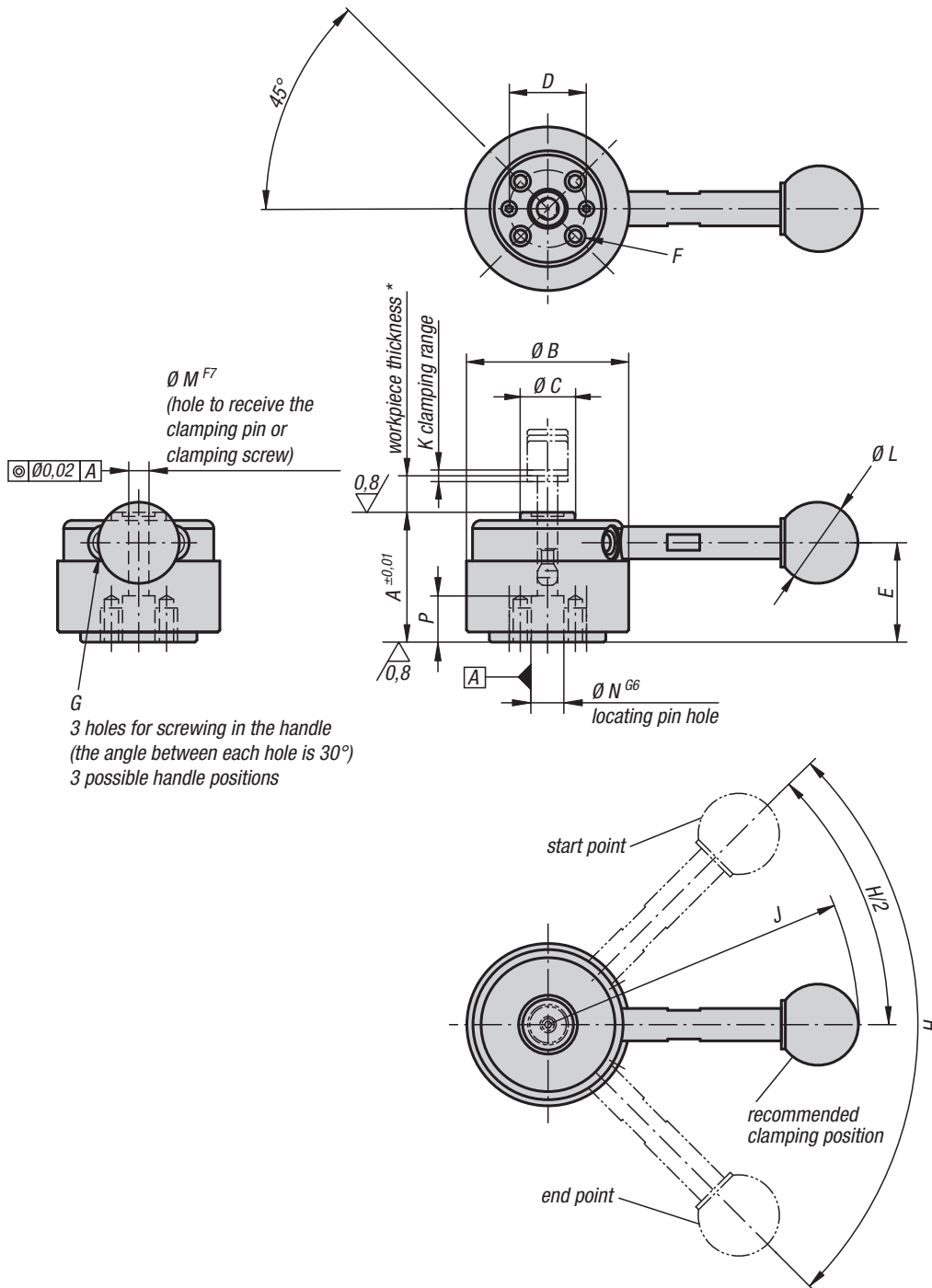
For specific clamping applications the standard jaws can be altered or replaced.



KIPP Floating clamp with separate workpiece clamp and interlock

Order No.	Travel path	max. clamping stroke	Load capacity N	Clamping force N
K1227.100812	10	12	8000	8000

Pull clamps



Material:

Housing and cam tool steel.
Grip carbon steel.
Ball knob Duroplast PF 31.

Version:

Housing and cam hardened and black oxidised.
Grip black oxidised.
Ball knob black.

Sample order:

K0910.324001

Note:

* Max. workpiece thickness see clamping pin K0910 (dimension C).
** Admissible hand force for the handle.

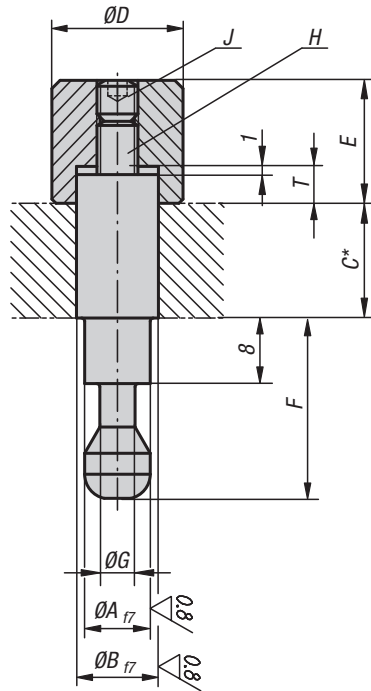
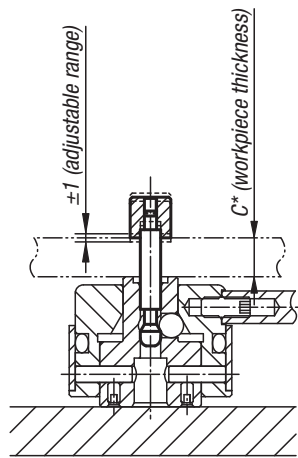
Accessories:

Standard handles K0915.
Screw-in handles with adjustable torque K0916.

KIPP Pull clamps

Order No.	Version	A	B	C	D	E	F	G	H	J	K	L	M	N	P	Clamping force N	Recommended workpiece thickness tolerance	Hand force FH N	Holding force N
K0910.324000	without grip	32	40	13,5	18	24,5	M4x8	M5	90°	-	1,5	-	5	8	10	900	$\pm 0,3^*$	150**	2000
K0910.324001	with grip	32	40	13,5	18	24,5	M4x8	M5	90°	76,5	1,5	20	5	8	10	900	$\pm 0,3^*$	150**	2000
K0910.405000	without grip	40	50	18	25	30,7	M6x9	M6	110°	-	2	-	8	12	13	2500	$\pm 0,5^*$	200**	5500
K0910.405001	with grip	40	50	18	25	30,7	M6x9	M6	110°	111,5	2	25	8	12	13	2500	$\pm 0,5^*$	200**	5500

Clamping pins



Material:
Carbon steel.

Version:
Pins tempered and ground.
Knurled knob tempered, black oxidised.

Sample order:
K0910.005050

Note:
* The clamping pin can be altered to suit the workpiece thickness.

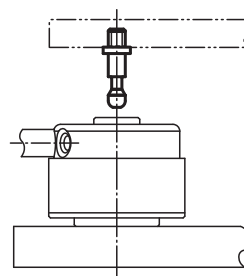
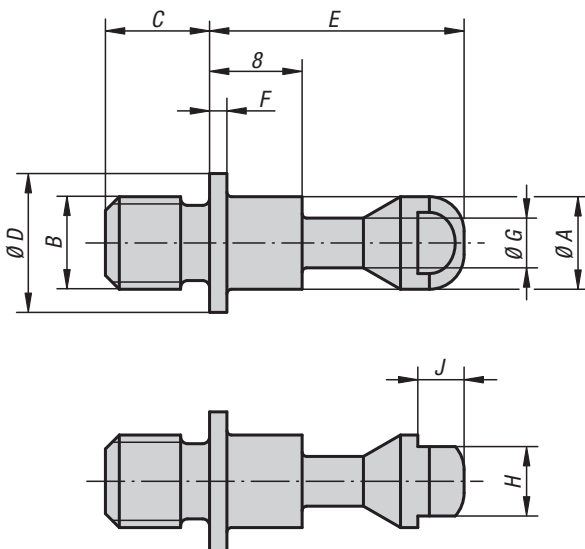
Accessories:
to:
K0910.3240... (K0910.005050 and K0910.006050),
K0910.4050... (K0910.008080 and K0910.010080)



KIPP Clamping pins

Order No.	A	B	C	D	E	F	G	H	J	T
K0910.005050	5	5	50	10	10	17	3	M3	M3x4	3
K0910.006050	5	6	50	10	10	17	3	M3	M3x4	3
K0910.008080	8	8	80	16	15	22	4,3	M5	M5x5	4,5
K0910.010080	8	10	80	16	15	22	4,3	M5	M5x5	4,5

Clamping screws



Material:
Carbon steel.

Version:
Tempered and black oxidised.

Sample order:
K0910.105060

Accessories:
To:
K0910.3240 for K0910.105060 and
K0910.106070,
K0910.4050 for K0910.108090 and
K0910.110110

KIPP Clamping screws

Order No.	A	B	C	D	E	F	G	H	J
K0910.105060	5	M5	6	8	17	1,2	3	4	2,5
K0910.106070	5	M6	7	8	17	1,2	3	4	2,5
K0910.108090	8	M8	9	12	22	1,5	4,3	6	4
K0910.110110	8	M10	11	12	22	1,5	4,3	6	4

Pull clamps

(high force)



Material:

Housing, clamping ring and handles, carbon steel.
Grip Duroplast PF 31.

Version:

Housing and clamping ring hardened and black oxidised.
Handles black oxidised.
Grip black.

Sample order:

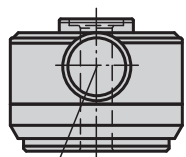
K0911.506501

Note:

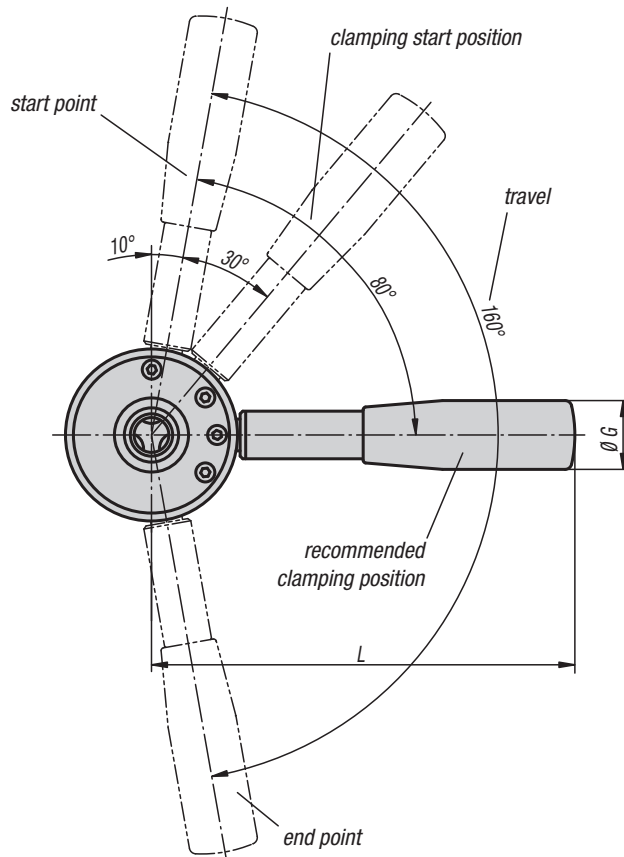
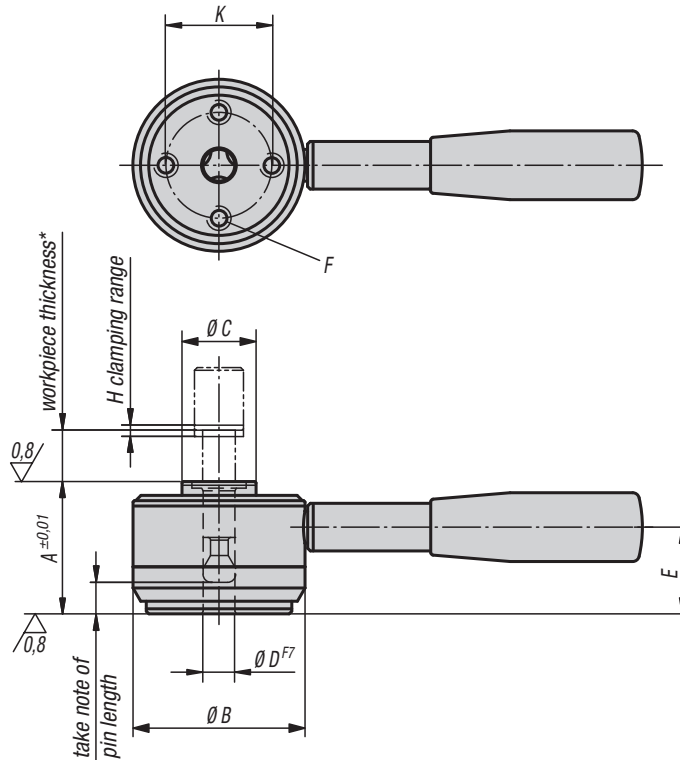
When clamping with a high force clamping pin the recommended workpiece tolerances must be maintained. The grip lever must lay between the recommended clamping position and end point for safe clamping.

* Max. workpiece thickness, see clamping pin K0911 (dimension C).

** Admissible hand force for the handle.



J
3 holes for screwing in the handle
(angle between each hole is 35°)
3 possible handle positions



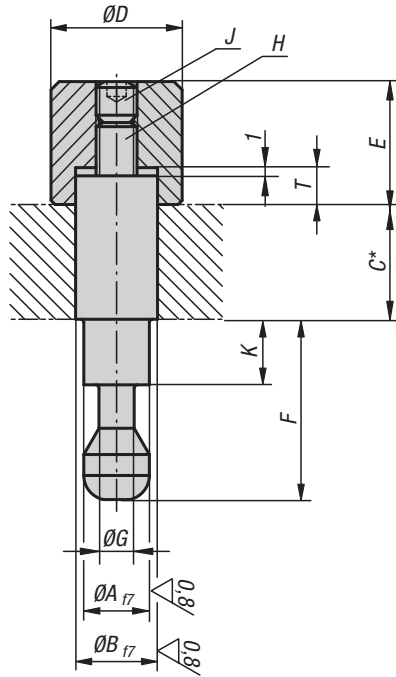
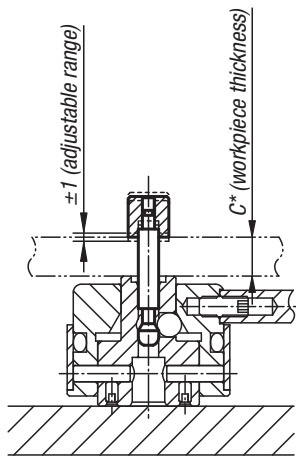
KIPP Pull clamps (high force)

Order No.	A	B	C	D	E	F	G	H	J	K	L	Clamping force N	Recommended workpiece thickness tolerance	Hand force FH N	Holding force N
K0911.506501	50	65	28	12	36	M8x14	26	2	10	40	160	6000	±0,5*	600**	8000
K0911.638001	63	80	34	16	45	M10x18	28	2,5	12	50	180	8000	±0,8*	600**	14000

K0911

Clamping pins

(high force)



Material:
Carbon steel.

Version:
Pins tempered and ground.
Knurled knob tempered, black oxidised.

Sample order:
K0911.412100

Note:
* The clamping pin can be altered to suit the workpiece thickness.

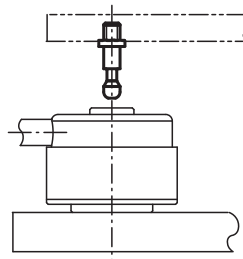
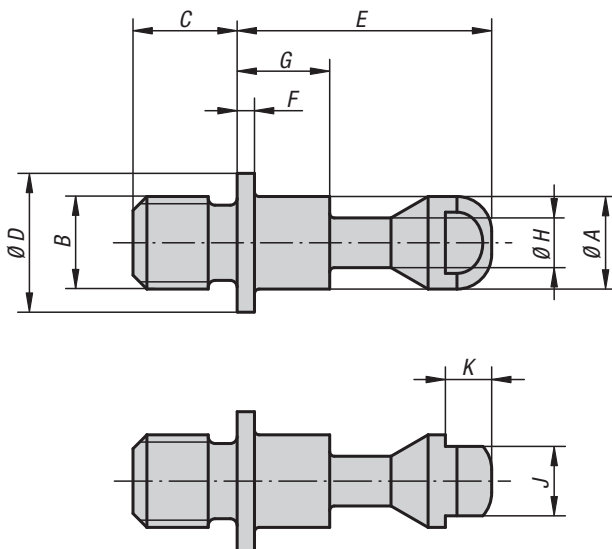
KIPP Clamping pins (high force)

Order No.	A	B	C	D	E	F	G	H	J	K	T	Suitable for
K0911.412100	12	12	100	18	23	38	6,5	M8	M8x8	21,5	7	K0911.506501
K0911.416100	12	16	100	24	23	38	6,5	M8	M8x8	21,5	7	K0911.506501
K0911.516120	16	16	120	24	29	48	9,5	M10	M10x10	28	9	K0911.638001
K0911.520120	16	20	120	30	29	48	9,5	M10	M10x10	28	9	K0911.638001

K0911

Clamping screws

(high force)



Material:
Carbon steel.

Version:
Tempered and black oxidised.

Sample order:
K0911.1412013

KIPP Clamping screws (high force)

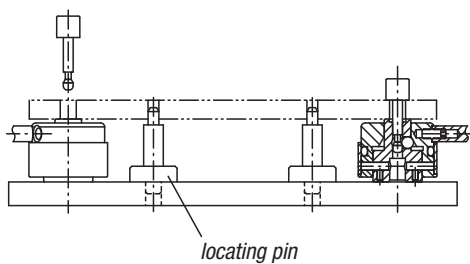
Order No.	A	B	C	D	E	F	G	H	J	K	Suitable for
K0911.1412013	12	M12	13	20	38	2	21,5	6,5	10	4	K0911.506501
K0911.1416017	12	M16	17	20	38	2	21,5	6,5	10	4	K0911.506501
K0911.1516017	16	M16	17	25	48	2,5	28	9,5	13	5	K0911.638001
K0911.1520021	16	M20	21	25	48	2,5	28	9,5	13	5	K0911.638001

How to locate workpiece

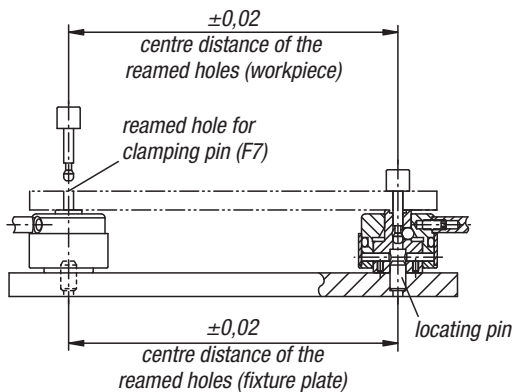


Workpiece positioning

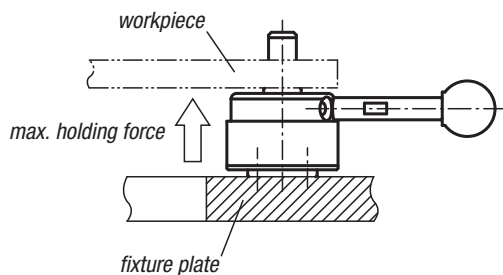
Clamping by means of pull clamp and clamping pin



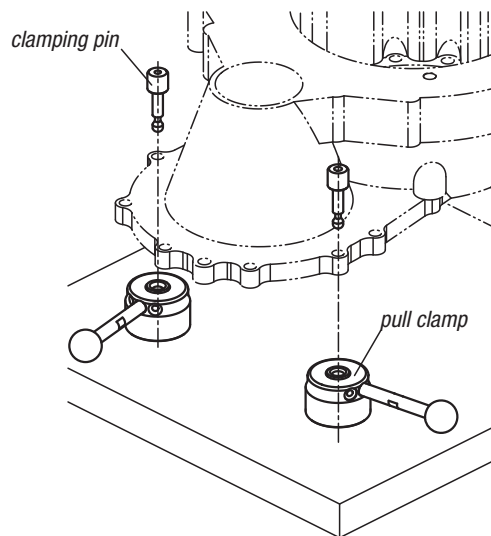
Simultaneous clamping and positioning of a workpiece



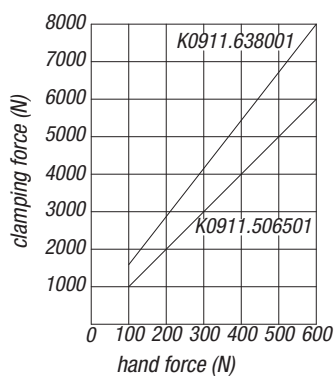
Holding forces for workpiece processing



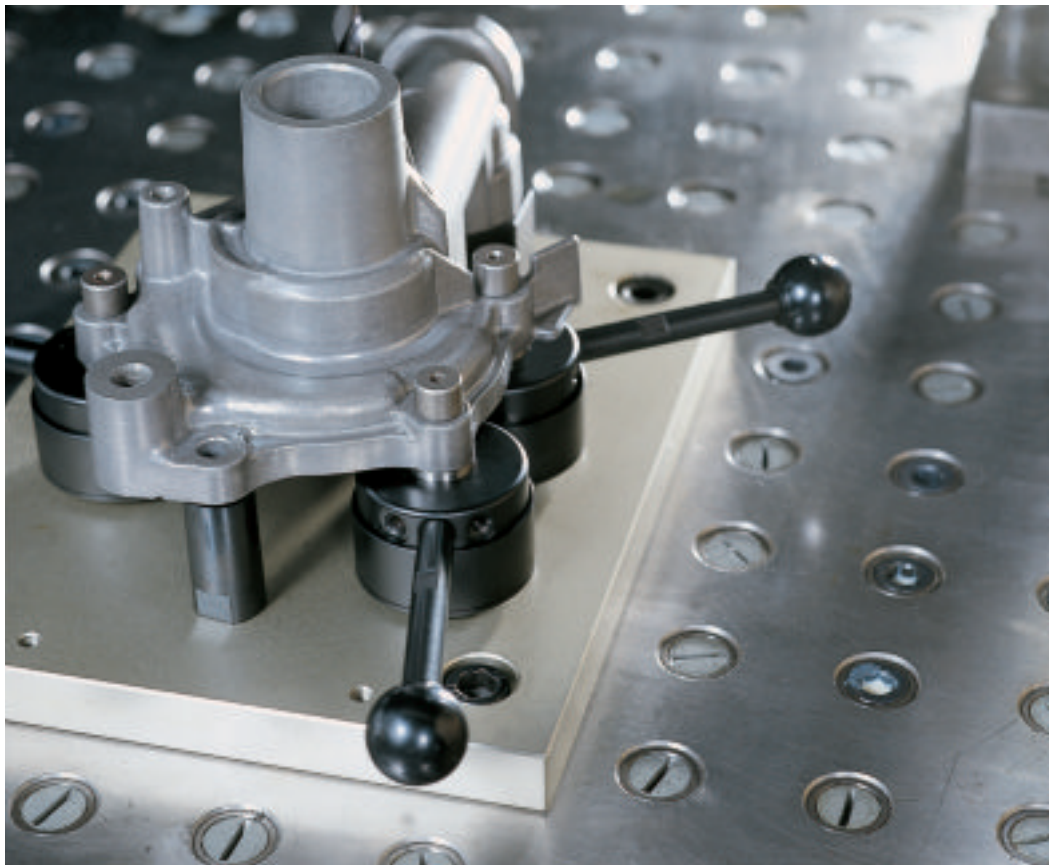
Make sure that no force exceeding the values in the table is affecting the bottom of the workpiece.



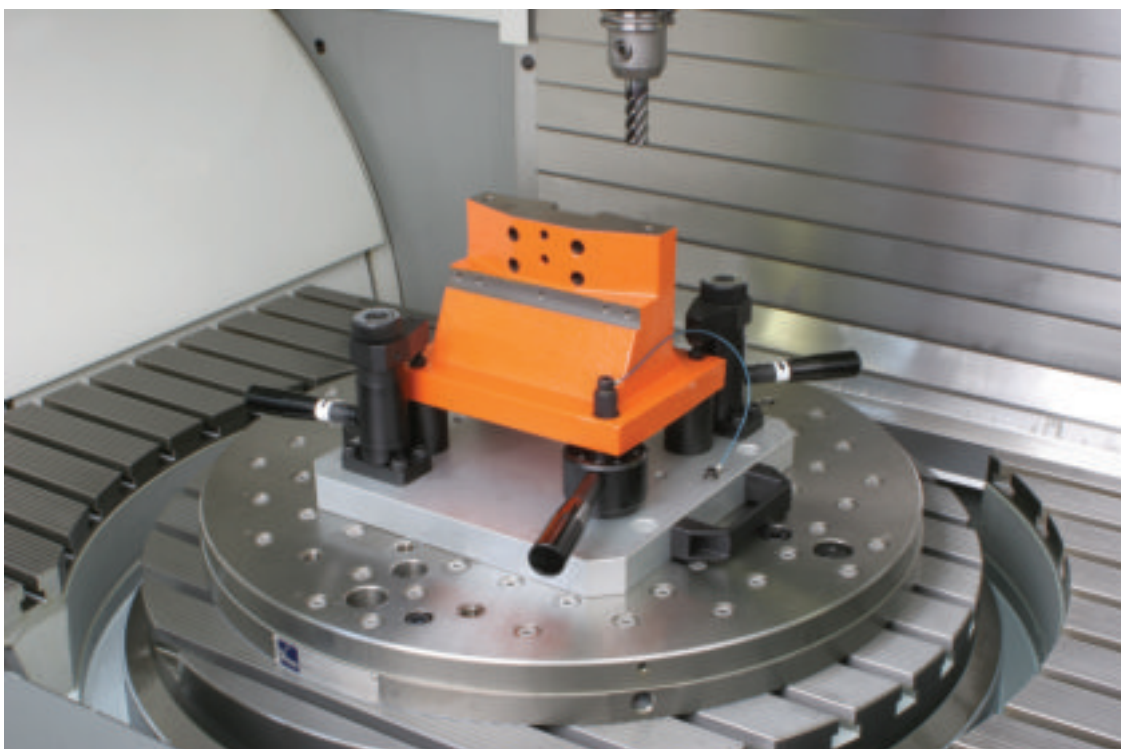
performance curve



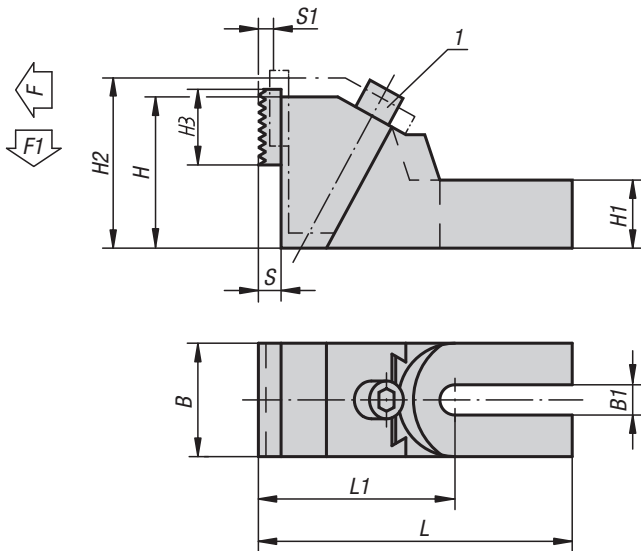
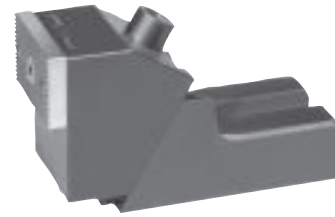
Pull clamps



Pull clamps + Swing clamps (high force)



Robust side clamps



Material:

Body malleable iron.
Jaws mild steel.

Version:

Black oxidised.
Jaws case-hardened.

Sample order:

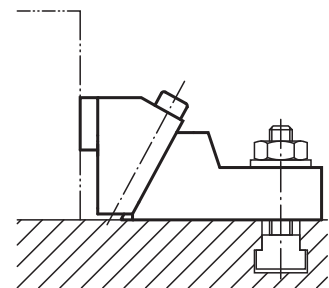
K0891.26

Note:

The jaws are reversible, smooth side for machined parts, serrated side for rough surfaces. We recommend using two bolts to mount the clamp to the machine table!

Drawing reference:

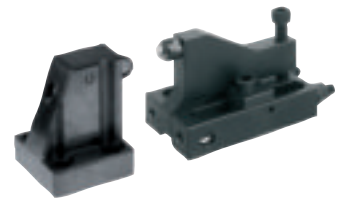
1) tightening torque max. 50 Nm



KIPP Robust side clamps

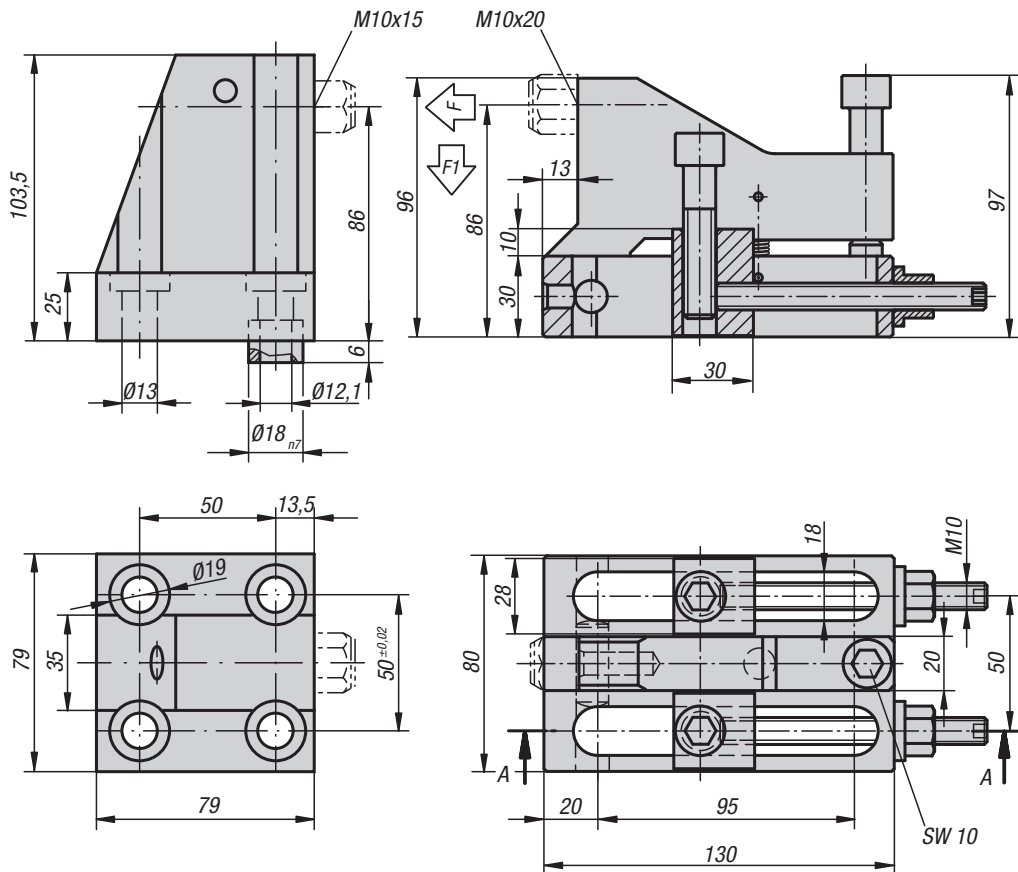
Order No.	suitable for slot width	L	L1	B	B1	H	H1	H2	H3	S	S1	F kN	F1 kN
K0891.19	12, 14, 16, 18	177,5	112,5	65	19	85	37	99	40	12	8	18,8	2,26
K0891.26	20, 22, 24, 28, 30	226,5	136,5	75	26	100	45	118	40	12	11	23,05	2,77
K0891.38	32, 36, 42	262,5	157,5	90	38	120	55	145	40	12	15	29,4	3,33

Side clamps



K0830.212

K0830.112
A-A



Material:

Body steel 1.1191.

Version:

Black oxidised.
Centring bush hardened.

Sample order:

K0830.112
(self-aligning pad not supplied)

Note:

The unit comprises of an adjustable side clamp and a side stop and are used to clamp workpieces with a simultaneous positive down force. The side clamp has two DIN 913 grub screws which can be set to prevent backward slippage during clamping.

KIPP Side clamps

Order No.	F kN	F1 kN
K0830.112	25	5
K0830.212	22,5	4,5

Side clamps



Material:
Body ductile iron (SG iron).
Jaw hardened carbon steel.

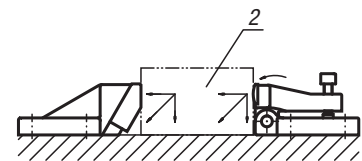
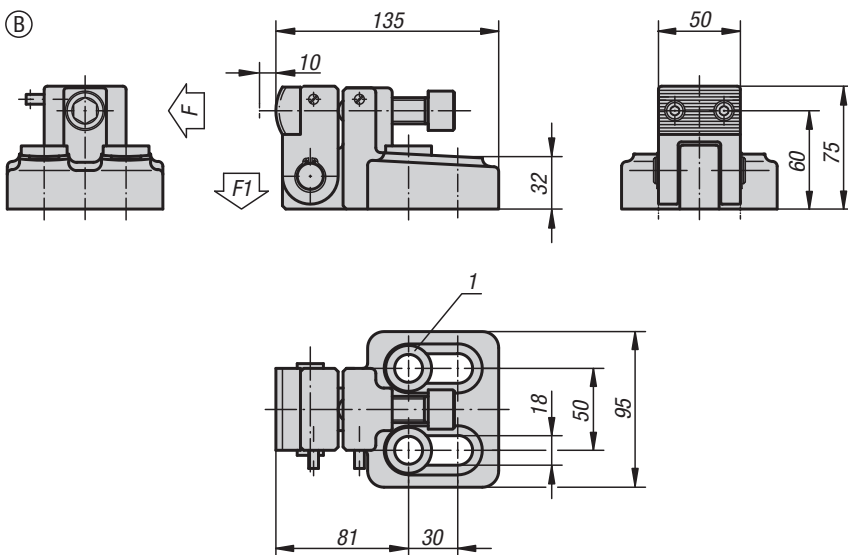
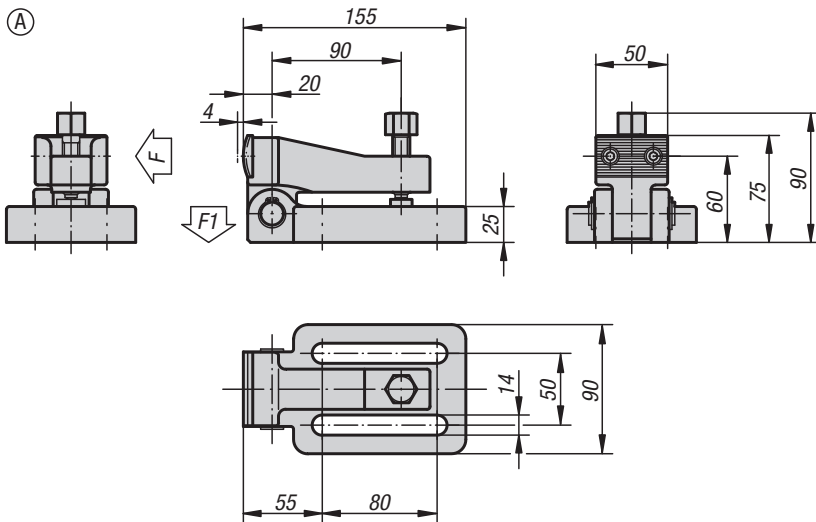
Version:
Painted black.
Jaw bright.

Sample order:
K0831.03

Note:
The workpiece is clamped between side clamps and the side stops, simultaneously producing a positive down force.
Side clamps and stops are secured with DIN 912 cylinder screws. A secure clamping is ensured when side clamps and side stops are used together.

Drawing reference:

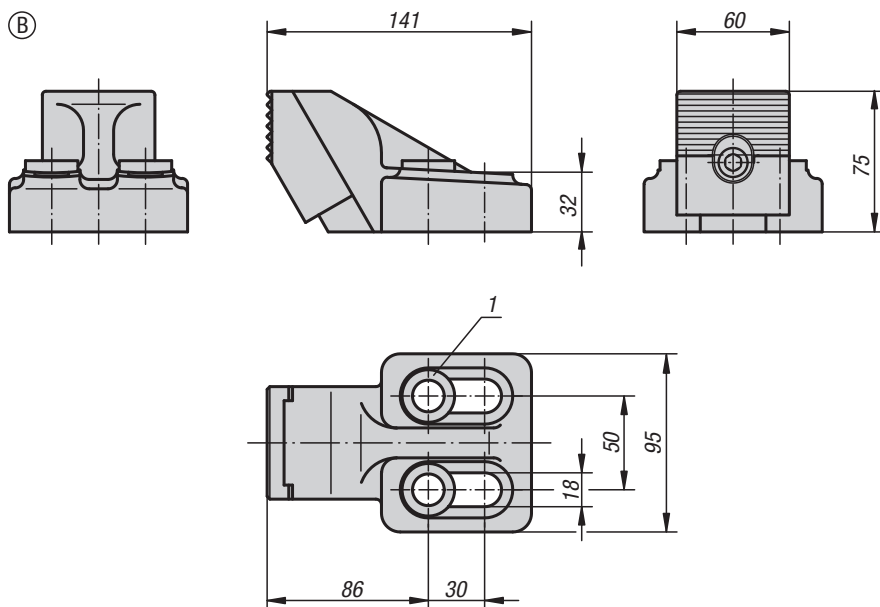
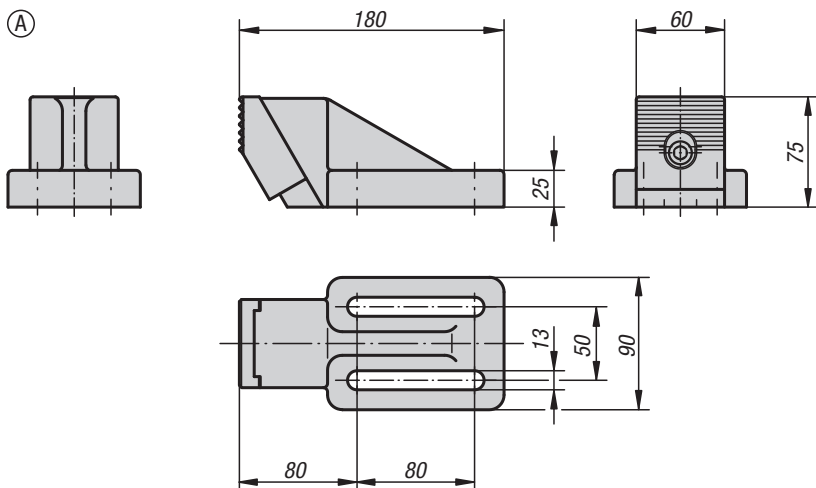
- 1) spherical washer set for M12 and M16
- 2) workpiece



KIPP Side clamps

Order No.	Form	F kN	F1 kN	Tightening torque Nm
K0831.01	A	29	1,3	38
K0831.03	B	58	2,4	150

Side stops



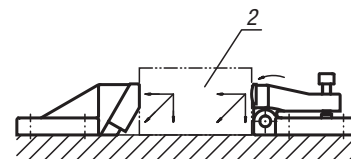
Material:
Body ductile iron (SG iron).
Jaw hardened carbon steel.

Version:
Painted black.
Jaw bright.

Sample order:
K0832.01

Note:
The workpiece is clamped between side clamps and the side stops, simultaneously producing a positive down force.
Side clamps and stops are secured with DIN 912 cylinder screws. A secure clamping is ensured when side clamps and side stops are used together.

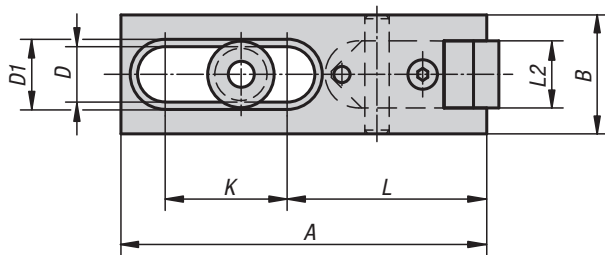
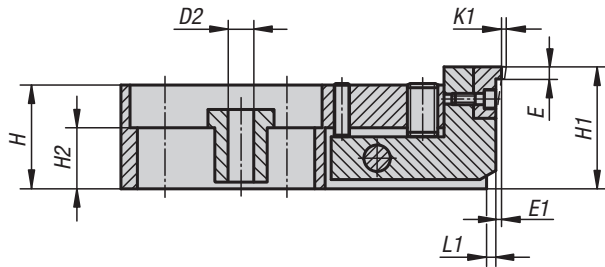
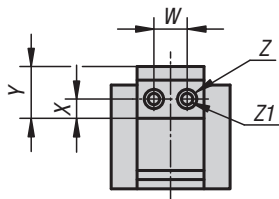
Drawing reference:
1) spherical washer set for M12 and M16
2) workpiece



KIPP Side stops

Order No.	Form
K0832.01	A
K0832.02	B

Side clamps



Material:

Body steel.
Jaw mild steel.
Centring bush with collar carbon steel.

Version:

Black oxidised.
Jaws case-hardened.

Sample order:

K0890.006

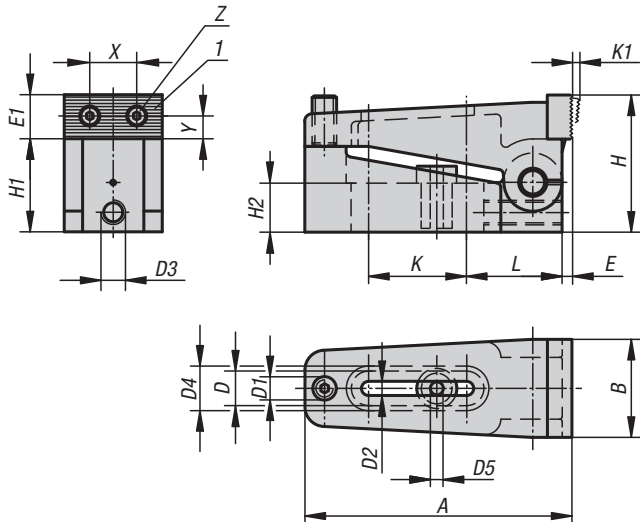
Note:

These flat design side clamps are ideal for machining low profile workpieces. The hardened jaws also provide positive down force.

KIPP Side clamps

Order No.	A	B	D	D1	D2	E	E1	H	H1	H2	K	K1	L	L1	L2	W	X	Y	Z	Z1	Clamping force kN
K0890.006	80	24	12,2	16	6,5	2,5	0,6	21	25,5	9	25,5	2	44,5	2,5	13,5	7	4,5	11	5	3	3
K0890.010	120	39	18,2	24	10,5	4	1	34	40	20	40,5	2,5	65,5	4	21,5	10	6	15	8	4,5	16
K0890.016	186	60	26,2	35	17	7	1,5	51	59	22	60,5	4	105	6,5	35,5	16	9	24	14	9	31

Side clamps



Material:

Body steel.
Jaw mild steel.
Centring bush carbon steel

Version:

Black oxidised.
Jaws case-hardened.

Sample order:

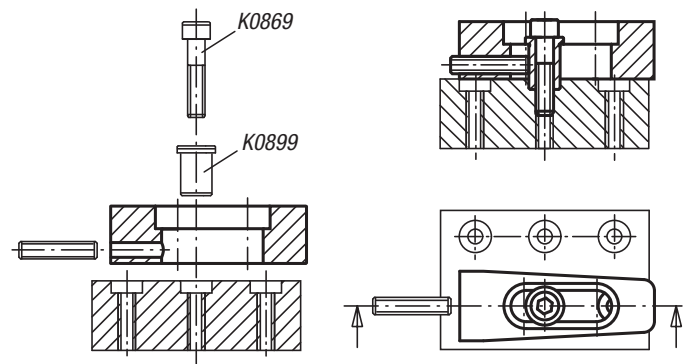
K0033.006

Note:

The jaws are reversible - smooth side for machined surfaces, serrated side for rough surfaces. A positive down force is also exerted during clamping.

Drawing reference:

1) reversible jaw



KIPP Side clamps

Order No.	A	B	D	D1	D2	D3	D4	D5	E	E1	H	H1	H2	K	K1	L	X	Y	Z	Clamping force kN
K0033.006	73	25	12,2	M6	7	M6	16	6,5	2,5	11	35	24	12,4	25,5	2,5	27	12	4,5	M3	10
K0033.010	110	39	18,2	M10	11	M10	24	10,5	4	18	56	38	20	40,5	4	39	20,5	8	M5	40
K0033.016	170	58	26,2	M16	17	M10	35	17	7	27	85	60	30	60,5	7	61	32	13	M8	100

Side clamps



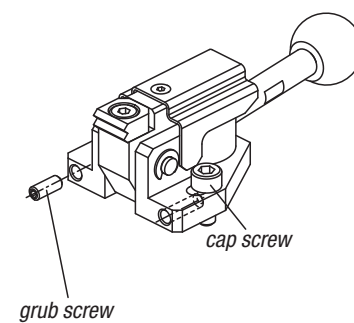
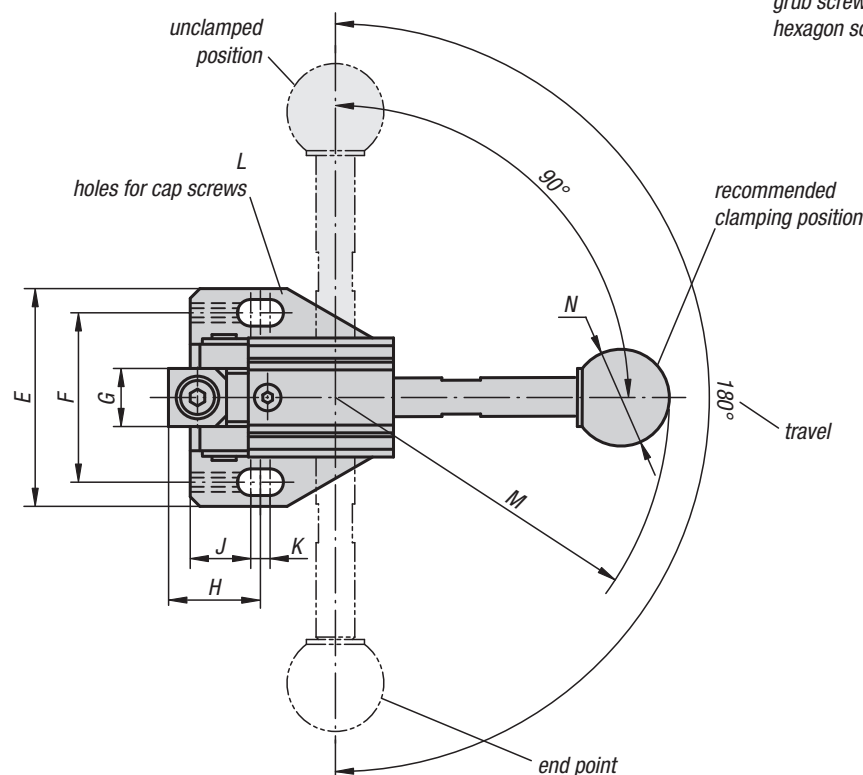
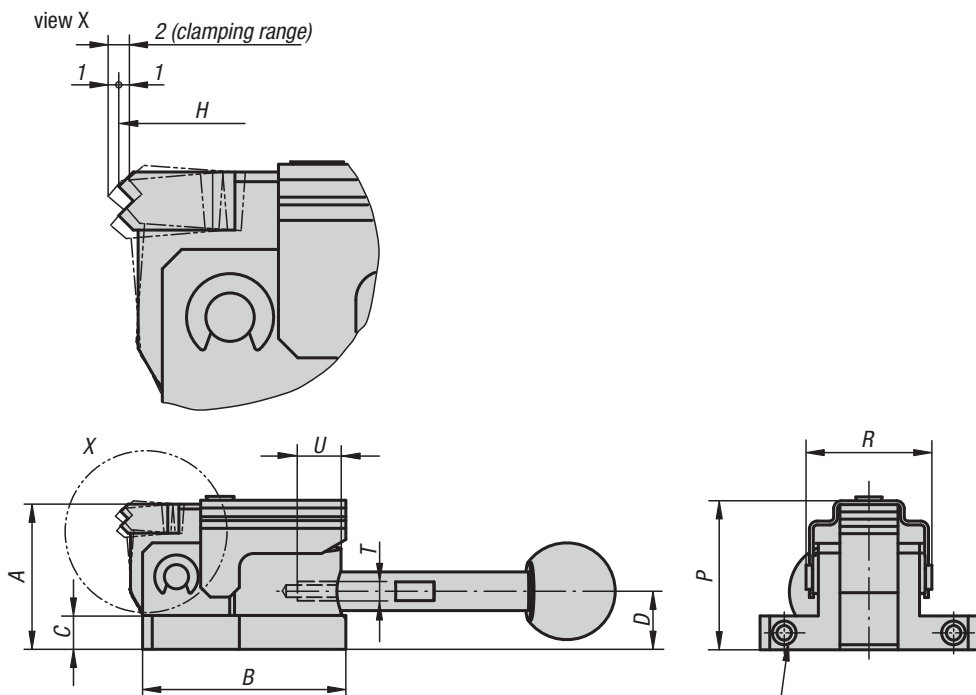
Material:
 Body and grip carbon steel.
 Jaw and cam tool steel.
 Ball knob Duroplast PF 31.

Version:
 Body, jaw and cam hardened and black oxidised.
 Grip black oxidised.
 Ball knob black.

Sample order:
 K0928.0501

Note:
 * Permitted hand force for grip.

Accessories:
 Standard handles K0915.
 Screw-in handles with adjustable torque K0916.



The slots enable final adjustment of the clamping range. Tightening the grub screws in the base front prevents the clamp sliding back during clamping.

KIPP Side clamps

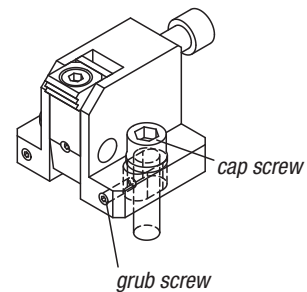
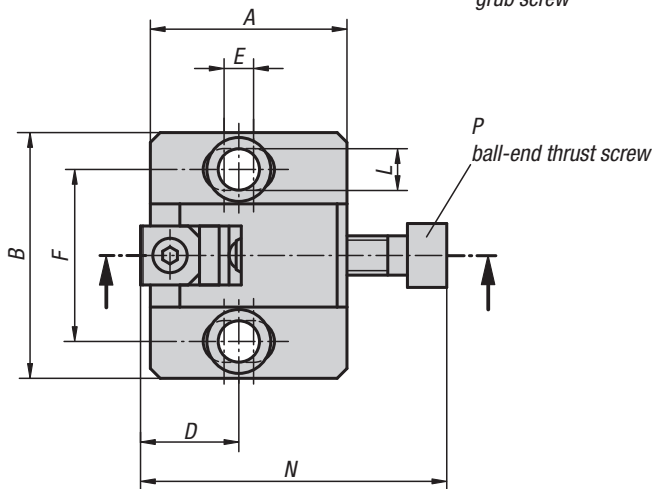
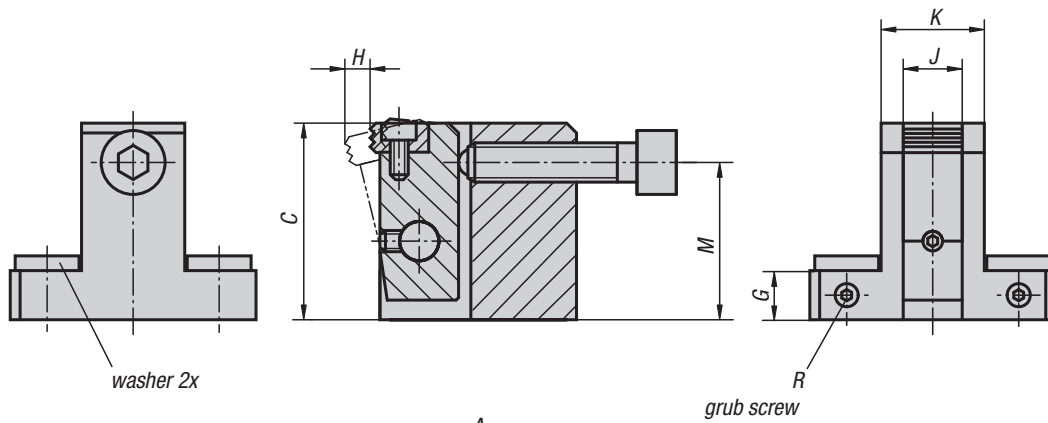
Order No.	Version	A	B	C	D	E	F	G	H	J	K	L	M	N	P	R	S	T	U	Clamping force N	Hand force FH N
K0928.0500	without grip	30	42	7	12	45	35	12	19	12,5	4	M5	69	20	31	26	M4x10	M5	7	3000	150*
K0928.0501	with handle	30	42	7	12	45	35	12	19	12,5	4	M5	69	20	31	26	M4x10	M5	7	3000	150*
K0928.0800	without grip	40	62	10	16	65	50	16	28	18,5	5	M8	104	25	41	38	M4x15	M6	9,5	4000	200*
K0928.0801	with handle	40	62	10	16	65	50	16	28	18,5	5	M8	104	25	41	38	M4x15	M6	9,5	4000	200*



Material:
Housing and arm carbon steel.
Jaw tool steel.

Version:
Housing, black oxidised.
Arm and jaw tempered and black oxidised.

Sample order:
K0929.080400



KIPP Side clamps

Order No.	A	B	C	D	E	F	G	H	J	K	L	M	N	P	R	Clamping force N	Tightening torque Nm
K0929.080400	40	50	40	20	6	35	10	5,3	12	21	8,5	32	62,5	M8x35	M4x10	15000	25
K0929.100500	50	65	50	25	8	45	12	7,1	16	27	11	40	74	M10x40	M4x12	27000	50
K0929.120600	60	70	60	30	10	50	15	8	20	31	13	48	91	M12x50	M5x15	38000	90
K0929.160800	80	90	80	40	15	65	20	10,2	25	39	17	64	115	M16x60	M6x20	46000	130

Side clamps



Material:

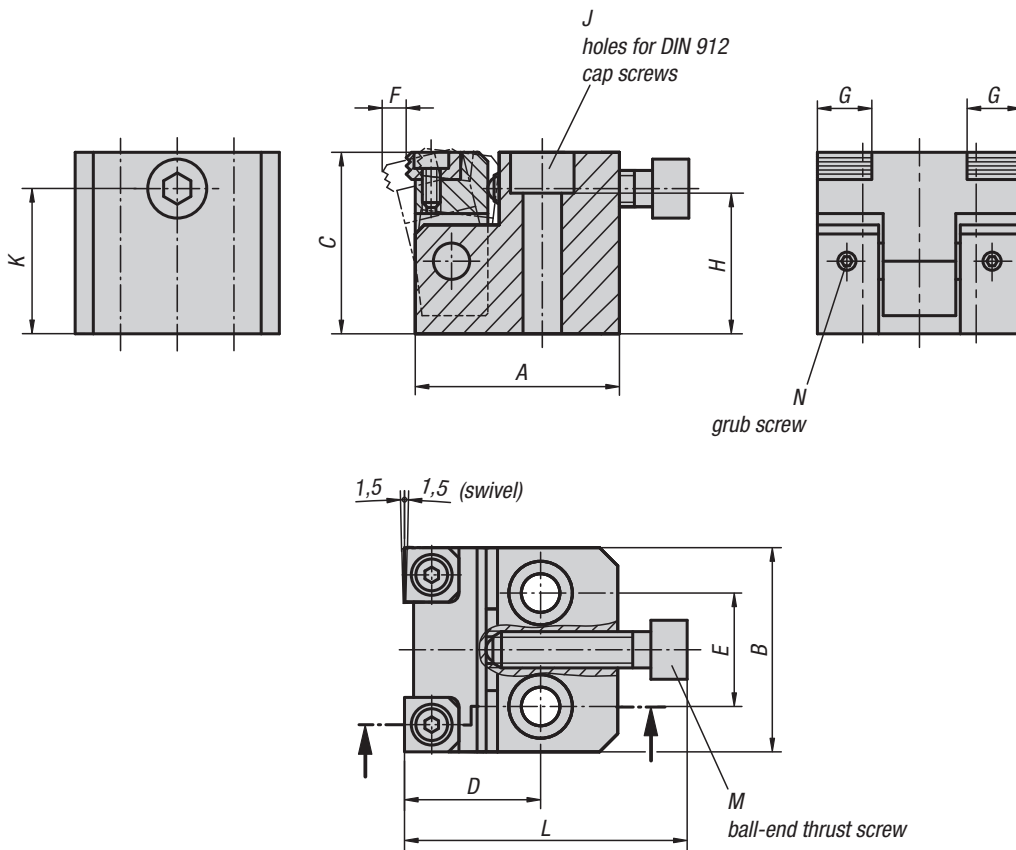
Body and arm carbon steel.
Jaw tool steel.

Version:

Body black oxidised.
Arm and jaw tempered and black oxidised.

Sample order:

K0930.080400

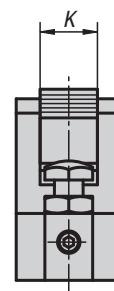
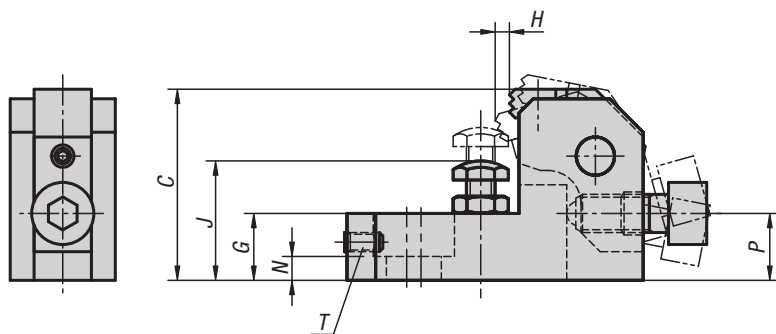


KIPP Side clamps

Order No.	A	B	C	D	E	F	G	H	J	K	L	M	N	Clamping force N	Tightening torque Nm
K0930.080400	45	45	40	30	25	5,3	12	31	M8	32	62,5	M8x35	M4x4	15000	25
K0930.100500	55	55	50	40	30	7,1	16	39	M10	40	74	M10x40	M4x4	27000	50
K0930.120600	65	65	60	45	35	8	20	47	M12	48	91	M12x50	M5x5	38000	90

Side clamps

with rest pad



Material:

Housing and arm carbon steel.
Jaw tool steel.

Version:

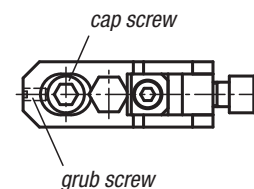
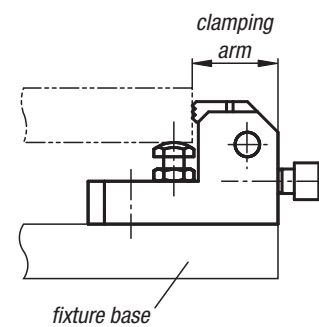
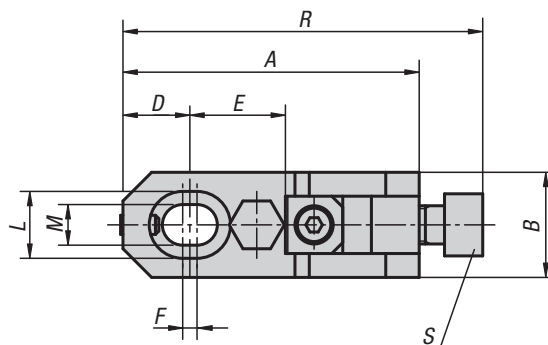
Housing tempered and black oxidised.
Arm black oxidised.
Jaw tempered and black oxidised.

Sample order:

K0931.02508

Drawing reference:

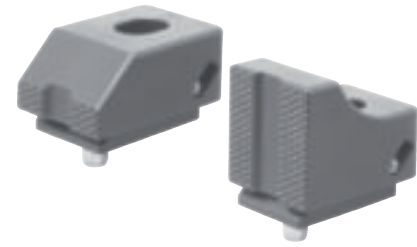
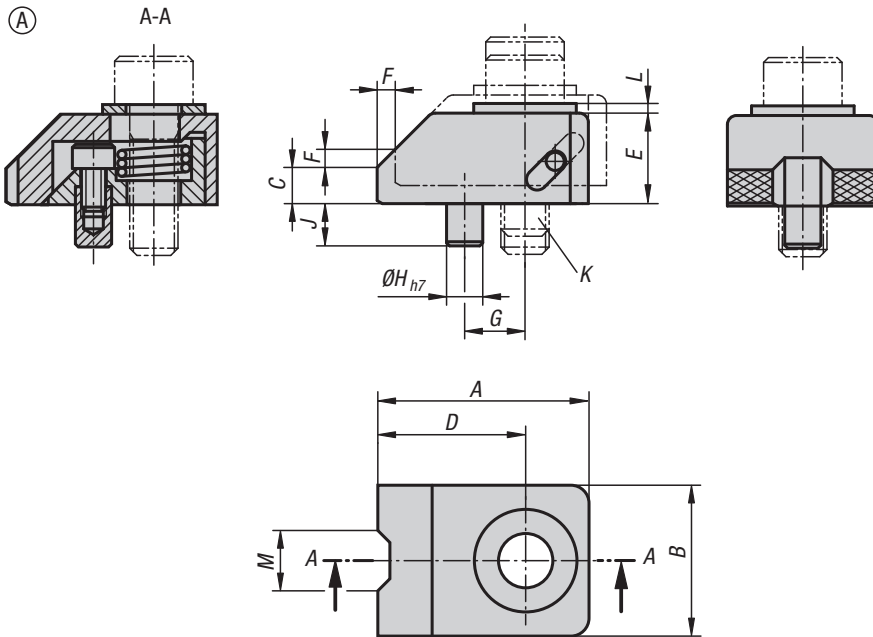
T) grub screw
S) ball pressure screw



KIPP Side clamps with rest pad

Order No.	A	B	C	D	E	F	G	H	J	K	L	M	N	P	R	S	T	Clamping force N	Tightening torque Nm
K0931.02508	62	22	40	14	20	3	14	3	25-32	12	14	8,5	5	14	75,5	M8x20	M4x8	6000	15
K0931.03210	78	25	50	18	25	4	18	3,7	32-40	16	17,5	11	7	17,5	95	M10x25	M5x10	10000	30
K0931.04012	93	32	60	21	30	5	21	4,5	40-48	20	20	13	8	21	113	M12x30	M6x12	17000	65
K0931.04816	124	38	80	28	40	6	27	6	48-63	25	26	17	10	28	151	M16x40	M8x16	25000	130

Toe clamps

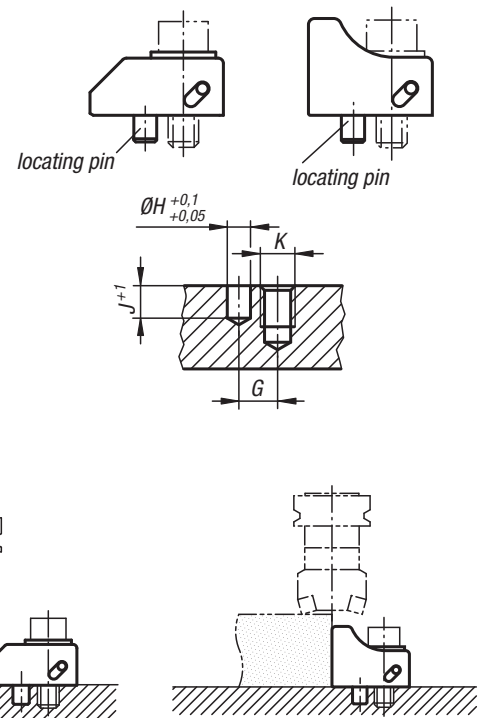
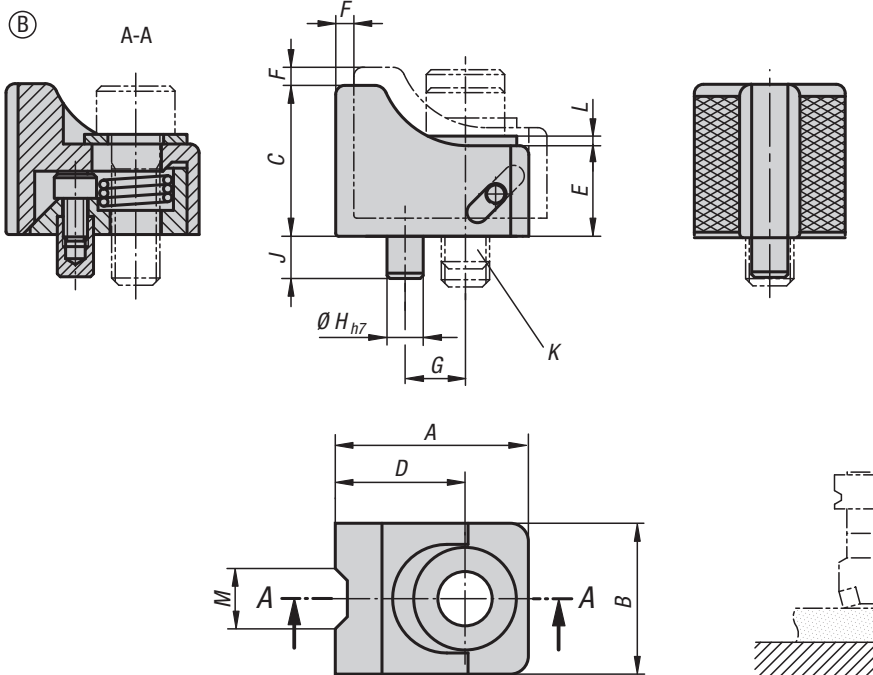


Material:
Carbon steel.

Version:
Tempered and black oxidised.

Sample order:
K0932.0806

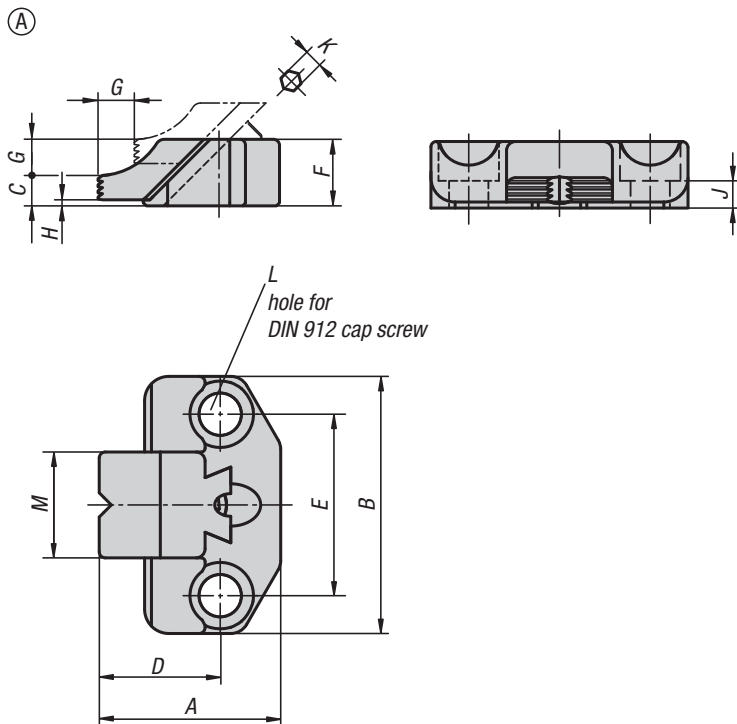
mounting instructions:



KIPP Toe clamps

Order No.	Form	A	B	C	D	E	F	G	H	J	K	L	M	Clamping force N	Tightening torque Nm
K0932.0806	A	35	25	6	24,5	15	3	10	6	7	M8	1,6	10	7000	25
K0932.1008	A	43	30	8	29	19	4	12	6	7	M10	2	11	8500	50
K0932.1209	A	54	35	9	37	23	5	16	8	10	M12	2,3	12	20000	90
K0932.1610	A	65	40	10	45	25	6	20	10	10	M16	3,2	14	40000	200
K0932.0825	B	32	25	25	21,5	15	3	10	6	7	M8	1,6	10	7000	25
K0932.1032	B	40	30	32	26	19	4	12	6	7	M10	2	11	8500	50
K0932.1238	B	50	35	38	33	23	5	16	8	10	M12	2,3	12	20000	90
K0932.1645	B	60	40	45	40	25	6	20	10	10	M16	3,2	14	40000	200

Toe clamps

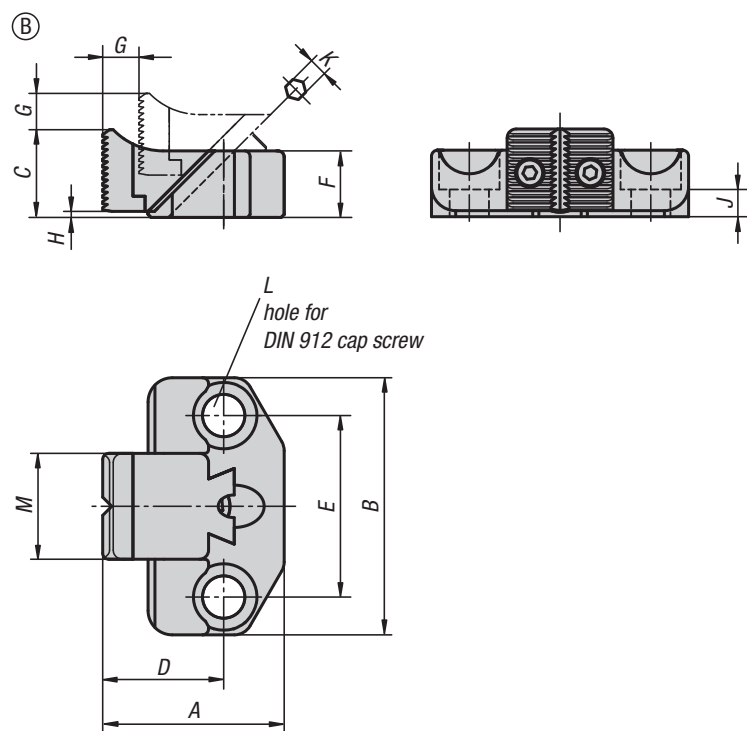


Material, version:

Body carbon steel, tempered and black oxidised.
Jaw carbon steel, black oxidised, corners tempered.

Sample order:

K0933.0808

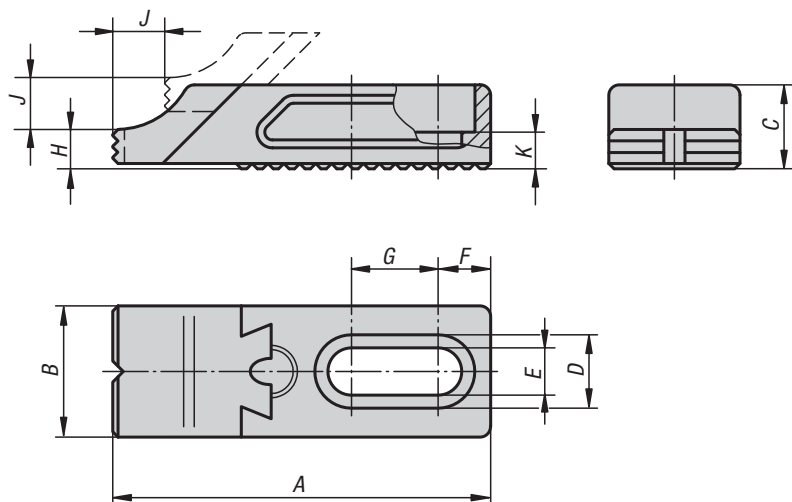


KIPP Toe clamps

Order No.	Form	A	B	C	D	E	F	G	H	J	K	L	M	Clamping force N	Tightening torque Nm
K0933.0808	A	39,5	65	7,5	25	45	16	7	1,5	7	4	M8	25	4000	8
K0933.1210	A	60	85	10	40	60	22	12	2	9	6	M12	35	9000	26
K0933.1614	A	77	100	14	50	70	30	14	2	13	8	M16	40	17000	60
K0933.0820	B	39,5	65	19,5	25	45	16	7	1,5	7	4	M8	25	4000	8
K0933.1229	B	60	85	29	40	60	22	12	2	9	6	M12	35	9000	26
K0933.1638	B	77	100	38	50	70	30	14	2	13	8	M16	40	17000	60

Toe clamps

stepped



Material, version:

Body carbon steel, black oxidised.
Jaw carbon steel, tempered, black oxidised.

Sample order:

K0853.92008016

Note:

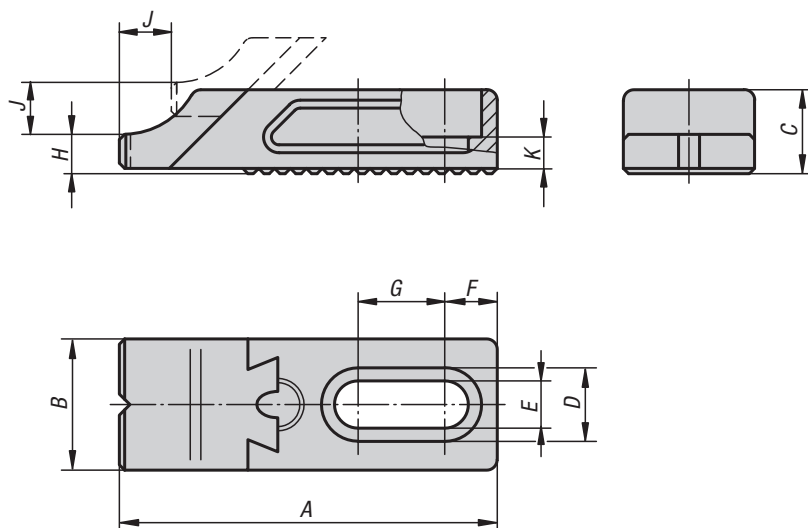
The adjustable toe clamp is used together with the rack plate CL.

KIPP Toe clamps, stepped

Order No.	A	B	C	D	E	F	G	H	J	K	F1 kN	M1 Nm
K0853.92008016	72	25	16	14	8,5	10	16,5	7,5	7	7	3,6	6,5
K0853.92012022	105	35	22	20	13	13,5	26,5	10	12	9	7,4	19
K0853.92016030	137	40	30	26	17	17,5	30	14	14	13	11,7	32

Toe clamps

stepped



Material, version:

Body carbon steel, black oxidised.
Jaw carbon steel, tempered.
The jaw surface is ground.

Sample order:

K0853.92108016

Note:

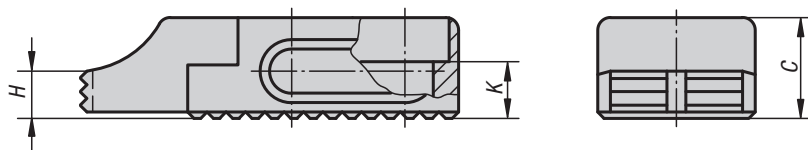
These toe clamps are used together with the rack plate CL.

KIPP Toe clamps, stepped

Order No.	A	B	C	D	E	F	G	H	J	K	F1 kN	M1 Nm
K0853.92108016	72	25	16	14	8,5	10	16,5	7,5	7	7	3,6	6,5
K0853.92112022	105	35	22	20	13	13,5	26,5	10	12	9	7,4	19
K0853.92116030	137	40	30	26	17	17,5	30	14	14	13	11,7	32

Toe stops

stepped



Material, version:

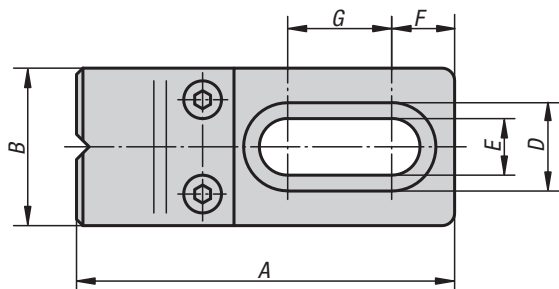
Body carbon steel, black oxidised.
Jaw carbon steel, tempered and black oxidised.

Sample order:

K0853.96008016

Note:

The adjustable stop is used together with the rack plate CL.

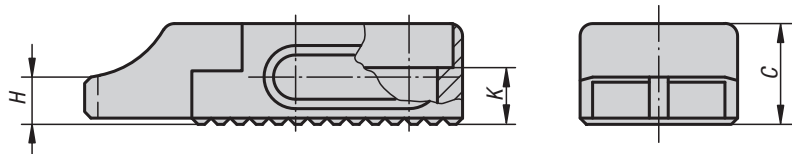


KIPP Toe stops, stepped

Order No.	A	B	C	D	E	F	G	H	K
K0853.96008016	60	25	16	14	8,5	10	16,5	7,5	7
K0853.96012022	90	35	22	20	13	13,5	26,5	10	10
K0853.96016030	115	40	30	26	17	17,5	30	14	13

Toe stops

stepped



Material, version:

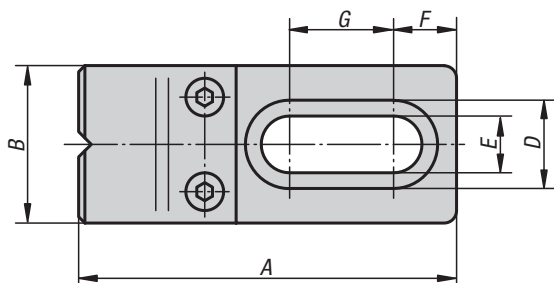
Body carbon steel, black oxidised.
Jaw carbon steel, tempered and black oxidised.
The jaw surface is ground.

Sample order:

K0853.96108016

Note:

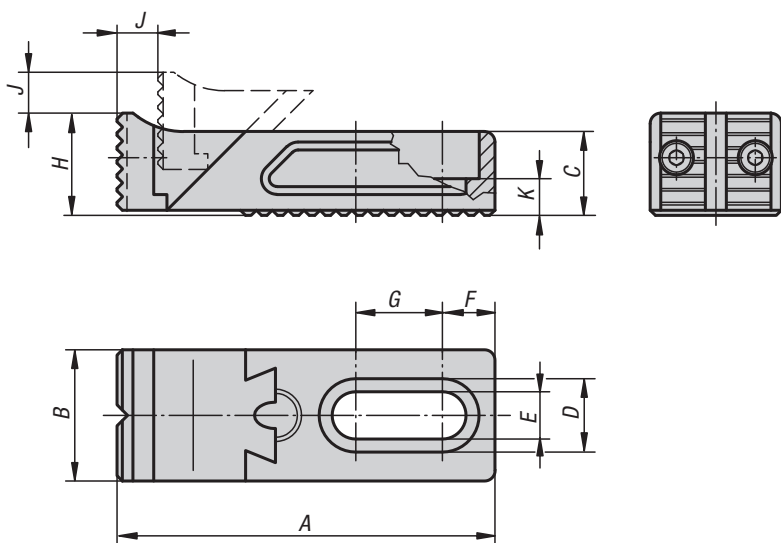
The adjustable stop is used together with the rack plate CL.



KIPP Toe stops, stepped

Order No.	A	B	C	D	E	F	G	H	K
K0853.96108016	60	25	16	14	8,5	10	16,5	7,5	7
K0853.96112022	90	35	22	20	13	13,5	26,5	10	10
K0853.96116030	115	40	30	26	17	17,5	30	14	13

Toe clamps



Material, version:

Body carbon steel, black oxidised.

Jaw carbon steel, tempered and black oxidised.

Sample order:

K0853.93008016

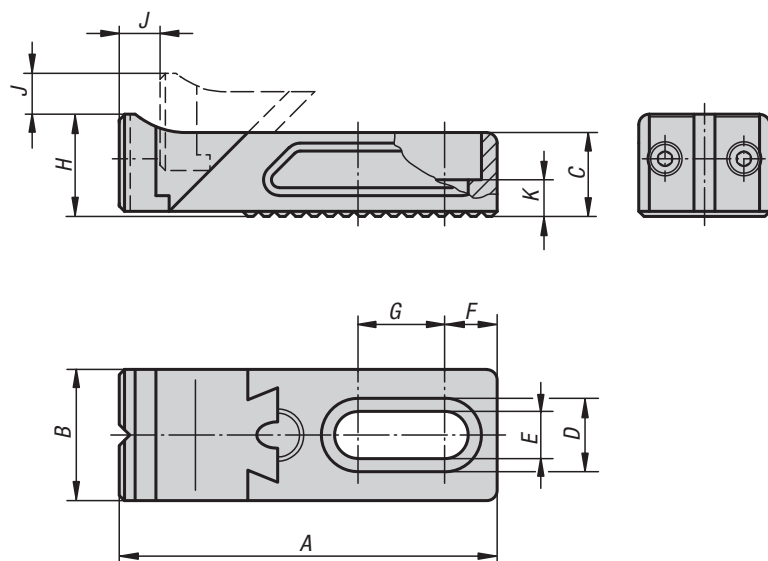
Note:

The adjustable toe clamp is used together with the rack plate CL.

KIPP Toe clamps

Order No.	A	B	C	D	E	F	G	H	J	K	F1 kN	M1 Nm
K0853.93008016	72	25	16	14	8,5	10	16,5	19,5	7	7	3,6	6,5
K0853.93012022	105	35	22	20	13	13,5	26,5	29	12	9	7,4	19
K0853.93016030	137	40	30	26	17	17,5	30	39	14	13	11,7	32

Toe clamps



Material, version:

Body carbon steel, black oxidised.

Jaw carbon steel, tempered and black oxidised.

The jaw surface is ground.

Sample order:

K0853.93108016

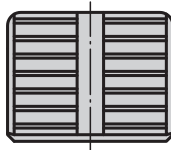
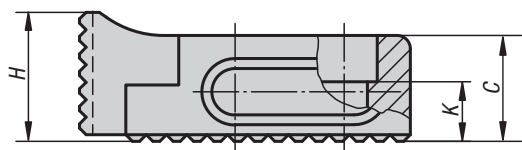
Note:

The adjustable toe clamp is used together with the rack plate CL.

KIPP Toe clamps

Order No.	A	B	C	D	E	F	G	H	J	K	F1 kN	M1 Nm
K0853.93108016	72	25	16	14	8,5	10	16,5	19,5	7	7	3,6	6,5
K0853.93112022	105	35	22	20	13	13,5	26,5	29	12	9	7,4	19
K0853.93116030	137	40	30	26	17	17,5	30	39	14	13	11,7	32

Toe stops



Material, version:

Body carbon steel, black oxidised.

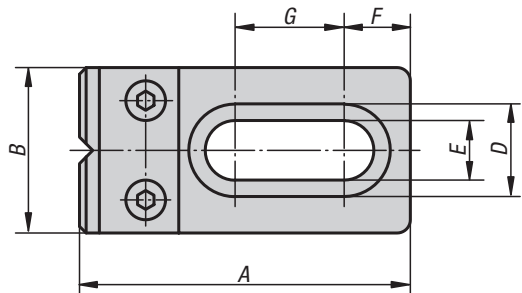
Jaw carbon steel, tempered and black oxidised.

Sample order:

K0853.97008016

Note:

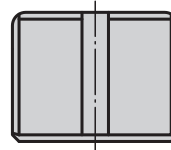
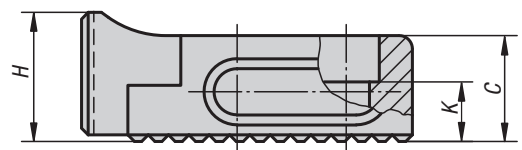
The adjustable stop is used together with the rack plate CL.



KIPP Toe stops

Order No.	A	B	C	D	E	F	G	H	K
K0853.97008016	50	25	16	14	8,5	16,5	10	19,5	7
K0853.97012022	75	35	22	20	13	20	13,5	29	10
K0853.97016030	95	40	30	26	17	30	17,5	39	13

Toe stops



Material, version:

Body carbon steel, black oxidised.

Jaw carbon steel, tempered and black oxidised.

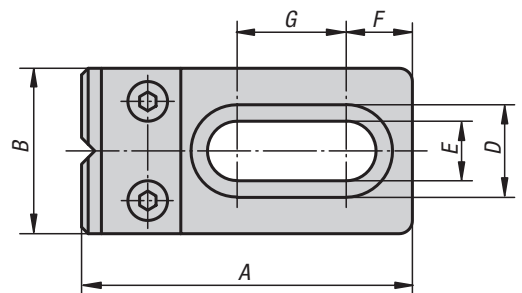
The jaw surface is ground.

Sample order:

K0853.97108016

Note:

The adjustable stop is used together with the rack plate CL.



KIPP Toe stops

Order No.	A	B	C	D	E	F	G	H	K
K0853.97108016	50	25	16	14	8,5	10	16,5	19,5	7
K0853.97112022	75	35	22	20	13	13,5	26,5	29	10
K0853.97116030	95	40	30	26	17	17,5	30	39	13

Rack plates CL

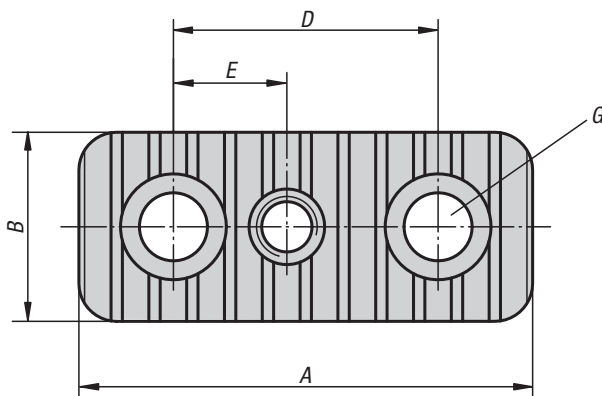
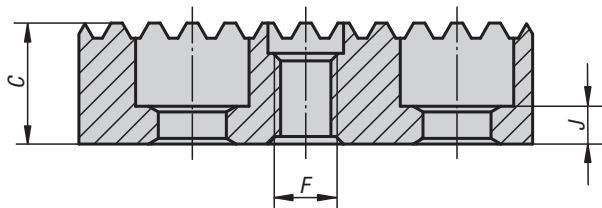


Material:
Carbon steel.

Version:
Black oxidised.

Sample order:
K0853.94008116

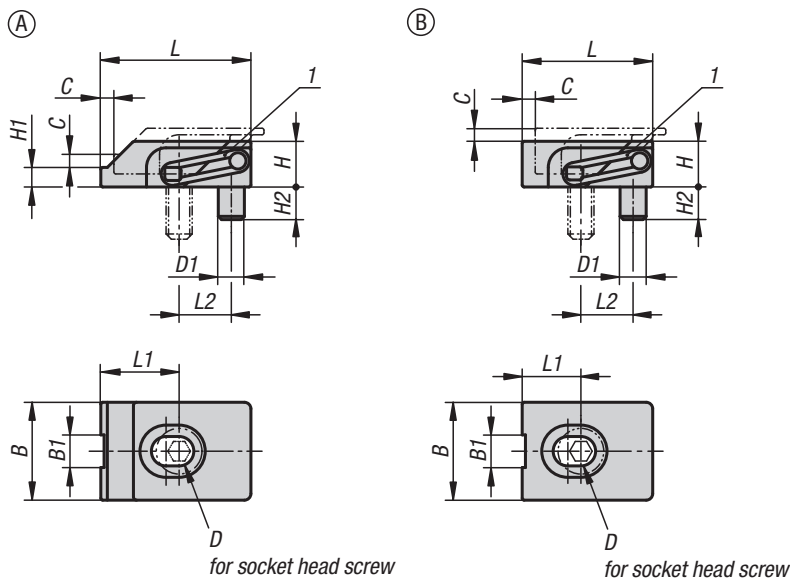
Note:
Rack plates CL are used to position stepped and standard toe clamps.
The holes (G) for DIN 912 socket head screws is used to fasten the rack plate CL to suitable base elements.
The tapped hole (F) is used to secure the toe clamps.



KIPP Rack plates CL

Order No.	A	B	C	D	E	F	G hole for DIN 912 cap screw	J
K0853.94008116	50	25	16	25	12,5	M8	M8	7
K0853.94008120	50	25	20	25	12,5	M8	M8	9
K0853.94008125	50	25	25	25	12,5	M8	M8	13
K0853.94008132	50	25	32	25	12,5	M8	M8	20
K0853.94008140	50	25	40	25	12,5	M8	M8	28
K0853.94012020	85	35	20	50	20	M12	M12	5
K0853.94012025	85	35	25	50	20	M12	M12	12
K0853.94012032	85	35	32	50	20	M12	M12	12
K0853.94012040	85	35	40	50	20	M12	M12	12
K0853.94012050	85	35	50	50	20	M12	M12	12
K0853.94016025	90	40	25	50	25	M16	M16	6
K0853.94016032	90	40	32	50	25	M16	M16	13
K0853.94016040	90	40	40	50	25	M16	M16	15
K0853.94016050	90	40	50	50	25	M16	M16	15
K0853.94016063	90	40	63	50	25	M16	M16	15

Flat clamps



Material:
Carbon steel.

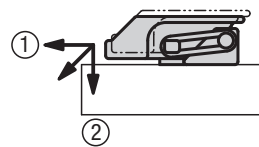
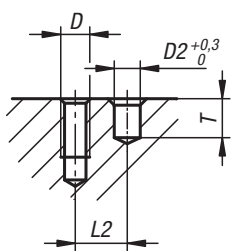
Version:
Hardened (33–39 HRC) and black oxidised.

Sample order:
K1168.204

Note:
Particularly low workpieces can be clamped using these flat clamps.
Clamping element with pull-down effect.
Clamping element and fixed block in one compact unit.

Drawing reference:
Dimension L1 refers to clamped state.

installation instructions



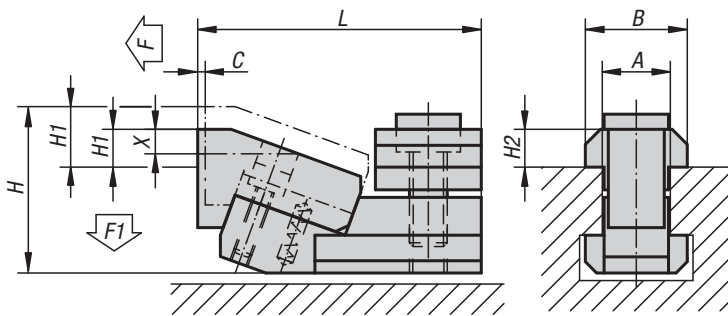
(Jaws exert positive down force)

- ① Horizontal thrust against workpiece
- ② Vertical thrust prevents the workpiece lifting

KIPP Flat clamps

Order No.	Form	B	B1	C	D	D1	D2	H	H1	H2	L	L1	L2	T	Clamping force kN	Tightening torque Nm
K1168.104	A	15	5	2	M4	4	4	7	3	5	23	12	8	6	2	2,7
K1168.105	A	19	7	2,5	M5	5	5	9	4	6	28	14	10	7	3	5,4
K1168.204	B	15	5	2	M4	4	4	7	-	5	20	9	8	6	2,5	2,7
K1168.205	B	19	7	2,5	M5	5	5	9	-	6	25	11	10	7	3,5	5,4

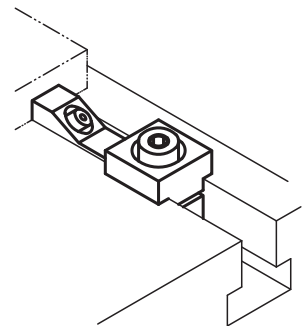
T-slot clamps



Material:
Steel.

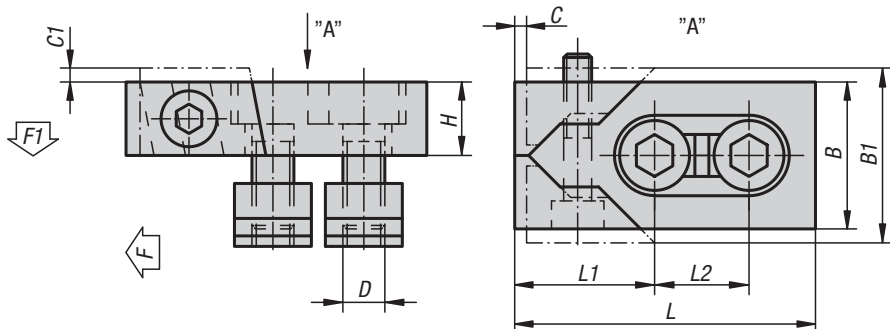
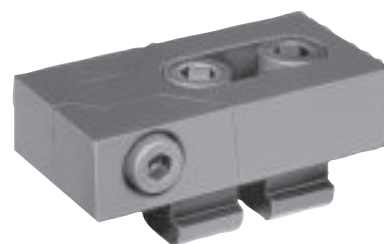
Version:
Hardened, black oxidised.

Note:
These T-slot clamps are especially useful for clamping low profile workpieces. The wedge operated jaws also provide positive down force. Dimensions "H1" and "X" depend on the max. T-slot depth acc. to DIN 650. To achieve the minimal clamping height by the minimal slot depth, the jaw can be ground down by the dimension "X".



KIPP T-slot clamps

Order No.	A	C	L max.	B	H	H1 min.	H1 max.	X	H2	F (N)	F1 (N)
K1230.12	12	1,8	52	18	31	3,5	8,5	5	7	5000	600
K1230.14	14	1,8	55	22	34	2,5	7,5	5	8	5500	700
K1230.16	16	2,5	68	25	41	4	11	6	9	8000	900
K1230.18	18	2,5	71	28	43	2	9	6	10	9000	1000
K1230.22	22	3	89	35	53	5	14	9	14	16000	1900



Material:
Steel.

Version:
Hardened, black oxidised.

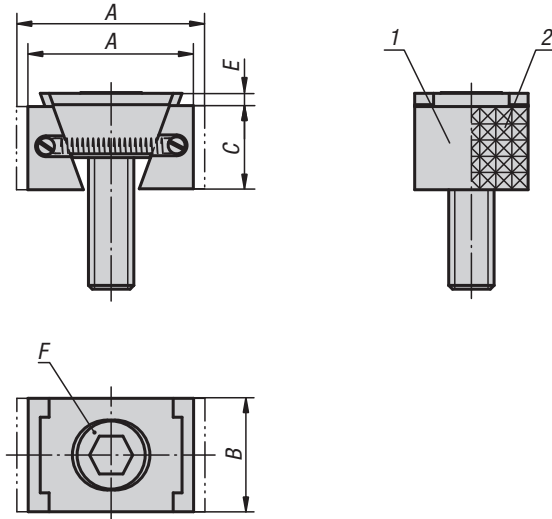
Note:
These handy low-profile clamp jaws are ideal for machining most workpiece sizes. The hardened wedge operated jaws also provide positive down force.

KIPP Low-profile clamps

Order No.	Slot width	L	L1	L2	B	B1	H	C	C1	D	F kN	F1 kN	Tightening torque max. Nm
K1229.12	12	80	39	26	40	47	20	3	2,5	M10	16	0,6	15
K1229.14	14	80	39	26	40	47	20	3	2,5	M12	22	0,9	18
K1229.16	16	80	39	26	40	47	20	3	3	M12	22	0,9	18
K1229.161	16	100	46	34	50	59	25	4	2,5	M14	32	1,2	25
K1229.18	18	100	46	34	50	60	25	4	3	M16	36	1,4	35
K1229.20	20	100	46	34	50	60	25	4	3	M16	36	1,4	35
K1229.22	22	140	65	50	78	95	30	5	4	M20	36	1,4	45

Wedge clamps

jaw face smooth or serrated



Material:

Wedge and jaw segments carbon steel.

Version:

Wedge and jaw segments hardened, black.

Sample order:

K0039.2208

Note:

The functioning principle make the wedge clamps ideal for series clamping. The wedge form can exert high clamping forces.

These wedge clamps can be mounted in grid holes or T-slots. Tightening the socket screw moves the wedge down and the jaws out pressing the workpieces against the fixtures fixed stops.

The wedge has a slightly elongated hole allowing for movement to compensate for tolerances.

Spread width:

M8 = ±0.5 mm

M10 = ±1.0 mm

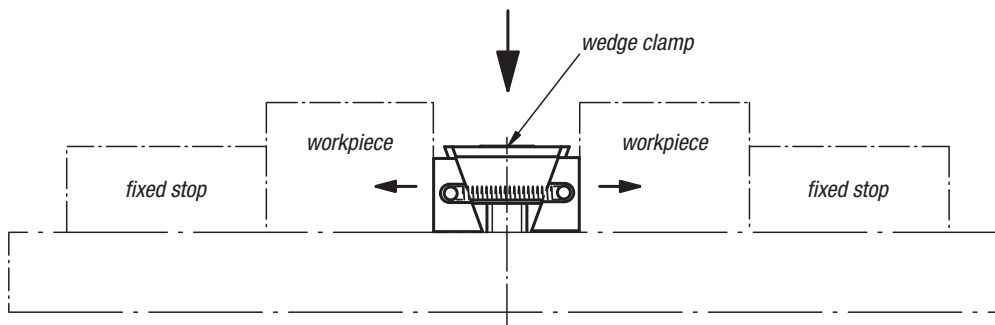
M12 = ±1.0 mm

M16 = ±1.5 mm

Drawing reference:

1) Jaw face smooth

2) Jaw face serrated



KIPP Wedge clamps, narrow version

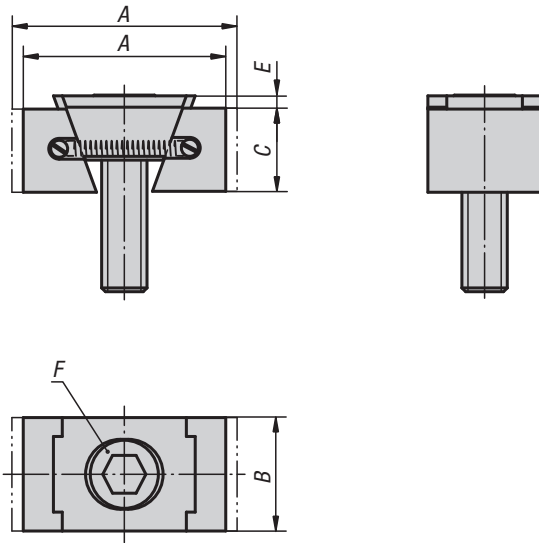
Order No. smooth version	Order No. serrated	A min.	A max.	B	C	E	F Socket head screw DIN 6912	Clamping force kN	Tightening torque Nm
K0039.1108	K0039.2108	30,5	33,5	24	15	2	M8x25	15	25
K0039.1110	K0039.2110	32	37	28	19	3,5	M10x25	20	49
K0039.1112	K0039.2112	44	49,5	30	22	3,5	M12x40	30	85
K0039.1116	K0039.2116	55	62	40	29	4	M16x60	50	210

KIPP Wedge clamps, wide version

Order No. smooth version	Order No. serrated	A min.	A max.	B	C	E	F Socket head screw DIN 6912	Clamping force kN	Tightening torque Nm
K0039.1208	K0039.2208	30,5	33,5	30	15	2	M8x25	15	25
K0039.1210	K0039.2210	32	37	38	19	3,5	M10x25	20	49
K0039.1212	K0039.2212	44	49,5	48	22	3,5	M12x40	30	85
K0039.1216	K0039.2216	55	62	48	29	4	M16x60	50	210

Wedge clamps

machinable



Material:

Wedge and jaw segments carbon steel.

Version:

Wedge and jaw segments hardened, black.

Sample order:

K0649.3110

Note:

These wedge clamps have extra long jaws. This extra material allows the jaws to be machined to suit the form of the workpiece.

The functioning principle makes the wedge clamps ideal for series clamping. The wedge form can exert high clamping forces.

These wedge clamps can be mounted in grid holes or T-slots. Tightening the socket screw moves the wedge down and the jaws out, pressing the workpieces against the fixtures' fixed stops.

The wedge has a slightly elongated hole allowing for movement to compensate for tolerances.

Spread width:

M8 = ±0.5 mm

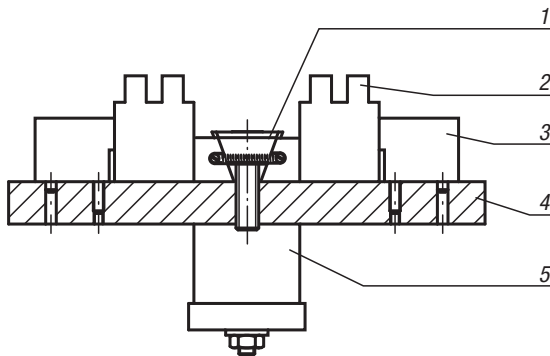
M10 = ±1.0 mm

M12 = ±1.0 mm

M16 = ±1.5 mm

Drawing reference:

- 1) wedge clamps
- 2) workpiece
- 3) fixed stop
- 4) base plate
- 5) hydraulic/pneumatic cylinder



KIPP Wedge clamps machinable

Order No.	Version	A min.	A max.	B	C	E	F Socket head screw DIN 6912	Clamping force kN	Tightening torque Nm
K0649.3108	narrow	36,5	39,5	24	15	2	M8x25	11	19
K0649.3110	narrow	42	47	28	19	3,5	M10x25	15	37
K0649.3112	narrow	54	59,5	30	22	3,5	M12x40	23	65
K0649.3116	narrow	65	72	40	29	4	M16x60	38	160
K0649.3208	wide	36,5	39,5	30	15	2	M8x25	11	19
K0649.3210	wide	42	47	38	19	3,5	M10x25	15	37
K0649.3212	wide	54	59,5	48	22	3,5	M12x40	23	65
K0649.3216	wide	65	72	48	29	4	M16x60	38	160

Wedge clamps

jaw faces serrated



Material:

Body and clamping segments tool steel.

Version:

Body hardened.

Jaw segments hardened (49-51 HRC) black oxidised.

Wedge faces ground.

Sample order:

K0040.1618

Note:

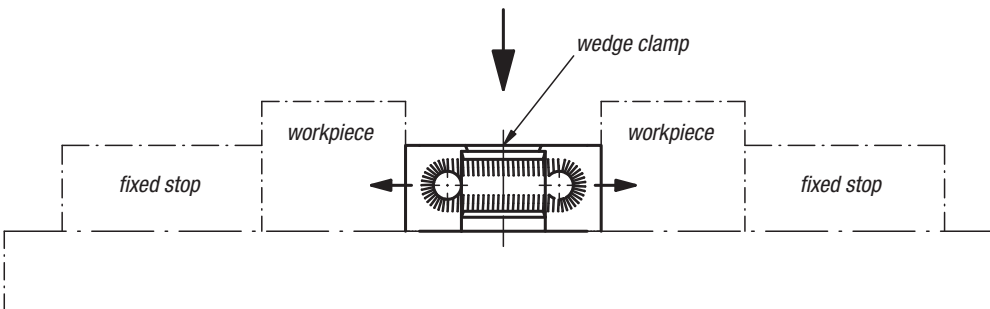
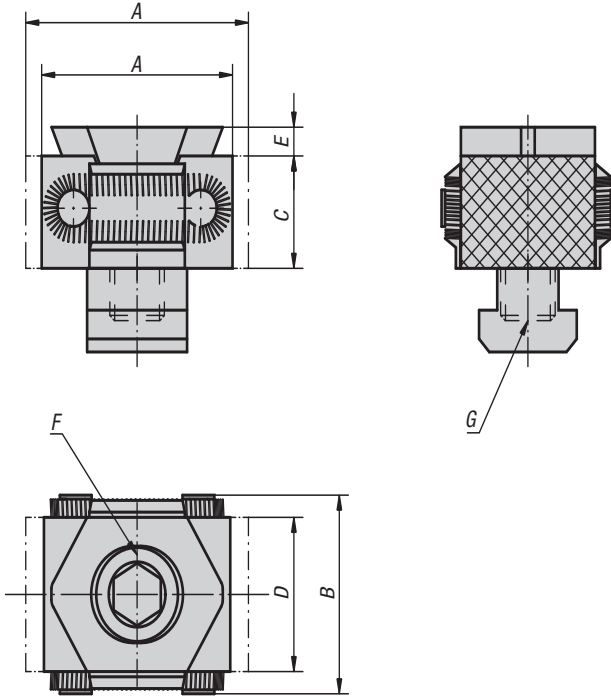
The compact design makes these wedge clamps ideal for horizontal and vertical series clamping. The hardened and ground wedge faces can exert high clamping forces.

These wedge clamps can be mounted in grid holes or T-slots. Tightening the DIN 912 socket screw moves the wedge down and the jaws out pressing the workpieces against the fixtures fixed stops. **The jaws of version K0040.08 and K0040.0810 are not serrated.** The wedge has a slightly elongated hole allowing for movement. Spread width:

K0040.08 = ±0.5 mm

K0040.12 = ±1.0 mm

K0040.16 = ±1.5 mm.

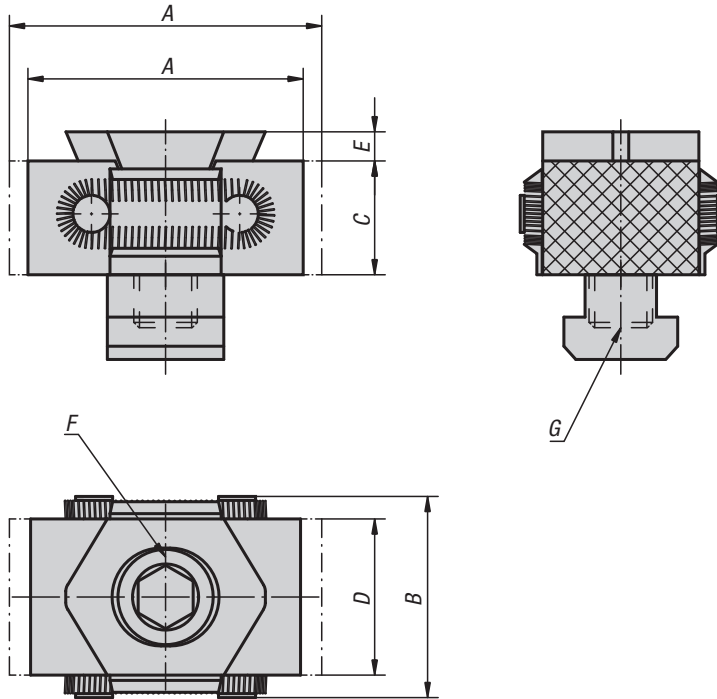


KIPP Wedge clamps, jaw faces serrated

Order No.	A min.	A max.	B	C	D	E	F Socket head screw DIN 912	G	Clamping force kN	Tightening torque Nm
K0040.08	27	31	29	15	21	2,5	M8x25	for tapped hole	15	25
K0040.0810	27	31	29	15	21	2,5	M8x25	for T-slot 10	15	25
K0040.12	42	49	41	22	30	4	M12x40	for tapped hole	30	85
K0040.1214	42	49	41	22	30	4	M12x30	for T-slot 14	30	85
K0040.16	57	66	56	29	42	5	M16x60	for tapped hole	50	210
K0040.1618	57	66	56	29	42	5	M16x50	for T-slot 18	50	210

Wedge clamps

machinable



Material:

Body tool steel.
Jaw segments tool steel (30 HRC).

Version:

Body hardened.
Jaw segments black oxidised.
Wedge faces ground.

Sample order:

K0041.12

Note:

These wedge clamps have a machining allowance per jaw of 3 mm for version K0041.08 and 5 mm for versions K0041.12 and K0041.16. This extra material allows the jaws to be machined to suit the form of the workpiece.

The jaws version K0041.08 and K0041.0810 are not serrated.

Spread width:

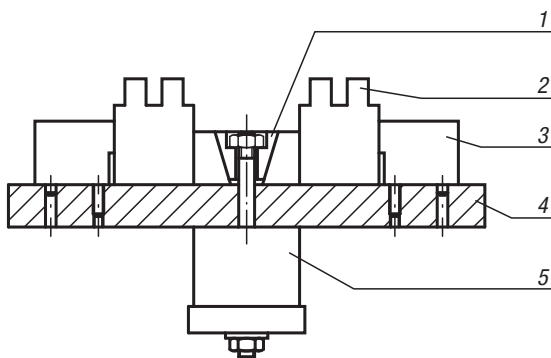
K0041.08 = ±0.5 mm
K0041.12 = ±1.0 mm
K0041.16 = ±1.5 mm

On request:

Pre-formed jaw segments or other hardness grades.

Drawing reference:

- 1) wedge clamps
- 2) workpiece
- 3) fixed stop
- 4) base plate
- 5) hydraulic/pneumatic cylinder

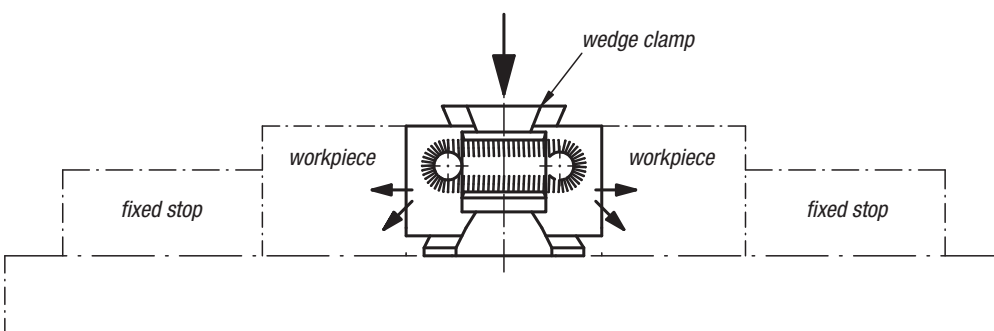
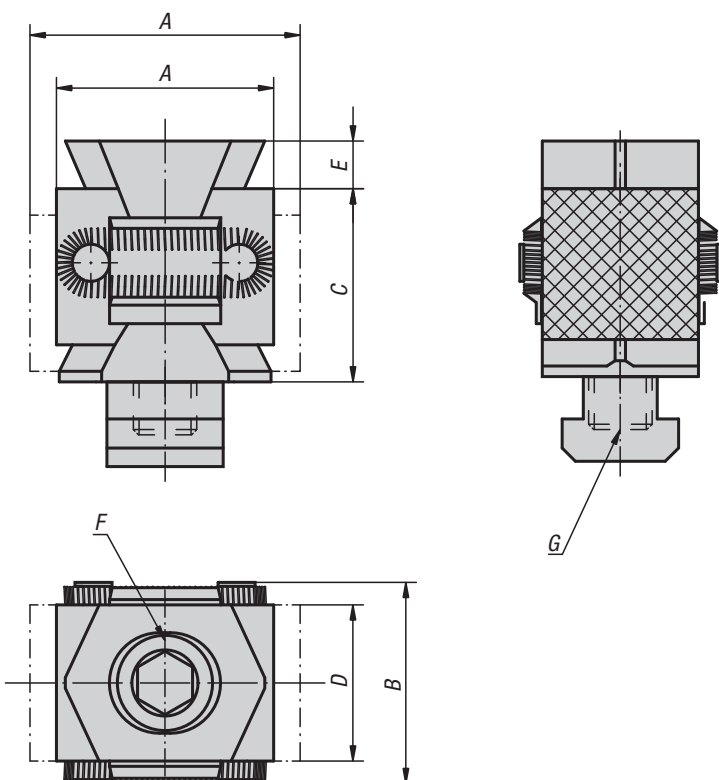


KIPP Wedge clamps machinable

Order No.	A min.	A max.	B	C	D	E	F Socket head screw DIN 912	G	Clamping force kN	Tightening torque Nm
K0041.08	33	37	29	15	21	2,5	M8x25	for tapped hole	15	25
K0041.0810	33	37	29	15	21	2,5	M8x25	for T-slot 10	15	25
K0041.12	52	59	41	22	30	4	M12x40	for tapped hole	30	85
K0041.1214	52	59	41	22	30	4	M12x30	for T-slot 14	30	85
K0041.16	67	76	56	29	42	5	M16x60	for tapped hole	50	210
K0041.1618	67	76	56	29	42	5	M16x50	for T-slot 18	50	210

Wedge clamps double

jaw faces serrated



Material:

Body and jaw segments tool steel.

Version:

Body hardened.

Jaw segments hardened (49-51 HRC) and black oxidised.

Wedge faces ground.

Sample order:

K0042.1214

Note:

The compact design makes these double wedge clamps ideal for horizontal and vertical series clamping. The hardened and ground wedge faces can exert high clamping forces.

These wedge clamps can be mounted in grid holes or T-slots. Tightening the DIN 912 socket screw pulls the wedges together and the jaws out pressing the workpieces against the fixtures fixed stops.

The double wedges create a positive down force.

Spread width:

K0042.12 = ±1.0 mm

K0042.16 = ±1.5 mm

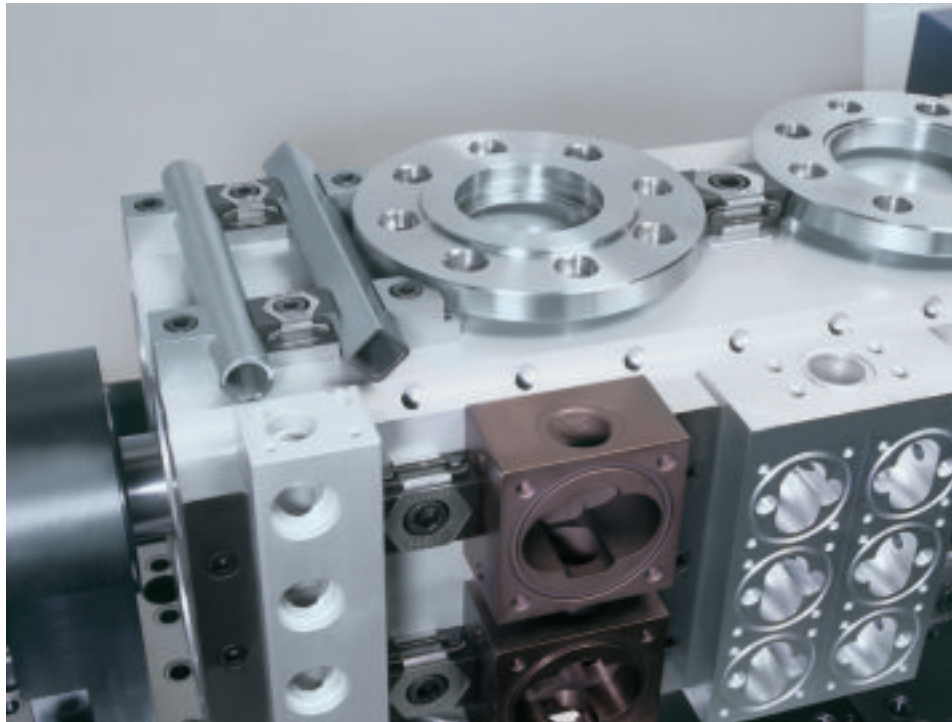
KIPP Wedge clamps double wedge, jaw faces serrated

Order No.	A min.	A max.	B	C	D	E	F Socket head screw DIN 912	G	Clamping force kN	Tightening torque Nm
K0042.12	42	49	41	36	30	5	M12x60	for tapped hole	40	85
K0042.1214	42	49	41	36	30	5	M12x50	for T-slot 14	40	85
K0042.16	57	67	56	50	42	5	M16x80	for tapped hole	60	210
K0042.1618	57	67	56	50	42	5	M16x70	for T-slot 18	60	210

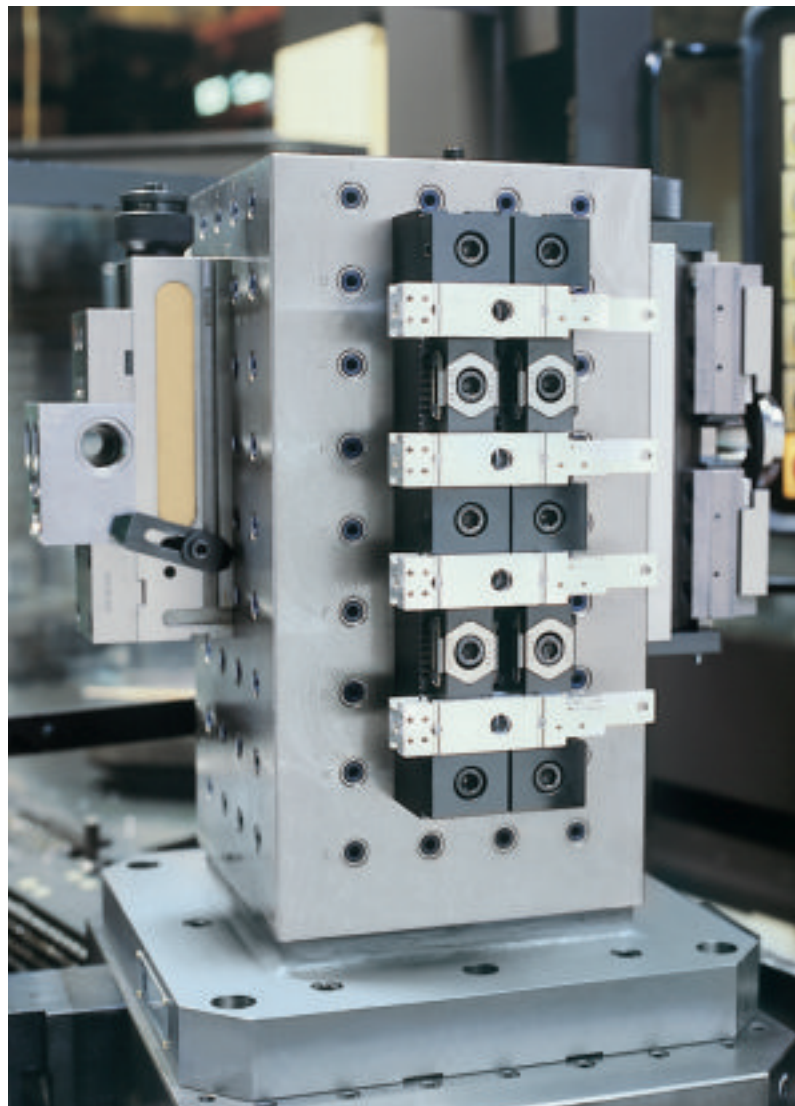
Example of wedge clamps in use



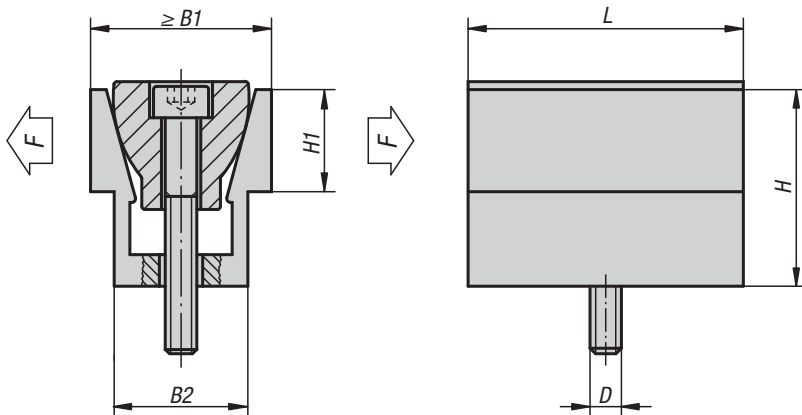
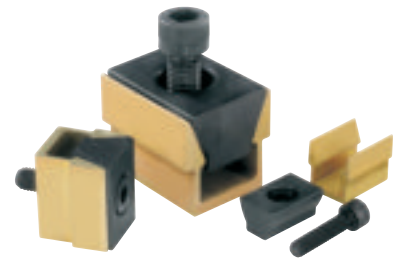
Wedge clamp



Double wedge clamps



Wedge clamps



Material:

Channel aluminium profile.
Wedge hardened steel.

Version:

Channel anodized.
Wedge black oxidised.

Sample order:

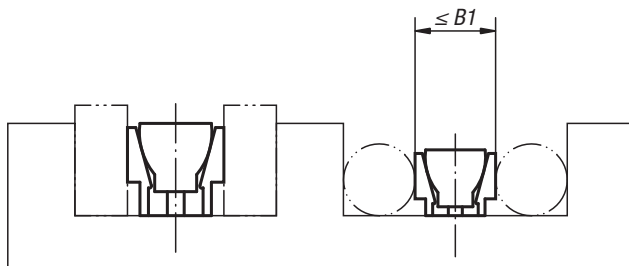
K0037.08

Note:

Two workpieces can be held simultaneously with the wedge clamp. They are ideal for clamping round or rectangular pieces. The compact design allows space-saving series clamping.

Drawing reference:

In clamped position dimension B1 max. given in the table should be achieved.

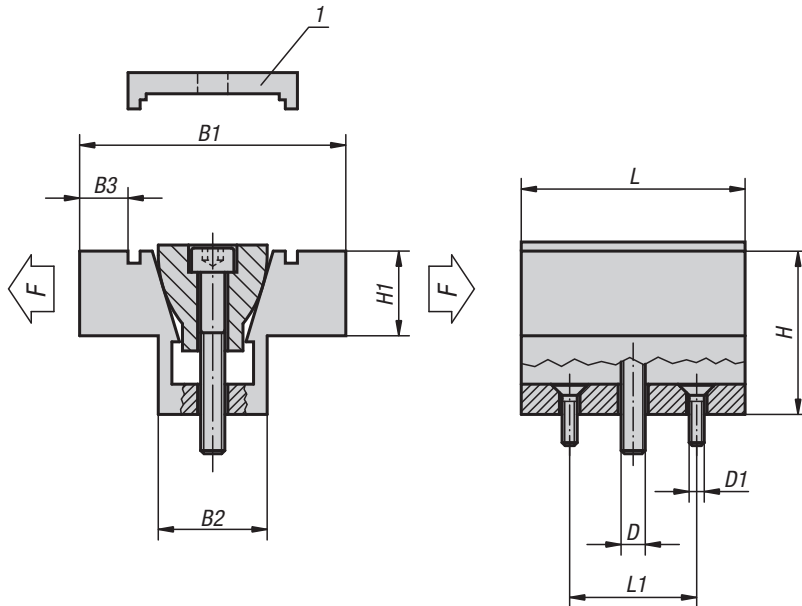
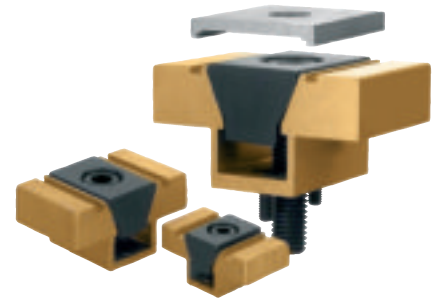


KIPP Wedge clamps

Order No.	D	L	B1 min. - max.	B2	H	H1	F kN	Tightening torque max. Nm
K0037.04	M4	15,9	12,3 - 13,1	10,4	12,7	5,6	2,2	3,4
K0037.06	M6	23,8	18,6 - 19,9	16,1	19	9,5	6,7	14,3
K0037.08	M8	31,7	24,8 - 26,6	20,8	25,4	12,7	8,9	14,5
K0037.12	M12	47,6	37,3 - 39,7	30,8	38,1	19	15,6	38,4
K0037.16	M16	63,5	49,7 - 52,8	41,2	50,8	25,4	26,7	74,6

Wedge clamps

machinable



Material:

Channel aluminium profile.
Wedge hardened steel.

Version:

Channel anodized.
Wedge black oxidised.

Sample order:

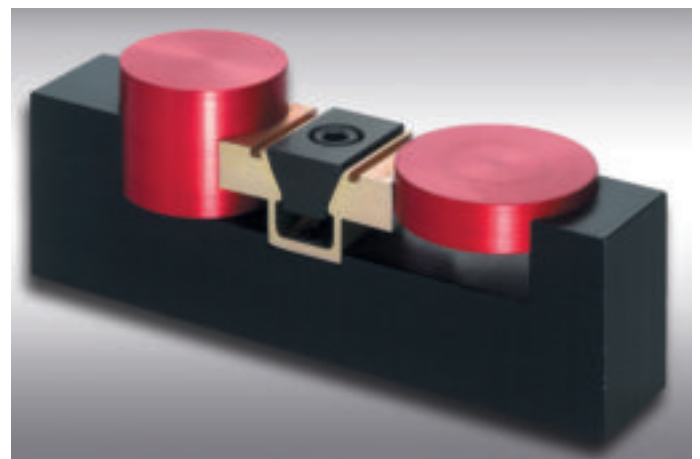
K0038.08

Note:

Two workpieces can be held simultaneously with the wedge clamp. The jaws have extra material allowing them to be machined to conform to the shape of the workpiece. The compact design allows space-saving series clamping.

Drawing reference:

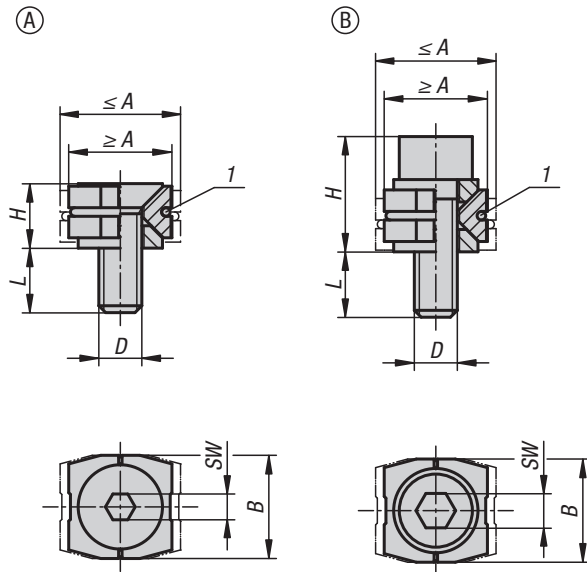
1) The locking plate is only used for machining the form, not for clamping the workpiece.



KIPP Wedge clamps machinable

Order No.	D	D1	L	L1	B1 min. - max.	B2	B3	H	H1	F kN	Tightening torque max. Nm
K0038.04	M4	M2	15,7	10,16	28,6 - 29,1	10,6	4,6	12,7	6,3	2,2	3,4
K0038.06	M6	M4	23,9	15,9	38,1 - 39	16,1	6,6	19,1	9,4	6,7	14,3
K0038.08	M8	M4	31,8	20,6	50,8 - 52	20,8	9,9	25,4	12,7	8,9	14,5
K0038.12	M12	M5	47,5	30,5	76,2 - 78	30,9	15,7	38,1	19	15,6	38,4
K0038.16	M16	M6	63,5	41,28	101,6 - 103,9	41,3	20,3	50,8	25,4	26,7	74,6

Wedge clamps



Material:
Carbon steel.

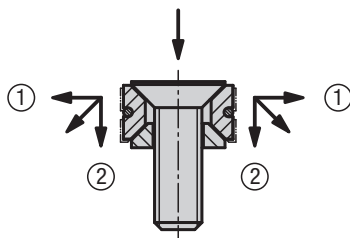
Version:
Jaw plate hardened (33–39 HRC) and black oxidised.

Sample order:
K1167.11205

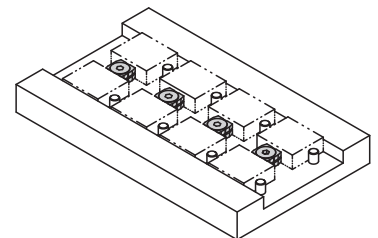
Note:
Due to the functioning principle, wedge clamps are suitable for clamping in series. The wedges generate higher clamping forces. The wedge clamps are available with cap screws or countersunk screws. Wedge clamps with pull-down effect.

Drawing reference:
Dimension L refers to $\leq A$.
Dimension H refers to $\geq A$.

1) O-ring



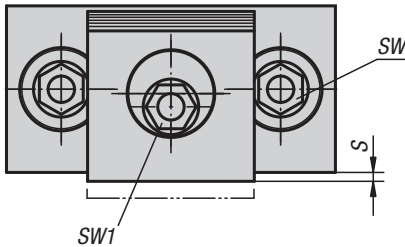
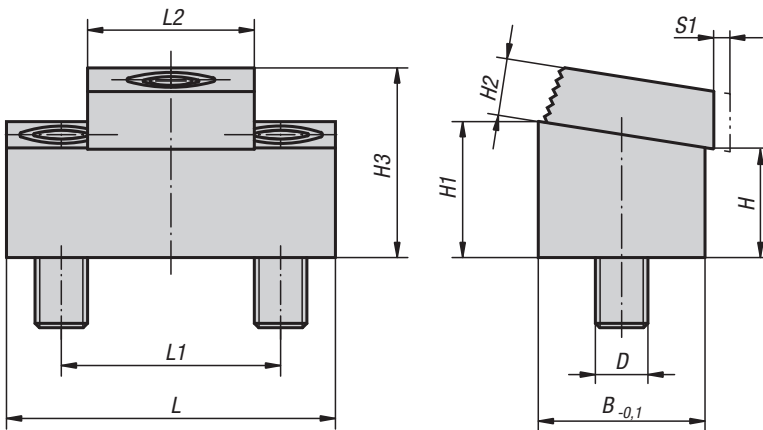
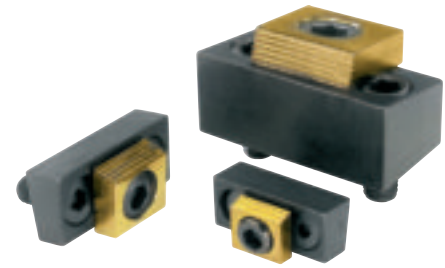
(Jaws exert positive down force)
① Horizontal thrust against workpiece
② Vertical thrust prevents the workpiece lifting



KIPP Wedge clamps

Order No.	Version	Form	A min.	A max.	B	D	H	L	SW	Clamping force kN	Tightening torque Nm
K1167.11205	with countersunk screw	A	12	14	12	M5	7,5	9,5	3	2	4,3
K1167.11506	with countersunk screw	A	15	17	14,8	M6	8,7	9,3	4	3,5	7,3
K1167.11808	with countersunk screw	A	18,5	21,5	18,4	M8	11,8	11,3	5	5	18
K1167.21205	with socket head screw	B	12	14	12	M5	13,4	9,6	4	3	5,4
K1167.21506	with socket head screw	B	15	17	14,8	M6	15,8	10,2	5	4,5	9,1
K1167.21808	with socket head screw	B	18,5	21,5	18,4	M8	21,2	14,9	6	9	22

Toe clamps compact



Material:

Steel.

Version:

Body tempered and black oxidised.

Square washer case-hardened and brass-plated.

Sample order:

K0036.10

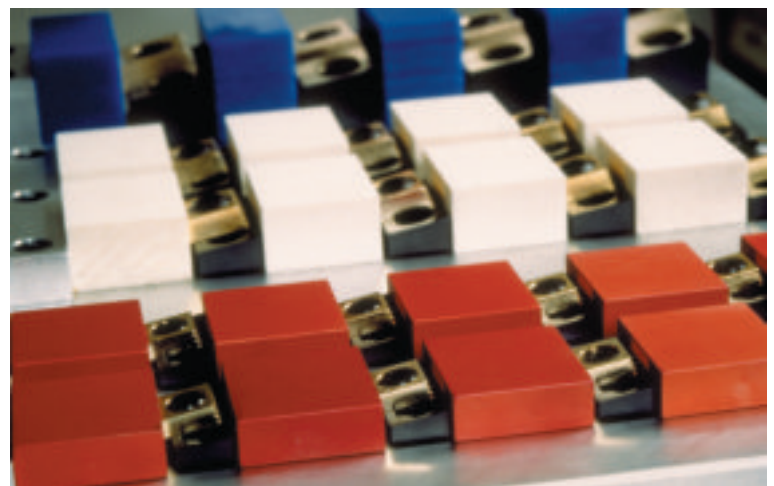
Note:

This cam action compact toe clamp requires very little space to produce multi-fixture clamping.

Workpieces can be clamped in series by using the back side of a clamp as a stop for the next row.

Mount preferably in slots with $B + 0.05$ mm. The height of the clamp can be adjusted by altering the slot depth.

Example of series clamping using compact toe clamps



KIPP Toe clamps compact

Order No.	L	L1	L2	B	H	H1	H2	H3	S	D	S1	SW	SW1	Clamping force kN	Tightening torque max. Nm
K0036.08	43,2	25,4	19	19	12,7	15,7	6,4	21,4	1,5	M8	1,6	5	7	8,9	28
K0036.10	54	33,5	25,4	25,4	11,4	15,4	9,7	24,5	1,8	M10	2	7	8	17,8	88
K0036.12	75	50,8	38	38,1	25,5	31,5	13	43	2,05	M12	2,5	10	12	26,7	135

Cam screws

with hexagon washer



Material:
Cam screw carbon steel.
Hex washer brass.

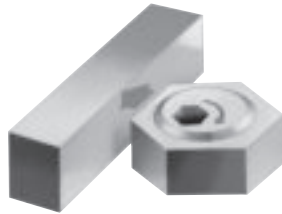
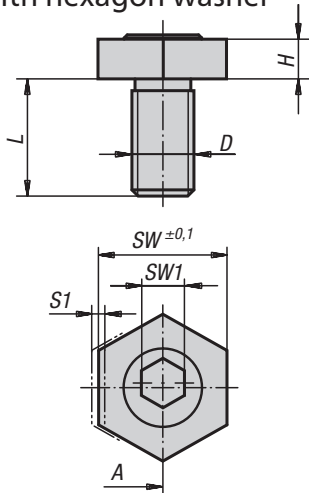
Version:
Cam screw tempered to 10.9 and black oxidised.

Sample order:
K0026.12

Note:
Also called fixture clamps.
The minimal height of this fixture clamp allows numerous clamping problems in fixture and equipment construction to be solved. The brass hex washer offers a gentle yet extremely stable and safe clamping of workpieces. By using several fixture clamps entire pallets can be set-up.

“A” = distance from workpiece to screw centre (cam screw).

On request:
Replacement cam screws.



KIPP Cam screws with hexagon washer

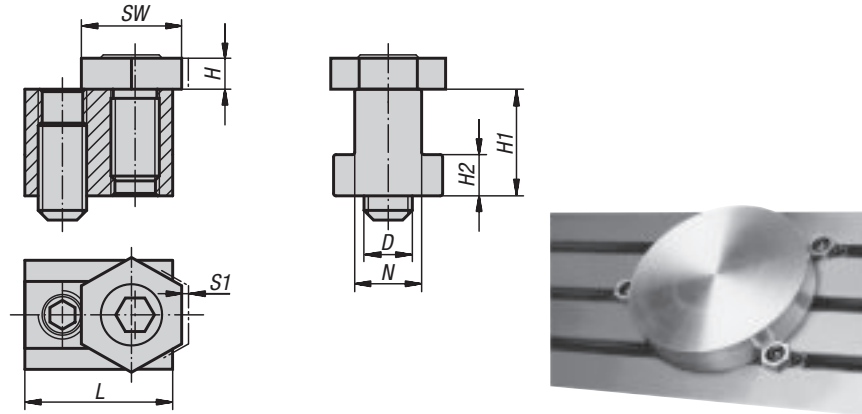
Order No.	A	D	H	L	SW	SW1	S1 (travel)	Clamping force kN	Tightening torque max. Nm
K0026.04	3,8	M4	2,8	10	8	3	0,8	0,9	2,2
K0026.06	7,8	M6	4,8	12	16	4	1	3,4	8,5
K0026.08	10,2	M8	4,8	15	20,6	5	1	3,6	11,3
K0026.10	10,2	M10	6,4	20	20,6	7	1,6	9,0	28,06
K0026.12	12,7	M12	9,5	25	25,4	8	2	18,0	88
K0026.16	15	M16	12,7	30	30,2	12	2,5	27,0	135

Application using fixture clamps



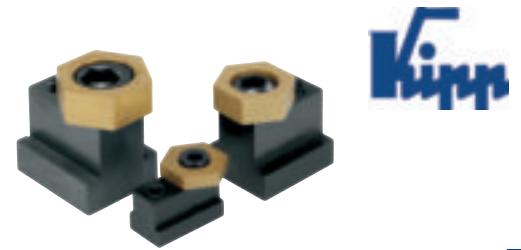
Cam screws

with hexagon washer, for T-slots



KIPP Cam screws with hexagon washer, for T-slots

Order No.	D	N	H	H1	H2	L	SW	S1 (travel)	Clamping force kN
K0027.08	M6	8	4,8	9,6	4,5	23	16	1	3,4
K0027.10	M6	10	4,8	14	4,5	23	16	1	3,4
K0027.12	M8	12	4,8	15,5	6,5	28	21	1	3,6
K0027.14	M10	14	6,4	22	8,5	30,5	21	1,6	9
K0027.16	M12	16	9,5	22,5	9	30,5	25	2	18
K0027.18	M12	18	9,5	28,5	10	34,5	25	2	18
K0027.20	M16	20	12,7	32	12	39	30	2,5	27
K0027.22	M16	22	12,7	38,2	14	44	30	2,5	27



Material:
Carbon steel.
Hex washer brass.

Version:
Tempered to 10.9 and black oxidised.

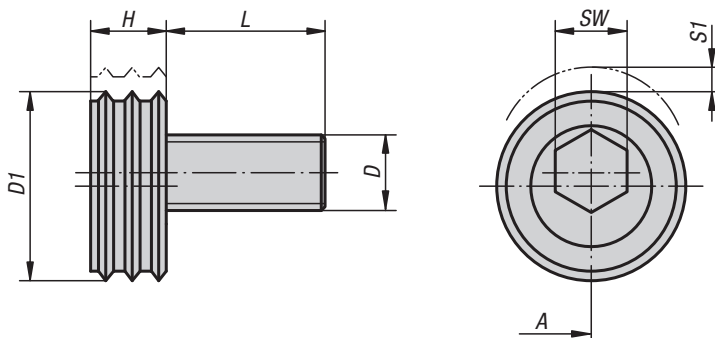
Sample order:
K0027.12

Note:
Also called fixture clamps for T-slots. These fixture clamps can be used directly on machine tables or other tables with T-slots. The grub screw at the rear locks the T-nut in the slot. Thin shims are recommended to prevent marking the bottom of the T-slot.

On request:
Replacement cam screws.

Cam screws

with knife edge washer



Material:
Knife edge washer.
Cam screw carbon steel.

Version:
Cam screw tempered to 10.9 and black oxidised.
Knife edge washer hardened and anodized.

Sample order:
K0025.16

Note:
Also called knife edge clamps. The hardened knife edge washer is suitable for clamping rough cut stock, castings, forgings etc.

"A" = distance from workpiece to screw centre (cam screw).

On request:
Replacement cam screws.

KIPP Cam screws with knife edge washer

Order No.	A	D	D1	L	H	SW	S1 (travel)	Clamping force kN	Tightening torque max. Nm
K0025.12	12,7	M12	25,4	22,5	9,6	8	2	18	88
K0025.16	15	M16	30,1	26,8	12,7	12	2,5	27	135

Fixture clamps machinable



Material:
Cam screw alloyed steel.
Clamping disc steel.

Version:
Cam screw and clamping disc black oxidised.

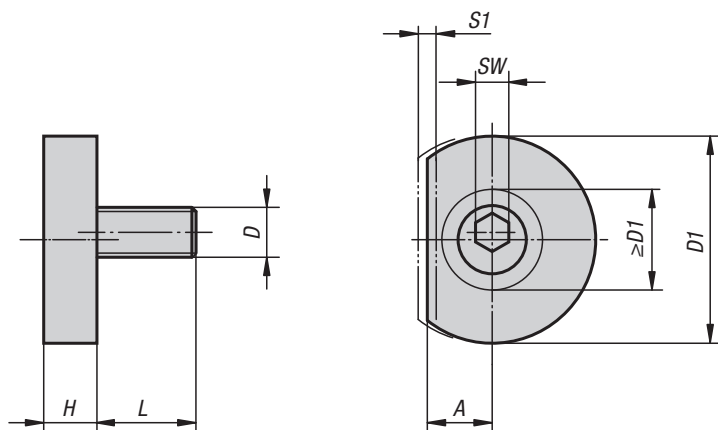
Sample order:
K0022.06

Note:
These fixture clamps have a round washer that can be machined to suit the contour of the workpiece being clamped. This allows positive clamping for round, contoured or fragile workpieces. The flat edge is the same distance from the screw centre as our hexagonal fixture clamps K0026 allowing an interchange between the two.

“A” = distance from workpiece to screw centre (cam screw).

“D1 min.” = maximum depth of contour.

On request:
Replacement cam screws.



KIPP Fixture clamps machinable

Order No.	A	D	D1	D1 min.	H	L	SW	S1 (travel)	Clamping force kN
K0022.06	7,8	M6	24,9	12,1	6,4	11,9	4	1,01	3,3
K0022.10	10,2	M10	31,2	17,2	8,9	18	7	1,52	8,9
K0022.12	12,7	M12	37,6	22,4	11,4	22,9	8	2,03	17,8
K0022.16	15	M16	43,9	26,1	14	28,6	12	2,54	26,7

K0023

Fixture clamps unequal hexagon



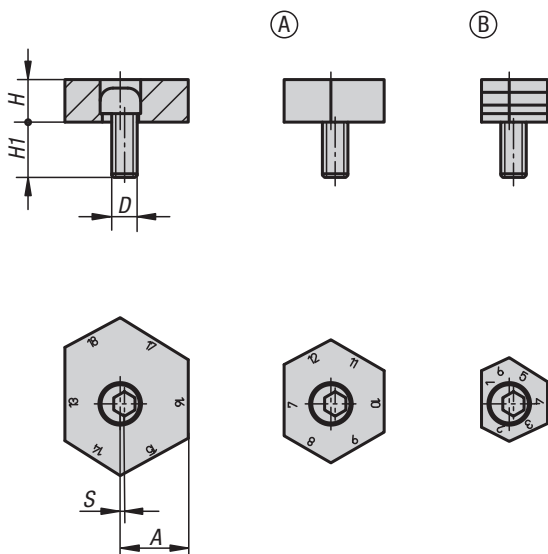
Material:
Cam screw steel tempered to 10.9.
Hexagon washer mild steel.

Version:
Cam screw black oxidised.
Hexagon washer hardened and black oxidised.

Sample order:
K0023.13

Note:
Theses unequal hexagon fixture clamps can minimise the cost of clamping in fixtures. The clamping range can be altered up to 17 mm from the same tapped hole. Simply rotate the hexagon washer.
The washers are available with smooth edges for machined faces or with serrated edges for rough faces.

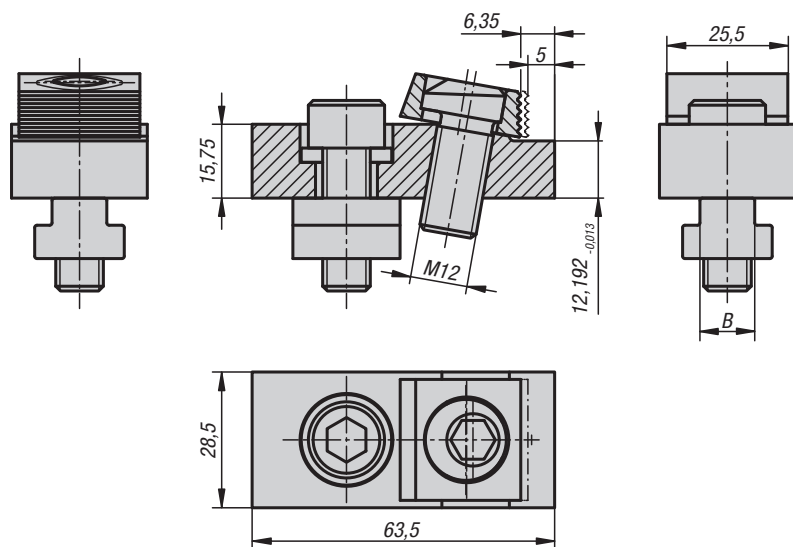
On request:
Replacement cam screws.



KIPP Fixture clamps unequal hexagon

Order No. Form A smooth finish	Order No. Form B notched finish	Distance A by face No.	D	H	H1	S (cam travel)	Clamping force kN
K0023.09	K0023.13	1/12, 2/13, 3/14, 4/15, 5/16, 6/17	M12	10	22	1	18
K0023.10	K0023.14	7/18, 8/19, 9/20, 10/21, 11/22, 12/23	M12	10	22	1	18
K0023.11	K0023.15	13/24, 14/25, 15/26, 16/27, 17/28, 18/29	M12	10	22	1	18

Cam clamps with riser



Material:
Steel.

Version:
Body tempered and black oxidised.
Square washer case hardened and brass-plated.

Sample order:
K0028.16

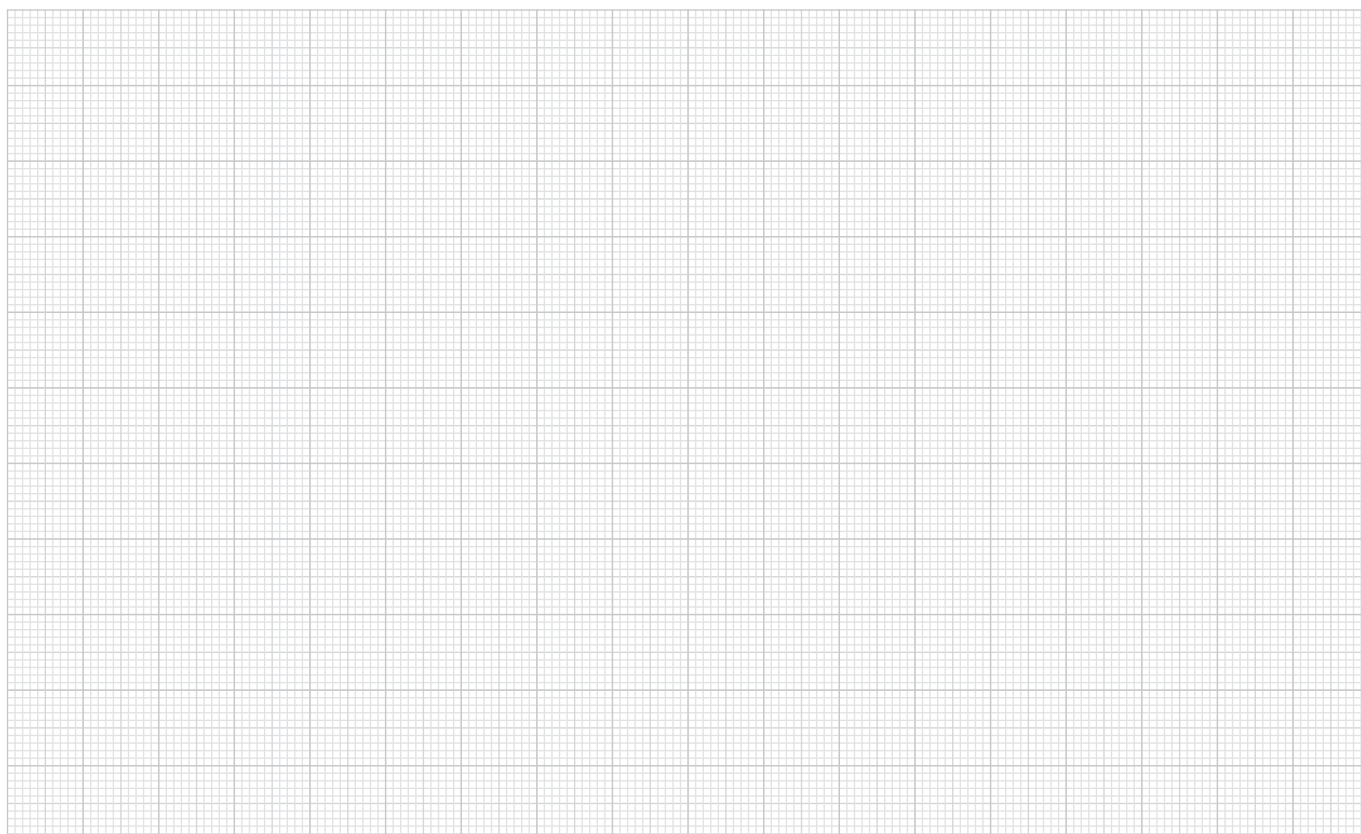
Note:
Also called riser clamps.
These cam clamps with riser can be used directly on machine tables. A positive down force is exerted during clamping.

On request:
Replacement cam screws.

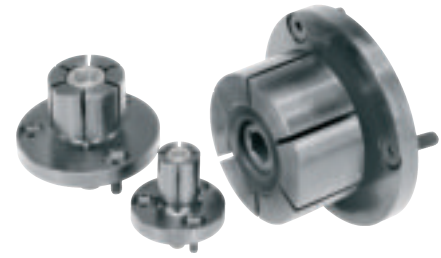
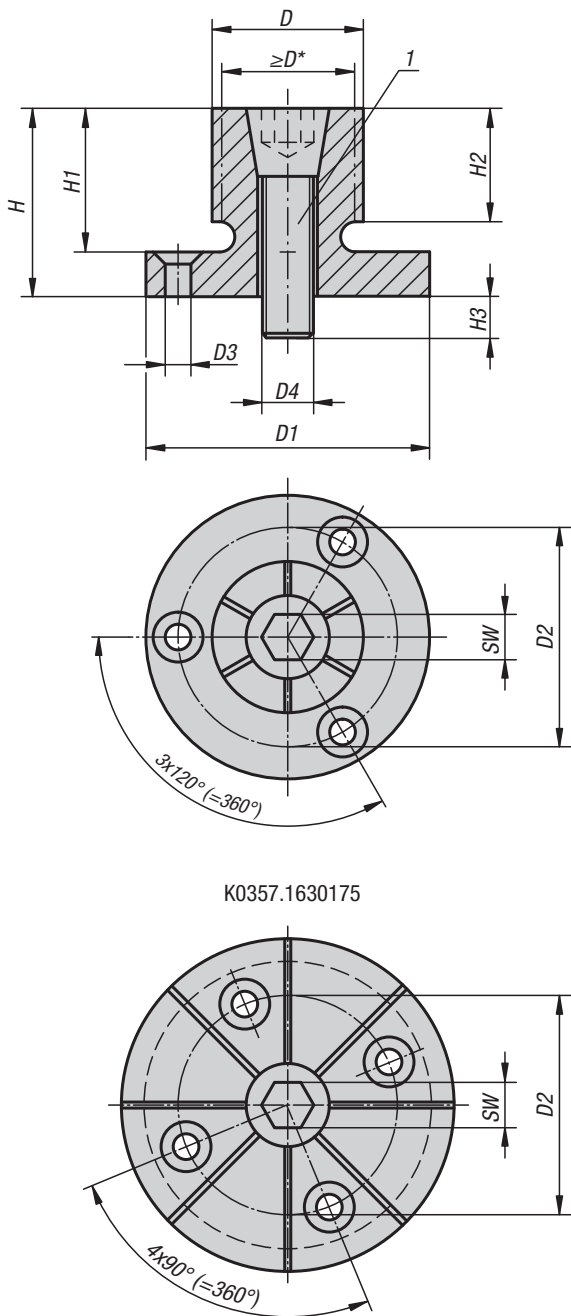
KIPP Cam clamps with riser

Order No.	B Slot width	Clamping force kN
K0028.12	12	12
K0028.14	14	12
K0028.16	16	12
K0028.18	18	12

Notes



Mandrel collets



Material:
Mandrel mild steel.
Taper-head screw low-carbon steel

Version:
Mandrel black oxidised.
Taper-head screw case-hardened.

Sample order:
K0357.081420

Note:
The mandrel collet is ideal for finish machining turned parts. The diameter D can be turned or milled to suit the workpiece ID.
Low design - no interfering clamp straps.
Tightened using a hex socket wrench or hydraulics.

* D min. = smallest diameter to which „D“ may be turned or milled.

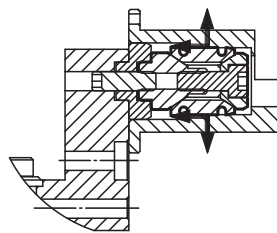
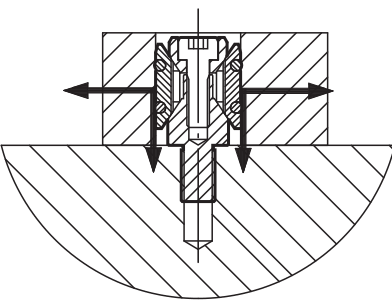
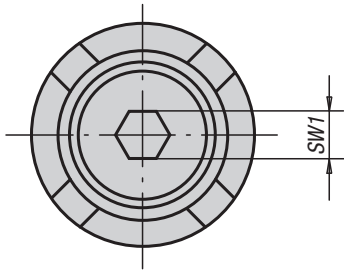
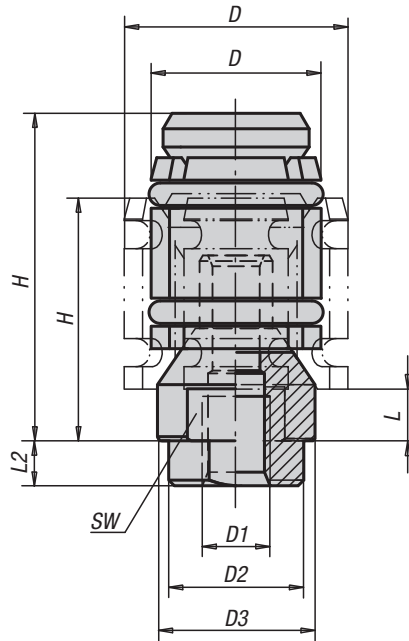
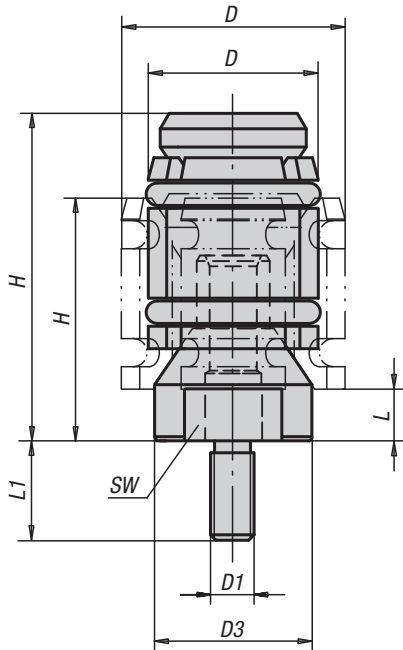
Assembly:
Expand the mandrel approx. 0.1 mm over the relaxed diameter. Turn or mill the mandrel to suit the internal diameter of the workpiece. The base flange can be centred in a pocket or using dowel pins.

Drawing reference:
1) taper-head screw

KIPP Mandrel collets

Order No.	D	D min.	D1	D2	D3 for screw ISO 10642	D4 Tapered-head bolt	H	H1	H2	H3	SW Tapered-head bolt	Tightening torque max. Nm	Clamping force max. kN
K0357.020407	7,4	4,1	20 h9	13,7	M2	M2	10,7	7,6	6,1	4,1	1,5	0,7	1,1
K0357.040812	12,4	8	29,72 h9	21	M3	M4	21,8	16	15	8	3	5	4,2
K0357.061214	14,2	12,2	31,5 h9	23,1	M3	M6	24,9	19	15	12	5	17	8,5
K0357.081420	20	13,5	37,5 h9	29	M3	M8	24,9	19	15	14	6	34	11,1
K0357.062027	27	18	50 h9	39,4	M4	M10	28,6	22,2	17,5	17	8	60	20
K0357.102535	35,3	23	56 h9	45,5	M4	M12	31,8	25,4	20,6	21	10	150	26,3
K0357.123442	42	29,3	69,5 h8	55,9	M5	M16	39,6	31,8	27	22	14	280	44,5
K0357.123452	51,5	29,3	75,5 h9	63,9	M5	M16	39,6	31,8	27	22	14	280	44,5
K0357.163077	77,7	29,3	107,5 h9	92,5	M6	M16	45,5	37,6	32,3	20	14	280	44,5
K0357.1630103	103	29,3	132,9 h9	118	M6	M16	45,5	37,6	32,3	20	14	280	44,5
K0357.1630175	175	29,3	132,9 h9	118	M6	M16	45,5	37,6	32,3	20	14	280	44,5

Centring clamps



Material:
Body steel.
Bushes carbon steel.

Version:
Black oxidised.

Sample order:
K0893.0615

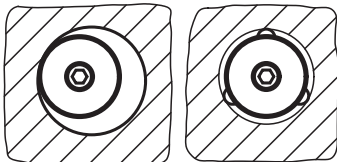
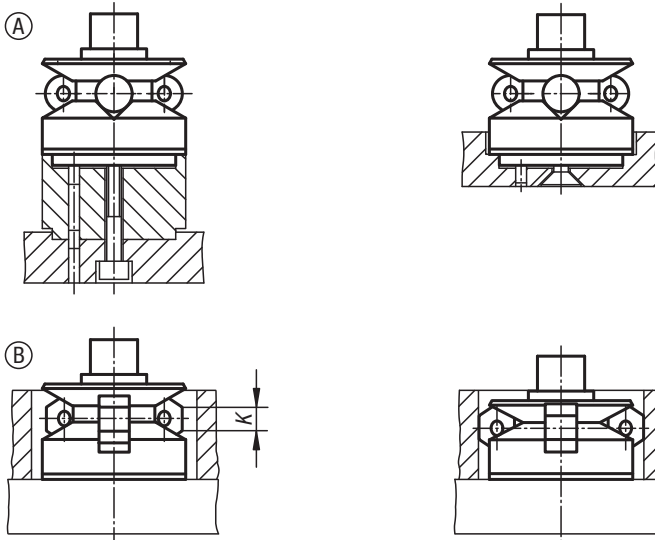
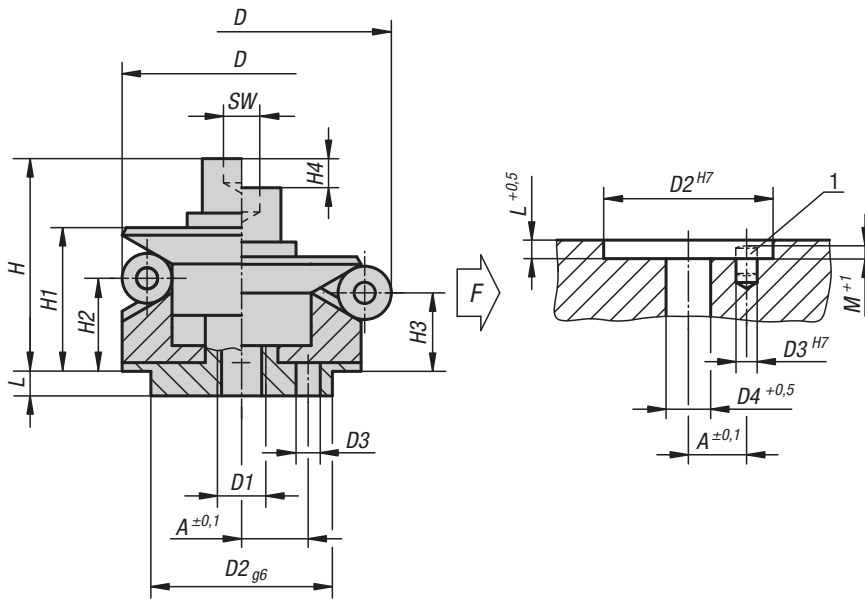
Note:
These centring clamps allow workpieces to be centred on and clamped in a bore. The clamps have a wide expansion range. The series covers a bore range of Ø12 to Ø30 mm. To increase the centring accuracy the clamps with internal thread have a centring spigot (D2) for a locating hole. These are also suitable for M6 grid systems (see application example).

KIPP Centring clamps

Order No.	Version	D1	L1	L2	D min.	D max.	D2	D3	H min.	H max.	L min.	SW	SW1
K0893.0615	internal thread	M6	-	4	12	15	12	11,4	22	27,5	4,8	9	2,5
K0893.0619	internal thread	M6	-	4	15	19	12	14	24,5	32	4,8	12	4
K0893.0624	internal thread	M6	-	4	19	24	12	17,8	26	35	4,5	15	5
K0893.0630	internal thread	M6	-	4	24	30	12	23	32	44,5	7	19	5
K0893.061215	external thread	M6	12	-	12	15	-	11,4	22	27,5	4,8	9	2,5
K0893.061219	external thread	M6	12	-	15	19	-	14	24,5	32	4,8	12	4
K0893.081624	external thread	M8	16	-	19	24	-	17,8	26	35	4,5	15	5
K0893.081630	external thread	M8	16	-	24	30	-	23	32	44,5	7	19	5

Centring clamps

with ball or hexagon segments



Material:

Body 1.2842.
Ball and hex segments 1.4112.
Tension spring 1.4310.

Version:

Body hardened and black oxidised.
Ball and hex segments hardened and ground.

Sample order:

K0358.101203

Note:

Form A: With balls for holes where light marking is acceptable.
Form B: With hexagons for sensitive hole surfaces.

Application:

To position and centre existing bores on the machining surface.

Advantages:

- Precise self-centring.
- Distortion free clamping.
- Large spread range.
- Low overall height.

Technical data:

Repetitive accuracy ± 0.025
Concentric accuracy ± 0.05

Drawing reference:

Form A: With balls for holes where light marking is acceptable.
Form B: With hexagons for sensitive hole surfaces.

1) Mounting aid:

pin to accurately position the mandrel segments.

Centring clamps

with ball or hexagon segments



KIPP Centring clamps with ball segments

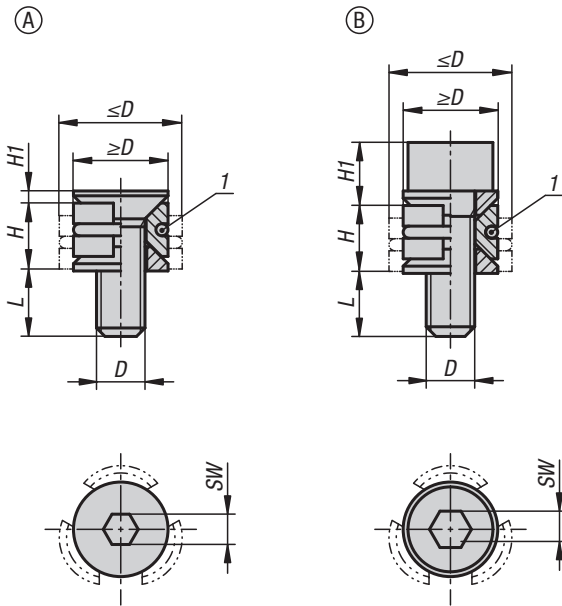
Order No.	Form	A	D min.	D max.	D1	D2	D3	D4	H	H1	H2	H3	H4	L	M	SW	Ball-Ø	No. of balls	F kN
K0358.101203	A	3,5	11,7	14,2	M4	10	1,5	4,3	15	10	4,2	3	1,5	3,5	2,5	3	2,5	3	0,5
K0358.101504	A	4,5	14,5	18,5	M4	12	2	4,3	19,5	14,5	9,8	8,6	2,3	5,5	3	3	4	3	3,5
K0358.101905	A	5,5	18,5	22,5	M5	15	2,5	5,3	23,5	16,5	11,6	10,4	2,3	7,5	3	4	4	3	4
K0358.102306	A	7	22,5	26,5	M6	20	3	6,4	28,8	19,8	14,2	13	2,3	6	4	5	4	3	4,5
K0358.102706	A	7	26,5	30,5	M6	20	3	6,4	28,8	19,8	14,2	13	2,3	6	4,5	5	4	3	4,5
K0358.103106	A	9	30,5	38,5	M6	25	4	6,4	32,7	23,1	14,2	11,9	4,6	7	4,5	5	8	3	4,5
K0358.103908	A	11	38,5	46,5	M8	30	4	8,4	39,2	27,2	17,8	15,5	4,6	7,5	4,5	6	8	6	6,5
K0358.104708	A	11	46,5	54,5	M8	30	4	8,4	39,2	27,2	18	15,7	4,6	7,5	4,5	6	8	6	6,5
K0358.105510	A	15	54,5	70,5	M10	45	5	10,5	54,6	40,6	23,7	19,1	9,3	9	5,5	8	16	6	8
K0358.107112	A	17	70,5	86,5	M12	60	5	13	63,1	46,1	28,3	23,7	9,3	10	5,5	10	16	6	10
K0358.108712	A	25	86,5	102,5	M16	60	5	17	73	51	30,2	25,7	9,3	10	5,5	14	16	6	12,5

KIPP Centring clamps with hexagon segments

Order No.	Form	A	D min.	D max.	D1	D2	D3	D4	H	H1	H2	H3	H4	L	M	K	SW	No. of hex	F kN
K0358.201504	B	4,5	14,5	18,5	M4	12	2	4,3	19,5	14,5	9,8	8,6	2,3	5,5	3	4	3	3	3,5
K0358.201905	B	5,5	18,5	22,5	M5	15	2,5	5,3	23,5	16,5	11,6	10,4	2,3	7,5	3	4	4	3	4
K0358.202306	B	7	22,5	26,5	M6	20	3	6,4	28,8	19,8	14,2	13	2,3	6	4	4	5	3	4,5
K0358.202706	B	7	26,5	30,5	M6	20	3	6,4	28,8	19,8	14,2	13	2,3	6	4,5	4	5	3	4,5
K0358.203106	B	9	30,5	38,5	M6	25	4	6,4	32,7	23,1	14,2	11,9	4,6	7	4,5	8	5	3	4,5
K0358.203908	B	11	38,5	46,5	M8	30	4	8,4	39,2	27,2	17,8	15,5	4,6	7,5	4,5	8	6	6	6,5
K0358.204708	B	11	46,5	54,5	M8	30	4	8,4	39,2	27,2	18	15,7	4,6	7,5	4,5	8	6	6	6,5
K0358.205510	B	15	54,5	70,5	M10	45	5	10,5	54,6	40,6	23,7	19,1	9,3	9	5,5	16	8	6	8
K0358.207112	B	17	70,5	86,5	M12	60	5	13	63,1	46,1	28,3	23,7	9,3	10	5,5	16	10	6	10
K0358.208712	B	25	86,5	102,5	M16	60	5	17	73	51	30,2	25,7	9,3	10	5,5	16	14	6	12,5

Centring clamps

round



Material:
Carbon steel.

Version:
Hardened (33–39 HRC) and black oxidised.

Sample order:
K1166.10804

Note:
The centring clamp enables a workpiece to be centred and clamped in the bore.
The wedges generate higher clamping forces.
The centring clamp is available with a cap screw or countersunk screw.
Centring clamp with pull-down effect.

Drawing reference:
Form A: with countersunk screw
Form B: with cap screw

Dimension H refers to the height at $\geq D$.
1) O-ring

Dimension L refers to the length at $\leq D$

KIPP Centring clamp round

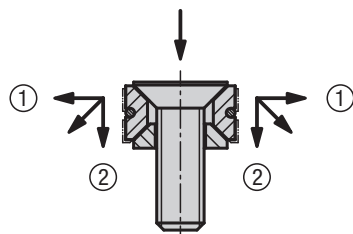
Order No.	Form	D	D min.	D max.	H	H1	L	SW	Clamping force kN	Tightening torque Nm
K1166.10804	A	M4	8	10,3	5,5	0,9	7,3	2,5	0,9	2,1
K1166.11005	A	M5	10	12,3	6,4	1,1	9,1	3	1,5	4,3
K1166.11206	A	M6	12	16,3	8,6	1,3	11,2	4	2,1	7,3
K1166.11608	A	M8	16	22	11,5	1,6	16,2	5	4	18
K1166.20804	B	M4	8	10,3	5,5	5,1	7,1	3	1,5	2,7
K1166.21005	B	M5	10	12,3	6,4	6,2	9	4	2,5	5,4
K1166.21206	B	M6	12	16,3	8,6	7,9	10,6	5	5	9,1
K1166.21608	B	M8	16	22	11,5	10,4	15,4	6	9	25

Centring clamps

round

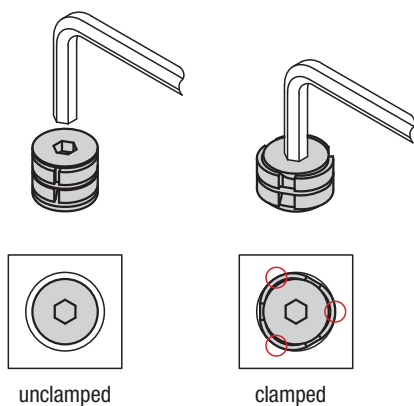
Technical information:

- These clamps grip the inside diameter of a workpiece.
- The wedge shape enables high clamping forces on the workpiece.

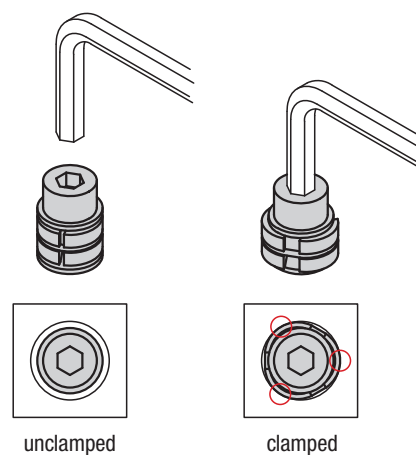


- (Jaws exert positive down force)
- ① Horizontal thrust against workpiece
 - ② Vertical thrust prevents the workpiece lifting

Form A:

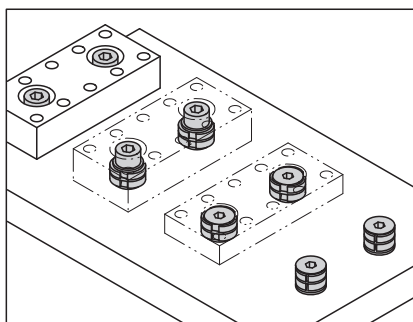


Form B:

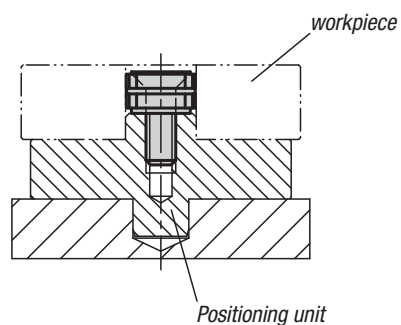


Note:

The clamp makes point contact with the bore wall when clamped.



For accurate repeat positioning use these clamps together with a positioning unit. Clamping is carried out with the centring clamp.

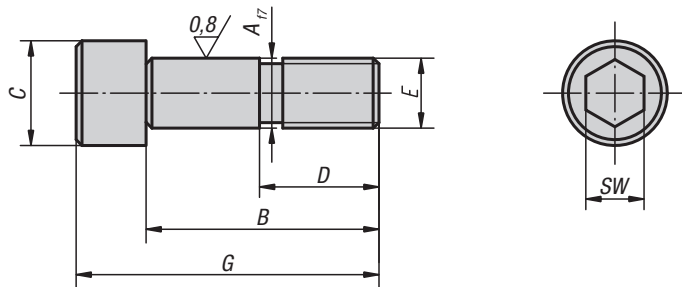


Locating elements



Shoulder screws

Form A



Material:
Carbon steel.

Version:
Tempered, black oxidised.
Precision diameters ground.

Sample order:
K0815.112045

KIPP Shoulder screws Form A

Order No.	A	B	C	D	E	G	SW
K0815.112045	12	45	18	22	M12	57	10
K0815.112055	12	55	18	22	M12	67	10
K0815.112065	12	65	18	22	M12	77	10
K0815.112075	12	75	18	22	M12	87	10
K0815.116055	16	55	24	25	M16	71	14
K0815.116065	16	65	24	25	M16	81	14
K0815.116075	16	75	24	25	M16	91	14

Shoulder screws

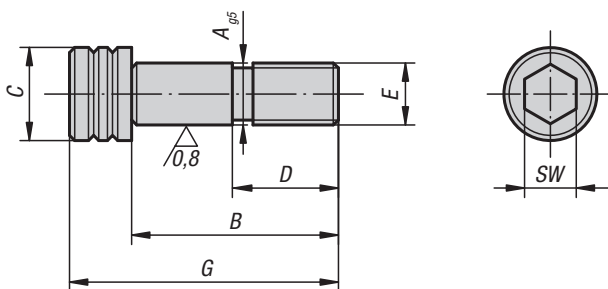
Form B



Material:
Carbon steel.

Version:
Tempered, black oxidised.
Precision diameters ground.

Sample order:
K0815.12065



KIPP Shoulder screws Form B

Order No.	A	B	C	D	E	G	SW
K0815.12045	12	45	18	22	M12	57	10
K0815.12055	12	55	18	22	M12	67	10
K0815.12065	12	65	18	22	M12	77	10
K0815.12075	12	75	18	22	M12	87	10
K0815.16055	16	55	24	25	M16	71	14
K0815.16065	16	65	24	25	M16	81	14
K0815.16075	16	75	24	25	M16	91	14

Removable locating pins Forms A and C

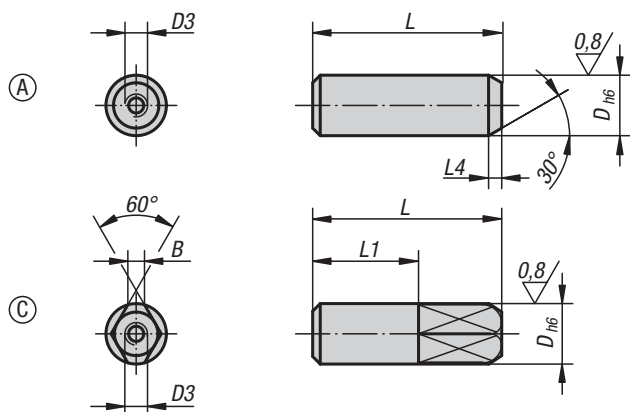


Material:
Tool steel.

Version:
Hardened and ground (HRC 56 +2).

Sample order:
K0817.12

Note:
The locating pins can be easily removed with an extractor.



KIPP Locating pins Form A and C

Order No. Form A	Order No. Form C	D	D3	L	L1	L4	B
K0817.08	K0817.082	8	M3	25	-/14	3/-	-/2,2
K0817.10	K0817.102	10	M3	30	-/17	3/-	-/3
K0817.12	K0817.122	12	M5	34	-/20	4/-	-/3,5
K0817.16	K0817.162	16	M5	42	-/26	4/-	-/5
K0817.20	K0817.202	20	M5	47	-/30	5/-	-/6
K0817.25	K0817.252	25	M5	49	-/30	5/-	-/8

K0818

Removable locating pins Forms B and D

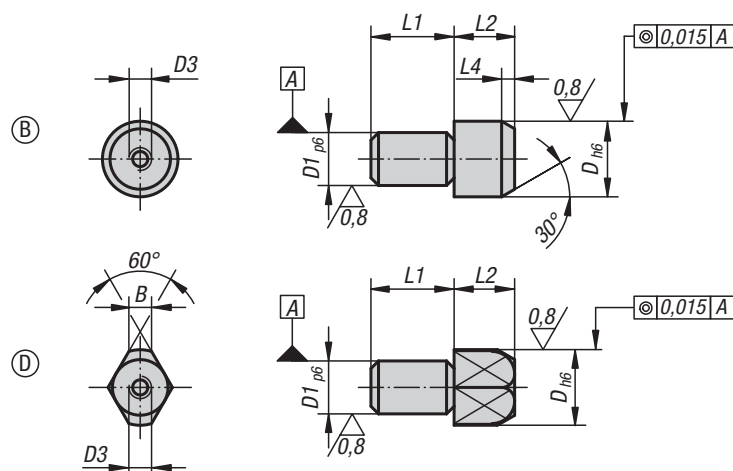


Material:
Tool steel.

Version:
Hardened and ground (HRC 55-60).

Sample order:
K0818.20

Note:
Locating pins can be easily removed with an extractor.

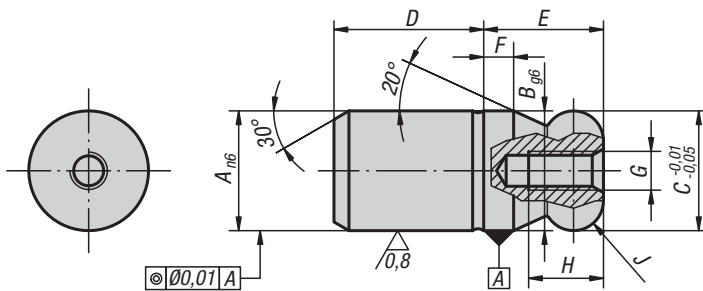


KIPP Locating pins Form B and D

Order No. Form B	Order No. Form D	D	D1	D3	L1	L2	L4	B
K0818.10	K0818.102	10	7	M3	11	11	3	-/3
K0818.12	K0818.122	12	8	M5	13	12	4	-/3,5
K0818.16	K0818.162	16	12	M5	18	14	4,5	-/5
K0818.20	K0818.202	20	14	M5	22	15	5	-/6
K0818.22	K0818.222	22	16	M5	22	17	5	-/7
K0818.25	K0818.252	25	18	M5	25	17	5	-/8

Locating pins

with ball-end Form A



Material:

Tool steel or stainless steel 1.4305.

Version:

Steel hardened and ground.
Stainless steel ground and kolsterised.

Sample order:

K0350.12

Note:

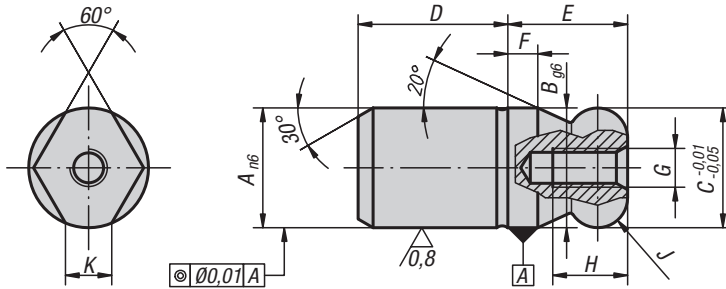
Ball end locating pins are specially designed to ease the locating process. The tendency to jam, caused by the locating hole not being at right angles to the pin or by the pushing force not being parallel to the pin axis, is minimized by the ball-end form (see illustration 1 for K0351 Form B)

KIPP Locating pins with ball-end Form A

Order No. Tool steel	Order No. Stainless steel	A	B	C	D	E	F	G	H	J
K0350.05	K0350.505	5	5	5	6	5	2	M2,5	4,5	R 1
K0350.06	K0350.506	6	6	6	8	6	2	M3	5	R 1
K0350.08	K0350.508	8	8	8	10	8	2	M3	6	R 2
K0350.10	K0350.510	10	10	10	13	10	2,5	M3	6	R 2,5
K0350.12	K0350.512	12	12	12	15	12	3	M4	8	R 3
K0350.14	K0350.514	14	14	14	17	14	3,5	M4	8	R 3,5
K0350.16	K0350.516	16	16	16	20	16	4	M5	10	R 4
K0350.20	K0350.520	20	20	20	25	20	5	M5	10	R 5
K0350.25	-	25	25	25	25	25	6	M5	10	R 6
K0350.30	-	30	30	30	30	30	8	M6	12	R 8
K0350.40	-	40	40	40	40	40	10	M6	12	R 10
K0350.50	-	50	50	50	50	50	12	M6	12	R 12

Locating pins

with flattened ball-end Form C



Material:

Tool steel or stainless steel 1.4305.

Version:

Steel hardened and ground.
Stainless steel ground and kolsterised.

Sample order:

K0350.162

Note:

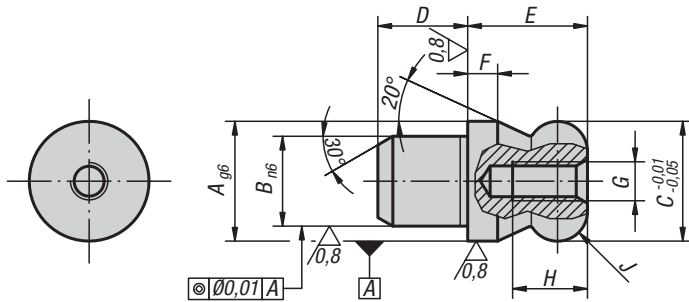
Ball end locating pins are specially designed to ease the locating process. The tendency to jam, caused by the locating hole not being at right angles to the pin or by the pushing force not being parallel to the pin axis, is minimized by the ball-end form (see illustration 1 for K0351 Form B)

KIPP Locating pins with flattened ball-end Form C

Order No. Tool steel	Order No. Stainless steel	A	B	C	D	E	F	G	H	J	K
K0350.052	K0350.5052	5	5	5	6	5	2	M2,5	4,5	R 1	1,5
K0350.062	K0350.5062	6	6	6	8	6	2	M3	5	R 1	1,8
K0350.082	K0350.5082	8	8	8	10	8	2	M3	6	R 2	1,9
K0350.102	K0350.5102	10	10	10	13	10	2,5	M3	6	R 2,5	2,5
K0350.122	K0350.5122	12	12	12	15	12	3	M4	8	R 3	2,5
K0350.142	K0350.5142	14	14	14	17	14	3,5	M4	8	R 3,5	3,9
K0350.162	K0350.5162	16	16	16	20	16	4	M5	10	R 4	4,3
K0350.202	K0350.5202	20	20	20	25	20	5	M5	10	R 5	5
K0350.252	-	25	25	25	25	25	6	M5	10	R 6	5,6
K0350.302	-	30	30	30	30	30	8	M6	12	R 8	8,8
K0350.402	-	40	40	40	40	40	10	M6	12	R 10	12,8
K0350.502	-	50	50	50	50	50	12	M6	12	R 12	16,7

Locating pins

with ball-end Form B



Material:

Tool steel or stainless steel 1.4305.

Version:

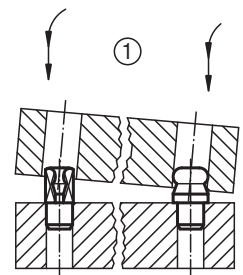
Steel hardened and ground.
Stainless steel ground and kolsterised.

Sample order:

K0351.20

Note:

Ball end locating pins are specially designed to ease the locating process. The tendency to jam, caused by the locating hole not being at right angles to the pin or by the pushing force not being parallel to the pin axis, is minimized by the ball-end form (see illustration 1).

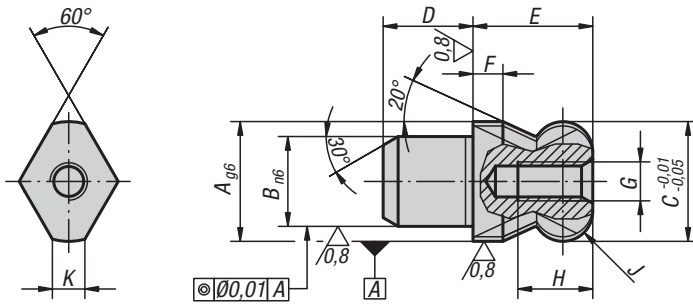


KIPP Locating pins with ball-end Form B

Order No. Tool steel	Order No. Stainless steel	A	B	C	D	E	F	G	H	J
K0351.06	K0351.506	6	4	6	4	6	2	M2,5	4,5	R 1
K0351.08	K0351.508	8	6	8	6	8	2	M3	6	R 2
K0351.10	K0351.510	10	7	10	7	10	2,5	M3	6	R 2,5
K0351.12	K0351.512	12	8	12	8	12	3	M4	8	R 3
K0351.14	K0351.514	14	10	14	10	14	3,5	M4	8	R 3,5
K0351.16	K0351.516	16	12	16	12	16	4	M5	10	R 4
K0351.20	K0351.520	20	14	20	14	20	5	M5	10	R 5
K0351.22	-	22	16	22	16	22	5,5	M5	10	R 5,5
K0351.25	-	25	18	25	18	25	6	M5	10	R 6

Locating pins

with flattened ball-end Form D



Material:

Tool steel or stainless steel 1.4305.

Version:

Steel hardened and ground.
Stainless steel ground and kolsterised.

Sample order:

K0351.162

Note:

Ball end locating pins are specially designed to ease the locating process. The tendency to jam, caused by the locating hole not being at right angles to the pin or by the pushing force not being parallel to the pin axis, is minimized by the ball-end form (see illustration 1 for K0351 Form B)

KIPP Locating pins with flattened ball-end Form D

Order No. Tool steel	Order No. Stainless steel	A	B	C	D	E	F	G	H	J	K
K0351.062	K0351.5062	6	4	6	4	6	2	M2,5	4,5	R 1	1,7
K0351.082	K0351.5082	8	6	8	6	8	2	M3	6	R 2	2
K0351.102	K0351.5102	10	7	10	7	10	2,5	M3	6	R 2,5	2,5
K0351.122	K0351.5122	12	8	12	8	12	3	M4	8	R 3	2,5
K0351.142	K0351.5142	14	10	14	10	14	3,5	M4	8	R 3,5	3,76
K0351.162	K0351.5162	16	12	16	12	16	4	M5	10	R 4	4,3
K0351.202	K0351.5202	20	14	20	14	20	5	M5	10	R 5	5
K0351.222	-	22	16	22	16	22	5,5	M5	10	R 5,5	5
K0351.252	-	25	18	25	18	25	6	M5	10	R 6	5,6

Locating pins

with internal thread



Material:

Steel.

Version:

Hardened and ground (HRC 60 ±2).

Sample order:

K1094.208

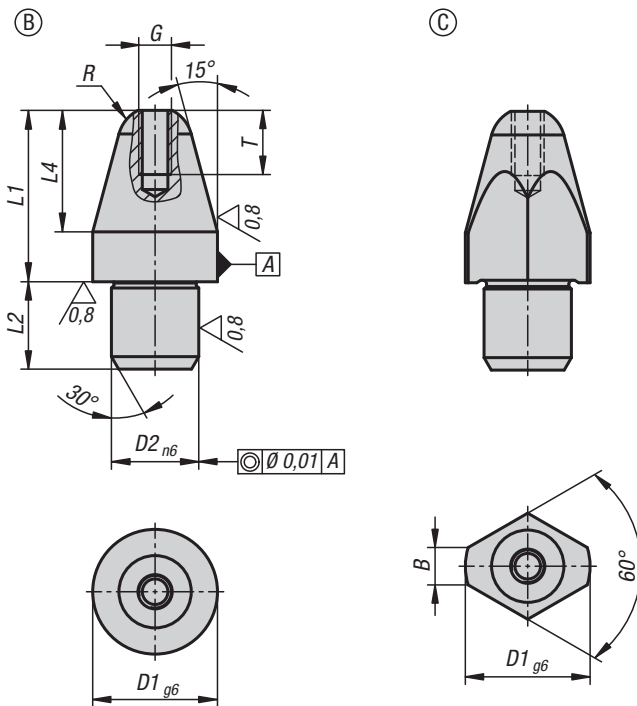
Note:

Locating pins are specially designed to ease the locating process. When used in conjunction with the hardened locating bushes K1095, they allow for a rapid, precise and low-wear workpiece exchange.

Drawing reference:

Form B: cylindrical pin

Form C: rhomboid pin



KIPP Locating pins, short

Order No. Form B	Order No. Form C	Version	D1	D2	G	L1	L2	L4	R	B	T
K1094.208	K1094.408	short	8	6	M2,5	11,4	6	7,4	2,5	-/2,5	5
K1094.210	K1094.410	short	10	7	M2,5	13,7	7	9,7	3	-/3,0	5
K1094.212	K1094.412	short	12	8	M3	16	8	12	3,5	-/3,5	6
K1094.216	K1094.416	short	16	12	M4	20	12	15	5	-/5	8
K1094.220	K1094.420	short	20	14	M5	25,5	14	19,5	6	-/6	10

KIPP Locating pins, long

Order No. Form B	Order No. Form C	Version	D1	D2	G	L1	L2	L4	R	B	T
K1094.308	K1094.508	long	8	6	M2,5	17,4	6	7,4	2,5	-/2,5	5
K1094.310	K1094.510	long	10	7	M2,5	21,7	7	9,7	3	-/3,0	5
K1094.312	K1094.512	long	12	8	M3	24	8	12	3,5	-/3,5	6
K1094.316	K1094.516	long	16	12	M4	29	12	15	5	-/5	8
K1094.320	K1094.520	long	20	14	M5	35,5	14	19,5	6	-/6	10

Locating bushes

for locating pins



Material:

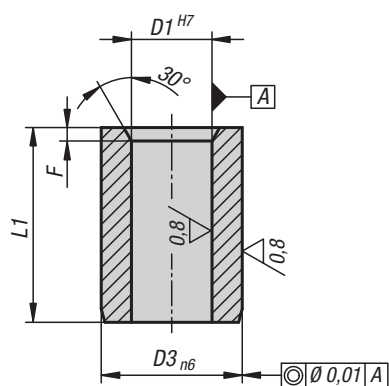
Steel.

Version:

Hardened and ground (HRC 60 ±2).

Sample order:

K1095.0812



KIPP Locating bushes for locating pins

Order No.	Version	D1	D3	L1	F
K1095.0812	short	8	12	12	1,2
K1095.1014	short	10	15	14	1,5
K1095.1216	short	12	18	16	1,5
K1095.1620	short	16	26	20	1,5
K1095.2026	short	20	30	26	2,5
K1095.0818	long	8	12	18	1,2
K1095.1022	long	10	15	22	1,5
K1095.1224	long	12	18	24	1,5
K1095.1630	long	16	26	30	1,5
K1095.2036	long	20	30	36	2,5

Locating pins expanding



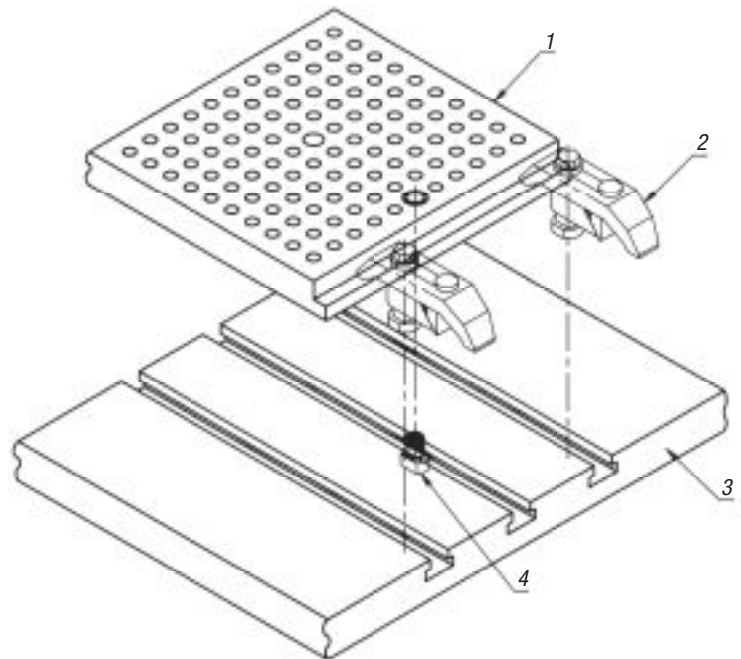
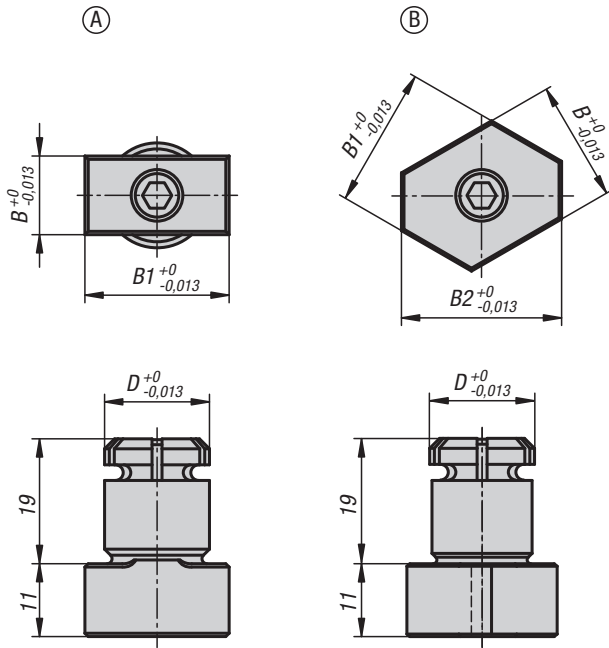
Material:
Carbon steel.

Version:
Tempered and black oxidised.
Locating diameter and guide faces ground.

Sample order:
K0356.1610

Note:
These expanding locating pins enable e.g. tooling plates to be positioned in the T-slots of machine tables (see illustration).
The plates to be positioned must have two holes matching the expanding pin diameter.
The expansion screw has a broached through hexagonal hole allowing the pin to be tightened or loosened from two sides.

Drawing reference:
1) tooling plate
2) clamp straps
3) machine table
4) expanding locating pin



KIPP Locating pins, expanding

Order No.	Form	D	B	B1	B2	Recommended \emptyset
K0356.1610	A	16	10	20	-	16,01 \pm 0,01
K0356.1612	A	16	12	22	-	16,01 \pm 0,01
K0356.1614	B	16	14	16	18	16,01 \pm 0,01
K0356.2024	B	20	24	28	32	20,01 \pm 0,01

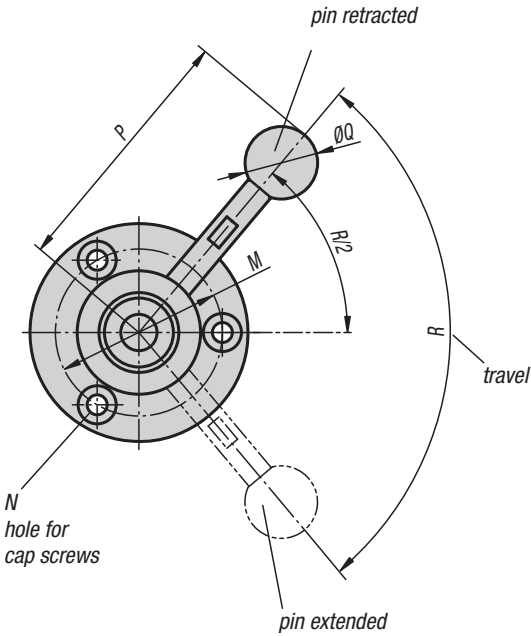
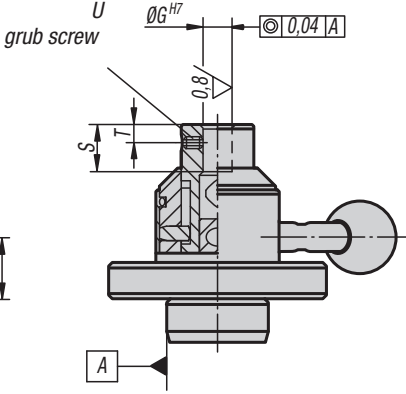
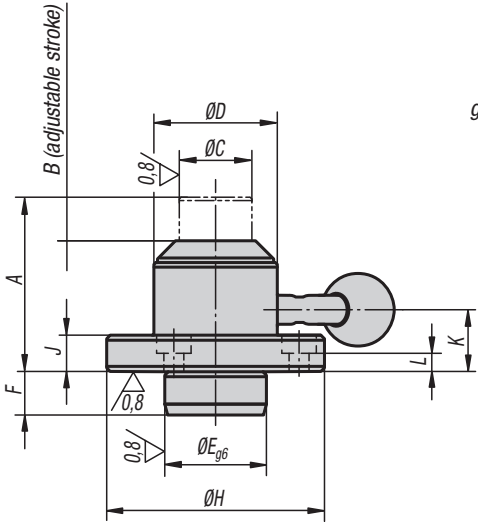
Positioning units



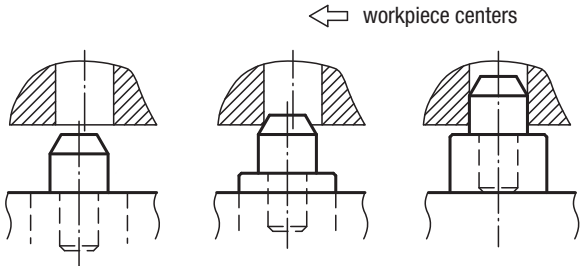
Material, version:
 Body and locating pin carbon steel, tempered and black oxidised.
 Handle carbon steel, tempered.
 Ball knob black Duroplast PF 31.

Sample order:
 K0918.2808

Note:
 * Admissible hand force for the handle.
 ** Workpieces up to this weight can be located.



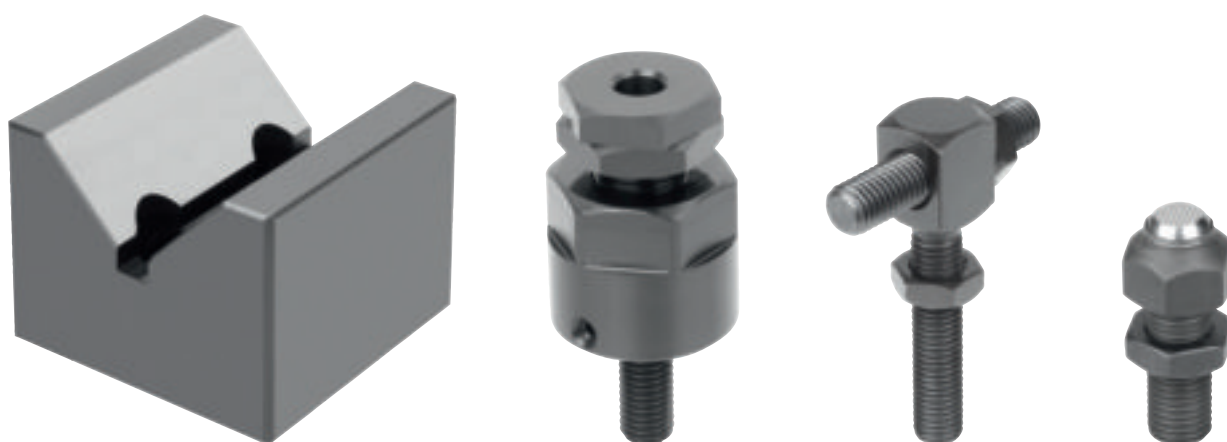
- 1. roughly position
- 2. raise pin
- 3. located



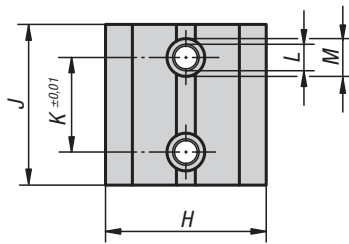
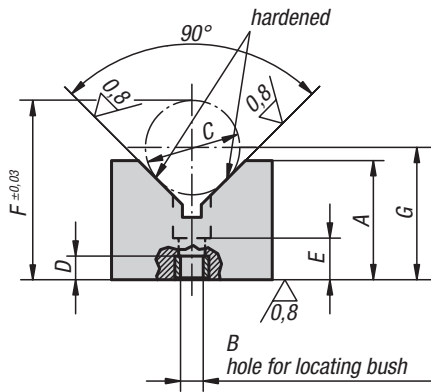
KIPP Positioning units

Order No.	A	B	C	D	E	F	G	H	J	K	L	M	N	P	Q	R	S	T	U	Hand force FH N	Max. workpiece weight kg
K0918.2808	48	12	20	34	28	12	8	60	10	17	5	46	M5	71	20	100	13	5	M4x5	150*	250**
K0918.4212	61	15	30	48	42	14	12	80	13	23	7	63	M6	94	25	90	15	8	M6x8	200*	300**

Rest and stop elements



V-blocks, vertical



Material:
Carbon steel.

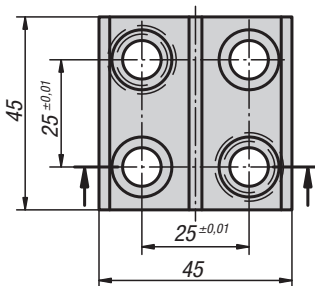
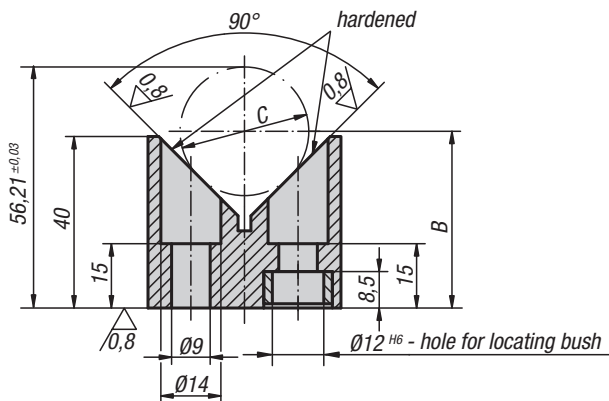
Version:
Black oxidised.
Prism and contact faces ground.

Sample order:
K0819.60008032

KIPP V-blocks vertical

Order No.	A	B Ø for locating bush	C min.	C max.	C Test-Ø	D	E	F	G	H	J	K	L	M
K0819.60008032	32	12 H6	10	25	15±0,003	8,5	13	40,1	C/2 x√2+22	25	45	25	9	14

V-blocks, vertical



Material:
Carbon steel.

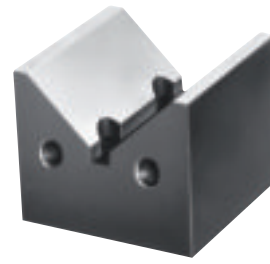
Version:
Black oxidised.
Prism and contact faces ground.

Sample order:
K0819.60008040

KIPP V-blocks vertical

Order No.	C min.	C max.	C Test-Ø	B
K0819.60008040	15	50	30±0,003	C/2x√2+20

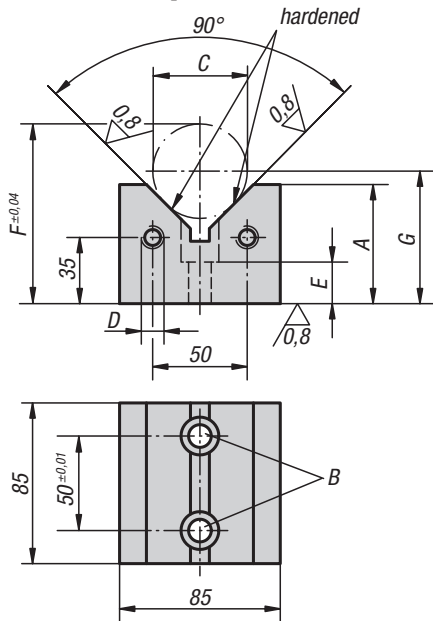
V-blocks, vertical



Material:
Carbon steel.

Version:
Black oxidised.
Prism and contact faces ground.

Sample order:
K0819.60012063



KIPP V-blocks vertical

Order No.	A	B Ø for shoulder screw	C min.	C max.	C Test-Ø	D	E	F	G	Suitable shoulder screw
K0819.60012063	63	12 F7	15	80	50±0,003	M12	22	95,071	C/2 x/√2+34,716	K0815.112055
K0819.60012075	75	12 F7	15	100	70±0,003	M12	22	124,142	C/2 x/√2+39,645	K0815.112055
K0819.60016063	63	16 F7	15	80	50±0,003	M16	25	95,071	C/2 x/√2+34,716	K0815.116065
K0819.60016075	75	16 F7	15	100	70±0,003	M16	25	124,142	C/2 x/√2+39,645	K0815.116065

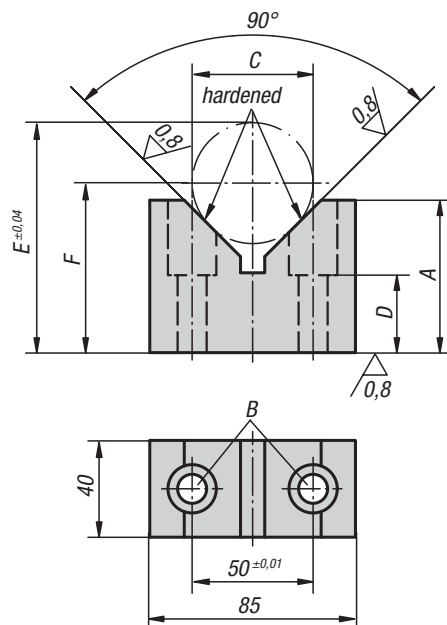
V-blocks, vertical



Material:
Carbon steel.

Version:
Black oxidised.
Prism and contact faces ground.

Sample order:
K0819.60512063



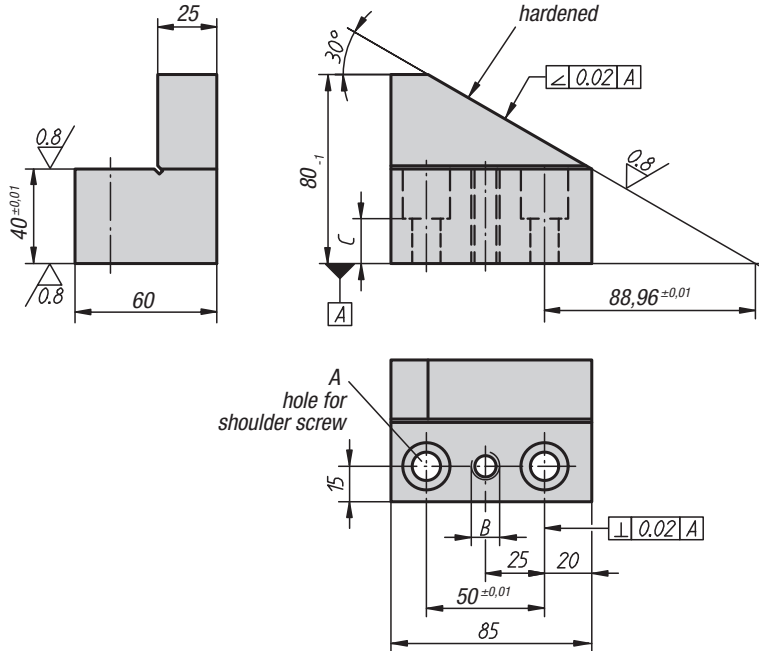
KIPP V-blocks, vertical

Order No.	A	B Ø for shoulder screw	C min.	C max.	C Test-Ø	D	E	F	Suitable shoulder screw
K0819.60512063	63	12 F7	15	80	50±0,003	32	95,071	C/2x/√2+34,716	K0815.112065
K0819.60512075	75	12 F7	15	100	70±0,003	32	124,142	C/2x/√2+39,645	K0815.112065
K0819.60516063	63	16 F7	15	80	50±0,003	25	95,071	C/2x/√2+34,716	K0815.116065
K0819.60516075	75	16 F7	15	100	70±0,003	25	124,142	C/2x/√2+39,645	K0815.116065

V-blocks split



left hand



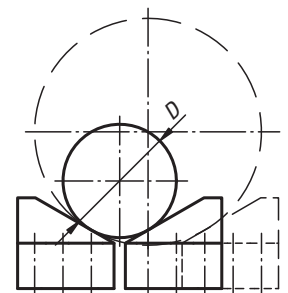
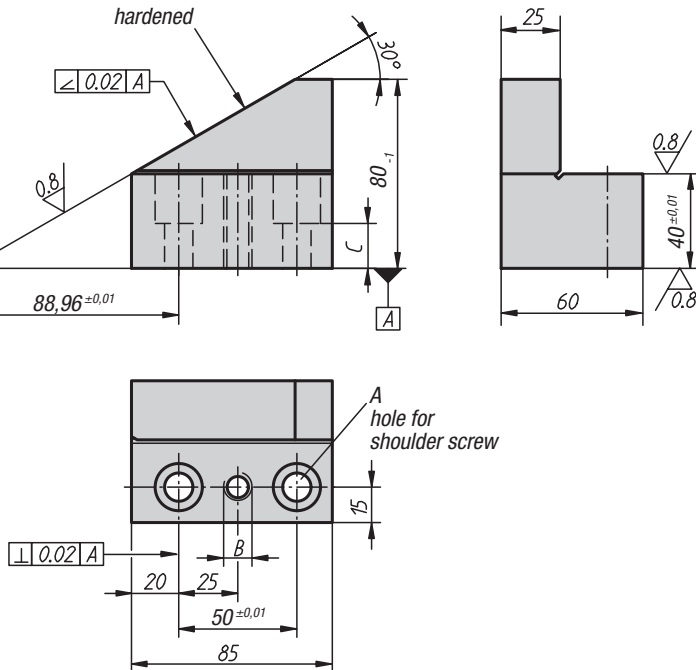
Material:
Carbon steel.

Version:
Black oxidised.
Half prism (30°) and contact faces ground.

Sample order:
K0819.6301230

Note:
Right-hand and left-hand split V-blocks are used for positioning round parts. Split V-blocks permit adjustment to the respective workpiece diameter.

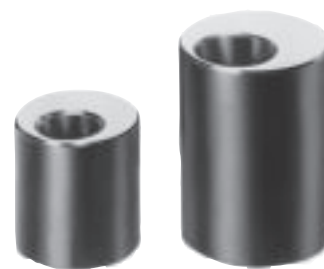
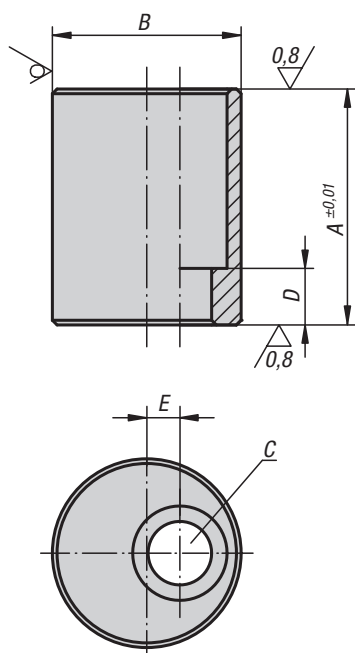
right hand



KIPP V-blocks split

Order No. right	Order No. left	A	B	C	D min.	D max.	Suitable shoulder screw
K0819.6301230	K0819.6311230	12 F7	M12	23	50	600	K0815.112055
K0819.6301630	K0819.6311630	16 F7	M16	20	50	600	K0815.116055

Eccentric supports



Material:
Special steel alloy.

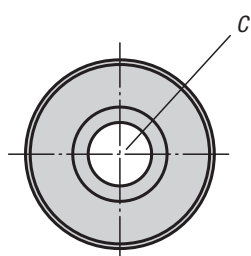
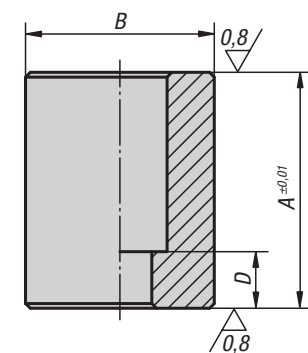
Version:
Tempered, black oxidised.
Contact faces ground.

Sample order:
K0822.10040

KIPP Eccentric supports

Order No.	A	B	C hole for DIN 912 cap screw	D	E
K0822.08016	16	25	M8	7	3,5
K0822.08020	20	25	M8	7	3,5
K0822.08025	25	25	M8	7	3,5
K0822.08032	32	25	M8	7	3,5
K0822.08040	40	25	M8	7	3,5
K0822.08050	50	25	M8	7	3,5
K0822.10020	20	32	M10	9	5
K0822.10025	25	32	M10	9	5
K0822.10032	32	32	M10	9	5
K0822.10040	40	32	M10	9	5
K0822.10050	50	32	M10	9	5
K0822.10063	63	32	M10	9	5
K0822.12020	20	40	M12	7	7
K0822.12025	25	40	M12	12	7
K0822.12032	32	40	M12	12	7
K0822.12040	40	40	M12	12	7
K0822.12050	50	40	M12	12	7
K0822.12063	63	40	M12	12	7
K0822.12080	80	40	M12	22	7
K0822.12100	100	40	M12	22	7
K0822.12125	125	40	M12	22	7
K0822.16025	25	50	M16	8	10
K0822.16032	32	50	M16	15	10
K0822.16040	40	50	M16	15	10
K0822.16050	50	50	M16	15	10
K0822.16063	63	50	M16	15	10
K0822.16080	80	50	M16	35	10
K0822.16100	100	50	M16	35	10
K0822.16125	125	50	M16	35	10

Supports



Material:
Carbon steel.

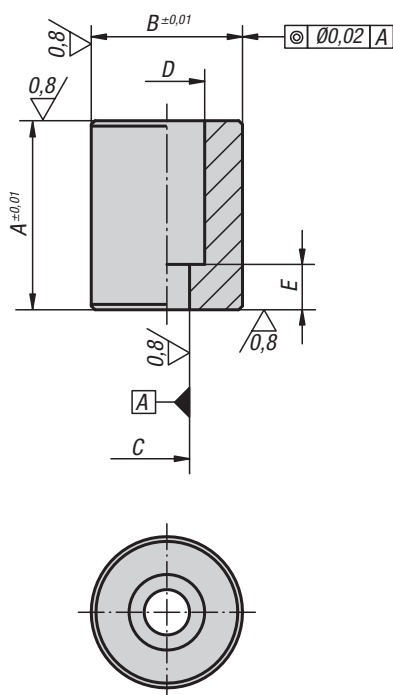
Version:
Tempered, black oxidised.
Contact faces ground.

Sample order:
K0823.08016

KIPP Supports

Order No.	A	B	C hole for DIN 912 cap screw	D
K0823.08016	16	25	M8	7
K0823.08020	20	25	M8	7
K0823.08025	25	25	M8	7
K0823.08032	32	25	M8	7
K0823.08040	40	25	M8	7
K0823.08050	50	25	M8	7
K0823.10020	20	32	M10	9
K0823.10025	25	32	M10	9
K0823.10032	32	32	M10	9
K0823.10040	40	32	M10	9
K0823.10050	50	32	M10	9
K0823.10063	63	32	M10	9
K0823.12020	20	40	M12	7
K0823.12025	25	40	M12	12
K0823.12032	32	40	M12	12
K0823.12040	40	40	M12	12
K0823.12050	50	40	M12	12
K0823.12063	63	40	M12	12
K0823.12080	80	40	M12	22
K0823.12100	100	40	M12	22
K0823.16025	25	50	M16	8
K0823.16032	32	50	M16	15
K0823.16040	40	50	M16	15
K0823.16050	50	50	M16	15
K0823.16063	63	50	M16	15
K0823.16080	80	50	M16	35
K0823.16100	100	50	M16	35
K0823.16125	125	50	M16	35

Locating supports



Material:
Carbon steel.

Version:
Tempered.
OD and support faces ground.

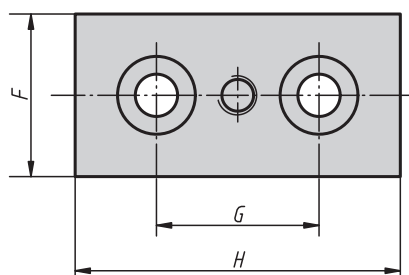
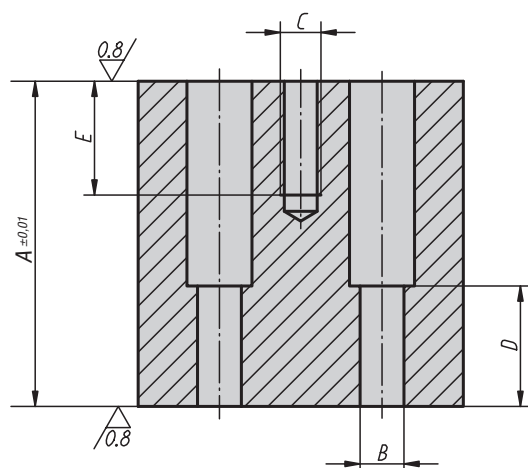
Sample order:
K0816.08020

Note:
Depending on the system (M8, M12, M16), the locating supports are positioned and secured using shoulder screws or locating sleeves with socket head screw.

KIPP Locating supports

Order No.	A	B	C Ø for shoulder screw	D	E	Suitable shoulder screw
K0816.12025	25	40	12 H7	20	12	K0815.12045
K0816.12050	50	40	12 H7	20	12	K0815.12045
K0816.12075	75	40	12 H7	20	12	K0815.12045
K0816.12100	100	50	12 H7	20	22	K0815.12055
K0816.16050	50	50	16 H7	26	15	K0815.16055
K0816.16075	75	50	16 H7	26	15	K0815.16055
K0816.16100	100	50	16 H7	26	25	K0815.16065
K0816.16125	125	50	16 H7	26	25	K0815.16065

Support blocks



Material:
Carbon steel.

Version:
Tempered, black oxidised.
Contact faces ground.

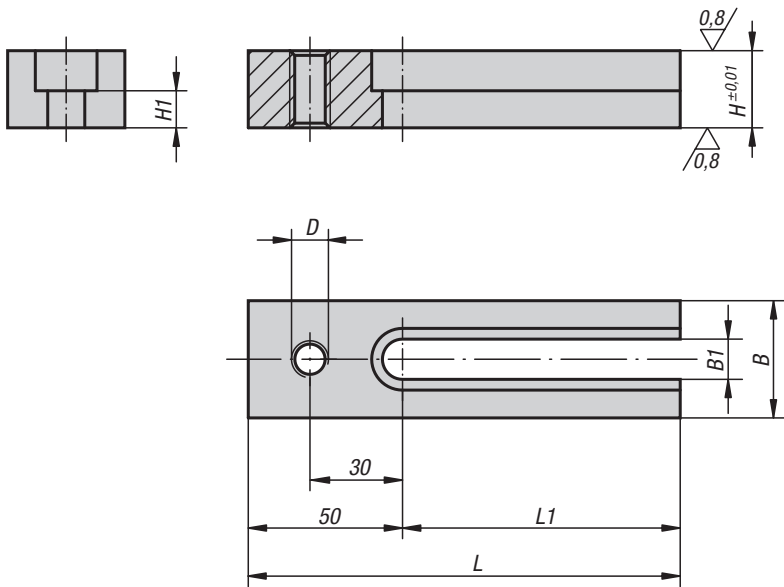
Sample order:
K0827.36012020

Note:
Support blocks are for placing under long workpieces to prevent bending during machining or clamping. The tapped hole is for mounting fixture elements between the grid holes.

KIPP Support blocks

Order No.	A	B hole for DIN 912 screw	C	D	E	F	G	H
K0827.36012020	20	M12	M12	7	20	50	50	100
K0827.36012025	25	M12	M12	12	25	50	50	100
K0827.36012032	32	M12	M12	19	32	50	50	100
K0827.36012040	40	M12	M12	27	40	50	50	100
K0827.36012050	50	M12	M12	37	35	50	50	100
K0827.36012063	63	M12	M12	37	35	50	50	100
K0827.36012080	80	M12	M12	37	35	50	50	100
K0827.36012100	100	M12	M12	37	35	50	50	100
K0827.36012125	125	M12	M12	37	35	50	50	100
K0827.36016025	25	M16	M16	8	25	50	50	100
K0827.36016032	32	M16	M16	15	32	50	50	100
K0827.36016040	40	M16	M16	23	40	50	50	100
K0827.36016050	50	M16	M16	33	35	50	50	100
K0827.36016063	63	M16	M16	46	35	50	50	100
K0827.36016080	80	M16	M16	46	35	50	50	100
K0827.36016100	100	M16	M16	46	35	50	50	100

Seating blocks adjustable

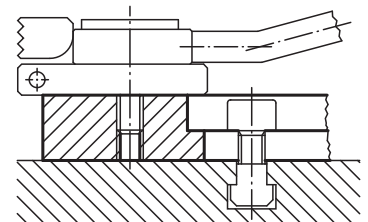


Material:
Carbon steel.

Version:
Tempered, black oxidised.
Contact faces ground.

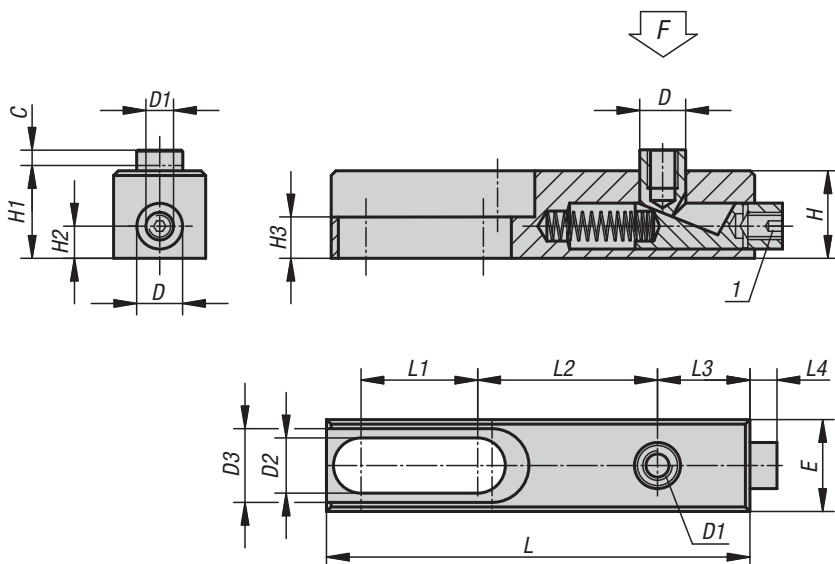
Sample order:
K0824.12125

Note:
The tapped hole is for mounting fixture components.
The slot allows the riser to be set in any desired position.



KIPP Seating blocks adjustable

Order No.	D	L	L1	B	B1	H	H1
K0824.12025	M12	90	40	38	13	25	12
K0824.12032	M12	90	40	38	13	32	19
K0824.12040	M12	90	40	38	13	40	27
K0824.12050	M12	90	40	38	13	50	37
K0824.12125	M12	140	90	38	13	25	12
K0824.12132	M12	140	90	38	13	32	19
K0824.12140	M12	140	90	38	13	40	27
K0824.12150	M12	140	90	38	13	50	37
K0824.16032	M16	90	40	50	17	32	15
K0824.16040	M16	90	40	50	17	40	23
K0824.16050	M16	90	40	50	17	50	33
K0824.16132	M16	140	90	50	17	32	15
K0824.16140	M16	140	90	50	17	40	23
K0824.16150	M16	140	90	50	17	50	33



Material:

Steel.

Version:

Case-hardened, black oxidised and ground

Sample order:

K0889.006

Note:

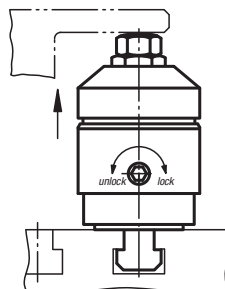
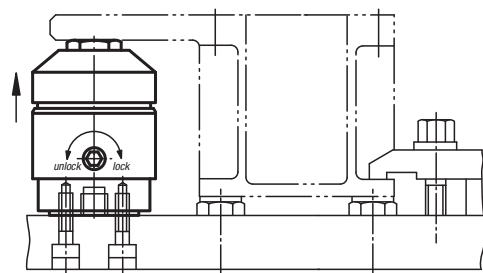
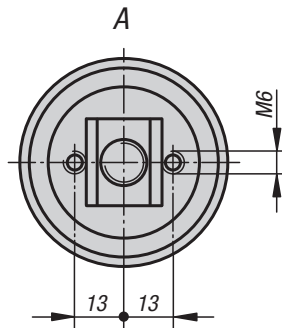
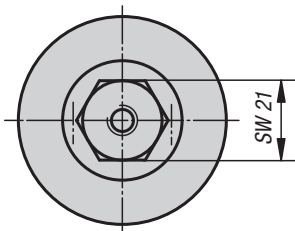
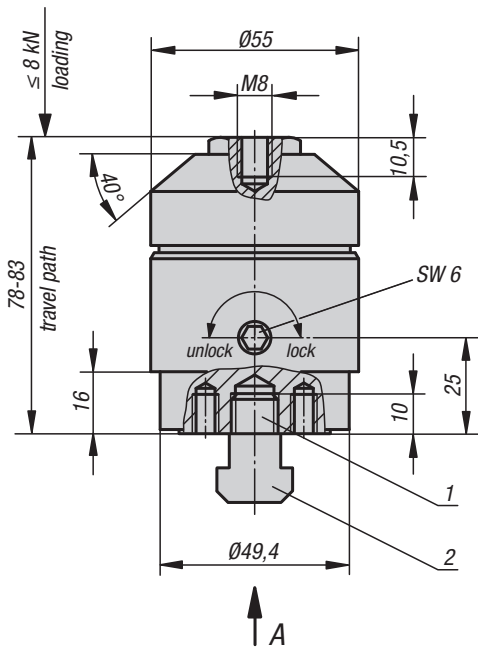
These supports are placed under long or thin workpieces to prevent vibration or bending during milling, drilling, grinding or shaping operations.

Drawing reference:

1) set screw

KIPP Workpiece supports

Order No.	C	D	D1	D2	D3	E	H	H1	H2	H3	L	L1	L2	L3	L4	F kN
K0889.006	4	10	M6	8,2	16,2	20	19	19,5	7	9	92	25,5	39	20	6	3
K0889.010	6	16	M10	12,5	24,4	30	30	31	10	10	149	44	61	32	11	15



Material:

Main body hardened steel.
Housing aluminium.

Version:

Main body nitrated, manganese phosphated and ground.
Housing red anodized.

Note:

The support element is for supporting overhanging workpiece parts. It prevents vibration and bending during machining.

Method of operation:

1. Turn the cam screw (hex. socket SW 6) on the side of the housing, the support bolt will move out under light spring load until it makes contact with the workpiece.
2. Continue to turn to "lock" position. The support bolt locks without changing position.
3. Turn the cam screw in the opposite direction and the support bolt will unlock. Continue turning to the „unlock“ position and the support bolt will slide back into the body.

Assembly:

Mount the support element to the fixture using the two M6 tapped holes.
Alternatively: Exchange the M12x10 plug screw for a M12x30 grub screw and mount the support directly onto the machine table with a T-nut.
For safe operation the M12 tapped hole must always be filled.
It is possible to countersink the support element by 16 mm. Various rest pads can be mounted into the M8 tapped hole on the support bolt.
Supplied with M12x30 grub screw and M12 nut for T-slots (DIN 508).

Drawing reference:

- 1) grub screw M12x30 DIN 913 (exchangeable)
- 2) nut for T-slots M12x14 DIN 508

KIPP Support element

Order No.	Load capacity N	Travel path
K1224.0508	8000	5

Positioning units

spring-loaded



Material, version:

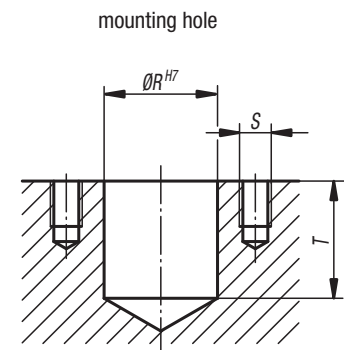
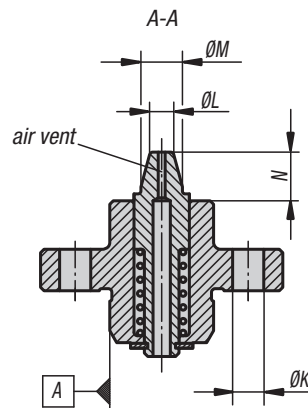
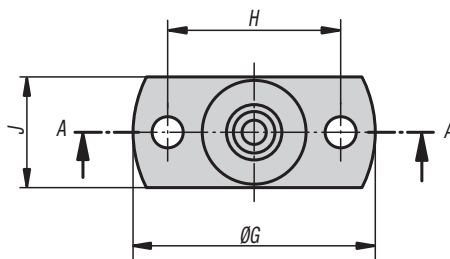
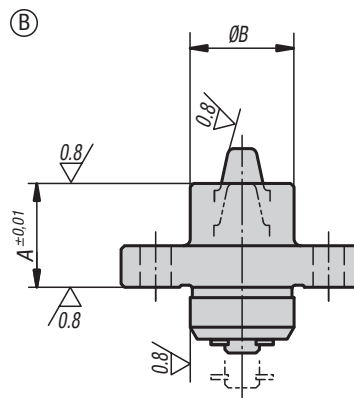
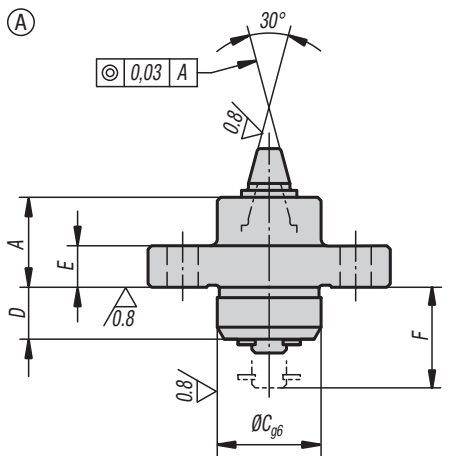
Body carbon steel, hardened and black oxidised.
Locating pin hardened tool steel.

Sample order:

K0917.15060

Note:

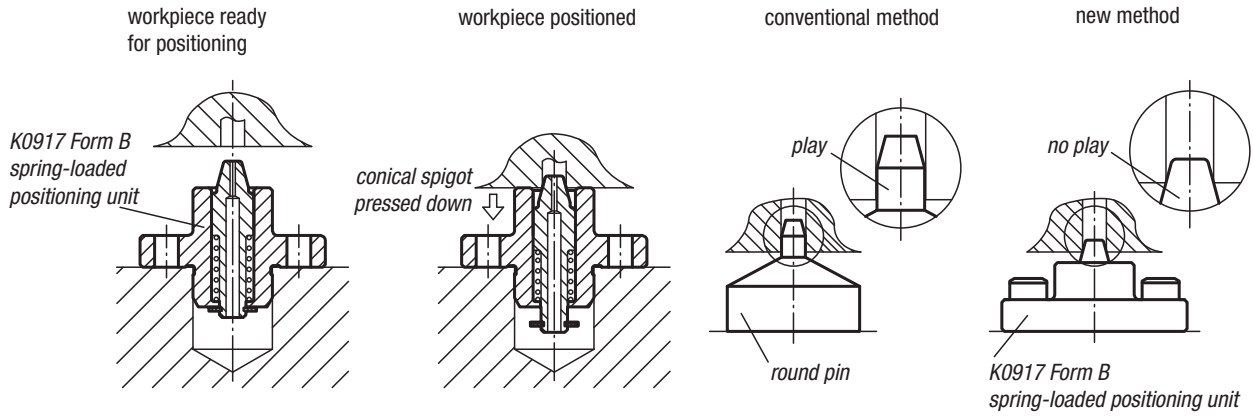
* The conical spigot can position holes within these limits.



KIPP Positioning units, spring-loaded

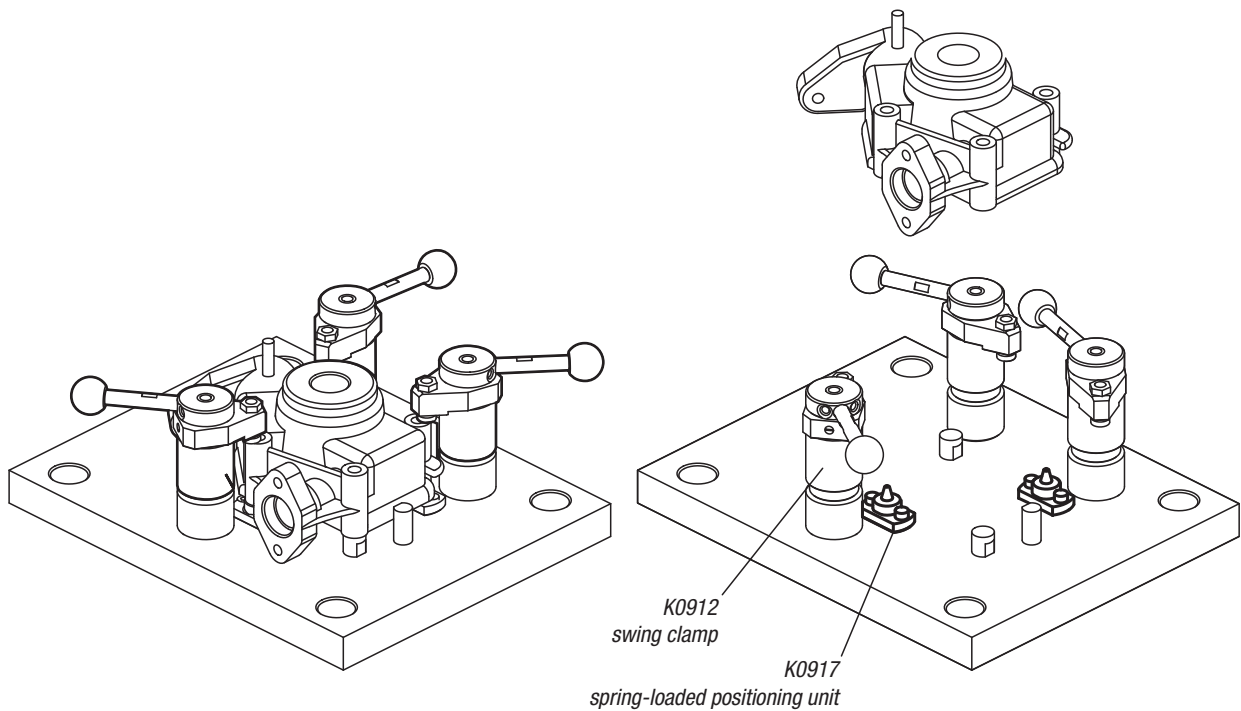
Order No.	Form	A	B	C	D	E	F	G	H	J	K	L	M	N	R	S	T	Receiving hole	Spring force cone N
K0917.15060	A	13	15	15	7,5	6	15	35	25	16	4,5	3,5	6	7,4	15	M4	16	ø3,8 - ø5,2*	6,4 - 19,3
K0917.15070	A	13	15	15	7,5	6	15	35	25	16	4,5	4,5	7	7,4	15	M4	16	ø4,8 - ø6,2*	6,4 - 19,3
K0917.20090	A	18	20	20	10	8	20	40	30	22	4,5	5,5	9	9,3	20	M4	21	ø5,8 - ø8,2*	5,5 - 20,5
K0917.20110	A	18	20	20	10	8	20	40	30	22	4,5	7,5	11	9,3	20	M4	21	ø7,8 - ø10,2*	5,5 - 20,5

Order No.	Form	A	B	C	D	E	F	G	H	J	K	L	M	N	R	S	T	Receiving hole	Spring force cone N
K0917.15061	B	15	15	15	7,5	6	15	35	25	16	4,5	3,5	6	5,4	15	M4	16	ø3,8 - ø5,2*	6,4 - 19,3
K0917.15071	B	15	15	15	7,5	6	15	35	25	16	4,5	4,5	7	5,4	15	M4	16	ø4,8 - ø6,2*	6,4 - 19,3
K0917.20091	B	20	20	20	10	8	20	40	30	22	4,5	5,5	9	7,3	20	M4	21	ø5,8 - ø8,2*	5,5 - 20,5
K0917.20111	B	20	20	20	10	8	20	40	30	22	4,5	7,5	11	7,3	20	M4	21	ø7,8 - ø10,2*	5,5 - 20,5



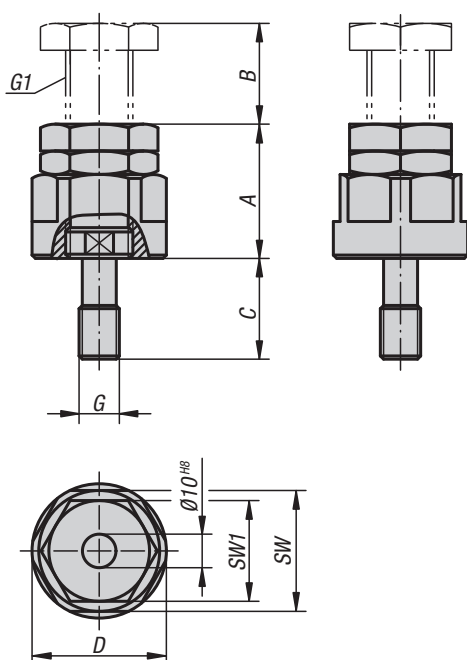
The conical spigot is pushed down when the workpiece is mounted on the positioning unit.

The conical spigot ensures precise positioning.



Note:
To prevent the positioning unit lifting the workpiece, hold it down by hand when loosening the swing clamp.

Adjustable supports



Material:

Carbon steel.

Version:

Black oxidised.

Adjustment spindle tempered.

Sample order:

K0825.16100

Note:

Inserts K0826 can be mounted in the top to suit the application.

KIPP Adjustable supports

Order No.	A min.	B max.	C	D	SW	SW1	G	G1
K0825.12040	40	10	30	40	36	30	M12	M20x1,5
K0825.12050	50	20	30	40	36	30	M12	M20x1,5
K0825.12070	70	40	30	40	36	30	M12	M20x1,5
K0825.12100	100	50	30	50	46	36	M12	M24x2
K0825.12150	150	100	30	50	46	36	M12	M24x2
K0825.16040	40	10	30	40	36	30	M16	M20x1,5
K0825.16050	50	20	30	40	36	30	M16	M20x1,5
K0825.16070	70	40	30	40	36	30	M16	M20x1,5
K0825.16100	100	50	30	50	46	36	M16	M24x2
K0825.16150	150	100	30	50	46	36	M16	M24x2

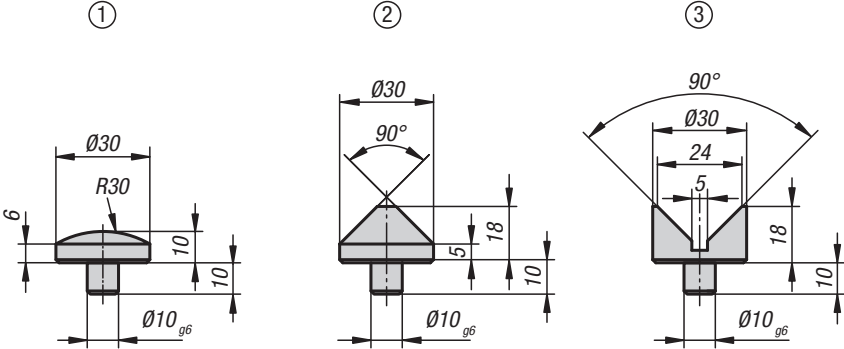


Material:
Carbon steel.

Version:
Tempered to 1100-1200 N/mm², black oxidised.

Sample order:
K0826.02

Drawing reference:
1) rounded insert
2) cone insert
3) prism insert



KIPP Inserts

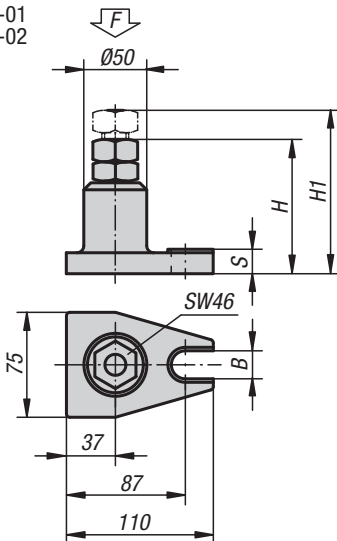
Order No.	Version
K0826.01	rounded insert
K0826.02	cone insert
K0826.03	prism insert

Atlas jack

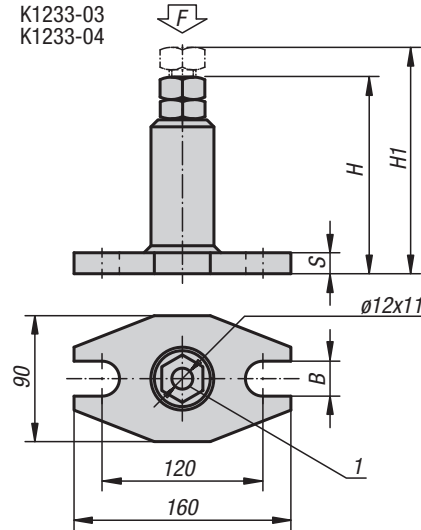
with locknut



K1233-01
K1233-02

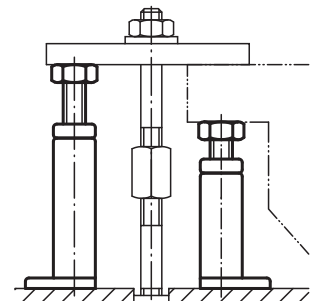


K1233-03
K1233-04



Material:
Carbon steel.

Version:
Hammerstone, spindle with 30 x 6 trapezoidal thread.

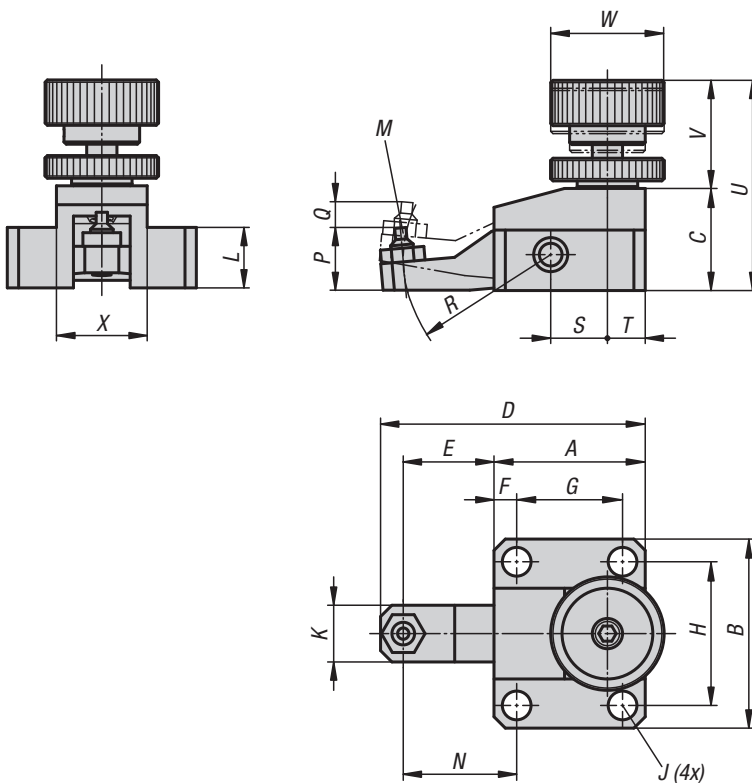


KIPP Atlas jack with locknut

Order No.	Adjustment range	base plate	H	H1	B	S	F kN
K1233.01	100 - 140	76x111	100	140	18	17	60
K1233.02	140 - 200	76x111	140	200	18	17	60
K1233.03	200 - 320	90x160	200	320	22	22	40
K1233.04	320 - 540	90x160	320	540	22	25	25

Workpiece supports

adjustable



Material:

Carbon steel 1.0503.

Version:

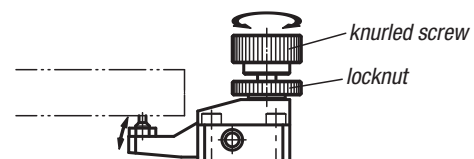
Black oxidised.

Sample order:

K0919.08020

Note:

Workpiece supports are for supporting overhanging workpiece parts to prevent vibrations and bending during machining. They should not be subjected to strong forces from a clamping element and are not intended as supports under a clamping point.



- 1.) Turning the knurled screw moves the support arm up or down.
- 2.) Once the rest is in contact with the workpiece, the screw can be locked with the locknut.

KIPP Workpiece supports, adjustable

Order No.	A	B	C	D	E	F	G	H	J	K	L	M	N	P	Q	R	S	T	U	V	W	X	Clamping force N	Tightening torque max. Nm
K0919.08020	40	50	27	70	24	6	28	38	6,6	15	16	M6x16	30	17	6	39	15	10	56	29	30	24	300	1,5
K0919.10027	55	65	34	95	31,5	8,5	38	48	9	18	20	M8x22	40	23	8	51,5	20	15	68	34	36	29	350	2

Workpiece supports

adjustable



Material:

Carbon steel.

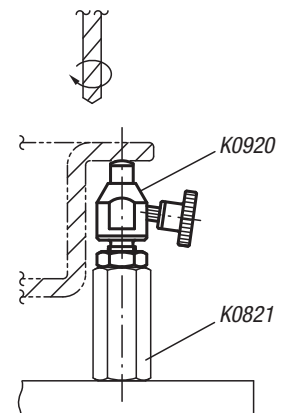
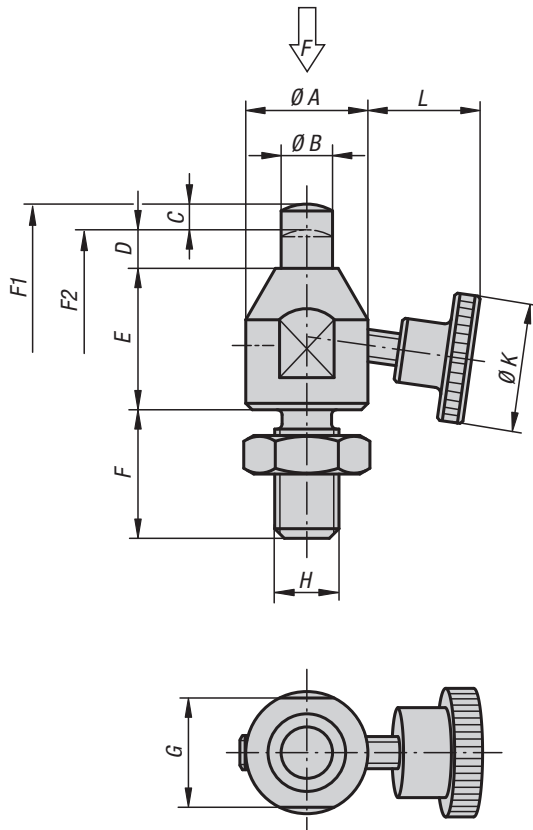
Version:

Body black oxidised.

Rest pad hardened and black oxidised.

Sample order:

K0920.08023



KIPP Workpiece supports, adjustable

Order No.	A	B	C (travel)	D	E	F	G	H	K	L	F N	Spring force initial pressure F1 approx. N	Spring force final pressure F2 approx. N
K0920.08023	15	6	3	5	18	16	13	M8	20	13,2	200	1,5	3
K0920.10028	19	8	4	6	22	20	17	M10	25	16,3	300	1,8	3
K0920.12031	22	10	4	6	25	24	19	M12	28	22,3	400	1,8	3



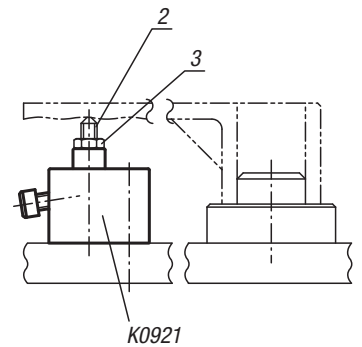
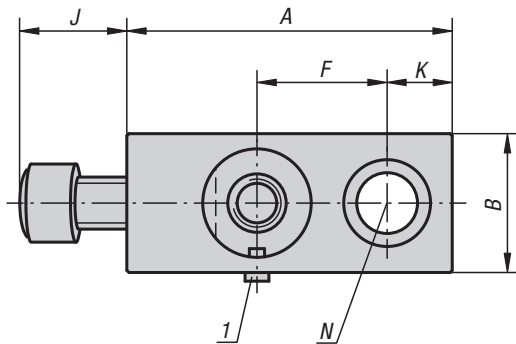
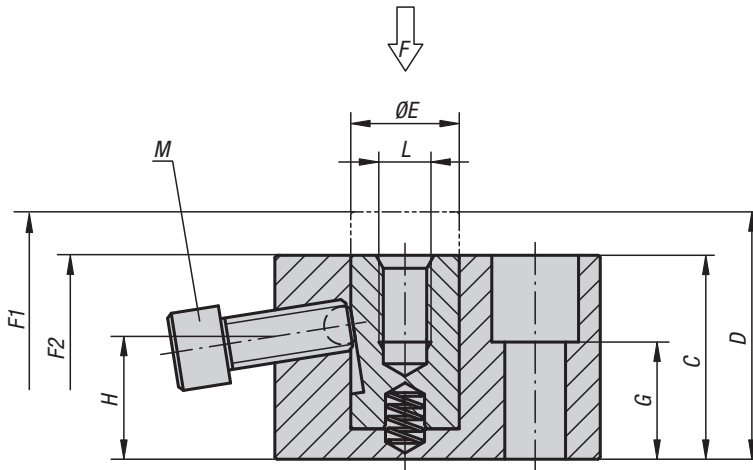
Material:
Carbon steel.

Version:
Body black oxidised.
Thrust pin tempered and black oxidised.

Sample order:
K0921.06029

Drawing reference:
M = ball pressure screw
N = through hole for socket head screw DIN 912

- 1) rotation lock
- 2) screw rest
- 3) hexagonal nut



KIPP Workpiece supports

Order No.	A	B	C	D	E	F	G	H	J	K	L	M	N	F	Spring force initial pressure F1 approx. N	Spring force final pressure F2 approx. N
K0921.06029	38	19	29	35	12	15	15	17,6	13	8	M6x10	M6x16	M6	4000	0	6
K0921.08037	50	22	37	47	16	20	20	21,1	16	10	M8x15	M8x20	M8	6000	0	7
K0921.12047	75	32	47	57	25	30	27	28,3	25	15	M12x20	M12x30	M12	9000	1	11

Workpiece support cylinders



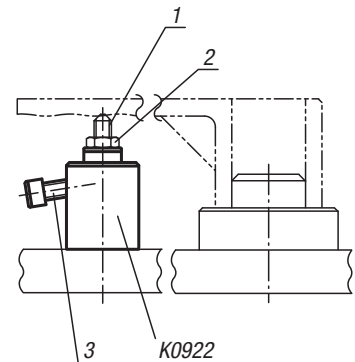
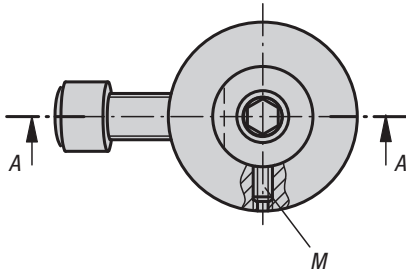
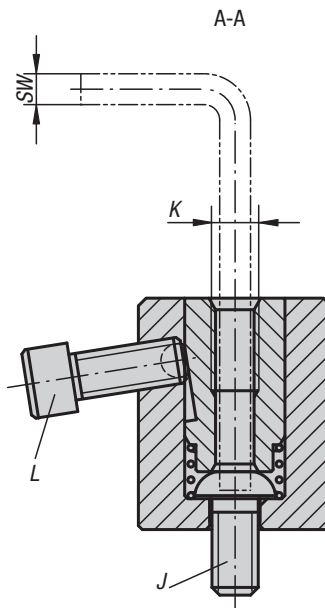
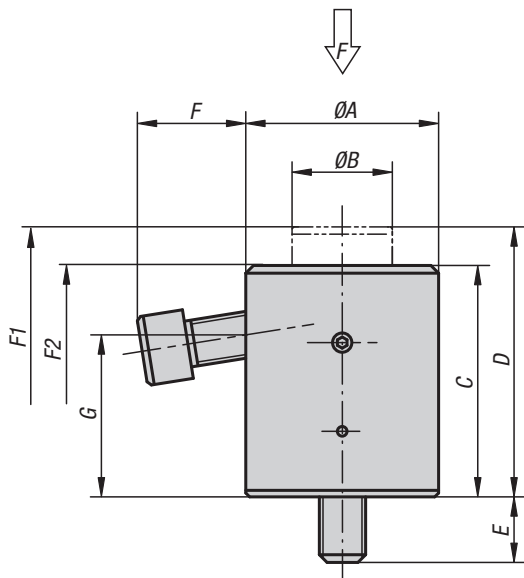
Material:
Carbon steel.

Version:
Body black oxidised.
Thrust pin hardened and black oxidised.

Sample order:
K0922.06039

Drawing reference:
J = mounting screw
L = ball-end thrust screw
M = grub screw

- 1) screw rest
- 2) hexagonal nut
- 3) ball-end thrust screw



KIPP Workpiece support cylinders

Order No.	A	B	C	D	E	F	G	J	K	L	M	SW	F N	Spring force initial pressure F1 approx. N	Spring force final pressure F2 approx. N
K0922.06039	28	14	33	39	10	13,1	22,2	M6	M6x12	M6x16	M4x8	4	4000	10	22
K0922.08052	35	19	42	52	14	17,2	27,5	M8	M8x16	M8x20	M4x8	5	6000	10	27
K0922.12070	50	26	60	70	16	28,1	42,1	M12	M12x24	M12x30	M5x12	8	9000	15	30
K0922.16080	60	33	70	80	22	26,6	47,4	M16	M16x32	M12x30	M5x15	10	9000	15	35

Support bolts



Material:

Carbon steel, tempered.

Version:

Black oxidised.

Sample order:

K0297.16016

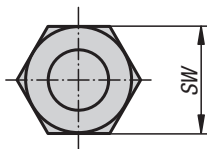
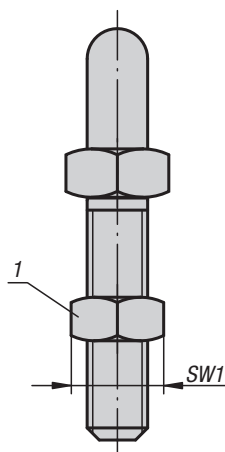
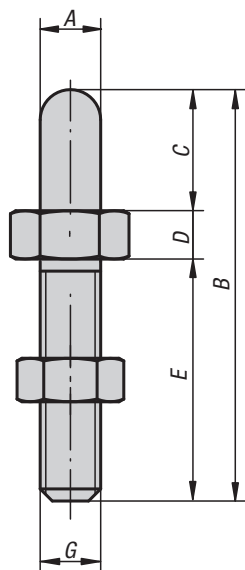
Note:

The rounded nose also allows support bolts to be used as positioning elements for workpieces with matching holes.

The versions K0297.08016 and K0297.20040 have a hex collar.

Drawing reference:

1) locknut



KIPP Support bolts

Order No.	A	B	C	D	E	G	SW	SW1
K0297.06006	6	37	6	6	25	M6	13	10
K0297.06012	6	43	12	6	25	M6	13	10
K0297.08008	8	45	8	7	30	M8	13	13
K0297.08016	8	53	16	7	30	M8	13	13
K0297.10010	10	58	10	8	40	M10	17	17
K0297.10020	10	68	20	8	40	M10	17	17
K0297.12012	12	72	12	10	50	M12	19	19
K0297.12024	12	84	24	10	50	M12	19	19
K0297.16016	16	89	16	13	60	M16	24	24
K0297.16032	16	105	32	13	60	M16	24	24
K0297.20020	20	115	20	15	80	M20	36	30
K0297.20040	20	135	40	15	80	M20	36	30

Support bolts

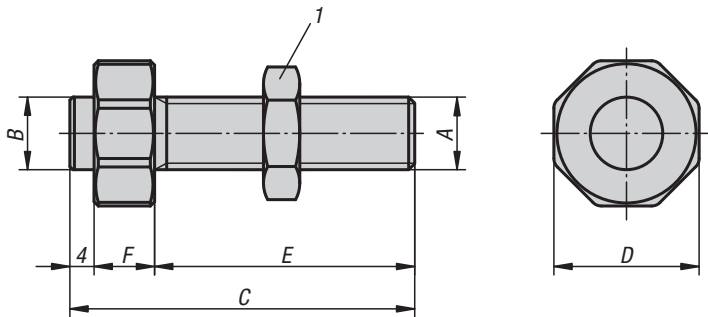


Material:
Carbon steel.

Version:
Tempered and black oxidised.

Sample order:
K0828.08041

Drawing reference:
1) locknut



KIPP Support bolts

Order No.	A	B	C	D	E	F
K0828.08041	M8	8	41	17	30	7
K0828.08051	M8	8	51	17	40	7
K0828.12057	M12	12	57	24	43	10
K0828.12072	M12	12	72	24	58	10
K0828.16057	M16	16	57	30	43	10
K0828.16072	M16	16	72	30	58	10

Rest pads



Material:

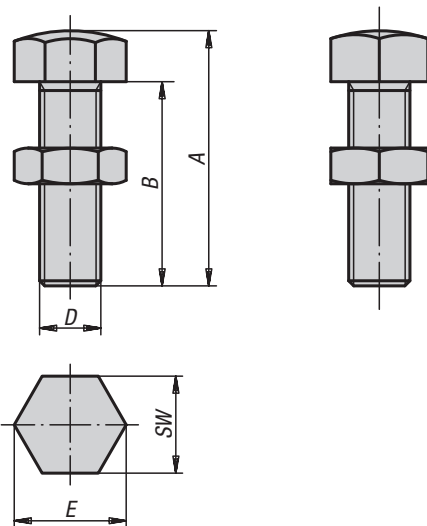
Carbon steel or brass

Version:

Tempered and black oxidised.

Sample order:

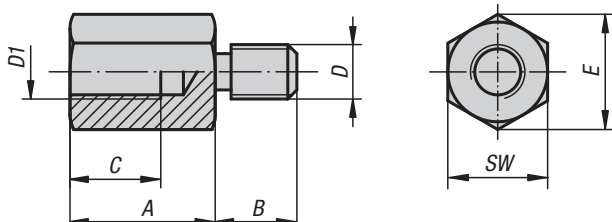
K0307.16055



KIPP Rest pads

Order No.	Material	A	B	D	E	SW
K0307.06030	carbon steel	30	25	M6	11,5	10
K0307.06040	carbon steel	40	35	M6	11,5	10
K0307.06050	carbon steel	50	45	M6	11,5	10
K0307.08036	carbon steel	36	30	M8	15	13
K0307.08046	carbon steel	46	40	M8	15	13
K0307.08056	carbon steel	56	50	M8	15	13
K0307.10042	carbon steel	42	35	M10	19,6	17
K0307.10048	carbon steel	48	40	M10	19,6	17
K0307.10058	carbon steel	58	50	M10	19,6	17
K0307.10068	carbon steel	68	60	M10	19,6	17
K0307.12048	carbon steel	50	42	M12	21,9	19
K0307.12070	carbon steel	70	60	M12	21,9	19
K0307.12080	carbon steel	80	70	M12	21,9	19
K0307.16055	carbon steel	55	45	M16	27,7	24
K0307.16075	carbon steel	75	65	M16	27,7	24
K0307.16085	carbon steel	85	75	M16	27,7	24
K0307.12148	brass	50	42	M12	21,9	19
K0307.16155	brass	55	45	M16	27,7	24

Extension pieces



Material:
Carbon steel.

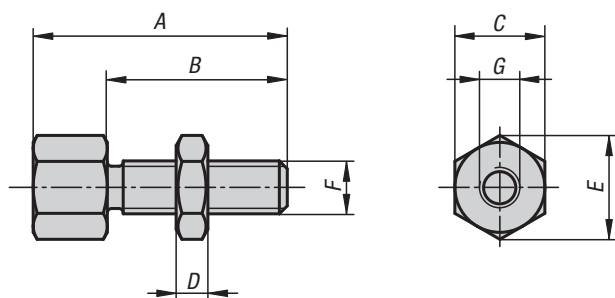
Version:
Black oxidised.

Sample order:
K0821.120750

Note:
Extension pieces are used to extend self-aligning pads, spring plungers, positioning feet, rest pads etc.

KIPP Extension pieces

Order No.	A	B	C	D	D1	E	SW
K0821.08025	25	13	15	M8	M8	15	13
K0821.08032	32	13	15	M8	M8	15	13
K0821.08040	40	13	15	M8	M8	15	13
K0821.10025	25	15	17	M10	M10	19,6	17
K0821.10032	32	15	17	M10	M10	19,6	17
K0821.10040	40	15	17	M10	M10	19,6	17
K0821.10050	50	16	20	M10	M10	19,6	17
K0821.10075	75	16	20	M10	M10	19,6	17
K0821.120320	32	18	20	M12	M12	25,4	22
K0821.120500	50	18	20	M12	M12	25,4	22
K0821.120750	75	18	20	M12	M12	25,4	22
K0821.160320	32	25	20	M16	M16	31,2	27
K0821.160500	50	25	30	M16	M16	31,2	27
K0821.160750	75	25	30	M16	M16	31,2	27
K0821.108025	25	19	15	M8	M8	15	13
K0821.108032	32	19	15	M8	M8	15	13
K0821.108040	40	19	15	M8	M8	15	13
K0821.112032	32	30	20	M12	M12	25,4	22
K0821.112050	50	30	20	M12	M12	25,4	22
K0821.112075	75	30	20	M12	M12	25,4	22
K0821.116032	32	30	20	M16	M16	31,2	27
K0821.116050	50	30	30	M16	M16	31,2	27
K0821.116075	75	30	30	M16	M16	31,2	27



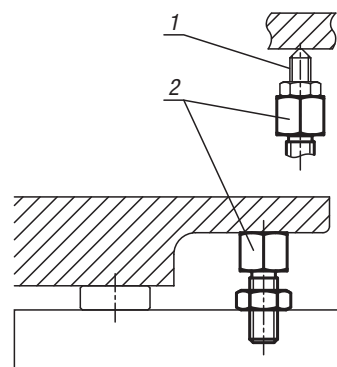
Material:
Carbon steel.

Version:
Black oxidised.

Sample order:
K0308.0803006

Drawing reference:
1) screw rest
2) jack screw

Jack screw for mounting various rests



KIPP Jack screws

Order No.	A	B	C	D	E	F	G
K0308.0803006	30	20	13	5	14,4	M8	M6x6
K0308.0804006	40	30	13	5	14,4	M8	M6x6
K0308.1003808	38	24	17	6	18,9	M10	M8x8
K0308.1004808	48	34	17	6	18,9	M10	M8x8
K0308.1205110	51	33	22	7	24,5	M12	M10x10
K0308.1206610	66	48	22	7	24,5	M12	M10x10
K0308.1606212	62	40	27	10	30,1	M16	M12x12
K0308.1607712	77	55	27	10	30,1	M16	M12x12

Jack screws extended

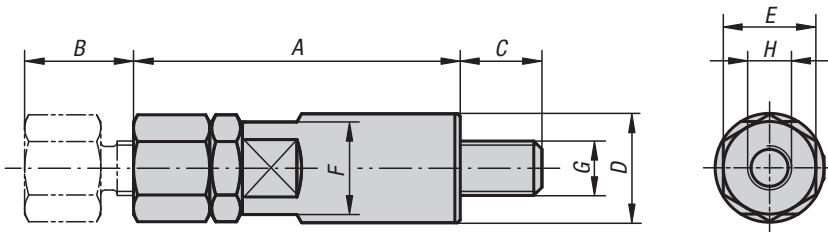


Material:
Carbon steel.

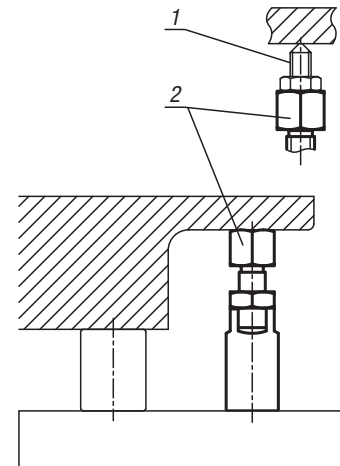
Version:
Black oxidised.

Sample order:
K0923.08040

Drawing reference:
1) screw rest
2) jack screw



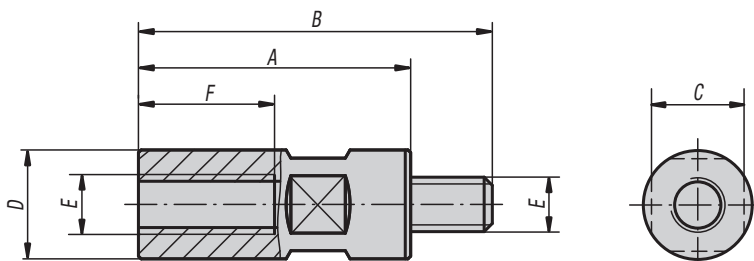
Jack screw for mounting various rests



KIPP Jack screws extended

Order No.	A	B	C	D	E	F	G	H
K0923.08040	40	10	12	16	13	13	M8	M6x6
K0923.08050	50	20	12	16	13	13	M8	M6x6
K0923.10050	50	10	14	20	17	17	M10	M8x8
K0923.10060	60	20	14	20	17	17	M10	M8x8
K0923.12065	65	15	19	24	22	22	M12	M10x10
K0923.12080	80	30	19	24	22	22	M12	M10x10
K0923.16080	80	15	24	32	27	27	M16	M12x12
K0923.16095	95	30	24	32	27	27	M16	M12x12

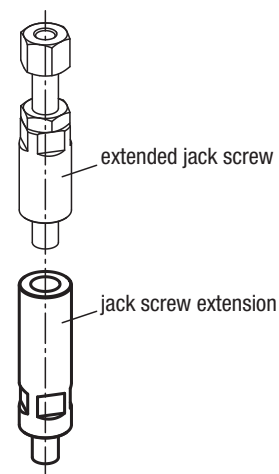
Extensions for jack screws



Material:
Carbon steel.

Version:
Black oxidised.

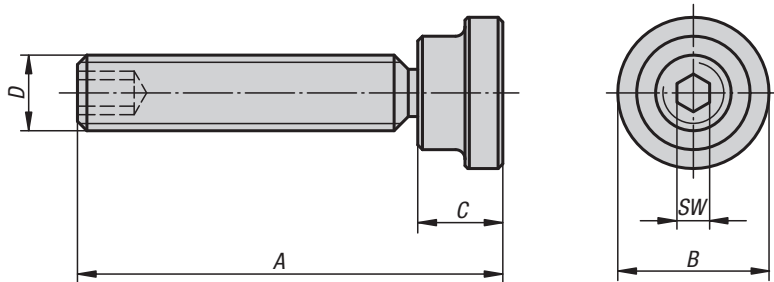
Sample order:
K0924.08032



KIPP Extensions for jack screws

Order No.	A	B	C	D	E	F
K0924.08032	32	44	13	16	M8	20
K0924.08040	40	52	13	16	M8	20
K0924.08050	50	62	13	16	M8	20
K0924.08065	65	77	13	16	M8	20
K0924.08080	80	92	13	16	M8	20
K0924.08100	100	112	13	16	M8	20
K0924.10040	40	54	17	20	M10	25
K0924.10050	50	64	17	20	M10	25
K0924.10065	65	79	17	20	M10	25
K0924.10080	80	94	17	20	M10	25
K0924.10100	100	114	17	20	M10	25
K0924.12050	50	69	22	24	M12	30
K0924.12065	65	84	22	24	M12	30
K0924.12080	80	99	22	24	M12	30
K0924.12100	100	119	22	24	M12	30
K0924.12125	125	144	22	24	M12	30
K0924.12160	160	179	22	24	M12	30
K0924.16050	50	74	27	32	M16	32
K0924.16065	65	89	27	32	M16	40
K0924.16080	80	104	27	32	M16	40
K0924.16100	100	124	27	32	M16	40
K0924.16125	125	149	27	32	M16	40
K0924.16160	160	184	27	32	M16	40

Grub screws with thrust pad



Material, version:

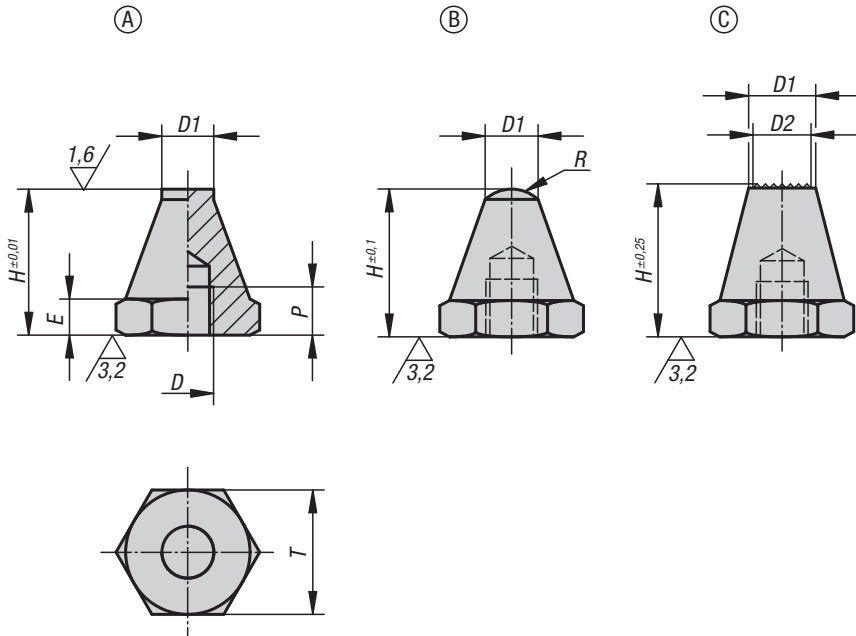
Thrust pad: carbon steel, tempered, black oxidised.
Grub screw: carbon steel, tempered.

Sample order:

K0829.08X43

KIPP Grub screws with thrust pad

Order No.	A	B	C	D	SW
K0829.08X43	43	16	9	M8	4
K0829.08X63	63	16	9	M8	4
K0829.10X64	64	20	11	M10	5
K0829.10X84	84	20	11	M10	5
K0829.12X65	65	25	13	M12	6
K0829.12X85	85	25	13	M12	6
K0829.12X105	105	25	13	M12	6
K0829.16X85	85	32	15	M16	8
K0829.16X105	105	32	15	M16	8
K0829.16X130	130	32	15	M16	8
K0829.20X105	105	40	16	M20	10
K0829.20X130	130	40	16	M20	10
K0829.20X155	155	40	16	M20	10



Material:
Body carbon steel.

Version:
Body tempered and black oxidised.

Sample order:
K0294.106012

Note:
Rest pads are for supporting machined and non-machined parts. They can also be used as stops and thrust pads in fixtures and toolmaking. Studs or grub screws can be screwed and glued into the tapped hole D to make a rest pad with external thread.

Drawing reference:
Form A: flat face
Form B: ball end
Form C: diamond grip

KIPP Rest pads

Order No. Form A	Order No. Form B	Order No. Form C	D	D1	D2	E	H	P	R	T
K0294.106012	K0294.206012	K0294.306012	M6	6	-/-/5	3	12,5	4	-/5/-	11
K0294.106025	K0294.206025	K0294.306025	M6	6	-/-/5	3	25	7	-/5/-	11
K0294.108015	K0294.208015	K0294.308015	M8	8	-/-/6	4	15	6	-/8,5/-	13
K0294.108030	K0294.208030	K0294.308030	M8	8	-/-/6	4	30	9	-/8,5/-	13
K0294.110020	K0294.210020	K0294.310020	M10	10	-/-/8	5	20	9	-/9/-	17
K0294.110040	K0294.210040	K0294.310040	M10	10	-/-/8	5	40	13	-/9/-	17
K0294.112025	K0294.212025	K0294.312025	M12	12	-/-/9,5	6	25	11	-/12,75/-	19
K0294.112050	K0294.212050	K0294.312050	M12	12	-/-/9,5	6	50	16	-/12,75/-	19
K0294.116030	K0294.216030	K0294.316030	M16	16	-/-/13	8	30	12	-/17/-	24
K0294.116060	K0294.216060	K0294.316060	M16	16	-/-/13	8	60	20	-/17/-	24

Ball-end thrust screws with head



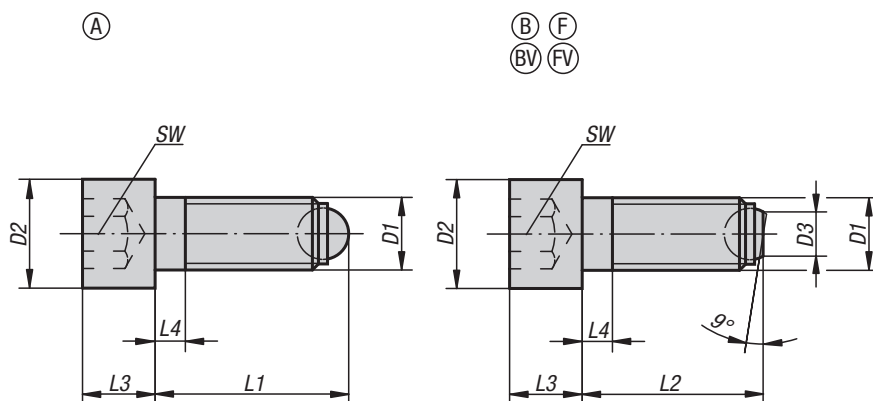
Material:
Screw carbon steel.
Ball ball-bearing steel.

Version:
Screw, grade 10.9, black.
Ball hardened, bright.

Sample order:
K0380.10820

Note:
Form A with full ball is used when a clean, polished contact surface is required. Surfaces which are not flat and parallel can be firmly clamped or supported with Form B with flattened ball, the movable ball can adapt itself up to 9°.

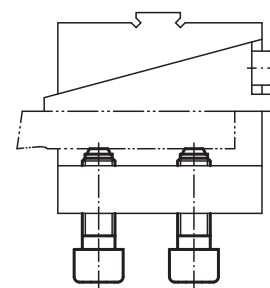
Drawing reference:
Form A: full ball
Form B: flattened ball
Form BV: flattened ball non-rotating
Form F: flattened ball diamond grip
Form FV: flattened ball diamond grip non-rotating



KIPP Ball-end thrust screws with head

Order No.	Form	D1	L1	D2	L3	L4	Ball-Ø	SW	Load rating max. kN (static load only)
K0380.10620	A	M6	20,8	10	6	3	4	5	9
K0380.10630	A	M6	30,8	10	6	3	4	5	9
K0380.10640	A	M6	40,8	10	6	16	4	5	9
K0380.10820	A	M8	21,2	13	8	3,5	5,5	6	15
K0380.10835	A	M8	36,2	13	8	3,5	5,5	6	15
K0380.10850	A	M8	51,2	13	8	22	5,5	6	15
K0380.11025	A	M10	26,7	16	10	4,5	7	8	20
K0380.11040	A	M10	41,7	16	10	4,5	7	8	20
K0380.11060	A	M10	61,7	16	10	28	7	8	20
K0380.11230	A	M12	32	18	12	5	8,5	10	30
K0380.11250	A	M12	52	18	12	5	8,5	10	30
K0380.11280	A	M12	82	18	12	44	8,5	10	30
K0380.11640	A	M16	43,3	24	16	6	12	14	60
K0380.11660	A	M16	63,3	24	16	6	12	14	60
K0380.11680	A	M16	83,3	24	16	36	12	14	60
K0380.12050	A	M20	54,2	30	20	7,5	15	17	90
K0380.12080	A	M20	84,2	30	20	28	15	17	90
K0380.120100	A	M20	104,2	30	20	48	15	17	90
K0380.12460	A	M24	64,7	36	24	9	18	19	120
K0380.12490	A	M24	94,7	36	24	30	18	19	120
K0380.124120	A	M24	124,7	36	24	60	18	19	120

Ball-end thrust screws with head



Order No. Form B	Order No. Form F	D1	D2	D3	L2	L3	L4	Ball-Ø	SW	Load rating max. kN (static load only)
K0380.20620	-	M6	10	3,2	20	6	3	4	5	9
K0380.20630	-	M6	10	3,2	30	6	3	4	5	9
K0380.20640	-	M6	10	3,2	40	6	16	4	5	9
K0380.20820	-	M8	13	4,5	20	8	3,5	5,5	6	15
K0380.20835	-	M8	13	4,5	35	8	3,5	5,5	6	15
K0380.20850	-	M8	13	4,5	50	8	22	5,5	6	15
K0380.21025	K0380.31025	M10	16	6	25	10	4,5	7	8	20
K0380.21040	K0380.31040	M10	16	6	40	10	4,5	7	8	20
K0380.21060	K0380.31060	M10	16	6	60	10	28	7	8	20
K0380.21230	K0380.31230	M12	18	7,2	30	12	5	8,5	10	30
K0380.21250	K0380.31250	M12	18	7,2	50	12	5	8,5	10	30
K0380.21280	K0380.31280	M12	18	7,2	80	12	44	8,5	10	30
K0380.21640	K0380.31640	M16	24	10,7	40	16	6	12	14	60
K0380.21660	K0380.31660	M16	24	10,7	60	16	6	12	14	60
K0380.21680	K0380.31680	M16	24	10,7	80	16	36	12	14	60
K0380.22050	-	M20	30	13,5	50	20	7,5	15	17	90
K0380.22080	-	M20	30	13,5	80	20	28	15	17	90
K0380.220100	-	M20	30	13,5	100	20	48	15	17	90
K0380.22460	-	M24	36	15,8	60	24	9	18	19	120
K0380.22490	-	M24	36	15,8	90	24	30	18	19	120
K0380.224120	-	M24	36	15,8	120	24	60	18	19	120

Order No. Form BV	Order No. Form FV	D1	D2	D3	L2	L3	L4	Ball-Ø	SW	Load rating max. kN (static load only)
K0380.40820	-	M8	13	4,5	20	8	3,5	5,5	6	9
K0380.40835	-	M8	13	4,5	35	8	3,5	5,5	6	9
K0380.40850	-	M8	13	4,5	50	8	22	5,5	6	9
K0380.41025	K0380.51025	M10	16	6	25	10	4,5	7	8	12
K0380.41040	K0380.51040	M10	16	6	40	10	4,5	7	8	12
K0380.41060	K0380.51060	M10	16	6	60	10	28	7	8	12
K0380.41230	K0380.51230	M12	18	7,2	30	12	5	8,5	10	18
K0380.41250	K0380.51250	M12	18	7,2	50	12	5	8,5	10	18
K0380.41280	K0380.51280	M12	18	7,2	80	12	44	8,5	10	18
K0380.41640	K0380.51640	M16	24	10,7	40	16	6	12	14	36
K0380.41660	K0380.51660	M16	24	10,7	60	16	6	12	14	36
K0380.41680	K0380.51680	M16	24	10,7	80	16	36	12	14	36

Ball-end thrust screws without head

with full ball



Material:

Screw carbon steel, grade 10.9
Ball, ball-bearing steel or POM.

Version:

Screw black.
Ball hardened bright or POM.

Sample order:

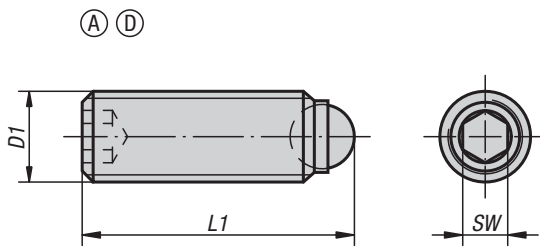
K0383.10810

Note:

Ball-end thrust screws with full ball are used when a clean, polished contact surface is required. Longer versions have been specially designed to be glued in, allowing mechanical connecting elements with external thread to be made cost-effectively for small and medium-sized series.

Drawing reference:

Form A: steel ball
Form D: POM ball

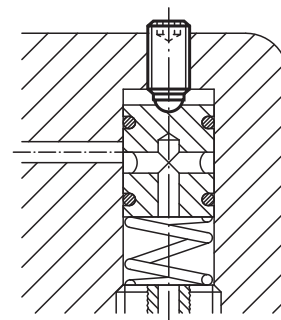


KIPP Ball-end thrust screws without head with full ball

Order No. Form A	Order No. Form D	D1	L1	Ball-Ø	SW	Load rating max. kN (static load only)
K0383.1046	K0383.3046	M4	6	2,5	2	3,5/0,3
K0383.1048	K0383.3048	M4	8	2,5	2	3,5/0,3
K0383.10410	K0383.30410	M4	10	2,5	2	3,5/0,3
K0383.10412	K0383.30412	M4	12	2,5	2	3,5/0,3
K0383.10416	K0383.30416	M4	16	2,5	2	3,5/0,3
K0383.1058	K0383.3058	M5	8	3	2,5	4,5/0,5
K0383.10510	K0383.30510	M5	10	3	2,5	4,5/0,5
K0383.10512	K0383.30512	M5	12	3	2,5	4,5/0,5
K0383.10516	K0383.30516	M5	16	3	2,5	4,5/0,5
K0383.10520	K0383.30520	M5	20	3	2,5	4,5/0,5
K0383.10525	K0383.30525	M5	25	3	2,5	4,5/0,5
K0383.10610	K0383.30610	M6	10,8	4	3	9/0,9
K0383.10612	K0383.30612	M6	12,8	4	3	9/0,9
K0383.10616	K0383.30616	M6	16,8	4	3	9/0,9
K0383.10620	K0383.30620	M6	20,8	4	3	9/0,9
K0383.10625	K0383.30625	M6	25,8	4	3	9/0,9
K0383.10650	-	M6	50,8	4	3	9
K0383.10660	-	M6	60,8	4	3	9
K0383.10680	-	M6	80,8	4	3	9

Ball-end thrust screws without head

with full ball

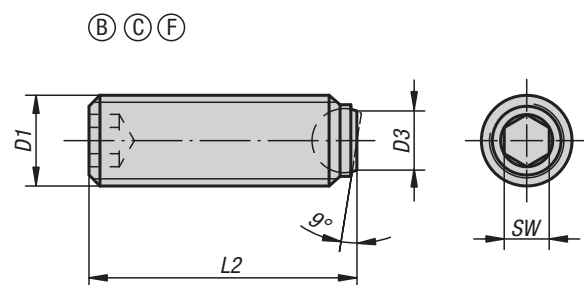


KIPP Ball-end thrust screws without head with full ball

Order No. Form A	Order No. Form D	D1	L1	Ball-Ø	SW	Load rating max. kN (static load only)
K0383.10810	K0383.30810	M8	11,2	5,5	4	10/1,5
K0383.10812	K0383.30812	M8	13,2	5,5	4	10/1,5
K0383.10816	K0383.30816	M8	17,2	5,5	4	15/1,5
K0383.10820	K0383.30820	M8	21,2	5,5	4	15/1,5
K0383.10825	K0383.30825	M8	26,2	5,5	4	15/1,5
K0383.10830	K0383.30830	M8	31,2	5,5	4	15/1,5
K0383.10850	-	M8	51,2	5,5	4	15
K0383.10860	-	M8	61,2	5,5	4	15
K0383.10880	-	M8	81,2	5,5	4	15
K0383.11012	K0383.31012	M10	13,7	7	5	20/2
K0383.11016	K0383.31016	M10	17,7	7	5	20/2
K0383.11020	K0383.31020	M10	21,7	7	5	20/2
K0383.11025	K0383.31025	M10	26,7	7	5	20/2
K0383.11035	K0383.31035	M10	36,7	7	5	20/2
K0383.11216	K0383.31216	M12	18	8,5	6	30/3
K0383.11220	K0383.31220	M12	22	8,5	6	30/3
K0383.11225	-	M12	27	8,5	6	30
K0383.11230	K0383.31230	M12	32	8,5	6	30/3
K0383.11232	-	M12	34	8,5	6	30
K0383.11240	K0383.31240	M12	42	8,5	6	30/3
K0383.11620	-	M16	23,3	12	8	60
K0383.11625	-	M16	28,3	12	8	60
K0383.11635	-	M16	38,3	12	8	60
K0383.11650	-	M16	53,3	12	8	60
K0383.12030	-	M20	34,2	15	10	90
K0383.12040	-	M20	44,2	15	10	90
K0383.12060	-	M20	64,2	15	10	90
K0383.12435	-	M24	39,7	18	12	120
K0383.12450	-	M24	54,7	18	12	120
K0383.12480	-	M24	84,7	18	12	120

Ball-end thrust screws without head

with flattened ball



Material:
Screw carbon steel, grade 10.9
Ball, ball-bearing steel or POM.

Version:
Screw black.
Ball hardened bright or POM.

Sample order:
K0383.41012

Note:
Surfaces which are not flat and parallel can be firmly clamped or supported with Form B, C or F with flattened ball, the movable ball can adapt itself up to 9°.
Longer versions have been specially designed to glue in, allowing mechanical connecting elements with external thread to be made cost-effectively for small and medium-sized series.

Drawing reference:
Form B: steel ball
Form C: POM ball
Form F: steel ball diamond grip

KIPP Ball-end thrust screws without head with flattened POM ball

Order No.	Form	D1	D3	L2	Ball-Ø	SW	Load rating max. kN (static load only)
K0383.7046	C	M4	1,8	5,9	2,5	2	0,3
K0383.7048	C	M4	1,8	7,9	2,5	2	0,3
K0383.70410	C	M4	1,8	9,9	2,5	2	0,3
K0383.70412	C	M4	1,8	11,9	2,5	2	0,3
K0383.70416	C	M4	1,8	15,9	2,5	2	0,3
K0383.7058	C	M5	2,1	7,8	3	2,5	0,5
K0383.70510	C	M5	2,1	9,8	3	2,5	0,5
K0383.70512	C	M5	2,1	11,8	3	2,5	0,5
K0383.70516	C	M5	2,1	15,8	3	2,5	0,5
K0383.70520	C	M5	2,1	19,8	3	2,5	0,5
K0383.70525	C	M5	2,1	24,8	3	2,5	0,5
K0383.70610	C	M6	3	10,3	4	3	0,9
K0383.70612	C	M6	3	12,3	4	3	0,9
K0383.70616	C	M6	3	16,3	4	3	0,9
K0383.70620	C	M6	3	20,3	4	3	0,9
K0383.70625	C	M6	3	25,3	4	3	0,9
K0383.70810	C	M8	4,2	10,4	5,5	4	1,5
K0383.70812	C	M8	4,2	12,4	5,5	4	1,5
K0383.70816	C	M8	4,2	16,4	5,5	4	1,5
K0383.70820	C	M8	4,2	20,4	5,5	4	1,5
K0383.70825	C	M8	4,2	25,4	5,5	4	1,5
K0383.70830	C	M8	4,2	30,4	5,5	4	1,5

KIPP Ball-end thrust screws without head with flattened serrated steel ball

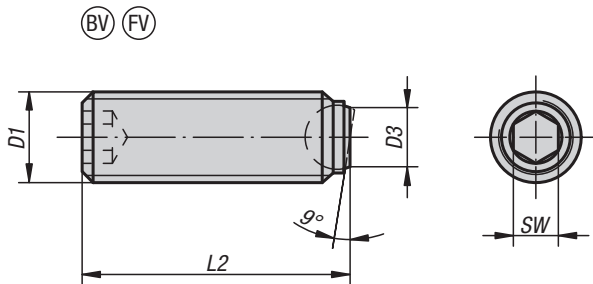
Order No.	Form	D1	D3	L2	Ball-Ø	SW	Load rating max. kN (static load only)
K0383.41012	F	M10	6	12	7	5	20
K0383.41016	F	M10	6	16	7	5	20
K0383.41025	F	M10	6	25	7	5	20
K0383.41035	F	M10	6	35	7	5	20
K0383.41216	F	M12	7,2	16	8,5	6	30
K0383.41220	F	M12	7,2	20	8,5	6	30
K0383.41230	F	M12	7,2	30	8,5	6	30
K0383.41240	F	M12	7,2	40	8,5	6	30
K0383.41620	F	M16	10,7	20	12	8	60
K0383.41625	F	M16	10,7	25	12	8	60
K0383.41635	F	M16	10,7	35	12	8	60
K0383.41650	F	M16	10,7	50	12	8	60

KIPP Ball-end thrust screws without head with flattened steel ball

Order No.	Form	D1	D3	L2	Ball-Ø	SW	Load rating max. kN (static load only)
K0383.2046	B	M4	1,4	5,8	2,5	2	3,5
K0383.2048	B	M4	1,4	7,8	2,5	2	3,5
K0383.20410	B	M4	1,4	9,8	2,5	2	3,5
K0383.20412	B	M4	1,4	11,8	2,5	2	3,5
K0383.20416	B	M4	1,4	15,8	2,5	2	3,5
K0383.2058	B	M5	2	7,6	3	2,5	4,5
K0383.20510	B	M5	2	9,6	3	2,5	4,5
K0383.20512	B	M5	2	11,6	3	2,5	4,5
K0383.20516	B	M5	2	15,6	3	2,5	4,5
K0383.20520	B	M5	2	19,6	3	2,5	4,5
K0383.20525	B	M5	2	24,6	3	2,5	4,5
K0383.20610	B	M6	3	10,1	4	3	9
K0383.20612	B	M6	3	12,1	4	3	9
K0383.20616	B	M6	3	16,1	4	3	9
K0383.20620	B	M6	3	20,1	4	3	9
K0383.20625	B	M6	3	25,1	4	3	9
K0383.20650	B	M6	3	50,1	4	3	9
K0383.20660	B	M6	3	60,1	4	3	9
K0383.20680	B	M6	3	80,1	4	3	9
K0383.20810	B	M8	4,1	10,3	5,5	4	10
K0383.20812	B	M8	4,1	12,3	5,5	4	10
K0383.20816	B	M8	4,1	16,3	5,5	4	15
K0383.20820	B	M8	4,1	20,3	5,5	4	15
K0383.20825	B	M8	4,1	25,3	5,5	4	15
K0383.20830	B	M8	4,1	30,3	5,5	4	15
K0383.20850	B	M8	4,1	50,3	5,5	4	15
K0383.20860	B	M8	4,1	60,3	5,5	4	15
K0383.20880	B	M8	4,1	80,3	5,5	4	15
K0383.21012	B	M10	5,6	12,3	7	5	20
K0383.21016	B	M10	5,6	16,3	7	5	20
K0383.21020	B	M10	5,6	20,3	7	5	20
K0383.21025	B	M10	5,6	25,3	7	5	20
K0383.21035	B	M10	5,6	35,3	7	5	20
K0383.21216	B	M12	7	16,2	8,5	6	30
K0383.21220	B	M12	7	20,2	8,5	6	30
K0383.21230	B	M12	7	30,2	8,5	6	30
K0383.21240	B	M12	7	40,2	8,5	6	30
K0383.21620	B	M16	10,7	20	12	8	60
K0383.21625	B	M16	10,7	25	12	8	60
K0383.21635	B	M16	10,7	35	12	8	60
K0383.21650	B	M16	10,7	50	12	8	60
K0383.22030	B	M20	13,5	30	15	10	90
K0383.22040	B	M20	13,5	40	15	10	90
K0383.22060	B	M20	13,5	60	15	10	90
K0383.22435	B	M24	15,8	35	18	12	120
K0383.22450	B	M24	15,8	50	18	12	120
K0383.22480	B	M24	15,8	80	18	12	120

Ball-end thrust screws without head

with flattened ball and rotation lock



Material:

Screw carbon steel, grade 10.9
Ball, ball-bearing steel.

Version:

Screw black.
Ball hardened, bright.

Sample order:

K0383.50820

Note:

Surfaces which are not flat and parallel can be firmly clamped or supported with a flattened ball, the movable ball can adapt itself up to 9°.

Longer versions have been designed especially to be glued in. This allows mechanical connecting elements with external thread to be made cost-effectively for small and medium-sized series.

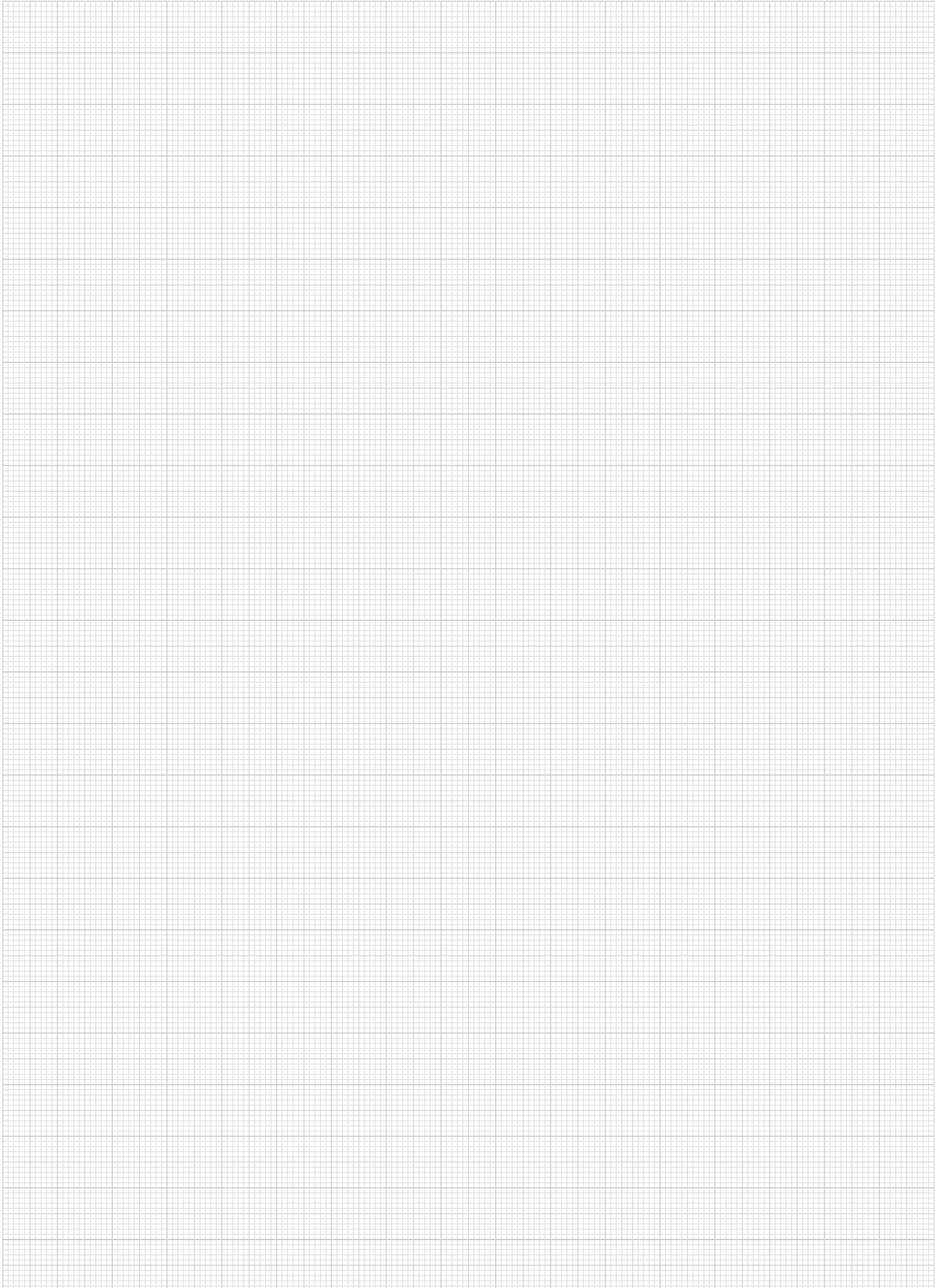
Drawing reference:

Form BV: flattened ball non-rotating

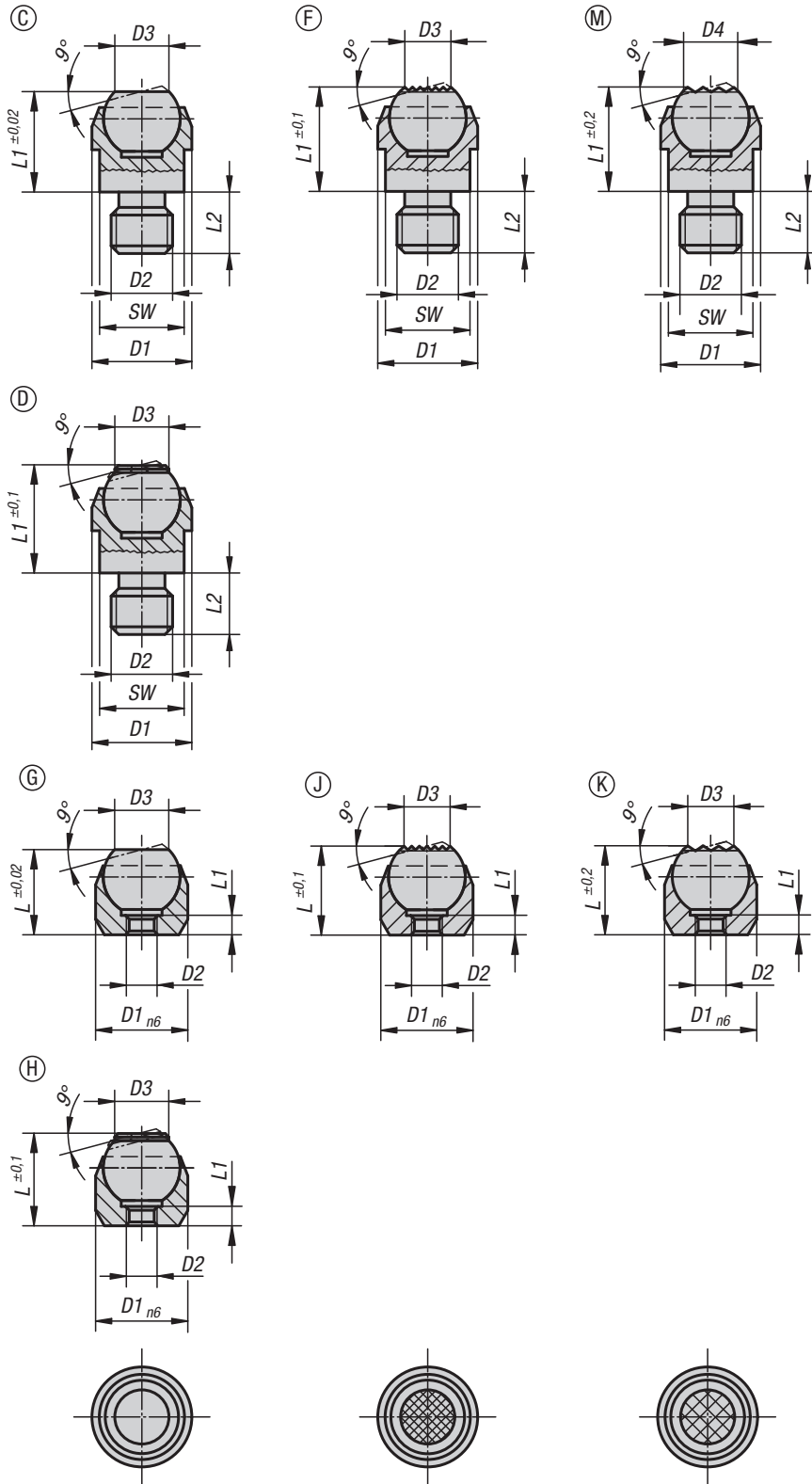
Form FV: flattened ball diamond grip non-rotating

KIPP Ball-end thrust screws without head, with flattened ball and rotation lock

Order No. Form BV	Order No. Form FV	D1	D3	L2	Ball-Ø	SW	Load rating max. kN (static load only)
K0383.50612	-	M6	3	12,1	4	3	6
K0383.50616	-	M6	3	16,1	4	3	6
K0383.50620	-	M6	3	20,1	4	3	6
K0383.50625	-	M6	3	25,1	4	3	6
K0383.50816	K0383.60816	M8	4,1	16,3	5,5	4	9
K0383.50820	K0383.60820	M8	4,1	20,3	5,5	4	9
K0383.50825	K0383.60825	M8	4,1	25,3	5,5	4	9
K0383.50830	K0383.60830	M8	4,1	30,3	5,5	4	9
K0383.51020	K0383.61020	M10	5,6	20,3	7	5	12
K0383.51025	K0383.61025	M10	5,6	25,3	7	5	12
K0383.51035	K0383.61035	M10	5,6	35,3	7	5	12
K0383.51040	K0383.61040	M10	5,6	40,2	7	5	12
K0383.51220	K0383.61220	M12	7	20,2	8,5	6	18
K0383.51230	K0383.61230	M12	7	30,2	8,5	6	18
K0383.51240	K0383.61240	M12	7	40,2	8,5	6	18
K0383.51250	K0383.61250	M12	7	50	8,5	6	18
K0383.51635	K0383.61635	M16	10,7	35	12	8	36
K0383.51650	K0383.61650	M16	10,7	50	12	8	36
K0383.52030	K0383.62030	M20	13,5	30	15	10	60
K0383.52040	K0383.62040	M20	13,5	40	15	10	60
K0383.52050	K0383.62050	M20	13,5	50	15	10	60
K0383.52060	K0383.62060	M20	13,5	60	15	10	60
K0383.52435	K0383.62435	M24	15,8	35	18	12	80
K0383.52450	K0383.62450	M24	15,8	50	18	12	80
K0383.52480	K0383.62480	M24	15,8	80	18	12	80



Self-aligning pads



Material:
 Body carbon steel.
 Ball, ball bearing steel 1.2067.
 Form D: Ball with POM insert.
 Form H: Ball with POM insert.
 Form K: Ball with carbide insert.
 Form M has a carbide ball.

Version:
 Body tempered and phosphated.
 Ball hardened.
 Form M ball nickel plated.

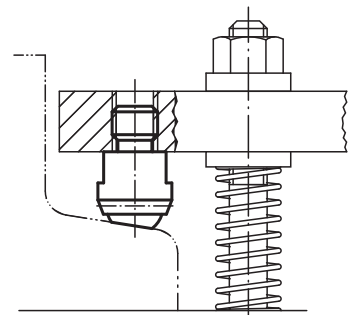
Sample order:
 K0282.120

Note:
 Self-aligning pads serve as stops, supports and thrust pads in fixture constructions.

Ball secured against rotation.

* Valid only if the minimum bore depth is observed.

Drawing reference:
 Form C: with external thread, flattened ball, smooth.
 Form D: with external thread, flattened ball, with POM insert.
 Form F: with external thread, flattened ball, diamond grip.
 Form M: with external thread, flattened ball, diamond grip.
 Form G: press fit, flattened ball, smooth.
 Form H: press fit, flattened ball, with POM insert.
 Form J: press fit, flattened ball, diamond grip.
 Form K: press fit, flattened ball, with carbide insert.



KIPP Self-aligning pads

Order No.	Form	D1	D2	D3	L1	L2	Ball-Ø	SW	Load rating max. kN (static load only)
K0282.108	C	13	M8	7,2	13	8	10	11	10
K0282.110	C	20	M10	10,5	18	10	16	17	25
K0282.112	C	20	M12	10,5	18	12	16	17	25
K0282.116	C	30	M16	20	27	16	25	27	90
K0282.120	C	50	M20	34,5	35	20	40	41	165
Order No.	Form	D1	D2	D3	L1	L2	Ball-Ø	SW	Load rating max. kN (static load only)
K0282.208	D	13	M8	7,9	13	8	10	11	10
K0282.210	D	20	M10	12,7	18	10	16	17	25
K0282.212	D	20	M12	12,7	18	12	16	17	25
Order No.	Form	D1	D2	D3	L1	L2	Ball-Ø	SW	Load rating max. kN (static load only)
K0282.308	F	13	M8	7,2	13	8	10	11	10
K0282.310	F	20	M10	10,5	18	10	16	17	25
K0282.312	F	20	M12	10,5	18	12	16	17	25
K0282.316	F	30	M16	20	27	16	25	27	90
K0282.320	F	50	M20	34,5	35	20	40	41	165
Order No.	Form	D1	D2	D4	L1	L2	SW	Ball-Ø	Load rating max. kN (static load only)
K0282.908	M	13	M8	7,7	13,3	8	11	10	10
K0282.910	M	20	M10	12	18	10	17	16	25
K0282.912	M	20	M12	12	18	12	17	16	25
Order No.	Form	D1	D2	D3	L	L1	Ball-Ø	Receiving hole	Load rating max. kN (static load only)
K0282.403	G	12	M3	7,2	11	3,5	10	Ø 12 H7 x 6 min.	10*
K0282.404	G	18	M4	10,5	17	4,4	16	Ø 18 H7 x 8 min.	25*
K0282.405	G	28	M5	20	25	6,3	25	Ø 28 H7 x 13 min.	90*
Order No.	Form	D1	D2	D3	L	L1	Ball-Ø	Receiving hole	Load rating max. kN (static load only)
K0282.503	H	12	M3	7,9	11	3	10	Ø 12 H7 x 6 min.	10*
K0282.504	H	18	M4	12,7	17	4	16	Ø 18 H7 x 8 min.	25*
K0282.505	H	28	M5	19,05	25	6	25	Ø 28 H7x13 min.	90*
Order No.	Form	D1	D2	D3	L	L1	Ball-Ø	Receiving hole	Load rating max. kN (static load only)
K0282.603	J	12	M3	7,2	11	3,5	10	Ø 12 H7 x 6 min.	10*
K0282.604	J	18	M4	10,5	17	4,4	16	Ø 18 H7 x 8 min.	25*
K0282.605	J	28	M5	20	25	6,3	25	Ø 28 H7 x 13 min.	90*
Order No.	Form	D1	D2	D3	L	L1	Ball-Ø	Receiving hole	Load rating max. kN (static load only)
K0282.803	K	12	M3	7,9	11	3	10	Ø 12 H7 x 6 min.	10*
K0282.804	K	18	M4	12,7	17	4	16	Ø 18 H7 x 8 min.	25*
K0282.805	K	28	M5	19,05	25	6	25	Ø 28 H7x13 min.	90*

Self-aligning pads

swivel angle 12°



Material:

Body carbon steel.
Ball, ball-bearing steel 1.3505.

Version:

Body tempered.
Ball hardened (50 - 55 HRC).

Sample order:

K0302.106

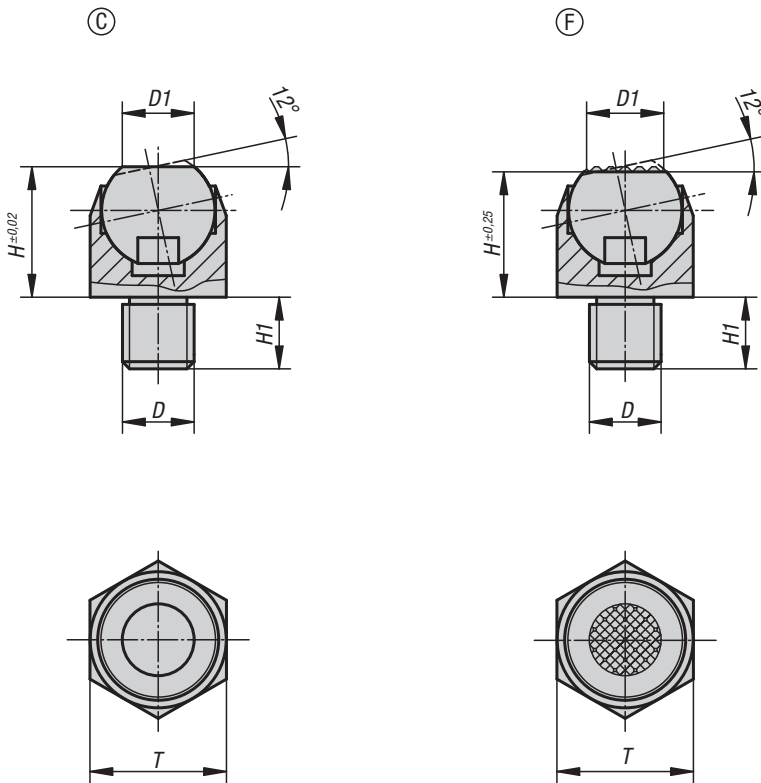
Note:

Self-aligning pads serve as stops, supports and thrust pads in fixture construction.

Ball secured against rotation.

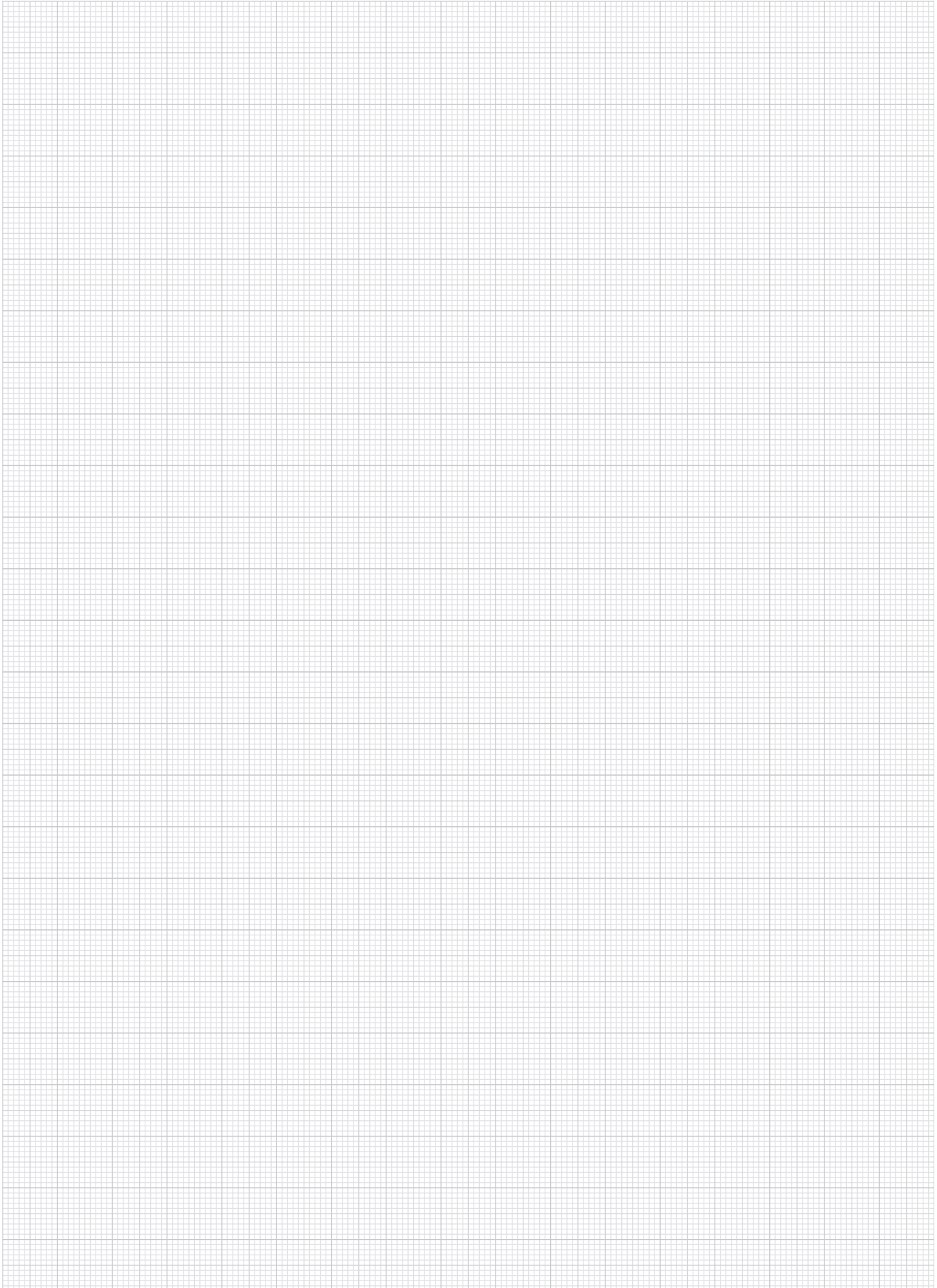
Drawing reference:

Form C: male thread, smooth flattened ball
Form F: male thread, serrated flattened ball



KIPP Self-aligning pads swivel angle 12°

Order No. Form C	Order No. Form F	D	D1	H	H1	Ball-Ø	T	Load rating max. kN (static load only)
K0302.106	K0302.306	M6	6,7	13	7	10	13	10
K0302.108	K0302.308	M8	6,7	13	8	10	13	10
K0302.110	K0302.310	M10	10	18	10	16	19	25
K0302.112	K0302.312	M12	10	18	12	16	19	25
K0302.116	K0302.316	M16	20	27	16	24	30	90
K0302.120	K0302.320	M20	20	27	20	24	30	90



Self-aligning pads

swivel angle 14° and 20°



Material:
 Body steel.
 Ball rust and acid resistant steel.
 Form M with carbide insert.

Version:
 Body black oxidised.
 Ball bright.

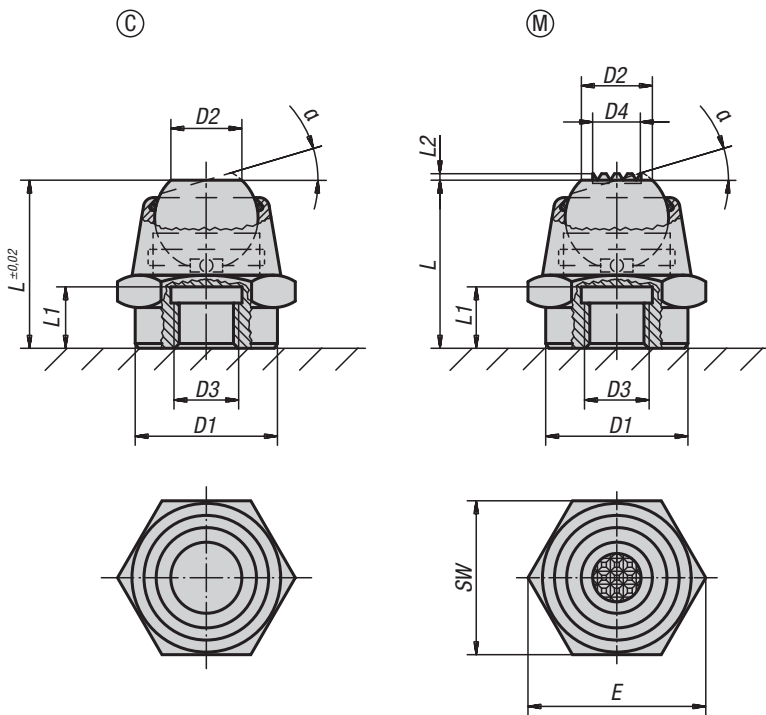
Sample order:
 K0283.108

Note:
 Self-aligning pads are used to support and clamp unmachined and machined workpieces. They also serve as stops, supports and thrust pads in fixture and toolmaking.
 Grub screws or threaded studs can be screwed and glued into thread D3 making a self-aligning pad with external thread.

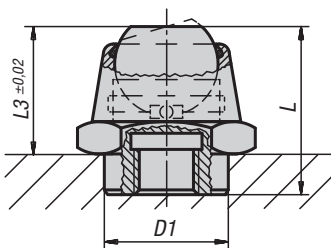
Ball secured against rotation.

Advantages:

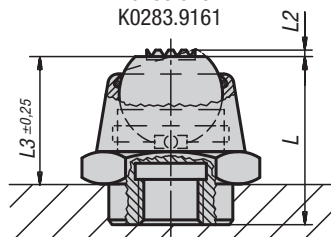
- Self-aligning pads can be swiveled.
- High load forces can be absorbed.
- The built-in o-ring keeps dirt and foreign particles out, which in turn guarantees reliable operation.



K0283.1061
 K0283.1101
 K0283.1161



K0283.9061
 K0283.9101
 K0283.9161



Self-aligning pads

swivel angle 14° and 20°



KIPP Form C, flattened ball, flat face

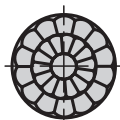
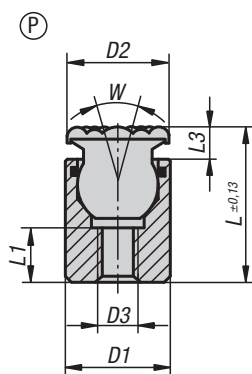
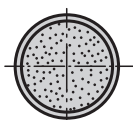
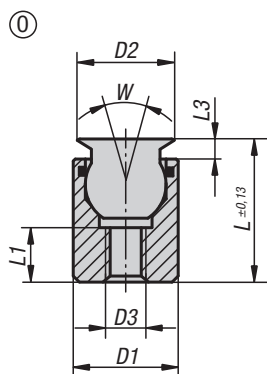
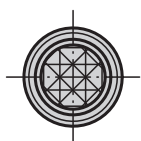
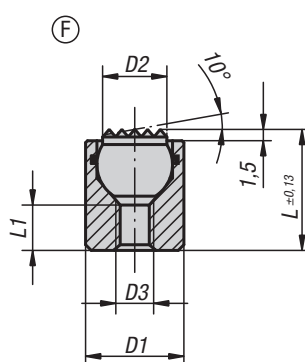
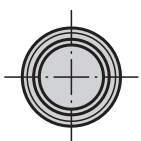
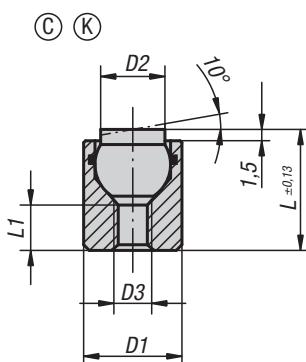
Order No.	Form	α	D1	D2	D3	L	L1	L3	E	SW	Ball-Ø	Load rating max. kN (static load only)
K0283.1061	C	14°	12	7	M6	17,5	6	12,5	19,6	17	10	14
K0283.106	C	14°	16	7	M6	17,5	6	-	19,6	17	10	14
K0283.108	C	20°	22	11	M8	26	9	-	27,7	24	16	34
K0283.1101	C	20°	18	11	M10	26	9	20	27,7	24	16	34
K0283.110	C	20°	22	11	M10	26	9	-	27,7	24	16	34
K0283.112	C	20°	22	11	M12	26	9	-	27,7	24	16	34
K0283.1161	C	20°	26	18	M16	40	15	30	41,6	36	25	90
K0283.116	C	20°	34	18	M16	40	15	-	41,6	36	25	90
K0283.120	C	20°	34	18	M20	40	15	-	41,6	36	25	90

KIPP Form M, flattened ball, carbide steel diamond grip

Order No.	Form	α	D1	D2	D3	D4	L	L1	L2	L3	E	SW	Ball-Ø	Load rating max. kN (static load only)
K0283.9061	M	14°	12	7	M6	5	17,5	6	0,6	12,5	19,6	17	10	14
K0283.906	M	14°	16	7	M6	5	17,5	6	0,6	-	19,6	17	10	14
K0283.908	M	20°	22	11	M8	7,5	26	9	0,8	-	27,7	24	16	34
K0283.9101	M	20°	18	11	M10	7,5	26	9	0,8	20	27,7	24	16	34
K0283.910	M	20°	22	11	M10	7,5	26	9	0,8	-	27,7	24	16	34
K0283.912	M	20°	22	11	M12	7,5	26	9	0,8	-	27,7	24	16	34
K0283.9161	M	20°	26	18	M16	13	40	15	0,9	30	41,6	36	25	90
K0283.916	M	20°	34	18	M16	13	40	15	0,9	-	41,6	36	25	90
K0283.920	M	20°	34	18	M20	13	40	15	0,9	-	41,6	36	25	90

Self-aligning pads

with o-ring



Material:

Body carbon steel.

Ball:

Form C, F tool steel.

Form K POM.

Form O stainless steel diamond impregnated.

Form P stainless steel with polyurethane face.

Version:

Body tempered, black oxidised.

Ball:

Form C, F hardened, black oxidised.

Form K POM ball, white.

Form O surface comparable to 100 grade abrasive grit.

Form P polyurethane, hardness 60 Shore.

Sample order:

K0284.704X012

Note:

Self-aligning pads are used to support and clamp unmachined and machined workpieces.

They also serve as stops, supports and thrust pads in fixtures and toolmaking.

Ball secured against rotation.

Form O: The abrasive diamond surface is fused firmly to the ball. It is ideally suited to supporting smooth or slippery applications with a minimum of clamping pressure. This allows the diamond particles to get a firm grip on a very small area with minimum damage to the surface. The diamond surface offers excellent wear resistance.

Form P: The polyurethane surface is permanently vulcanised on the ball. It is abrasion-resistant and does not discolour. Offers optimum protection against damage to delicate surfaces. The pearl-like surface gives a firm grip and allows air to escape so as to prevent any suction effect between the contact surface and the self-aligning pads.

Advantages:

The built-in O-ring holds the ball in place and keeps dirt and foreign particles out ensuring smooth and even movement.

Self-aligning pads

with o-ring

KIPP Form C, flattened steel ball, smooth

Order No.	Form	D1	D2	D3	L	L1	Ball-Ø	Load rating max. kN (static load only)
K0284.104X012	C	10	6	M4	12	4,5	7	12
K0284.104X025	C	10	6	M4	25	12	7	12
K0284.105X016	C	13	8,5	M5	16	5	10	20
K0284.105X025	C	13	8,5	M5	25	12	10	20

KIPP Form F, flattened steel ball, diamond grip

Order No.	Form	D1	D2	D3	L	L1	Ball-Ø	Load rating max. kN (static load only)
K0284.304X012	F	10	6	M4	12	4,5	7	12
K0284.304X025	F	10	6	M4	25	12	7	12
K0284.305X016	F	13	8,5	M5	16	5	10	20
K0284.305X025	F	13	8,5	M5	25	12	10	20

KIPP Form K, flattened POM ball, smooth

Order No.	Form	D1	D2	D3	L	L1	Ball-Ø	Load rating max. kN (static load only)
K0284.704X012	K	10	6	M4	12	4,5	7	2
K0284.704X025	K	10	6	M4	25	12	7	2
K0284.705X016	K	13	8,5	M5	16	5	10	4
K0284.705X025	K	13	8,5	M5	25	12	10	4

KIPP Form O, stainless-steel ball, diamond impregnated

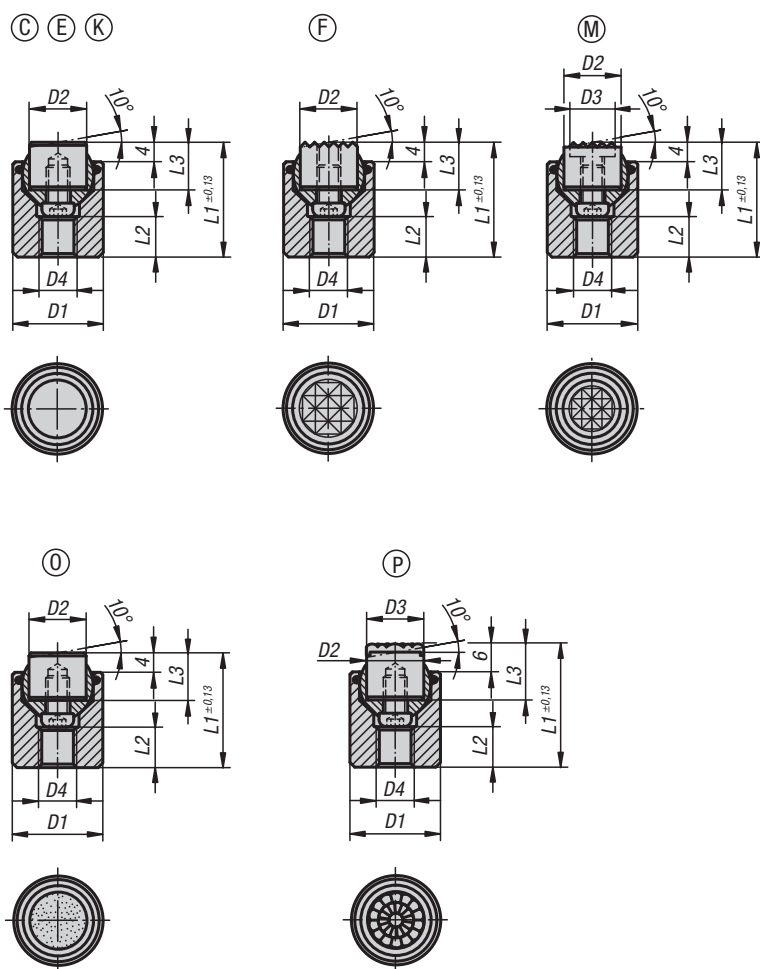
Order No.	Form	D1	D2	D3	L	L1	L3	W	Ball-Ø	Load rating max. kN (static load only)
K0284.504X012	O	10	8	M4	12,5	3,5	2	28	7	11,5
K0284.504X025	O	10	8	M4	25,5	9	2	28	7	11,5
K0284.505X017	O	13	11	M5	17,5	6,5	3	28	10	19,8
K0284.505X026	O	13	11	M5	26,5	9	3	28	10	19,8
K0284.506X021	O	17	14	M6	21	7,5	3	28	13	27,4
K0284.508X024	O	19	19	M8	24	8,5	4	24	15	38,6
K0284.510X028	O	24	21	M10	28	9	4	24	20	58,3

KIPP Form P, stainless-steel ball with polyurethane face

Order No.	Form	D1	D2	D3	L	L1	L3	W	Ball-Ø
K0284.604X014	P	10	10	M4	14,5	3,5	4	28	7
K0284.604X027	P	10	10	M4	27,5	9	4	28	7
K0284.605X019	P	13	13	M5	19,5	6,5	5	28	10
K0284.605X028	P	13	13	M5	28,5	9	5	28	10
K0284.606X023	P	17	16	M6	23	7,5	5	28	13
K0284.608X026	P	19	21	M8	26	8,5	6	24	15
K0284.610X030	P	24	23	M10	30	9	6	24	20

Self-aligning pads

with O-ring and exchangeable inserts



Material:

Body carbon steel.
Ball rust and acid resistant steel.

Inserts:

Form C, F, M tool steel
Form K POM
Form E stainless steel.
Form O stainless steel diamond impregnated.
Form P stainless steel with polyurethane surface.

Version:

Body tempered, black oxidised.
Ball hardened, bright.
Inserts:
Form C, F hardened, black oxidised.
Form M with carbide serrations, black oxidised.
Form K white.
Form E hardened, bright.
Form O diamond impregnated surface comparable to 100 grade abrasive grit.
Form P polyurethane surface, hardness 60 Shore.

Sample order:

K0285.736X036

Note:

Self-aligning pads are used to support and clamp unmachined and machined workpieces. They can also be used as stops, supports and thrust pads in fixtures and toolmaking. The ball can be removed from the housing by applying light pressure to the socket head screw.

Ball secured against rotation.

Advantages:

Highly cost-effective as inserts can be exchanged. The built-in O-ring holds the ball in place and keeps dirt and foreign particles out, ensuring uniform movement.

KIPP Form C, flattened steel insert, smooth

Order No.	Form	D1	D2	D4	L1	L2	L3	Ball-Ø	Load rating max. kN (static load only)	Order No. steel insert
K0285.117X022	C	17	10	M6	22	7	10	13	28	K0385.10108
K0285.119X024	C	19	12	M8	24	8	10	15	39	K0385.12108
K0285.124X028	C	24	16	M10	28	8	10	20	58	K0385.16108
K0285.130X030	C	30	20	M12	30	9	10	23	95	K0385.20108
K0285.136X036	C	36	25	M12	36	11	10	28	136	K0385.25108

KIPP Form E, flattened stainless steel insert, smooth

Order No.	Form	D1	D2	D4	L1	L2	L3	Ball-Ø	Load rating max. kN (static load only)	Order No. stainless steel insert
K0285.236X036	E	36	25	M12	36	11	10	28	136	K0385.25102
K0285.219X024	E	19	12	M8	24	8	10	15	39	K0385.12102
K0285.217X022	E	17	10	M6	22	7	10	13	28	K0385.10102
K0285.224X028	E	24	16	M10	28	8	10	20	58	K0385.16102
K0285.230X030	E	30	20	M12	30	9	10	23	95	K0385.20102

KIPP Form F, flattened, diamond grip

Order No.	Form	D1	D2	D4	L1	L2	L3	Ball-Ø	Load rating max. kN (static load only)	Order No. gripper
K0285.317X022	F	17	10	M6	22	7	10	13	28	K0385.1010
K0285.319X024	F	19	12	M8	24	8	10	15	39	K0385.1210
K0285.324X028	F	24	16	M10	28	8	10	20	58	K0385.1610
K0285.330X030	F	30	20	M12	30	9	10	23	95	K0385.2010
K0285.336X036	F	36	25	M12	36	11	10	28	136	K0385.2510

KIPP Form K, flattened POM insert, smooth

Order No.	Form	D1	D2	D4	L1	L2	L3	Ball-Ø	Load rating max. kN (static load only)	Order No. POM insert
K0285.717X022	K	17	10	M6	22	7	10	13	4	K0385.10109
K0285.719X024	K	19	12	M8	24	8	10	15	7	K0385.12109
K0285.724X028	K	24	16	M10	28	8	10	20	14	K0385.16109
K0285.730X030	K	30	20	M12	30	9	10	23	27	K0385.20109
K0285.736X036	K	36	25	M12	36	11	10	28	47	K0385.25109

KIPP Form M, flattened, with carbide serrations

Order No.	Form	D1	D2	D3	D4	L1	L2	L3	Ball-Ø	Load rating max. kN (static load only)	Order No. gripper
K0285.930X030	M	30	20	15,9	M12	30	9	10	23	95	K0385.20107
K0285.917X022	M	17	10	7,9	M6	22	7	10	13	28	K0385.10107
K0285.924X028	M	24	16	12,7	M10	28	8	10	20	58	K0385.16107
K0285.919X024	M	19	12	9,5	M8	24	8	10	15	39	K0385.12107
K0285.936X036	M	36	25	19	M12	36	11	10	28	136	K0385.25107

KIPP Form O, stainless-steel insert, diamond impregnated

Order No.	Form	D1	D2	D4	L1	L2	L3	Ball-Ø	Load rating max. kN (static load only)	Order No. stainless steel insert, diamond surface
K0285.517X022	O	17	10	M6	22	7	10	13	28	K0385.10105
K0285.519X024	O	19	12	M8	24	8	10	15	39	K0385.12105
K0285.524X028	O	24	16	M10	28	8	10	20	58	K0385.16105
K0285.530X030	O	30	20	M12	30	9	10	23	95	K0385.20105
K0285.536X036	O	36	25	M12	36	11	10	28	136	K0385.25105

KIPP Form P, stainless-steel insert with polyurethane face

Order No.	Form	D1	D2	D3	D4	L1	L2	L3	Ball-Ø	Order No. stainless steel insert, polyurethane surface
K0285.617X024	P	17	10	10	M6	24	7	12	13	K0385.10126
K0285.619X026	P	19	12	13	M8	26	8	12	15	K0385.12126
K0285.624X030	P	24	16	16	M10	30	8	12	20	K0385.16126
K0285.630X032	P	30	20	21	M12	32	9	12	23	K0385.20126
K0285.636X038	P	36	25	27	M12	38	11	12	28	K0385.25126

Self-aligning pads

adjustable

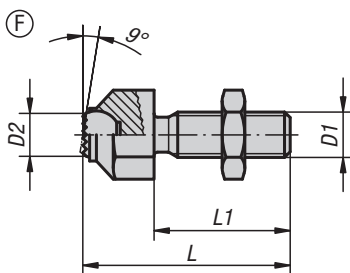
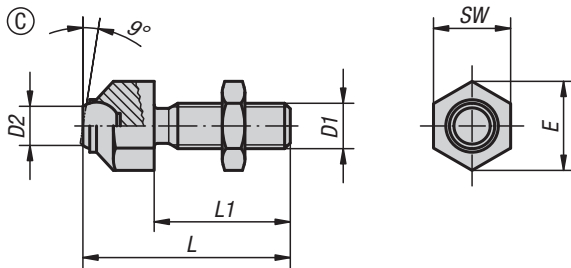


Material:
Steel.

Version:
Housing tempered and manganese phosphated.
Ball hardened, bright.
Nut black oxidised.

Sample order:
K0287.316

Note:
Ball secured against rotation.

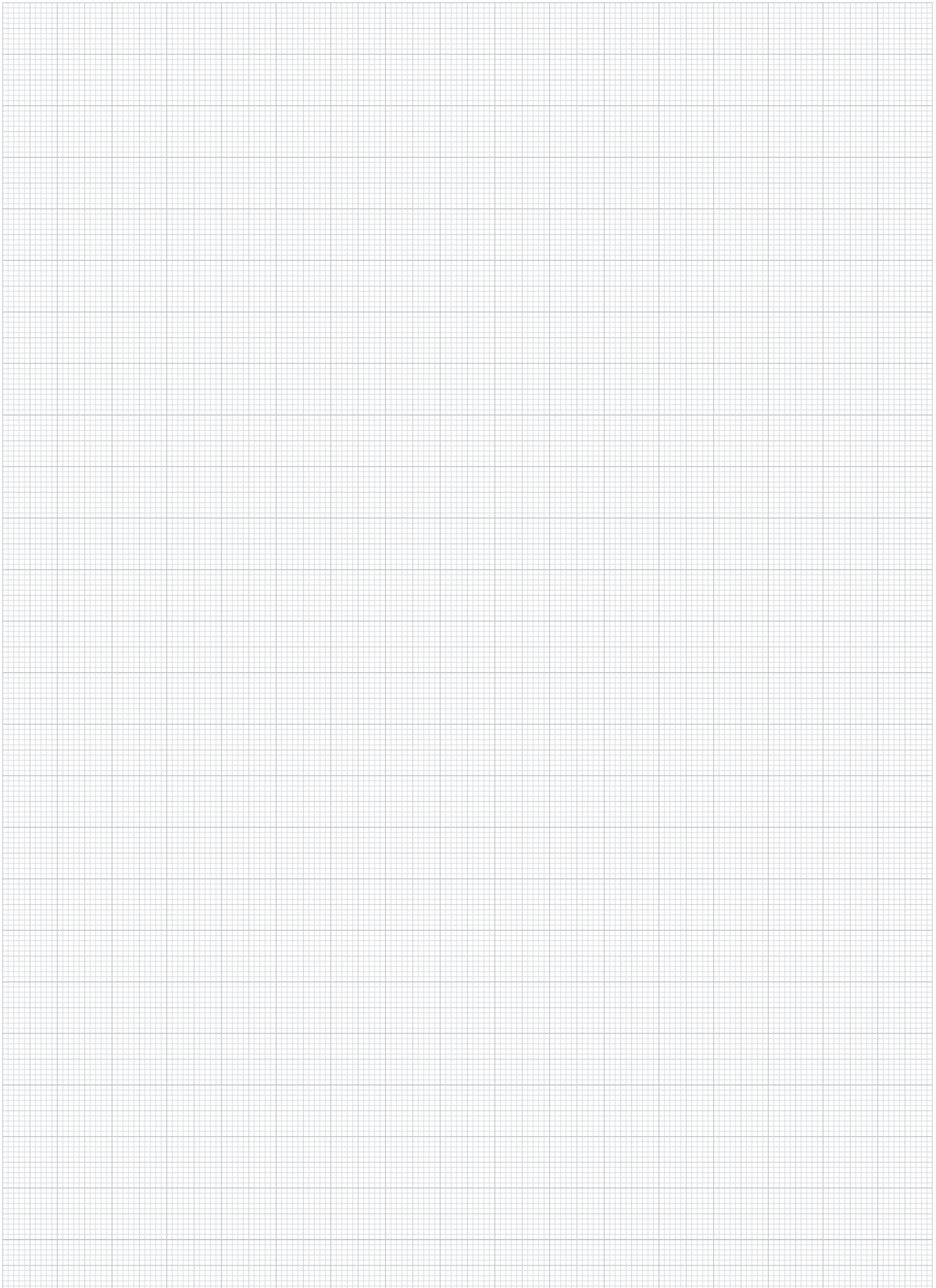


KIPP Form C, flattened ball, flat face

Order No.	Form	D1	D2	L	L1	E	SW	Ball-Ø	Load rating max. kN (static load only)
K0287.108	C	M8	5,8	36,6	25	14,5	13	8,5	8
K0287.110	C	M10	8,6	45,7	30	19	17	12	8
K0287.112	C	M12	8,6	50,7	35	19	17	12	15
K0287.116	C	M16	10,5	60,7	40	27	24	16	25
K0287.120	C	M20	20	77,3	50	33	30	25	90

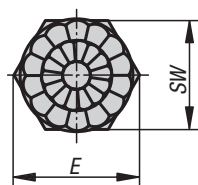
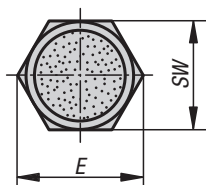
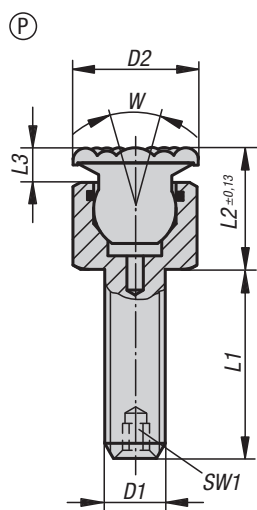
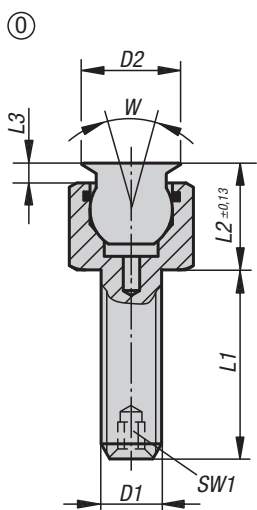
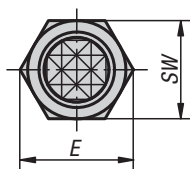
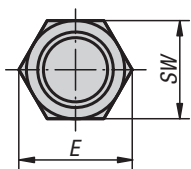
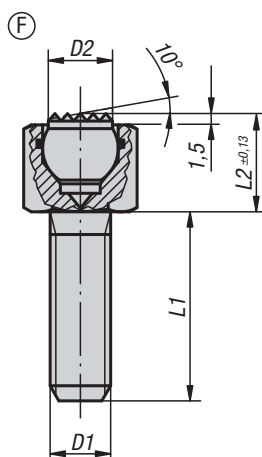
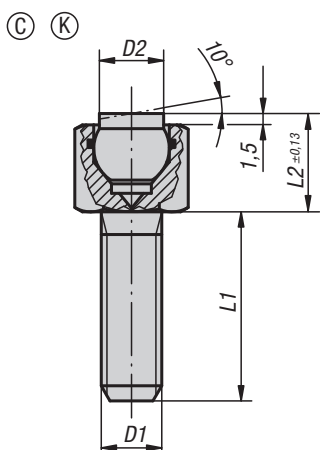
KIPP Form F, flattened ball, diamond grip

Order No.	Form	D1	D2	L	L1	E	SW	Ball-Ø	Load rating max. kN (static load only)
K0287.308	F	M8	5,8	36,6	25	14,5	13	8,5	8
K0287.310	F	M10	8,6	45,7	30	19	17	12	8
K0287.312	F	M12	8,6	50,7	35	19	17	12	15
K0287.316	F	M16	10,5	60,7	40	27	24	16	25
K0287.320	F	M20	20	77,3	50	33	30	25	90



Self-aligning pads adjustable

with o-ring



Material:

- Body carbon steel.
- Ball:
- Form C, F, tool steel.
- Form K POM.
- Form O stainless steel diamond impregnated.
- Form P stainless steel with polyurethane surface.

Version:

- Body tempered, black oxidised.
- Ball:
- Form C, F hardened, black oxidised.
- Form K POM ball white.
- Form O surface comparable to 100 grade abrasive grit.
- Form P polyurethane hardness 60 Shore.

Sample order:

K0288.506X012
(include length L1)

Note:

Self-aligning pads are used to support and clamp unmachined and machined workpieces. They also serve as stops, supports and thrust pads in fixtures and toolmaking.

Ball secured against rotation.

Form O: The abrasive diamond surface is bonded firmly to the ball. It is ideally suited to supporting smooth or slippery applications with a minimum of clamping pressure. This allows the diamond particles to get a firm grip on a very small area with minimum damage to the surface.

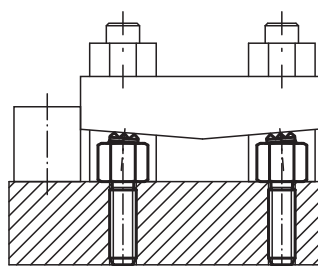
The diamond surface offers excellent wear resistance.

Form P: The polyurethane surface is vulcanised firmly to the ball. It is abrasion-resistant and does not discolour.

It offers optimum protection against damage to delicate surfaces. The pearl-like surface gives a firm grip and allows air to escape so as to prevent any suction effect between the contact surface and the self-aligning pads.

Advantages:

The built-in O-ring holds the ball in place and keeps dirt and foreign particles out, ensuring uniform movement.



Self-aligning pads adjustable

with o-ring

KIPP Form C, flattened steel ball, smooth

Order No.	Form	D1	D2	L1	L2	E	SW	Ball-Ø	Load rating max. kN (static load only)
K0288.106X012	C	M6	6	12	9,5	11,5	10	7	9
K0288.106X025	C	M6	6	25	9,5	11,5	10	7	9
K0288.106X040	C	M6	6	40	9,5	11,5	10	7	9
K0288.108X012	C	M8	8,5	12	13	15	13	10	15
K0288.108X025	C	M8	8,5	25	13	15	13	10	15
K0288.108X040	C	M8	8,5	40	13	15	13	10	15

KIPP Form F, flattened steel ball, diamond grip

Order No.	Form	D1	D2	L1	L2	E	SW	Ball-Ø	Load rating max. kN (static load only)
K0288.306X012	F	M6	6	12	9,5	11,5	10	7	9
K0288.306X025	F	M6	6	25	9,5	11,5	10	7	9
K0288.306X040	F	M6	6	40	9,5	11,5	10	7	9
K0288.308X012	F	M8	8,5	12	13	15	13	10	15
K0288.308X025	F	M8	8,5	25	13	15	13	10	15
K0288.308X040	F	M8	8,5	40	13	15	13	10	15

KIPP Form K, flattened POM ball, smooth

Order No.	Form	D1	D2	L1	L2	E	SW	Ball-Ø	Load rating max. kN (static load only)
K0288.706X012	K	M6	6	12	9,5	11,5	10	7	2
K0288.706X025	K	M6	6	25	9,5	11,5	10	7	2
K0288.706X040	K	M6	6	40	9,5	11,5	10	7	2
K0288.708X012	K	M8	8,5	12	13	15	13	10	4
K0288.708X025	K	M8	8,5	25	13	15	13	10	4
K0288.708X040	K	M8	8,5	40	13	15	13	10	4

KIPP Form O, stainless-steel ball, diamond impregnated

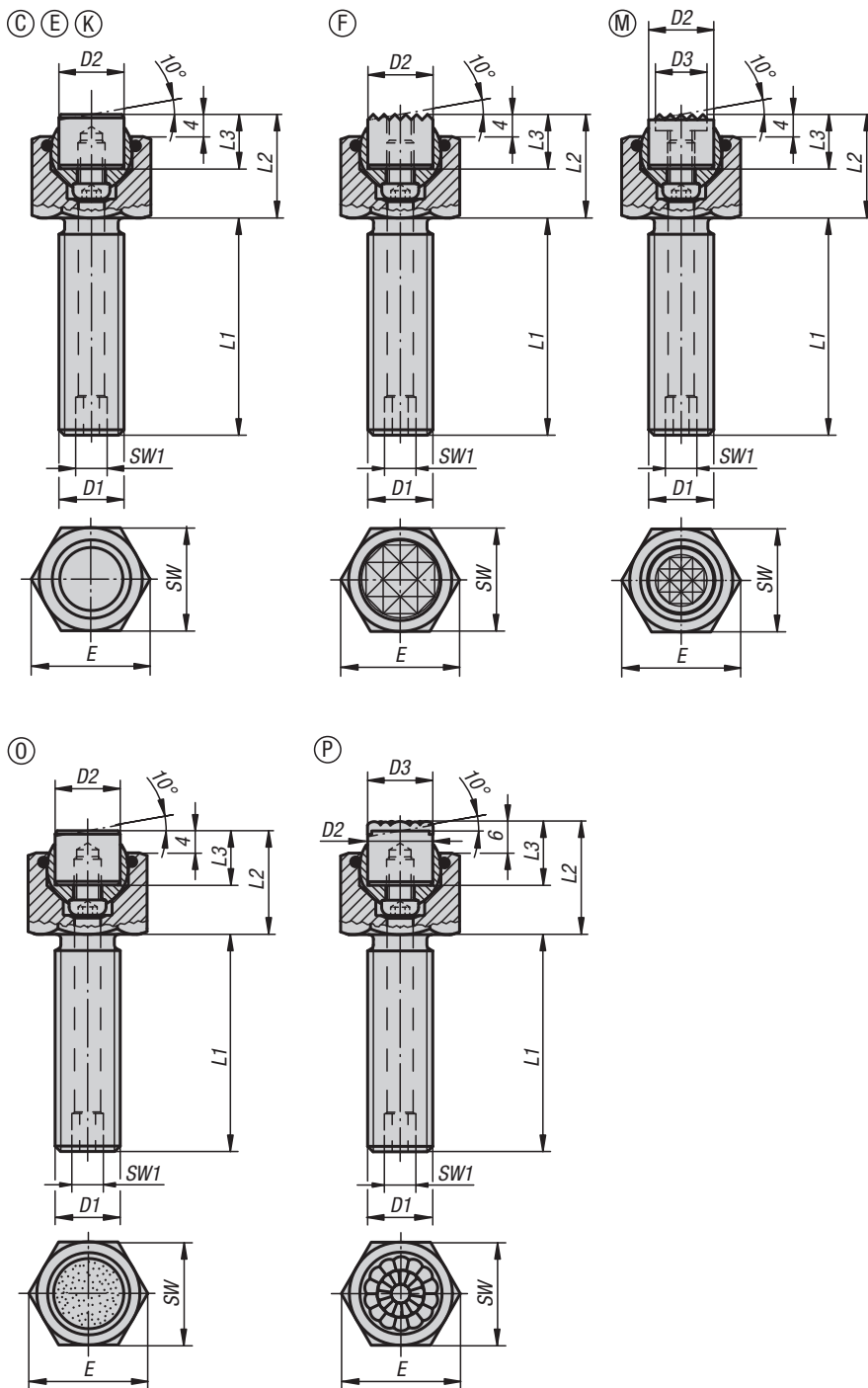
Order No.	Form	D1	D2	L1	L2	L3	E	SW	SW1	W	Ball-Ø	Load rating max. kN (static load only)
K0288.506X	O	M6	8	12/25/40	10	2	11,5	10	-	28	7	9,2
K0288.508X	O	M8	11	12/25/40	14,5	3	15	13	-	28	10	15,5
K0288.512X	O	M12	19	20/40/60	19	4	21,9	19	5	24	15	29,8
K0288.510X	O	M10	14	15/30/50	16	3	19,6	17	3	28	13	18,8
K0288.516X	O	M16	21	25/50/80	23	4	27,7	24	6	24	20	50,3

KIPP Form P, stainless-steel ball with polyurethane face

Order No.	Form	D1	D2	L1	L2	L3	E	SW	SW1	W	Ball-Ø
K0288.612X	P	M12	21	20/40/60	21	6	21,9	19	5	24	15
K0288.610X	P	M10	16	15/30/50	18	5	19,6	17	3	28	13
K0288.608X	P	M8	13	12/25/40	16,5	5	15	13	-	28	10
K0288.606X	P	M6	10	12/25/40	12	4	11,5	10	-	28	7
K0288.616X	P	M16	23	25/50/80	25	6	27,7	24	6	24	20

Self-aligning pads adjustable

with O-ring and exchangeable inserts



Material:

Body carbon steel.

Ball rust and acid resistant steel.

Inserts:

Form C, F, M tool steel

Form K POM

Form E stainless steel.

Form O stainless steel diamond impregnated.

Form P stainless steel with polyurethane surface.

Version:

Body tempered, black oxidised.

Ball hardened, bright.

Inserts:

Form C, F hardened, black oxidised.

Form M with carbide serrations, black oxidised.

Form K white.

Form E hardened, bright.

Form O diamond impregnated surface comparable to 100 grade abrasive grit.

Form P polyurethane surface, hardness 60 Shore.

Sample order:

K0289.124X100

Note:

Self-aligning pads are used to support and clamp unmachined and machined workpieces.

They also serve as stops, supports and thrust pads in fixtures and toolmaking.

The ball can be removed from the housing by applying light pressure to the socket head screw.

Ball secured against rotation.

Advantages:

Highly cost-effective as inserts can be exchanged.

The built-in O-ring holds the ball in place and keeps dirt and foreign particles out, ensuring uniform movement.

KIPP Form C, flattened steel insert, smooth

Order No.	Form	D1	D2	L1	L2	L3	E	SW	SW1	Ball-Ø	Load rating max. kN (static load only)	Order No. steel insert
K0289.110X015	C	M10	10	15	17	10	19,6	17	3	13	19	K0385.10108
K0289.110X030	C	M10	10	30	17	10	19,6	17	3	13	19	K0385.10108
K0289.110X050	C	M10	10	50	17	10	19,6	17	3	13	19	K0385.10108
K0289.112X020	C	M12	12	20	19	10	21,9	19	5	15	30	K0385.12108
K0289.112X040	C	M12	12	40	19	10	21,9	19	5	15	30	K0385.12108
K0289.112X060	C	M12	12	60	19	10	21,9	19	5	15	30	K0385.12108
K0289.116X025	C	M16	16	25	23	10	27,7	24	6	20	50	K0385.16108
K0289.116X050	C	M16	16	50	23	10	27,7	24	6	20	50	K0385.16108
K0289.116X080	C	M16	16	80	23	10	27,7	24	6	20	50	K0385.16108
K0289.120X030	C	M20	20	30	24	10	34,6	30	8	23	85	K0385.20108
K0289.120X060	C	M20	20	60	24	10	34,6	30	8	23	85	K0385.20108
K0289.120X100	C	M20	20	100	24	10	34,6	30	8	23	85	K0385.20108
K0289.124X040	C	M24	25	40	30	10	41,6	36	10	28	121	K0385.25108
K0289.124X100	C	M24	25	100	30	10	41,6	36	10	28	121	K0385.25108

KIPP Form E, flattened stainless steel insert, smooth

Order No.	Form	D1	D2	L1	L2	L3	E	SW	SW1	Ball-Ø	Load rating max. kN (static load only)	Order No. stainless steel insert
K0289.210X015	E	M10	10	15	17	10	19,6	17	3	13	19	K0385.10102
K0289.210X030	E	M10	10	30	17	10	19,6	17	3	13	19	K0385.10102
K0289.210X050	E	M10	10	50	17	10	19,6	17	3	13	19	K0385.10102
K0289.212X020	E	M12	12	20	19	10	21,9	19	5	15	30	K0385.12102
K0289.212X040	E	M12	12	40	19	10	21,9	19	5	15	30	K0385.12102
K0289.212X060	E	M12	12	60	19	10	21,9	19	5	15	30	K0385.12102
K0289.216X025	E	M16	16	25	23	10	27,7	24	6	20	50	K0385.16102
K0289.216X050	E	M16	16	50	23	10	27,7	24	6	20	50	K0385.16102
K0289.216X080	E	M16	16	80	23	10	27,7	24	6	20	50	K0385.16102
K0289.220X030	E	M20	20	30	24	10	34,6	30	8	23	85	K0385.20102
K0289.220X060	E	M20	20	60	24	10	34,6	30	8	23	85	K0385.20102
K0289.220X100	E	M20	20	100	24	10	34,6	30	8	23	85	K0385.20102
K0289.224X040	E	M24	25	40	30	10	41,6	36	10	28	121	K0385.25102
K0289.224X100	E	M24	25	100	30	10	41,6	36	10	28	121	K0385.25102

KIPP Form F, flattened, diamond grip

Order No.	Form	D1	D2	L1	L2	L3	E	SW	SW1	Ball-Ø	Load rating max. kN (static load only)	Order No. gripper
K0289.310X015	F	M10	10	15	17	10	19,6	17	3	13	19	K0385.1010
K0289.310X030	F	M10	10	30	17	10	19,6	17	3	13	19	K0385.1010
K0289.310X050	F	M10	10	50	17	10	19,6	17	3	13	19	K0385.1010
K0289.312X020	F	M12	12	20	19	10	21,9	19	5	15	30	K0385.1210
K0289.312X040	F	M12	12	40	19	10	21,9	19	5	15	30	K0385.1210
K0289.312X060	F	M12	12	60	19	10	21,9	19	5	15	30	K0385.1210
K0289.316X025	F	M16	16	25	23	10	27,7	24	6	20	50	K0385.1610
K0289.316X050	F	M16	16	50	23	10	27,7	24	6	20	50	K0385.1610
K0289.316X080	F	M16	16	80	23	10	27,7	24	6	20	50	K0385.1610
K0289.320X030	F	M20	20	30	24	10	34,6	30	8	23	85	K0385.2010
K0289.320X060	F	M20	20	60	24	10	34,6	30	8	23	85	K0385.2010
K0289.320X100	F	M20	20	100	24	10	34,6	30	8	23	85	K0385.2010
K0289.324X040	F	M24	25	40	30	10	41,6	36	10	28	121	K0385.2510
K0289.324X100	F	M24	25	100	30	10	41,6	36	10	28	121	K0385.2510

Self-aligning pads adjustable

with O-ring and exchangeable inserts

KIPP Form K, flattened POM insert, smooth

Order No.	Form	D1	D2	L1	L2	L3	E	SW	SW1	Ball-Ø	Load rating max. kN (static load only)	Order No. POM insert
K0289.710X015	K	M10	10	15	17	10	19,6	17	3	13	4	K0385.10109
K0289.710X030	K	M10	10	30	17	10	19,6	17	3	13	4	K0385.10109
K0289.710X050	K	M10	10	50	17	10	19,6	17	3	13	4	K0385.10109
K0289.712X020	K	M12	12	20	19	10	21,9	19	5	15	7	K0385.12109
K0289.712X040	K	M12	12	40	19	10	21,9	19	5	15	7	K0385.12109
K0289.712X060	K	M12	12	60	19	10	21,9	19	5	15	7	K0385.12109
K0289.716X025	K	M16	16	25	23	10	27,7	24	6	20	14	K0385.16109
K0289.716X050	K	M16	16	50	23	10	27,7	24	6	20	14	K0385.16109
K0289.716X080	K	M16	16	80	23	10	27,7	24	6	20	14	K0385.16109
K0289.720X030	K	M20	20	30	24	10	34,6	30	8	23	27	K0385.20109
K0289.720X060	K	M20	20	60	24	10	34,6	30	8	23	27	K0385.20109
K0289.720X100	K	M20	20	100	24	10	34,6	30	8	23	27	K0385.20109
K0289.724X040	K	M24	25	40	30	10	41,6	36	10	28	47	K0385.25109
K0289.724X100	K	M24	25	100	30	10	41,6	36	10	28	47	K0385.25109

KIPP Form M, flattened, with carbide serrations

Order No.	Form	D1	D2	D3	L1	L2	L3	E	SW	SW1	Ball-Ø	Load rating max. kN (static load only)	Order No. gripper
K0289.910X015	M	M10	10	7,9	15	17	10	19,6	17	3	13	19	K0385.10107
K0289.910X030	M	M10	10	7,9	30	17	10	19,6	17	3	13	19	K0385.10107
K0289.910X050	M	M10	10	7,9	50	17	10	19,6	17	3	13	19	K0385.10107
K0289.912X020	M	M12	12	9,5	20	19	10	21,9	19	5	15	30	K0385.12107
K0289.912X040	M	M12	12	9,5	40	19	10	21,9	19	5	15	30	K0385.12107
K0289.912X060	M	M12	12	9,5	60	19	10	21,9	19	5	15	30	K0385.12107
K0289.916X025	M	M16	16	12,7	25	23	10	27,7	24	6	20	50	K0385.16107
K0289.916X050	M	M16	16	12,7	50	23	10	27,7	24	6	20	50	K0385.16107
K0289.916X080	M	M16	16	12,7	80	23	10	27,7	24	6	20	50	K0385.16107
K0289.920X030	M	M20	20	15,9	30	24	10	34,6	30	8	23	85	K0385.20107
K0289.920X060	M	M20	20	15,9	60	24	10	34,6	30	8	23	85	K0385.20107
K0289.920X100	M	M20	20	15,9	100	24	10	34,6	30	8	23	85	K0385.20107
K0289.924X040	M	M24	25	19	40	30	10	41,6	36	10	28	121	K0385.25107
K0289.924X100	M	M24	25	19	100	30	10	41,6	36	10	28	121	K0385.25107

Self-aligning pads adjustable

with O-ring and exchangeable inserts



KIPP Form O, stainless-steel insert, diamond impregnated

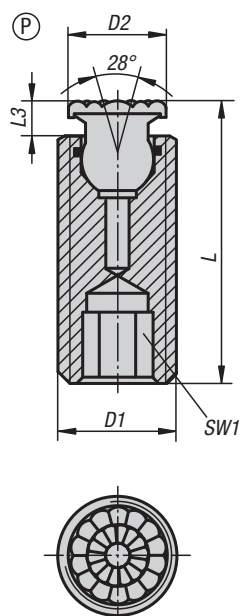
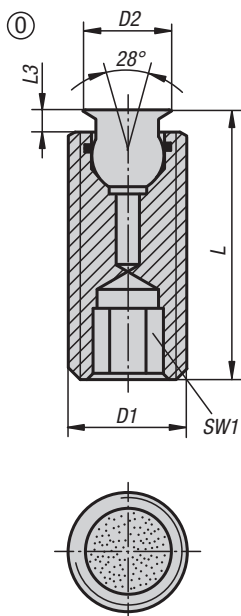
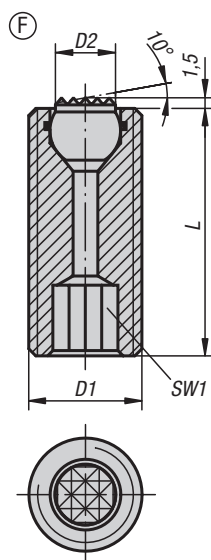
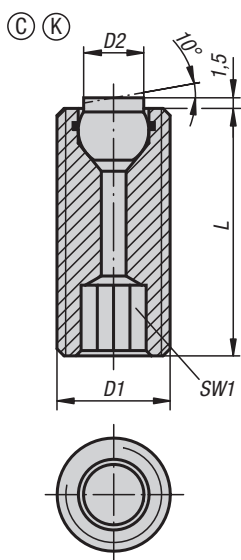
Order No.	Form	D1	D2	L1	L2	L3	E	SW	SW1	Ball-Ø	Load rating max. kN (static load only)	Order No. stainless steel insert, diamond surface
K0289.510X015	O	M10	10	15	17	10	19,6	17	3	13	19	K0385.10105
K0289.510X030	O	M10	10	30	17	10	19,6	17	3	13	19	K0385.10105
K0289.510X050	O	M10	10	50	17	10	19,6	17	3	13	19	K0385.10105
K0289.512X020	O	M12	12	20	19	10	21,9	19	5	15	30	K0385.12105
K0289.512X040	O	M12	12	40	19	10	21,9	19	5	15	30	K0385.12105
K0289.512X060	O	M12	12	60	19	10	21,9	19	5	15	30	K0385.12105
K0289.516X025	O	M16	16	25	23	10	27,7	24	6	20	50	K0385.16105
K0289.516X050	O	M16	16	50	23	10	27,7	24	6	20	50	K0385.16105
K0289.516X080	O	M16	16	80	23	10	27,7	24	6	20	50	K0385.16105
K0289.520X030	O	M20	20	30	24	10	34,6	30	8	23	85	K0385.20105
K0289.520X060	O	M20	20	60	24	10	34,6	30	8	23	85	K0385.20105
K0289.520X100	O	M20	20	100	24	10	34,6	30	8	23	85	K0385.20105
K0289.524X040	O	M24	25	40	30	10	41,6	36	10	28	121	K0385.25105
K0289.524X100	O	M24	25	100	30	10	41,6	36	10	28	121	K0385.25105

KIPP Form P, stainless-steel insert with polyurethane face

Order No.	Form	D1	D2	D3	L1	L2	L3	E	SW	SW1	Ball-Ø	Order No. stainless steel insert, polyurethane surface
K0289.610X015	P	M10	10	10	15	19	12	19,6	17	3	13	K0385.10126
K0289.610X030	P	M10	10	10	30	19	12	19,6	17	3	13	K0385.10126
K0289.610X050	P	M10	10	10	50	19	12	19,6	17	3	13	K0385.10126
K0289.612X020	P	M12	12	13	20	21	12	21,9	19	5	15	K0385.12126
K0289.612X040	P	M12	12	13	40	21	12	21,9	19	5	15	K0385.12126
K0289.612X060	P	M12	12	13	60	21	12	21,9	19	5	15	K0385.12126
K0289.616X025	P	M16	16	16	25	25	12	27,7	24	6	20	K0385.16126
K0289.616X050	P	M16	16	16	50	25	12	27,7	24	6	20	K0385.16126
K0289.616X080	P	M16	16	16	80	25	12	27,7	24	6	20	K0385.16126
K0289.620X030	P	M20	20	21	30	26	12	34,6	30	8	23	K0385.20126
K0289.620X060	P	M20	20	21	60	26	12	34,6	30	8	23	K0385.20126
K0289.620X100	P	M20	20	21	100	26	12	34,6	30	8	23	K0385.20126
K0289.624X040	P	M24	25	27	40	32	12	41,6	36	10	28	K0385.25126
K0289.624X100	P	M24	25	27	100	32	12	41,6	36	10	28	K0385.25126

Self-aligning pads adjustable

with O-ring and hexagon socket



Material:

Body carbon steel.
Ball tool steel, Form K POM

Version:

Body tempered.
Ball hardened, black oxidised.
POM ball white.

Sample order:

K0290.510X026
(include length L)

Note:

Self-aligning pads are used to support and clamp unmachined and machined workpieces. They can also be used as stops, supports and thrust pads in fixtures and toolmaking.

Ball secured against rotation.

Advantages:

The built-in O-ring holds the ball in place and keeps dirt and foreign particles out, ensuring uniform movement.

The hexagon socket allows easy adjustment and positioning in through holes.

Self-aligning pads adjustable

with O-ring and hexagon socket

KIPP Form C, flattened steel ball, smooth

Order No.	Form	D1	D2	L	SW1	Ball-Ø	Load rating max. kN (static load only)
K0290.112X025	C	M12	6	25	6	7	15
K0290.112X035	C	M12	6	35	6	7	15
K0290.112X050	C	M12	6	50	6	7	15
K0290.116X025	C	M16	8,5	25	8	10	23
K0290.116X035	C	M16	8,5	35	8	10	23
K0290.116X050	C	M16	8,5	50	8	10	23

KIPP Form F, flattened steel ball, diamond grip

Order No.	Form	D1	D2	L	SW1	Ball-Ø	Load rating max. kN (static load only)
K0290.312X025	F	M12	6	25	6	7	15
K0290.312X035	F	M12	6	35	6	7	15
K0290.312X050	F	M12	6	50	6	7	15
K0290.316X025	F	M16	8,5	25	8	10	23
K0290.316X035	F	M16	8,5	35	8	10	23
K0290.316X050	F	M16	8,5	50	8	10	23

KIPP Form K, flattened POM ball, smooth

Order No.	Form	D1	D2	L	SW1	Ball-Ø	Load rating max. kN (static load only)
K0290.712X025	K	M12	6	25	6	7	2
K0290.712X035	K	M12	6	35	6	7	2
K0290.712X050	K	M12	6	50	6	7	2
K0290.716X025	K	M16	8,5	25	8	10	4
K0290.716X035	K	M16	8,5	35	8	10	4
K0290.716X050	K	M16	8,5	50	8	10	4

KIPP Form O, stainless-steel ball, diamond impregnated

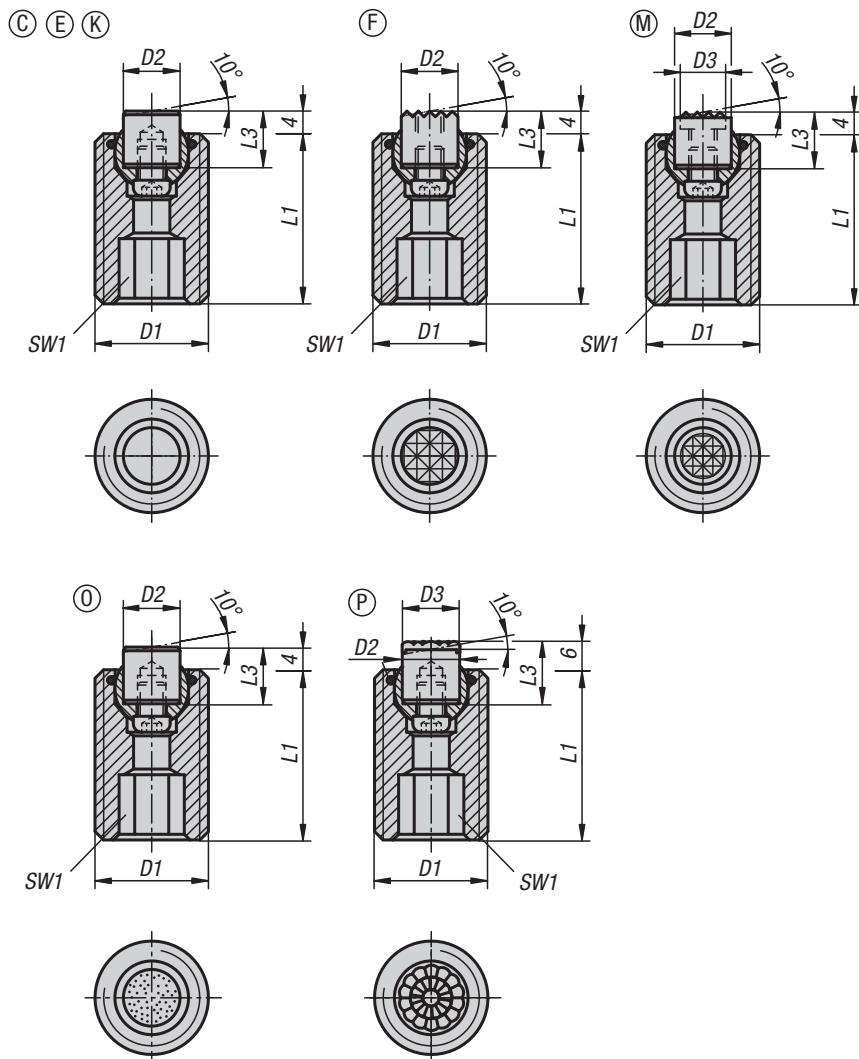
Order No.	Form	D1	D2	L	L3	SW1	Ball-Ø	Load rating max. kN (static load only)
K0290.510X	O	M10	6	26,5/36,5/51,5	1,5	5	5	-
K0290.512X	O	M12	8	27/37/52	2	6	7	15,4
K0290.516X	O	M16	11	28/38/53	3	8	10	23,3
K0290.520X	O	M20	14	33/53/73	3	10	13	37,7

KIPP Form P, stainless-steel ball with polyurethane face

Order No.	Form	D1	D2	L	L3	SW1	Ball-Ø
K0290.610X	P	M10	8	28,5/38,5/53,5	3,5	5	5
K0290.612X	P	M12	10	29/39/54	4	6	7
K0290.616X	P	M16	13	30/40/55	5	8	10
K0290.620X	P	M20	16	35/55/75	5	10	13

Self-aligning pads adjustable

with O-ring, exchangeable inserts and hexagon socket



Material:

Body carbon steel.
Ball rust and acid resistant steel.

Inserts:

Form C, F, M tool steel
Form K POM
Form E stainless steel.
Form O stainless steel diamond impregnated.
Form P stainless steel with polyurethane surface.

Version:

Body tempered, black oxidised.
Ball hardened, bright.
Inserts:
Form C, F hardened, black oxidised.
Form M with carbide serrations, black oxidised.
Form K white.
Form E hardened, bright.
Form O diamond impregnated surface comparable to 100 grade abrasive grit.
Form P polyurethane surface, hardness 60 Shore.

Sample order:

K0291.720X070

Note:

Self-aligning pads are used to support and clamp unmachined and machined workpieces. They also serve as stops, supports and thrust pads in fixtures and toolmaking. The ball can be removed from the housing by applying light pressure to the socket head screw.

Ball secured against rotation.

Advantages:

Highly cost-effective as inserts can be exchanged. The built-in O-ring holds the ball in place and keeps dirt and foreign particles out, ensuring uniform movement.

KIPP Form C, flattened steel insert, smooth

Order No.	Form	D1	D2	L1	L3	SW1	Ball-Ø	Load rating max. kN (static load only)	Order No. steel insert
K0291.120X030	C	M20	10	30	10	10	13	37	K0385.10108
K0291.120X050	C	M20	10	50	10	10	13	37	K0385.10108
K0291.120X070	C	M20	10	70	10	10	13	37	K0385.10108
K0291.124X040	C	M24	12	40	10	10	15	55	K0385.12108
K0291.124X080	C	M24	12	80	10	10	15	55	K0385.12108

KIPP Form E, flattened stainless steel insert, smooth

Order No.	Form	D1	D2	L1	L3	SW1	Ball-Ø	Load rating max. kN (static load only)	Order No. stainless steel insert
K0291.220X030	E	M20	10	30	10	10	13	37	K0385.10102
K0291.220X050	E	M20	10	50	10	10	13	37	K0385.10102
K0291.220X070	E	M20	10	70	10	10	13	37	K0385.10102
K0291.224X040	E	M24	12	40	10	10	15	55	K0385.12102
K0291.224X080	E	M24	12	80	10	10	15	55	K0385.12102

KIPP Form F, flattened, diamond grip

Order No.	Form	D1	D2	L1	L3	SW1	Ball-Ø	Load rating max. kN (static load only)	Order No. gripper
K0291.320X030	F	M20	10	30	10	10	13	37	K0385.1010
K0291.320X050	F	M20	10	50	10	10	13	37	K0385.1010
K0291.320X070	F	M20	10	70	10	10	13	37	K0385.1010
K0291.324X040	F	M24	12	40	10	10	15	55	K0385.1210
K0291.324X080	F	M24	12	80	10	10	15	55	K0385.1210

KIPP Form K, flattened POM insert, smooth

Order No.	Form	D1	D2	L1	L3	SW1	Ball-Ø	Load rating max. kN (static load only)	Order No. POM insert
K0291.720X030	K	M20	10	30	10	10	13	4	K0385.10109
K0291.720X050	K	M20	10	50	10	10	13	4	K0385.10109
K0291.720X070	K	M20	10	70	10	10	13	4	K0385.10109
K0291.724X040	K	M24	12	40	10	10	15	7	K0385.12109
K0291.724X080	K	M24	12	80	10	10	15	7	K0385.12109

KIPP Form M, flattened, with carbide serrations

Order No.	Form	D1	D2	D3	L1	L3	SW1	Ball-Ø	Load rating max. kN (static load only)	Order No. gripper
K0291.920X030	M	M20	10	7,9	30	10	10	13	37	K0385.10107
K0291.920X050	M	M20	10	7,9	50	10	10	13	37	K0385.10107
K0291.920X070	M	M20	10	7,9	70	10	10	13	37	K0385.10107
K0291.924X040	M	M24	12	9,5	40	10	10	15	55	K0385.12107
K0291.924X080	M	M24	12	9,5	80	10	10	15	55	K0385.12107

KIPP Form O, stainless-steel insert, diamond impregnated

Order No.	Form	D1	D2	L1	L3	SW1	Ball-Ø	Load rating max. kN (static load only)	Order No. stainless steel insert, diamond surface
K0291.520X050	O	M20	10	50	10	10	13	37	K0385.10105
K0291.520X070	O	M20	10	70	10	10	13	37	K0385.10105
K0291.524X040	O	M24	12	40	10	10	15	55	K0385.12105
K0291.520X030	O	M20	10	30	10	10	13	37	K0385.10105
K0291.524X080	O	M24	12	80	10	10	15	55	K0385.12105

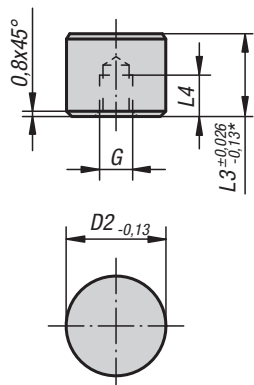
KIPP Form P, stainless-steel insert with polyurethane face

Order No.	Form	D1	D2	D3	L1	L3	SW1	Ball-Ø	Load rating max. kN (static load only)	Order No. stainless steel insert, polyurethane surface
K0291.620X030	P	M20	10	10	30	12	10	13	37	K0385.10126
K0291.620X050	P	M20	10	10	50	12	10	13	37	K0385.10126
K0291.620X070	P	M20	10	10	70	12	10	13	37	K0385.10126
K0291.624X040	P	M24	12	13	40	12	10	15	55	K0385.12126
K0291.624X080	P	M24	12	13	80	12	10	15	55	K0385.12126

Grippers and inserts round

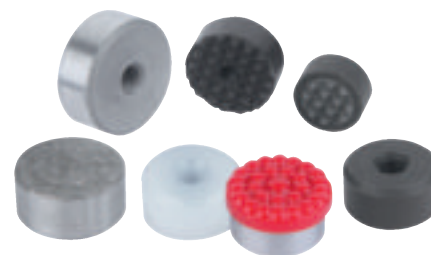
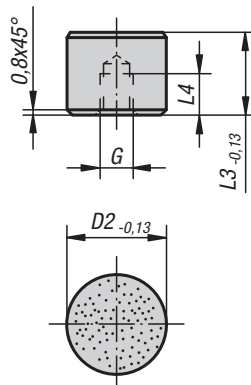


Form C, E, K



* Applies to Form K

Form O
stainless steel insert
diamond impregnated



Material:

Form C, F, M tool steel
Form E, O, P stainless steel
Form K POM

Version:

Form C hardened and black oxidised.
Form E hardened, bright.
Form K white.
Form O with diamond impregnated surface comparable to 100 grade abrasive grit.
Form P with polyurethane surface, hardness 60 Shore.
Form F, hardened and black oxidised.
Form M with carbide serrations, black oxidised.

Sample order:

K0385.2510

Note:

Grippers and inserts are ideal for use in clamping arms, gripping systems, clamping fixtures, clamping jaws and self-aligning pads. The use of grippers allows the transfer of very high torque values and above average grip, even with hard materials and surface irregularities.

Form O: The abrasive diamond surface is bonded firmly to the base. It is ideally suited to supporting smooth or slippery applications with a minimum of clamping pressure. This allows the diamond particles to get a firm grip on a very small area with minimum damage to the surface.

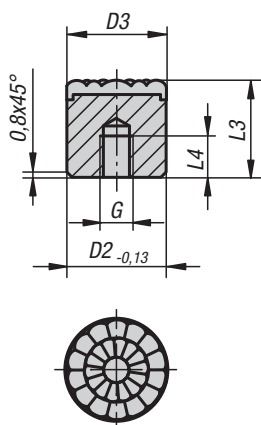
The diamond surface offers excellent wear resistance.

Form P: The polyurethane surface is vulcanised firmly to the ball. It is abrasion-resistant and does not discolour. It offers optimum protection against damage to delicate surfaces. The pearl-like surface gives a firm grip and allows air to escape so as to prevent any suction effect between the contact surface and the self-aligning pads.

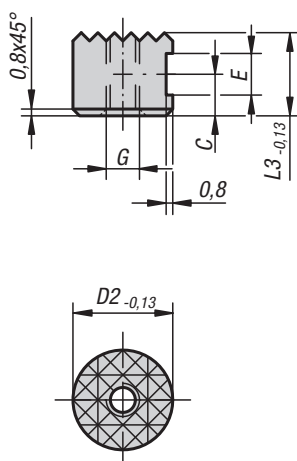
Grippers and inserts can be fitted in the following self-aligning pads:

Order No. K0285.117X022 up to K0285.936X036
Order No. K0289.110X015 up to K0289.924X100
Order No. K0291.120X030 up to K0291.924X080

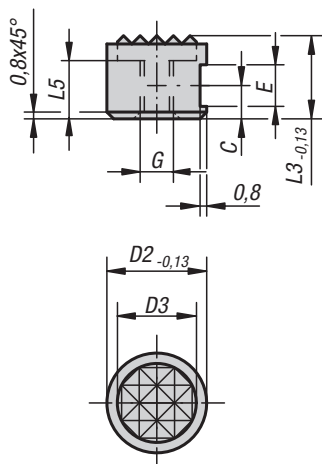
Form P
stainless steel insert,
PUR surface

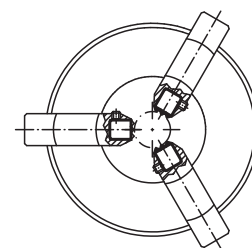


Form F
diamond grip insert



Form M
carbide steel
diamond grip insert





KIPP Round inserts Form C, E, K, O

Order No. Form C	Order No. Form E	Order No. Form K	Order No. Form O	D2	L3	L4	G
K0385.10108	K0385.10102	K0385.10109	K0385.10105	10	10	5	M5
K0385.10128	K0385.10122	K0385.10129	K0385.10125	10	12	6,4	M5
K0385.12108	K0385.12102	K0385.12109	K0385.12105	12	10	5	M5
K0385.12128	K0385.12122	K0385.12129	K0385.12125	12	12	6,4	M5
K0385.16108	K0385.16102	K0385.16109	K0385.16105	16	10	5	M6
K0385.16128	K0385.16122	K0385.16129	K0385.16125	16	12	6,4	M6
K0385.20108	K0385.20102	K0385.20109	K0385.20105	20	10	5	M6
K0385.20128	K0385.20122	K0385.20129	K0385.20125	20	12	6,4	M6
K0385.25108	K0385.25102	K0385.25109	K0385.25105	25	10	5	M6
K0385.25128	K0385.25122	K0385.25129	K0385.25125	25	12	6,4	M6

KIPP Round inserts Form P

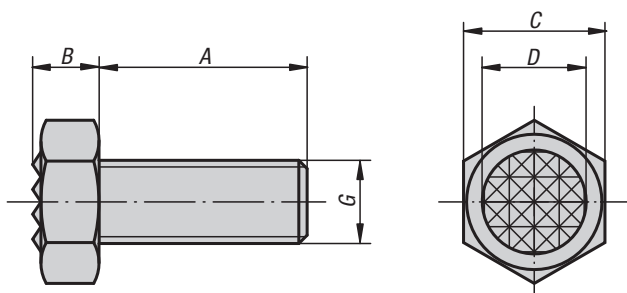
Order No.	Form	D2	D3	L3	L4	G
K0385.08126	P	8	8	12	6	M4
K0385.10126	P	10	10	12	6	M5
K0385.12126	P	12	13	12	6	M5
K0385.16126	P	16	16	12	6	M6
K0385.20126	P	20	21	12	6	M6
K0385.25126	P	25	27	12	6	M6

KIPP Grippers Form F, M

Order No. Form F	Order No. Form M	D2	D3	L3	L5	C	E	G
K0385.1010	K0385.10107	10	-7,9	10	-6	4,5	4,75	M5
K0385.1210	K0385.12107	12	-9,5	10	-6	4,5	4,75	M5
K0385.1212	K0385.12127	12	-9,5	12	-7	6	4,75	M5
K0385.1610	K0385.16107	16	-12,7	10	-6	4,5	4,75	M6
K0385.2010	K0385.20107	20	-15,9	10	-6	4,5	4,75	M6
K0385.2510	K0385.25107	25	-19	10	-6	4,5	4,75	M6

Gripper screws

hexagonal



Material:
Hex head screw, grade 10.9.
Serrations carbide, hardness 72-74 HRC.

Version:
Black oxidised.

Sample order:
K0386.1710

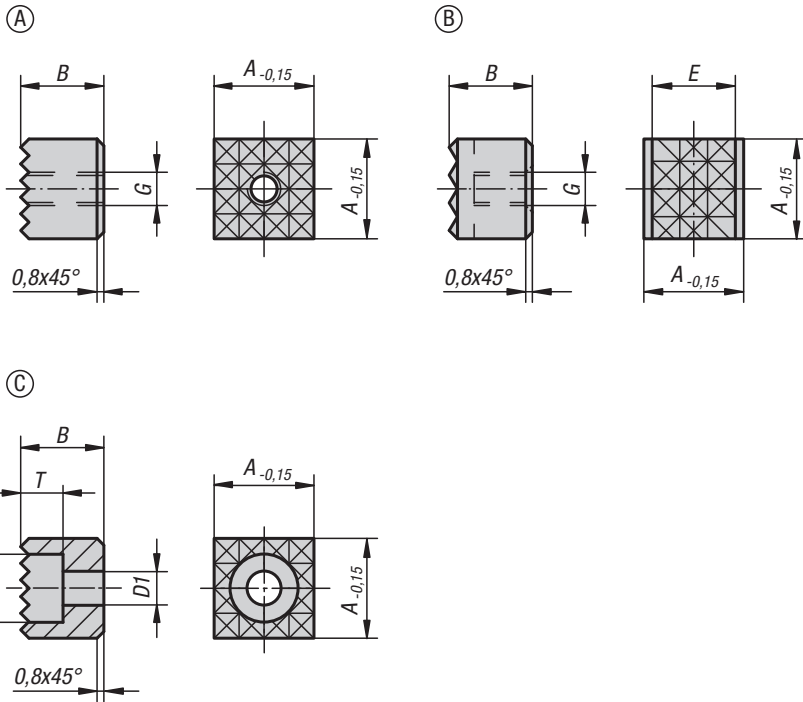
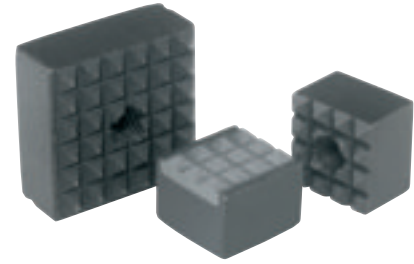
Note:
The serrated carbide tips are soldered in.

KIPP Grippers hexagonal

Order No.	A	B	C	D	G	Serration
K0386.1006	25	5	10	7,9	M6	extra fine
K0386.1308	25	6,4	13	9,5	M8	fine
K0386.1710	25	8,3	17	12,7	M10	fine
K0386.17102	40	8,3	17	12,7	M10	fine
K0386.1912	25	8,7	19	15,9	M12	fine
K0386.19122	40	8,7	19	15,9	M12	fine
K0386.2416	35	11	24	19	M16	fine
K0386.24162	50	11	24	19	M16	fine
K0386.3020	40	13,7	30	25,4	M20	extra fine
K0386.30202	60	13,7	30	25,4	M20	extra fine

Gripper pads

square



Material:
Hardened tool steel or carbide.

Version:
Black oxidised.

Sample order:
K0387.2506

Note:
Grippers and inserts are ideal for use in clamping arms, gripping systems, clamping fixtures, clamping jaws and self-aligning pads.
Grippers transfer very high torque values, even with hard materials and surface irregularities. Grippers guarantee above average holding forces at high cutting forces.
The serrated carbide tips are soldered in.

Drawing reference:
Form A: tool steel
Form B: tool steel, carbide diamond grip
Form C: tool steel

KIPP Grippers square

Order No.	Form	A	B	D1	D2	E	G	T	Serration
K0387.101205	A	10	12	-	-	-	M5	-	extra fine
K0387.121205	A	12	12	-	-	-	M5	-	fine
K0387.2005	A	20	10	-	-	-	M5	-	fine
K0387.2506	A	25	10	-	-	-	M6	-	fine
K0387.1005	A	10	10	-	-	-	M5	-	extra fine
K0387.1606	A	16	10	-	-	-	M6	-	fine
K0387.161206	A	16	12	-	-	-	M6	-	fine
K0387.251206	A	25	12	-	-	-	M6	-	fine
K0387.201205	A	20	12	-	-	-	M5	-	fine
K0387.1205	A	12	10	-	-	-	M5	-	fine
K0387.12057	B	12	10	-	-	10,3	M5	-	fine
K0387.2012058	C	20	12	5,5	10	-	-	6,6	fine
K0387.1210048	C	12	10	4,5	8	-	-	5,6	fine
K0387.1610048	C	16	10	4,5	8	-	-	5,6	fine
K0387.2010058	C	20	10	5,5	10	-	-	6,6	fine
K0387.1212048	C	12	12	4,5	8	-	-	5,6	fine
K0387.2510068	C	25	10	6,6	11	-	-	7,6	fine
K0387.2512068	C	25	12	6,6	11	-	-	7,6	fine
K0387.1612048	C	16	12	4,5	8	-	-	5,6	fine

Gripper studs



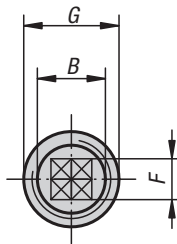
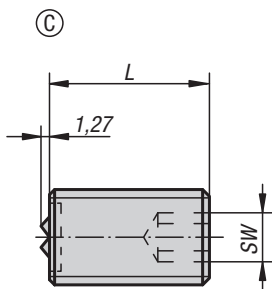
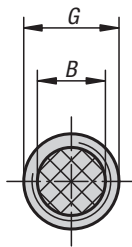
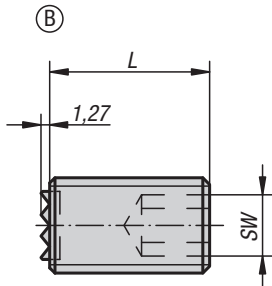
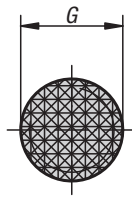
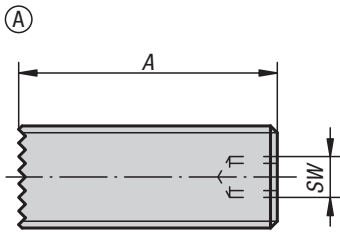
Material:
Hardened tool steel or carbide.

Version:
Black oxidised.

Sample order:
K0388.5012

Note:
The full thread on the grippers allows exact adjustment to the clamping application.
The carbide tips are soldered in.

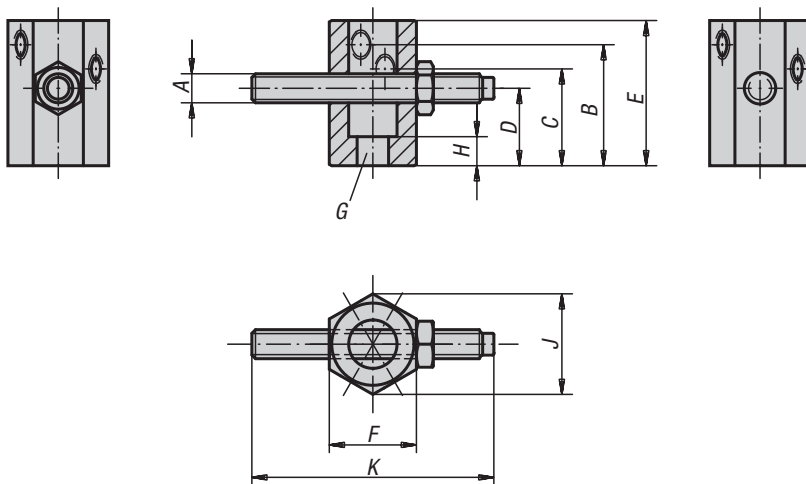
Drawing reference:
Form A: tool steel
Form B: tool steel, carbide diamond grip
Form C: 4-point carbide insert



KIPP Gripper studs

Order No.	Form	A	L	B	G	F	SW
K0388.4010	A	40	-	-	M10	-	3
K0388.4012	A	40	-	-	M12	-	5
K0388.4016	A	40	-	-	M16	-	6
K0388.4020	A	40	-	-	M20	-	8
K0388.2510	B	-	25	6,4	M10	-	5
K0388.5010	B	-	50	6,4	M10	-	5
K0388.2512	B	-	25	7,9	M12	-	6
K0388.5012	B	-	50	7,9	M12	-	6
K0388.2516	B	-	25	11,2	M16	-	8
K0388.5016	B	-	50	11,2	M16	-	8
K0388.2520	B	-	25	12,7	M20	-	10
K0388.5020	B	-	50	12,7	M20	-	10
K0388.25124	C	-	25	7,9	M12	6,5	6
K0388.50124	C	-	50	7,9	M12	6,5	6
K0388.25164	C	-	25	11,2	M16	8	8
K0388.50164	C	-	50	11,2	M16	8	8
K0388.25204	C	-	25	12,7	M20	8	10
K0388.50204	C	-	50	12,7	M20	8	10

Adjustable stops



Material:

Body and set screw carbon steel.

Version:

Body black oxidised.

Set screw tempered and black oxidised.

Sample order:

K0813.16063

Note:

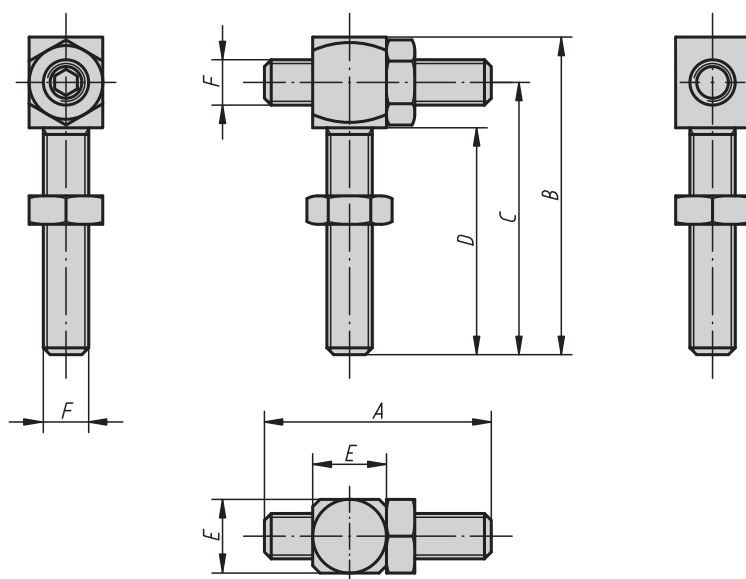
The adjustable stops have three tapped holes to accept the set screws.

KIPP Adjustable stops

Order No.	A	B	C	D	E	F	G hole for DIN 912 cap screw	H	J	K
K0813.08032	M8	32	25	20	40	21	M8	7	24,3	50
K0813.12050	M12	50	40	32	60	36	M12	12	41,6	100
K0813.16063	M16	63	50	40	80	46	M16	16	53,1	100

Screw stop

adjustable



Material:
Carbon steel, tempered.

Version:
Black oxidised.

Sample order:
K0820.10

KIPP Screw stop adjustable

Order No.	A	B	C	D	E	F
K0820.06	30	44	37	30	10	M6
K0820.08	40	56	48	40	13	M8
K0820.10	50	70	60	50	17	M10
K0820.12	60	84	72	60	19	M12
K0820.16	80	112	96	80	24	M16

5D workpiece stops

**Material:**

Clamping joint high-tensile aluminium.
Hinge pin, support plate and stop bar, steel.

Version:

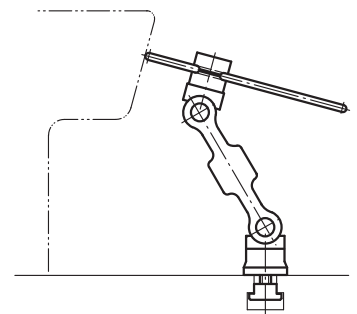
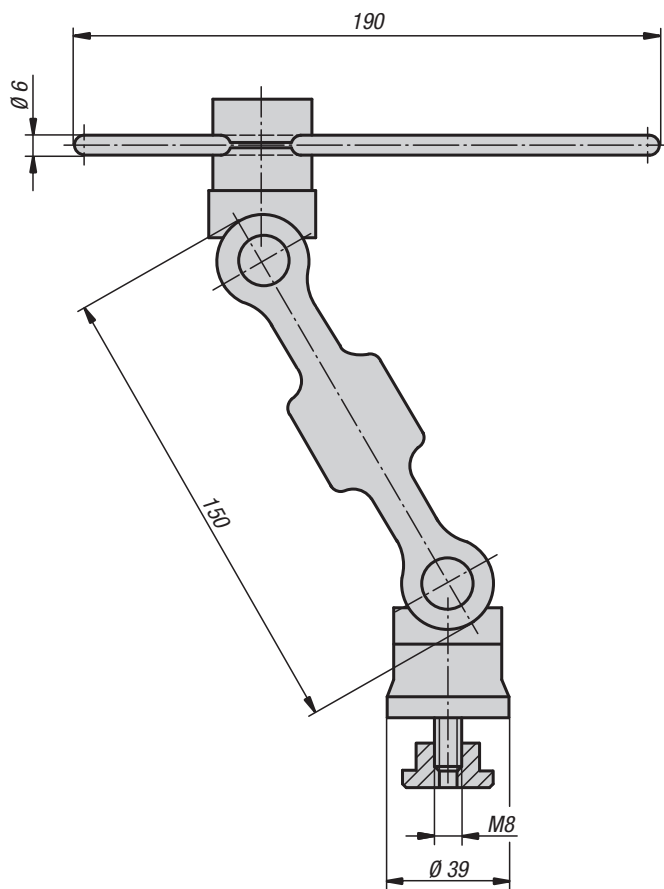
Clamping joint anodized blue and black.
Hinge pins, support plate and stop bar black oxidised.

Note:

The 5D-swivelling stop serves, among other things, as a versatile instrument for positioning on machining tools or for assembly work. It is infinitely adjustable, quickly and flexibly in 5 axes.
Supplied complete with M8x12 T-slot nut and hex key.

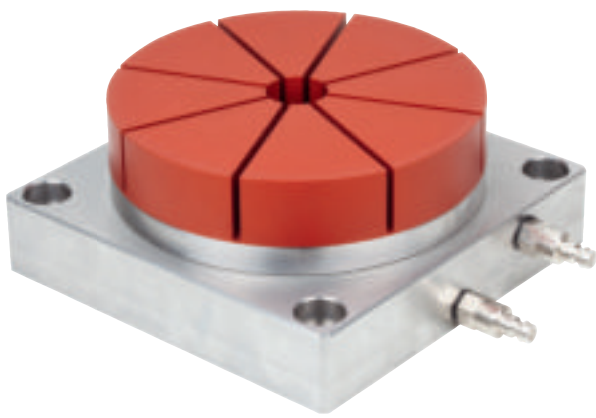
On request:

Connecting element for combining several 5D-swivelling stops.

**KIPP 5D workpiece stops**

Order No.	Size
K1234.15012	150

Form holding systems



Technical information for machinable collet systems



The clamping system for prototypes, samples and small to medium production series.

The machinable collet system consists of a base element with a flange plate and the machinable collet. To clamp a wide variety of workpieces only the collet needs to be exchanged, the base element with flange plate remain the same. Standard aluminium collet blanks are used for clamping workpieces. The contour of the workpiece to be clamped is machined into this collet blank.

Both external and internal contours can be clamped with the machinable collet system. Different collets for internal and external clamping are available for this purpose.

The integrated spring package generates a clamping force of 5.8 kN. The clamping force can be raised to 43.5 kN by pneumatic post-clamping.



Machinable collets for workpieces that couldn't otherwise be clamped

- whether geometrical or free-form: you have full control of the most difficult workpiece contours
- can be set up on grid plates, T-slot plates and your own fixtures
- clamping range of 25 - 140 mm and workpiece weights up to 25 kg
- clamps rough parts, machined parts, round and irregular-shaped parts
- low clamping depth of 1 mm can be achieved
- designed for external and internal clamping
- repeat accuracy of < 0.01 mm

Machinable collet clamping and holding force

spring release pressure	spring clamping force	spring retaining force	post-clamping pressure	post-clamping force	post-clamping retaining force
6 bar	5.81 kN	2.8 kN	6 bar	13.39 kN	10.39 kN
6 bar	5.81 kN	2.8 kN	12 bar	20.93 kN	17.93 kN
6 bar	5.81 kN	2.8 kN	30 bar	43.55 kN	40.55 kN

Machinable collet - system construction

pos.	description	piece
1	collet	1
2	flange plate	1
3	piston	1
4	spring package	8
5	screw / tension cone	2
6	base element	1

1

P1 Release collet with compressed air pistol connection
 P2 Post-clamp with compressed air pistol connection

Machinable collet system

for self-installation



Material:

Flange plate, pistons and body steel.
Seals NBR.
Screws DIN EN ISO 4762 grade 8.8.
Collet aluminium.

Version:

Flange plate, piston and body rust-resistant, bright.
Screws galvanized.
Collet red or clear anodized.

Sample order:

K0500.116030

Note:

The machinable collet system is suitable for mounting on fixtures and clamping systems. Collets for external and internal clamping can be mounted on the flange plate. The contour of the workpiece to be clamped is machined into the collet. Free-form and asymmetrical contours can be clamped.

The integrated spring package generates a clamping force of 5.8 kN. The clamping force can be raised to 43.5 kN by pneumatic post-clamping. The clamp is released by blowing compressed air onto the lower piston surface pushing the piston upwards and releasing the clamping force on the collet. Clamping travel 0.2 mm. Repeat accuracy < 0.01 mm.

Installation dimensions on request.

Accessories:

Collet for external or internal clamping K0502

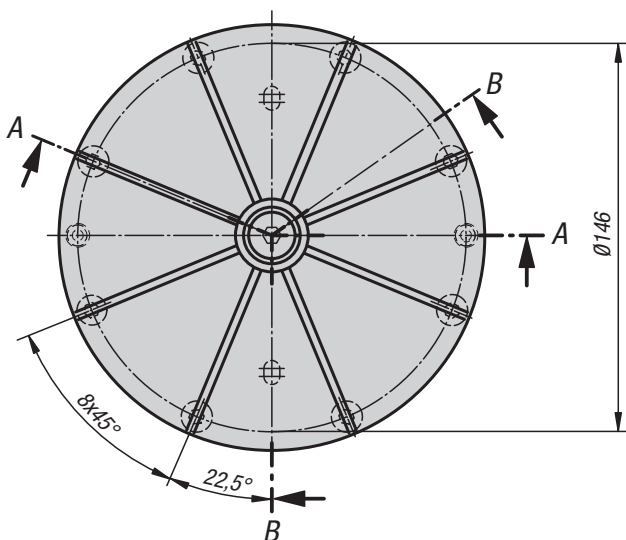
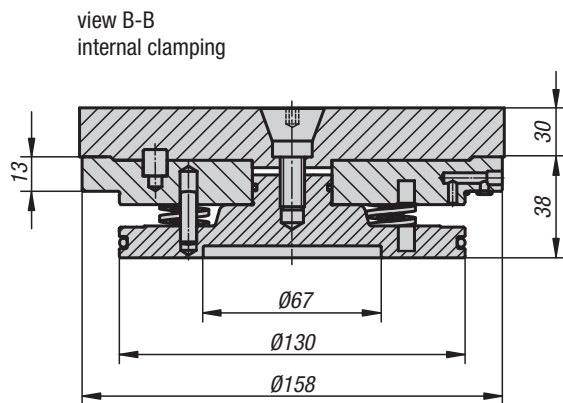
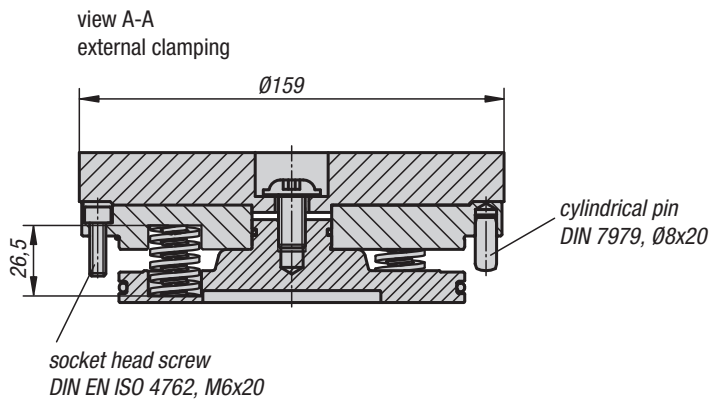


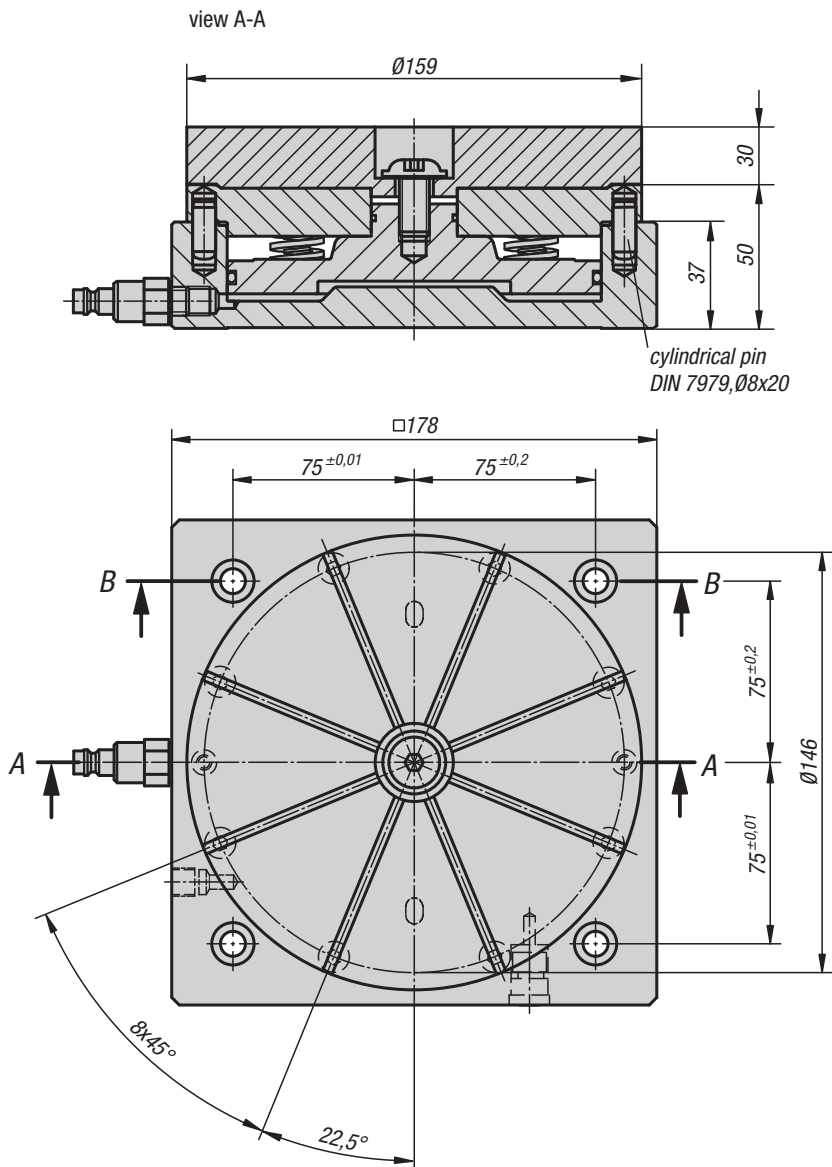
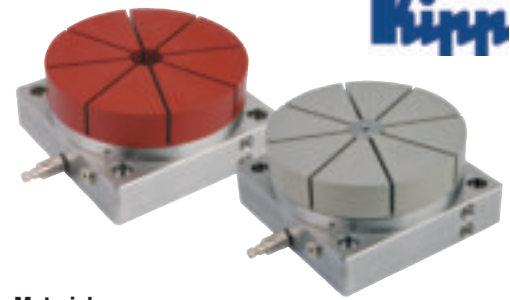
Illustration without collet with transport lock

KIPP Machinable collet system for self-installation

Order No.	Version	Clamping range min. - max.	Milling depth min./max.	Workpiece weight max. (kg)
K0500.116030	external clamping	Ø 30 - Ø 140	1-20	25
K0500.216030	internal clamping	Ø 30 - Ø 140	1-20	25

Machinable collet system

for grid plates



Material:

Flange plate, pistons and body steel.
Seals NBR.
Screws DIN EN ISO 4762 grade 8.8.
Collet aluminium.

Version:

Flange plate, piston and body rust-resistant, bright.
Screws galvanized.
Collet red or clear anodized.

Sample order:

K0501.11603050

Note:

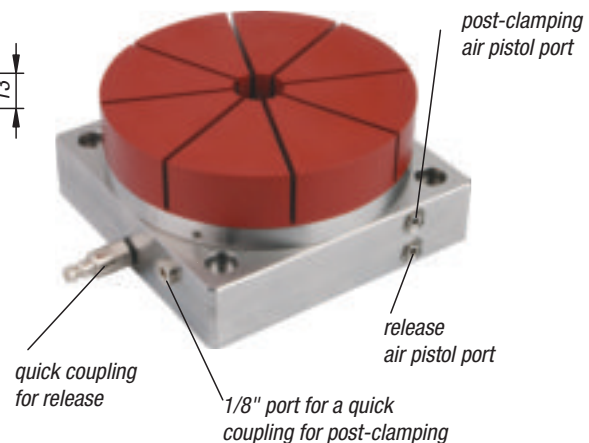
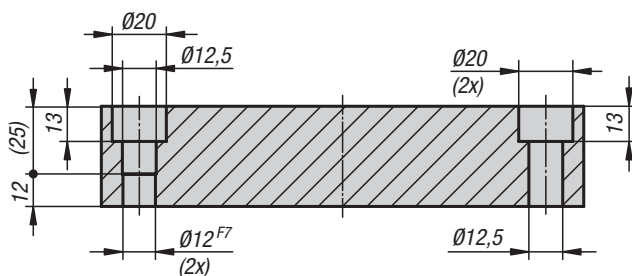
Machinable collet system with base plate for mounting on 50mm pitch grid plates. The flange plate can be used for external or internal clamping collets. The contour of the workpiece to be clamped is machined into the collet. Free-form and asymmetrical contours can be clamped.

The integrated spring package generates a clamping force of 5.8 kN. The clamping force can be raised to 43.5 kN by pneumatic post-clamping. The clamp is released by blowing compressed air onto the lower piston surface pushing the piston upwards and releasing the clamping force on the collet. Clamping travel 0.2 mm. Repeat accuracy < 0.01 mm.

Accessories:

Collet for external or internal clamping K0502

view B-B
(base only)



KIPP Machinable collet system for grid plates

Order No.	Version	Clamping range min. - max.	Milling depth min./max.	Workpiece weight max. (kg)	Suitable shoulder screw
K0501.11603050	external clamping	Ø 30 - Ø 140	1-20	25	K0815.12055
K0501.21603050	internal clamping	Ø 30 - Ø 140	1-20	25	K0815.12055

Collets

for external or internal clamping



Material, version:

High-strength aluminium, red (external clamping) or clear (internal clamping), anodized.

Sample order:

K0502.116030

Note:

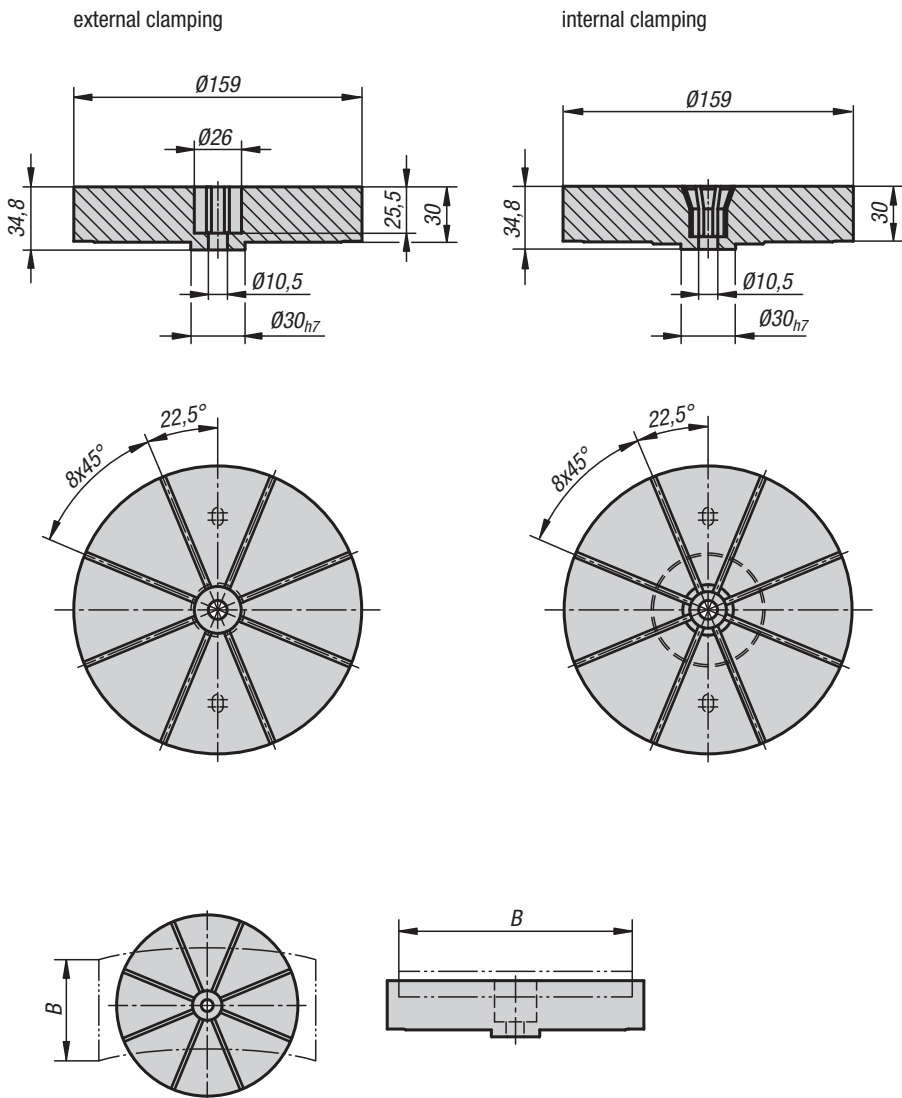
Collet for clamping external or internal contours. The contour of the workpiece to be clamped is machined into the collet. Free-form and asymmetrical contours can be clamped.

Clamping travel 0.2 mm.

Tension cone K0502.1024 is required for internal clamping collets.

Accessories:

Tension cone K0502.1024



The workpiece width "B" should be maximum 90% of the collet diameter.
In special cases the workpiece may also project over the collet.



external clamping



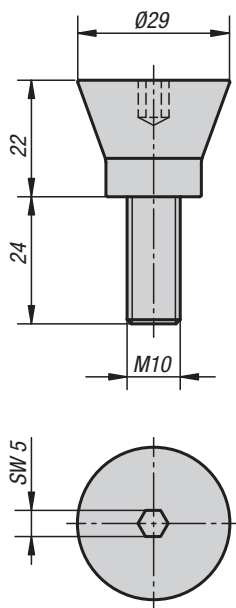
internal clamping

KIPP Collets for external or internal clamping

Order No.	Version	Clamping range min. - max.	Milling depth min./max.	Workpiece weight max. (kg)
K0502.116030	external clamping	Ø 30 - Ø 140	1-20	25
K0502.216030	internal clamping	Ø 30 - Ø 140	1-20	25

Tension cone

for internal clamping collet



Material:
Carbon steel.

Version:
Bright.

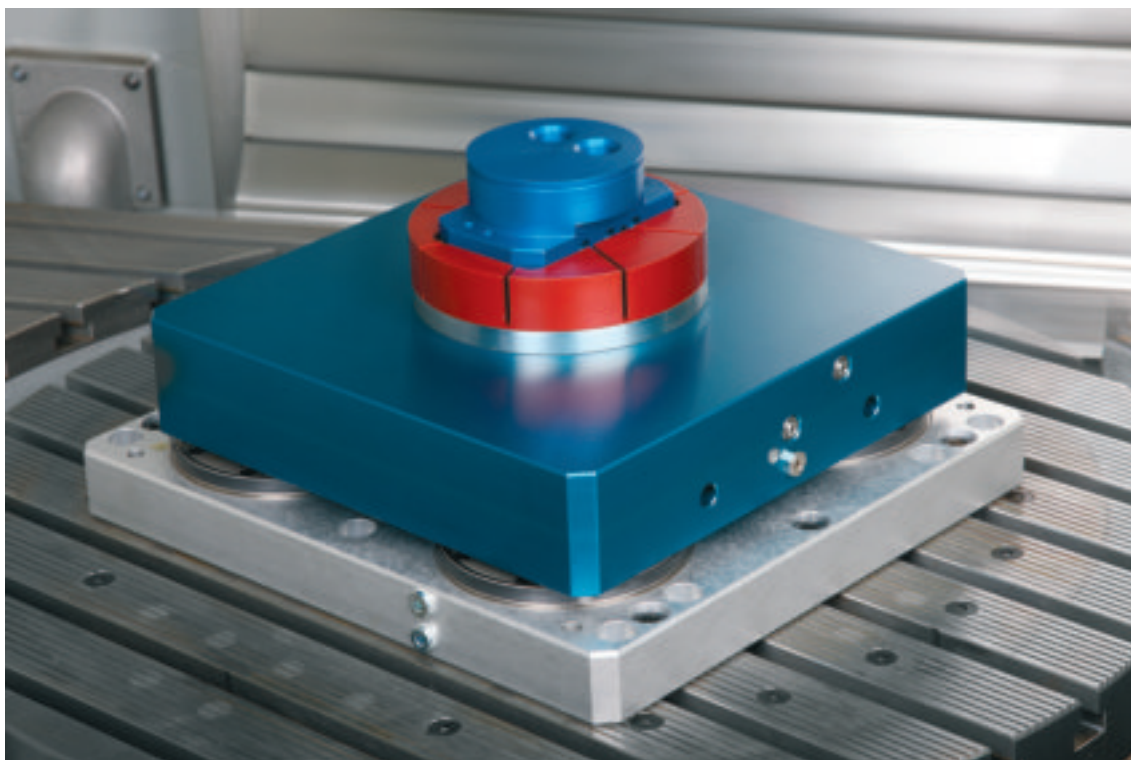
Sample order:
K0502.1024

Accessories:
Collet for internal clamping K0502.216030



KIPP Tension cone for internal clamping collet

Order No.	Suitable for
K0502.1024	mandrel collet



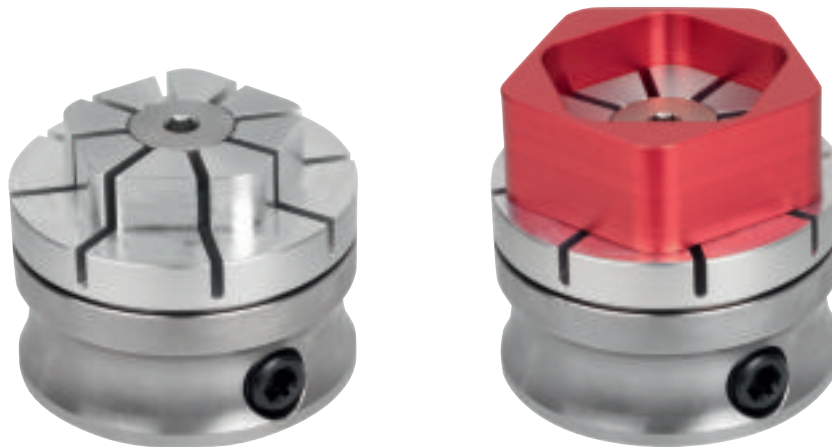
Application examples for collets



External clamping



Internal clamping



Adapter for collets

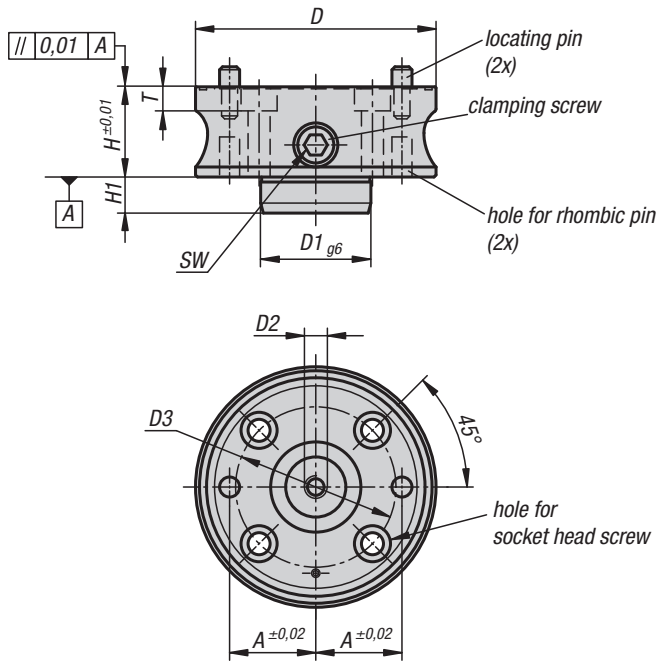


Material:
Carbon steel.

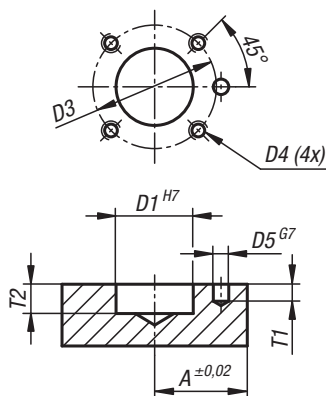
Version:
nickel-plated.

Sample order:
K1183.065

Note:
With this adaptor, collets for internal and external clamping can be mounted.
The workpiece is clamped by tightening the screw on the side.
A dowel pin is used to secure the adaptor against rotation.
The collet is positioned on the adaptor with 2 dowel pins.



installation dimensions

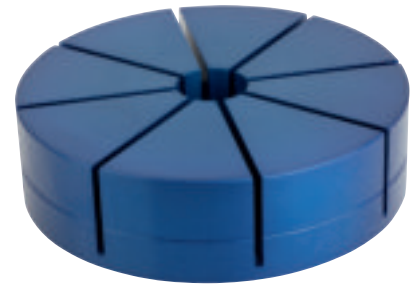


KIPP Adapter for collets

Order No.	D	A	D1	D2	D3	D4	D5	H	H1	SW	T	T1	T2	for screws	Tightening torque max. Nm	F1 kN	F2 kN
K1183.065	65	22	28	M8	42	M6x1	6	35	12	8	8	6	13	M6	15	4,5	4,5
K1183.090	90	30	42	M10	60	M8x1,25	8	40	14	8	10	8	15	M8	25	7	7
K1183.120	120	43	55	M10	80	M10x1,5	10	45	18	10	12	11	19	M10	40	10	10
K1183.160	160	60	63	M12	110	M12x1,75	12	50	24	10	14	13	25	M12	40	12	10

Collets

for external clamping



Material:

High-strength aluminium alloy

Version:

blue anodised.

Sample order:

K1184.1065

Note:

Collets for clamping external contours.

The contour of the workpiece to be held is machined into the collet. Free-form and asymmetrical contours can be held.

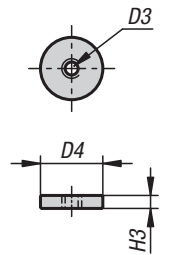
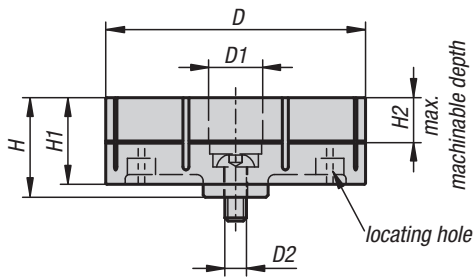
The collet mechanism enables a secure clamping of the workpiece.

Clamping travel per collet segment (8x) max. 0.15 mm.

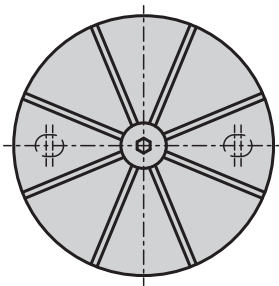
Workpiece repeat accuracy: ± 0.03 .

Collet repeat accuracy: ± 0.02 .

Matching adaptor K1183.



clamp ring for machining, included



KIPP Collets for external clamping

Order No.	D	D1	D2	D3	D4	H	H1	H2	H3
K1184.1065	65	21	M8	M5	20	29	25	10	4
K1184.1090	90	25	M10	M6	24	40	35	15	5
K1184.1120	120	25	M10	M6	24	46	40	20	5
K1184.1160	160	29	M12	M8	28	52	45	25	6

Collets

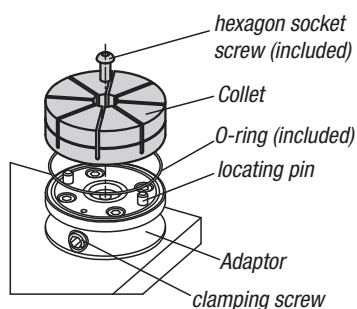
for external clamping

1. Mounting collet:

- Insert an O-ring into the groove on the top face of the clamp base.
- Set a collet on the base making sure the locating pins fit into the locating holes on the underside of the collet. Secure the collet using a buttonhead hex socket screw.

Note:

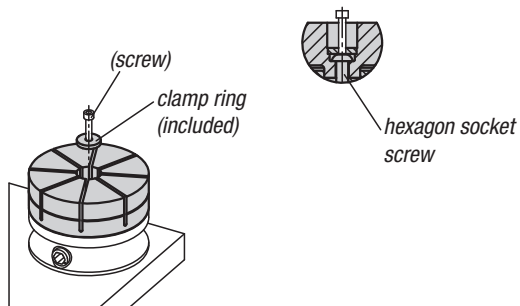
Before mounting the collet, ensure the cam cylinder is fully loosened by turning the tightening screw clockwise until it stops.



2. Machining collet:

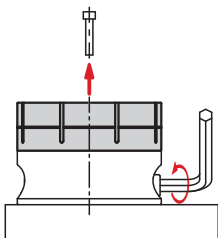
2.1

- Place the clamp ring in the centre of the collet. (Use a screw as an insertion aid)



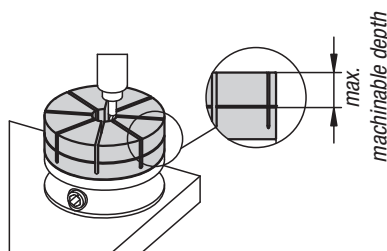
2.2

- Tighten the cam cylinder to clamp the clamp ring (recommended torque: 15Nm).
- Remove the screw from the clamp ring before machining.



2.3

- Machine the contour of the part that is to be held into the collet.

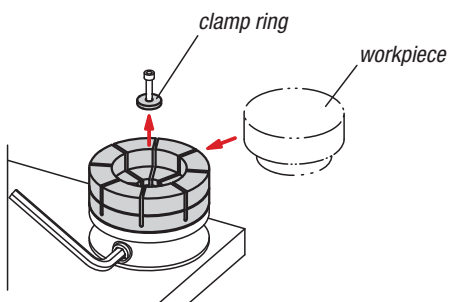


Note:

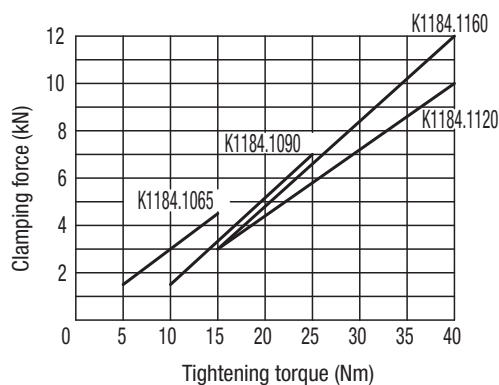
Do not machine the contour deeper than the permitted depth.

3. Mounting workpiece:

- Loosen the cam cylinder and remove the clamp ring.
- Place the workpiece in the contour and re-tighten the cam cylinder.



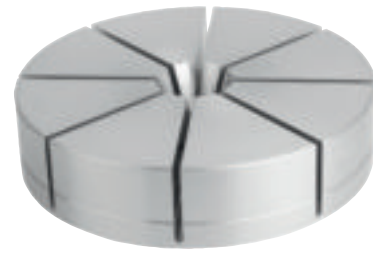
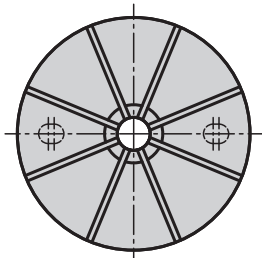
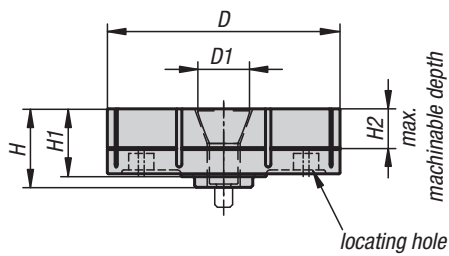
Performance curve



To avoid damaging the collet do not tighten the clamp without a workpiece or clamp ring. Observe the maximum tightening torque in the table.

Collets

for internal clamping



Material:
High-strength aluminium alloy

Version:
natural colour anodized

Sample order:
K1184.2065

Note:
Collets for clamping internal contours.
The contour of the workpiece to be held is machined into the collet. Free-form and asymmetrical contours can be held.
The collet mechanism enables a secure clamping of the workpiece.
Clamping travel per collet segment (8x) max. 0.15 mm.
Workpiece repeat accuracy: ± 0.03 .
Collet repeat accuracy: ± 0.02 .
The traction cone K1185 is required when using the collet for internal clamping.
Matching adaptor K1183.

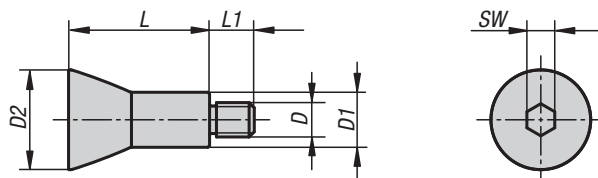
KIPP Collets for internal clamping

Order No.	D	D1	H	H1	H2
K1184.2065	65	22,5	28,5	25	10
K1184.2090	90	27	34,5	30	15
K1184.2120	120	29	40,5	35	20
K1184.2160	160	33	46,5	40	25

K1185

Traction cone

for internal clamping collet



Material:
Carbon steel.

Version:
hardened and nickel-plated.

Sample order:
K1185.0829

Note:
The traction cone is required for the collet for internal clamping.

KIPP Traction cone for internal clamping collet

Order No.	D	D1	D2	L	L1	SW
K1185.0829	M8	13,2	22,5	29	10	6
K1185.1035	M10	16	27	35	11	8
K1185.1041	M10	16	29	41	13	8
K1185.1247	M12	18	33	47	14	10

Collets

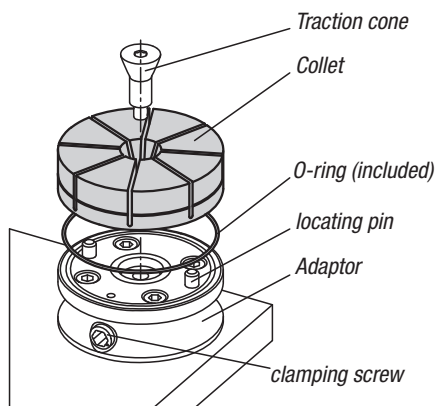
for internal clamping

1. Mounting collet:

- Insert an O-ring into the groove on the top face of the clamp base.
- Set a collet on the base making sure the locating pins fit into the locating holes on the underside of the collet.
- Secure the collet using a tapered screw.

Note:

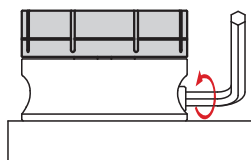
Before mounting the collet, ensure the cam cylinder is fully loosened by turning the tightening screw clockwise until it stops.



2. Machining collet:

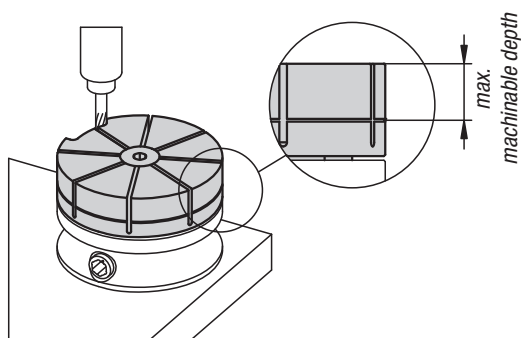
2.1

Fully loosen the cam cylinder and measure the OD of the collet. Tighten the cam cylinder until the collet OD has expanded by 0.15 mm.



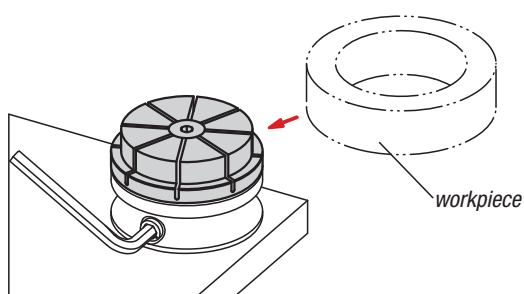
2.2

Machine the contour of the part that is to be held into the collet.

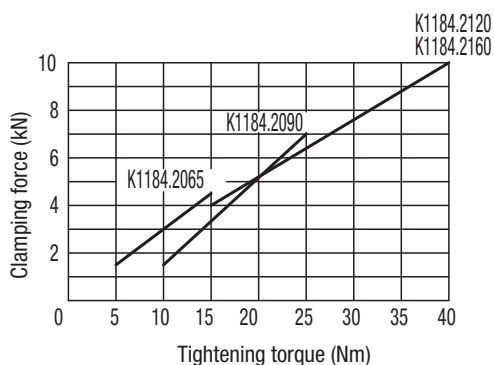


3. Mounting workpiece:

- Loosen the cam cylinder and remove the clamp ring.
- Place the workpiece in the contour and re-tighten the cam cylinder.

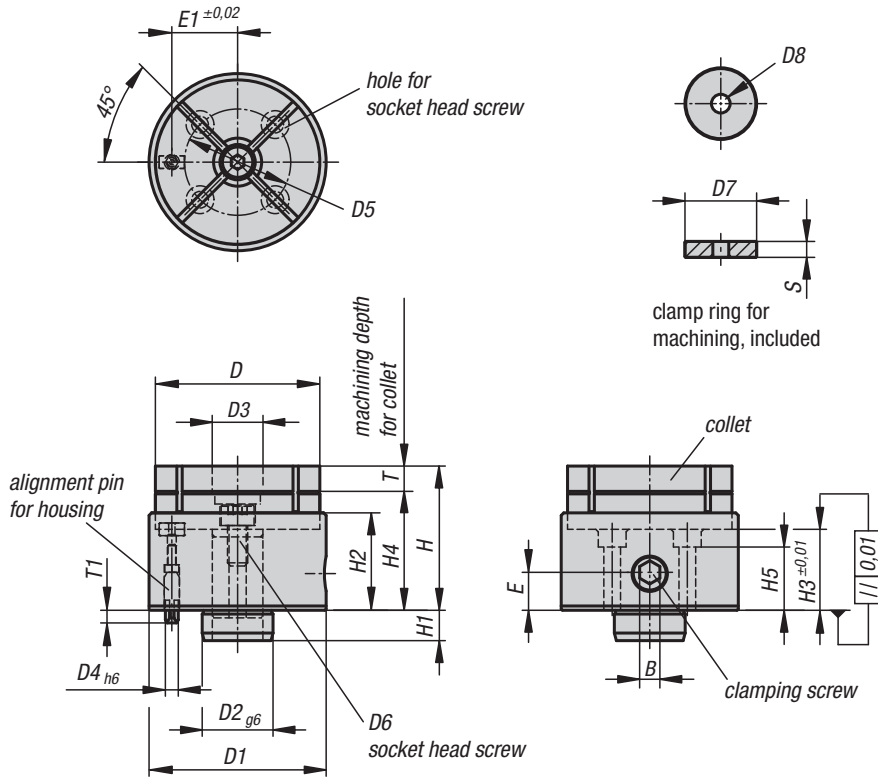


Performance curve



To avoid damaging the collet do not tighten the clamp without a workpiece or clamp ring. Observe the maximum tightening torque in the table.

Clamping collets machinable



Material:

Housing and clamping ring carbon steel 1.0503.
Locating pins carbon steel 1.7220.
Collet aluminium 3.4365.

Version:

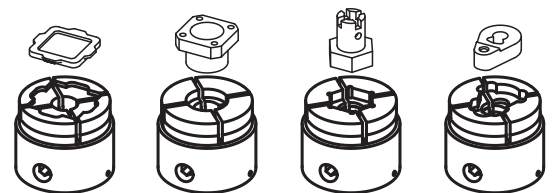
Housing, locating pins and clamping ring black oxidised.
Collet blue anodized.

Sample order:

K0934.065057

Note:

Do not tighten the clamping screw without the clamping ring or a workpiece in the collet. Tighten the clamping screw on the side to clamp the workpiece around its circumference. The collet can be machined to suit the contour of the workpiece. Ideal clamping element for machining workpieces on machining centres, milling centres, 5-axis machines, etc.

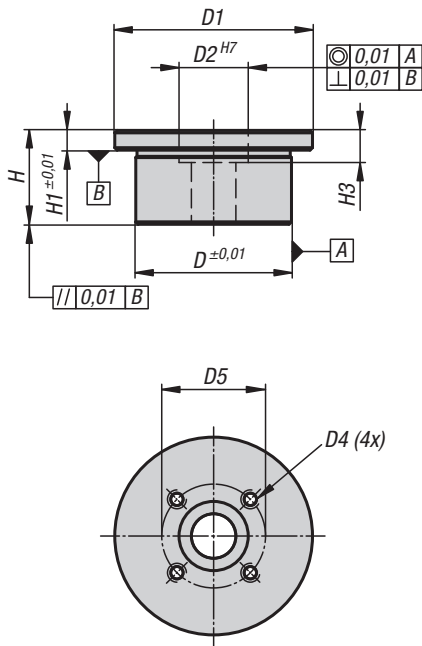


KIPP Clamping collets machinable

Order No.	B	D	D1	D2	D3	D4	D5	D6	D7	D8	D9	E	E1	H	H1	H2	H3	H4	H5	T	T1	T2	T3	S	Clamping force N	Tightening torque max. Nm	Order No. Collet
K0934.065057	8	65	70	28	19	6	42	M8x15	18	M4	M6	15	26	59,5	12	39	34,5	47	25	10	5	6	13	4	4000	60	K0934.065025
K0934.090072	10	90	95	42	23	8	60	M10x20	22	M5	M8	17	36	72,5	14	46	38,5	57	28	15	7	8	15	6	6000	100	K0934.090034

Mounting plates

for clamping collets



Material:

Carbon steel 1.7262.

Version:

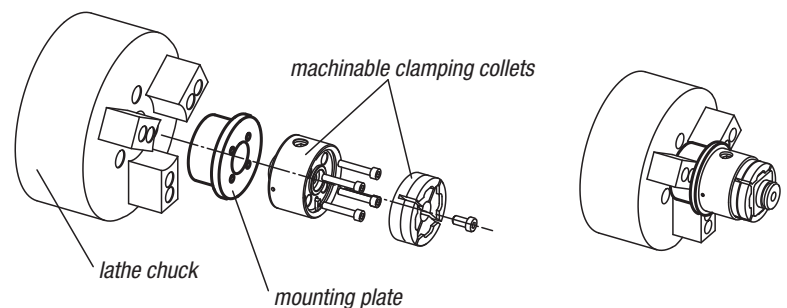
Black oxidised and case-hardened.

Sample order:

K0934.065038

Note:

Suitable for clamping collets
K0934.065057 and K0934.090072.

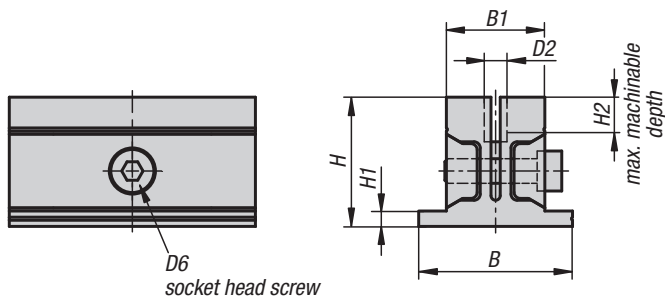
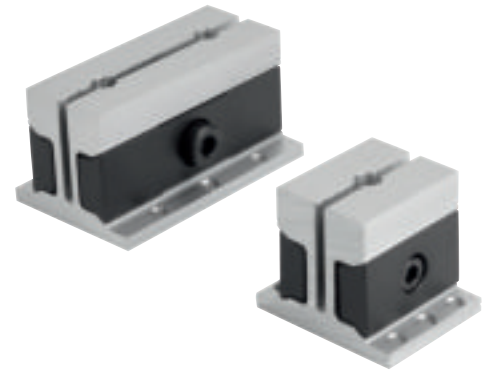


Mounting plate for holding the collet in a lathe chuck

KIPP Mounting plates for clamping collets

Order No.	D	D1	D2	D4	D5	H	H1	H3
K0934.065038	63	80	28	M6x12	42	38	8	13
K0934.090043	80	100	42	M8x16	60	43	8	15

Machinable jaws rectangular



Material:

Body aluminium.
Wedges carbon steel.

Version:

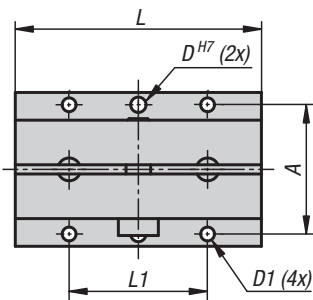
Body natural colour anodised.
Wedges black oxidised.

Sample order:

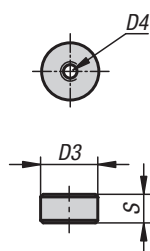
K1169.32040

Note:

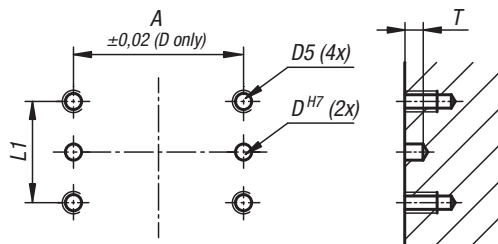
The lateral clamping screw tightens the jaws and clamps the workpiece on the circumference. The simple and compact design allows 2 workpieces to be clamped. The clamping travel is max. 0.5 mm. The jaws must be pre-tensioned before machining the contour, the supplied clamping ring is used for this purpose.



clamp ring for machining, included



installation dimensions



KIPP Machinable jaws, rectangular

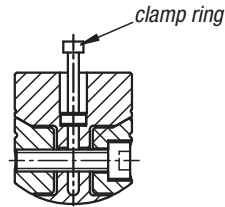
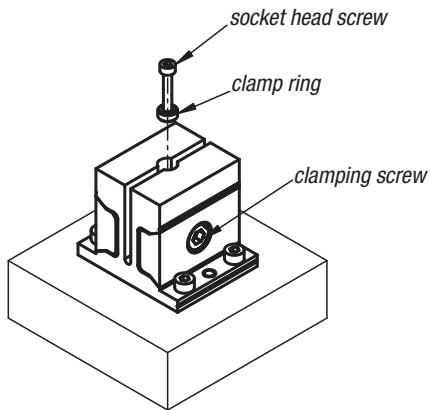
Order No.	A	B	B1	D	D1	D2	D3	D4	D5	D6	H	H1	H2	L	L1	S	T	Clamping force N	Tightening torque Nm
K1169.32040	42	50	32	5	4,5	7,4	7	M3x0,5	M4x0,7	M6	42	5	10	40	25	3,5	5	2500	7,5
K1169.32080	42	50	32	5	4,5	7,7	7	M3x0,5	M4x0,7	M8	42	5	10	80	45	3,5	5	2500	14
K1169.50050	62	72	50	6	5,5	11,4	11	M3x0,5	M5x0,8	M10	63	7	15	50	30	5,5	8	5500	26
K1169.50100	62	72	50	6	5,5	11,4	11	M3x0,5	M5x0,8	M12	63	7	15	100	58	5,5	8	5500	46

Machinable jaws rectangular

Machining the jaws:

1. Inserting the clamp ring:

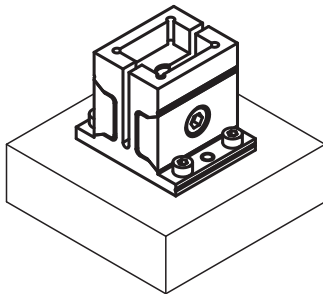
Insert the clamp ring into the bore in the centre of and between the jaws.
Tighten the clamp screw to hold the clamp ring in place.
(Use a cap screw to aid inserting the clamp ring)



Note:
The clamp ring must be placed at the bottom of the bore.

2. Machine the jaws:

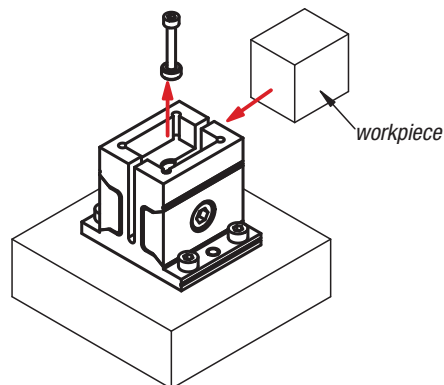
Remove the cap screw from the clamp ring.
Machine the contour of the workpiece to be held into the jaws.



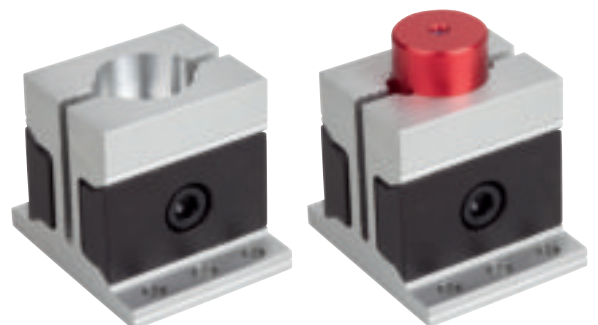
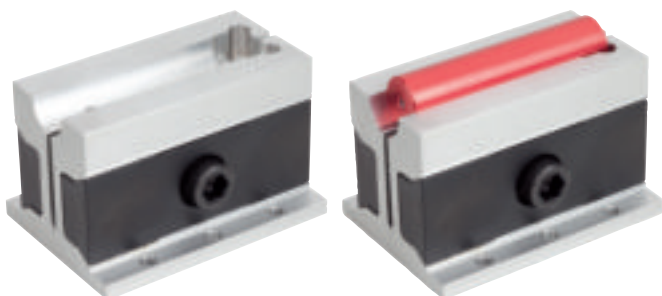
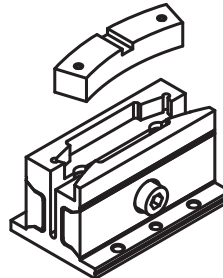
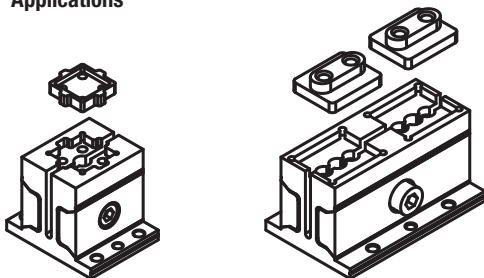
Note:
The contour should not be deeper than the max. permitted depth.

3. Mounting the workpiece:

Loosen the clamp screw and remove the clamp ring.
Place the workpiece into the contour and tighten the clamp screw.



Applications



Workpiece stabiliser



Technical information for workpiece stabiliser



The workpiece stabiliser has been developed specifically for minimising vibrations and oscillations when machining sensitive and thin-walled workpieces.

This system is extremely flexible thanks to its different methods of fixing to the workpiece and the machine table.





- 1 Fastening set for T-slots
- 2 Magnet
- 3 Fastening set for zero point interface
- 4 Workpiece stabiliser
- 5 Fine adjustment
- 6 Clamp strap
- 7 Clamping ball with cup

Workpiece stabiliser

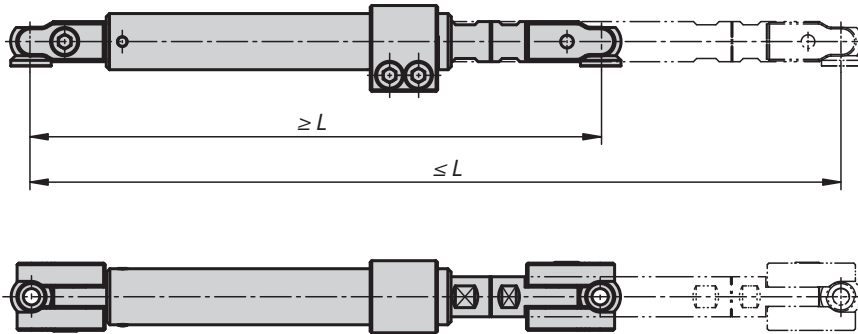


Material:
Steel.

Version:
Black oxidised.

Sample order:
K1170.255305

Note:
The length of the stabiliser is infinitely adjustable. With the locking mechanism, the shaft can be securely locked against tension and compression. Supplied with 2 fastening sets and clamping ball with seating cup.



KIPP Workpiece stabiliser

Order No.	L min.	L max.	weight kg
K1170.255305	255	305	1.9
K1170.355505	355	505	2.5

K1186

Extension shafts

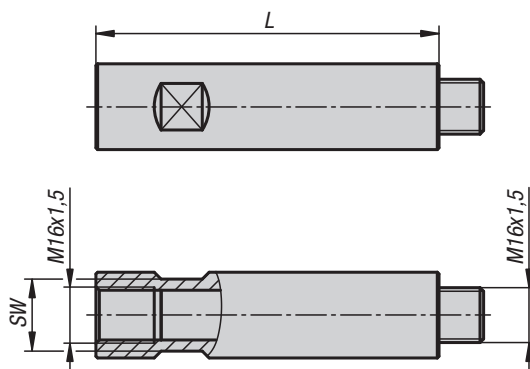
for workpiece stabiliser



Material:
Steel.

Sample order:
K1186.1625075

Note:
The extension shafts extend the adjustment range. They are mounted with the clamping ball between the workpiece stabiliser and the fastening set.



KIPP Extension shafts for workpiece stabiliser

Order No.	L	SW	weight kg
K1186.1625075	75	21	0.233
K1186.1625100	100	21	0.293
K1186.1625150	150	21	0.416
K1186.1625250	250	21	0.697
K1186.1625500	500	21	1.9

Fine adjustment

for workpiece stabiliser

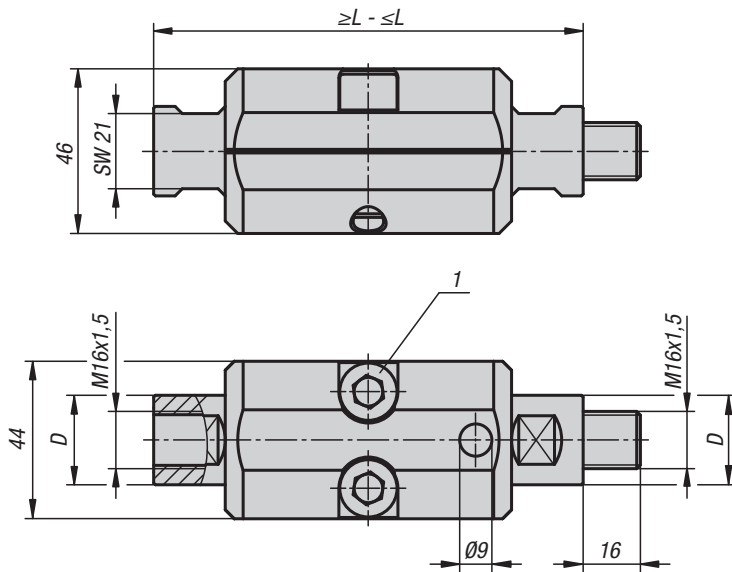


Material:
Steel.

Sample order:
K1187.25120150

Note:
The fine adjuster enables the distance between the workpiece and the support surface to be precisely set. If required, the adjuster can be used to set the stabiliser under tensile or compressive load.

Drawing reference:
1) DIN EN ISO 4762 M10 cap screw



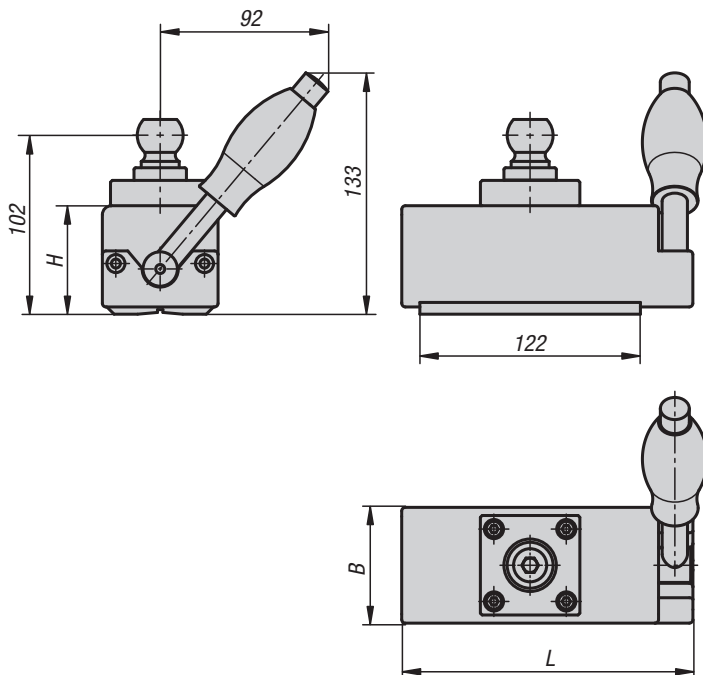
KIPP Fine adjustment for workpiece stabiliser

Order No.	D	L min.	L max.
K1187.25120150	25	120	150

K1188

Magnet

for workpiece stabiliser



Sample order:
K1188.25161064

Note:
The magnet is connected to the workpiece stabiliser. The magnet can be positioned anywhere enabling flexible placement on the machine table.

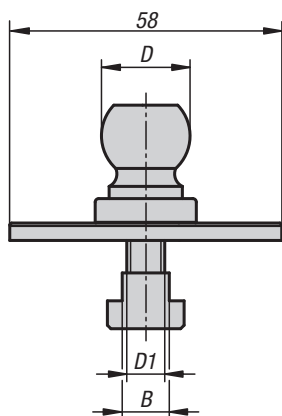
Attention:
- Retaining force 1470N.
- Max. retention from 8mm depending on material thickness.
- No lifting apparatus.

KIPP Magnet for workpiece stabiliser

Order No.	B	H	L	Magnetic force N	weight kg
K1188.25161064	64	60	161	1470	3.73

Fastening set

for T-slot tables



Material:
Steel.

Sample order:
K1189.2512

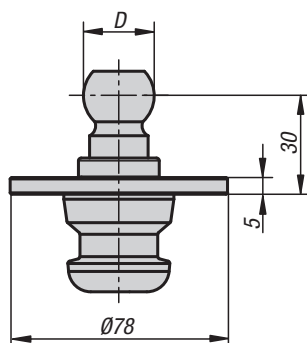
Note:
These fastening sets are for adapting to machine tables with T-slots.

KIPP Fastening set for T-slot tables

Order No.	Version	B	D1	D
K1189.2512	for T-slot	12	M10	25,4
K1189.2514	for T-slot	14	M10	25,4
K1189.2518	for T-slot	18	M10	25,4
K1189.2520	for T-slot	20	M10	25,4
K1189.2522	for T-slot	22	M10	25,4
K1189.2524	for T-slot	24	M10	25,4

Fastening set

workpiece stabiliser



Material:
Steel.

Sample order:
K1190.2540

Note:
The fastening set is suitable for adaption to UNI lock clamping systems.

KIPP Fastening set for workpiece stabiliser

Order No.	D
K1190.2540	25,4

Fastening set with clamping ball

for workpiece stabiliser

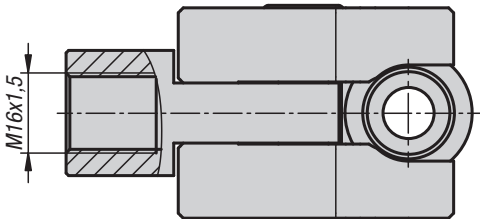
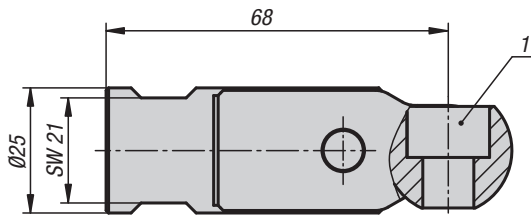


Material:
Steel.

Sample order:
K1191.2525

Note:
This fastening set is used to connect the stabiliser to the workpiece. It is supplied with ball and seating cup.

Drawing reference:
1) for DIN 912 M10 cap screw



KIPP Fastening set with clamping ball for workpiece stabiliser

Order No.	Dimensions
K1191.2525	see drawing

K1192

Claw clamp

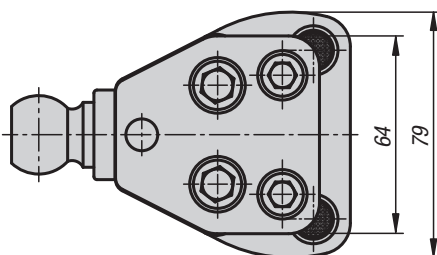
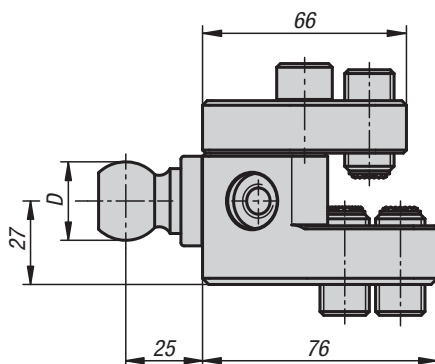
for workpiece stabiliser



Material:
Steel.

Sample order:
K1192.258076

Note:
This claw clamp is used to connect the stabiliser to the workpiece. The clamping ball can be attached to several faces of the claw clamp enabling flexible adjustment.

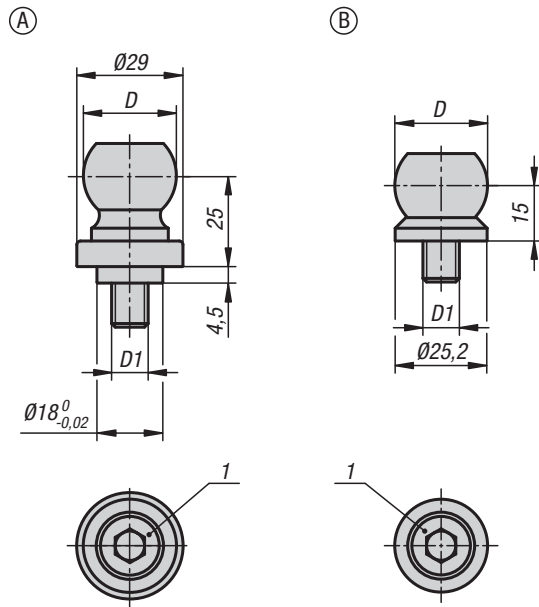


KIPP Clamp strap for workpiece stabiliser

Order No.	D
K1192.258076	25,4

Clamping balls with cup

for workpiece stabiliser



Sample order:
K1193.125

Note:

The clamping balls with cup enable flexible connections between the workpiece and the workpiece stabiliser. The clamping balls provide a high degree of freedom on the workpiece.

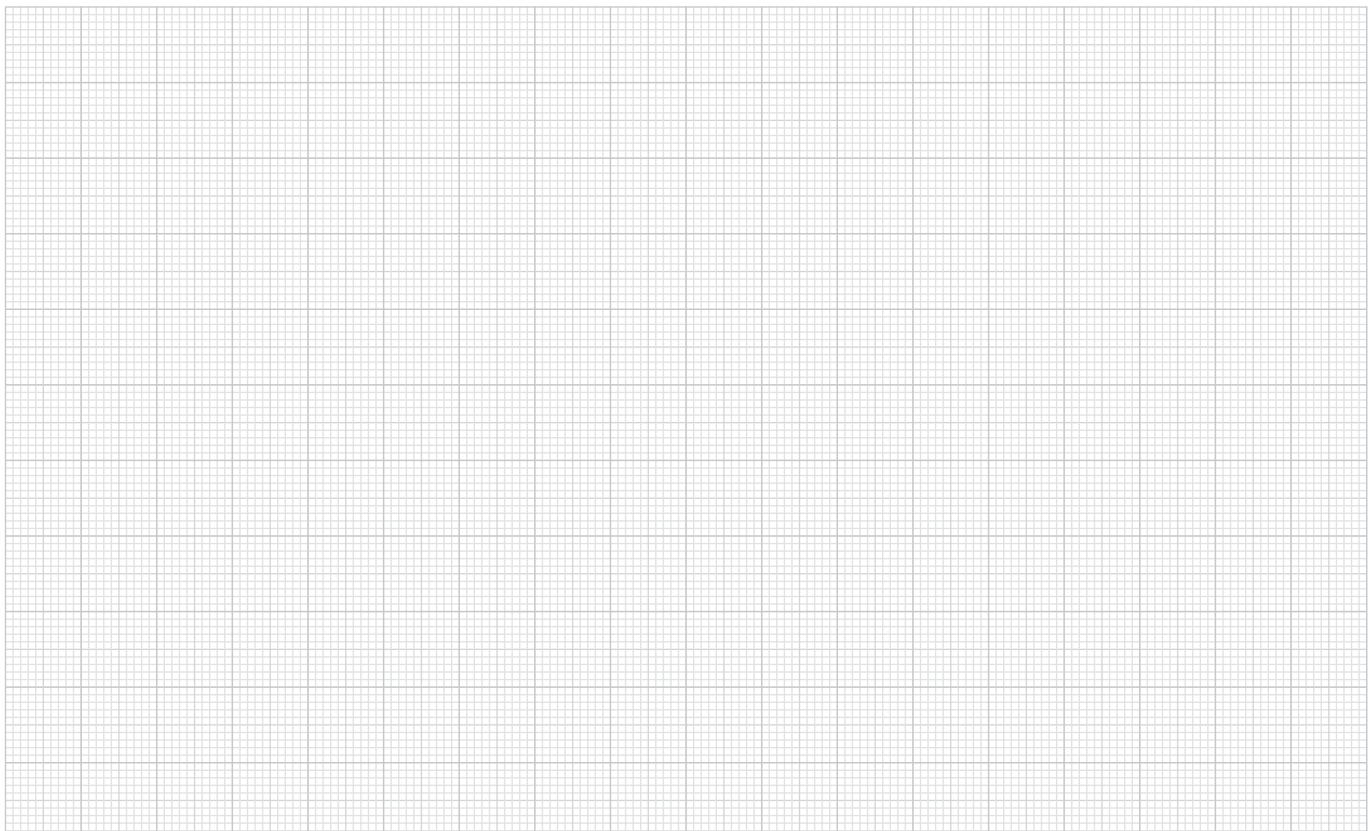
Drawing reference:

1) DIN EN ISO 4762 M10 cap screw

KIPP Clamping balls with cup for workpiece stabiliser

Order No.	Form	D	D1
K1193.125	A	25,4	M10
K1193.225	B	25,4	M10

Notes



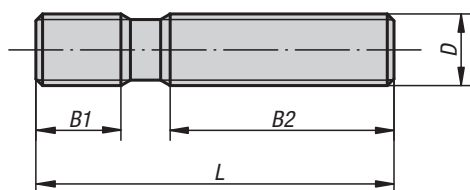


Fastener elements



Studs

DIN 6379



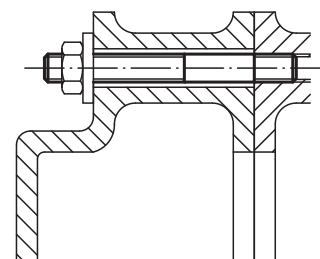
Material:
Carbon steel.

Version:
Thread rolled.
M6-M12 tempered to 10.9, black.
M14-M36 tempered to 8.8, black.

KIPP Studs DIN 6379

Order No.	D	L	B1	B2
K0697.0632	M6	32	9	16
K0697.0640	M6	40	9	20
K0697.0650	M6	50	9	30
K0697.0663	M6	63	9	40
K0697.0680	M6	80	9	50
K0697.06100	M6	100	9	63
K0697.0840	M8	40	11	20
K0697.0863	M8	63	11	40
K0697.0880	M8	80	11	50
K0697.08100	M8	100	11	63
K0697.08125	M8	125	11	75
K0697.08160	M8	160	11	100
K0697.1050	M10	50	13	25
K0697.1080	M10	80	13	50
K0697.10100	M10	100	13	75
K0697.10125	M10	125	13	75
K0697.10160	M10	160	13	100
K0697.10200	M10	200	13	125
K0697.1250	M12	50	15	25
K0697.1263	M12	63	15	32
K0697.1280	M12	80	15	50
K0697.12100	M12	100	15	63
K0697.12125	M12	125	15	75
K0697.12160	M12	160	15	100
K0697.12200	M12	200	15	125
K0697.1463	M14	63	17	32
K0697.1480	M14	80	17	50
K0697.14100	M14	100	17	63
K0697.14125	M14	125	17	75
K0697.14160	M14	160	17	100
K0697.14200	M14	200	17	125
K0697.14250	M14	250	17	160
K0697.1663	M16	63	19	32
K0697.1680	M16	80	19	50
K0697.16100	M16	100	19	63
K0697.16125	M16	125	19	75
K0697.16160	M16	160	19	100
K0697.16200	M16	200	19	125
K0697.16250	M16	250	19	160
K0697.16315	M16	315	19	180
K0697.16350	M16	350	19	200
K0697.16500	M16	500	20	315

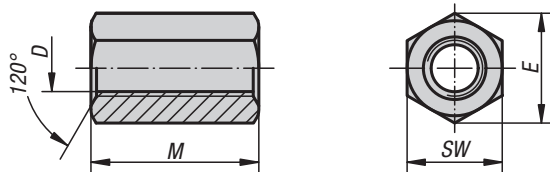
Sample order:
K0697.12125



Order No.	D	L	B1	B2
K0697.1880	M18	80	23	50
K0697.18125	M18	125	23	75
K0697.18160	M18	160	23	100
K0697.18200	M18	200	23	125
K0697.18250	M18	250	23	150
K0697.18315	M18	315	23	180
K0697.2080	M20	80	27	32
K0697.20125	M20	125	27	70
K0697.20160	M20	160	27	100
K0697.20200	M20	200	27	125
K0697.20250	M20	250	27	160
K0697.20315	M20	315	27	200
K0697.20400	M20	400	27	250
K0697.20500	M20	500	27	315
K0697.22100	M22	100	31	45
K0697.22160	M22	160	31	100
K0697.22200	M22	200	31	125
K0697.22250	M22	250	31	160
K0697.22315	M22	315	31	180
K0697.22400	M22	400	31	250
K0697.24100	M24	100	35	45
K0697.24125	M24	125	35	63
K0697.24160	M24	160	35	100
K0697.24200	M24	200	35	125
K0697.24250	M24	250	35	160
K0697.24315	M24	315	35	200
K0697.24400	M24	400	35	250
K0697.24500	M24	500	35	315
K0697.24630	M24	630	35	315
K0697.27125	M27	125	39	56
K0697.27200	M27	200	39	125
K0697.27315	M27	315	39	200
K0697.27400	M27	400	39	250
K0697.27500	M27	500	39	315
K0697.30125	M30	125	43	56
K0697.30200	M30	200	43	125
K0697.30315	M30	315	43	200
K0697.30500	M30	500	43	315
K0697.30700	M30	700	43	400
K0697.301000	M30	1000	44	400
K0697.36160	M36	160	51	80
K0697.36200	M36	200	51	125
K0697.36250	M36	250	51	160
K0697.36315	M36	315	51	200
K0697.36400	M36	400	51	250
K0697.36500	M36	500	51	315
K0697.36700	M36	700	51	400

Extension nuts

height 3xD



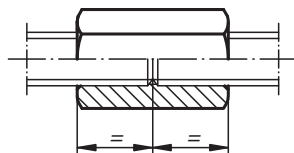
Material:
Carbon steel.

Version:
Tempered to grade 10, black.

Sample order:
K0865.16

Note:
For functional and safety reasons screws should be screwed into a maximum of half the nut height from both sides. Minimum thread depth 1x diameter.

On request:
DIN ISO 272 spanner sizes.



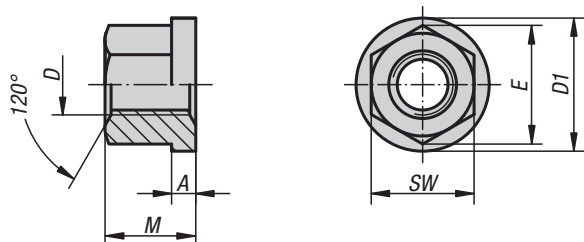
KIPP Extension nuts height 3xD

Order No.	D	M = 3 x D	SW	E
K0865.06	M6	18	10	11,5
K0865.08	M8	24	13	15
K0865.10	M10	30	17	19,6
K0865.12	M12	36	19	21,9
K0865.16	M16	48	24	27,7
K0865.20	M20	60	30	34,6

K0701

Hexagon nuts with collar

height 1.5xD, DIN 6331 enhanced



Material:
Carbon steel.

Version:
Steel grade 10, black.

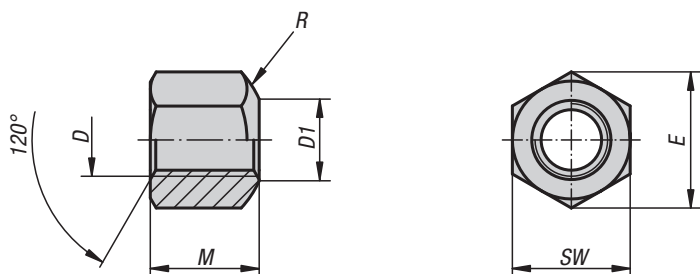
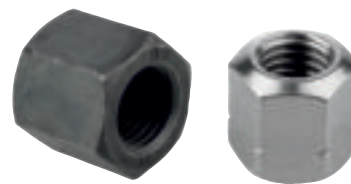
Sample order:
K0701.16

KIPP Hexagon nuts with collars, height 1.5xD, DIN 6331

Order No.	Base material	D	M = 1,5 x D	A	D1	SW	E
K0701.06	carbon steel	M6	9	3	14	10	11,5
K0701.08	carbon steel	M8	12	3,5	18	13	15
K0701.10	carbon steel	M10	15	4	22	16	18,5
K0701.12	carbon steel	M12	18	4	25	18	20,8
K0701.16	carbon steel	M16	24	5	31	24	27,7
K0701.20	carbon steel	M20	30	6	37	30	34,6

Hexagon nuts

height 1.5xD, DIN 6330 enhanced

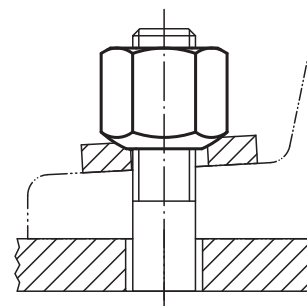


Material:
Carbon steel or stainless steel (A2).

Version:
Tempered to 10, black.
Stainless steel A 2-70, bright.

Sample order:
K0702.12

Note:
These hexagon nuts can be used with the conical seats K0729, Form D and G.

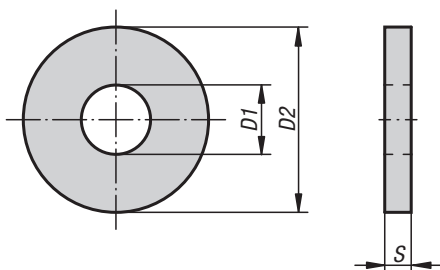


KIPP Hexagon nuts height 1.5xD, DIN 6330 enhanced

Order No.	Base material	D	M = 1,5 x D	D1	SW	E	R
K0702.05	carbon steel	M5	7,5	6,5	9	10,4	7
K0702.06	carbon steel	M6	9	7	10	11,5	9
K0702.08	carbon steel	M8	12	9	13	15	11
K0702.10	carbon steel	M10	15	11,5	16	18,4	15
K0702.101	carbon steel	M10	15	11,5	17	19,6	15
K0702.12	carbon steel	M12	18	14	18	20,7	17
K0702.121	carbon steel	M12	18	14	19	21,9	17
K0702.14	carbon steel	M14	21	16	22	25,4	20
K0702.16	carbon steel	M16	24	18	24	27,7	22
K0702.18	carbon steel	M18	27	20	27	31,2	24,5
K0702.20	carbon steel	M20	30	22	30	34,6	27
K0702.22	carbon steel	M22	33	24	32	36,9	29
K0702.24	carbon steel	M24	36	26	36	41,6	32
K0702.30	carbon steel	M30	45	32	46	53,1	41
K0702.36	carbon steel	M36	54	38	55	63,5	50
K0702.806	stainless steel	M6	9	7	10	11,5	9
K0702.808	stainless steel	M8	12	9	13	15	11
K0702.810	stainless steel	M10	15	11,5	16	18,4	15
K0702.811	stainless steel	M10	15	11,5	17	19,6	15
K0702.812	stainless steel	M12	18	14	18	20,7	17
K0702.816	stainless steel	M16	24	18	24	27,7	22
K0702.820	stainless steel	M20	30	22	30	34,6	27

Washers for clamps

DIN 6340



Material:

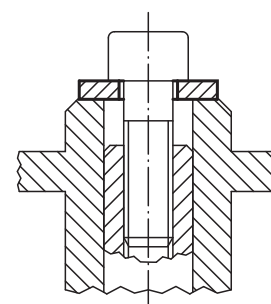
Steel.

Version:

Stamped out, pressed flat and tempered to 1200-1400 N/mm², black.

Sample order:

K0867.16



KIPP Heavy-duty washers DIN 6340

Order No. steel	D1	D2	S	for screw
K0867.06	6,4	17	3	M6
K0867.08	8,4	23	4	M8
K0867.10	10,5	28	4	M10
K0867.12	13	35	5	M12
K0867.16	17	45	6	M16
K0867.20	21	50	6	M20

C-washers

DIN 6372, enhanced

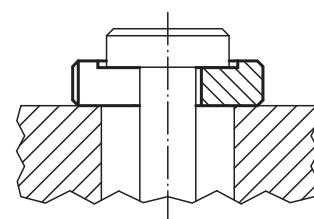
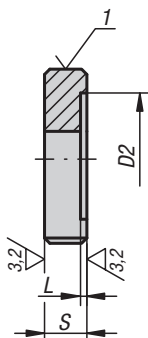
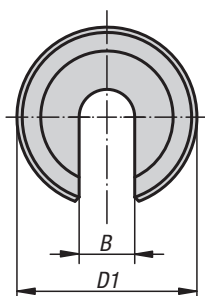


Material:
Carbon steel.

Version:
Tempered and black oxidised.

Sample order:
K0730.12

Drawing reference:
1) cross knurl



KIPP C-washers for fixtures DIN 6372, enhanced

Order No.	B	D1	D2	L	S
K0730.05	5,25	17	12	0,75	5
K0730.06	6,4	22	16	0,8	6
K0730.08	8,4	28	21	1	7
K0730.10	10,5	34	25	1,2	8
K0730.12	13	40	30	1,8	9
K0730.14	14,5	48	33	1,8	12
K0730.16	17	56	37	1,8	12
K0730.20	21	64	45	2	14
K0730.24	25	75	52	2	16
K0730.30	31	90	65	2	18
K0730.36	37	100	75	2,5	20

Spacing washers

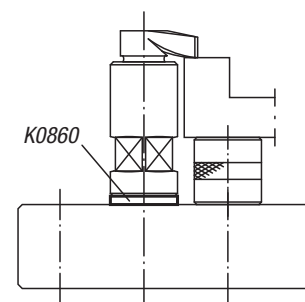
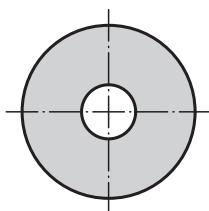
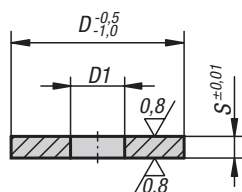


Material:
Carbon steel.

Version:
Tempered, black oxidised.
Contact faces ground.

Sample order:
K0860.16005

Note:
The spacing washer is used to alter the clamping range of hook clamps and hook holders. When a spacing washer is inserted between the base and the hook holder or riser cylinder it prevents damage to the support face.

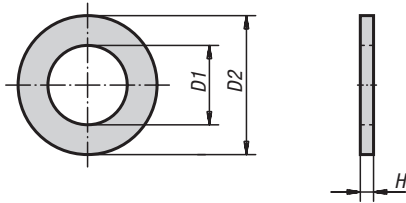


KIPP Spacer washers, ground

Order No.	D	D1	S
K0860.08003	24	9	3
K0860.08005	24	9	5
K0860.08008	24	9	8
K0860.12001	40	12,5	1
K0860.12003	40	12,5	3
K0860.12005	40	12,5	5
K0860.16001	50	16,5	1
K0860.16003	50	16,5	3
K0860.16005	50	16,5	5
K0860.16105	60	16,5	5

Washers

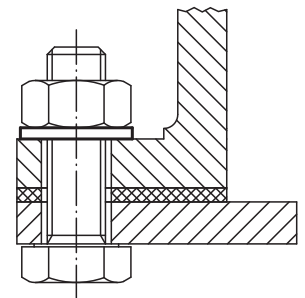
medium, DIN EN ISO 7089 A



Material:
Steel 140 HV or stainless steel (A 2-70)

Version:
Bright.

Sample order:
K0868.10

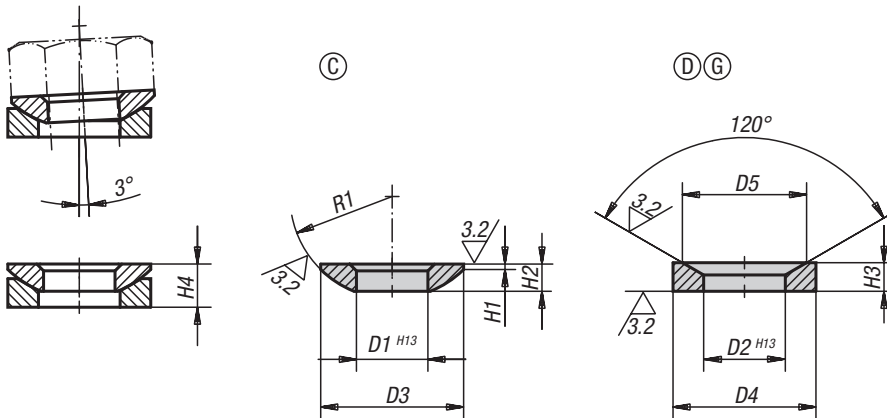


KIPP Medium washers DIN EN ISO 7089 A

Order No. Steel	Order No. Stainless steel	for screws	D1	D2	H
K0868.03	K0868.103	M3	3,2	7	0,5
K0868.04	K0868.104	M4	4,3	9	0,8
K0868.05	K0868.105	M5	5,3	10	1
K0868.06	K0868.106	M6	6,4	12	1,6
K0868.08	K0868.108	M8	8,4	16	1,6
K0868.10	K0868.110	M10	10,5	20	2
K0868.12	K0868.112	M12	13	24	2,5
K0868.14	K0868.114	M14	15	28	2,5
K0868.16	K0868.116	M16	17	30	3
K0868.20	K0868.120	M20	21	37	3
K0868.24	K0868.124	M24	25	44	4
K0868.30	K0868.130	M30	31	56	4
K0868.36	K0868.136	M36	37	66	5

Spherical washers

DIN 6319, 10/01



Material:

Mild steel or stainless steel.
Form G carbon steel tempered to HV 390 ±40.

Version:

Steel version case hardened.
Stainless steel version bright, not hardened.

Sample order:

K0729.216

Note:

Conical seat Form G should be used over slots.

Drawing reference:

Form C: spherical washer
Form D: conical seat D4 = D3
Form G: conical seat D4 > D3

KIPP Spherical washers Form C DIN 6319, edition 10/01

Order No. mild steel	Order No. stainless steel	Form	D1	D3	H1	H2	R1	for screw Ø	Load rating max. kN (static load only)
K0729.105	-	C	5,25	10,5	0,4	2	7,5	5	-
K0729.106	K0729.0106	C	6,4	12	0,7	2,3	9	6	9/6
K0729.108	K0729.0108	C	8,4	17	0,6	3,2	12	8	17/12
K0729.110	K0729.0110	C	10,5	21	0,8	4	15	10	26/16
K0729.112	K0729.0112	C	13	24	1,1	4,6	17	12	38/24
K0729.114	-	C	15	28	1,2	5	22	14	53
K0729.116	K0729.0116	C	17	30	1,3	5,3	22	16	73/45
K0729.120	K0729.0120	C	21	36	2	6,3	27	20	117/71
K0729.124	K0729.0124	C	25	44	2,4	8,2	32	24	168/105
K0729.130	K0729.0130	C	31	56	3,6	11,2	41	30	269/191
K0729.136	K0729.0136	C	37	68	4,6	14	50	36	394/-
K0729.142	K0729.0142	C	43	78	6,5	17	58	42	542/-
K0729.148	K0729.0148	C	50	92	8	21	67	48	714/-
K0729.156	-	C	58	103	9,5	23	79	56	960
K0729.164	-	C	66	120	12	27	93	64	1269

Spherical washers

DIN 6319, 10/01



KIPP Conical seats Form D DIN 6319, edition 10/01

Order No. mild steel	Order No. stainless steel	Form	D2	D4	D5	H3	H4 with conical seat	for screw Ø	Load rating max. kN (static load only)
K0729.205	-	D	6	10,5	9,25	2,1	3,1	5	-
K0729.206	K0729.0206	D	7,1	12	11	2,8	4	6	9/6
K0729.208	K0729.0208	D	9,6	17	14,5	3,5	5,6	8	17/12
K0729.210	K0729.0210	D	12	21	18,5	4,2	6,3	10	26/16
K0729.212	K0729.0212	D	14,2	24	20	5	8	12	38/24
K0729.214	-	D	16,5	28	24,8	5,6	8,2	14	53
K0729.216	K0729.0216	D	19	30	26	6,2	9,3	16	73/45
K0729.220	K0729.0220	D	23,2	36	31	7,5	11,6	20	117/71
K0729.224	K0729.0224	D	28	44	37	9,5	15	24	168/105
K0729.230	K0729.0230	D	35	56	49	12	18,9	30	269/191
K0729.236	K0729.0236	D	42	68	60	15	23,3	36	394/-
K0729.242	K0729.0242	D	49	78	70	18	28,3	42	542/-
K0729.248	K0729.0248	D	56	92	82	22	35,2	48	714/-
K0729.256	-	D	65	103	92	25	39,7	56	960
K0729.264	-	D	75	120	110	30	46,5	64	1269

KIPP Conical seats Form G, DIN 6319 Edition 10/01

Order No. high carbon steel	Order No. stainless steel	Form	D2	D4	D5	H3	H4 with conical seat	for screw Ø	Load rating max. kN (static load only)
K0729.305	-	G	6	15	9,25	2,5	3,5	5	-
K0729.306	K0729.0306	G	7,1	17	11	4	5,2	6	9/6
K0729.308	K0729.0308	G	9,6	24	14,5	5	6,8	8	17/12
K0729.310	K0729.0310	G	12	30	18,5	5	7,1	10	26/16
K0729.312	K0729.0312	G	14,2	36	20	6	9	12	38/24
K0729.314	-	G	16,5	40	24,8	6	8,6	14	53
K0729.316	K0729.0316	G	19	44	26	7	10,1	16	73/45
K0729.320	K0729.0320	G	23,2	50	31	8	12	20	117/71
K0729.324	K0729.0324	G	28	60	37	10	15,5	24	168/105
K0729.330	K0729.0330	G	35	68	49	12	18,7	30	269/191
K0729.336	-	G	42	80	60	12	20,3	36	394

Socket head screws

DIN 912 / DIN EN ISO 4762



Material:

Steel or stainless steel (A 2)

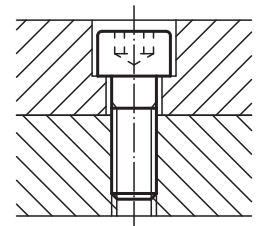
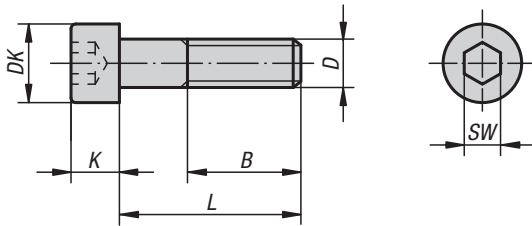
Version:

Steel grade 8.8, black.

Stainless steel A 2-70, bright.

Sample order:

K0869.08X40 (include length L)

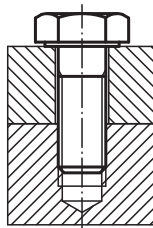
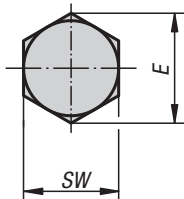
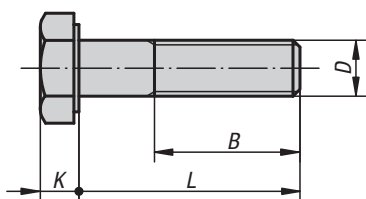


KIPP Socket head screws DIN 912 / DIN EN ISO 4762

Order No. steel	Order No. stainless steel	D	L	B	DK	K	SW
K0869.04X	K0869.104X	M4	10/12/16/18/20/25	20	7	4	3
K0869.05X	K0869.105X	M5	10/12/16/18/20/25/30/40	22	8,5	5	4
K0869.06X	K0869.106X	M6	10/12/16/18/20/25/30/35/40/45/50/55/60	24	10	6	5
K0869.08X	K0869.108X	M8	16/18/20/25/30/35/40/45/50/60/70/80	28	13	8	6
K0869.10X	K0869.110X	M10	16/18/20/25/30/35/40/45/50/60/70/80/90/100	32	16	10	8
K0869.12X	K0869.112X	M12	20/25/30/35/40/45/50/60/70/80/90/100/110/120	36	18	12	10
K0869.14X	-	M14	50/80/120	40	21	14	12
K0869.16X	-	M16	30/35/40/45/50/60/70/80/90/100/110/120	44	24	16	14
K0869.20X	-	M20	40/45/50/60/70/80/90/100/110/120	52	30	20	17

Hexagon head bolts

DIN EN ISO 4014 / DIN EN 24014



KIPP Hexagon head bolts with shaft DIN 931/DIN EN ISO 4014/DIN EN 24014

Order No. steel	Order No. stainless steel	D	L	B	SW	E	K
K0870.04X	-	M4	25/30/35/40/45/50	14	7	7,66	2,8
K0870.05X	K0870.105X	M5	25/30/35/40/45/50/60	16	8	8,79	3,5
K0870.06X	K0870.106X	M6	30/35/40/45/50/60/70	18	10	11,05	4
K0870.08X	K0870.108X	M8	35/40/45/50/60/70/80	22	13	14,38	5,3
K0870.10X	K0870.110X	M10	40/45/50/60/70/80/90/100	26	17	18,9	6,4
K0870.12X	K0870.112X	M12	45/50/60/70/80/90/100/110/120	30	19	21,1	7,5
K0870.16X	K0870.116X	M16	60/70/80/90/100/110/120	38	24	26,75	10
K0870.20X	-	M20	70/80/90/100/110/120	46	30	33,53	12,5

Material:

Steel or stainless steel (A 2)

Version:

Steel grade 8.8, black.
Stainless steel A 2-70, bright.

Sample order:

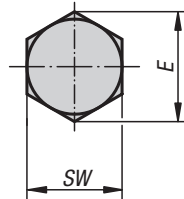
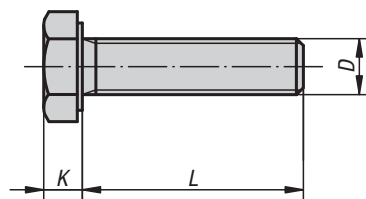
K0870.110X50 (include length L)

Note:

The versions K0870.105X25 and K0870.105X45 are not available in stainless steel.

Hexagon head bolts

full thread DIN 933



Material:

Steel.

Version:

Grade 8.8, black.

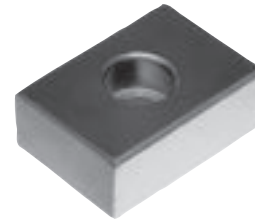
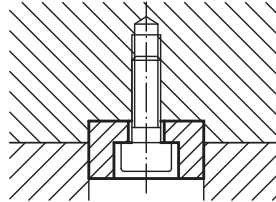
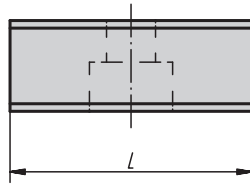
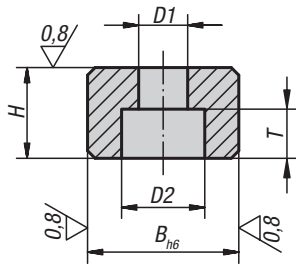
Sample order:

K0871.06X20 (include length L)

KIPP Hexagon head bolts DIN 933

Order No.	D	L	K	SW	E
K0871.06X	M6	20/25/30/40/50/60	4	10	11,05
K0871.08X	M8	16/20/25/30/35/40	5,3	13	14,38
K0871.10X	M10	30/40/50/60/80/100	6,4	17	18,9
K0871.12X	M12	30/40	7,5	19	21,1
K0871.16X	M16	40/50	10	24	26,75

Slot keys



Material:
Steel.

Version:
Case-hardened, black oxidised and ground.

Sample order:
K0864.16

Note:
Slot keys are used to align fixtures and clamps on machine tables with DIN 650 T-slots. They are screwed into the fixture alignment slots. Slot keys are only used when the fixture and machine table have the same slot width.

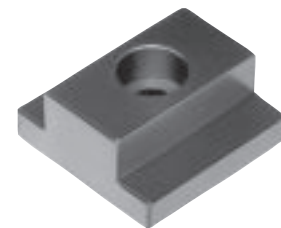
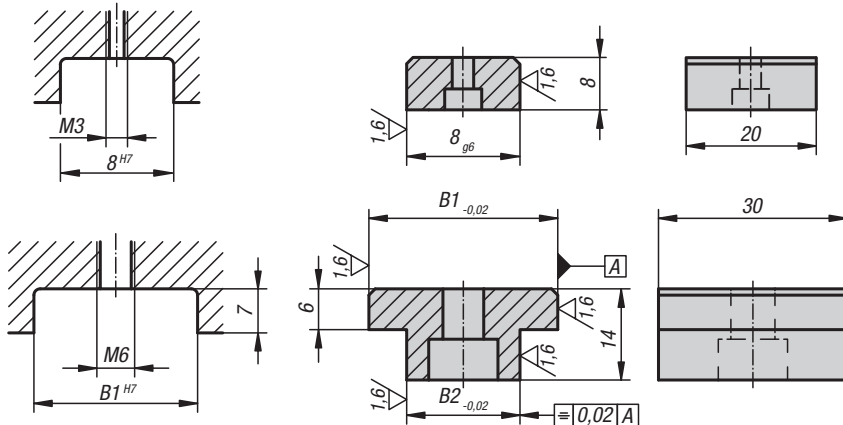
KIPP Slot keys

Order No.	B	H	L	D1	D2	T	for screws DIN 84 or 912
K0864.10	10	8	20	4,5	8	4,3	M4x10
K0864.12	12	8	20	5,5	10	5,3	M5x12
K0864.14	14	10	22	6,6	11	6,3	M6x16
K0864.16	16	10	22	6,6	11	6,3	M6x16
K0864.18	18	10	22	6,6	11	6,3	M6x16
K0864.20	20	10	22	6,6	11	6,3	M6x16
K0864.22	22	12	32	6,6	11	6,3	M6x16

K0954

T-slot keys

K0954.08x8



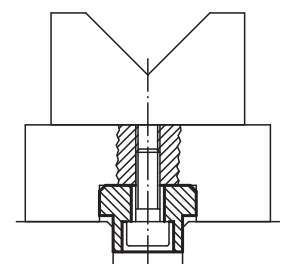
Material:
Carbon steel 1.1191

Version:
Black oxidised.

Sample order:
K0954.08X8 (include dimension B1)

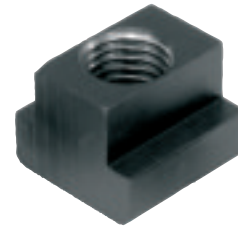
KIPP T-slot keys

Order No.	B1	B2
K0954.08X	8	8
K0954.12X	20/22/30	12
K0954.14X	20/22/30	14
K0954.16X	20/22/30	16
K0954.18X	20/22/30	18
K0954.22X	20/22/30	22



Nuts for T-slots

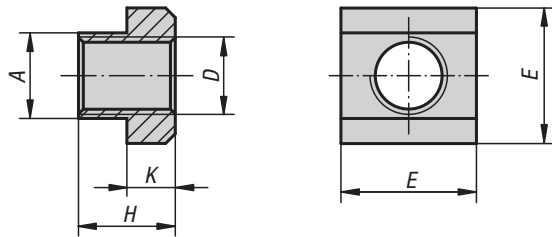
DIN 508 enhanced



Material:
Carbon steel grade 10.

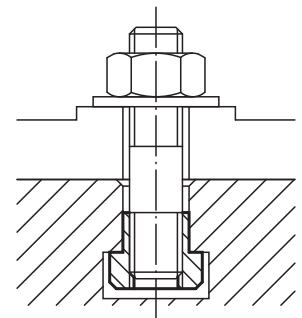
Version:
Steel black.

Sample order:
K0377.20



KIPP Nuts for T-slots to DIN 508 enhanced

Order No.	Nominal slot size	D	A	E	H	K
K0377.06	8	M6	7,6	13	10	6
K0377.08	10	M8	9,6	15	12	6
K0377.10	12	M10	11,5	18	14	7
K0377.12	14	M12	13,5	22	16	8
K0377.16	18	M16	17,5	28	20	10
K0377.18	20	M18	19,6	32	24	12
K0377.20	22	M20	21,6	35	28	14
K0377.22	24	M22	23,6	40	32	16



K0872

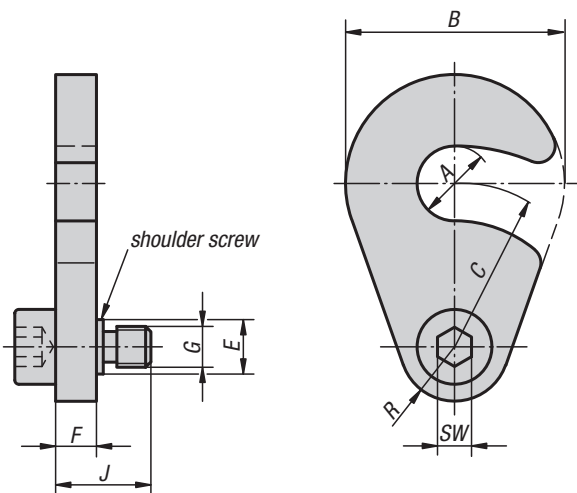
C-washers

captively, with shoulder screw



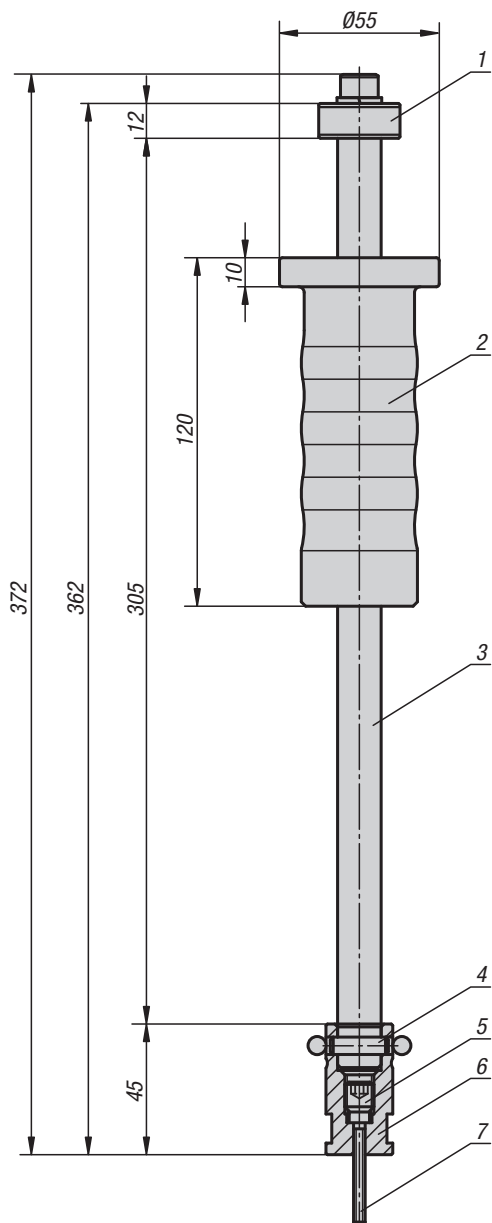
Material, version:
Swing C-washer case-hardened steel, black oxidised.
Shoulder screw tempered steel, black oxidised.

Sample order:
K0872.90010



KIPP C-washers, captively, with shoulder screw

Order No.	A	B	C	D	E	F	G	SW	J
K0872.90010	11	32	24	8	8	6	M6	5	14
K0872.90012	13,5	40	27	10	10	8	M8	6	19
K0872.90016	18	50	33	10	10	8	M8	6	19



Material:

Hammer head carbon steel.
Shaft, stop and guide sleeves tool steel.

Version:

Hammer head tempered and chromed.
Shaft, stop and guide sleeve hardened and chromed.

Sample order:

K0873.40

Note:

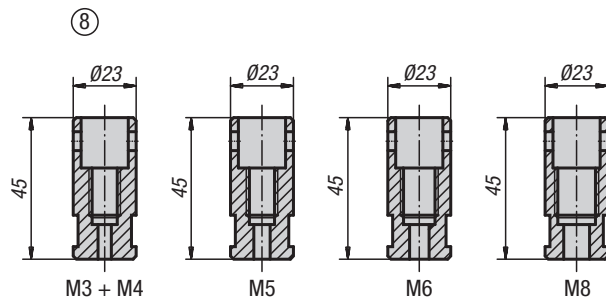
These extractors are used to remove locating pins and centring pins (K0817, K0818, K0350, K0351) with M3 - M8 tapped holes.

Accessories:

Storage case for guide sleeves.

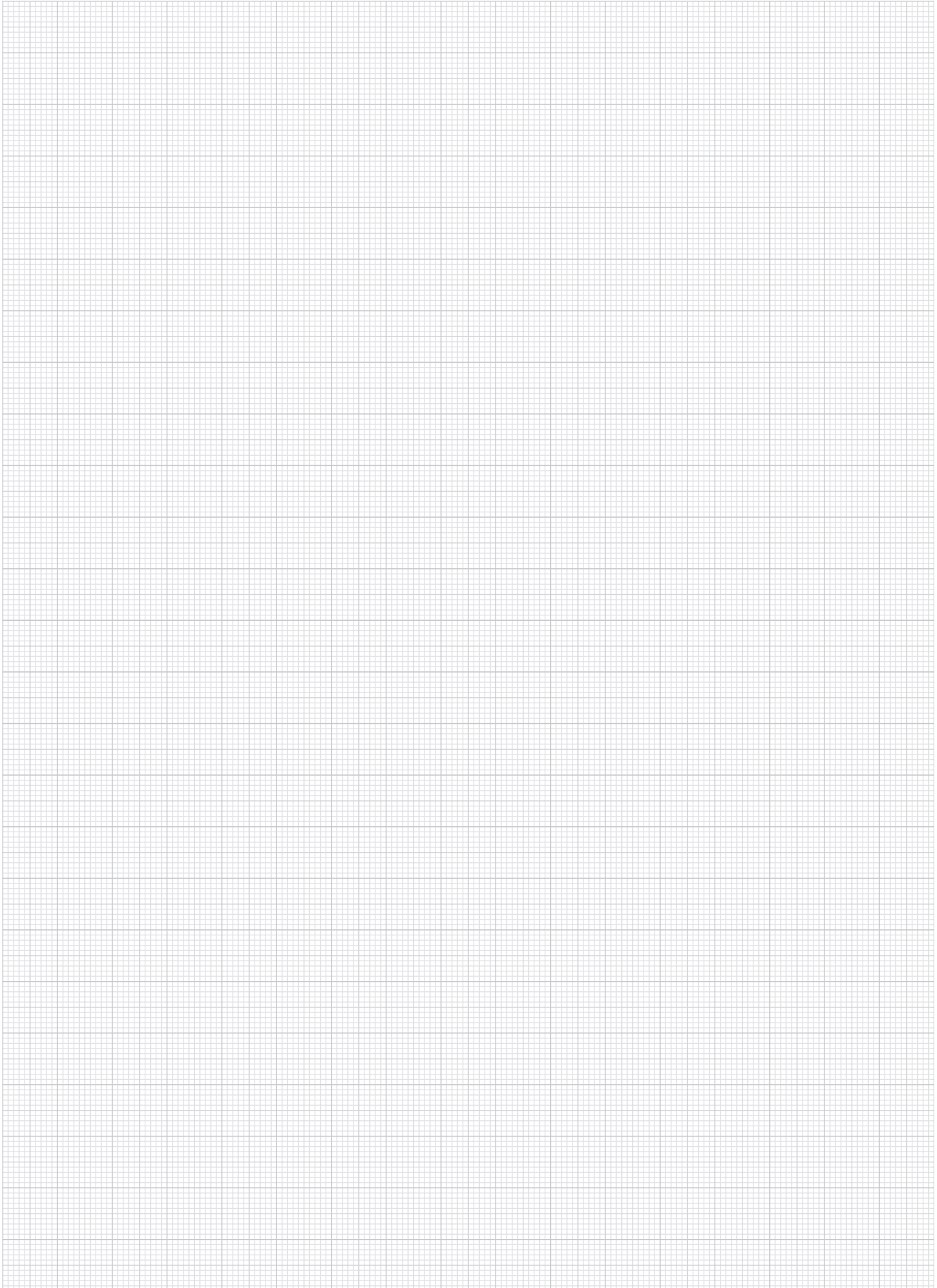
Drawing reference:

- 1) stop
- 2) hammer head
- 3) shaft
- 4) cross pin
- 5) lock screw
- 6) guide sleeve
- 7) cap screw
- 8) 1 set guide sleeves

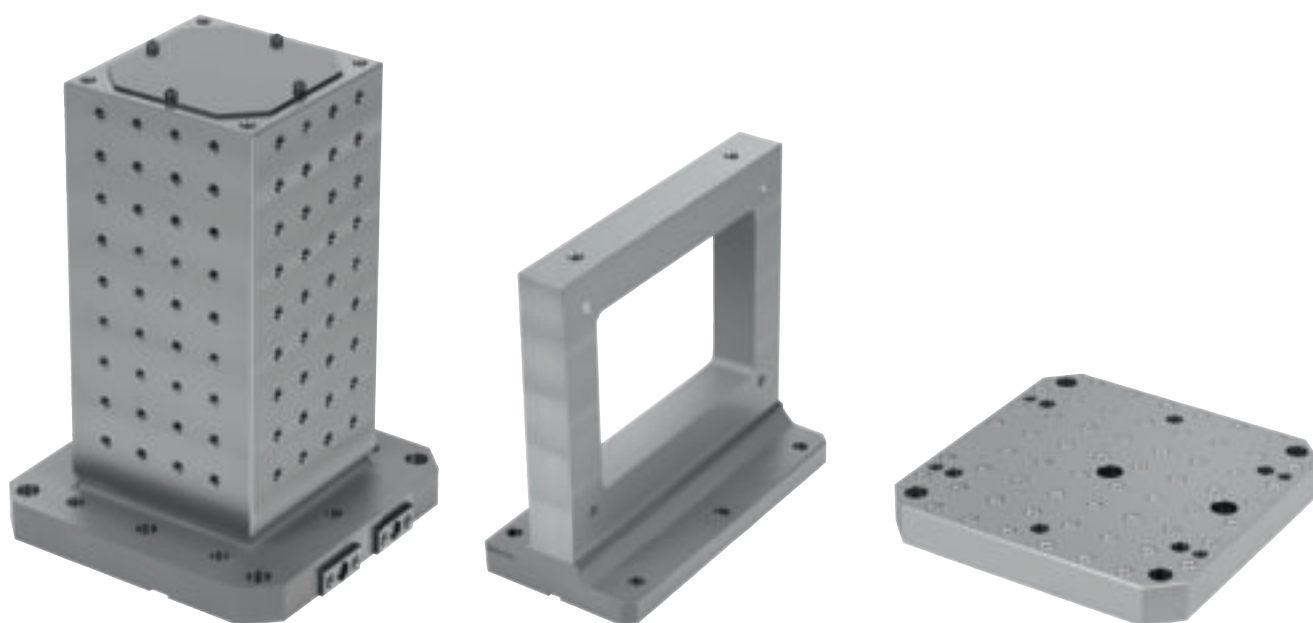


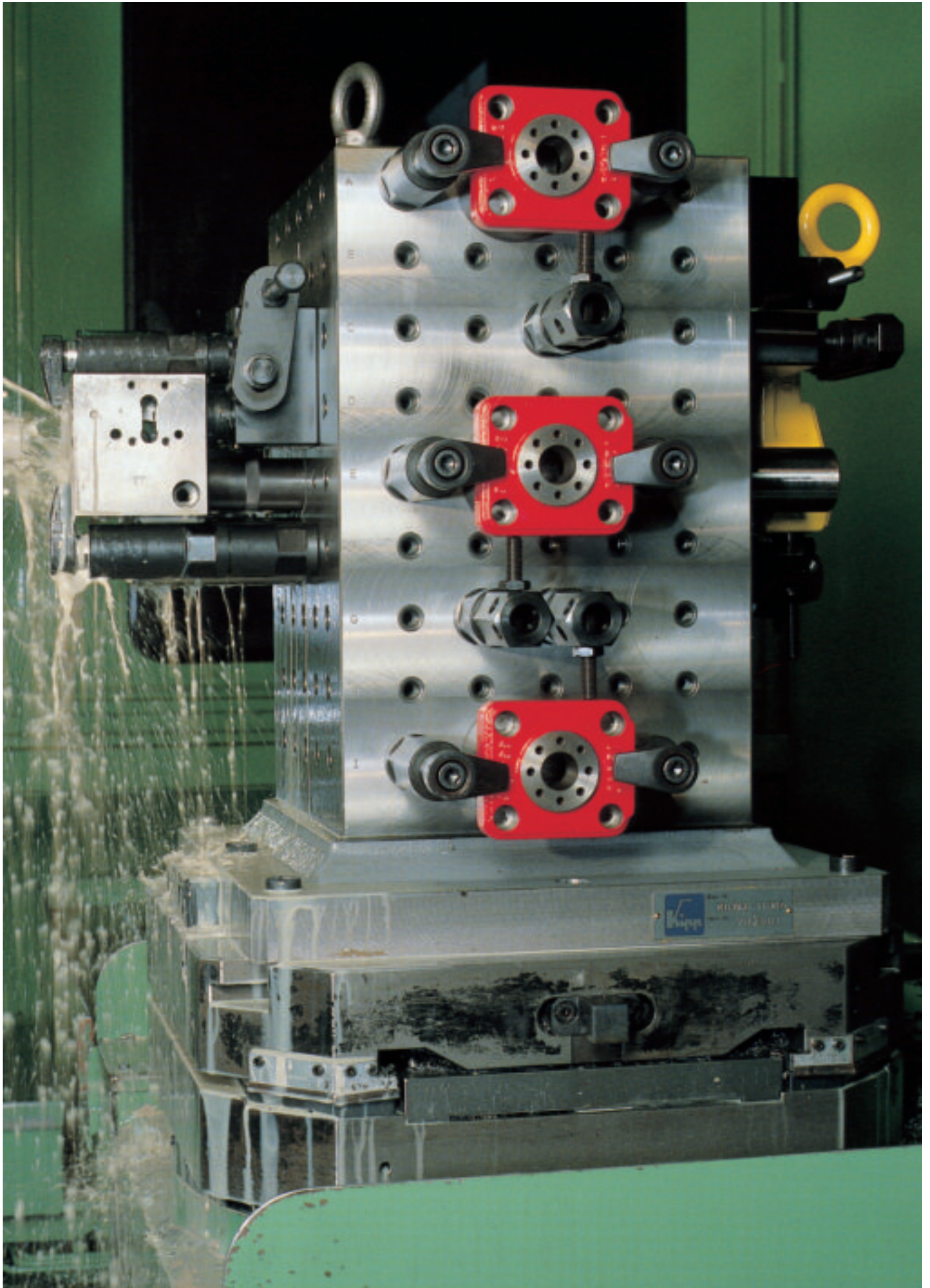
KIPP Extractor

Order No.	Dimensions
K0873.40	see drawing

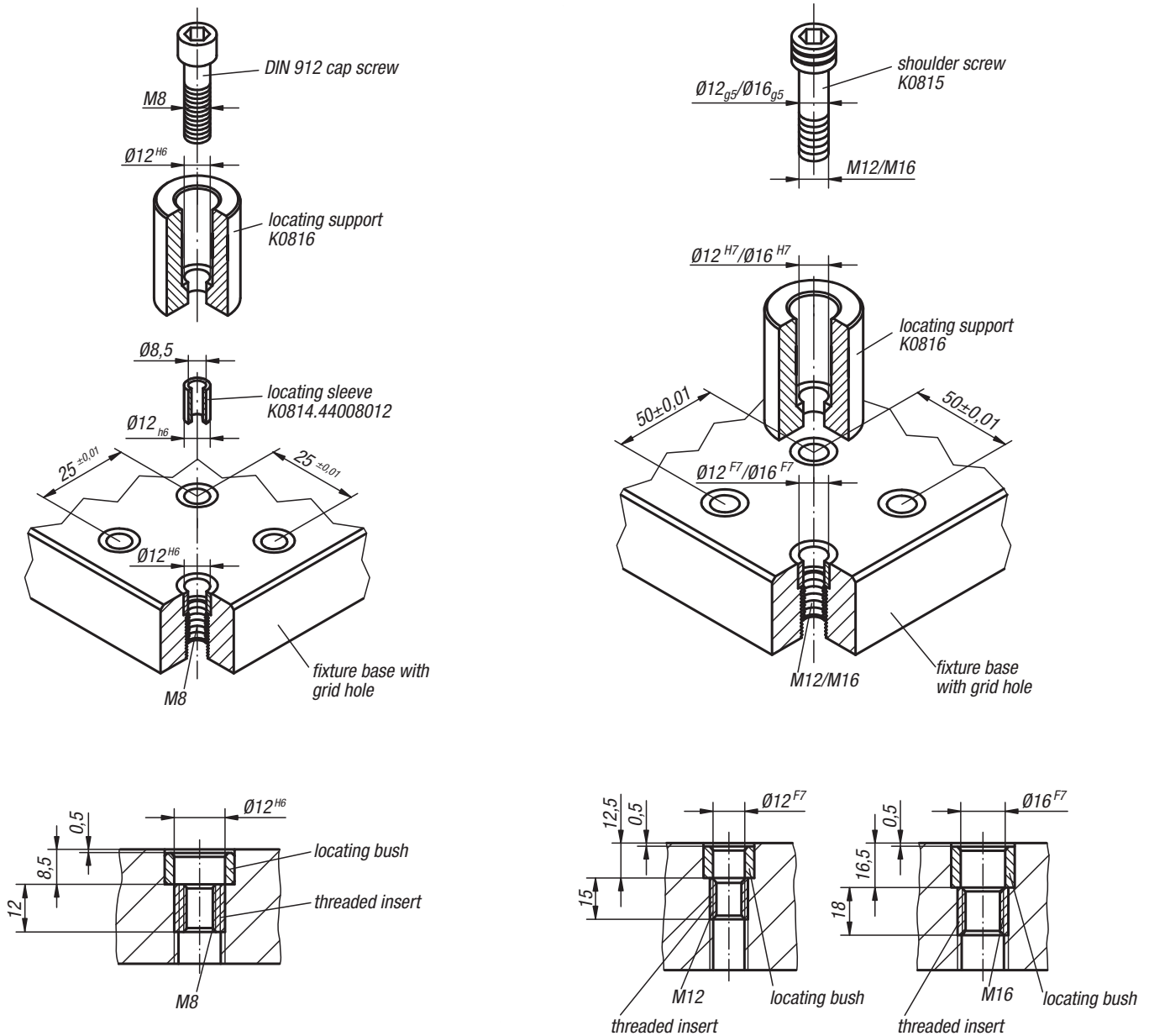


Basic elements





Grid holes and pitches



Grid hole:

The characteristic feature of the grid hole is its dual function: the coaxial arrangement of the locating and the threaded parts allows positioning and fastening at the same time with one grid hole (see illustrations). As a result, the size of the fixture elements can be reduced to a minimum and their flexibility increased accordingly.

Each grid hole consists of two parts:

- reamed bush. Material: hardened tool steel.
- threaded insert. Material: carbon steel, tempered to ca. 1100-1300 N/mm².

Since the reamed bushes are recessed 0.5 mm from the surface of the fixture bases, the mounting surfaces can be re-machined in the event of wear.

Positioning the base elements

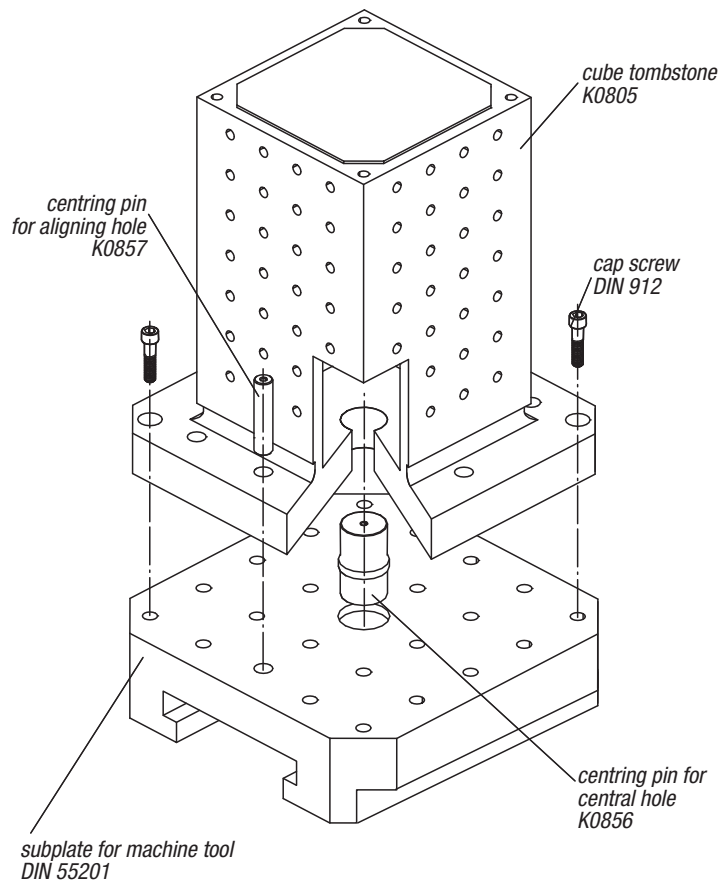


Single side tombstone K0802, double side tombstone K0803, cube tombstone K0805 and subplates K0806 have two positioning options:

a) Positioning on subplates for machine-tools acc. to DIN 55 201.

Positioning procedure:

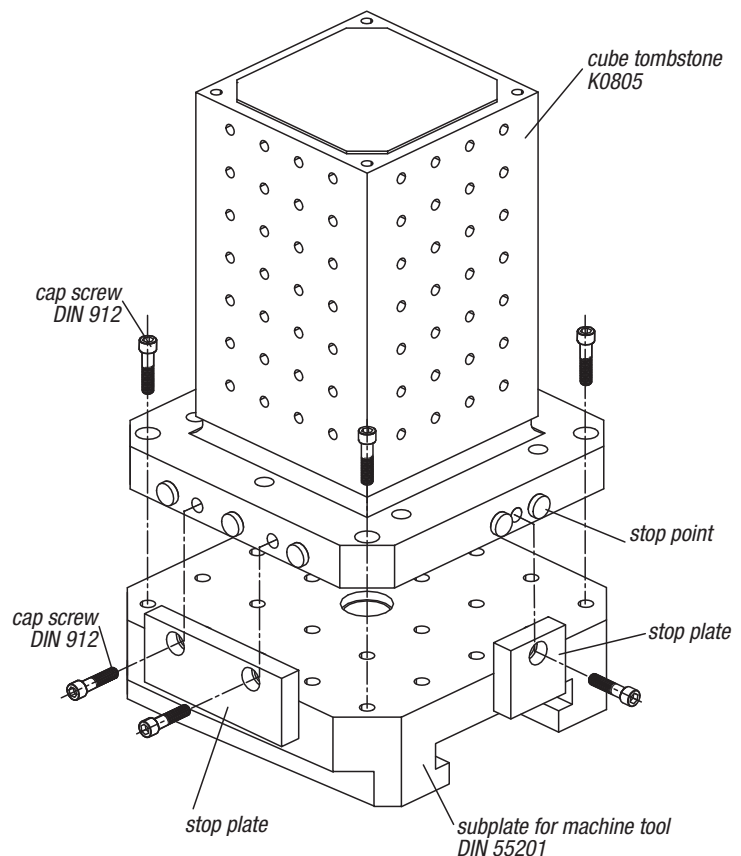
1. Insert locating pin in the centre bore of the subplate.
2. Position the tombstones, cube tombstones and subplates over the central hole.
3. Use the locating pin for the aligning hole to align the basic elements.



b) Positioning on subplates for machine tools acc. to JIS 6337-1980.

Positioning procedure:

1. Mount stop plates on the machine table.
2. Attach stop points to the reference faces (stop plates) using socket head screws.

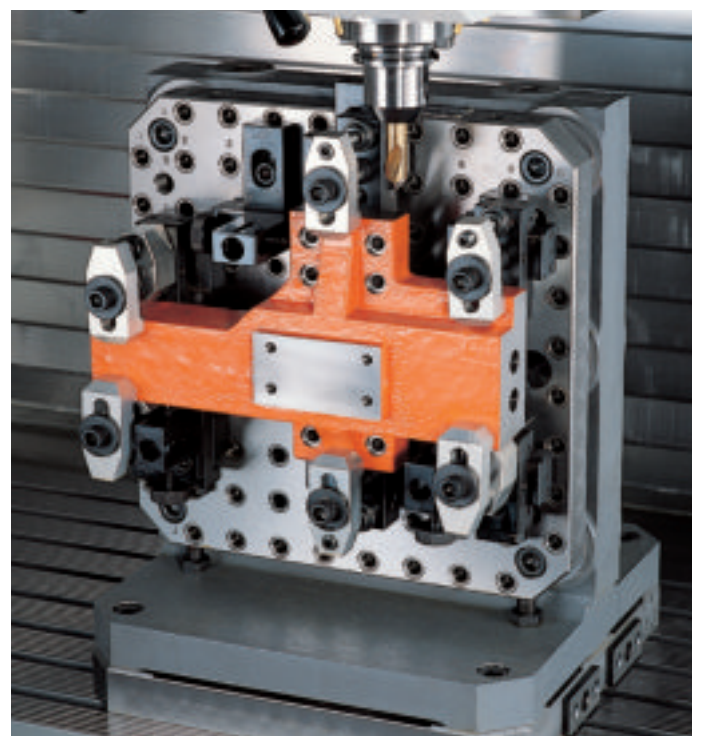
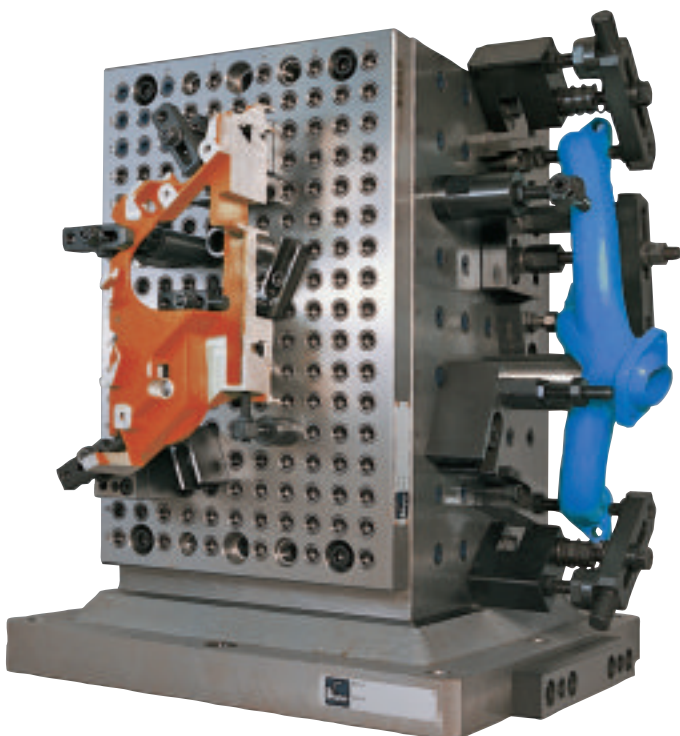
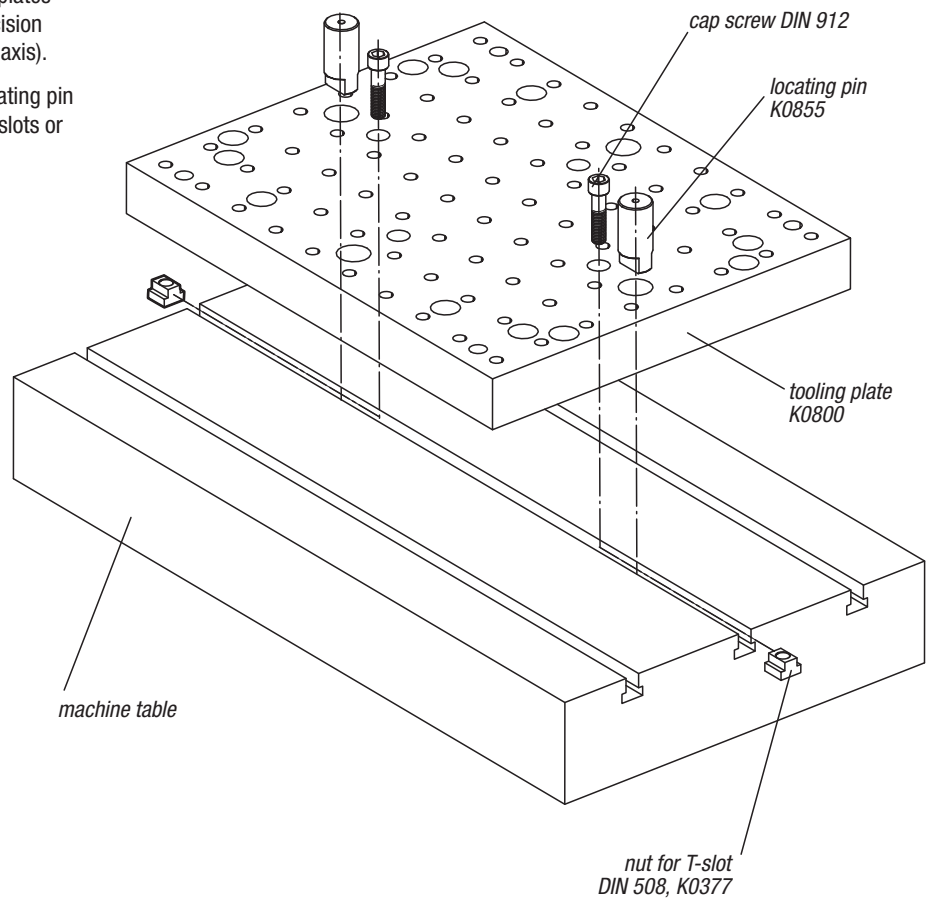


on machine tables

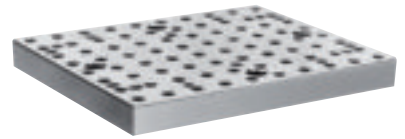
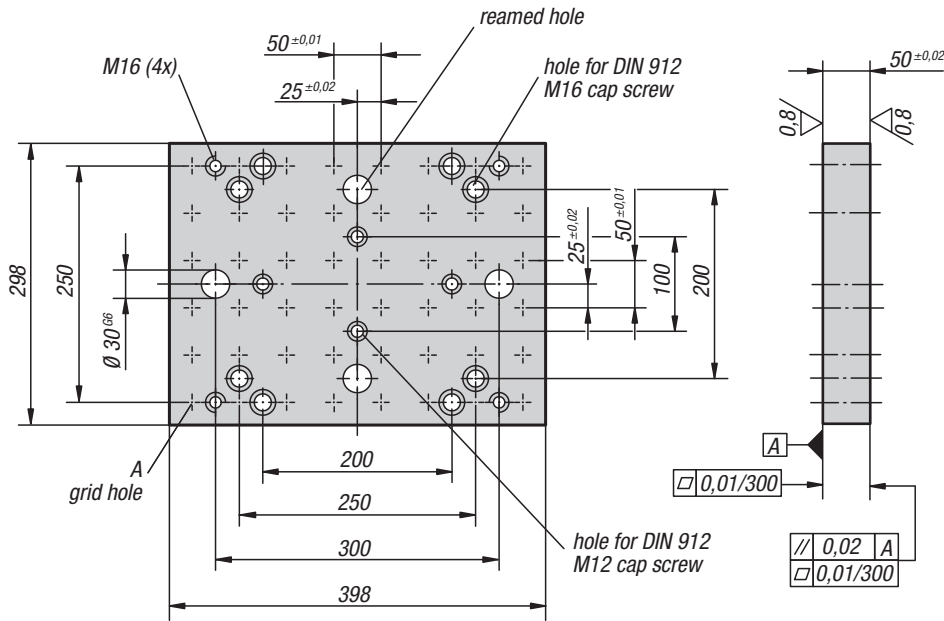


Locating pins are used for positioning tooling plates K0800. The tooling plates each have four precision holes for the locating pins (two holes on each axis).

An M6 screw inserted into the head of the locating pin is used to insert this pin accurately into the T-slots or to remove it.



Tooling plates



Material:
Grey cast iron GJL 250

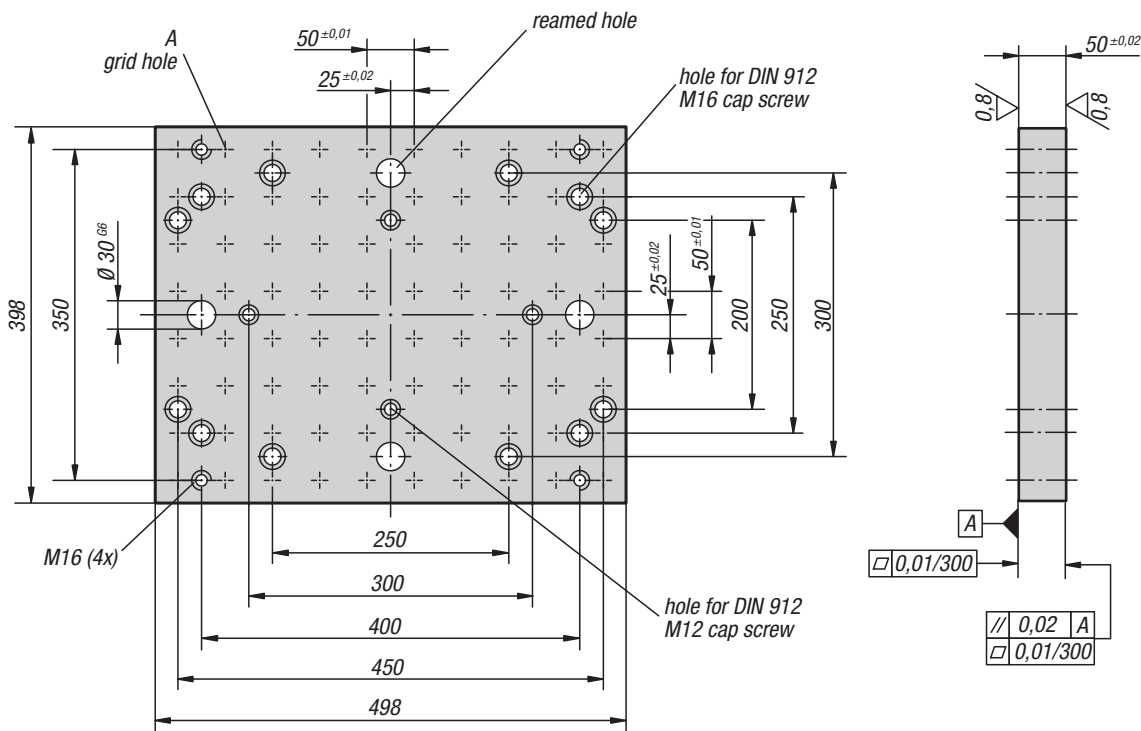
Version:
Mounting surfaces ground

Sample order:
K0800.003040

Note:
Grid hole pitch 50 ± 0.01 mm.
Grid hole plugs and ring bolts for lifting are supplied.
For large workpieces the tooling plates can be joined together using connecting pieces K0854.400.

KIPP Tooling plates

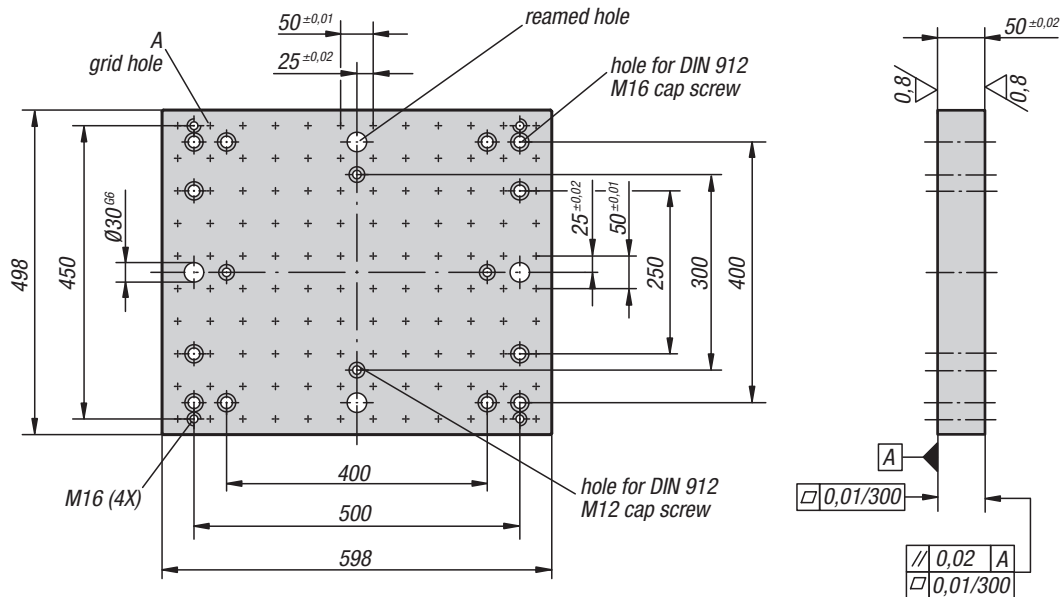
Order No.	Version	A locating hole	A thread	No. of grid holes	weight ca. kg
K0800.003040	without grid holes	-	-	-	42
K0800.123040	with grid holes	12 F7	M12	48	39



KIPP Tooling plates

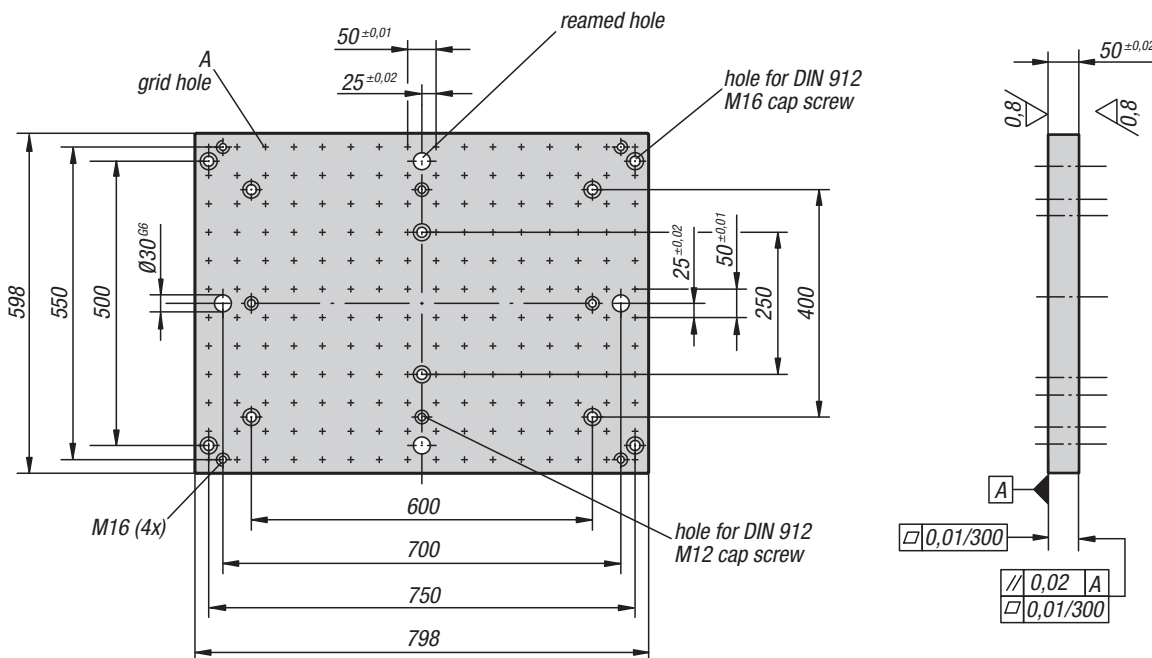
Order No.	Version	A locating hole	A thread	No. of grid holes	weight ca. kg
K0800.004050	without grid holes	-	-	-	70
K0800.124050	with grid holes	12 F7	M12	80	65

Tooling plates



KIPP Tooling plates

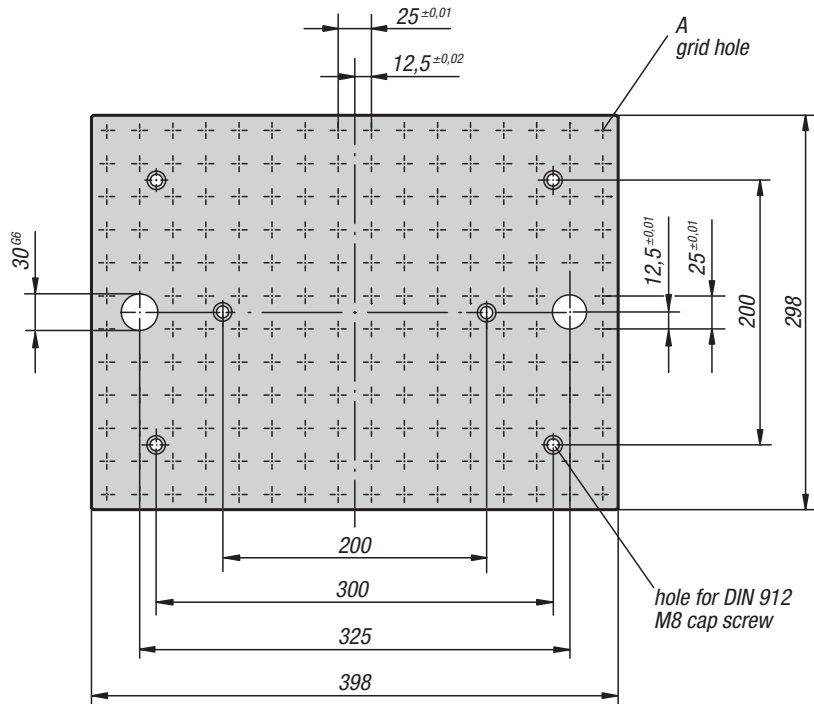
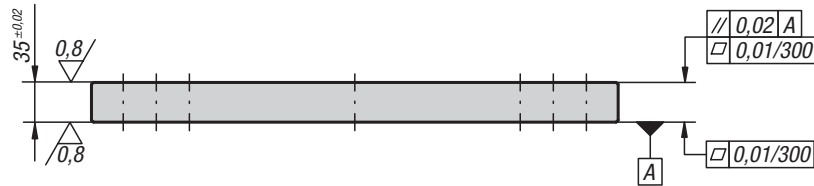
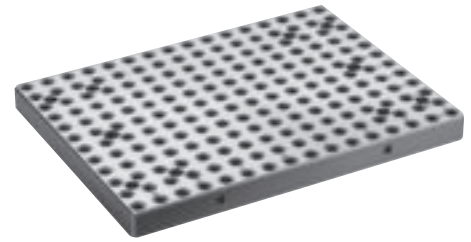
Order No.	Version	A locating hole	A thread	No. of grid holes	weight ca. kg
K0800.005060	without grid holes	-	-	-	115
K0800.125060	with grid holes	12 F7	M12	120	110
K0800.165060	with grid holes	16 F7	M16	120	105



KIPP Tooling plates

Order No.	Version	A locating hole	A thread	No. of grid holes	weight ca. kg
K0800.006080	without grid holes	-	-	-	184
K0800.126080	with grid holes	12 F7	M12	192	175
K0800.166080	with grid holes	16 F7	M16	192	157

Tooling plates



Material:
Grey cast iron GJL 250

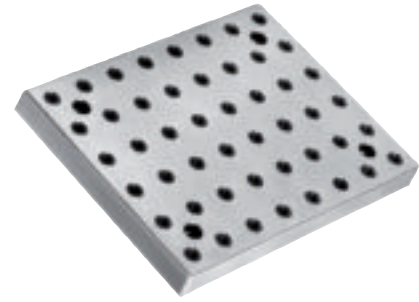
Version:
Mounting surfaces ground

Sample order:
K0800.083040

Note:
Grid hole pitch 25 ± 0.01 mm.
Grid hole plugs and ring bolts for lifting are supplied.

KIPP Tooling plates

Order No.	Version	A locating hole	A thread	No. of grid holes	weight ca. kg
K0800.083040	with grid holes	12 H6	M8	188	26



Material:
Grey cast iron GJL 250

Version:
Mounting surfaces ground

Sample order:
K0801.003040

Note:
Grid hole pitch 50 ± 0.01 mm. Grid hole plugs and ring bolts for lifting are supplied.
The tooling plates can be used with tooling angle plates K0807 (see Fig. 1). The tooling plates are positioned using shoulder screws K0815.1..., which are inserted into the fastening holes. The DIN 912 socket head screws are only used for additional fastening. Fig. 2 shows a further application variant. The double sided tombstones K0804 are dimensionally matched to the tooling plates.

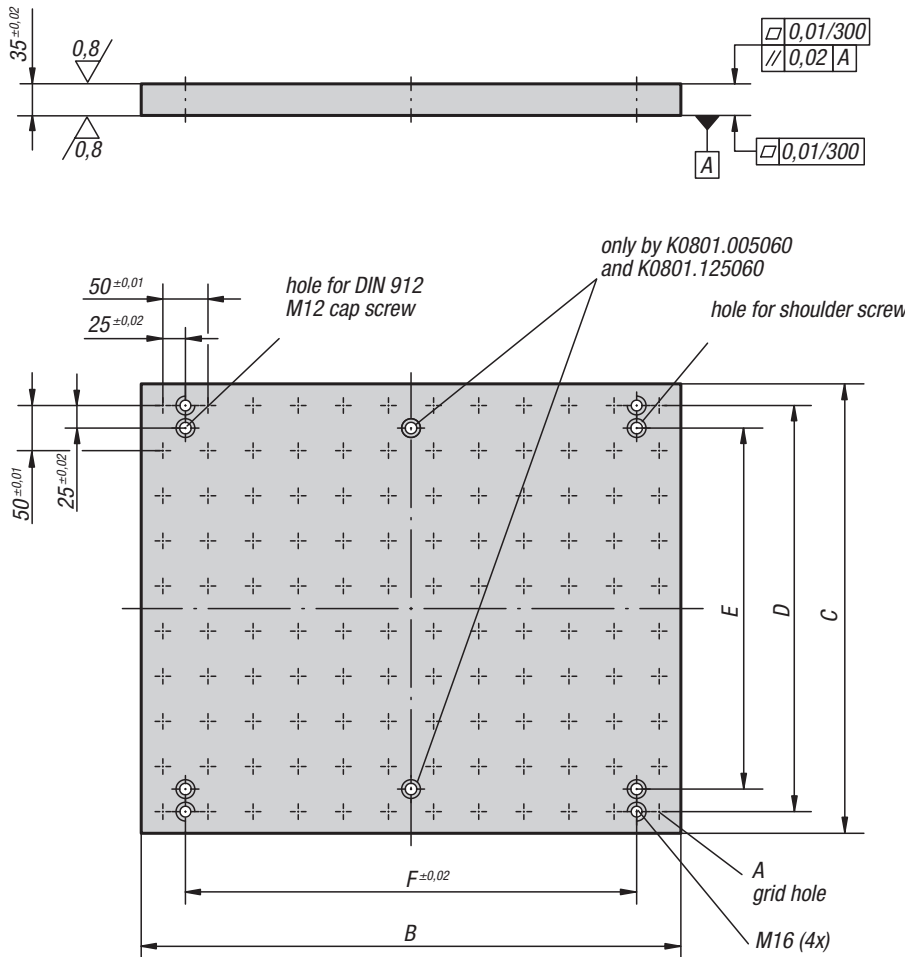
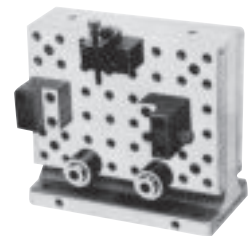
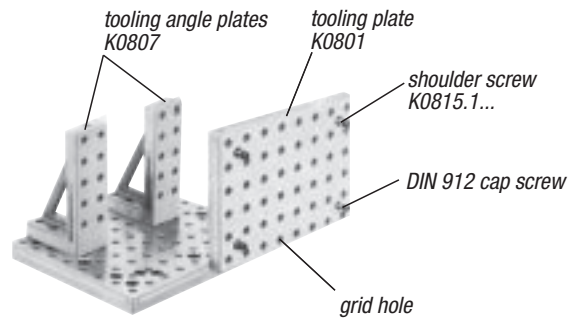


Fig. 1

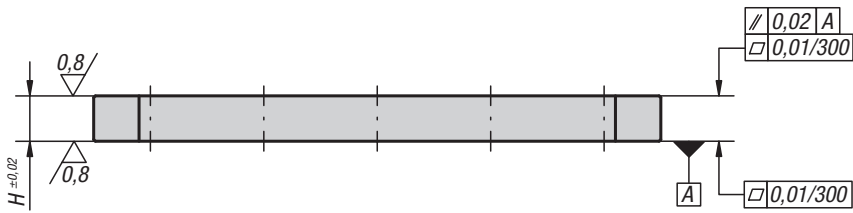
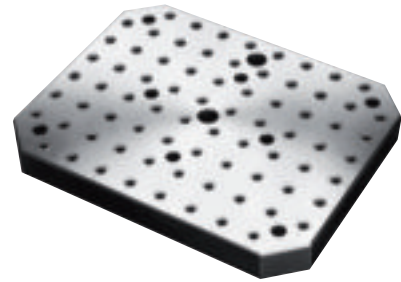
Fig. 2



KIPP Tooling plates

Order No.	Version	A locating hole	A thread	B	C	D	E	F	No. of grid holes	Suitable shoulder screw	weight kg
K0801.003040	without grid holes	-	-	398	298	250	200	300	-	K0815.112055	34.78
K0801.004050	without grid holes	-	-	498	398	350	300	400	-	K0815.112055	61
K0801.005060	without grid holes	-	-	598	498	450	400	500	-	K0815.112055	77
K0801.123040	with grid holes	12F7	M12	398	298	250	200	300	48	K0815.112055	35
K0801.124050	with grid holes	12F7	M12	498	398	350	300	400	80	K0815.112055	57
K0801.125060	with grid holes	12F7	M12	598	498	450	400	500	120	K0815.112055	73

Subplates

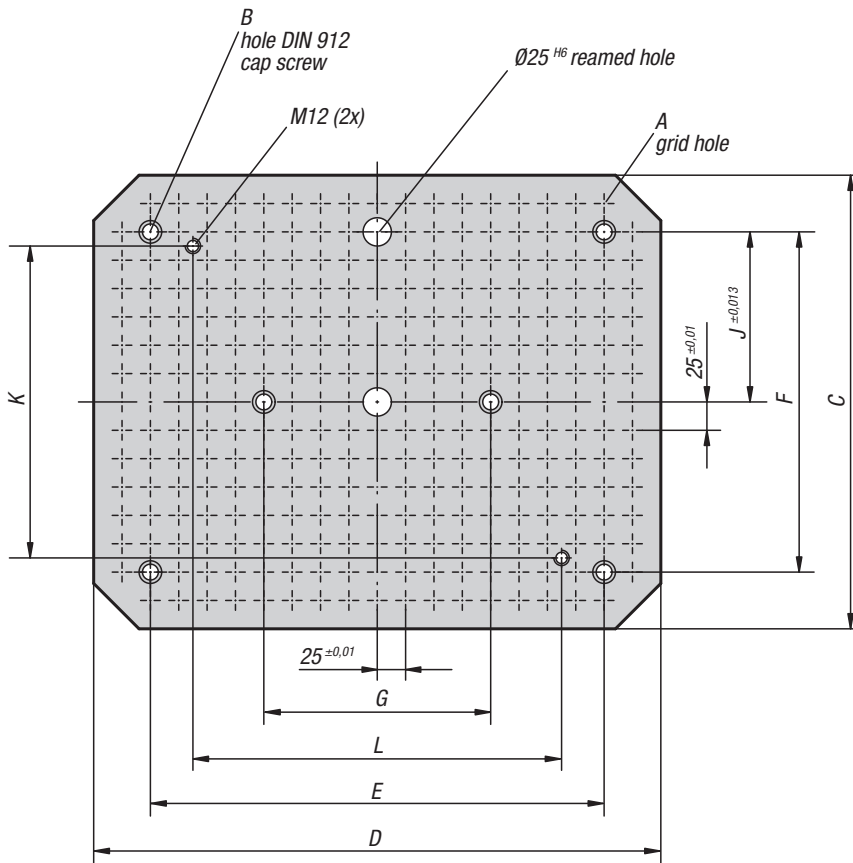


Material:
Grey cast iron GJL 250

Version:
Mounting surfaces ground

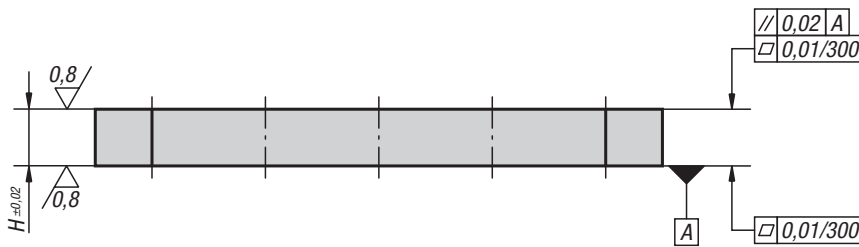
Sample order:
K0806.084050

Note:
Grid hole pitch 25 ± 0.01 mm.
Grid hole plugs and ring bolts for lifting are supplied.
The subplates conform to subplates for machine tools acc. to DIN 55201.



KIPP Subplates

Order No.	A locating hole	A thread	B	C	D	E	F	G	H	J	K	L	No. of grid holes	weight ca. kg
K0806.084050	12 H6	M8	M12	400	500	400	300	200	40	150	275	325	273	55

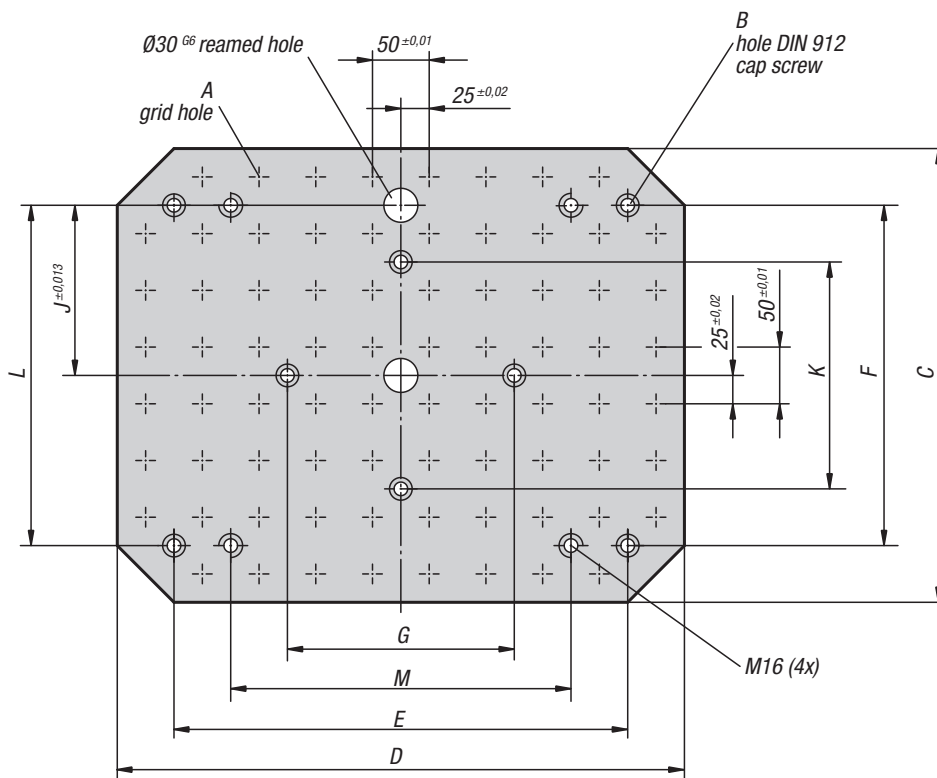


Material:
Grey cast iron GJL 250

Version:
Mounting surfaces ground

Sample order:
K0806.124050

Note:
Grid hole pitch 50 ± 0.01 mm.
Grid hole plugs and ring bolts for lifting are supplied.
The subplates conform to subplates for machine tools acc. to DIN 55201.



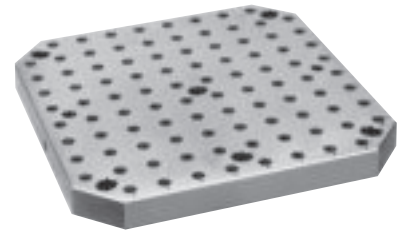
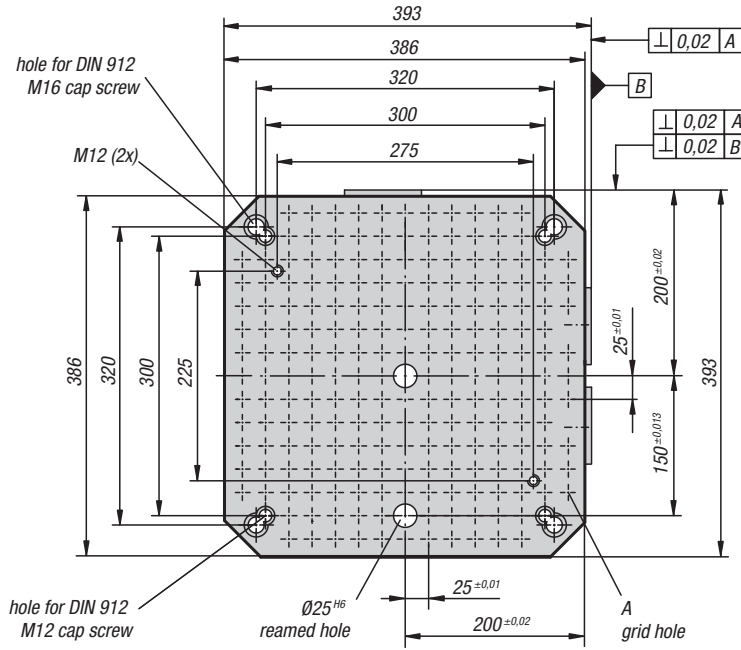
KIPP Subplates

Order No.	A locating hole	A thread	B hole for DIN 912 screw	C	D	E	F	G	H	J	K	L	M	No. of grid holes	weight ca. kg
K0806.124050	12F7	M12	M12	400	500	400	300	200	50	150	200	300	300	76	67
K0806.125063	12F7	M12	M12	500	630	400	400	400	50	200	200	400	500	116	122
K0806.165063	16F7	M16	M12	500	630	400	400	400	50	200	200	400	500	116	113
K0806.166380	16F7	M16	M16	630	800	600	400	400	50	200	200	500	700	188	174

Subplates



K0806.084040



Material:

Grey cast iron GJL 250

Version:

Mounting surfaces ground

Sample order:

K0806.005050

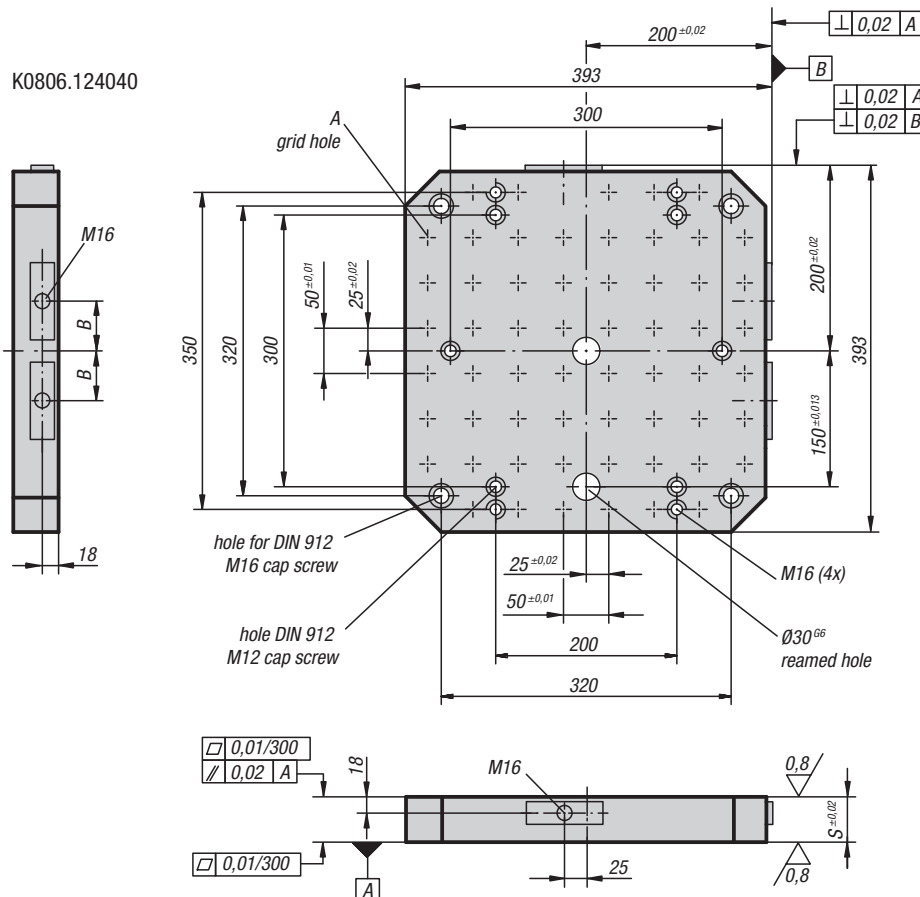
Note:

Grid hole pitch 25 ± 0.01 mm or 50 ± 0.01 mm. Grid hole plugs and ring bolts for lifting are supplied.

These subplates conform to subplates for machine tools according to DIN 55201 and JIS 6337-1980.

The subplates are also available without grid holes. See plates without a value for "A" (xxx/-). Other dimensions on request.

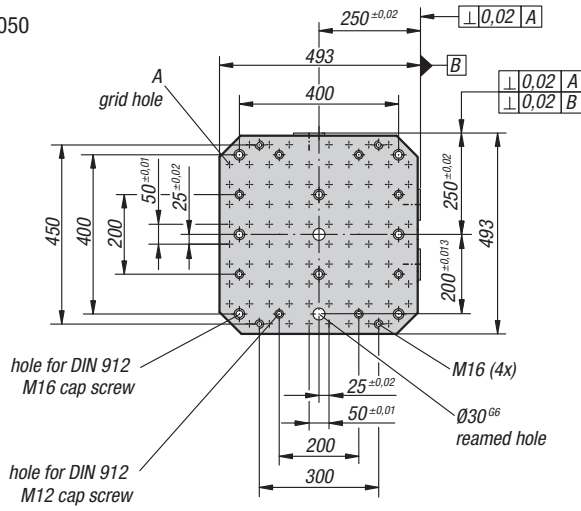
K0806.124040



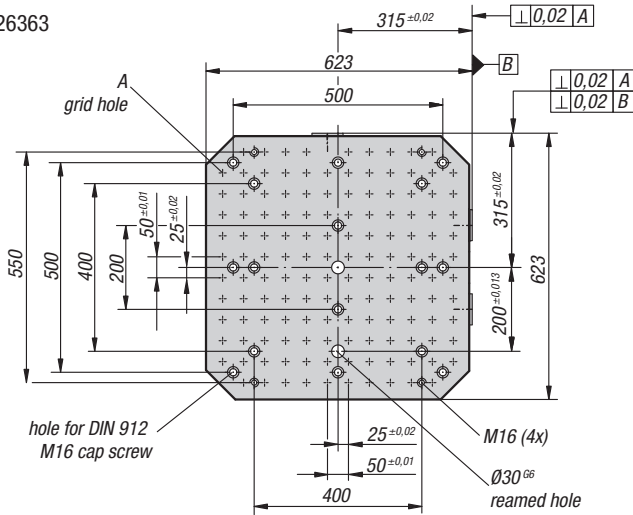
KIPP Subplates

Order No. with grid holes	Order No. without grid holes	A locating hole	A thread	B	S	No. of grid holes	weight ca. kg
K0806.084040	-	12F7	M8	55	40	204	36
K0806.124040	K0806.004040	12F7/-	M12/-	55	50	59/-	61/117
K0806.125050	K0806.005050	12F7/-	M12/-	75	50	93/-	82/92
K0806.126363	K0806.006363	12F7/-	M12/-	100	50	139/-	132/140
K0806.168080	K0806.008080	12F7/-	M16/-	135	60	237/-	245/260

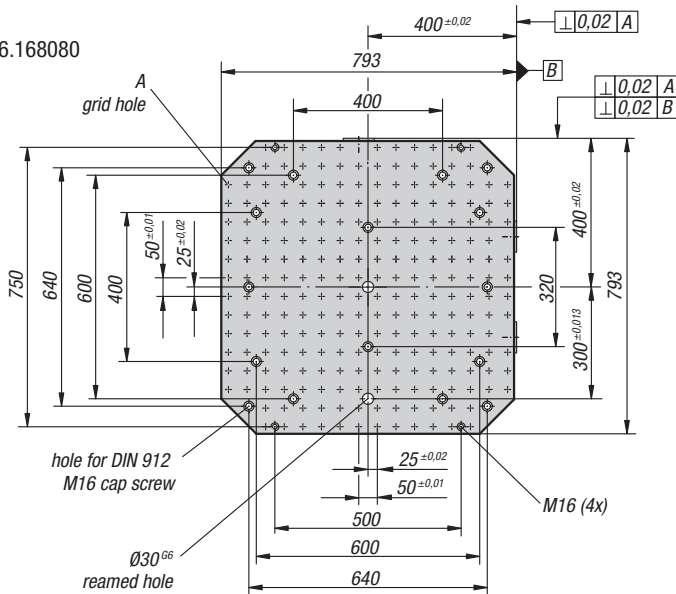
K0806.125050



K0806.126363

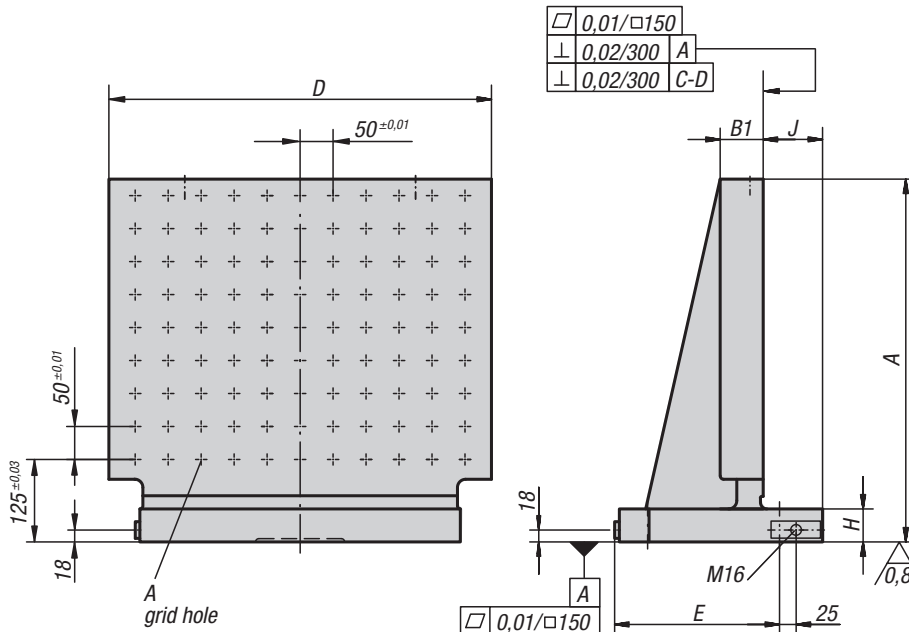
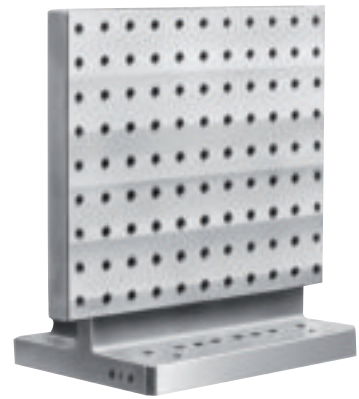


K0806.168080



Tombstones single-sided

with grid holes

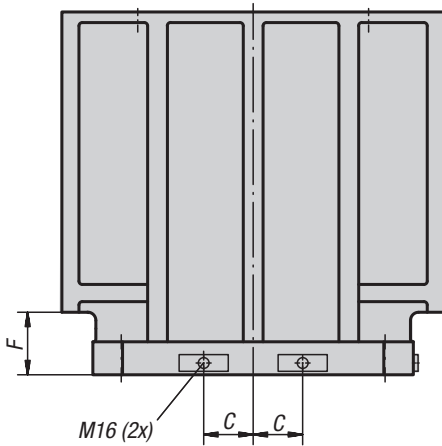


Material:
GJL 300

Version:
Reference surfaces precision machined

Sample order:
K0802.124047

Note:
Grid hole pitch 50 ± 0.01 mm.
Grid hole plugs and ring bolts for lifting are supplied.
The tombstones are matched to pallets for machine tools acc. to DIN 55201 and JIS 6337-1980.
Other dimensions on request.



KIPP Tombstones with grid holes.

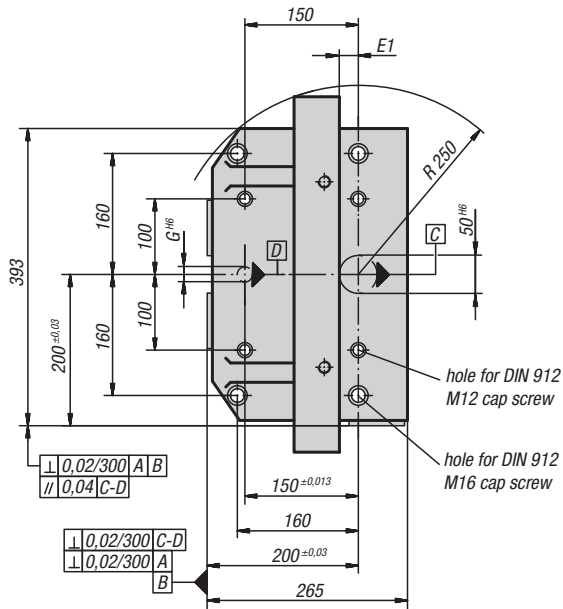
Order No.	A	B1	C	D	E	E1	F	G	H	J	A locating hole	A thread	No. of grid holes	weight ca. kg
K0802.124047	450	60	55	470	200	$25 \pm 0,03$	85	20	45	90	12F7	M12	63	95
K0802.125058	550	65	75	580	250	$25 \pm 0,03$	95	20	50	90	12F7	M12	99	181
K0802.165058	550	65	75	580	250	$25 \pm 0,03$	95	20	50	90	16F7	M16	99	156
K0802.166376	700	75	100	760	315	$50 \pm 0,03$	100	25	55	115	16F7	M16	180	298

Tombstones single-sided

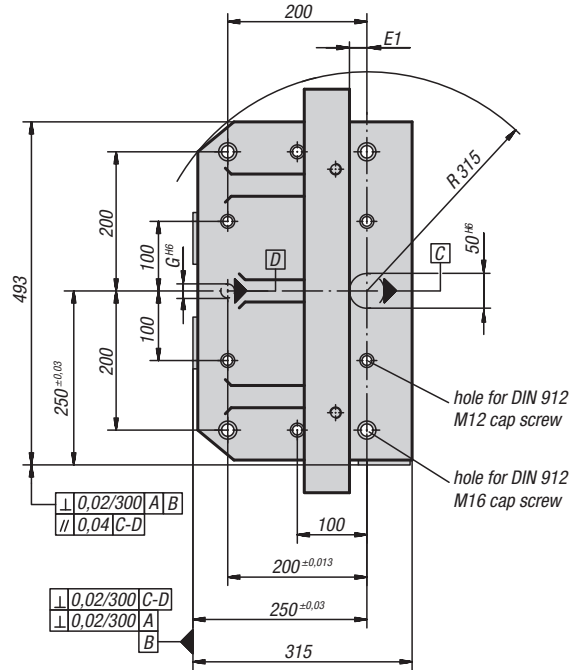
with grid holes



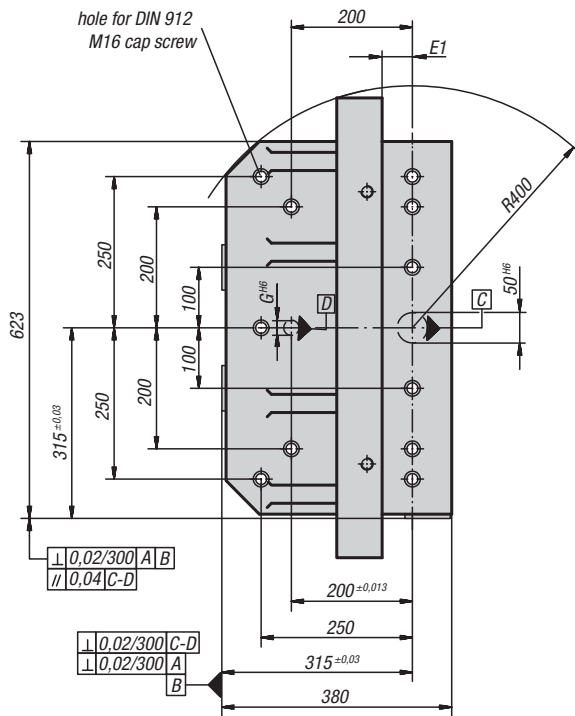
K0802.124047



K0802.125058
K0802.165058

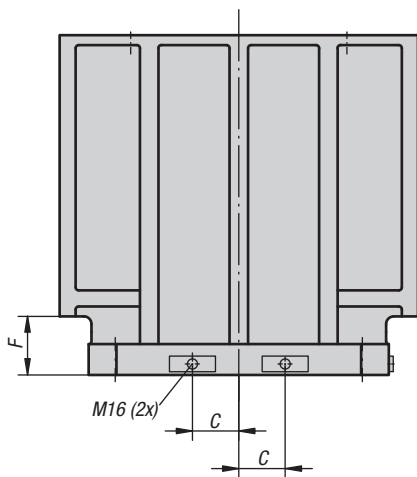
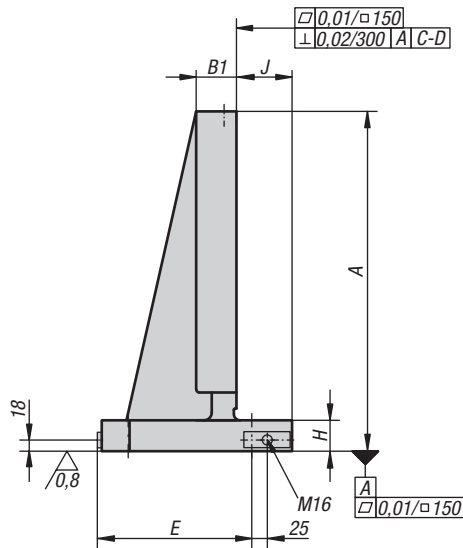
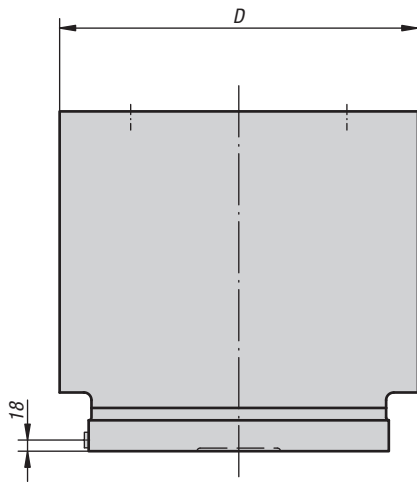


K0802.166376



Tombstones single-sided

without grid holes



Material:
GJL 300

Version:
Reference surfaces precision machined.
The clamping surface has 1 mm allowance.

Sample order:
K0802.004047

Note:
The single-sided tombstones are matched to subplates for machine tools acc. to DIN 55201 and JIS 6337-1980.
Ring bolts for lifting are supplied.

KIPP Tombstones without grid holes

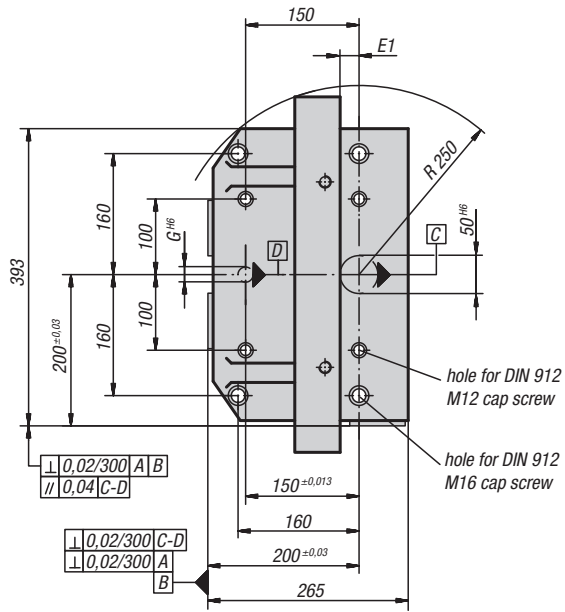
Order No.	A	B1	C	D	E	E1	F	G	H	J	weight ca. kg
K0802.004047	450	61	55	470	200	24 ±0,2	85	20	45	89	98
K0802.005058	550	66	75	580	250	24 ±0,2	95	20	50	89	161
K0802.006376	700	76	100	760	315	49 ±0,2	100	25	55	114	341
K0802.008090	800	81	135	900	400	49 ±0,2	100	25	60	114	434

Tombstones single-sided

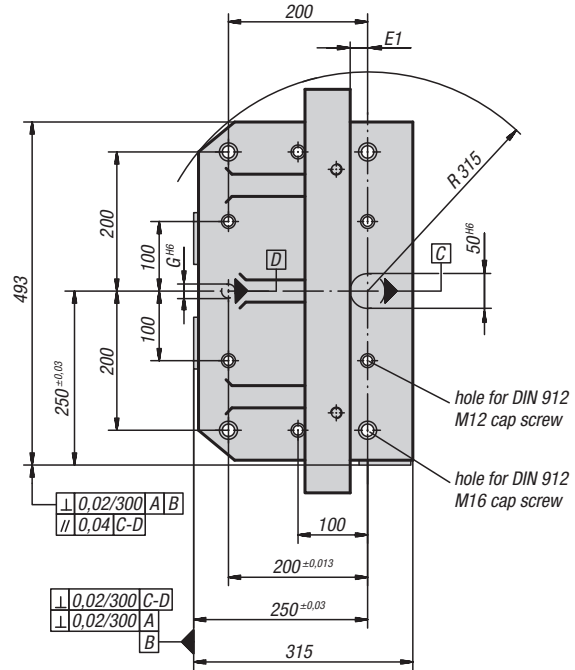
without grid holes



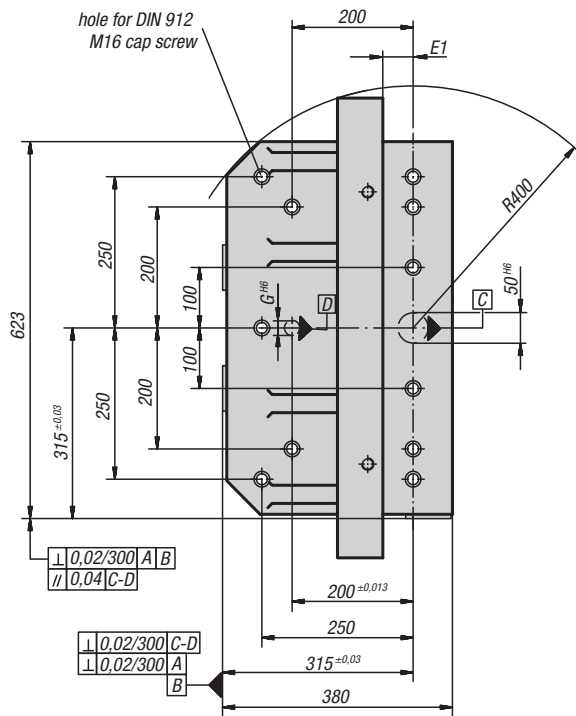
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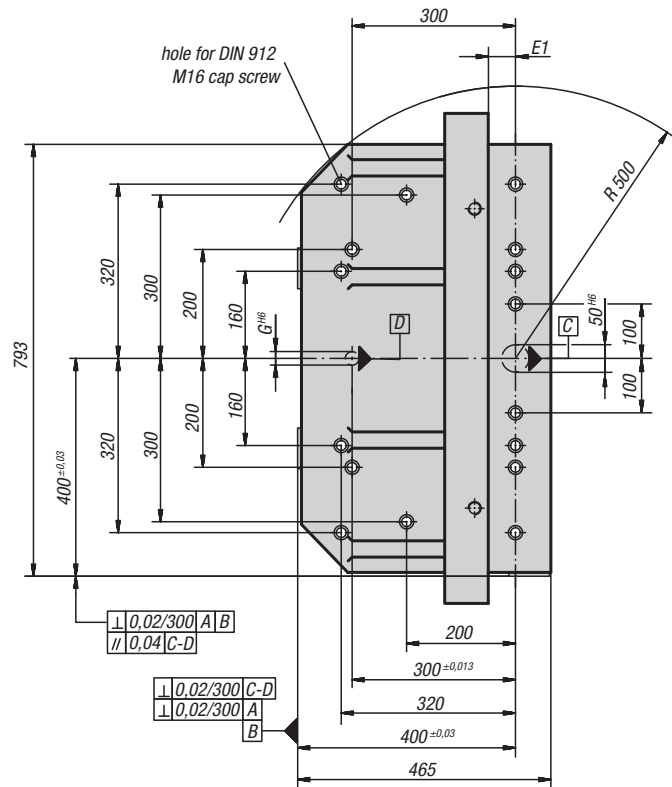
K0802.005058



K0802.006376



K0802.008090



Tombstones double-sided

with grid holes

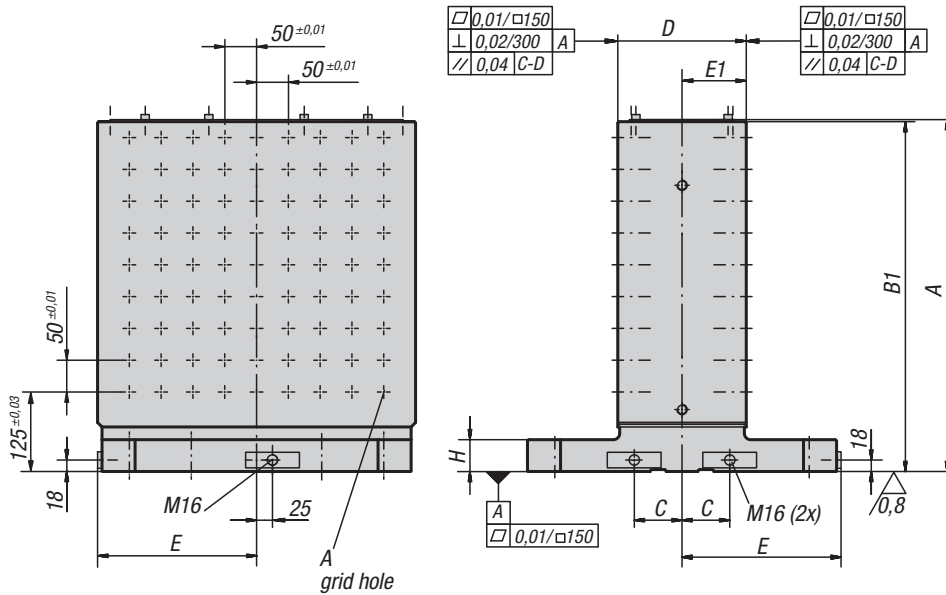


Material:
GJL 300

Version:
Reference surfaces precision machined.

Sample order:
K0803.1240151

Note:
Grid hole pitch 50 ± 0.01 mm. Grid hole plugs and ring bolts for lifting are supplied. A cover prevents the cavities filling up with swarf. Workpieces can be mounted on clamping surfaces directly or using fixtures. Code numbers on the clamping surfaces prevent mounting the wrong part on the wrong side when machining different workpieces. The double-sided tombstones are matched to subplates for machine tools acc. to DIN 55201 and JIS 6337-1980. Other dimensions on request.



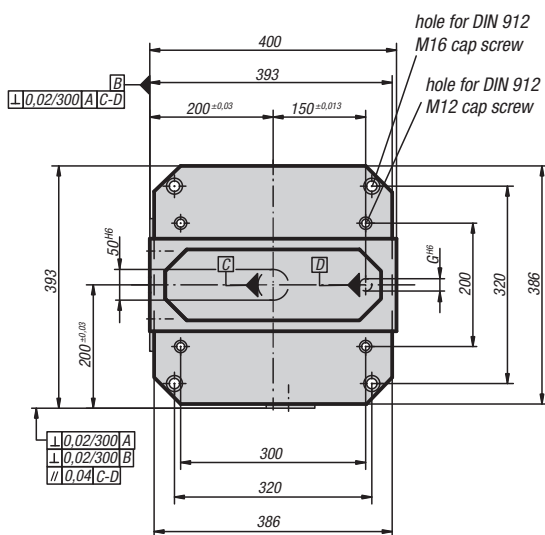
KIPP Tombstones double-sided with grid holes

Order No.	A	B1	C	D	E	E1	G	H	A locating hole	A thread	No. of grid holes	weight ca. kg
K0803.1240151	553	550	55	$150 \pm 0,03$	200	$75 \pm 0,03$	20	50	12F7	M12	126	198
K0803.1250201	653	650	75	$200 \pm 0,03$	250	$100 \pm 0,03$	20	50	12F7	M12	198	287
K0803.1650201	653	650	75	$200 \pm 0,03$	250	$100 \pm 0,03$	20	50	16F7	M16	198	285
K0803.126325	703	700	100	$250 \pm 0,03$	315	$125 \pm 0,03$	25	55	12F7	M12	264	473
K0803.166325	703	700	100	$250 \pm 0,03$	315	$125 \pm 0,03$	25	55	16F7	M16	264	473
K0803.168030	803	800	135	$300 \pm 0,03$	400	$150 \pm 0,03$	25	60	16F7	M16	420	633

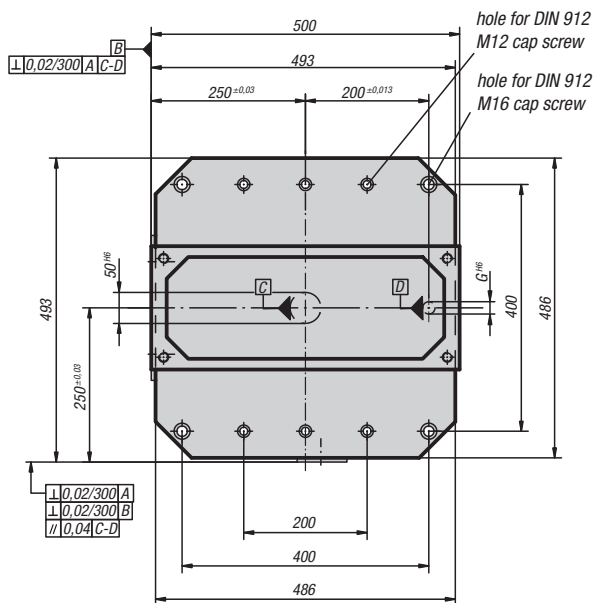
Tombstones double-sided

with grid holes

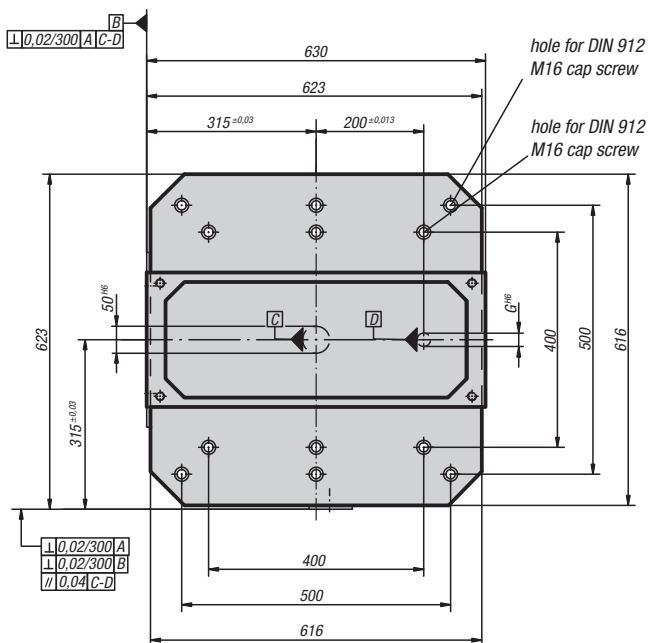
K0803.1240151



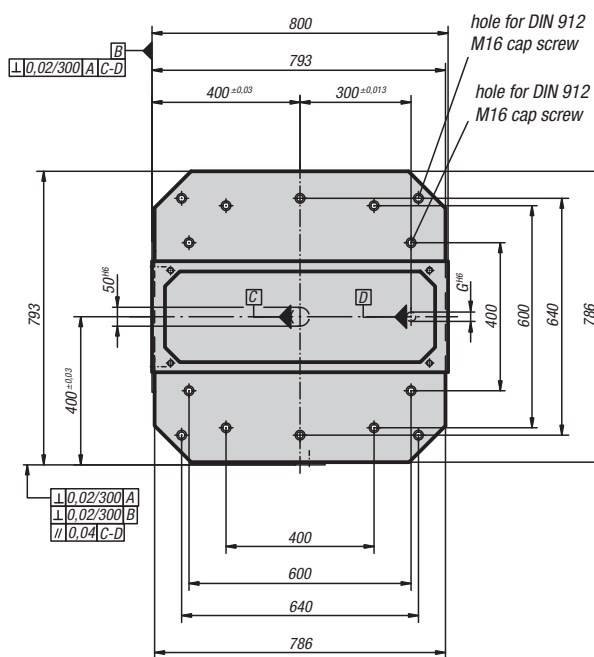
K0803.1250201
K0803.1650201



K0803.126325
K0803.166325

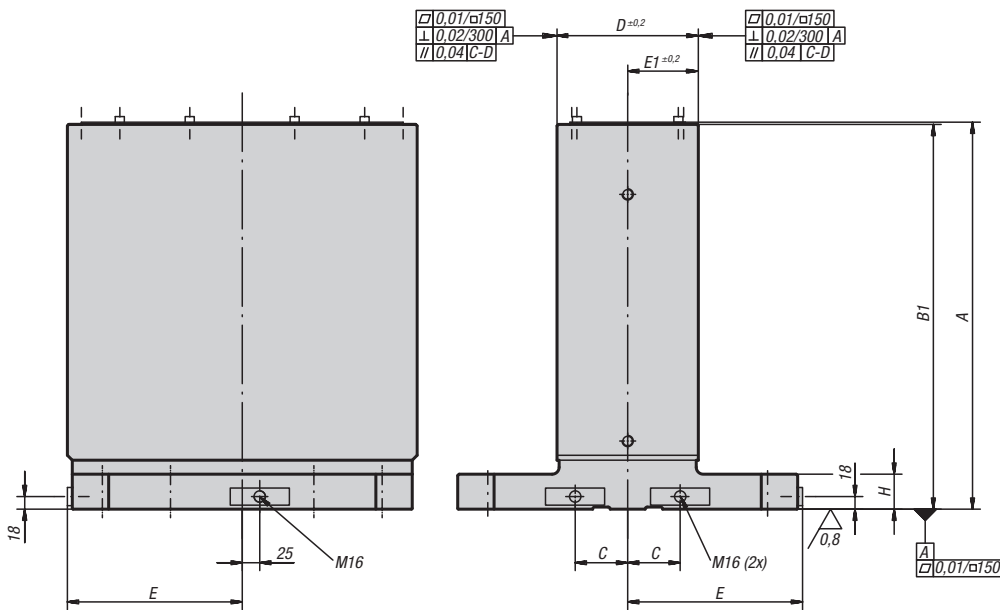


K0803.168030



Tombstones double-sided

without grid holes



Material:

GJL 300

Version:

Reference surfaces precision machined. The clamping surfaces have 0.5 mm allowance.

Sample order:

K0803.0040151

Note:

The double-sided tombstones are matched to subplates for machine tools acc. to DIN 55201 and JIS 6337-1980.

Ring bolts for lifting are supplied. A cover prevents the cavity of the tombstone filling up with swarf.

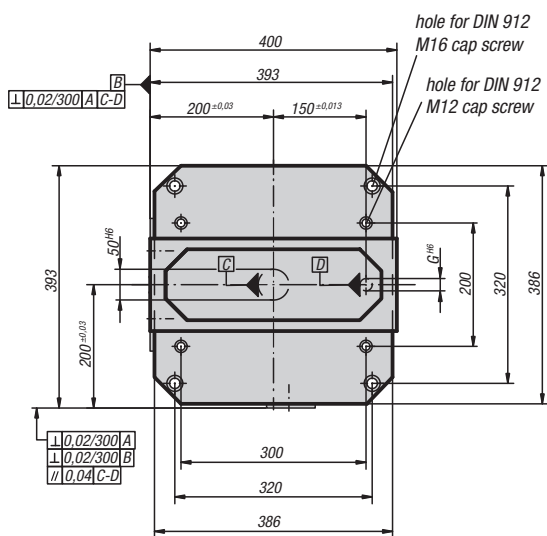
KIPP Tombstones double-sided without grid holes

Order No.	A	B1	C	D	E	E1	G	H	weight ca. kg
K0803.0040151	553	550	55	151±0,2	200	75,5 ±0,2	20	50	202
K0803.005020	553	550	75	201±0,2	250	101,5 ±0,2	20	50	257
K0803.0050201	653	650	75	201±0,2	250	101,5±0,2	20	50	317
K0803.006325	703	700	100	251±0,2	315	125,5±0,2	25	55	471
K0803.0063251	803	800	100	251±0,2	315	125,5±0,2	25	55	537
K0803.008030	803	800	135	301±0,2	400	150,5±0,2	25	60	726

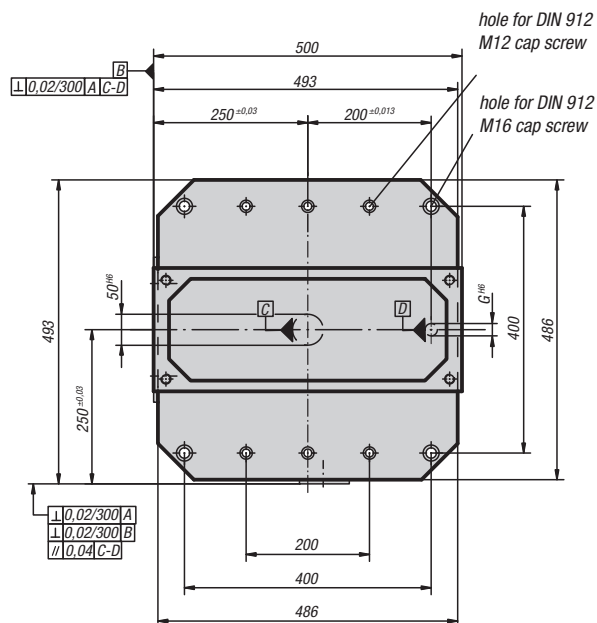
Tombstones double-sided

without grid holes

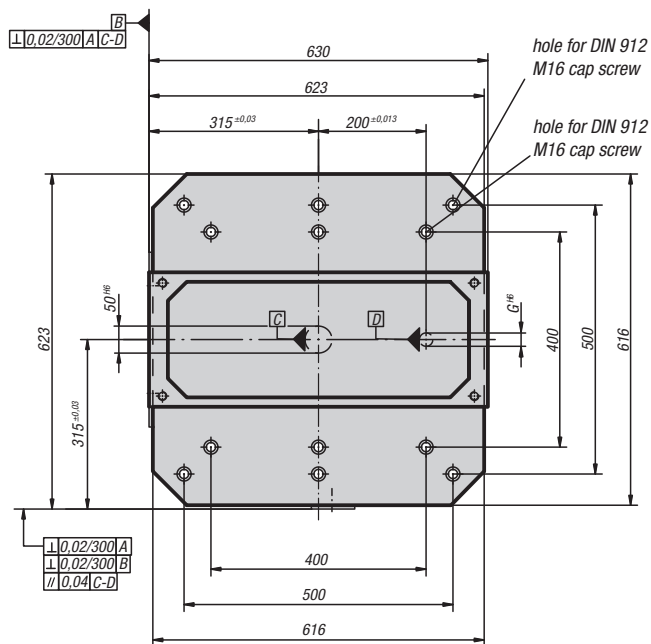
K0803.0040151



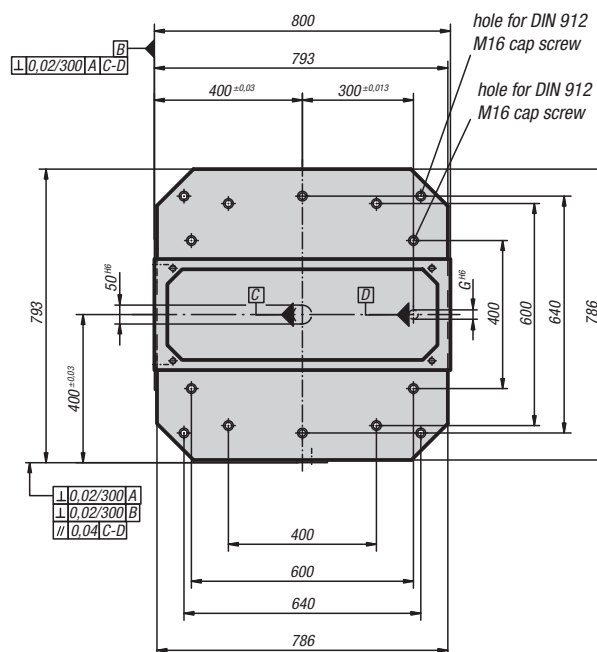
K0803.005020
K0803.0050201



K0803.006325
K0803.0063251

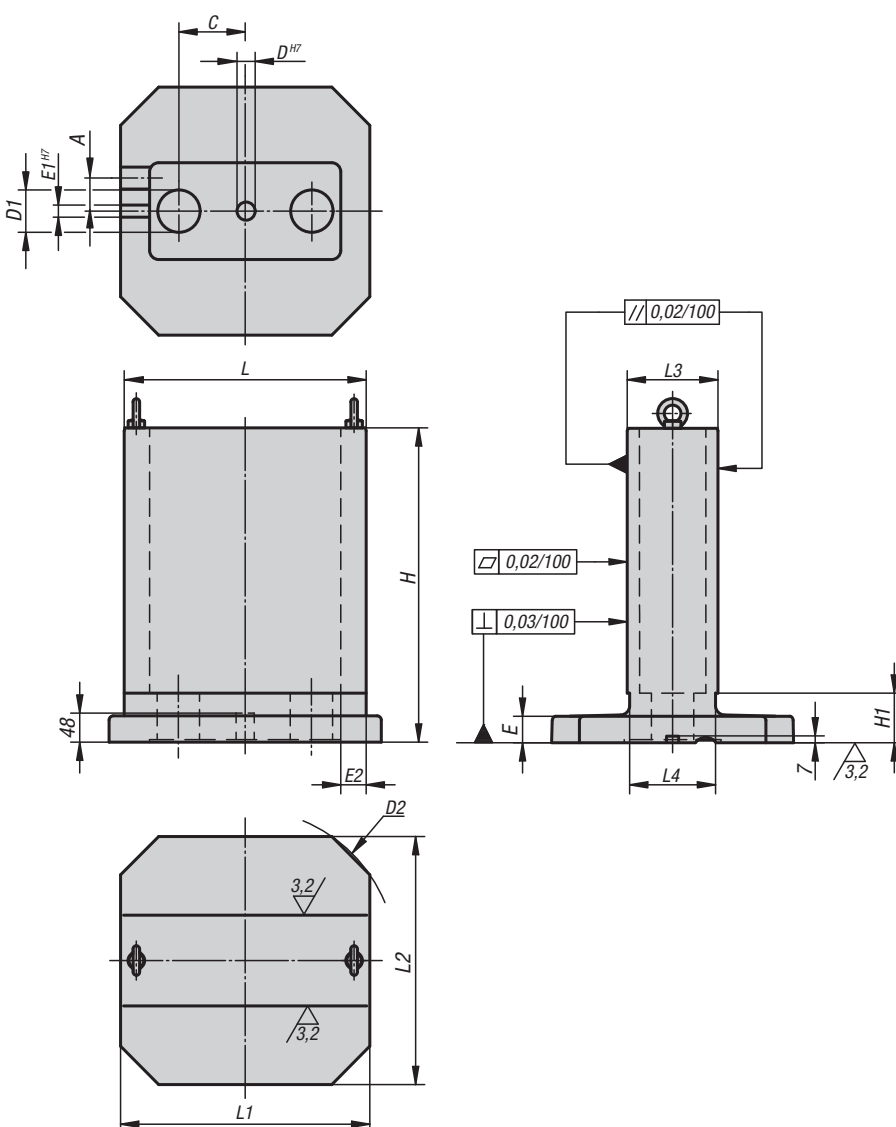


K0803.008030



Tombstones double-sided

grey cast iron



Material:
GJL 250

Version:
Reference surfaces precision machined.

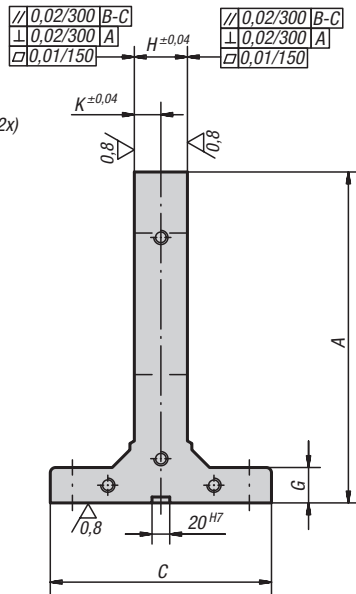
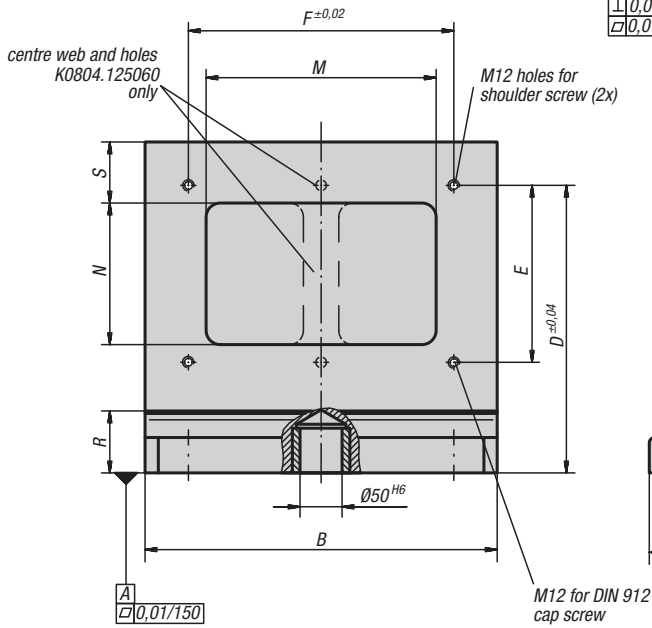
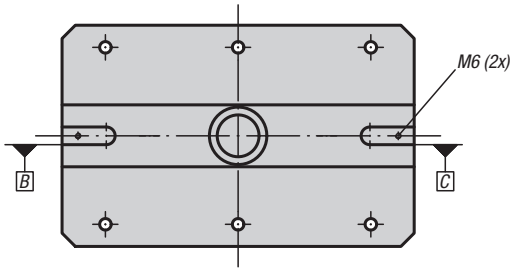
Note:
Ring bolts for lifting are supplied. A cover prevents the cavities filling up with swarf.

Drawing reference:
machined faces: +0.2 mm/ +0.5 mm
unmachined faces: ±2 mm

KIPP Tombstones double-sided, grey cast iron

Order No.	A	C	D	D1	D2	E	E1	E2	H	H1	L	L1	L2	L3	L4	weight ca. kg
K1225.320125	32,5	75	30	50	400	40	20	40	378	65	320	332	330	125	115	79
K1225.400150	50	120	30	70	500	40	20	42	485	80	400	412	410	150	142	139
K1225.500200	55	150	30	100	630	40	20	53	603	90	500	512	510	200	190	225

Tombstones window frame

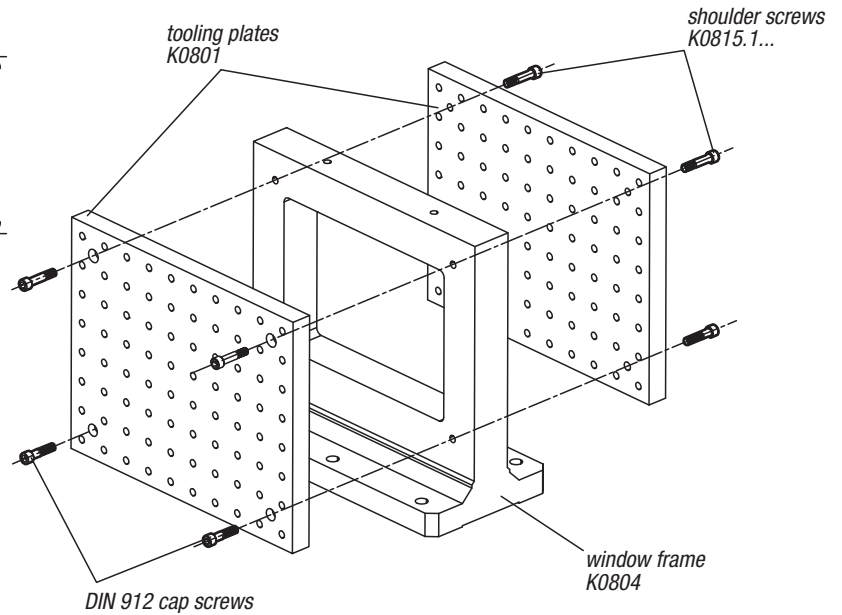
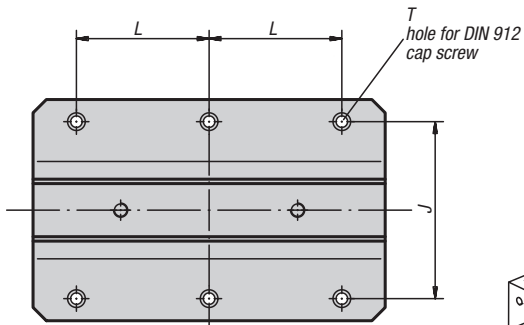


Material:
GJL 300

Version:
Reference surfaces precision machined

Sample order:
K0804.123040

Note:
Tooling plates K0801 can be positioned and mounted on both sides of the window frame, permitting economical fixture changes. The window frames are positioned using centring pins K0856 and slot guide nuts.

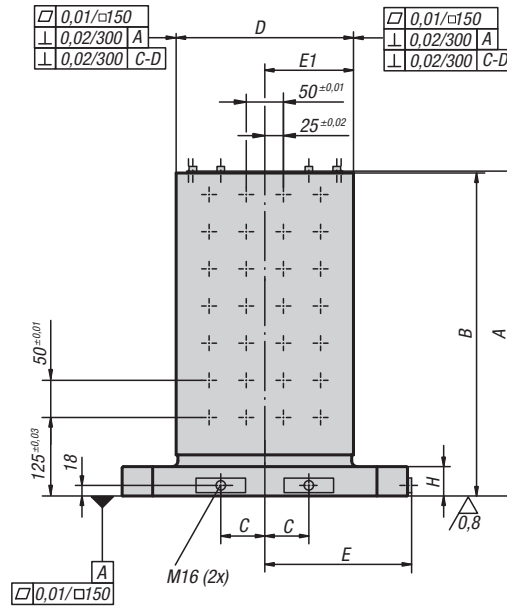
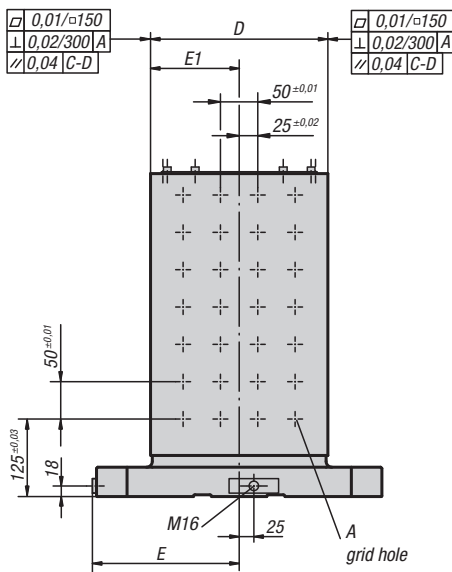


KIPP Tombstone window frame

Order No.	A	B	C	D	E	F	G	H	J	K	L	M	N	R	S	T	weight ca. kg
K0804.123040	374	398	250	325	200	300	40	60	200	30	150	260	160	70	69	M12	62
K0804.124050	474	498	250	425	300	400	40	70	200	35	200	360	260	70	69	M12	112.6
K0804.125060	574	598	300	525	400	500	50	70	200	35	200	458	360	75	70	M16	153

Tombstones cube

with grid holes



Material:

GJL 300

Version:

Reference surfaces precision machined.
The clamping surfaces have 0.5 mm allowance.

Sample order:

K0805.1240251

Note:

Grid hole pitch $50 \pm 0,01$ mm.
Grid hole plugs and ring bolts for lifting are supplied.
A cover prevents the cavities of the tombstones filling with swarf. Workpieces can be mounted on all four clamping surfaces directly or using fixtures. Code numbers on the clamping surfaces prevent mounting the wrong part on the wrong face when different workpieces are being machined. The cube tombstones are matched to subplates for machine tools acc. to DIN 55201 and JIS 6337-1980.
Other dimensions on request.

KIPP Cube tombstones with grid holes

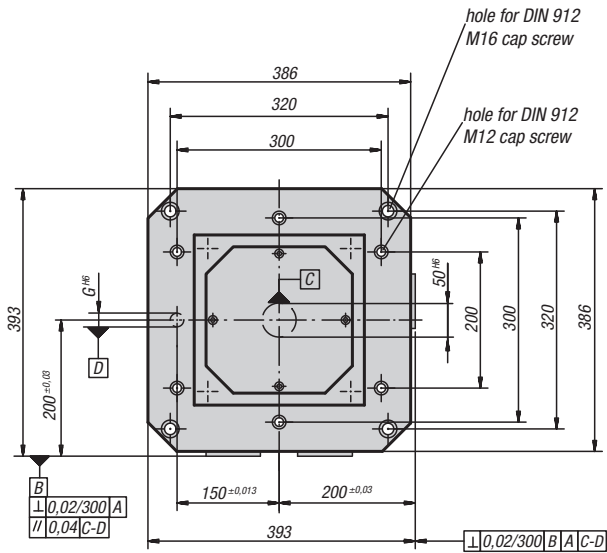
Order No.	A	B	C	D	E	E1	G	H	A locating hole	A thread	No. of grid holes	weight ca. kg
K0805.1240251	553	550	55	250±0,03	200	125 ±0,03	20	50	12F7	M12	144	172
K0805.1250301	653	650	75	300±0,03	250	150 ±0,03	20	50	12F7	M12	220	259
K0805.1650301	653	650	75	300±0,03	250	150 ±0,03	20	50	16F7	M16	220	258
K0805.126335	703	700	100	350±0,03	315	175 ±0,03	25	55	12F7	M12	288	341
K0805.166335	703	700	100	350±0,03	315	175 ±0,03	25	55	16F7	M16	288	334
K0805.168050	803	800	135	500±0,03	400	250 ±0,03	25	60	16F7	M16	504	640

Tombstones cube

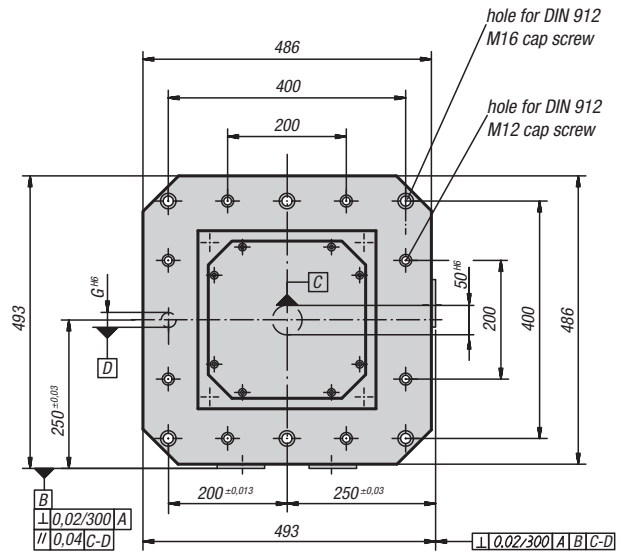
with grid holes



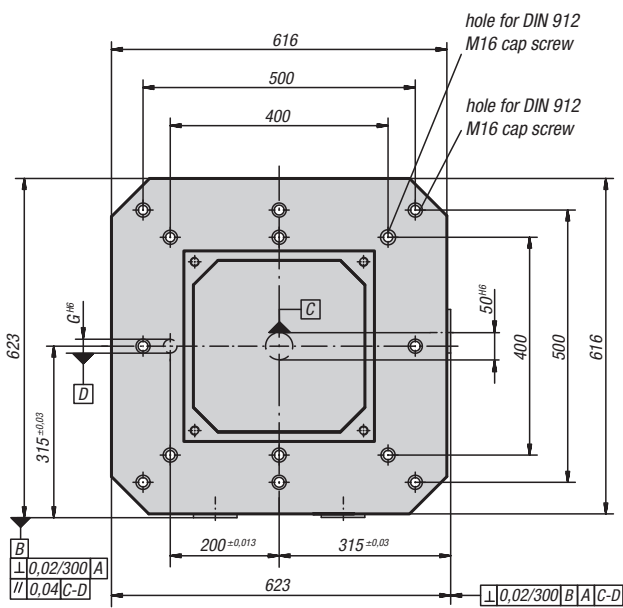
K0805.1240251



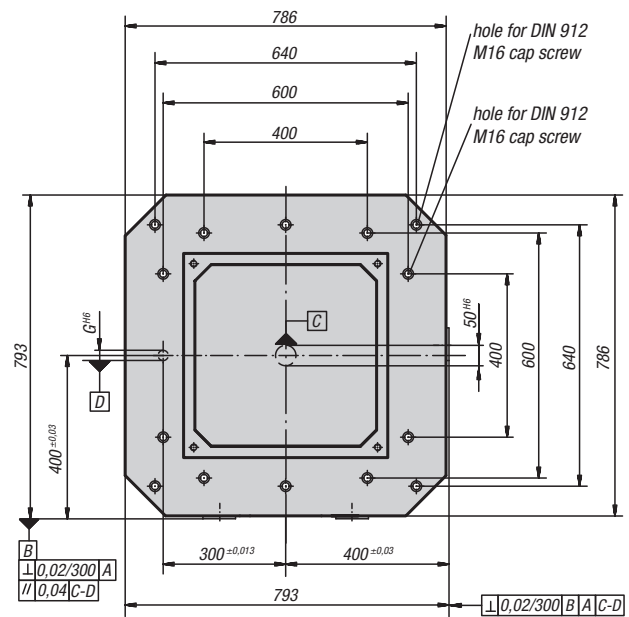
K0805.1250301
K0805.1650301



K0805.126335
K0805.166335

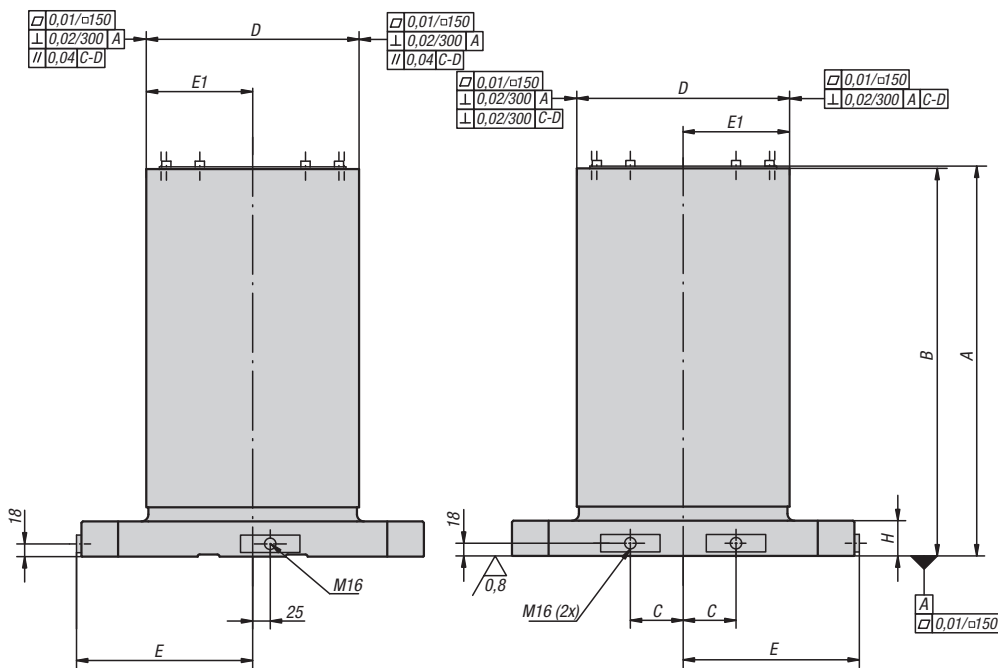


K0805.168050



Tombstones cube

without grid holes



Material:

GJL 300

Version:

Reference surfaces precision machined. The clamping surfaces have 0.5 mm allowance.

Sample order:

Note:

The cube tombstones are matched to subplates for machine tools acc. to DIN 55201 and JIS 6337-1980. Ring bolts for lifting are supplied. A cover prevents the cavities filling with swarf.

KIPP Cube tombstones without grid holes

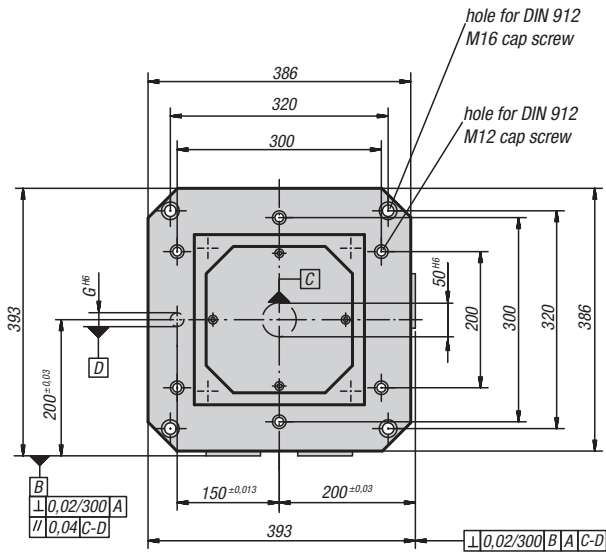
Order No.	A	B	C	D	E	E1	G	H	weight ca. kg
K0805.0040251	553	550	55	251 ±0,2	200	125,5 ±0,2	20	50	183
K0805.005030	553	550	75	301 ±0,2	250	150,5 ±0,2	20	50	231
K0805.0050301	653	650	75	301 ±0,2	250	150,5 ±0,2	20	50	268
K0805.006335	703	700	100	351 ±0,2	315	175,5 ±0,2	25	55	389
K0805.0063351	803	800	100	351 ±0,2	315	175,5 ±0,2	25	55	425
K0805.008050	803	800	135	501 ±0,2	400	250,5 ±0,2	25	60	671

Tombstones cube

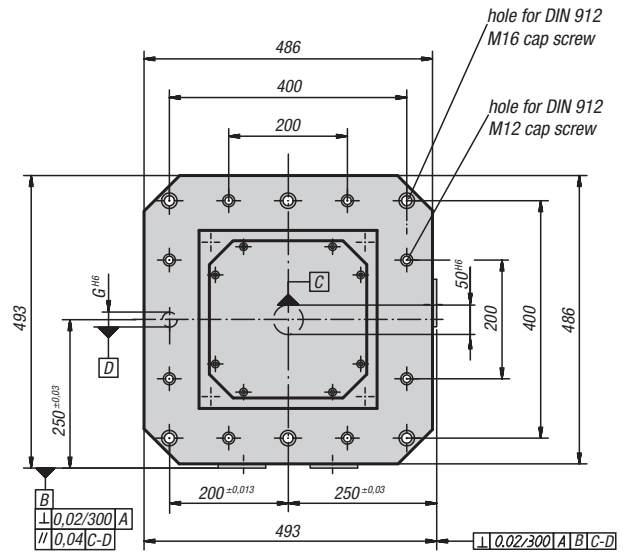
without grid holes



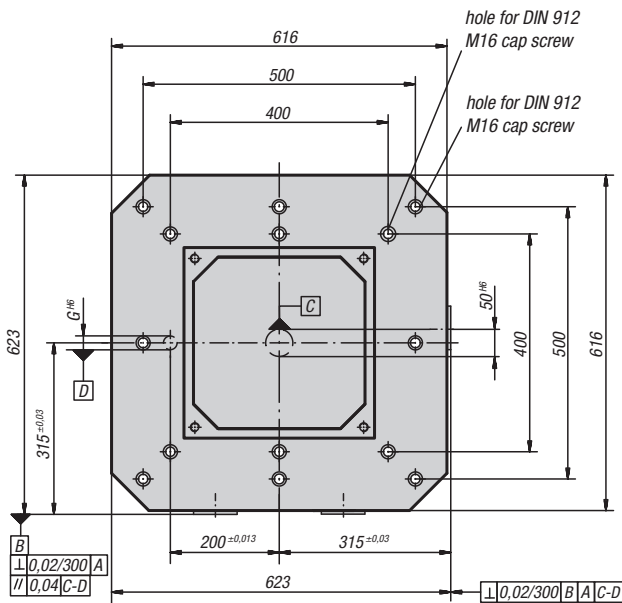
K0805.0040251



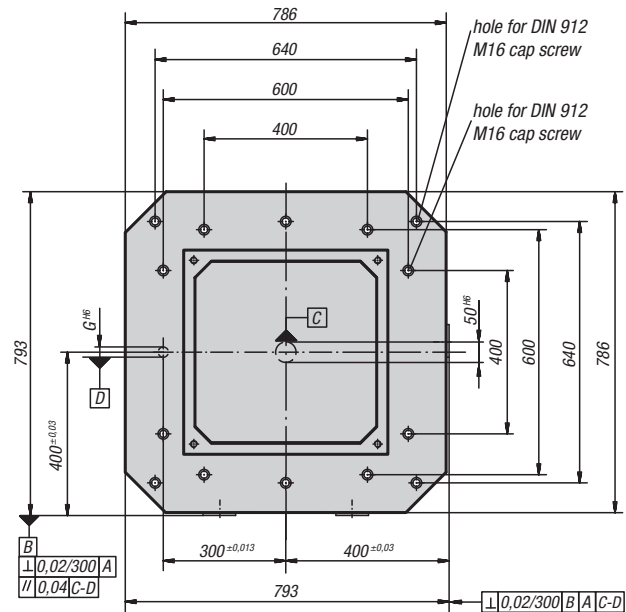
K0805.005030
K0805.0050301



K0805.006335
K0805.0063351

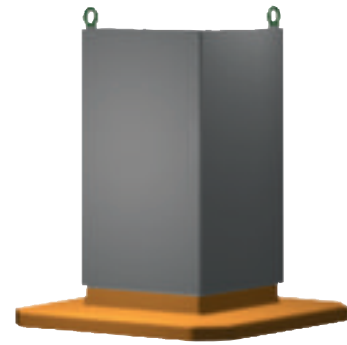


K0805.008050



Tombstones cube

grey cast iron



Material:

GJL 250

Version:

Reference surfaces precision machined

Note:

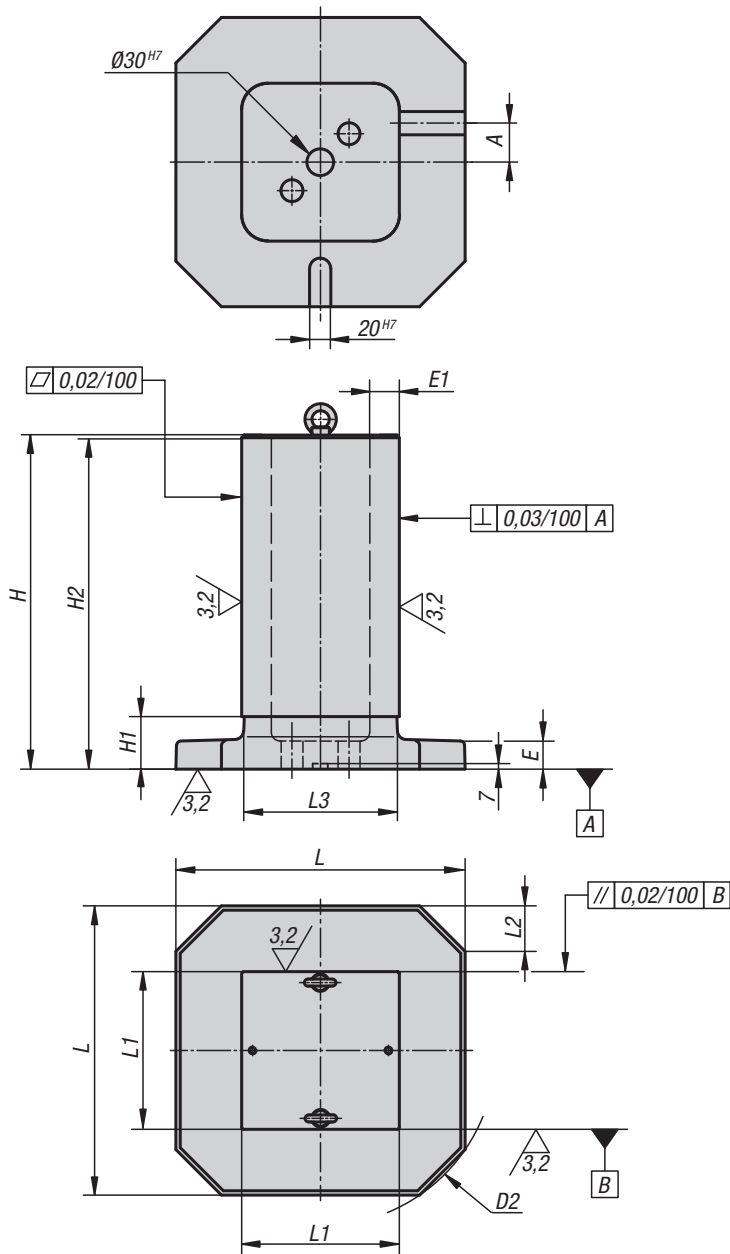
Ring bolts for lifting are supplied.

A cover prevents the cavities filling with swarf.

Drawing reference:

machined faces: +0.2 mm/ +0.5 mm

unmachined faces: ±2 mm



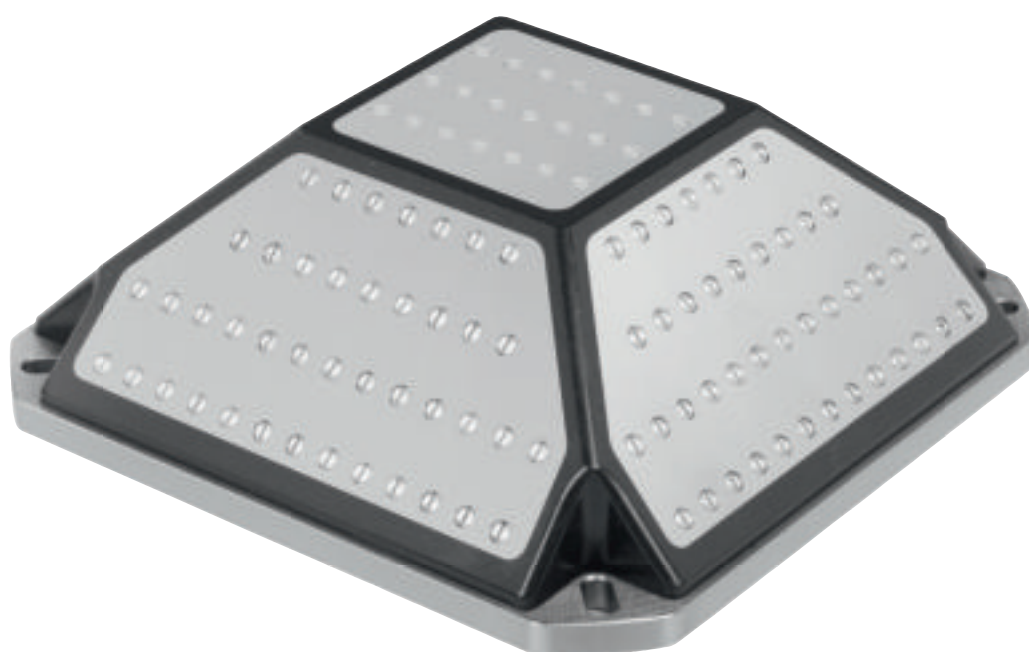
KIPP Cube tombstone, grey cast iron

Order No.	A	D2	E	E1	H	H1	H2	L	L1	L2	L3	weight ca. kg
K1226.320180	32,5	400	32	25	381	80	378	330	180	52	174	62
K1226.400270	50	500	32	32	485	60	482	410	270	62	262	153
K1226.500320	55	630	40	40	603	100	600	510	320	70	312	270

Example



Mineral cast



“KIPP block” workholding towers are used as an alternative to cast or steel tooling columns. Due to its low specific weight (lighter than aluminium), mineral cast towers are suitable for keeping the loading on 4 and 5-axis machines as low as possible. Ideal for use on machines with high accelerations and rapid traverse speeds.

The flexibility of design is highly convincing. Steel jacketed versions are also available in a wide range of shapes and sizes.

ADVANTAGES:

- Outstanding absorption properties, 6-10 times better than grey cast iron
- Very low specific weight, lighter than aluminium
- Low heat conductivity
- Flexible planning regarding design
- Up to 30% increased service life of cutting tools

For many years mineral cast has been used as an alternative to iron castings and steel constructions. Today it is the leading technology for many applications. It is thanks to mineral cast that new innovations in electronics and medical technology were made possible.

MINERAL CAST TECHNOLOGY

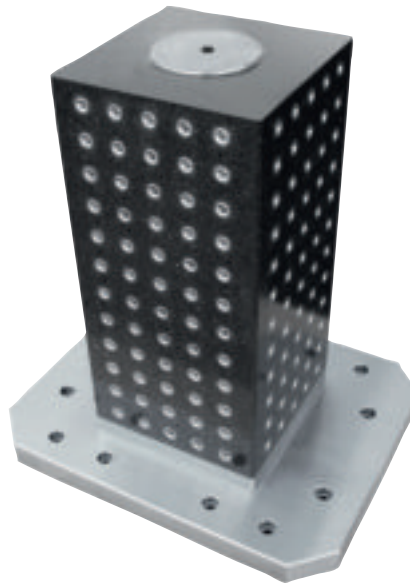
1. Mineral cast is a dual component system consisting of a mineral filler and an epoxy resin bonding agent.
2. The mineral filler makes up roughly 90% of the total weight.
3. Mineral cast is produced using a cold casting method injected into precision negative moulds at room temperature.
4. Due to the true form and high precision casting method, added elements such as plates, thread inserts, guides or tubes can be precisely placed in the casting mould.



KIPPblock



Mineral cast workholding tower



Mineral cast workholding tower with steel jacket



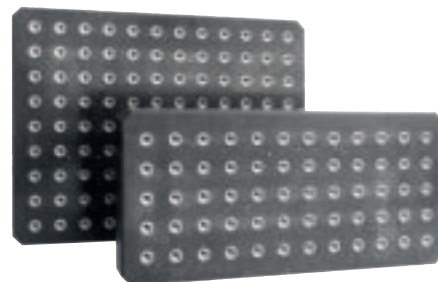
Mineral cast workholding tower with zero-point clamping system



Mineral cast cross tower

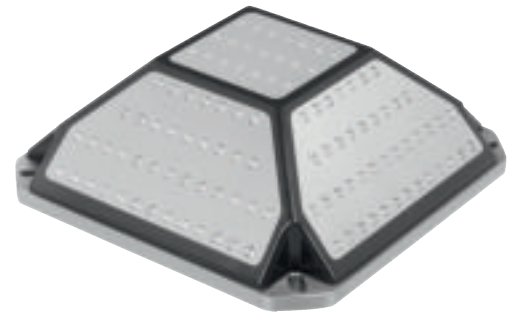


Mineral cast plates



Workholding pyramid

mineral cast



Material:

Mineral cast is a two-component system comprising mineral fillers and an epoxy resin as the binding agent.

Version:

Mineral cast is cold-cast using precision negative moulds at room temperature and subsequently hardened.

Sample order:

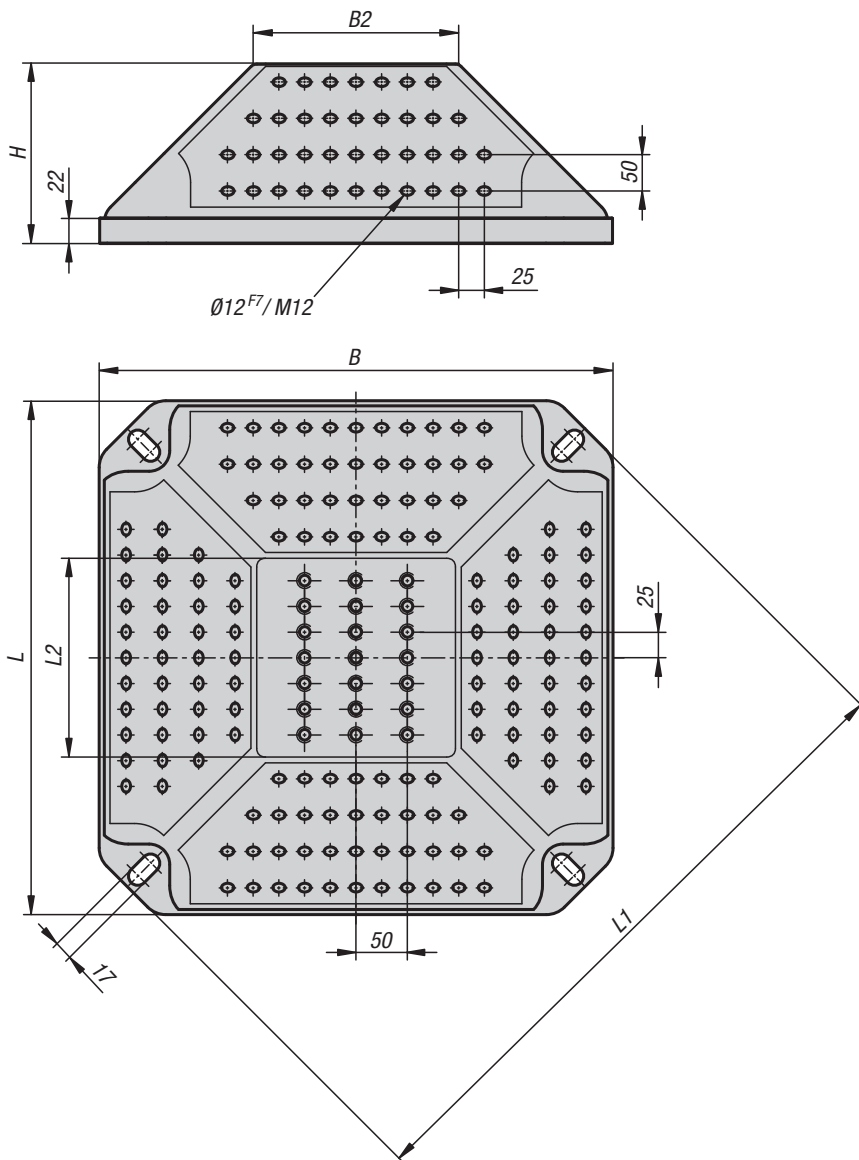
K1235.12400400140

Note:

The mineral cast workholding pyramid was specifically developed for use on 5-axis machines. The pyramid form enables 5 different clamping systems or setups can be mounted on the clamping surfaces. The low net weight of the clamping pyramid means that the overall loading on the machine table is only slightly increased.

Advantages:

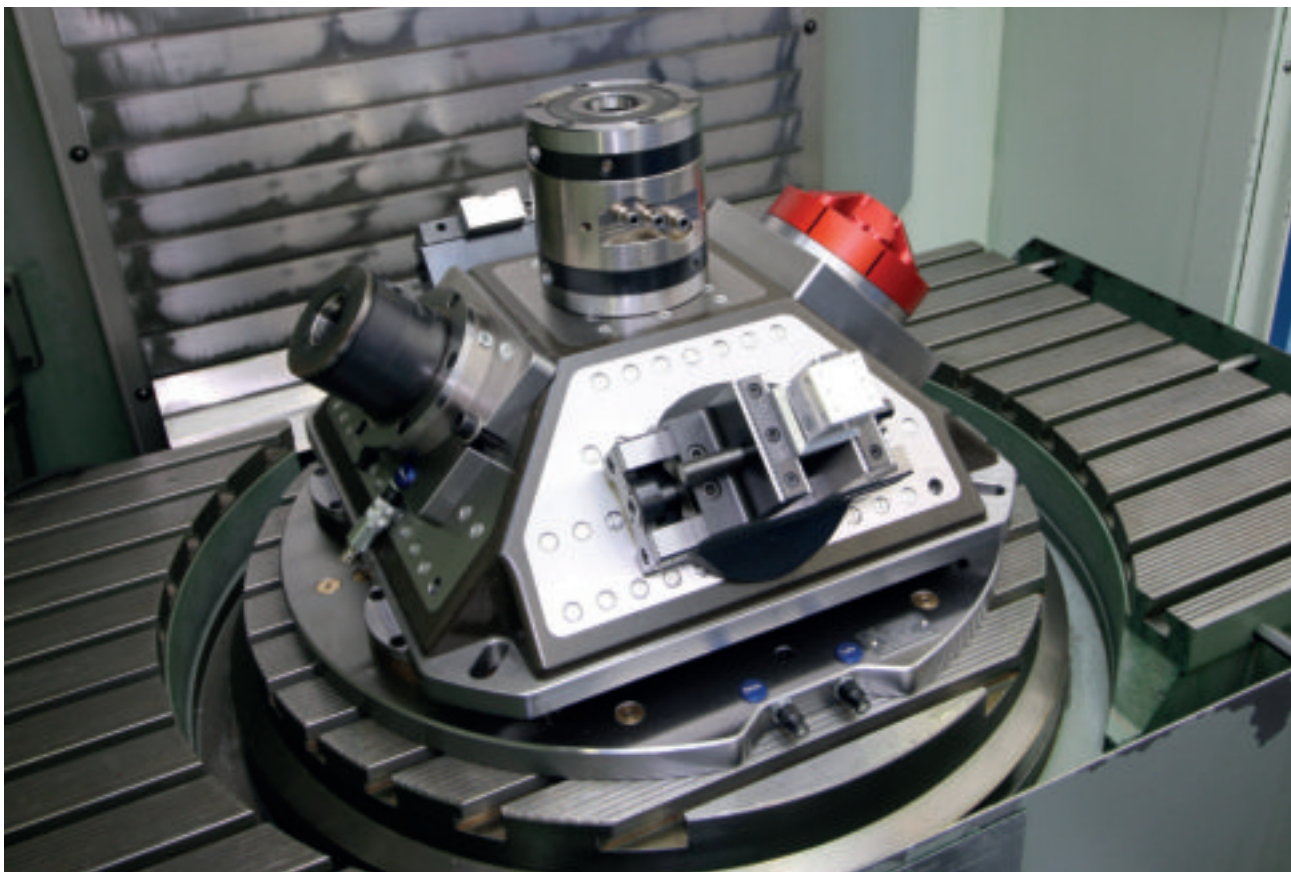
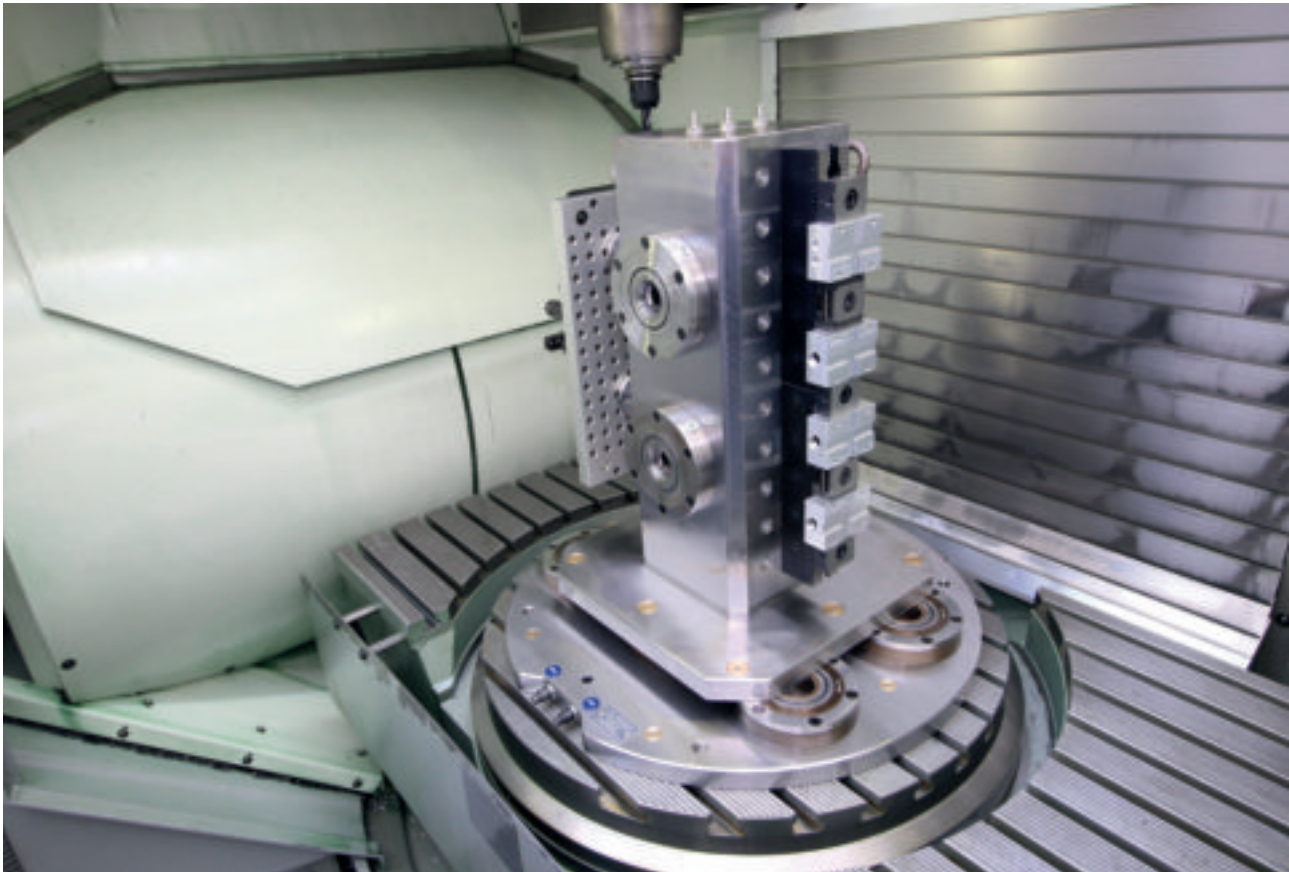
- Low specific weight, lighter than aluminium
- Outstanding vibration absorbing properties, 6–10 times better than grey cast iron
- Increased service life
- Low heat conductivity
- Flexible design options



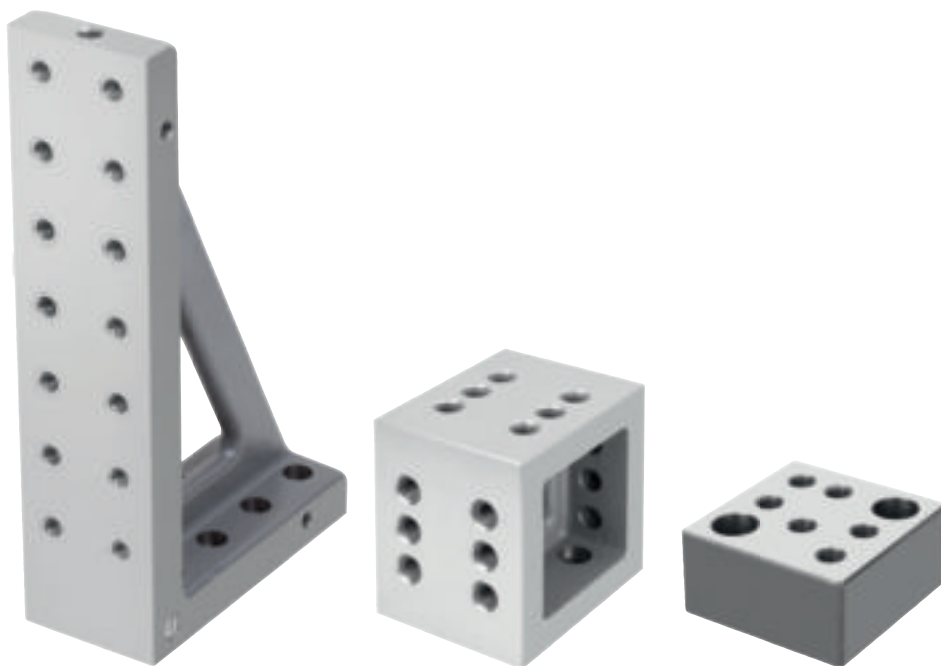
KIPP Workholding pyramid, mineral cast

Order No.	B	B2	H	L	L1	L2	weight ca. kg
K1235.12400400140	400	160	140	400	470	160	52
K1235.12500500175	500	200	175	500	630	200	97

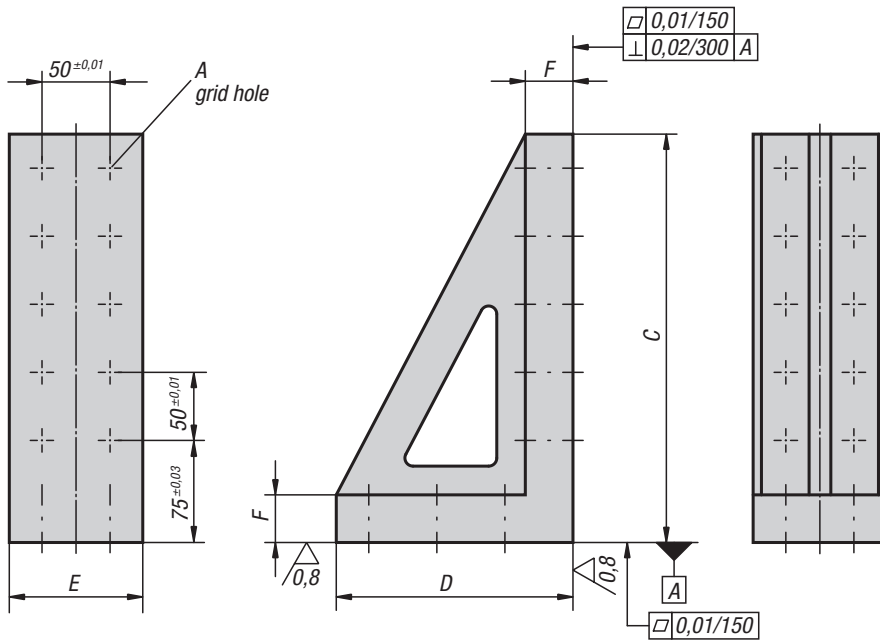
Example



Add-on elements



Tooling angle plates



Material:

GJL 300

Version:

Support and mounting surfaces precision machined

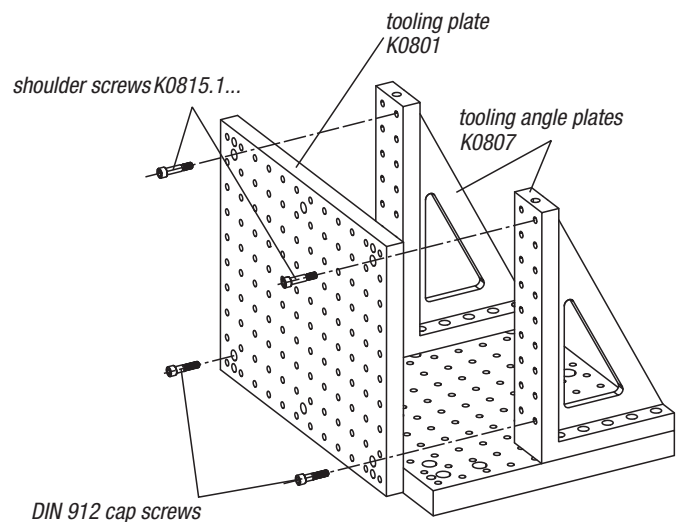
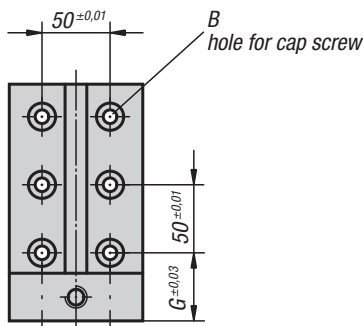
Sample order:

K0807.121030

Note:

Grid hole pitch 50 ± 0.01 mm.

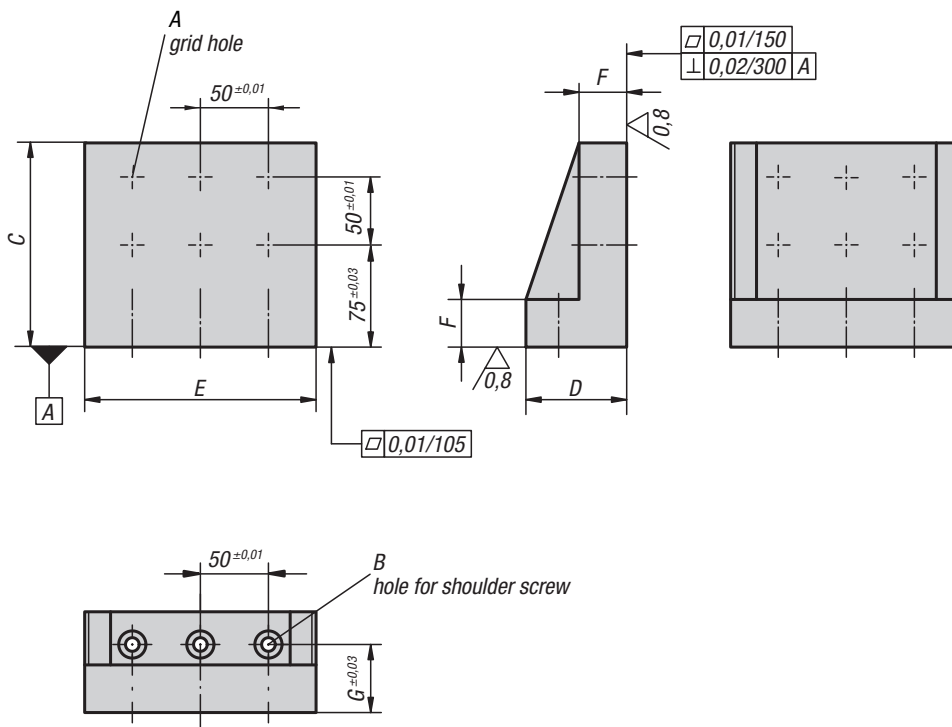
Tooling angle plates are versatile elements for vertical positioning of workpieces. These tooling angle plates can also be used as supports for tooling plates K0801. Shoulder screws K0815 are used to position and fasten the tooling angle plates to the tooling plates K0800.



KIPP Tooling angle plates

Order No.	A locating hole	A thread	B Ø for shoulder screw	C	D	E	F	G	No. of grid holes	No. of mounting holes	weight kg
K0807.121030	12 F7	M12	12 F7	300	174	98	35	50	10	6	12.4
K0807.121040	12 F7	M12	12 F7	400	224	98	35	50	14	8	18.22
K0807.121050	12 F7	M12	12 F7	500	274	98	35	50	18	10	23.82
K0807.161030	16 F7	M16	16 F7	300	179	98	40	55	10	6	13.7
K0807.161040	16 F7	M16	16 F7	400	229	98	40	55	14	8	19
K0807.161050	16 F7	M16	16 F7	500	279	98	40	55	18	10	10

Tooling angle plates



Material:

GJL 300

Version:

Support and mounting surfaces precision machined

Sample order:

K0808.121715

Note:

Grid hole pitch $50 \pm 0,01$ mm.

Tooling angle plates are versatile elements for vertical positioning of workpieces.

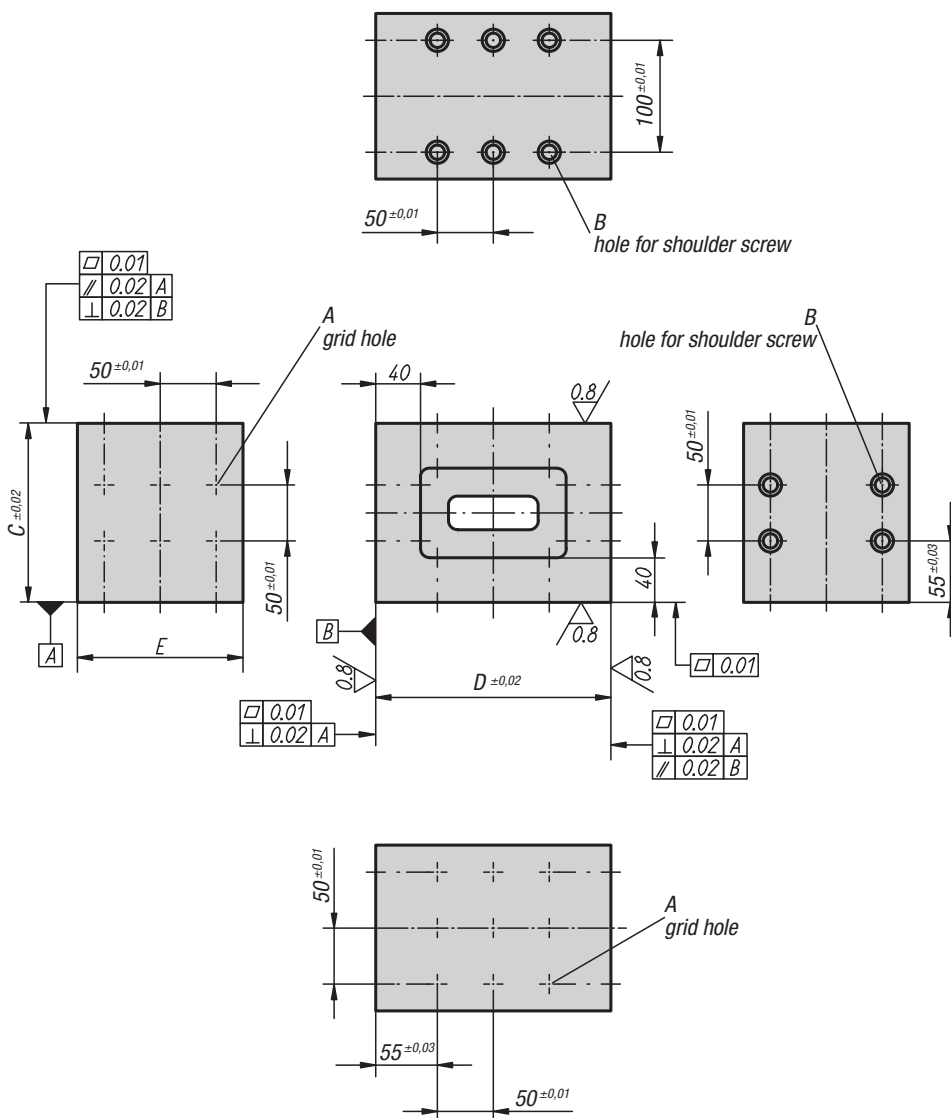
Shoulder screws are used for fastening the angle plates:

Angle plates K0808.121715 to K0808.121760 - shoulder screws K0815.12055.

Angle plates K0808.161715 to K0808.161725 - shoulder screws K0815.16075.

KIPP Tooling angle plates

Order No.	A locating hole	A thread	B \emptyset for shoulder screw	C	D	E	F	G	No. of grid holes	No. of mounting holes	weight kg
K0808.121715	12 F7	M12	12 F7	150	74	170	35	50	6	3	8.54
K0808.121725	12 F7	M12	12 F7	250	124	170	35	50	12	4	17.3
K0808.121760	12 F7	M12	12 F7	600	324	170	35	50	33	12	66
K0808.161715	16 F7	M16	16 F7	150	79	170	40	55	6	3	9.42
K0808.161725	16 F7	M16	16 F7	250	129	170	40	55	12	4	18.7



Material:

GJL 300

Version:

Support and mounting surfaces ground

Sample order:

K0809.090121621

Note:

Grid hole pitch 50 ± 0.01 mm.
Tooling blocks can be used for mounting low workpieces or as small bases. They can also be used as parallel gauge blocks for inspection work.

Tooling blocks K0809.090121621 and K0809.090122126 mounted with shoulder screws K0815.112065.

Tooling blocks K0809.090161621 and K0809.090162126 mounted with shoulder screws K0815.16075.

KIPP Tooling blocks

Order No.	A locating hole	A thread	B \varnothing for shoulder screw	C	D	E	No. of grid holes	No. of mounting holes	weight kg
K0809.090121621	12 F7	M12	12 F7	160	210	148	15	10	27.34
K0809.090122126	12 F7	M12	12 F7	210	260	148	21	14	37
K0809.090161621	16 F7	M16	16 F7	160	210	148	15	10	25
K0809.090162126	16 F7	M16	16 F7	210	260	148	21	14	36

Mini tooling blocks



Material:

GJL 300

Version:

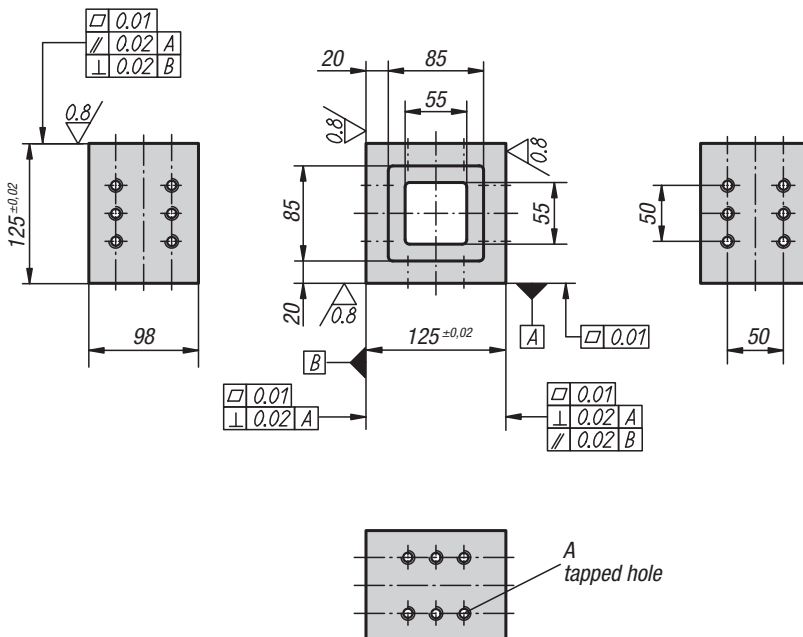
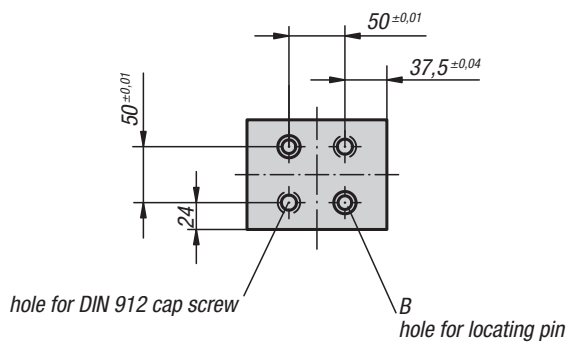
Support and mounting surfaces ground

Sample order:

K0809.09512125

Note:

Mini tooling blocks are positioned using 2 locating pins K0817 and secured with 2 DIN 912 cap screws. They can be used as stops or support and add-on elements.

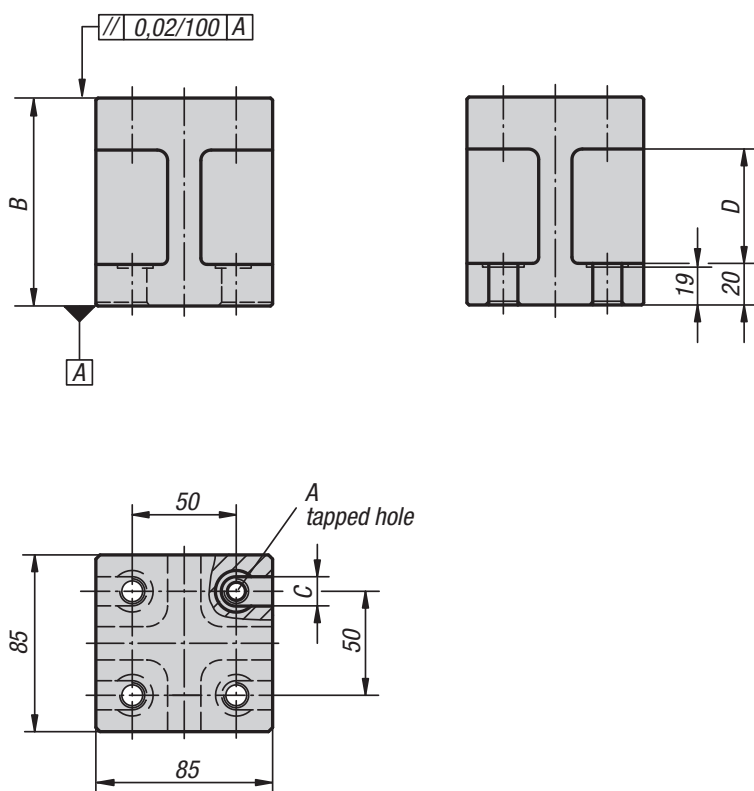


KIPP Mini tooling blocks

Order No.	A	B	C hole for DIN 912 cap screw	suitable locating pins	weight kg
K0809.09512125	M12	12 F7	M12	K0817.12	6.08
K0809.09516125	M16	16 F7	M16	K0817.16	6.081

Riser blocks

Form H



Material:
GJL 300

Version:
Black oxidised.

Sample order:
K0811.33012100

Note:
Form H riser blocks are mounted using DIN 912 socket head screws.

KIPP Riser blocks Form H

Order No.	A	B	C	D	weight kg
K0811.33012100	M12	100	14	55	3.52
K0811.33012125	M12	125	14	80	4
K0811.33016100	M16	100	18	55	3.36
K0811.33016125	M16	125	18	80	3.86

Fastening blocks

Form M

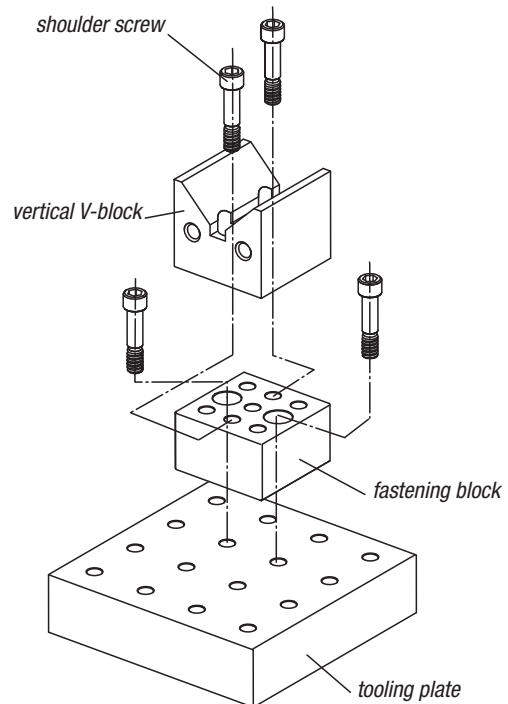
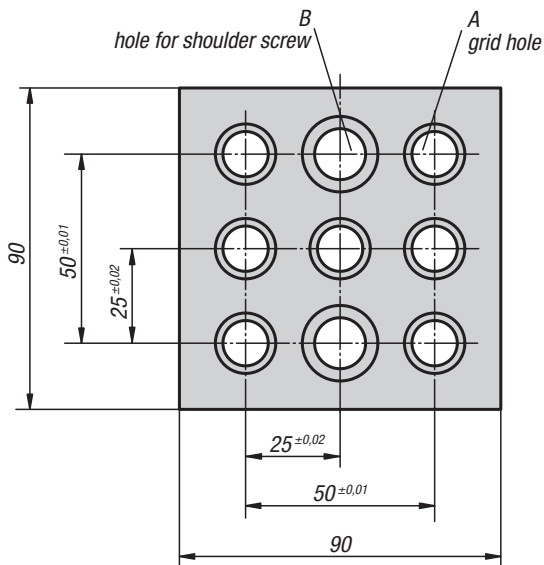
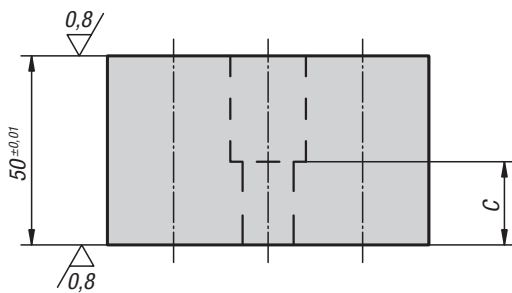


Material:
Carbon steel.

Version:
Black oxidised.
Contact faces ground.

Sample order:
K0810.12112050

Note:
Fastening blocks are used as risers for all system elements which have no movable seating faces - these include locating supports K0816, vertical V-blocks K0819.600.
They also allow positioning and fastening elements within a 50 ± 0.01 mm pitch (see application example).



KIPP Fastening blocks Form M

Order No.	A locating hole	A thread	B Ø for shoulder screw	C	No. of grid holes	No. of mounting holes	Suitable shoulder screw	weight kg
K0810.12112050	12 F7	M12	12 F7	22	7	2	K0815.112055	2.693
K0810.12116050	16 F7	M16	16 F7	26	7	2	K0815.116055	2.355

Precision riser blocks

Form D



Material:

Carbon steel.

Version:

Black oxidised.

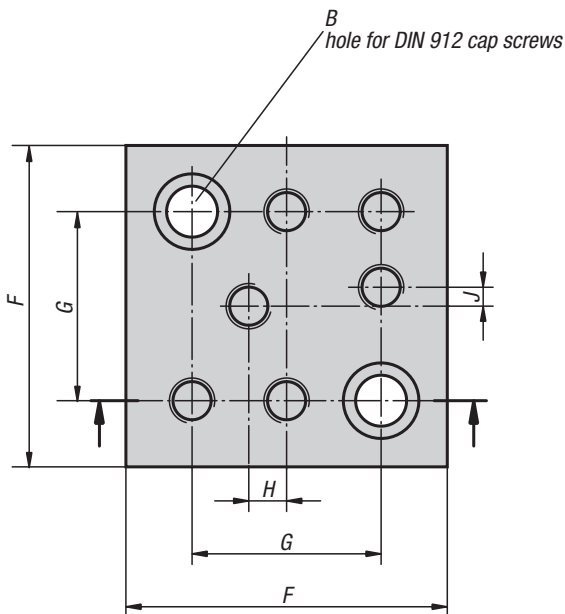
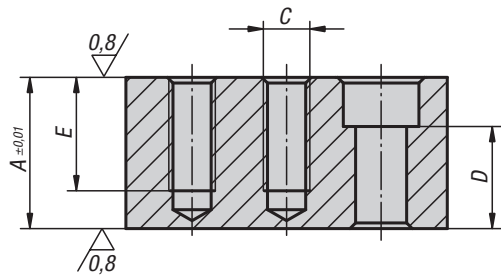
Contact faces ground.

Sample order:

K0811.14012025

Note:

Riser blocks are used to achieve a certain support height. The additional tapped holes in the risers are for mounting further fixture elements.

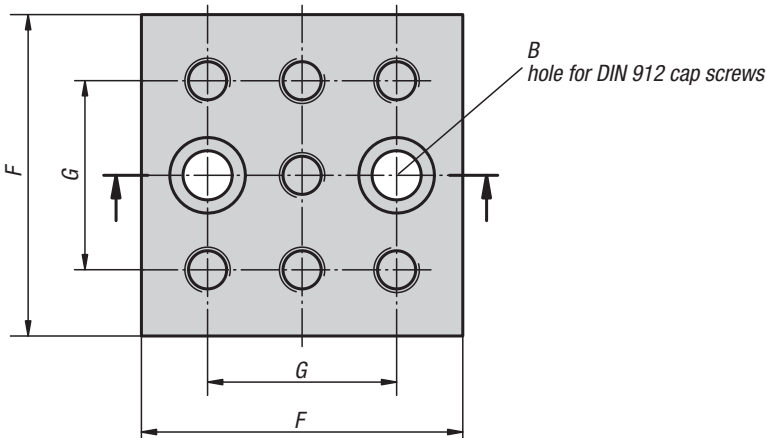
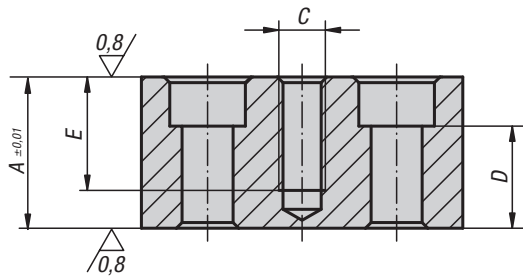


KIPP Precision riser blocks Form D

Order No.	A	B hole for DIN 912 screw	C	D	E	F	G	H	J	weight kg
K0811.14012025	25	M12	M12	12	25	85	50	10	5	1.218
K0811.14012032	32	M12	M12	19	32	85	50	10	5	1.56
K0811.14012040	40	M12	M12	27	30	85	50	10	5	1.97
K0811.14012050	50	M12	M12	37	30	85	50	10	5	2.5
K0811.14016025	25	M16	M16	8	25	85	50	10	5	1.039
K0811.14016032	32	M16	M16	15	32	85	50	10	5	1.33
K0811.14016040	40	M16	M16	23	35	85	50	10	5	1.7
K0811.14016050	50	M16	M16	33	35	85	50	10	5	2.123

Precision riser blocks

Form M



Material:

Carbon steel.

Version:

Black oxidised.

Contact faces ground.

Sample order:

K0811.14112025

Note:

Riser blocks are used to achieve a certain support height. The additional tapped holes in the risers are for mounting further fixture elements.

KIPP Precision riser blocks Form M

Order No.	A	B hole for DIN 912 screw	C	D	E	F	G	weight kg
K0811.14112025	25	M12	M12	12	25	85	50	1.199
K0811.14112032	32	M12	M12	19	32	85	50	1.535
K0811.14112040	40	M12	M12	27	30	85	50	1.955
K0811.14112050	50	M12	M12	37	30	85	50	2.43
K0811.14116025	25	M16	M16	8	25	85	50	1.007
K0811.14116032	32	M16	M16	15	32	85	50	1.31
K0811.14116040	40	M16	M16	23	35	85	50	1.653
K0811.14116050	50	M16	M16	33	35	85	50	2.104

Precision riser blocks

Form E

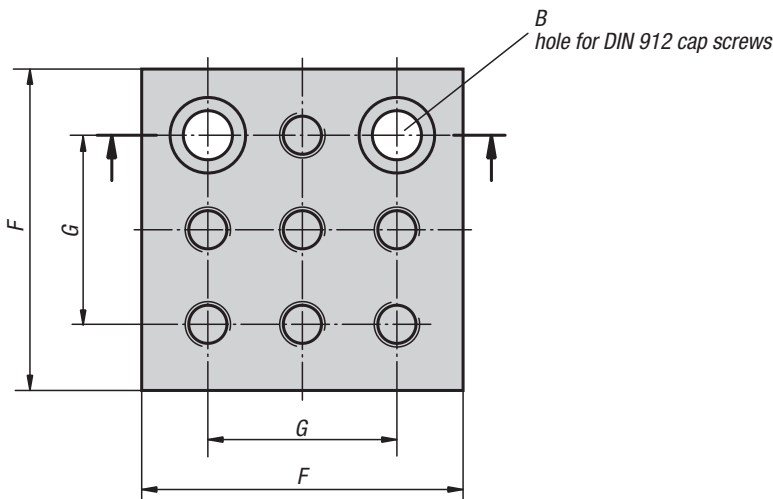
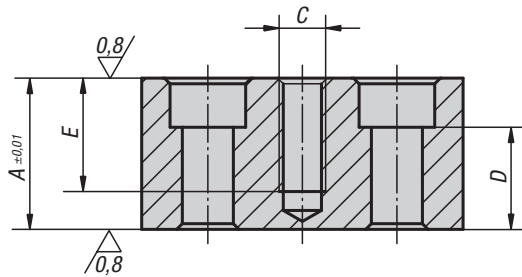


Material:
Carbon steel.

Version:
Black oxidised.
Contact faces ground.

Sample order:
K0811.14212025

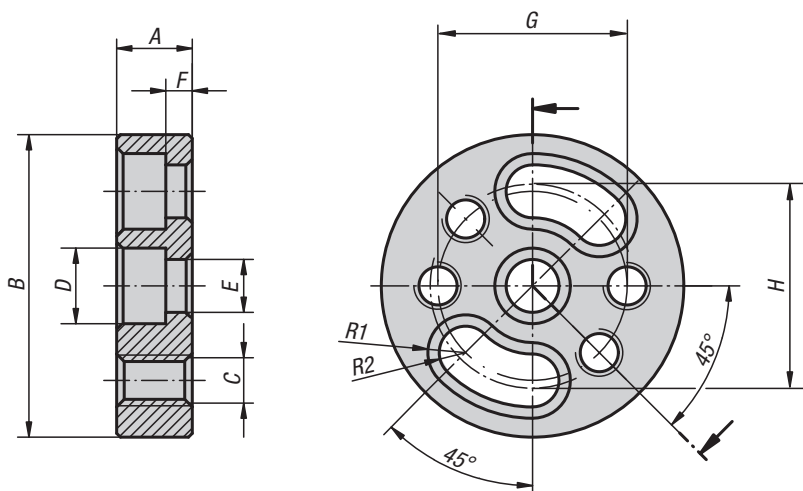
Note:
Riser blocks are used to achieve a certain support height. The additional tapped holes in the risers are for mounting further fixture elements.



KIPP Precision riser blocks Form E

Order No.	A	B hole for DIN 912 screw	C	D	E	F	G	weight kg
K0811.14212025	25	M12	M12	12	25	85	50	1.208
K0811.14212032	32	M12	M12	19	25	85	50	1.52
K0811.14212040	40	M12	M12	27	30	85	50	1.95
K0811.14212050	50	M12	M12	37	30	85	50	2.454
K0811.14216025	25	M16	M16	8	25	85	50	1.005
K0811.14216032	32	M16	M16	15	32	85	50	1.289
K0811.14216040	40	M16	M16	23	35	85	50	1.68
K0811.14216050	50	M16	M16	33	35	85	50	2.18

Round positioning plates



Material:
Carbon steel.

Version:
Black oxidised.

Sample order:
K0812.24212020

Note:
Round positioning plates allow clamps such as K0853.920 and K0853.930 to be positioned against the workpiece at an angle of e.g. 30°. The rack plates CL K0853.940 are mounted on the round positioning plate as intermediate adapters, the clamps are fitted and rotated to the correct position.

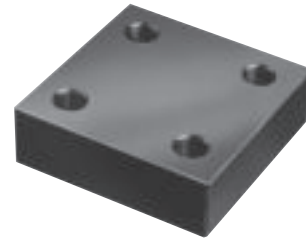
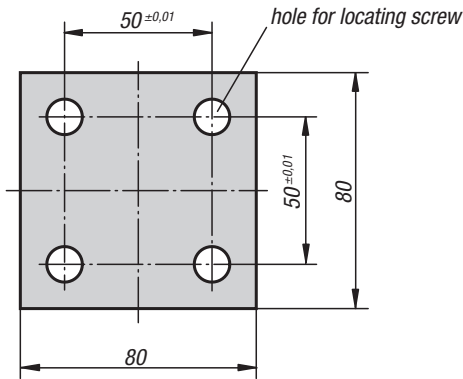
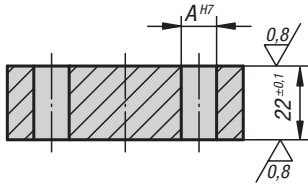
KIPP Round positioning plates

Order No.	A	B	C	D	E	F	G	H	R1	R2	weight kg
K0812.24212020	20	80	M12	20	14	7	50	50	10	7	0.49
K0812.24216025	25	100	M16	26	18	7	50	70,7	13	9	0.867

Accessories



Connecting blocks



Material:
Carbon steel.

Version:
Black oxidised.
Contact faces ground.

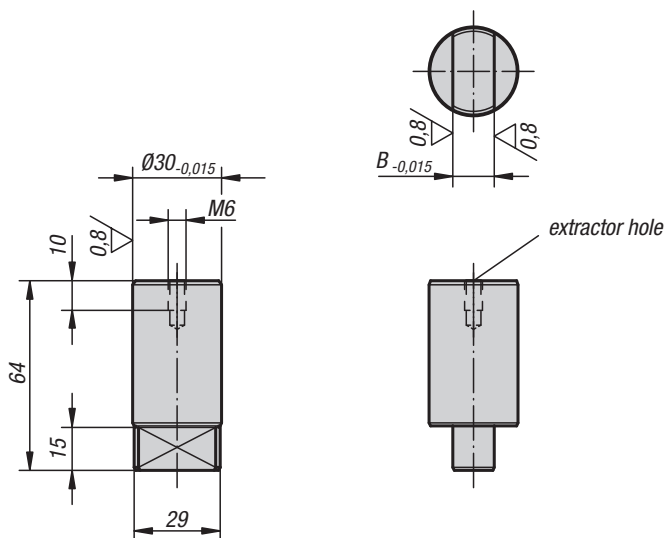
Sample order:
K0854.40012050

Note:
When several tooling plates K0800 are used, connecting blocks are needed to maintain the correct grid hole pitch from one plate to the next. They are secured using 4 shoulder screws K0815.1....

KIPP Connecting blocks

Order No.	A	Suitable shoulder screw
K0854.40012050	12	K0815.112055
K0854.40016050	16	K0815.116065

Locating pins



Material:
Carbon steel.

Version:
Tempered and black oxidised.
Precision diameters and guide faces ground.

Sample order:
K0855.12030

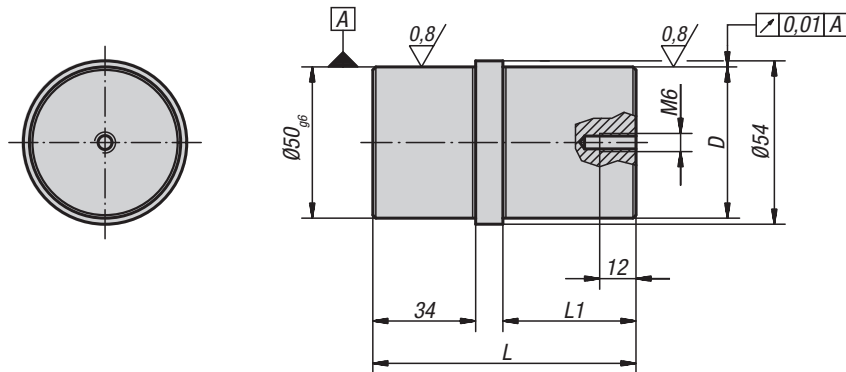
Note:
Locating pins are used for positioning grid plates K0800 on machine tables.

KIPP Locating pins

Order No.	B
K0855.12030	12
K0855.14030	14
K0855.18030	18
K0855.20030	20
K0855.22030	22

Centring pins

for central hole



Material:
Steel.

Version:
Case-hardened.
Toleranced diameter ground.

Sample order:
K0856.5025

Note:
Centring pins for central holes are suitable for basic elements K0806, K0802, K0803, K0804 and K0805.

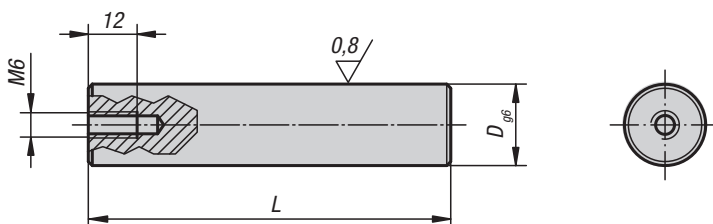
KIPP Centring pins for central hole

Order No.	D	L	L1
K0856.5025	25 g6	77	34
K0856.5030	30 h6	87	44
K0856.5050	50 g6	87	44

K0857

Centring pins

for aligning hole



Material:
Steel.

Version:
Case-hardened.
Toleranced diameter ground.

Sample order:
K0857.25125

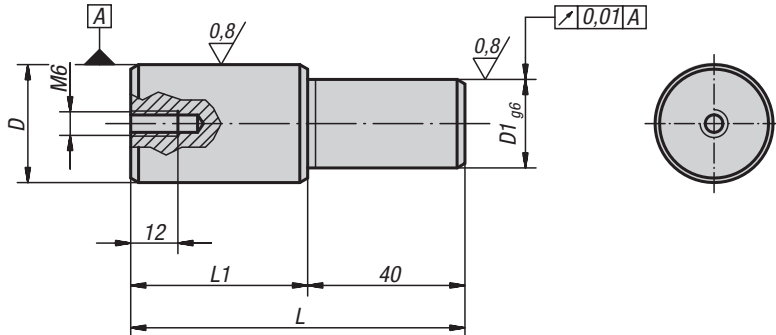
Note:
Centring pins for aligning holes are suitable for basic elements K0802, K0803 and K0805.

KIPP Centring pins for aligning hole

Order No.	D	L
K0857.20075	20	75
K0857.20089	20	89
K0857.25125	25	125

Centring pins

for aligning hole



Material:
Steel.

Version:
Case-hardened.
Toleranced diameter ground.

Sample order:
K0858.2520

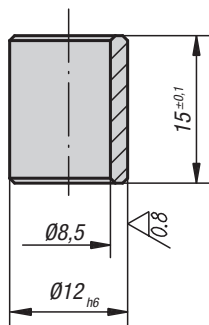
Note:
Centring pins for aligning holes are suitable for subplates K0806.

KIPP Centring pins for aligning hole

Order No.	D	D1	L	L1
K0858.2520	25 g6	20	75	35
K0858.3020	30 h6	20	85	45
K0858.3025	30 h6	25	85	45

K0814

Locating sleeve



Material:
Tool steel.

Version:
Hardened and black oxidised.
Toleranced diameter ground.

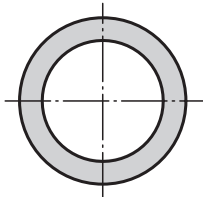
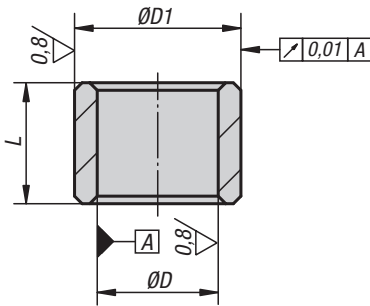
Sample order:
K0814.44008012

KIPP Locating sleeve

Order No.	Dimensions
K0814.44008012	see drawing

Locating bushings

for grid systems



Material:
Special case-hardened steel

Version:
Hardened and ground.

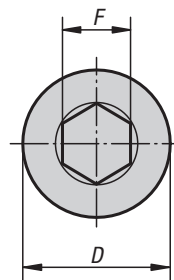
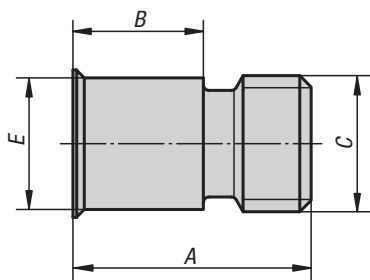
Sample order:
K0861.01508305002

Note:
See next page for assembly instructions for changing locating bushings.

KIPP Locating bushings for grid systems

Order No.	D	D1	L
K0861.01508305002	12 H6	16 g5	8
K0861.01012304002	12 F7	18 g6	12
K0861.01016405002	16 F7	22 g6	16

Aluminium protection plugs



Material:
Aluminium.

Version:
Bright.

Sample order:
K0862.60108015

Note:
Use these plugs to seal grid holes and protect them from swarf and dirt.
Leave the protection plugs in holes not in use!
Aluminium plugs are used when aggressive coolants are used or when cutting dry.

KIPP Aluminium protection plugs

Order No.	A	B	C	D	E	F
K0862.60108015	15	7,5	M8	12,6	11,8	5
K0862.60112021	21	11,5	M12	13	11,6	6
K0862.60116026	26	15	M16	17	15,6	8

Threaded bushings

for grid systems



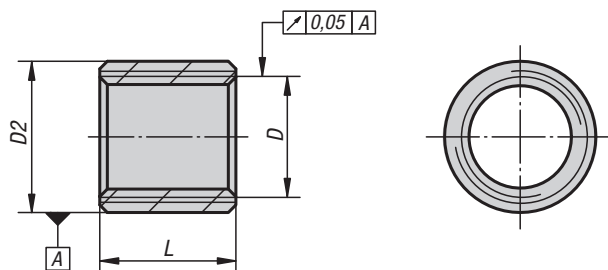
Material:
Carbon steel.

Version:
Tempered to 1100-1300 N/mm².

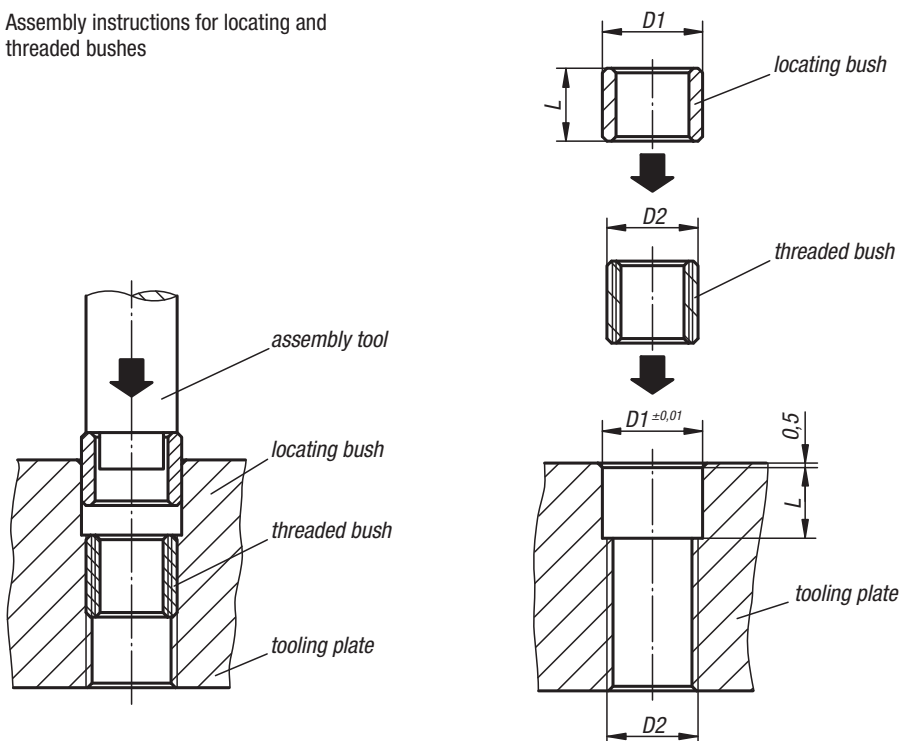
Sample order:
K0863.01508305003

Note:
Assembly instructions for changing threaded bushing.

- Inserting the locating and threaded bushing
1. Remove grease from the locating and threaded bushing.
 2. Apply adhesive (Loctite 638) in the hole.
 3. Apply adhesive (Loctite 638) on the threaded bushing and screw in.
 4. Apply adhesive (Loctite 638) to the locating bushing and insert it. If the locating bushing cannot be inserted by hand, please use an assembly tool as shown application example.
 5. Remove any adhesive pressed out by insertion of the locating and threaded bushing before it hardens.



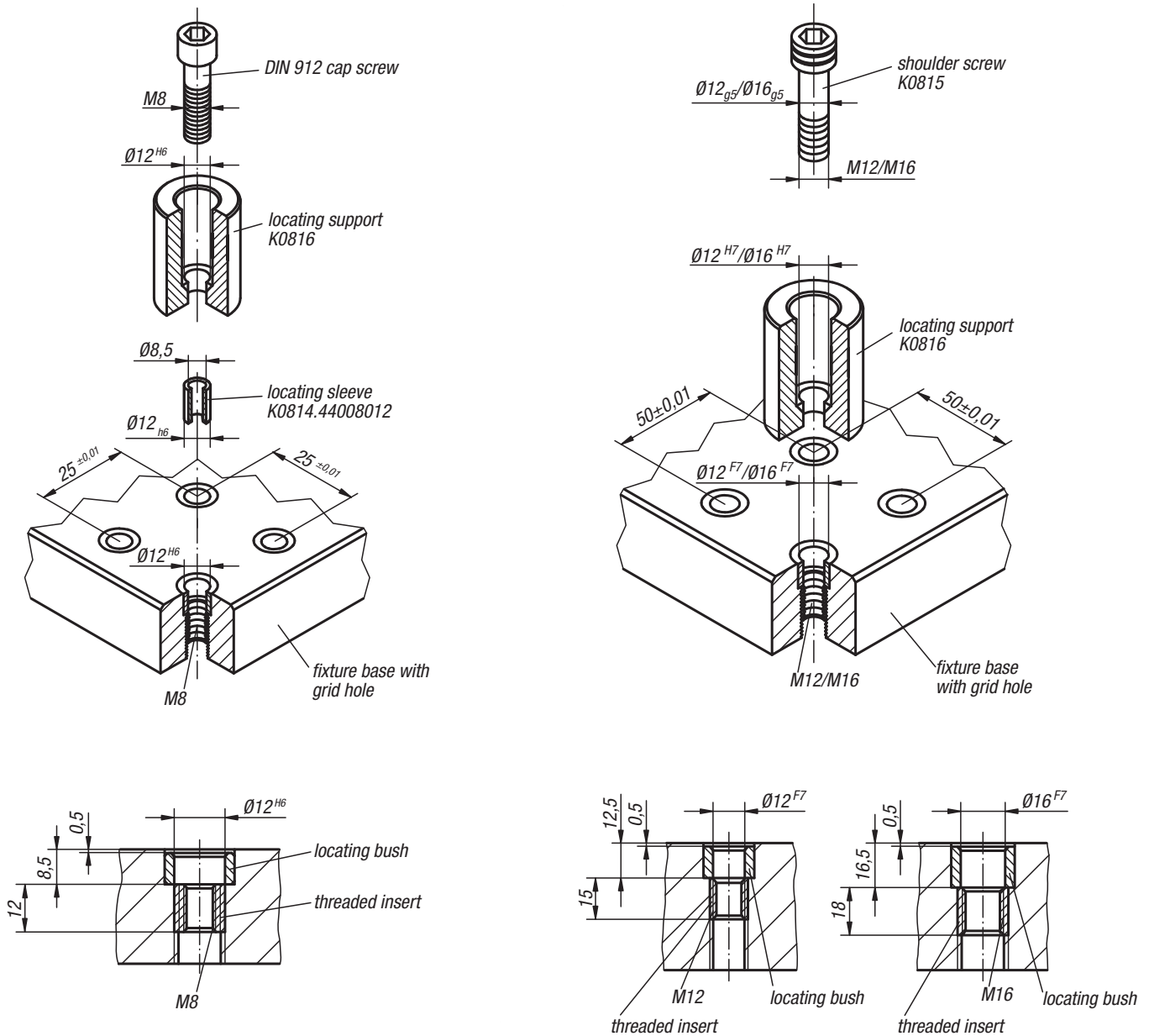
Assembly instructions for locating and threaded bushes



KIPP Threaded bushings for grid systems

Order No.	D	D2	L
K0863.01508305003	M8	M12x1,75	12
K0863.01012304003	M12	M16x1,5	15
K0863.01016405003	M16	M20x1,5	18

Grid holes and pitches



Grid hole:

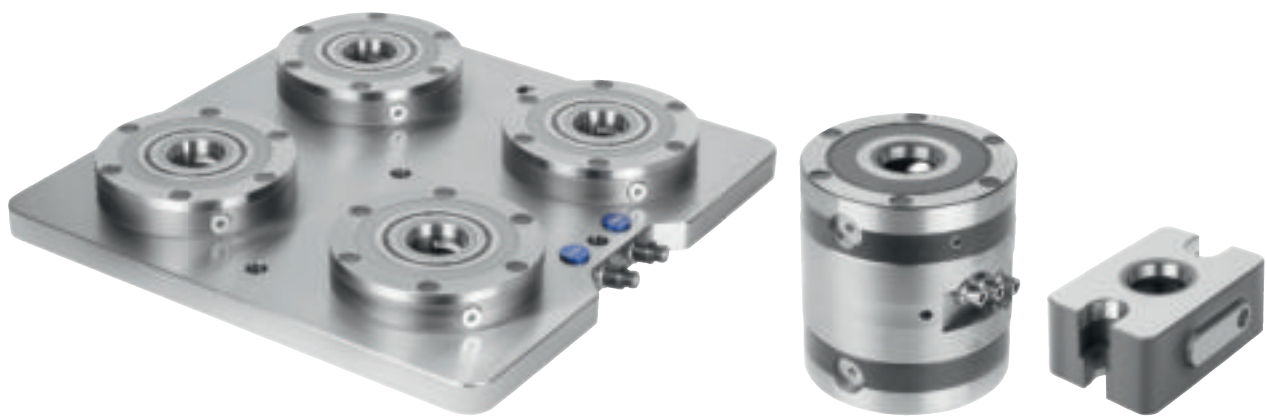
The characteristic feature of the grid hole is its dual function: the coaxial arrangement of the locating and the threaded parts allows positioning and fastening at the same time with one grid hole (see illustrations). As a result, the size of the fixture elements can be reduced to a minimum and their flexibility increased accordingly.

Each grid hole consists of two parts:

- a) reamed bush. Material: hardened tool steel.
- b) threaded insert. Material: carbon steel, tempered to ca. 1100-1300 N/mm².

Since the reamed bushes are recessed 0.5 mm from the surface of the fixture bases, the mounting surfaces can be re-machined in the event of wear.

Zero-point clamping system



Technical information zero-point clamping system



Application

The modular structured flexible zero-point clamping system was specifically developed for the machining and non-machining fields.

This system enables a quick and accurate clamping and referencing of fixtures and workpieces on all production machines, machining centres, EDM's and inspection equipment.

Whether subplate, fixture, vice or workpiece, this system allows an exchange with a defined reference point in a matter of seconds and repeat accuracy of less than 0.005 mm.

The advantages

- Modular system
- Compact flat design
- Workpiece or fixture change within seconds
- Pneumatic system
- Positive locking
- Holding forces up to 75 kN and pull-in forces up to 15 kN
- Turbo function
- Positioning via short conical locator
- Works reliably in every mounting position
- Sealing air function

Your benefit

- Can be combined with our modular clamping system
- Better machine room utilisation
- Increased productive machine running times, significantly reduced set-up times
- Reliable system
- Very high cutting forces possible
- High operating and process safety
- Increased pull-in forces are standard
- Very high repeat accuracy
- Clamping cylinder installation in both vertical and horizontal positions
- Blow out function can be activated when changing pallets.



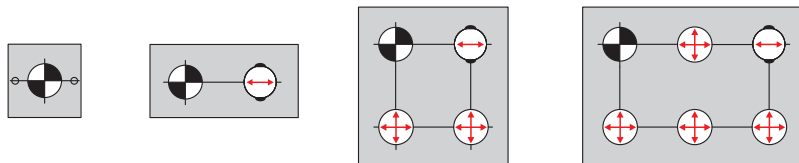
Technical information zero-point clamping system



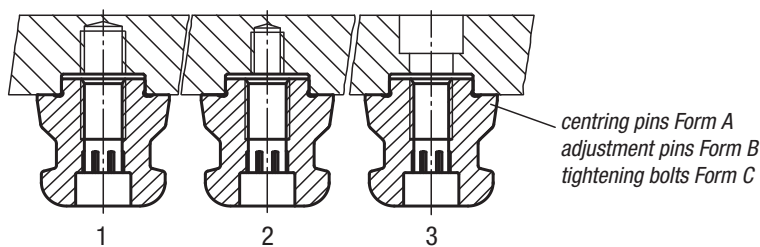
Spigot arrangement/set-up

The workpieces, fixtures or subplates are positioned and clamped using spigots. There are three different spigot types.

- Centring spigot fixed in x and y direction (reference point)
- ⊖ Compensating pin fixes the free axis (studs)
- ⊕ Clamping spigot Spigot with undersize (no centring function only clamping function)
- Cylindrical pin For individual clamping, positioning is done with centring spigot + 2 cylindrical pins



- 1 = fastening with grub screw DIN 913
- 2 = fastening with DIN 912 screw through the tightening bolt
- 3 = fastening with DIN 912 screw through the fixture or workpiece

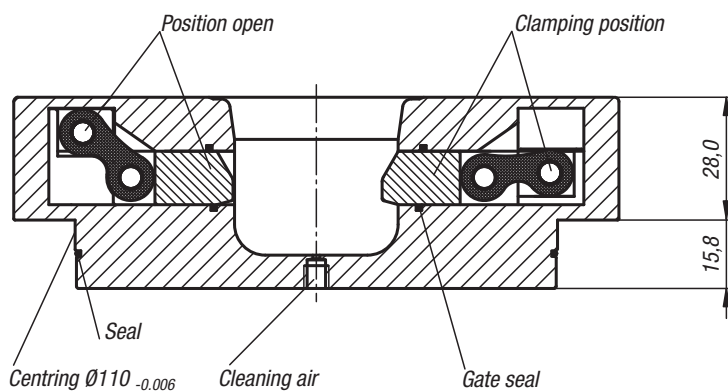


The function

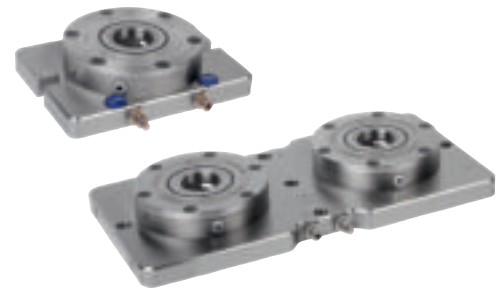
The proven UNI lock clamping module was made even flatter due to a new mechanism. The built-in toggle system together with guided clamping slides ensures high process reliability of the system.



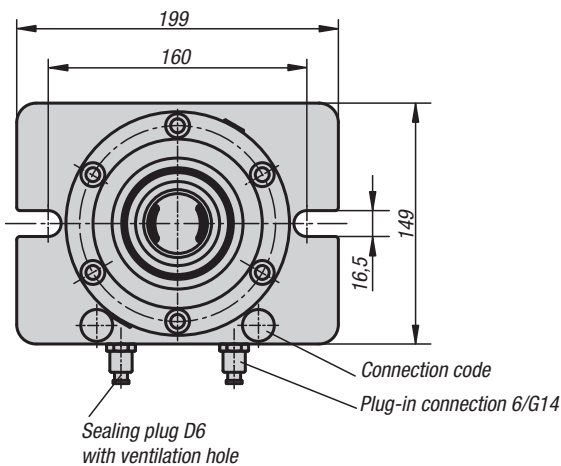
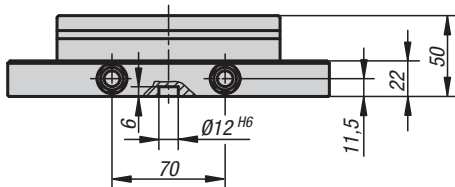
Toggle lever mechanism



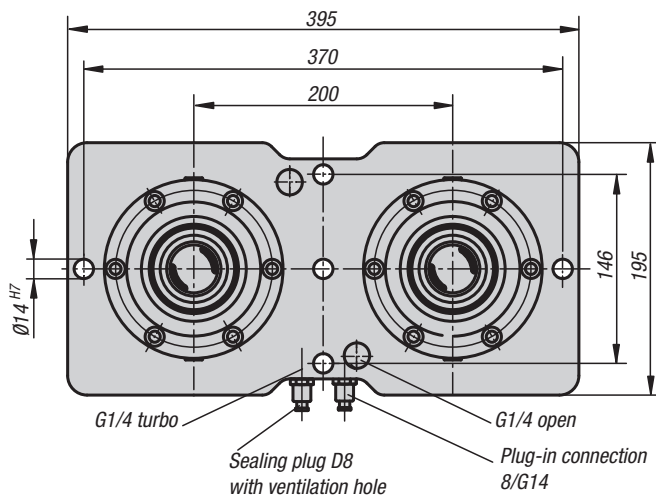
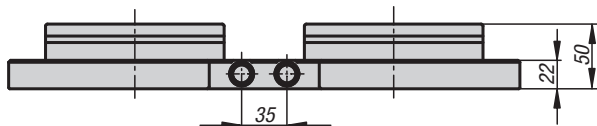
UNI lock clamping station



1x



2x



Material:

Clamping module mild steel.
Base plate steel 1.1730.

Version:

Clamping module contact surfaces case-hardened and ground.
Base plate ground on both sides.

Sample order:

K1009.1000149199

Note:

Completely mounted multi-clamping stations with integrated UNI lock Ø138 mm mounting clamps. The clamping stations are secured to the machine table directly or with clamps. Common bore patterns are pre-centred on the rear side for mounting. Clamping stations can be aligned via the 14H7 reference holes. The clamping stations are actuated via a central pneumatic connection. The high clamping forces are generated by the integrated spring package (the unit clamps in the de-pressurized state). The release process occurs pneumatically.

The following retaining forces are possible with the UNI lock clamping bolt in conjunction with mounting screws M10, M12, M16.

- Retaining force (M10) 35,000N/module
- Retaining force (M12) 50,000N/module
- Retaining force (M16) 75,000N/module

On request:

Clamping station in special dimensions.

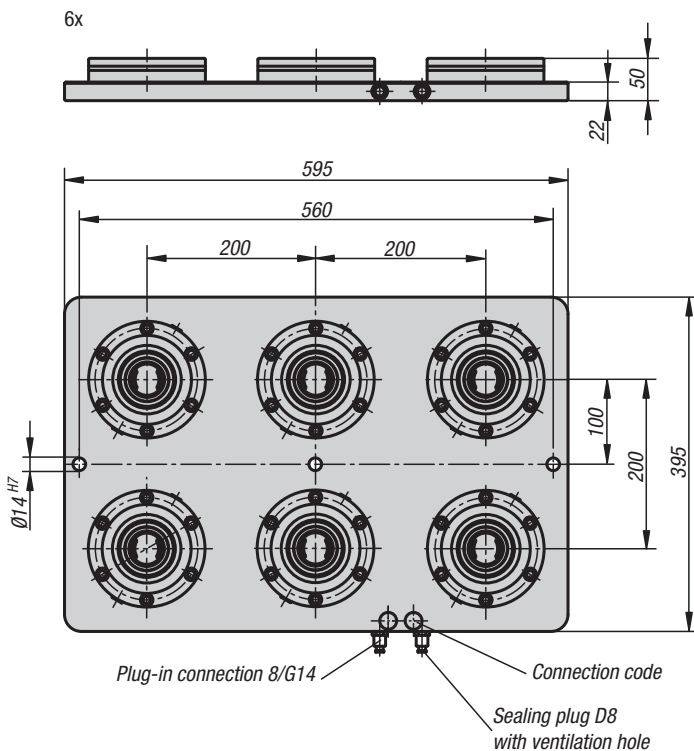
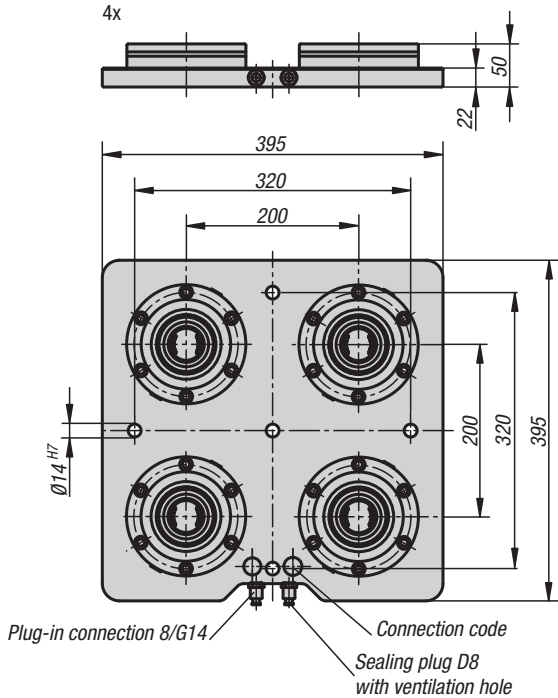
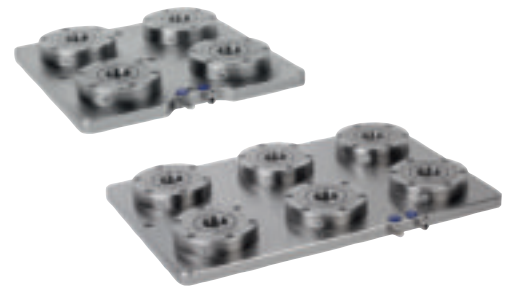
Technical data:

- Opening pressure: 6bar, lubricated air
- Turbo pressure: 6bar
- Air connection: G1/4
- Repeat accuracy ≤ 0.005 mm
- Reference holes 14H7 to align the clamping plate.
- Pneumatic connectors for 6 mm pneumatic hose.

KIPP UNI lock clamping station

Order No.	Type	weight kg
K1009.1000149199	1x	7.2
K1009.2200395195	2x	17.681

UNI lock clamping station



Material:

Clamping module mild steel.
Base plate steel 1.1730.

Version:

Clamping module contact surfaces case-hardened and ground.
Base plate ground on both sides.

Sample order:

K1009.4200395395

Note:

Completely mounted multi-clamping stations with integrated UNI lock Ø138 mm mounting clamps. The clamping stations are secured to the machine table directly or with clamps.

Common bore patterns are pre-centred on the rear side for mounting.

Clamping stations can be aligned via the 14H7 reference holes.

The clamping stations are actuated via a central pneumatic connection.

The high clamping forces are generated by the integrated spring package (the unit clamps in the de-pressurized state).

The release process occurs pneumatically.

The following retaining forces are possible with the UNI lock clamping bolt in conjunction with mounting screws M10, M12, M16.

- Retaining force (M10) 35,000N/module
- Retaining force (M12) 50,000N/module
- Retaining force (M16) 75,000N/module

On request:

Clamping station in special dimensions.

Technical data:

- Opening pressure: 6bar, lubricated air
- Turbo pressure: 6bar
- Air connection: G1/4
- Repeat accuracy ≤ 0.005 mm
- Reference holes 14H7 to align the clamping plate.
- Pneumatic connectors for 6 mm pneumatic hose.

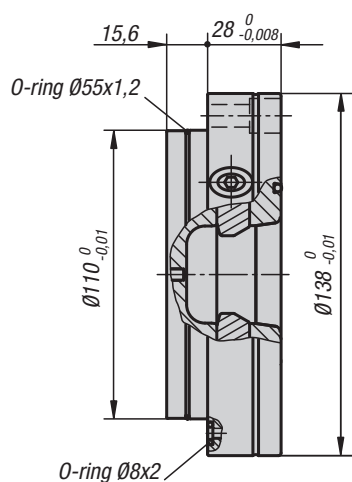
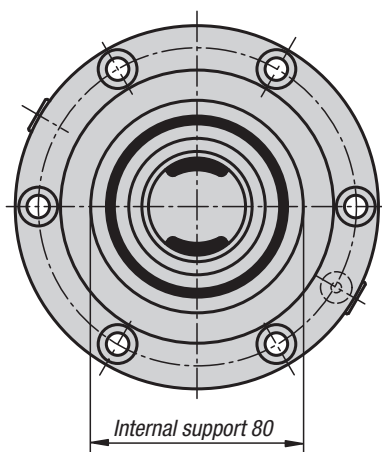
KIPP UNI lock clamping station

Order No.	Type	weight kg
K1009.4200395395	4x	58
K1009.6200595395	6x	52.2

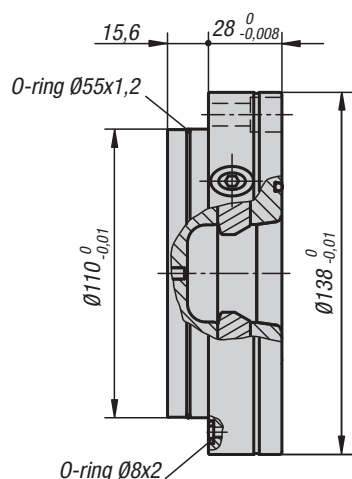
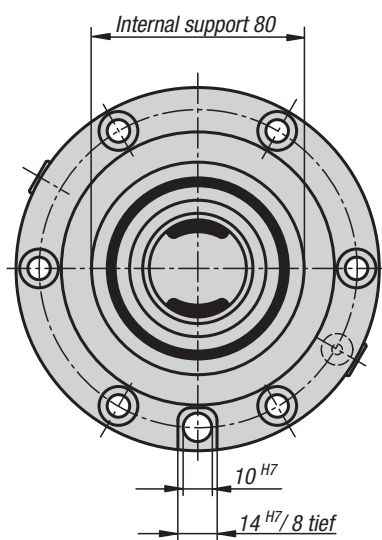
UNI lock installation clamp



Without rotation lock



With rotation lock



Material:
Steel.

Version:
Contact surfaces case-hardened and ground.

Sample order:
K1003.138280

Note:
The UNI lock mounting clamps can be mounted in any position, with or without projection on machine tables, in fixtures (tooling plates, cubes, tombstones, etc.). The modular design lets the number of clamps and distance between the clamps to be ideally adjusted to suit your clamping task. The clamps can be supplied with or without rotation lock. The high clamping forces are generated by the integrated spring package (the unit clamps in the de-pressurized state). The release process occurs pneumatically. The following retaining forces are possible with the UNI lock clamping bolt in conjunction with mounting screws M10, M12, M16:
- Retaining force (M10) 35,000N
- Retaining force (M12) 50,000N
- Retaining force (M16) 75,000N

Supplied with:
1x clamping module incl. 6x mounting bolts.
6x screw caps.
2x air connection O-rings.
1x installation O-ring.

Technical data:
- Opening pressure: 6bar, lubricated air
- Turbo pressure: 6bar
- Air connection: G1/8
- Repeat accuracy ≤ 0.005 mm

KIPP UNI lock installation clamp

Order No.	Version	weight kg
K1003.138280	Without rotation lock	3.56
K1003.138281	With rotation lock	3.52

UNI lock double clamping module



Material:
Steel.

Version:
Contact surfaces case-hardened and ground.

Sample order:
K1122.1381500

Note:
UNI lock double clamp modules are particularly suitable for the direct clamping of workpieces. Workpieces with complex geometry can be completely machined on 4 and 5 sides. UNI lock double clamp modules can be mounted in any position.

The high clamping forces are generated by the integrated spring package. (the unit clamps while not pressurised). Clamping is released pneumatically. The following clamping forces are possible with the UNI lock clamping pin in conjunction with M10, M12, M16 fastening screws:

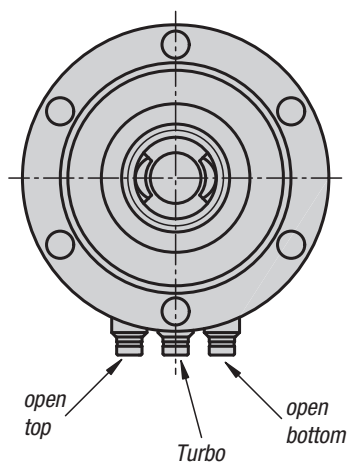
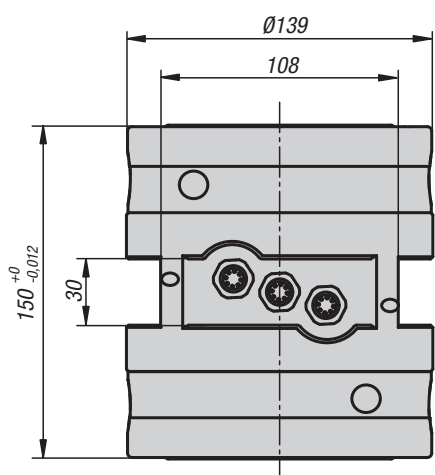
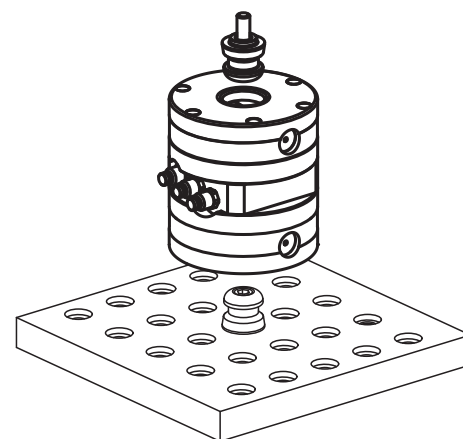
Clamping force (M10) 35,000 N

Clamping force (M12) 50,000 N

Clamping force (M16) 75,000 N

Supplied with:
1 double clamp module incl. 3x pneumatic connections.

Technical data:
Opening pressure: 6 bar, lubricated air
Turbo pressure: 6 bar
Air connection: G 1/8
Repeat accuracy ≤ 0.005 mm



KIPP UNI lock double clamping module

Order No.	Type	weight kg
K1122.1381500	double clamp	3

UNI lock manual clamping module



Material:
Steel.

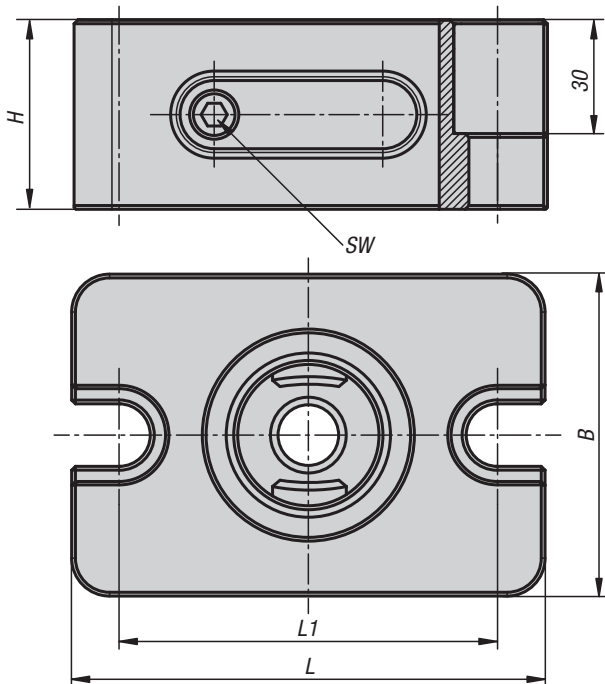
Version:
Contact surfaces case-hardened and ground.

Sample order:
K1123.1605050

Note:
UNI lock manual clamping modules can be adapted directly to machine tables with grid holes or T-slots, and to grid hole subplates with 50 mm grid spacing system size M10/M12/M16.
The UNI lock manual clamping module H 50 is particularly suitable for machines with reduced Z travel. The low installation height of the manual clamping module facilitates full utilisation of the Z travel.
The UNI lock manual clamping module H 50 can be mounted in any position.

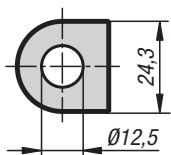
Supplied with:
1 manual clamping module incl. fastening accessories.

Technical data:
Repeat accuracy ≤ 0.005 mm

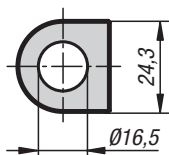


Mounting accessories

M12:



M16:



KIPP UNI lock manual clamping module

Order No.	B	H	L	L1	SW	weight kg
K1123.1605050	85	50	125	100	6	3.52

Interchangeable subplates

for UNI lock zero-point clamping system

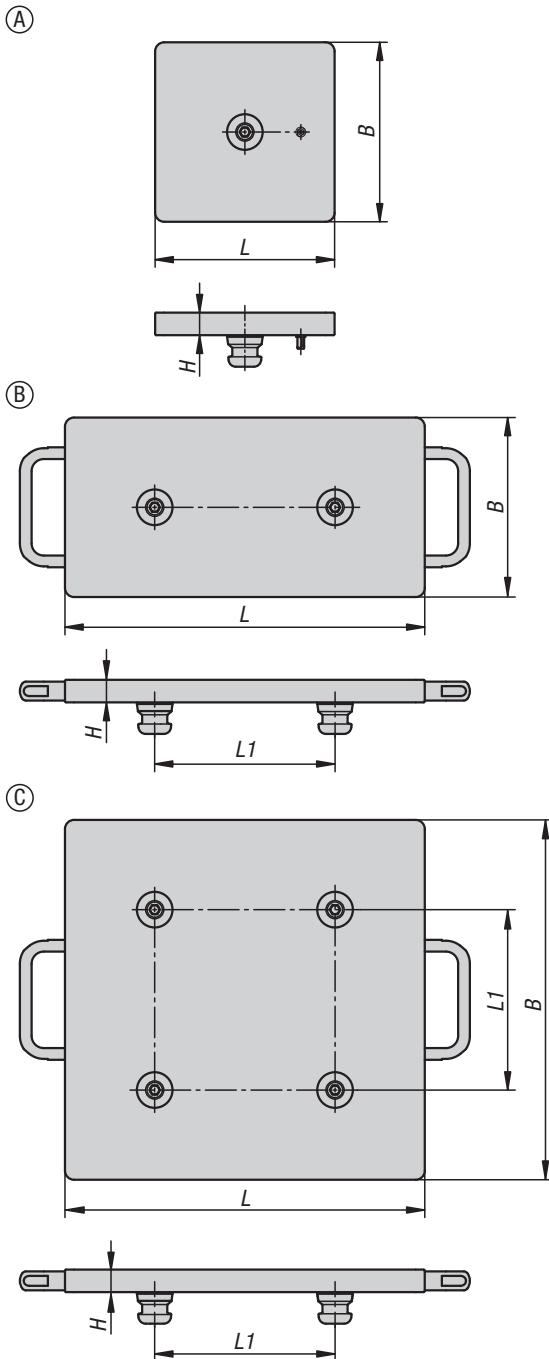


Material:
High-strength aluminium.

Sample order:
K1218.1000200200

Note:
Interchangeable subplates are particularly suitable for quickly exchanging fixtures on zero point clamping plates. Ground on both sides, standard clamping pin gauge of 200 mm. Complete with clamping pins and handles.

On request:
Further gauges and special sizes.

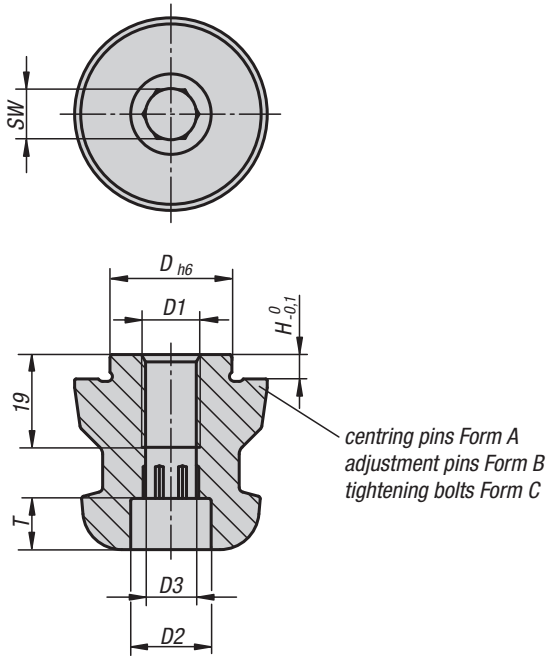


KIPP Interchangeable subplates for UNI lock zero point clamping system

Order No.	Form	B	H	L	L1	weight ca. kg
K1218.1000200200	A	199	25	199	-	1
K1218.2200200200	B	199	25	399	200	3
K1218.4200400400	C	399	25	399	200	5

UNI lock clamping pin

size 80 mm






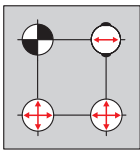
Material:
Steel.

Version:
Hardened and black oxidised.
Contact faces ground.

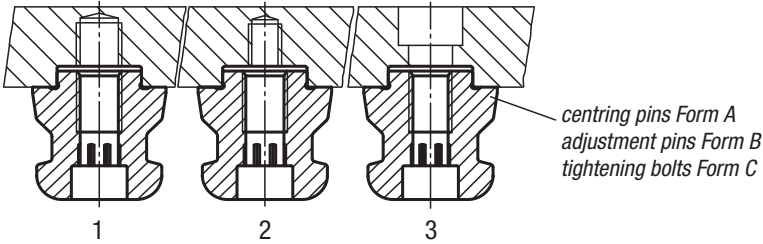
Sample order:
K0967.140160512

Note:
The UNI lock clamping bolt is suitable for clamping and positioning workpieces and fixtures. Clamping bolts are screwed onto the exchange element and adapted to the various basic modules.

-  Centring pins = Form A fixes in x and y axis (reference point)
-  Adjustment pins = Form B fixes the free axis (bayonet pin)
-  Tightening bolts = Form C Pins with undersize (no centring function, clamping only)



- 1 = fastening with grub screw DIN 913
- 2 = fastening with DIN 912 screw through the tightening bolt
- 3 = fastening with DIN 912 screw through the fixture or workpiece



UNI lock clamping pin

size 80 mm



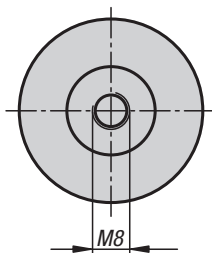
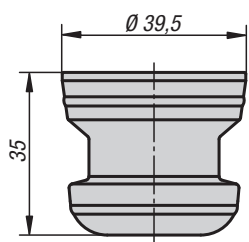
KIPP UNI lock clamping bolt

Order No.	Form	D	D1	D2	D3	H	T	SW
K0967.140160512	A	16	M12	16,5	10,3	5	10,5	10
K0967.140180512	A	18	M12	16,5	10,3	5	10,5	10
K0967.140200512	A	20	M12	16,5	10,3	5	10,5	10
K0967.140220516	A	22	M16	18,5	14,2	5	12,5	17
K0967.140240516	A	24	M16	18,5	14,2	5	12,5	17
K0967.140250512	A	25	M12	16,5	10,3	5	10,5	10
K0967.140250516	A	25	M16	18,5	14,2	5	12,5	17
K0967.140251012	A	25	M12	16,5	10,3	10	10,5	10
K0967.140251016	A	25	M16	18,5	14,2	10	12,5	17
K0967.240220516	B	22	M16	18,5	14,2	5	12,5	17
K0967.240240516	B	24	M16	18,5	14,2	5	12,5	17
K0967.240250512	B	25	M12	16,5	10,3	5	10,5	10
K0967.240250516	B	25	M16	18,5	14,2	5	12,5	17
K0967.240251012	B	25	M12	16,5	10,3	10	10,5	10
K0967.240251016	B	25	M16	18,5	14,2	10	12,5	17
K0967.340220516	C	22	M16	18,5	14,2	5	12,5	17
K0967.340240516	C	24	M16	18,5	14,2	5	12,5	17
K0967.340250512	C	25	M12	16,5	10,3	5	10,5	10
K0967.340250516	C	25	M16	18,5	14,2	5	12,5	17
K0967.340251012	C	25	M12	16,5	10,3	10	10,5	10
K0967.340251016	C	25	M16	18,5	14,2	10	12,5	17



K1010

Protection bolts



Material:
Aluminium.

Version:
Black anodized

Sample order:
K1010.040

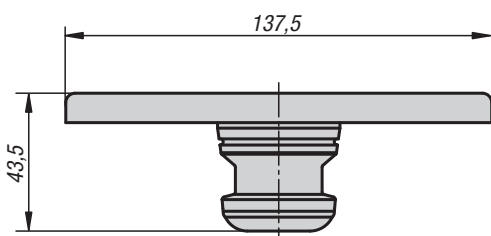
Note:
Protection bolts to cover the hole.

KIPP Protection bolts

Order No.	Dimensions
K1010.040	see drawing

K1010

Protective plug



Material:
Aluminium.

Version:
Black anodized

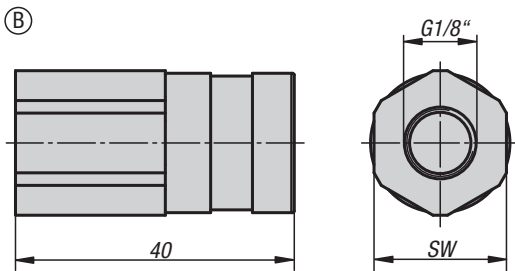
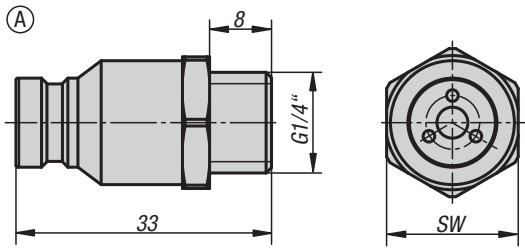
Sample order:
K1010.138

Note:
Protective cap for clamping module D = 138.

KIPP Protective plug

Order No.	Dimensions
K1010.138	see drawing

Quick-fit couplings



Material:
Steel.

Version:
galvanized.

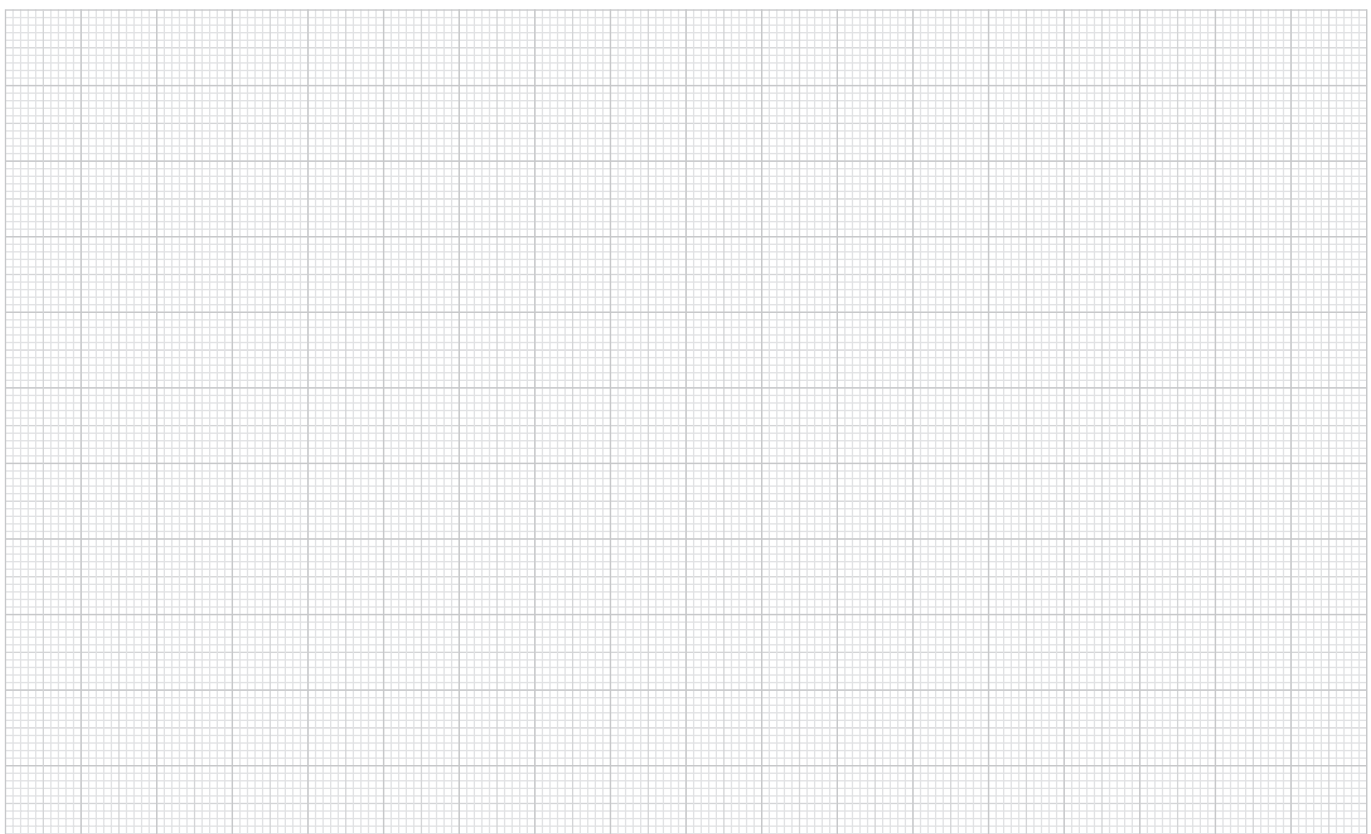
Sample order:
K1011.0014

Note:
Quick-fit couplings suitable for UNI lock clamping stations.

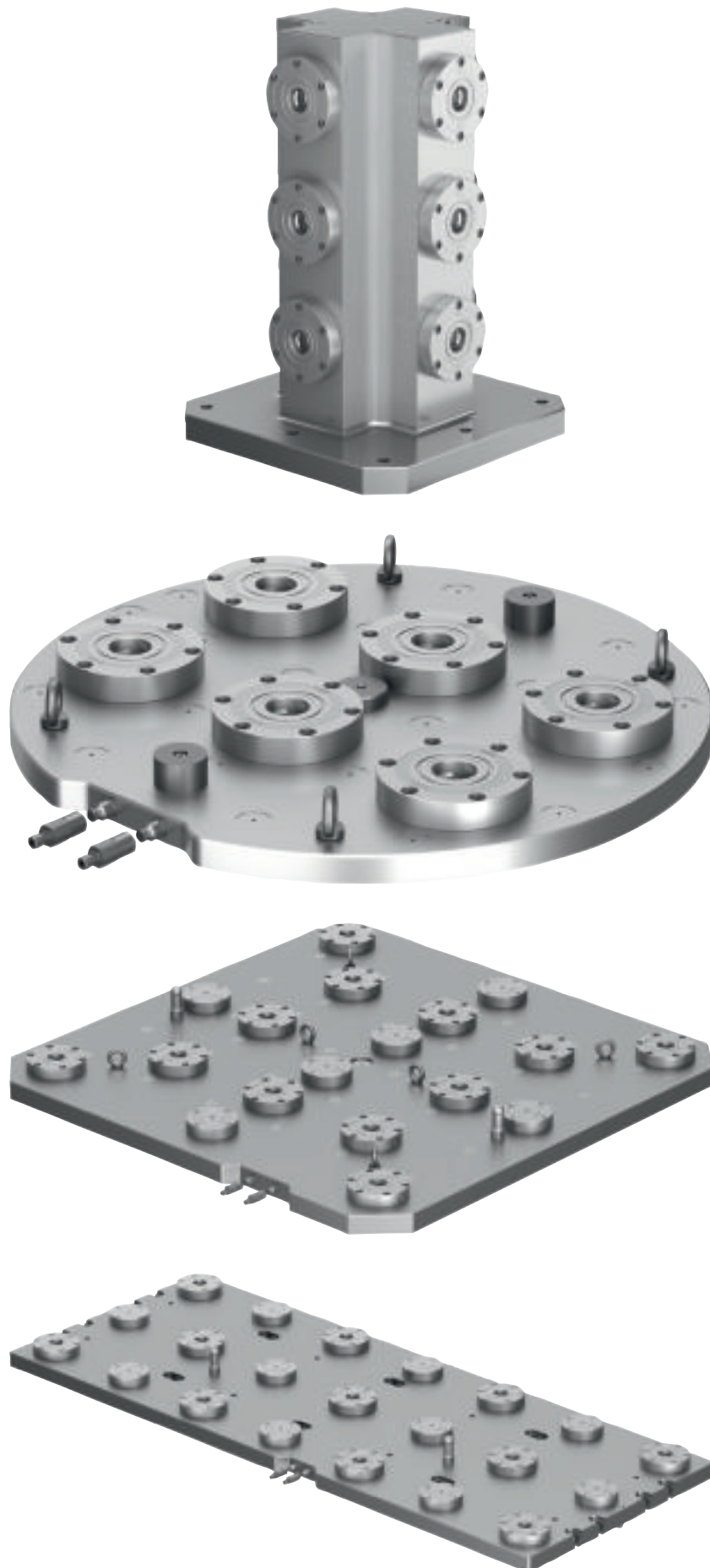
KIPP Quick-fit couplings

Order No.	Form	SW
K1011.0014	A	17
K1011.1018	B	19

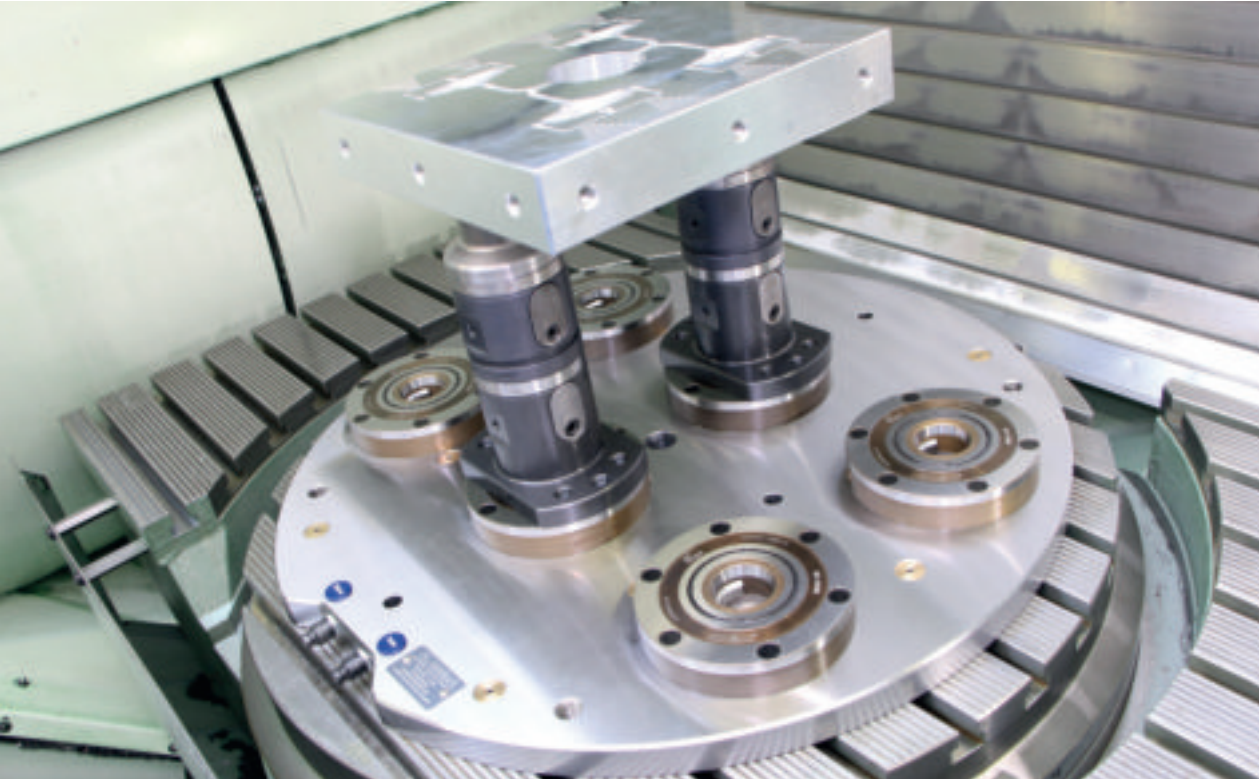
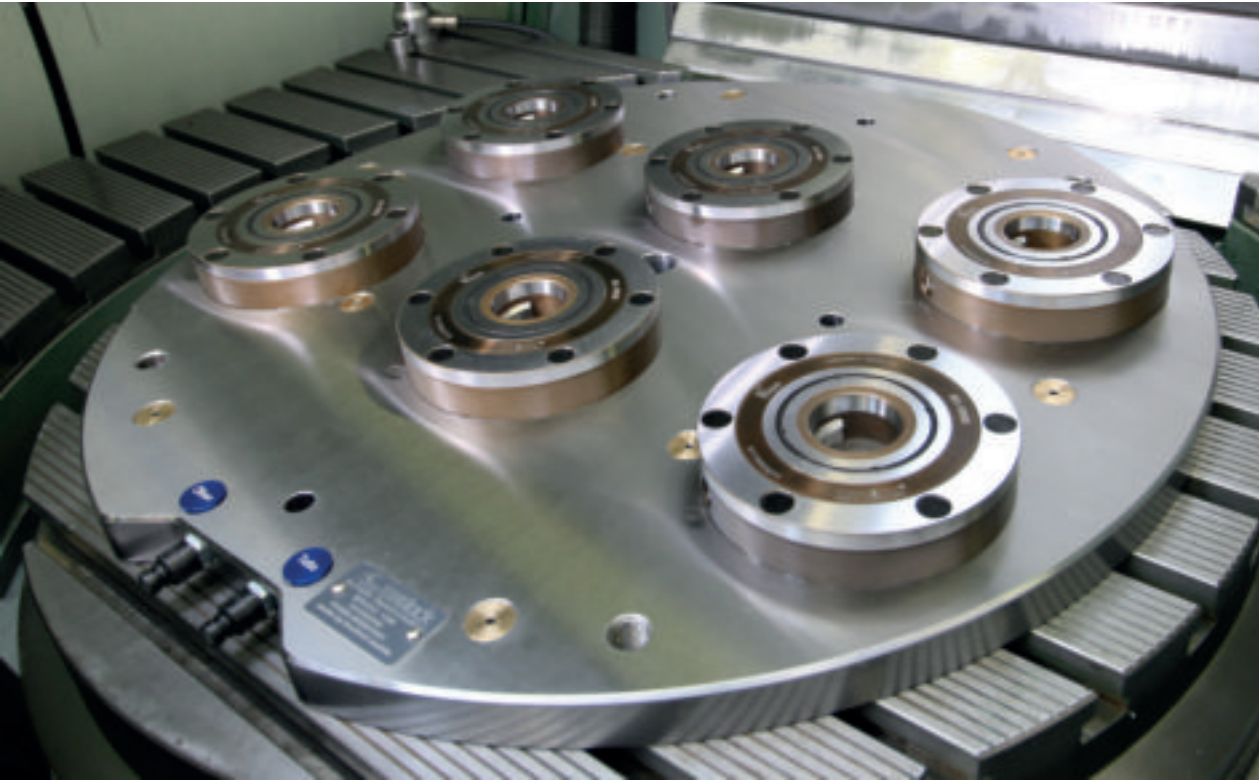
Notes



Example



Example



5-axis module clamping system 80



Function



UNI lock was developed specifically for 5-side machining. Ideal for clamping complex workpiece's. They can then be machined completely in a single clamping operation. Even machining from the 6th side is possible. The workpiece's are connected to the 5-axis module system by a screw connection.

System size 80 mm

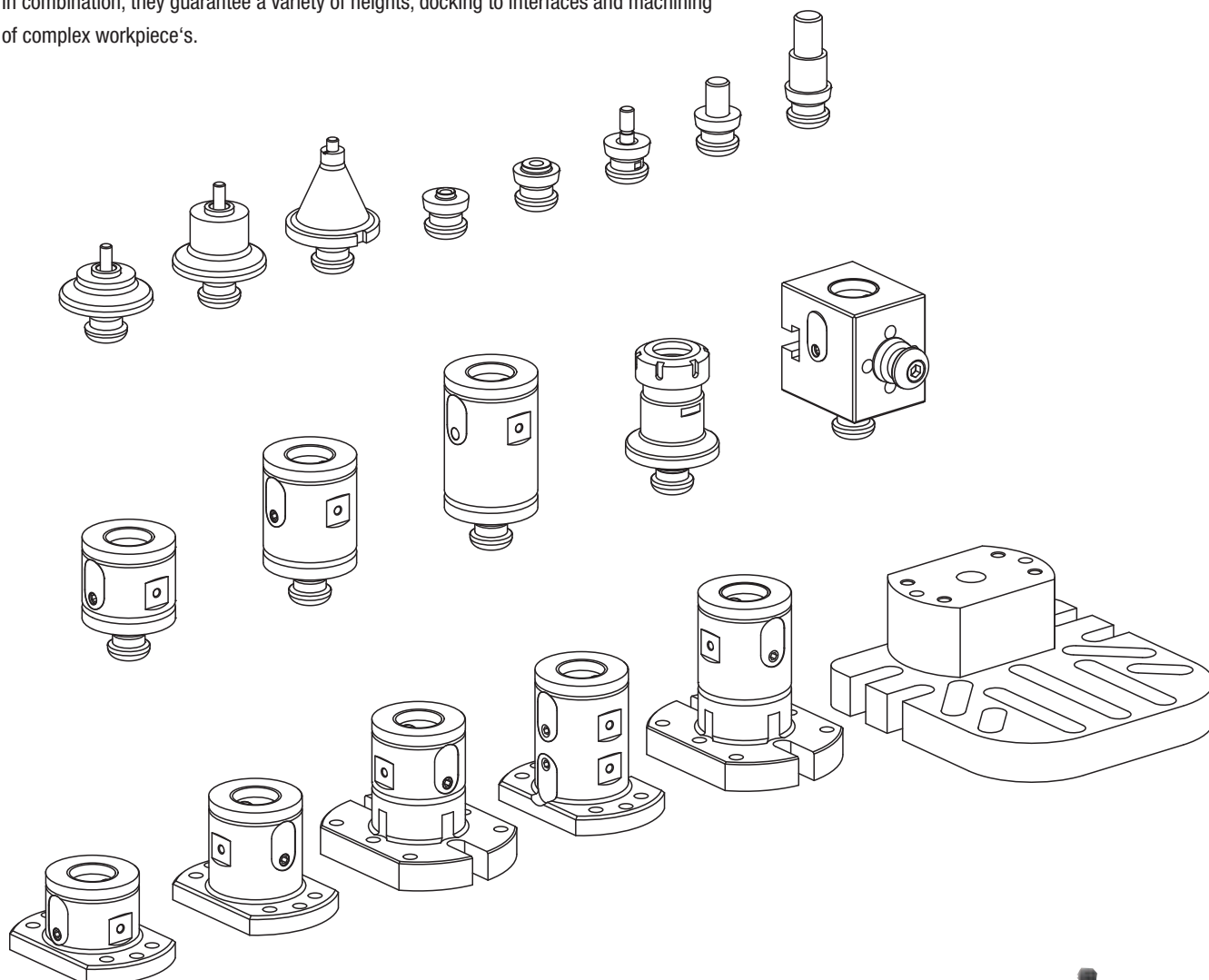


ADVANTAGES:

- 5-side machining with no protruding edges
- Modular construction guarantees maximum flexibility
- Interfaces with commonly used systems
- Variable workpiece fastening
- The workpiece is positively joined to the clamping system
- The workpiece is simply positioned with screws or seating's
- The zero point is transferred to the workpiece
- High module clamping force
- Very high repeat accuracy

Thanks to the modular construction and the variety of modules, the system can be configured individually and recombined for many applications.

More than 70 elements are available: basic modules, add-on modules and accessories.
In combination, they guarantee a variety of heights, docking to interfaces and machining
of complex workpiece's.



Flexible stack heights through a wide variety of basic and add-on clamp modules



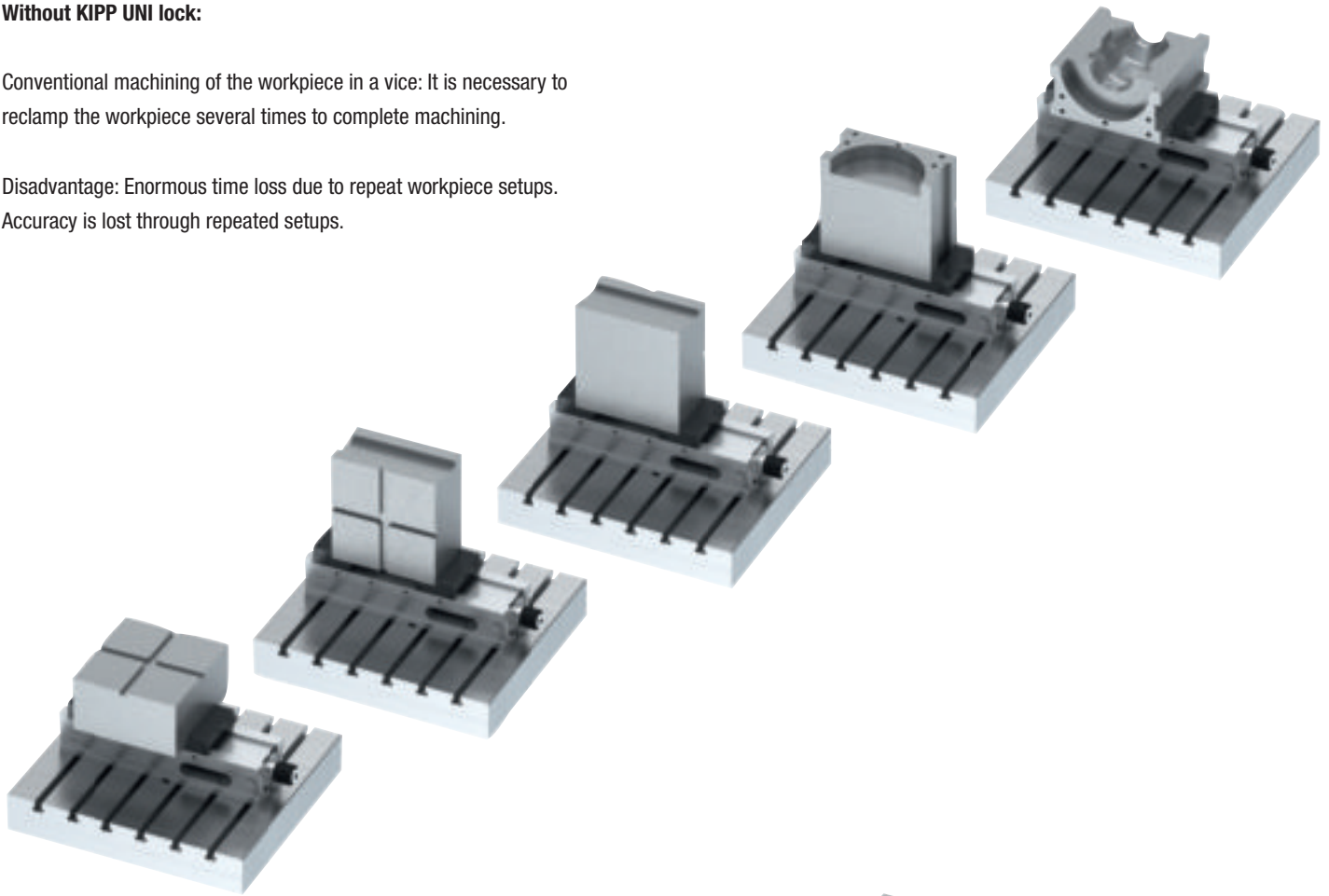
Setup times



Without KIPP UNI lock:

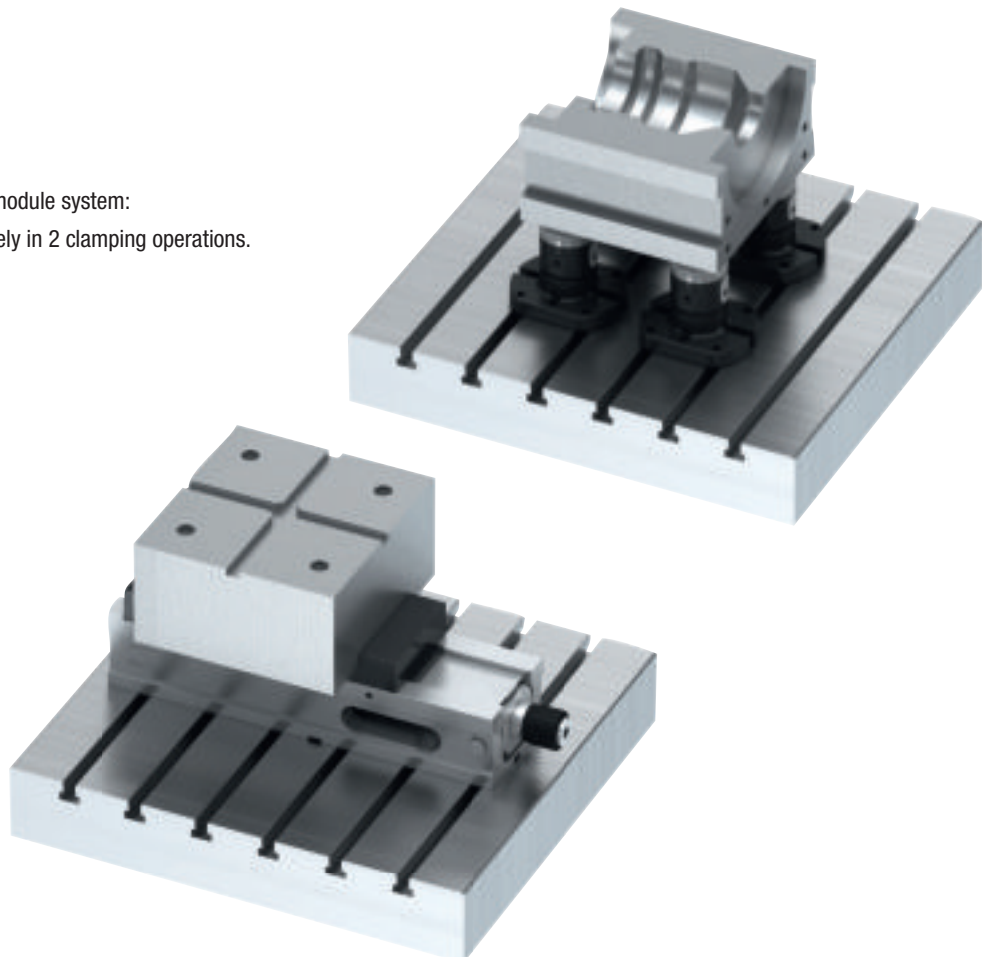
Conventional machining of the workpiece in a vice: It is necessary to reclamp the workpiece several times to complete machining.

Disadvantage: Enormous time loss due to repeat workpiece setups. Accuracy is lost through repeated setups.



With KIPP UNI lock:

Machining with the UNI lock 5-axis module system:
The workpiece is machined completely in 2 clamping operations.

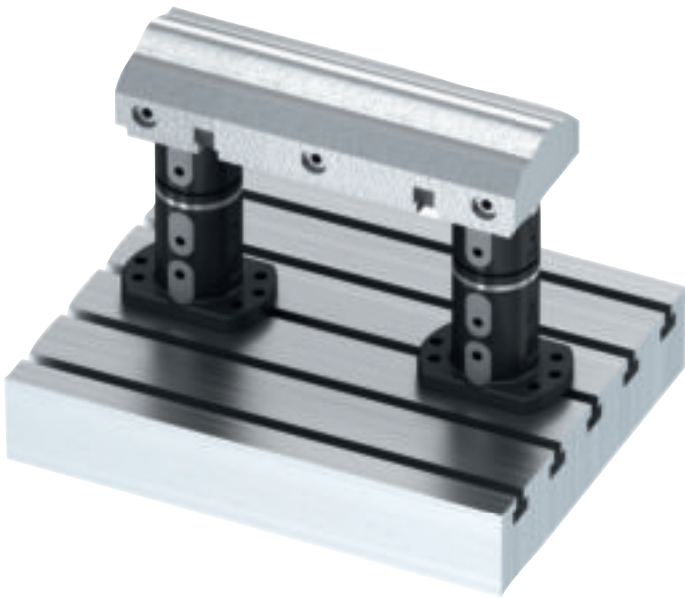


Interfaces

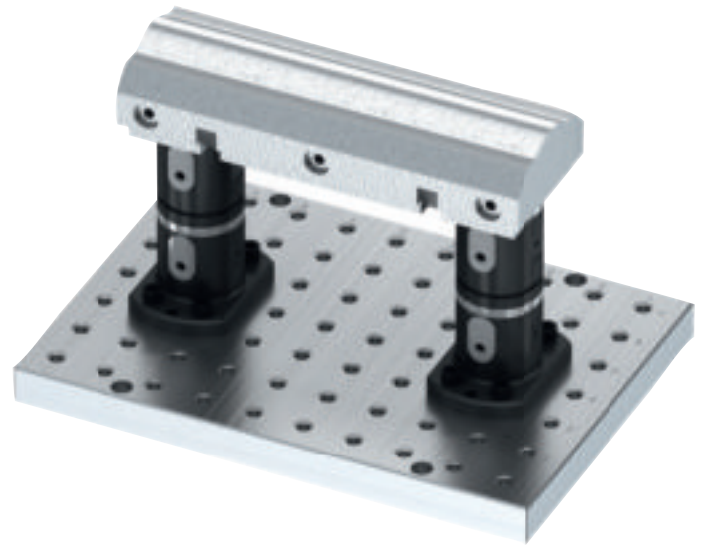


The 5-axis module system can be mounted on T slot tables, grid systems or directly to machine tables. Moreover, the basic modules can be adapted to most common zero-point clamping systems.

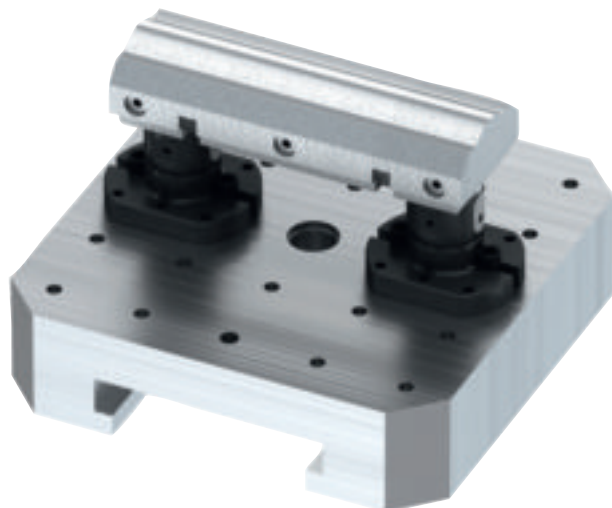
T-slot tables



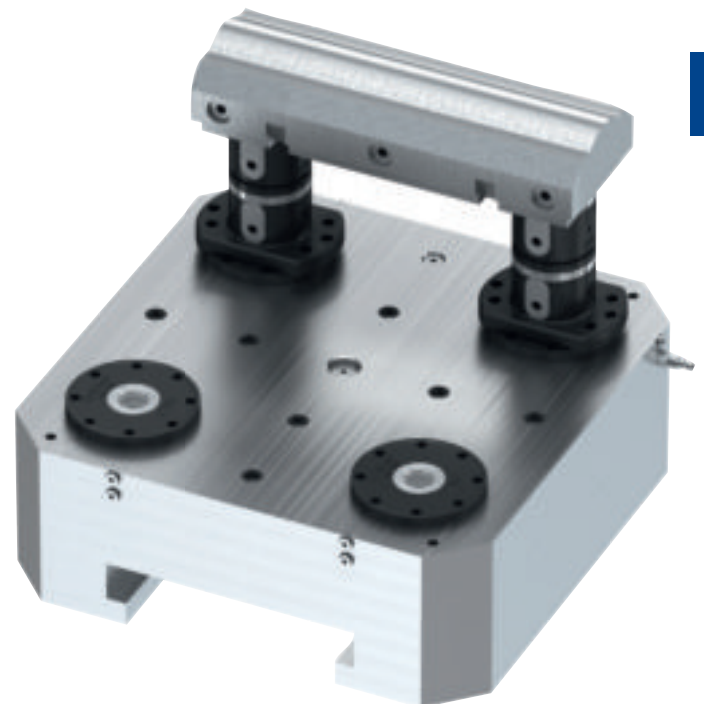
Grid systems



Machine tables



Zero-point clamping systems



Forces system size 80 mm



- Fr** Permissible transverse force
- Fa** Permissible clamping force
- Fd** Permissible contact force
- Fe** Clamping bolt pull-in force

Permissible load with full contact:

		Fr	Fa	Fd	Fe
Clamping pin screw M10	kN	25	35	50	25
Clamping pin screw M12	kN	25	50	50	25
Clamping pin screw M16	kN	25	75	50	25



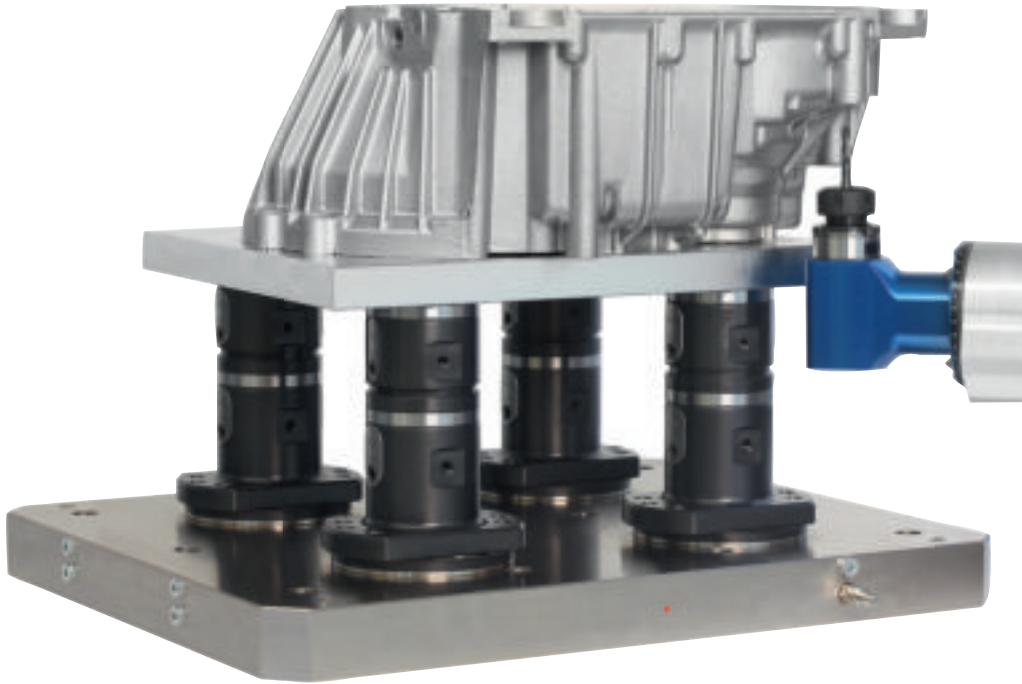
Max. tightening torque 15 Nm (system size 80 mm)

Example



The workpiece is secured on one, two or more stable module columns. Additional columns can be added easily for large parts. The clamping system is actuated manually without the need for power sources and can be converted very quickly for other workpiece's or fixtures.

Assembling the modules is remarkably simple: position basic module (bolt on from above or below), place add-on clamp modules, position reducer adaptors with bolted-on workpiece and then use a torque wrench to tighten manually. The system is now stable and ready for 5-axis machining.



4 basic modules H=100 positioned directly on the machine table. The 4 reducers H=50 on top facilitate optimum access to workpieces. **Clamping height 150 mm**



Example



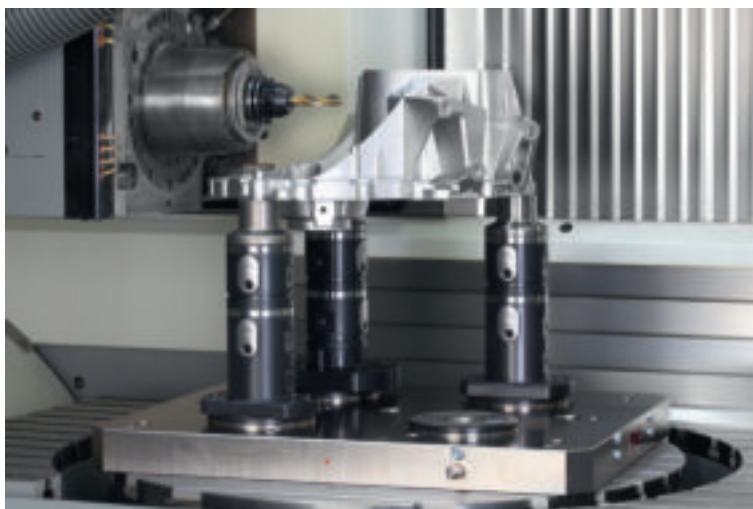
KIPP basic module with collet adaptor mounted directly on a machine table with T-slots.

Clamping height 220 mm



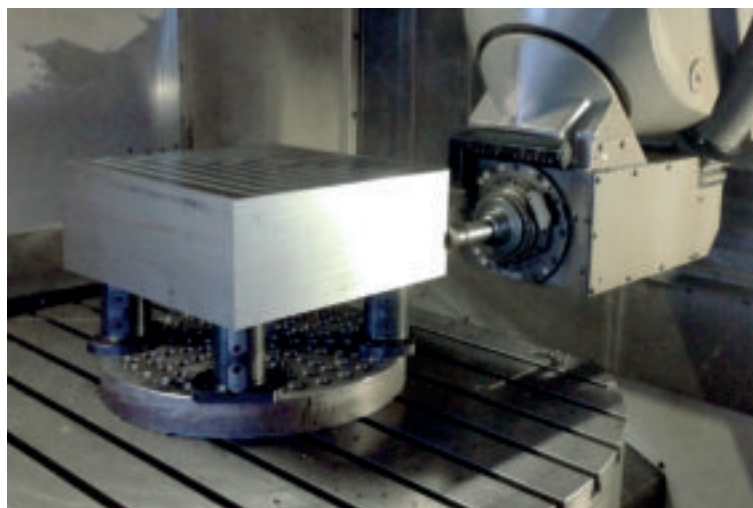
Gearbox housing mounted on 3 basic modules, 3 add-on modules and 3 reducer adaptors. The cast housing is secured to the reducer adaptors by means of socket-head screws.

Clamping height 250 mm



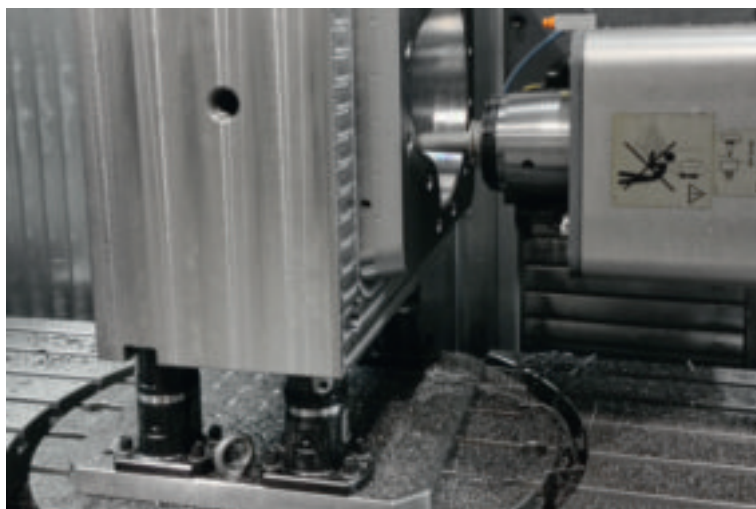
4 double clamp basic modules positioned on a tooling plate. Optimum 5-side machining is possible.

Clamping height 125 mm



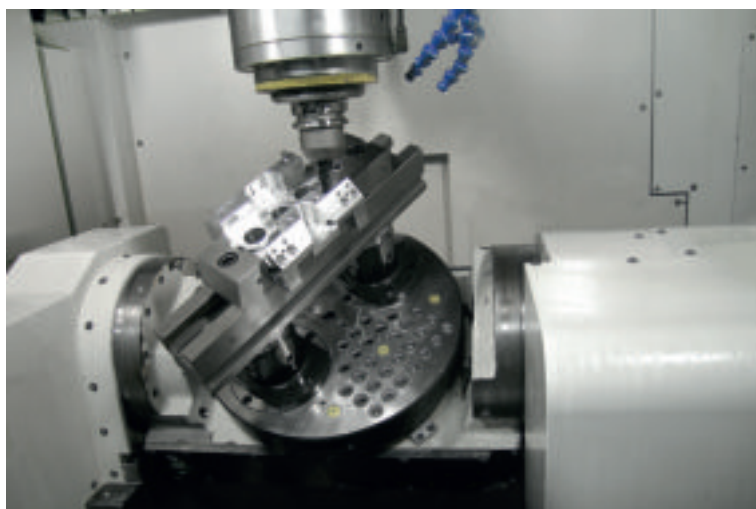
Solid workpiece mounted on 4 basic modules and 4 add-on modules.

Clamping height 150 mm



2 basic modules with a centring clamp adapted directly to a zero-point clamping system.

Clamping height 125 mm



Loading procedure for mounting a long and heavy workpiece on 3 basic modules. Clamp spigots are mounted directly on the workpiece. The workpiece is positioned during clamping.

Clamping height 100 mm



UNI lock 5-axis basic module

system size 80 mm

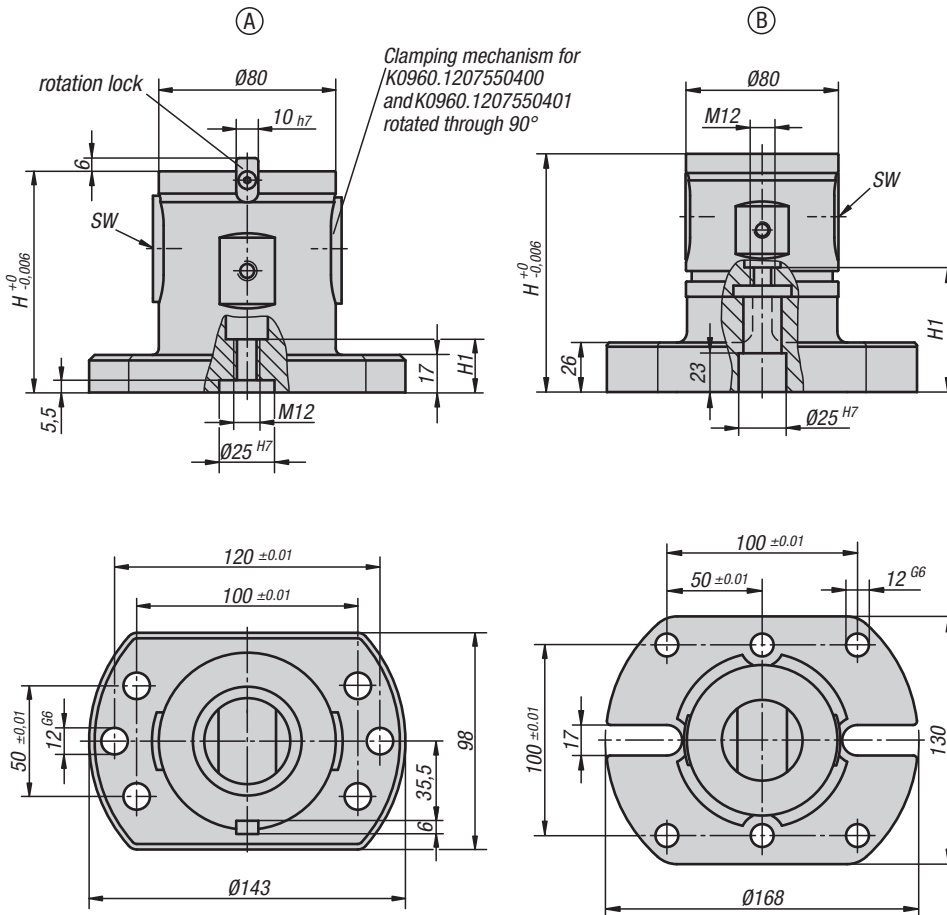


Material:
Steel.

Version:
Main body oxidised.
Contact faces case-hardened and ground.

Sample order:
K0960.1207550400

Note:
The UNI lock 5-axis basic module can be adapted directly to subplates with grid holes or T-slots or to tooling plates with hole pitch of 40/50 mm system size M12. Suitable for UNI lock zero point clamping system with UNI lock clamping bolts. Can also be used on the conventional zero point clamping systems by mounting an appropriate adapter clamping bolt.



KIPP UNI lock 5-axis basic module

Order No.	Form	Version	H	H1	SW	Holding force F kN	Tightening torque max. Nm	weight kg
K0960.1207550400	A	without rotation lock	75	18,5	6	50	15	3.64
K0960.1207550401	A	with rotation lock	75	18,5	6	50	15	3.65
K0960.1210050400	A	without rotation lock	100	24	6	50	15	4.59
K0960.1210050401	A	with rotation lock	100	24	6	50	15	4.601
K0960.12125500	B	without rotation lock	125	68,5	6	50	15	6.8
K0960.12150500	B	without rotation lock	150	74	6	50	15	7.5

UNI lock 5-axis basic module double clamp

size 80 mm



Material:

Steel.

Version:

Main body oxidised.

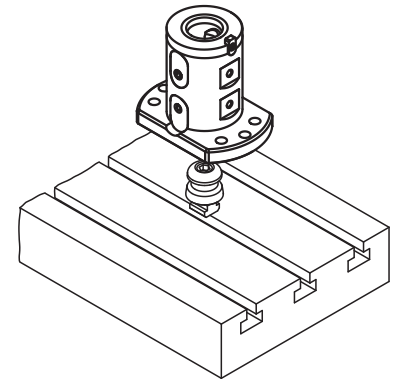
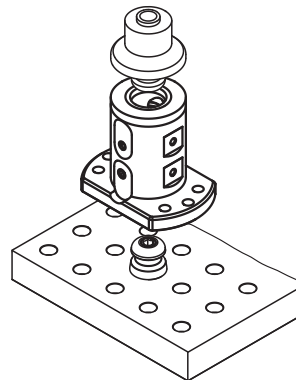
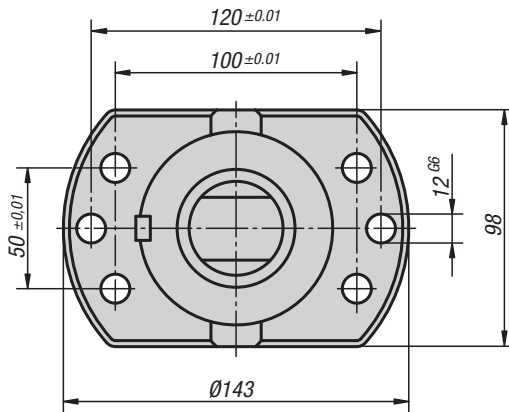
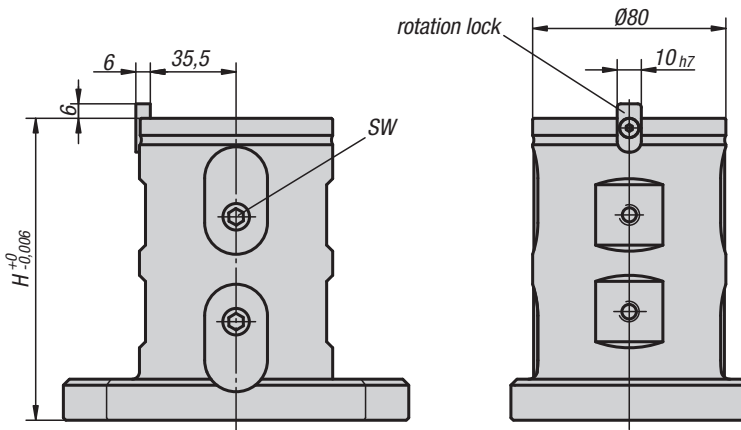
Contact faces case-hardened and ground.

Sample order:

K0961.1212550400

Note:

The UNI lock 5-axis basic module can be adapted directly to subplates with grid holes or T-slots or to tooling plates with hole pitch of 40/50 mm system size M12. Suitable for UNI lock zero point clamping system with UNI lock clamping bolts. Can also be used on the conventional zero point clamping systems by mounting an appropriate adapter clamping bolt.



KIPP UNI lock 5-axis basic module double clamp

Order No.	Version	H	SW	Holding force F kN	Tightening torque max. Nm	weight kg
K0961.1212550400	without rotation lock	125	6	50	15	4.96
K0961.1212550401	with rotation lock	125	6	50	15	5.2

UNI lock 5-axis mounting base

for general clamping size 80 mm

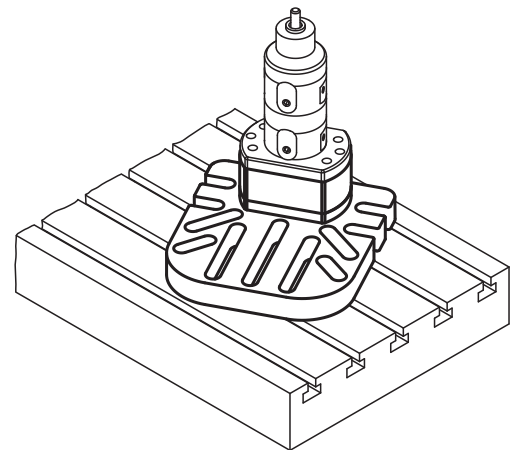
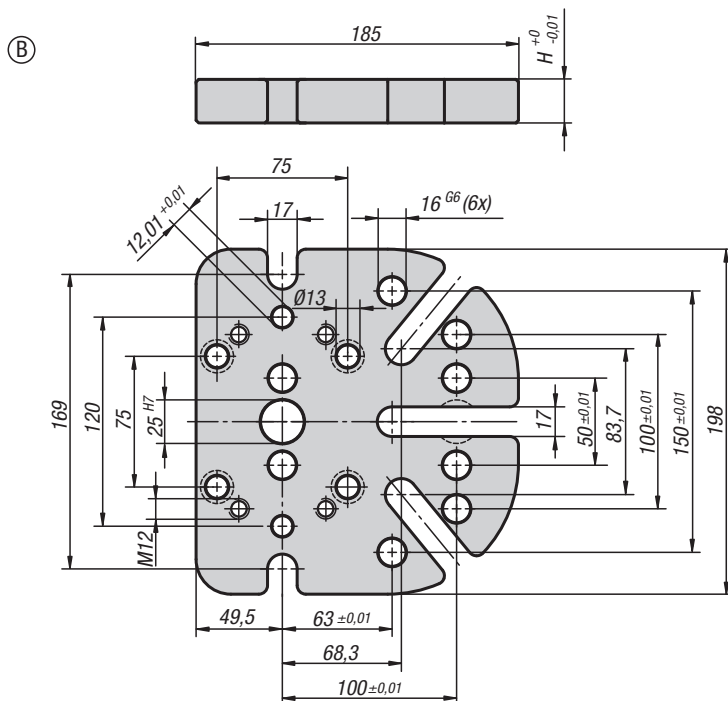
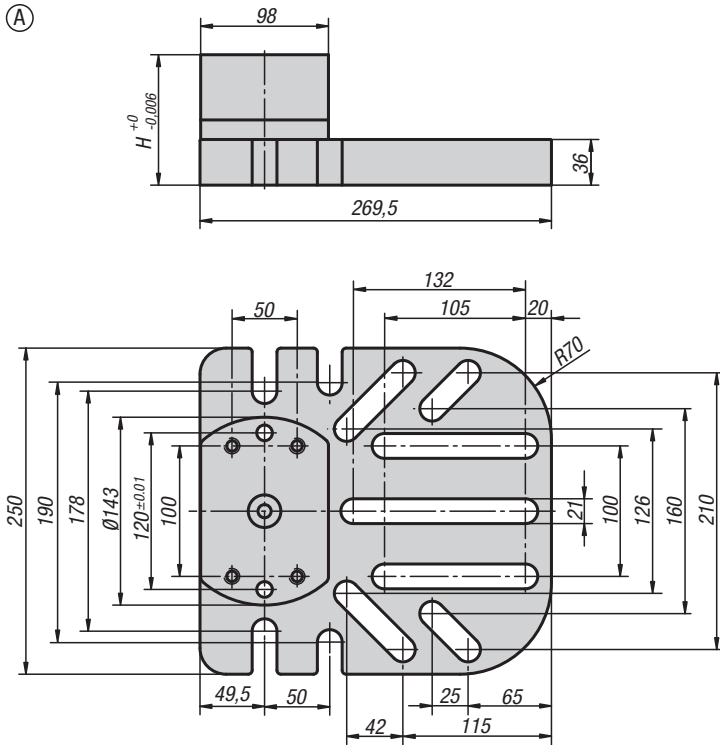


Material:
Steel.

Version:
Main body oxidised.
Contact faces case-hardened and ground.

Sample order:
K0962.25027005021

Note:
The UNI lock 5-axis mounting base for general clamping are adapted directly to subplates with grid holes or T-slots or tooling plates. Due to their sturdy construction, these risers are ideal as base elements for large and heavy workpieces. The layout of the fastening keyways allows for a flexible adjustment to the workpiece.

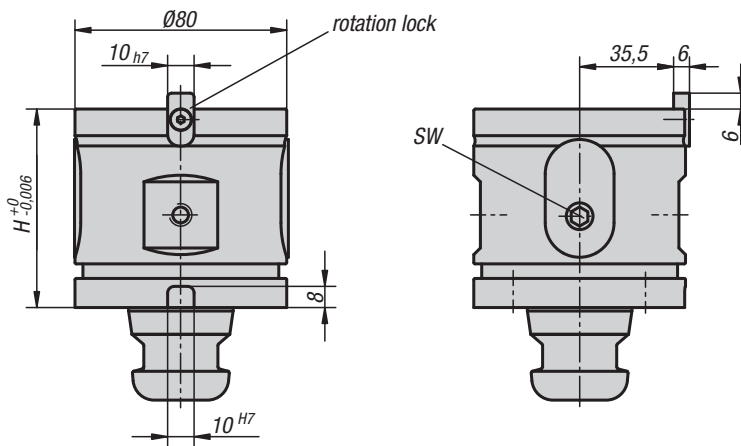


KIPP UNI lock 5-axis mounting base for general clamping

Order No.	Form	H	weight kg
K0962.25027005021	A	50	14
K0962.25027010021	A	100	19
K0962.25027012521	A	125	23
K0962.19818502516	B	25	6.5

UNI lock 5-axis add-on clamping module

size 80 mm



Material:

Steel.

Version:

Main body oxidised.

Contact faces case-hardened and ground.

Sample order:

K0963.120750

Note:

The UNI lock 5-axis add-on modules are used for raising basic modules and mounting base. Depending on the clamping situation, optimum assembly height can be achieved using a combination of the basic module and add-on module.



KIPP UNI lock 5-axis add-on clamping module

Order No.	Version	H	SW	Holding force F kN	Tightening torque max. Nm	weight kg
K0963.120750	without rotation lock	75	6	50	15	2.64
K0963.120751	with rotation lock	75	6	50	15	2.85
K0963.121000	without rotation lock	100	6	50	15	3.78
K0963.121250	without rotation lock	125	6	50	15	4.625

UNI lock 5-axis collet adapter

size 80 mm

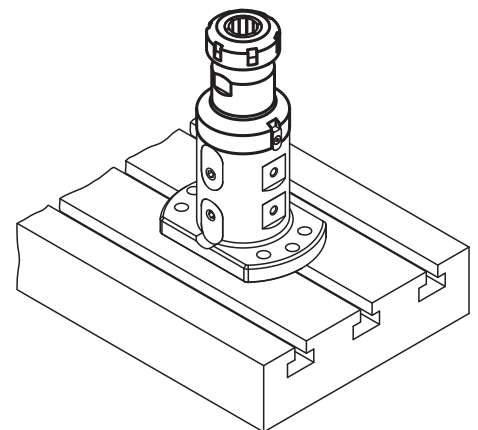
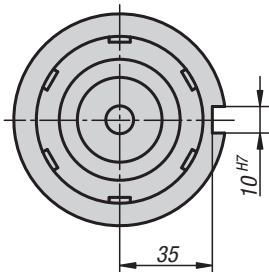
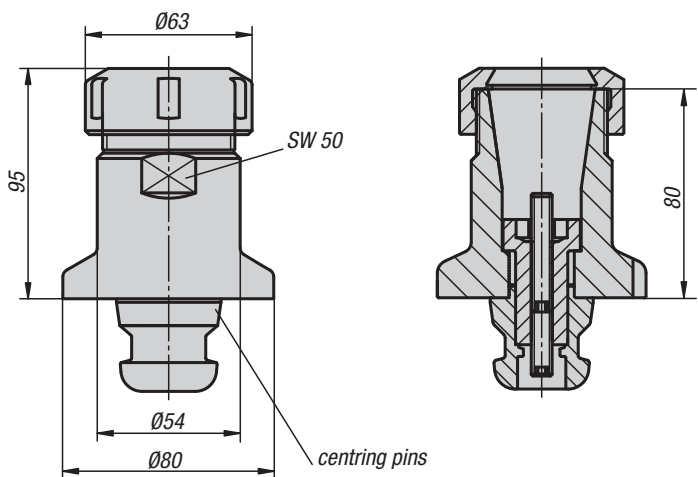


Material:
Steel.

Version:
Main body oxidised.
Contact faces case-hardened and ground.

Sample order:
K0964.25080

Note:
The UNI lock 5-axis collet adapter is suitable for clamping round workpieces. Standard collets with the ER 40 designation can be used. Clamping up to $D=26$ mm. Supplied with adjustable length stop but without collets. The collet adapters can be directly mounted on the basic module with rotation lock or on the add-on module H 75 mm with rotation lock.



KIPP UNI lock 5-axis collet adapter

Order No.

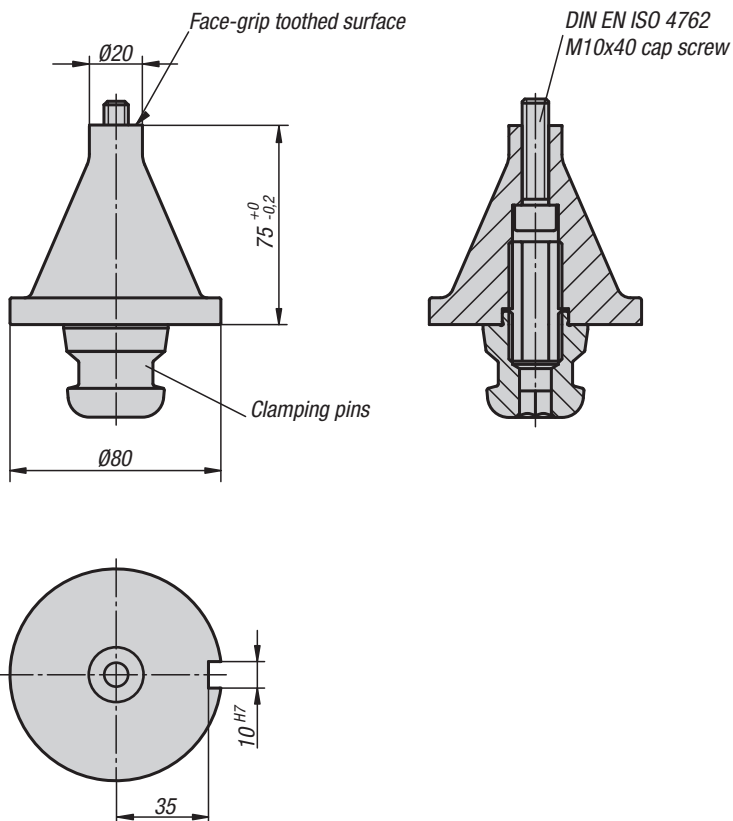
Dimensions

K0964.25080

see drawing

UNI lock 5-axis face-grip adapter

size 80 mm

**Material:**

Steel.

Version:

Main body oxidised.

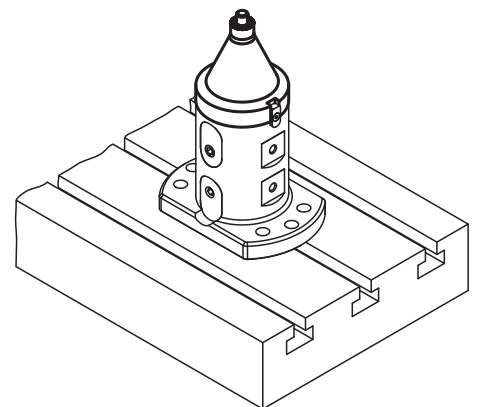
Contact faces case-hardened and ground.

Sample order:

K0965.2007510

Note:

The UNI lock 5-axis face-grip adapters are suitable for clamping workpieces, which must be machined on all sides. The workpieces are freely accessible without interfering edges from the clamping elements. The workpieces are attached from below using a socket head screw to pull them onto the face-grip toothed surface. The face-grip adapters can be directly mounted on the basic module with rotation lock or on the add-on module H 75 mm with rotation lock.



KIPP UNI lock 5-axis face-grip adapter

Order No.

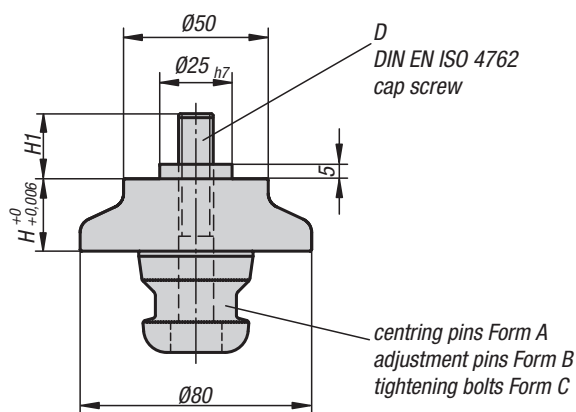
Dimensions

K0965.2007510

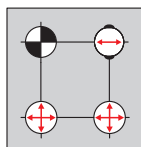
see drawing

UNI lock 5-axis reducer adapter

size 80 mm



- Centring pins = Form A fixes in x and y axis (reference point)
- Adjustment pins = Form B fixes the free axis (bayonet pin)
- Tightening bolts = Form C Pins with undersize (no centring function, clamping only)



Material:

Steel.

Version:

Main body oxidised.

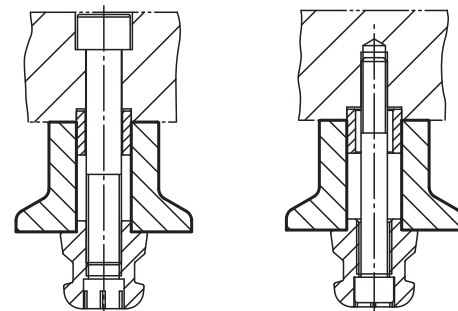
Contact faces case-hardened and ground.

Sample order:

K0966.501120

Note:

The UNI lock 5-axis reducer adapter is suitable for clamping and positioning workpieces. Reducer adapters can be screwed onto the workpiece and mounted on the basic module or add-on module. Reducer adapters are available as hard and soft versions. With the soft version any interfering edges on the adapter that project over the workpiece can be milled off.

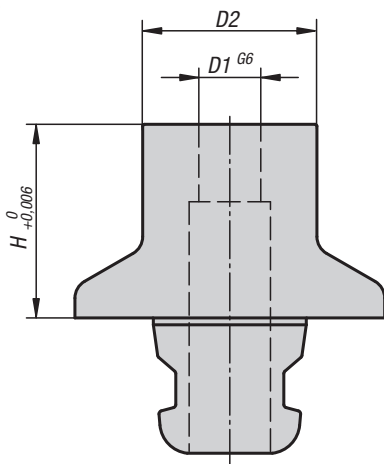


KIPP UNI lock 5-axis reducer adapter

Order No. soft	Order No. hard	Form	D	H	H1
K0966.251100	K0966.251101	A	M10 x 75	25	25,5
K0966.252100	K0966.252101	B	M10 x 75	25	25,5
K0966.253100	K0966.253101	C	M10 x 75	25	25,5
K0966.501100	K0966.501101	A	M10 x 100	50	25,5
K0966.502100	K0966.502101	B	M10 x 100	50	25,5
K0966.503100	K0966.503101	C	M10 x 100	50	25,5
K0966.251120	K0966.251121	A	M12 x 75	25	27,5
K0966.252120	K0966.252121	B	M12 x 75	25	27,5
K0966.253120	K0966.253121	C	M12 x 75	25	27,5
K0966.501120	K0966.501121	A	M12 x 100	50	27,5
K0966.502120	K0966.502121	B	M12 x 100	50	27,5
K0966.503120	K0966.503121	C	M12 x 100	50	27,5

UNI lock 5-axis reducer adapter

size 80 mm



Material:

Steel.

Version:

Body oxidised.

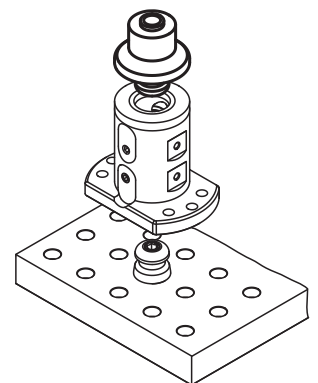
Contact surfaces case-hardened and ground.

Sample order:

K0966.5011611

Note:

The UNI lock 5-axis reducer adapters are suitable for clamping and positioning workpieces. The workpiece is positioned and screwed to the reducer adapter using the UNI lock shoulder screw for workpiece fastening.



KIPP UNI lock 5-axis reducer adapter

Order No.	D1	D2	H
K0966.5011211	12	40	50
K0966.5011611	16	40	50

Angle clamp adapters

size 80 mm

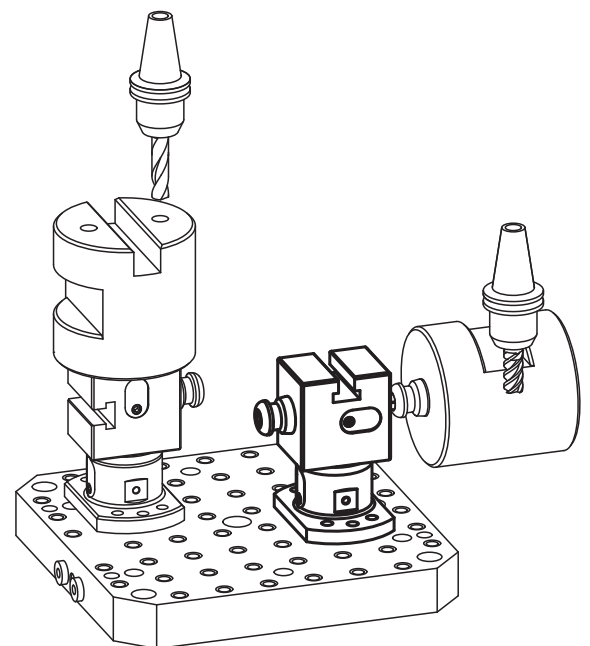
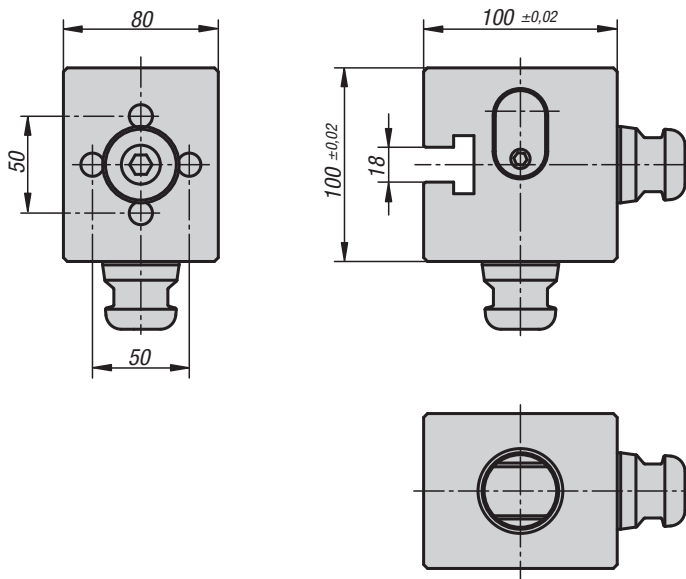


Material:
Steel.

Version:
Main body oxidised.
Contact faces case-hardened and ground.

Sample order:
K1013.100100080

Note:
The angle clamp adapter can be used to process workpieces in different processing levels.
In doing so, the workpiece stays mounted on the angle clamping adapter.



KIPP Angle clamping adapter

Order No.	Dimensions	weight kg
K1013.100100080	see drawing	7.2

UNI lock T-slot centring clamp bolt

size 80 mm



Material:

Steel.

Version:

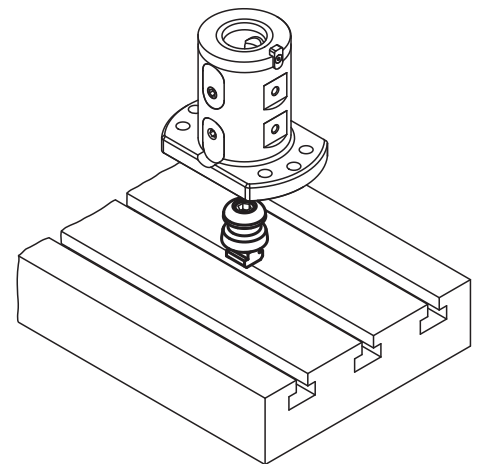
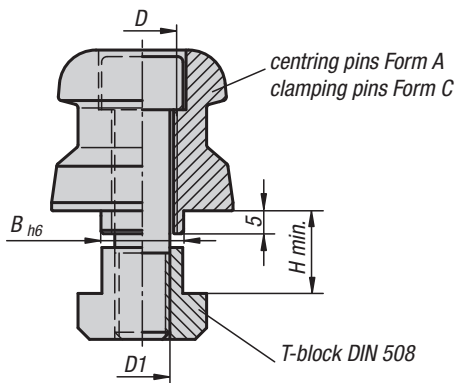
Hardened and black oxidised.
Contact faces ground.

Sample order:

K0969.114

Note:

The UNI lock T-slot centring clamp bolt is suitable for clamping and positioning the basic module with double manual clamping. T-slot centring clamp bolts are positioned and fastened on the T-slot machine table.



KIPP UNI lock T-slot centring clamp bolt

Order No.	Form	D	D1	B	H min.
K0969.114	A	M12	M10	14	14
K0969.118	A	M16	M12	18	18
K0969.122	A	M16	M12	22	22
K0969.314	C	M12	M10	14	14
K0969.318	C	M16	M12	18	18
K0969.322	C	M16	M12	22	22

UNI lock clamping pin

size 80 mm

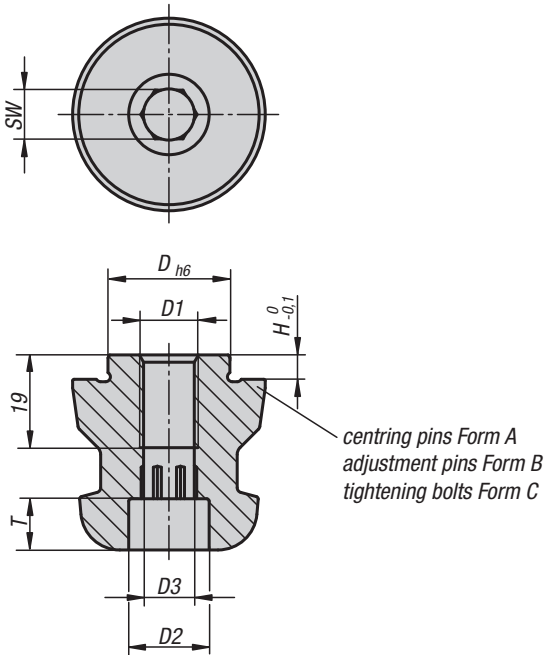


Material:
Steel.

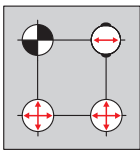
Version:
Hardened and black oxidised.
Contact faces ground.

Sample order:
K0967.140160512

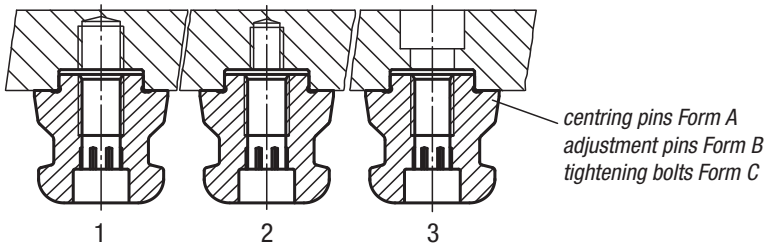
Note:
The UNI lock clamping bolt is suitable for clamping and positioning workpieces and fixtures. Clamping bolts are screwed onto the exchange element and adapted to the various basic modules.



- Centring pins = Form A fixes in x and y axis (reference point)
- Adjustment pins = Form B fixes the free axis (bayonet pin)
- Tightening bolts = Form C Pins with undersize (no centring function, clamping only)



- 1 = fastening with grub screw DIN 913
- 2 = fastening with DIN 912 screw through the tightening bolt
- 3 = fastening with DIN 912 screw through the fixture or workpiece



UNI lock clamping pin

size 80 mm



KIPP UNI lock clamping bolt

Order No.	Form	D	D1	D2	D3	H	T	SW
K0967.140160512	A	16	M12	16,5	10,3	5	10,5	10
K0967.140180512	A	18	M12	16,5	10,3	5	10,5	10
K0967.140200512	A	20	M12	16,5	10,3	5	10,5	10
K0967.140220516	A	22	M16	18,5	14,2	5	12,5	17
K0967.140240516	A	24	M16	18,5	14,2	5	12,5	17
K0967.140250512	A	25	M12	16,5	10,3	5	10,5	10
K0967.140250516	A	25	M16	18,5	14,2	5	12,5	17
K0967.140251012	A	25	M12	16,5	10,3	10	10,5	10
K0967.140251016	A	25	M16	18,5	14,2	10	12,5	17
K0967.240220516	B	22	M16	18,5	14,2	5	12,5	17
K0967.240240516	B	24	M16	18,5	14,2	5	12,5	17
K0967.240250512	B	25	M12	16,5	10,3	5	10,5	10
K0967.240250516	B	25	M16	18,5	14,2	5	12,5	17
K0967.240251012	B	25	M12	16,5	10,3	10	10,5	10
K0967.240251016	B	25	M16	18,5	14,2	10	12,5	17
K0967.340220516	C	22	M16	18,5	14,2	5	12,5	17
K0967.340240516	C	24	M16	18,5	14,2	5	12,5	17
K0967.340250512	C	25	M12	16,5	10,3	5	10,5	10
K0967.340250516	C	25	M16	18,5	14,2	5	12,5	17
K0967.340251012	C	25	M12	16,5	10,3	10	10,5	10
K0967.340251016	C	25	M16	18,5	14,2	10	12,5	17

UNI lock clamping pin

one-piece size 80 mm



Material:

Steel.

Version:

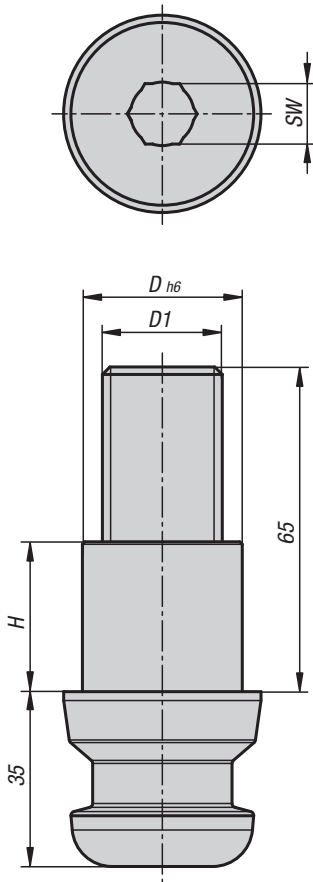
Hardened and black oxidised.
Contact faces ground.

Sample order:

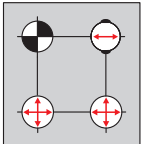
K0967.140323024

Note:

The UNI lock clamping bolt is suitable for clamping and positioning workpieces and fixtures. Clamping bolts are screwed onto the exchange element and adapted to the various basic modules.



- Centring pins = Form A fixes in x and y axis (reference point)
- Adjustment pins = Form B fixes the free axis (bayonet pin)
- Tightening bolts = Form C Pins with undersize (no centring function, clamping only)

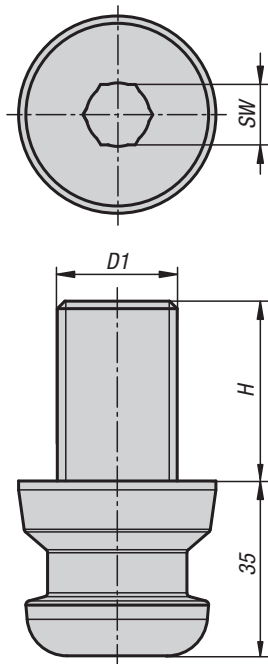


KIPP UNI lock clamping pin, one-piece

Order No.	Form	D1	D	H	SW
K0967.140323024	A	M24	32	30	17
K0967.240323024	B	M24	32	30	17
K0967.340323024	C	M24	32	30	17

UNI lock clamping pin

with threaded pin size 80 mm



Material:

Steel.

Version:




Hardened and black oxidised.
Contact faces ground.

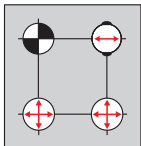
Sample order:

K0967.140003020

Note:

The UNI lock clamping bolt is suitable for clamping and positioning workpieces and fixtures. Clamping bolts are screwed onto the exchange element and adapted to the various basic modules.

-  Centring pins = Form A fixes in x and y axis (reference point)
-  Adjustment pins = Form B fixes the free axis (bayonet pin)
-  Tightening bolts = Form C Pins with undersize (no centring function, clamping only)

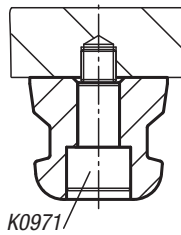
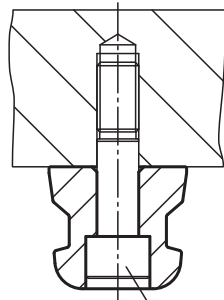
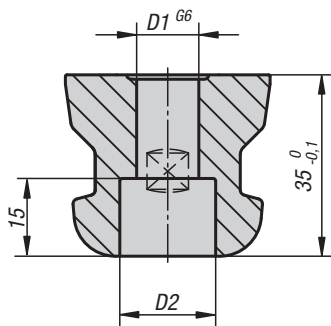
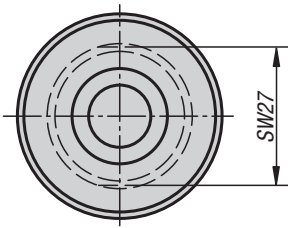


KIPP UNI lock clamping pin with threaded pin

Order No.	Form	D1	H	SW
K0967.140003020	A	M20	30	17
K0967.140003624	A	M24	36	17

UNI lock clamping bolts

for fastening to workpieces size 80 mm



Material:
Steel.

Version:
Hardened and black oxidised.
Contact faces ground.

Sample order:
K0968.12

Note:
The UNI lock clamping bolt is suitable for clamping and positioning the workpiece. Clamping bolts are screwed onto the workpiece and positioned on the basic module or add-on module. Using the locating bolts (K0970, K0971), the clamping bolts are screwed onto the workpiece.

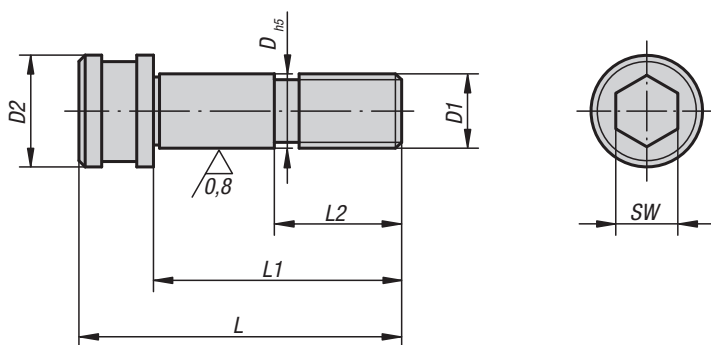
KIPP UNI lock clamping bolts for fastening to workpieces

Order No.	D1	D2
K0968.12	12	18,4
K0968.16	16	21,1

K0970

UNI lock 5-axis shoulder screws

size 80 mm



Material:
Carbon steel.

Version:
Hardened surface.
ground locating seat.

Sample order:
K0970.12050

Note:
The UNI lock 5-axis locating bolts are suitable for clamping and positioning the clamping bolts for fastening to workpieces. They are also used for positioning and fastening the basic module.

KIPP UNI lock 5-axis shoulder screws

Order No.	D	D1	D2	L	L1	L2	SW
K0970.12050	12	M12	18	62	50	22	10
K0970.16055	16	M16	24	71	55	25	14

UNI lock 5-axis shoulder screws

for fastening to workpieces size 80 mm

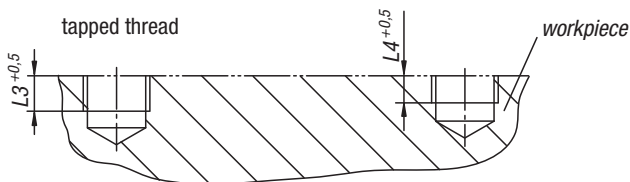
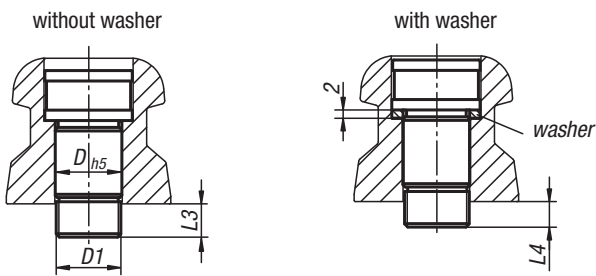
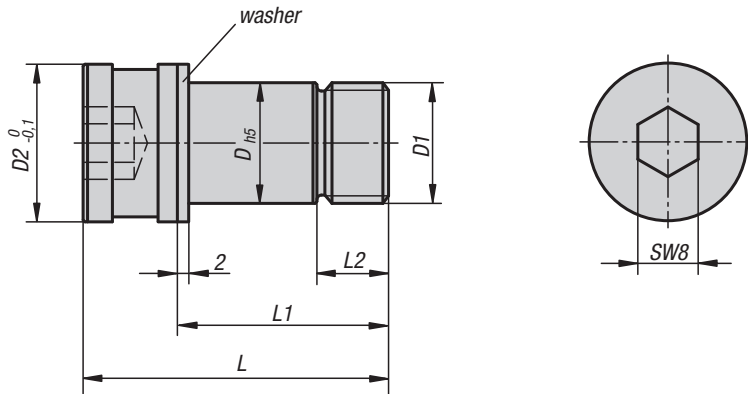


Material:
Carbon steel.

Version:
Hardened surface.
ground locating seat.

Sample order:
K0971.1210040

Note:
The UNI lock 5-axis locating bolts for fastening to workpieces are suitable for clamping and positioning workpieces. These locating bolts are passed through the clamping bolts for fastening to workpieces, screwed directly into the workpiece and positioned on the basic module or add-on module. The thread is used for fastening and positioning the workpiece.



KIPP UNI lock 5-axis shoulder screws for screwing clamping bolt to workpiece

Order No.	Version	D	D1	D2	L	L1	L2	L3	L4
K0971.1210040	with washer	12	M10x1,25	18	40,5	28	9,5	8	6
K0971.12101040	with washer	12	M10x1,5	18	40,5	28	9,5	8	6
K0971.1212040	with washer	12	M12x1,25	18	40,5	28	9,5	8	6
K0971.12121040	with washer	12	M12x1,75	18	40,5	28	9,5	8	6
K0971.1612040	with washer	16	M12x1,25	20,9	40,5	28	9,5	8	6
K0971.16121040	with washer	16	M12x1,75	20,9	40,5	28	9,5	8	6
K0971.16121049	without washer	16	M12x1,75	20,9	50	37,5	18	17,5	15,5
K0971.1616040	with washer	16	M16x1,25	20,9	40,5	28	9,5	8	6
K0971.16161040	with washer	16	M16x2	20,9	40,5	28	9,5	8	6
K0971.16161055	without washer	16	M16x2	20,9	56	43,5	24	23,5	21,5
K0971.16161067	without washer	16	M16x2	20,9	67,5	55	25	35	33

Centring clamping bolts

size 80 mm



Material:

Steel.

Version:

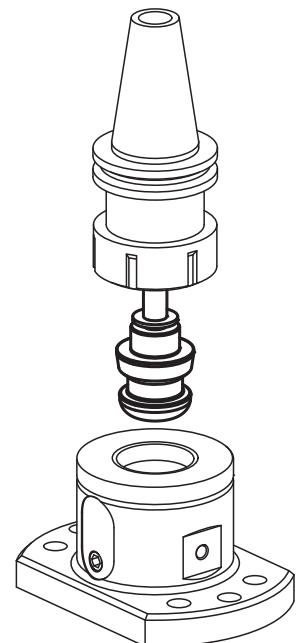
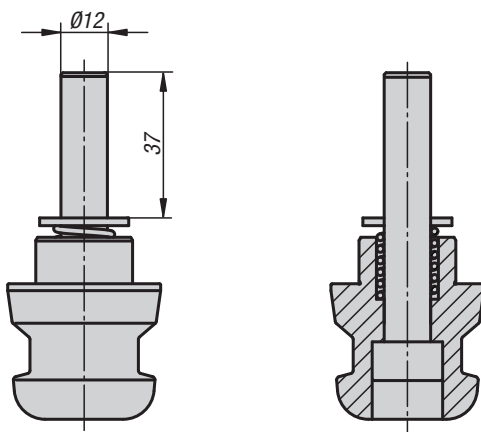
Hardened and black oxidised.
Contact faces ground.

Sample order:

K1012.1240

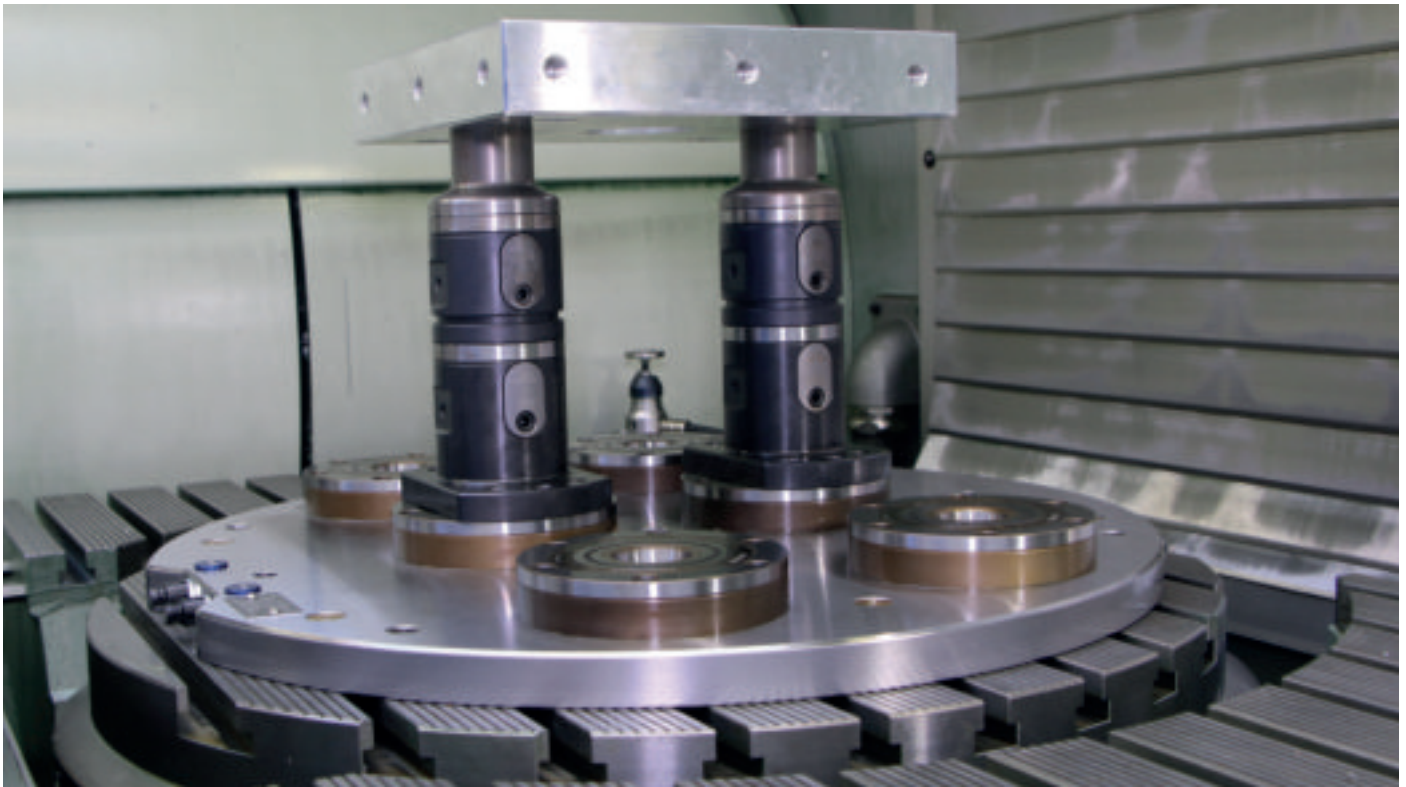
Note:

The centering clamping bolt can be used to position basic modules on machine tables. Centring clamping bolts can be clamped in collet holders. The position of the module is defined via the machine's spindle/control unit.

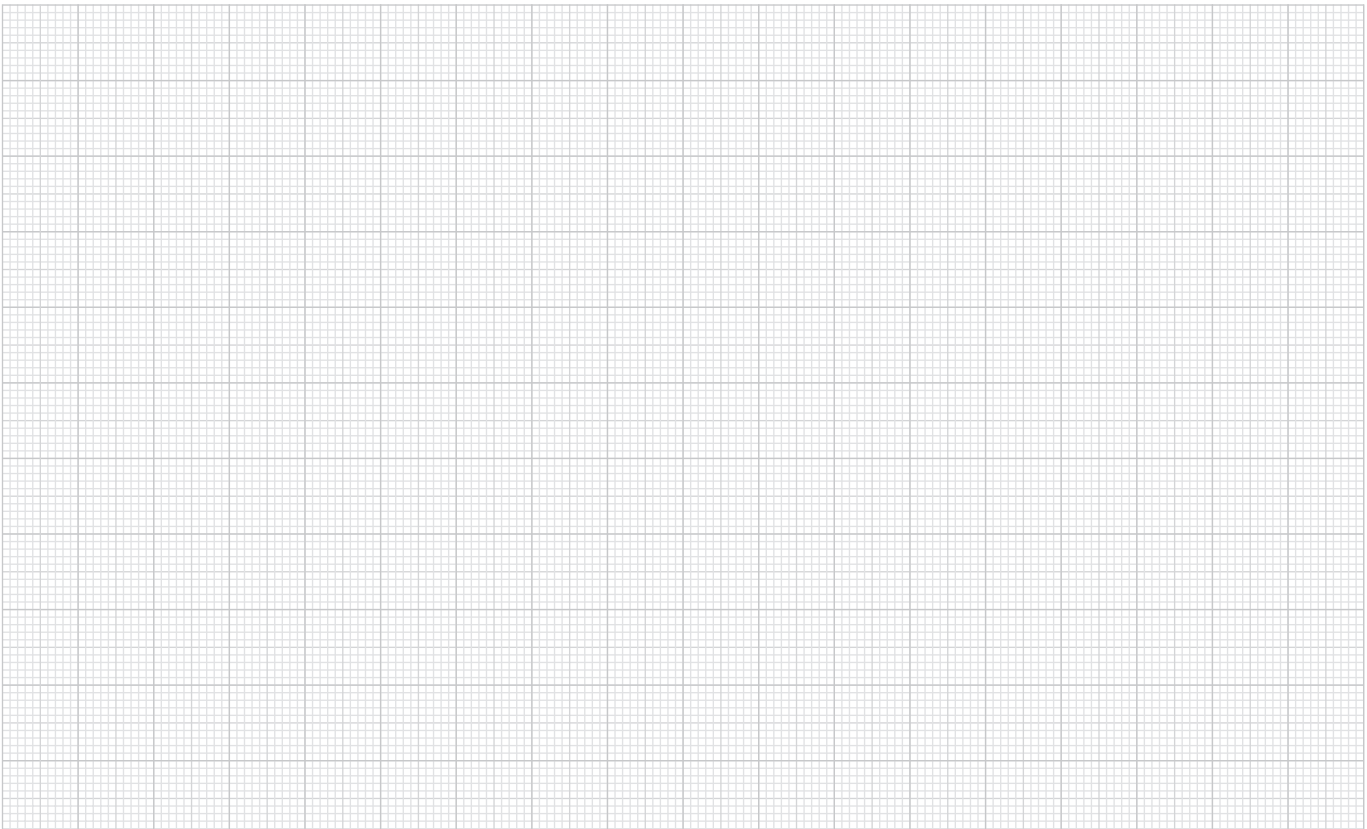


KIPP Centring clamping bolt

Order No.	Dimensions
K1012.1240	see drawing



Notes

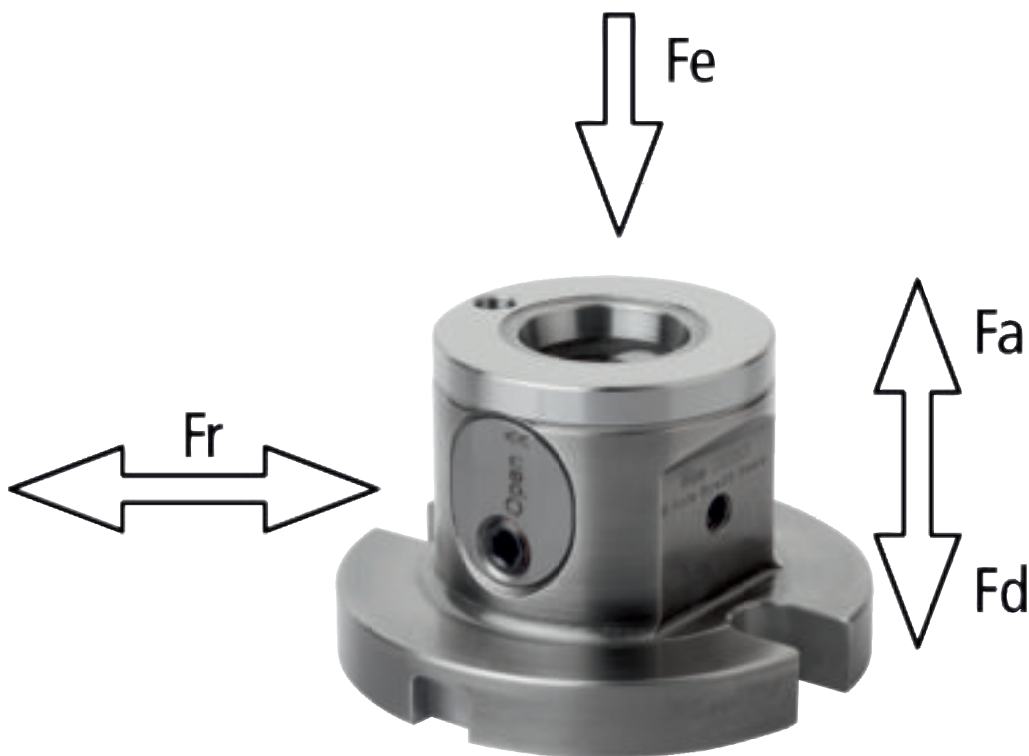


5-axis module clamping system 50



Forces

System size 50 mm



Fr Permissible transverse force

Fa Permissible clamping force

Fd Permissible contact force

Fe Clamping bolt pull-in force

Permissible load with full contact:

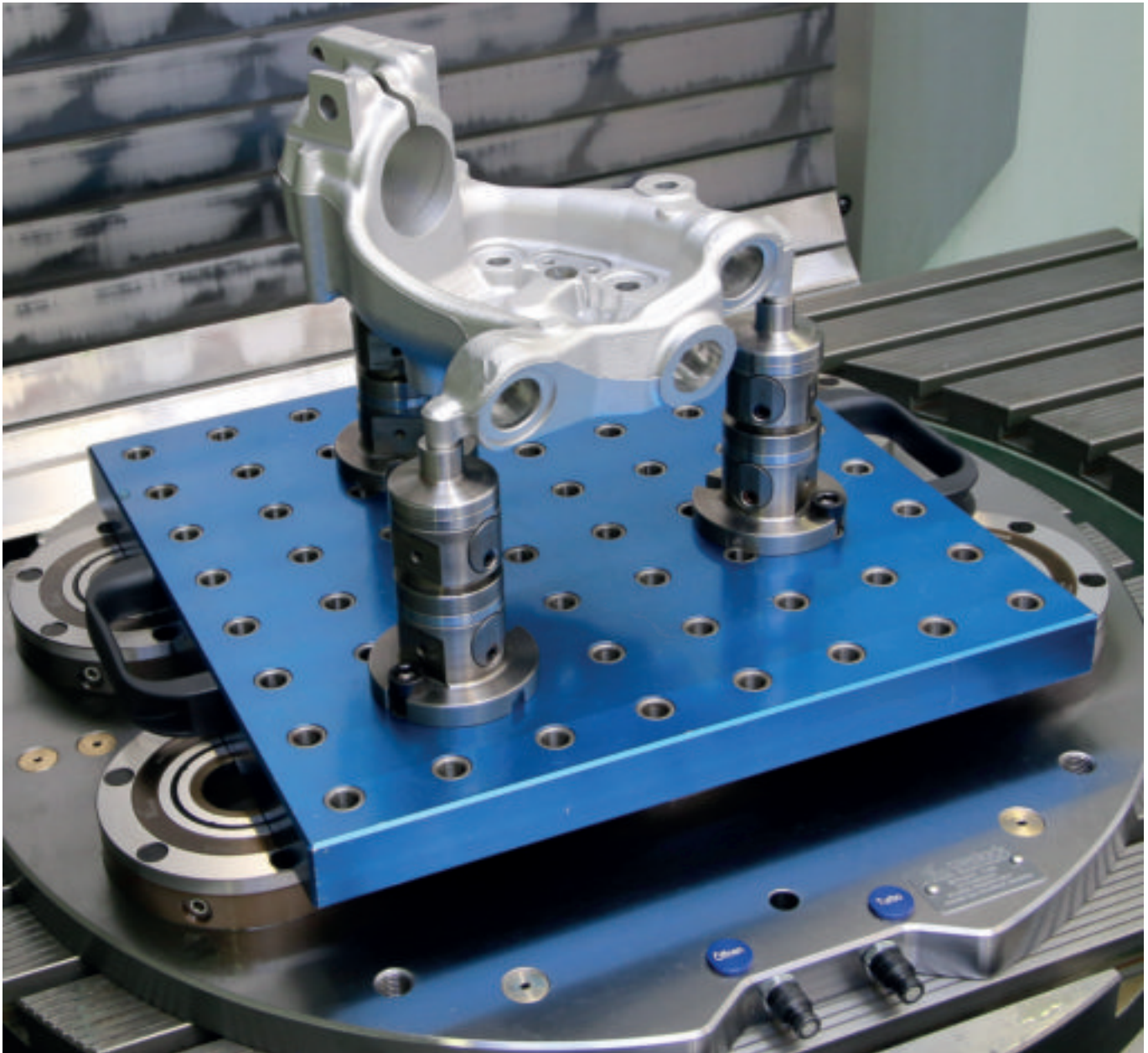
		Fr	Fa	Fd	Fe
Clamping pin screw M6	kN	15	20	25	8
Clamping pin screw M8	kN	15	25	25	10
Clamping pin screw M10	kN	15	30	25	12

Note: Forces apply at a max. tightening torque of 10 Nm.

Function



The UNI lock clamping system 50 mm has been developed specifically for 5-side machining of small workpieces.



Advantages:

- 5-side machining with no protruding edges
- Modular construction guarantees maximum flexibility
- Can be combined with the UNI lock modular system 80 mm
- Small gauges for modules from 40 mm possible
- Small clamping pin, D 25 mm, for workpieces with smaller dimensions
- Variable workpiece fastening
- The workpiece is simply positioned and clamped with screws or seatings
- High module clamping force
- Very high repeat accuracy



UNI lock 5-axis basic module

system size 50 mm

**Material:**

Steel.

Version:

Main body oxidised.

Contact faces case-hardened and ground.

Sample order:

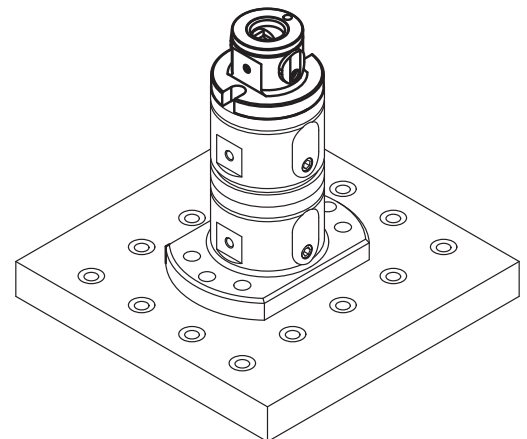
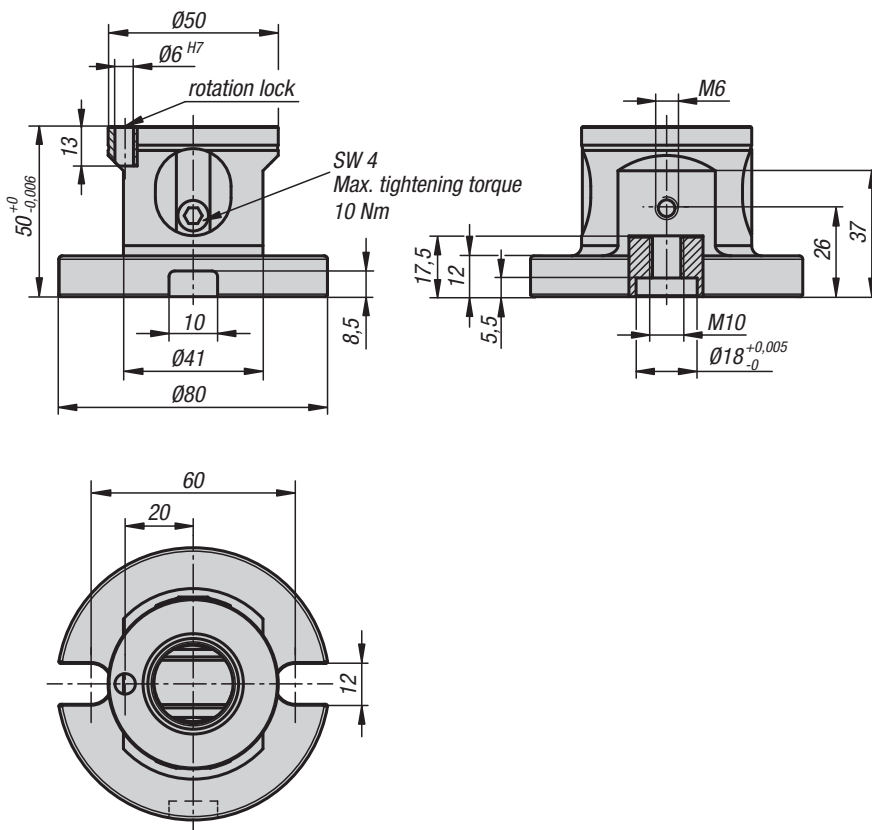
K1117.12050601

Note:

The UNI lock 5-axis basic module, system size 50 can be adapted to mount on machine tables with grid holes or T-slots, or on grid hole subplates. The system size 50 basic module can also be combined with the system size 80 modules, allowing smaller workpieces to be easily clamped with the module clamping system.

Matches UNI lock zero point clamping system with UNI lock D=18 mm clamping bolts.

Can also be mounted directly onto commonly available zero point clamping systems using suitable clamping bolts.



KIPP UNI lock 5-axis basic module, system size 50 mm

Order No.

Version

K1117.12050601

rotation lock

UNI lock 5-axis basic module adjustable

system size 50 mm

**Material:**

Steel.

Version:

Main body oxidised.

Contact faces case-hardened and ground.

Sample order:

K1117.12072600

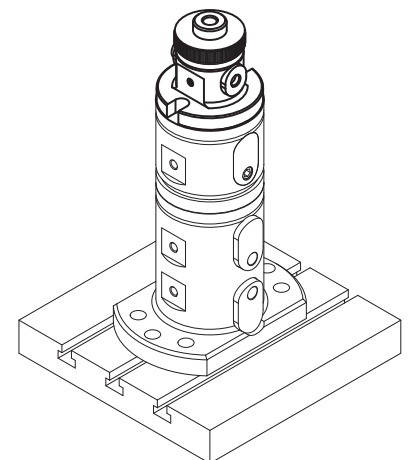
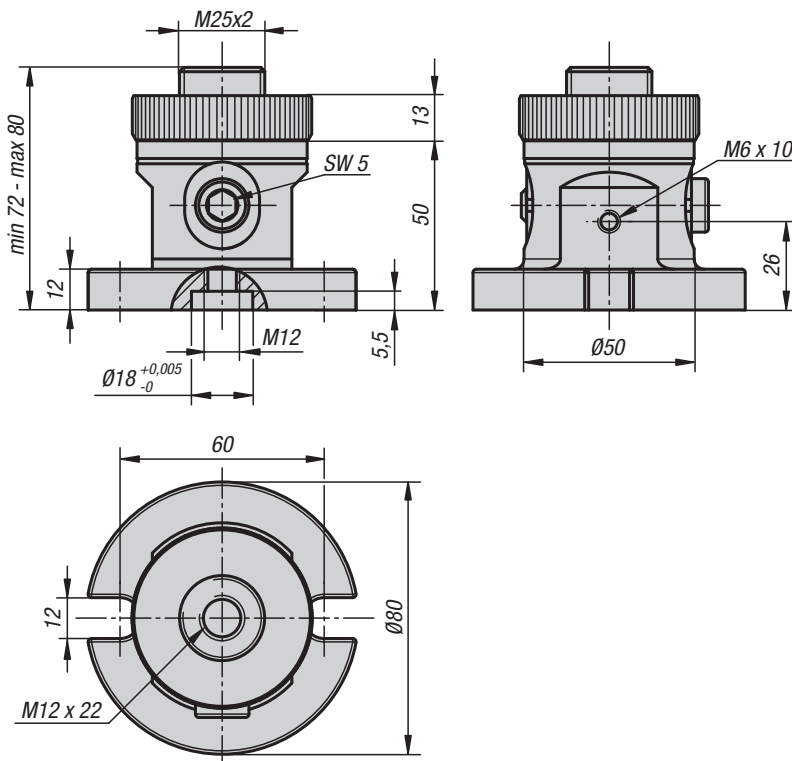
Note:

The UNI lock 5-axis basic module, system size 50 can be adapted to mount on machine tables with grid holes or T-slots, or on grid hole subplates. The system size 50 basic module can also be combined with the system size 80 modules, allowing smaller workpieces to be easily clamped with the module clamping system.

Matches UNI lock zero point clamping system with UNI lock D=18 mm clamping pins.

Can also be mounted directly onto commonly available zero point clamping systems if a suitable clamping pin is used..

Height adjustment with brass ring. Locking with a lateral lock screw. Workpieces with varying support face heights can be optimally supported and clamped.



KIPP UNI lock 5-axis basic module adjustable, system size 50 mm

Order No.

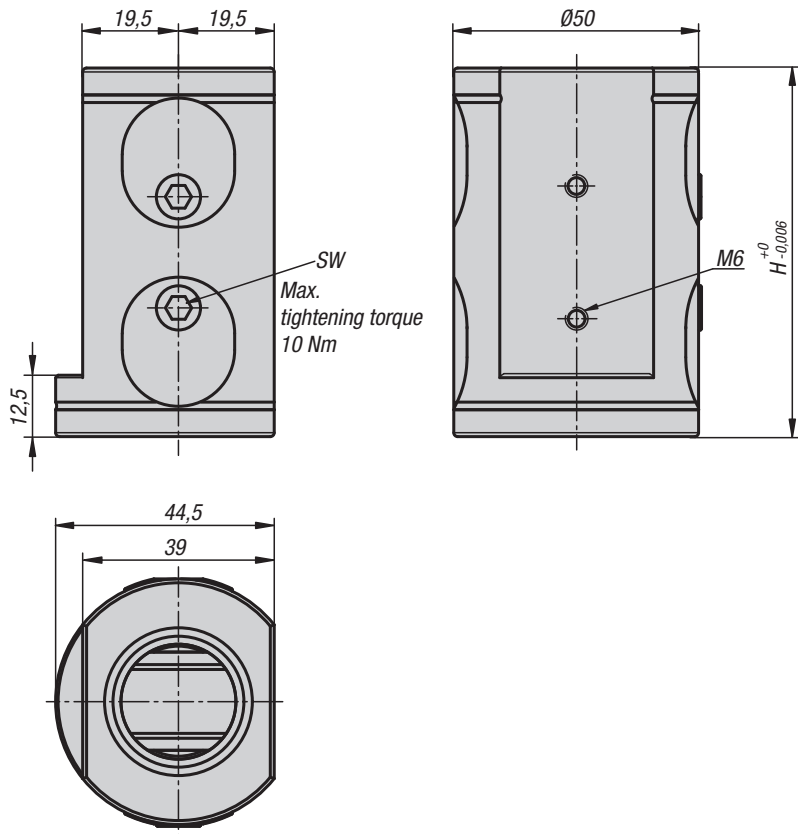
Version

K1117.12072600

adjustable

UNI lock 5-axis basic module double clamp

system size 50 mm



Material:

Steel.

Version:

Main body oxidised.

Contact faces case-hardened and ground.

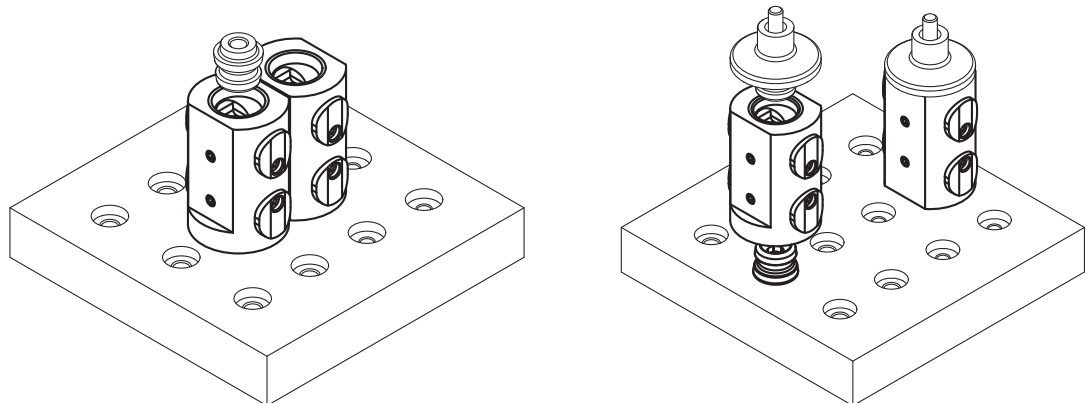
Sample order:

K1118.000750

Note:

The UNI lock 5-axis double clamp basic modules can be adapted directly to machine tables with grid holes or T-slots, as well as grid hole subplates.

The narrow design of the basic module enables it to be used on grid spacings from 20 mm.

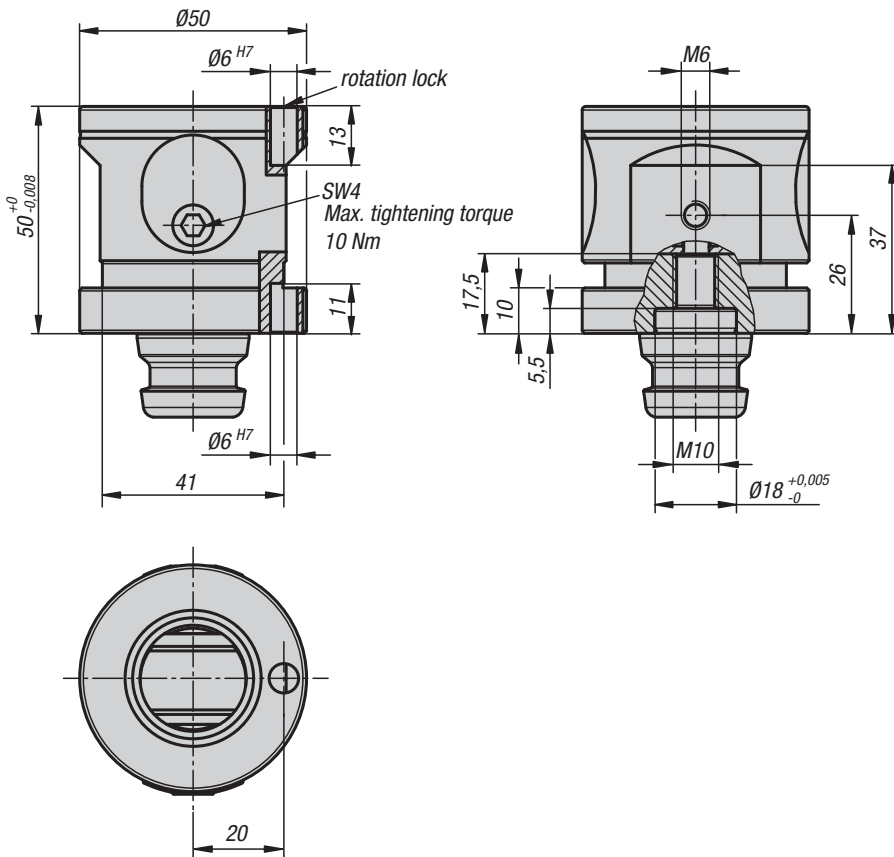


KIPP UNI lock 5-axis basic module, double clamp, system size 50 mm

Order No.	H	SW
K1118.000750	75	4

UNI lock 5-axis add-on module

system size 50 mm



Material:

Steel.

Version:

Main body oxidised.

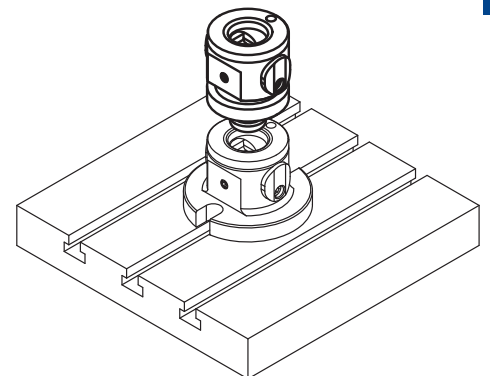
Contact faces case-hardened and ground.

Sample order:

K1119.0501

Note:

The UNI lock 5-axis add-on modules serve to raise the height of the basic modules and other add-on modules. Depending on the clamping situation, a combination of the basic modules and the add-on modules can be used to achieve the optimum clamping height. The system size 50 add-on module can also be combined with the system size 80.



KIPP UNI lock 5-axis add-on module, system size 50 mm

Order No.	Version
K1119.0501	rotation lock

UNI lock 5-axis add-on module adjustable

system size 50 mm



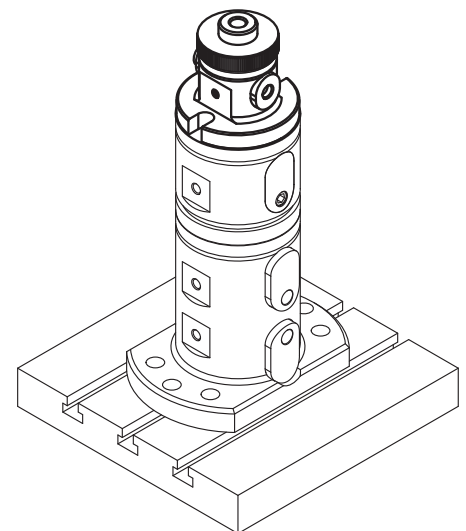
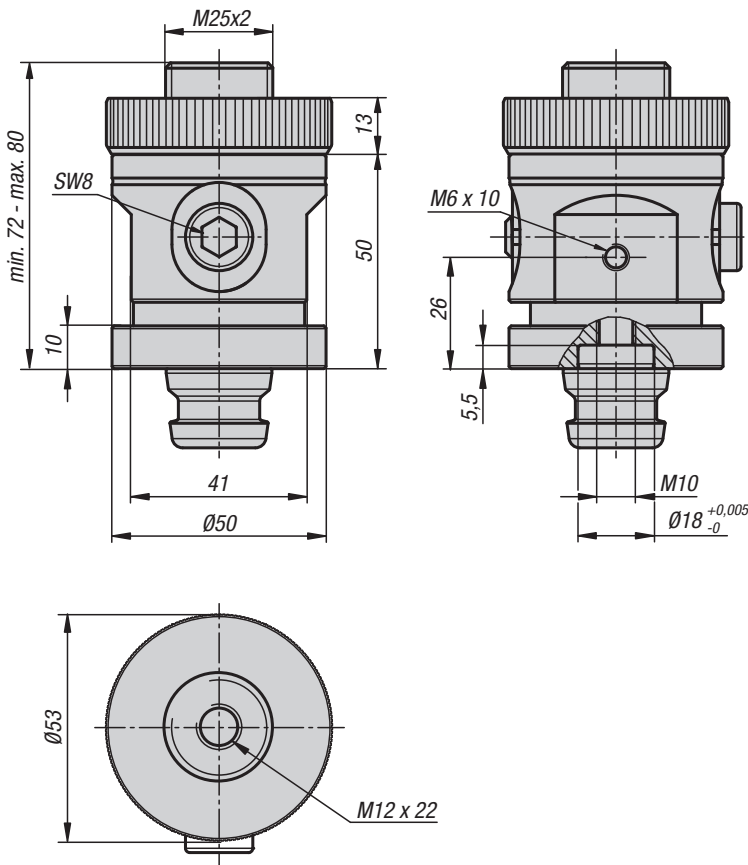
Material:
Steel.

Version:
Main body oxidised.
Contact faces case-hardened and ground.

Sample order:
K1119.0720

Note:
UNI lock 5-axis add-on clamp modules are used for raising basic modules and mounting bases. Depending on the clamping situation, optimum assembly height can be achieved using a combination of basic module and add-on module. The system size 50 add-on module can also be combined with the system size 80.

Height adjustment with brass ring. Locking with a lateral lock screw. Workpieces with varying support face heights can be optimally supported and clamped.

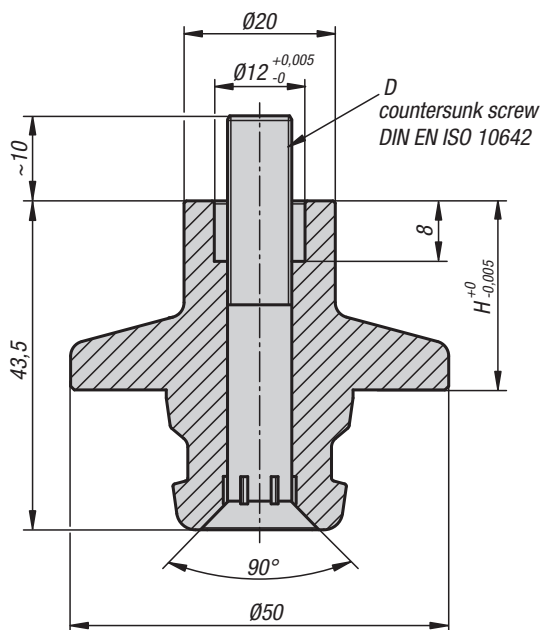


KIPP UNI lock 5-axis add-on module adjustable, system size 50 mm

Order No.	Version
K1119.0720	adjustable

UNI lock 5-axis reducer adapter

system size 50 mm



Material:

Steel.

Version:

Body oxidised.

Contact surfaces case-hardened and ground.

Sample order:

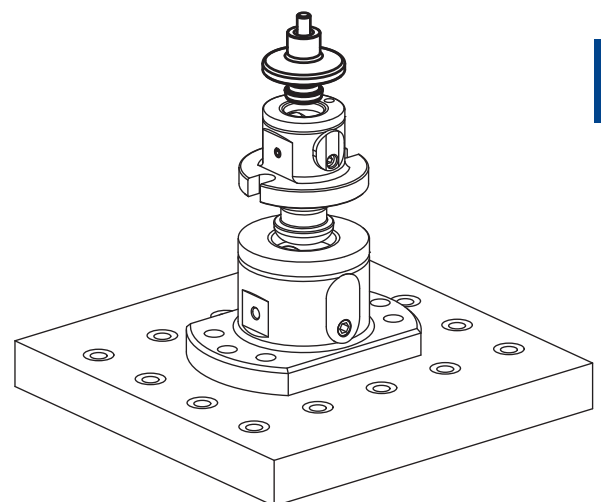
K1120.251081

Note:

The UNI lock 5-axis reducer adapter is suitable for clamping and positioning workpieces.

Reducer adapters can be screwed onto the workpiece and mounted on the basic module or add-on clamp module.

The system size 50 add-on module can also be combined with the system size 80.



KIPP UNI lock 5-axis reducer adapter, system size 50 mm

Order No.	Form	D	H
K1120.251081	A	M8	25

UNI lock clamping pin

system size 50 mm



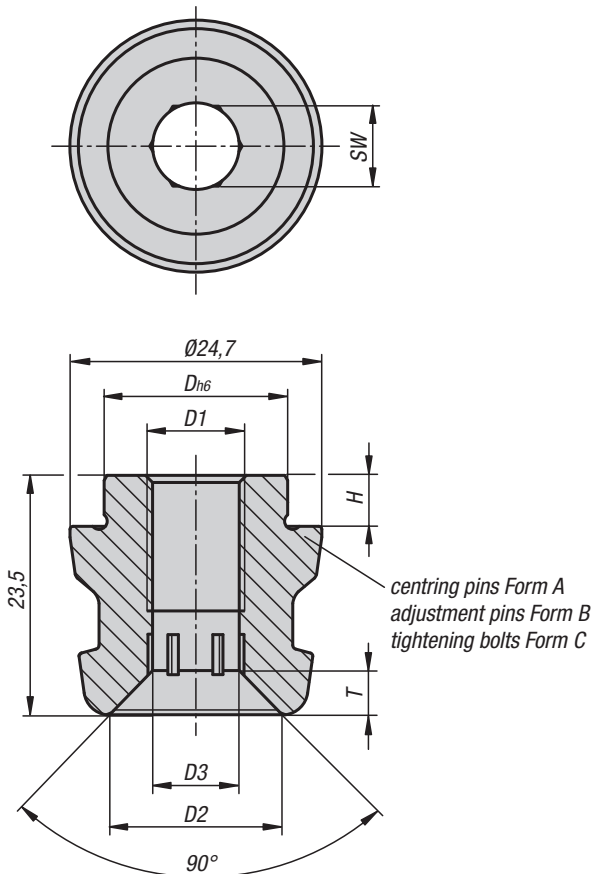
Material:
Steel.




Version:

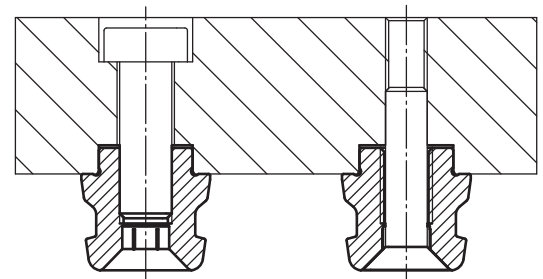
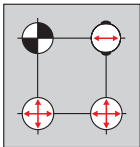
Sample order:
K1121.125180510

Note:

The UNI lock clamping bolt is suitable for clamping and positioning workpieces and fixtures. Clamping bolts are screwed onto the exchange element and adapted to the various basic modules.



-  Centring pins = Form A fixes in x and y axis (reference point)
-  Adjustment pins = Form B fixes the free axis (bayonet pin)
-  Tightening bolts = Form C Pins with undersize (no centring function, clamping only)

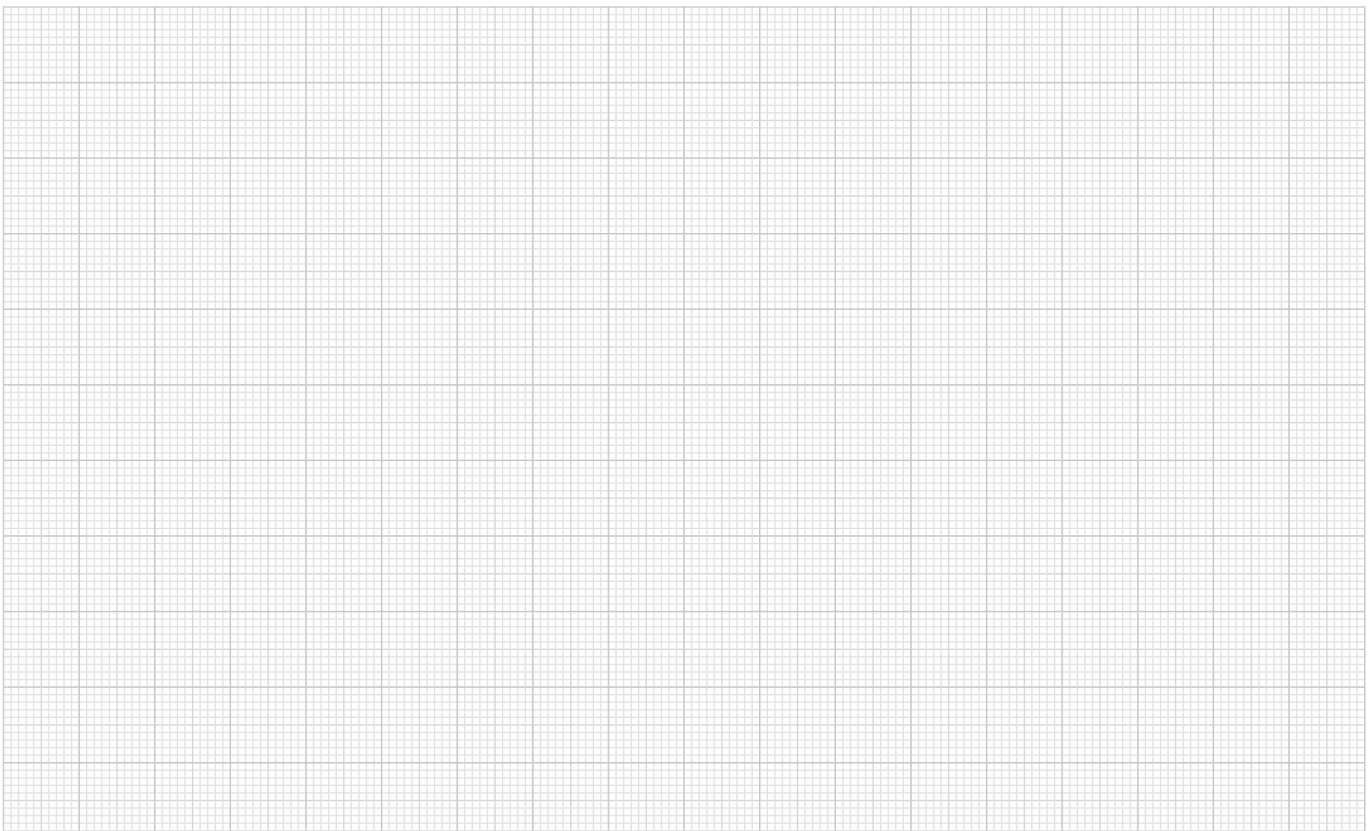


KIPP UNI lock clamping pin, system size 50 mm

Order No.	Form	D1	D	D2	D3	H	T	SW
K1121.125180510	A	M10	18	16,5	9	5	5	8
K1121.225180510	B	M10	18	16,5	9	5	5	8
K1121.325180510	C	M10	18	16,5	9	5	5	8



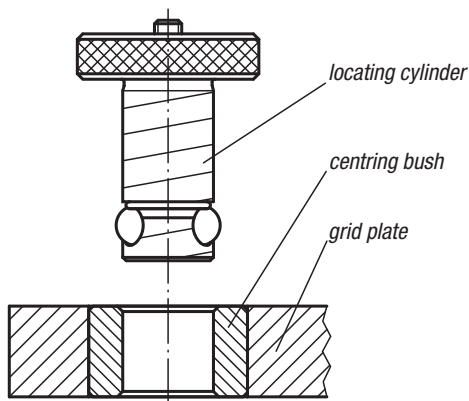
Notes



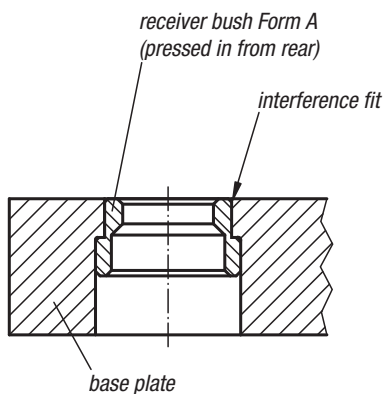
Locating and clamping systems



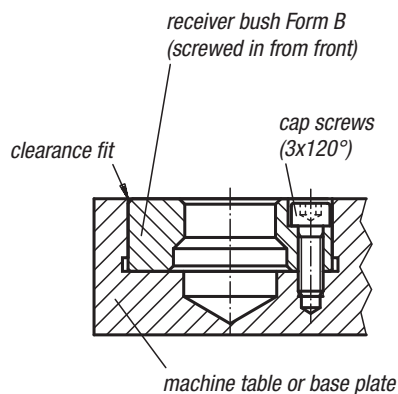
Locating and clamping system, mechanical



recommended installation



alternative installation



General information

1. With the mechanical locating and clamping system, base and tooling plates can be precisely positioned and fastening in a couple of seconds. The system consists of a locating cylinder, a centring bush and a receiver bush.
2. Three easy steps for using the positioning and clamping system:
 Mount two receiver bushes on the machine table or base plate, and two centring bushes in the clamping plate.
 Insert the locating cylinder through the centring bush into the receiver bush to attain precise positioning.
 Turn the set screws in each locating cylinder roughly two rotations for tight clamping.
 Eighteen different locating cylinders, two centring bush types and two receiver bush forms are available.
3. A centring bush grade I (below left) and a centring bush grade I or II (above right) should be installed in each fastening plate as far apart from one another as possible. More than two positioning points bring no further advantages.
 When more than two locating cylinders are used for additional holding force (dependent on application), holes in the fastening plate must be 0.4 mm to 0.8 mm bigger than the selected locating cylinder diameter.
4. If the centre distance between the two positioning holes in the e.g. machine table and the clamping plate is kept within a tolerance of ± 0.005 mm and two centring bushings grade I are used, a repeat accuracy within ± 0.013 mm can be achieved.
 For a somewhat lower repeat accuracy within ± 0.04 mm, one centring bushing grade I and one centring bushing grade II with a centre distance tolerance of ± 0.03 mm are used.
5. The difference between the centring bush grade I and the centring bush grade II is that the centring bush grade II has a larger internal diameter in order to correspond to the greater centre distance tolerance in the machine table or the base plate.

Locating cylinders

Ball Lock



Material:

Locating cylinder carbon steel.
Balls roller bearing steel.

Version:

Locating cylinder tempered, black oxidised.
Balls hardened, bright.

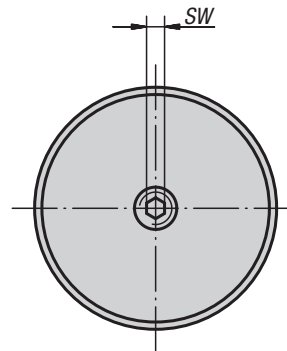
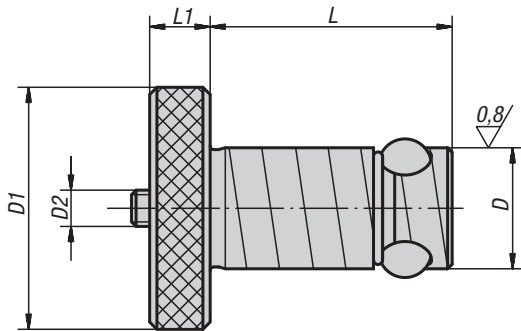
Sample order:

K0935.16020

Note:

By tightening the thrust screw (D2) the centre ball is pressed downwards and in turn forces the three locking balls outwards, where they locked in the receiver bush.

With this easy to use system machine set-up times are up to twelve times shorter than when conventional methods are used.



KIPP Locating cylinders Ball lock

Order No.	Grid plate thickness $\pm 0,05$	D	D1	D2	L	L1	SW	Holding force F kN	Tightening torque max. Nm	Order No. Repair Kit
K0935.13013	13	13	22	M5	27,6	6	2,5	3,3	1	K0935.913013
K0935.13020	20	13	22	M5	34,6	6	2,5	3,3	1	K0935.913020
K0935.16020	20	16	32	M6	36,5	8	3	5,3	3	K0935.916020
K0935.16025	25	16	32	M6	41,5	8	3	5,3	3	K0935.916025
K0935.20020	20	20	40	M6	39,5	10	3	13,3	4	K0935.920020
K0935.20025	25	20	40	M6	44,5	10	3	13,3	4	K0935.920025
K0935.25020	20	25	45	M8	44	10	4	30	9	K0935.925020
K0935.25025	25	25	45	M8	49	10	4	30	9	K0935.925025
K0935.30020	20	30	50	M10	49	13	5	44	15	K0935.930020
K0935.30025	25	30	50	M10	54	13	5	44	15	K0935.930025
K0935.35020	20	35	60	M12	51	13	6	68	25	K0935.935020
K0935.35025	25	35	60	M12	56	13	6	68	25	K0935.935025
K0935.35040	40	35	60	M12	71	13	6	68	25	K0935.935040
K0935.35050	50	35	60	M12	81	13	6	68	25	K0935.935050
K0935.50020	20	50	75	M20	64	20	10	88	50	K0935.950020
K0935.50025	25	50	75	M20	69	20	10	88	50	K0935.950025
K0935.50040	40	50	75	M20	84	20	10	88	50	K0935.950040
K0935.50050	50	50	75	M20	94	20	10	88	50	K0935.950050

Locating cylinder

with quick clamping system



Material:

Locating cylinder carbon steel.
Balls roller bearing steel.

Version:

Locating cylinder tempered, black oxidised.
Balls hardened, bright.

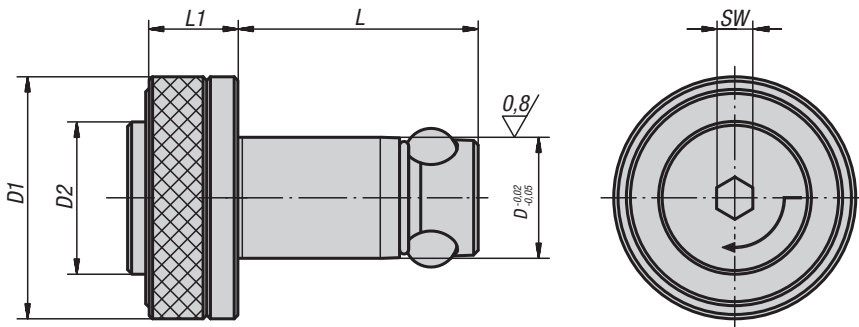
Sample order:

K0935.112013

Note:

Locating cylinder with quick-clamp system for extra timesaving during setups.

Insert the locating cylinder into the receiving hole and press the button. The three balls are pushed out and position the components. By tightening the set screw a 1/4 turn using an hexagonal key, the components are positively and securely held.



KIPP Locating cylinder with quick clamping system

Order No.	Grid plate thickness ±0,05	D	D1	D2	L	L1	SW	Holding force F kN	Tightening torque max. Nm
K0935.113020	20	13	25	16	34,6	12	4	4	1
K0935.116020	20	16	32	20	36,5	15	6	8	2
K0935.120020	20	20	40	25	39,5	15	6	8	2
K0935.120025	25	20	40	25	44,5	15	6	8	2
K0935.116025	25	16	32	20	41,5	15	6	8	2
K0935.113013	13	13	25	16	27,6	12	4	4	1

Centring bushes



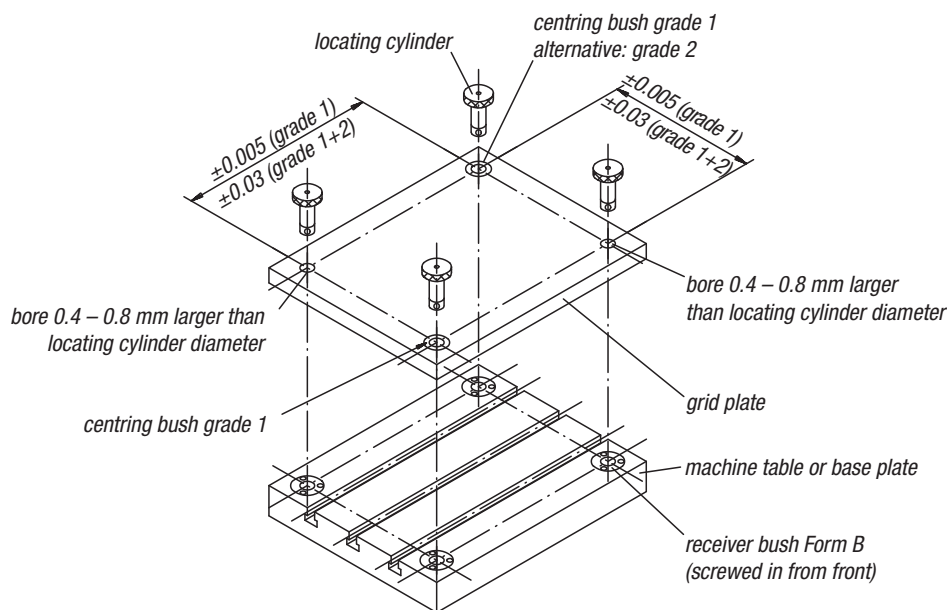
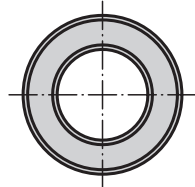
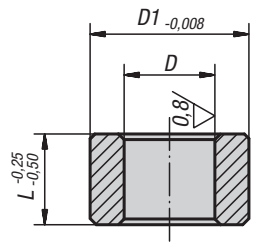
Material:
Ball bearing steel

Version:
Hardened, black oxidised.

Sample order:
K0936.113020

Note:
By a centre distance tolerance of ± 0.005 mm and two grade I centring bushes a repeat accuracy of ± 0.013 mm is possible.
By a centre distance tolerance of ± 0.03 mm and one grade I centring bush and one grade II centring bush repeat accuracy of ± 0.04 mm is possible.
The centring bush is pressed with light pressure into the receiver holes in tooling plates.
For further details see „General information“.

* Tol. for grade I centring bushes $+0.005 / +0.018$
Tol. for grade II centring bushes $+0.025 / +0.050$

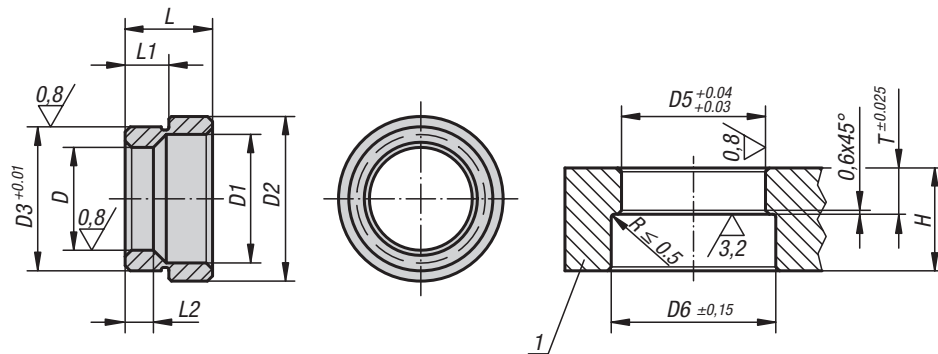


KIPP Centring bushes

Order No. grade I	Order No. grade II	D	D1	L	Bore size for centring bush $\varnothing +0.01$
K0936.113013	K0936.213013	13*	19,04	13	19,016
K0936.113020	K0936.213020	13*	19,04	20	19,016
K0936.116020	K0936.216020	16*	25,042	20	25,016
K0936.116025	K0936.216025	16*	25,042	25	25,016
K0936.120020	K0936.220020	20*	35,042	20	35,018
K0936.120025	K0936.220025	20*	35,042	25	35,018
K0936.125020	K0936.225020	25*	35,042	20	35,018
K0936.125025	K0936.225025	25*	35,042	25	35,018
K0936.130020	K0936.230020	30*	45,042	20	45,018
K0936.130025	-	30*	45,042	25	45,018
K0936.135020	-	35*	45,042	20	45,018
K0936.135025	K0936.235025	35*	45,042	25	45,018
K0936.135040	K0936.235040	35*	45,042	40	45,018
K0936.135050	K0936.235050	35*	45,042	50	45,018
K0936.150020	-	50*	63,546	20	63,521
K0936.150040	K0936.250040	50*	63,546	40	63,521
K0936.150050	K0936.250050	50*	63,546	50	63,521
-	K0936.250025	50*	63,546	25	63,521

Receiver bushes

Form A (pressed in from rear)



Material:
Carbon steel.

Version:
Tempered and black oxidised.

Sample order:
K0937.20

Drawing reference:
1) grid plate

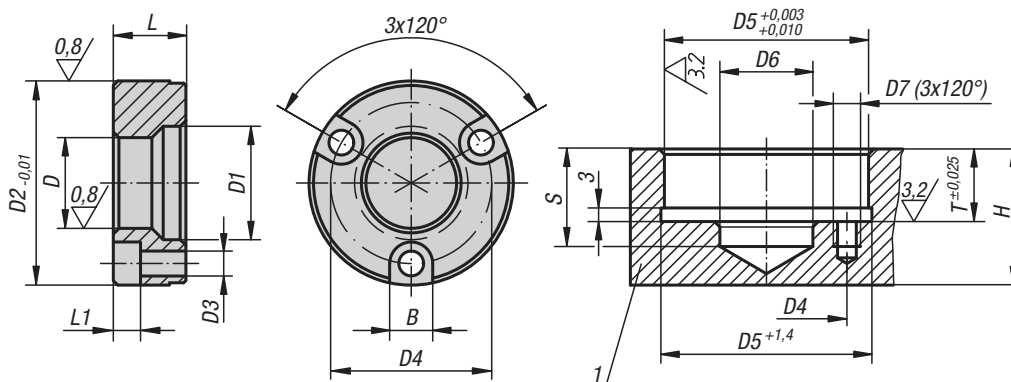
KIPP Receiver bushes Form A (pressed in from rear)

Order No.	D	D1	D2	D3	L	L1	L2	D5	D6	T	Min. grid plate thickness H
K0937.13	13	17,3	25	20,03	12,1	6,6	5,58	20	26	6,92	20
K0937.16	16	20,7	28,6	22,03	12,1	6,9	6,6	22	29	7,24	20
K0937.20	20	24,8	32,2	28,03	17,1	8,42	8,13	28	33	8,74	25
K0937.25	25	30,4	40,2	35,03	21	10,22	10,16	35	41	10,54	25
K0937.30	30	36,2	48,2	42,03	21,8	10,63	11,18	42	49	10,95	30
K0937.35	35	41,3	54,2	48,03	25,1	12,18	14,78	48	55	12,5	32
K0937.50	50	58,4	75,2	67,03	31,1	15,43	18,67	67	76	15,75	45

K0938

Receiver bushes

Form B (screwed down from front)



Material:
Carbon steel.

Version:
Tempered and black oxidised.

Sample order:
K0938.13

Note:
Fastening screws included.

Drawing reference:
1) grid plate

KIPP Receiver bushes Form B (screwed down from front)

Order No.	D	D1	D2	D3	D4	L	L1	B	D5	D6	D7	S	T	Min. grid plate thickness H
K0938.13	13	17,3	34,99	4,4	25	11,56	4,5	7,6	35	13,5	M4x7	20	11,91	20
K0938.16	16	20,7	36,99	4,4	29	11,56	4,5	7,6	37	21	M4x7	20	11,91	20
K0938.20	20	24,8	44,99	5,4	35	15,82	6	9,5	45	21	M5x9	25	16,21	25
K0938.25	25	30,4	54,99	6,4	42	19,94	7	11	55	25,5	M6x10	25	20,32	25
K0938.30	30	36,2	59,99	6,4	48	21,77	7	11	60	30,5	M6x11	30	22,15	30
K0938.35	35	41,3	69,99	8,4	56	22,61	9	14	70	40	M8x17	32	22,99	32
K0938.50	50	58,4	91,99	10,4	75	31,12	11	17	92	55	M10x18	45	31,5	45

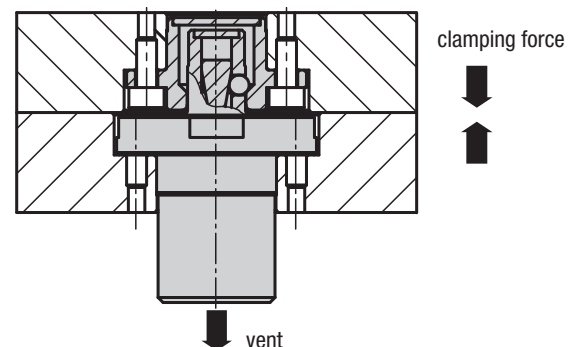
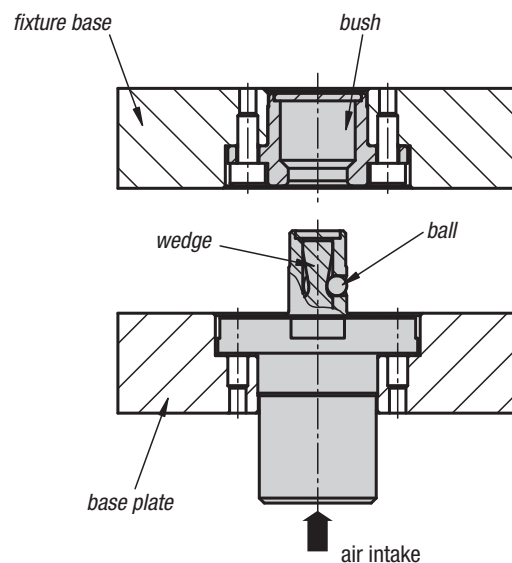
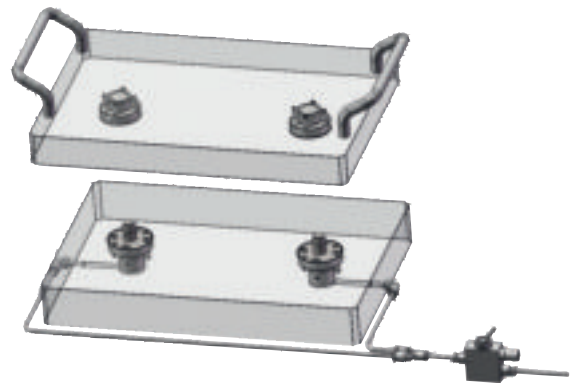
Pneumatic positioning and clamping system



General information

1. The pneumatic positioning and clamping system makes it possible to precisely fix and position grid plates and baseplates in seconds. The system consists of a locating cylinder and a locating bush.
2. The locating cylinder is actuated pneumatically.
3. To use the positioning and clamping system, follow these three simple steps: Install two locating cylinders in the machine table or baseplate. Also install the locating bushes with the interchangeable subplates in line with the specified dimensions. Feed in air to open the locating cylinder mechanism. This makes the clamping balls travel inwards. Insert the interchangeable subplate with the locating bushes and close the air valve again. The interchangeable subplate is now positioned and clamped.
4. The system is clamped without an air supply. Spring force is used for clamping in the locating cylinder. An air supply of 6 bar is required to open the mechanism.
5. 2 different installation variants are available.

Example



Locating cylinders

pneumatic

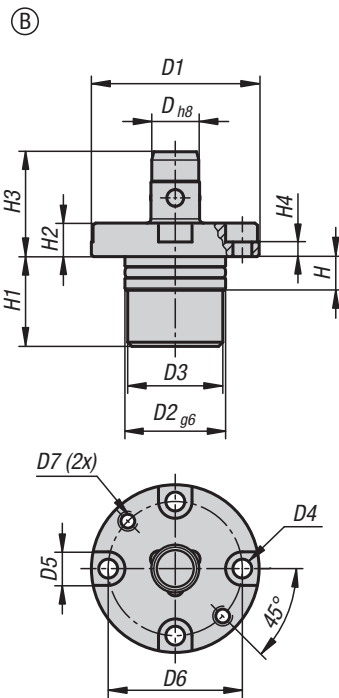
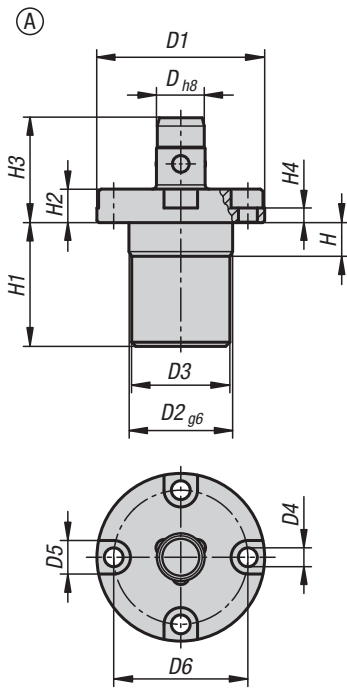


Material:
Carbon steel.

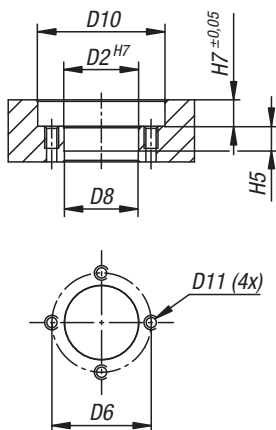
Version:
nickel-plated.

Sample order:
K1219.112

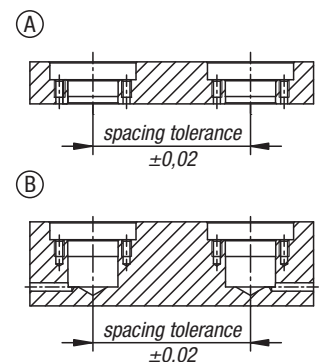
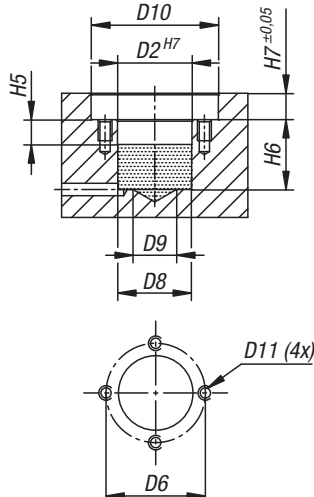
Note:
The 3 clamping balls are pneumatically released. The 3 clamping balls retract and the fixture can be exchanged. If the air is stopped, the 3 clamping balls advance and the fixture is clamped. This easy-to-operate system significantly reduces the changeover times.



mounting instructions:



mounting instructions:



KIPP Pneumatic locating cylinder

Order No.	Form	D	D1	D2	D3	D4	D5	D6	D7	D8	D9	D10	D11	H	H2	H1	H3	H4	H5	H6	H7	Retaining force F1 N
K1219.112	A	12	40	24	23,4	4,5	8	32	-	23,8	-	41	M4	8	8	29,5	25	3,5	8,5	-	8,5	250
K1219.116	A	16	51	32	31,4	5,5	9,5	41	-	31,8	-	52	M5	8,5	9,5	31,7	28,5	4	9	-	10	350
K1219.212	B	12	40	24	23,4	4,5	8	32	M4	23,8	14	41	M4	8	8	24,5	25	3,5	8,5	25,5	8,5	250
K1219.216	B	16	51	32	31,4	5,5	9,5	41	M5	31,8	20	52	M5	8,5	9,5	25,5	28,5	4	9	26,5	10	350

Locating bushes

for pneumatic locating cylinder

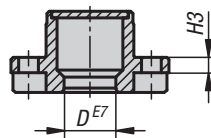
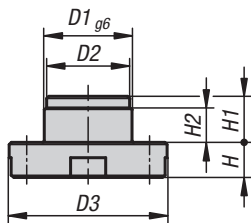
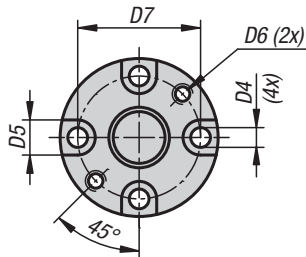


Material:
Carbon steel.

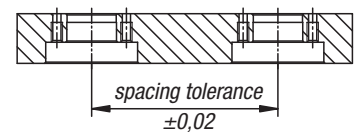
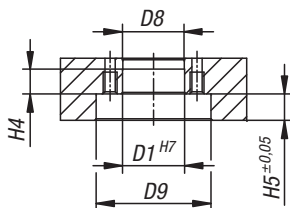
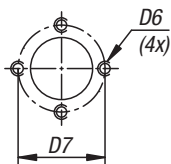
Version:
nickel-plated.

Sample order:
K1220.12

Note:
Locating bushes are placed in fixture or interchangeable subplates and form the counterpart to the locating cylinder.
The locating bushes are centred in a reamed hole and then fastened with 4 screws.
The balls of the locating cylinder engage in the groove in the locating bush, thereby forming a fast, secure and highly accurate changeover unit, and reducing setup and changeover times.



mounting instructions:



KIPP Locating bush for pneumatic locating cylinder

Order No.	D	D1	D2	D3	D4	D5	D6	D7	D8	D9	H	H1	H2	H3	H4	H5
K1220.12	12,1	20	19,6	36	4,5	8	M4	28	19,8	37	8	10,5	7,5	3,5	8	8,5
K1220.16	16,1	25	24,6	44	5,5	9,5	M5	34	24,8	45	9,5	11	7	4	7,5	10

5-axis clamping system compact



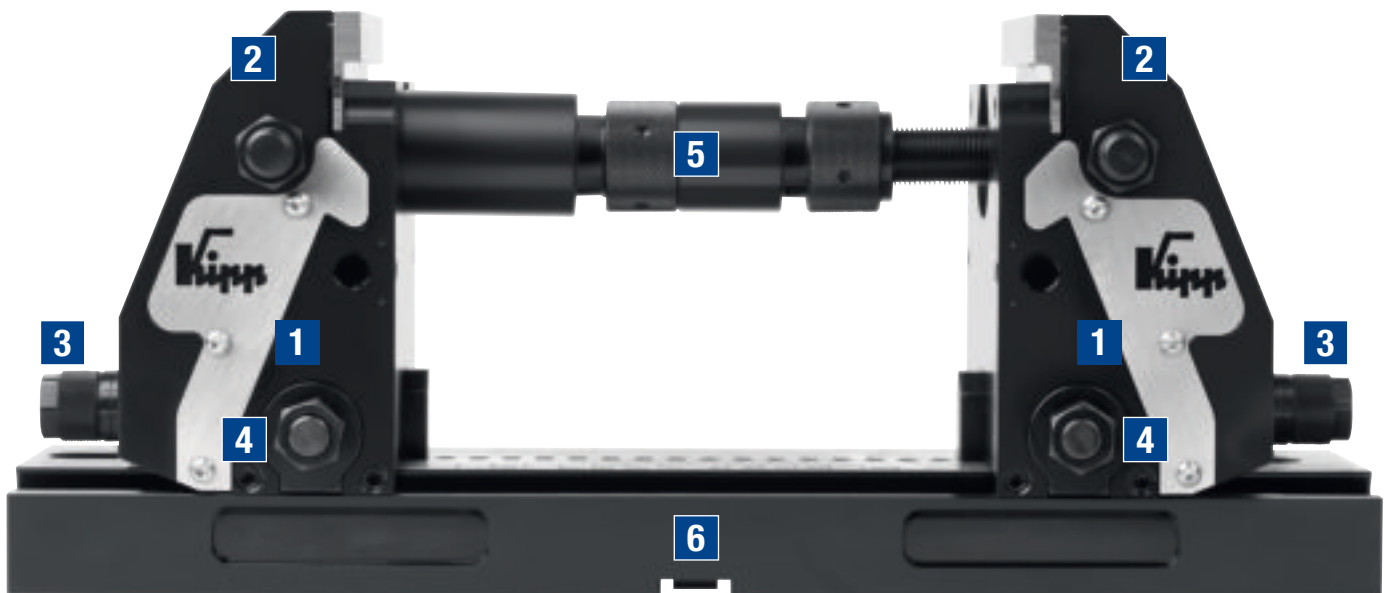
5-axis clamping system compact



Function

We are setting standards with the new “KIPP 5-axis clamping system compact” in this field. The system was specifically designed for the optimal machining of complex workpieces on modern 5-axis machines.

The intelligent clamping technology increases clamping rigidity for the highest cutting and feed forces. The optimal accessibility to the workpiece allows short, standard tooling to be used. Tooling costs are significantly reduced.



- 1** Positioning unit with jaw plate
- 2** Clamping element
- 3** Fine adjustment with knurled screw
- 4** Clamping screw
- 5** Extension shafts
- 6** Base plate

ADVANTAGES:

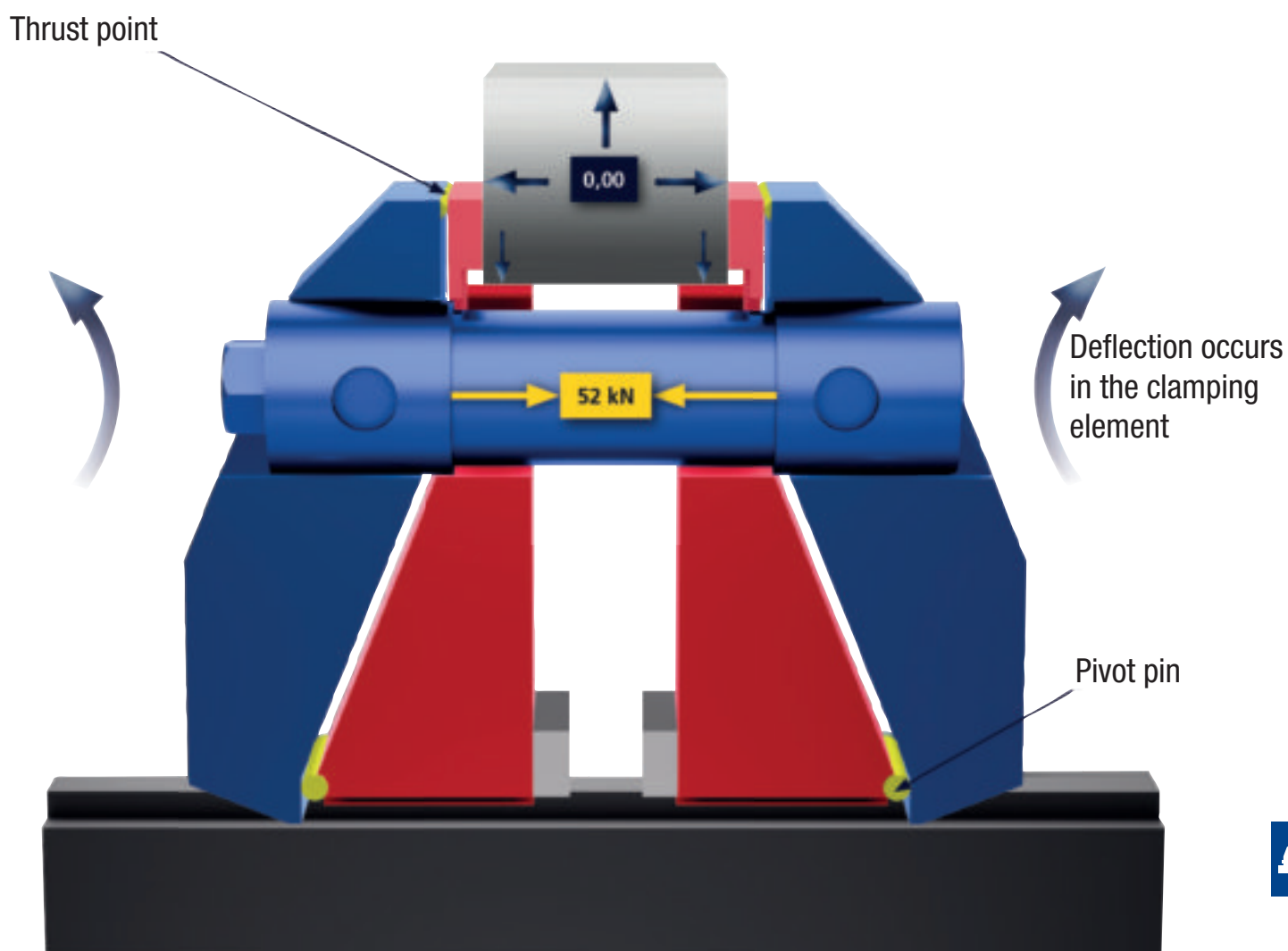
- Very high tractive force
- High stiffness in the system
- Pull-down function of the jaw plates on both sides
- Optimum fine adjustment of the jaw plates on the workpiece
- Increased tool service life
- The workpiece is always centred due to the systematic construction
- Large clamping width, 20 mm to 320 mm, freely extendable
- Clamping depth adjustable from 3 to 20 mm using seating ledges
- Best tool accessibility from all sides
- Easy to clean

Forces

The new clamping technology ensures force flow separation and workpiece positioning. The intelligent force distribution in the system allows only weak forces to be transferred to the machine table.

NEW CLAMPING TECHNOLOGY PATENT PENDING

- Division of force flow and positioning
- Highest clamping force on the workpiece
- Maximum stiffness ■ Centric tension



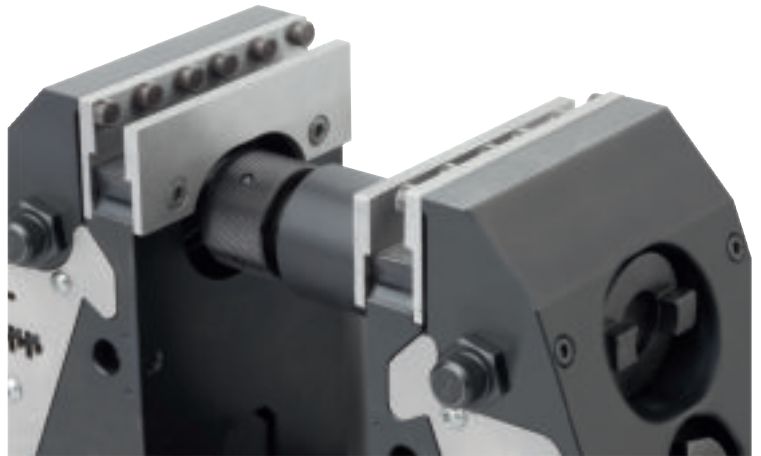
- Clamping elements
- Locators



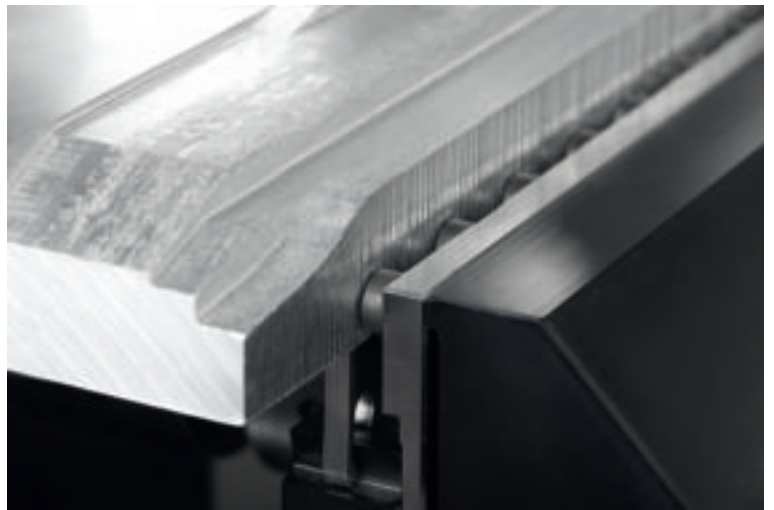
Applications



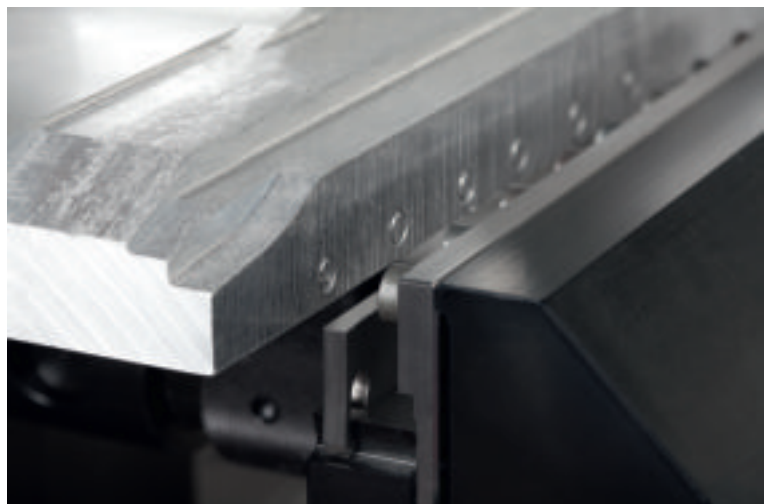
5-axis compact clamping system incl. clamping jaw with pins for clamping unmachined parts, and screwed-on seating ledges. The clamping depth can be determined by milling a seat.



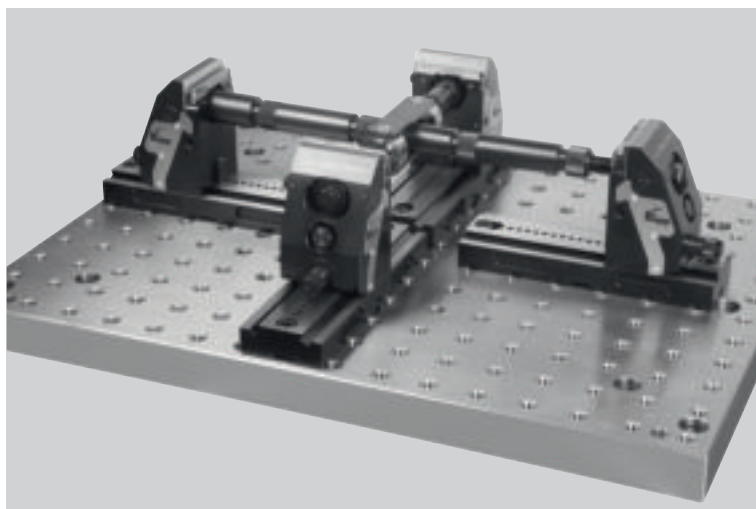
Clamped blank. Sure set-up through positive clamping pins.



Blank after clamping. Clamping pin imprint is visible on the edge of the workpiece.



With the coupling for cross-clamping, two 5-axis clamping systems can be compactly connected with each other offset by 90 degrees. Setups for workpieces with different dimensions of 4 sides are possible.



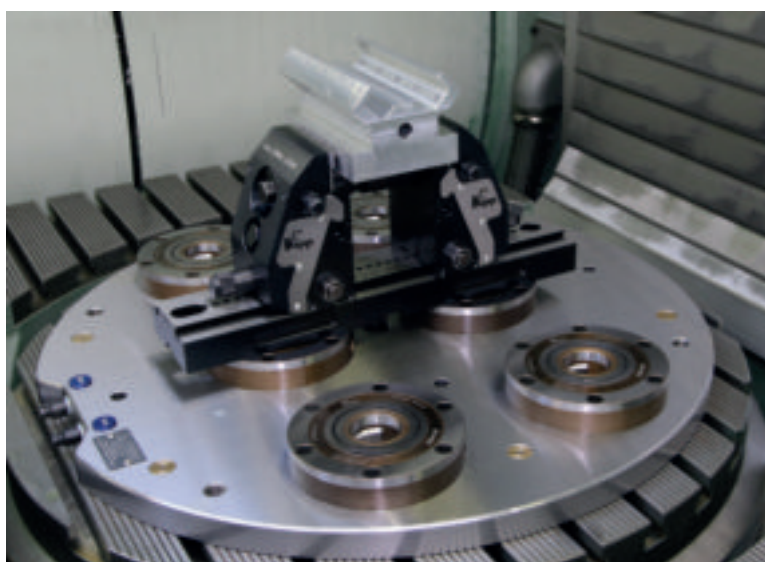
5-axis compact clamping system positioned directly on the machine table.

Use of pendulum jaws which also act as fixed jaws.

Workpiece clamping with smooth jaws.

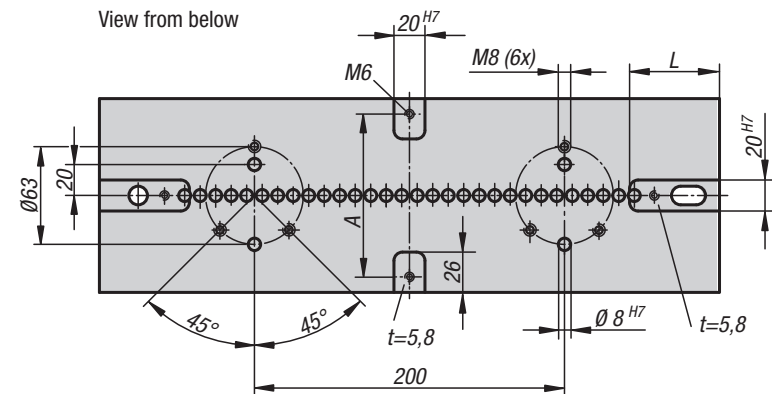
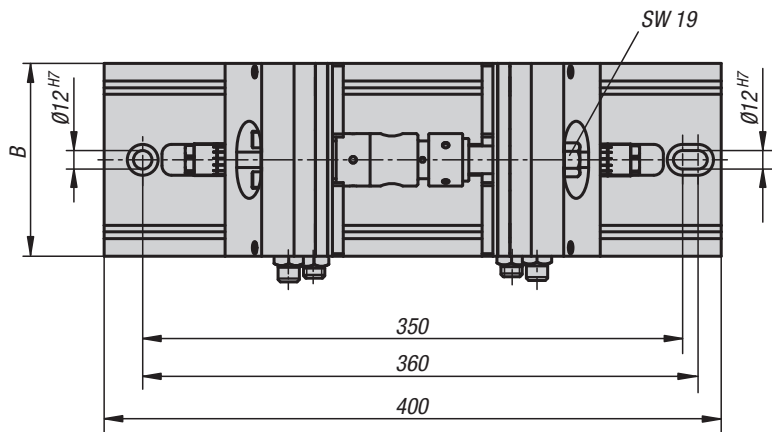
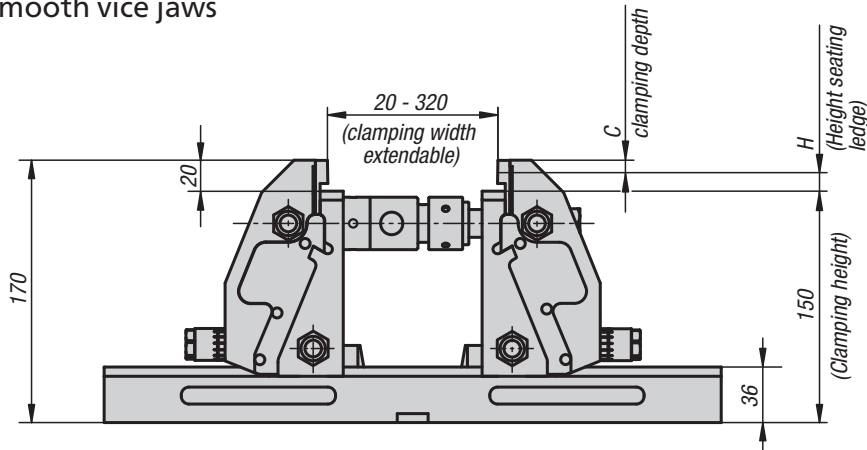


Mounted directly on a KIPP zero-point clamping system over the integrated clamping bolts in the vice base plate.



5-axis clamping system compact

smooth vice jaws



Material:

Base plate and jaw hardened steel.
Vice jaws tool steel.

Version:

Jaws black oxidised.
Jaw plates bright.

Sample order:

K0973.124000901500

Note:

The clamping jaws can be re-adjusted to new workpieces rapidly and securely thanks to ease of use and quick adjustment by means of a scale. The workpiece always centres itself due to the symmetrical structure of the 5-axis clamping system. Short standard tools can be used thanks to optimum accessibility to the workpiece. This reduces tooling costs significantly. Clamping widths from 20 mm to 320 mm are possible.

Assembly:

The 5-axis clamping system compact can be mounted on T-slot tables, grid systems or, using an adapter flange on conventional zero-point clamping systems.

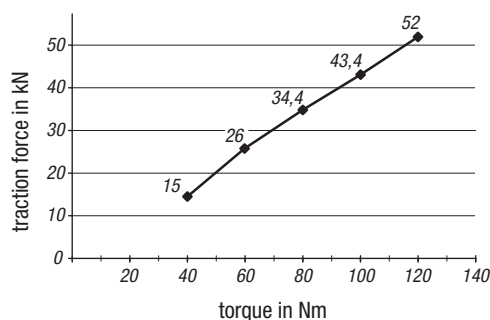
Scope of delivery:

Accessories:

- Seating ledges K0974
- Jaw plates K0975
- Pendulum jaws K0988
- Centre jaws K0987
- Coupling for cross-clamping K0992

Order the seating ledges and jaw plates with pins separately.

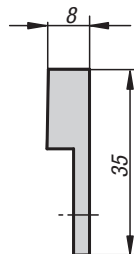
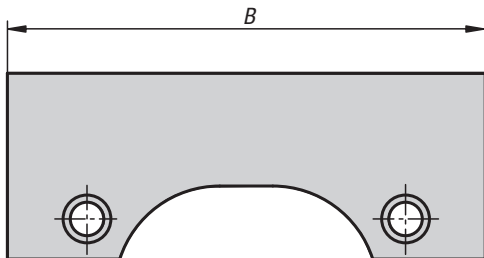
Tractive force 5-axis clamping system compact



KIPP 5-axis clamping system compact, smooth vice jaws

Order No.	A	B	C	H	L	Tractive force max. kN	Suitable shoulder screw	weight kg
K0973.124000901500	70	90	8/3	12/17	57,5	52	K0815.12055	21.96
K0973.124001251500	105	125	8/3	12/17	58	52	K0815.12055	30.16

Jaw plates smooth



Material:
Tool steel.

Version:
Hardened, bright.

Sample order:
K0975.0900

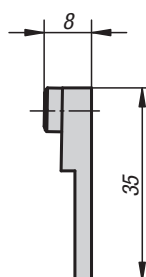
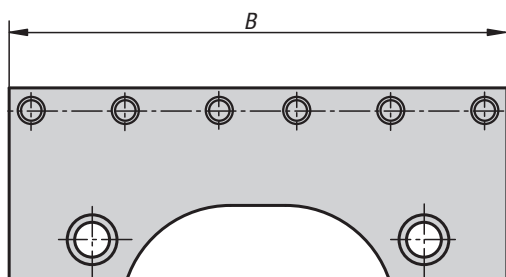
Note:
For clamping pre-machined workpieces and for final machining.

Supplied singly.

KIPP Jaw plates smooth

Order No.	B
K0975.0900	90
K0975.1250	125

Jaw plates with pins



Material:
Tool steel.

Version:
Plate hardened, bright.
Pins hardened, black oxidised.

Sample order:
K0975.0901

Note:
For positive clamping without preforming, e.g. rough pieces, heavy cutting, castings etc.

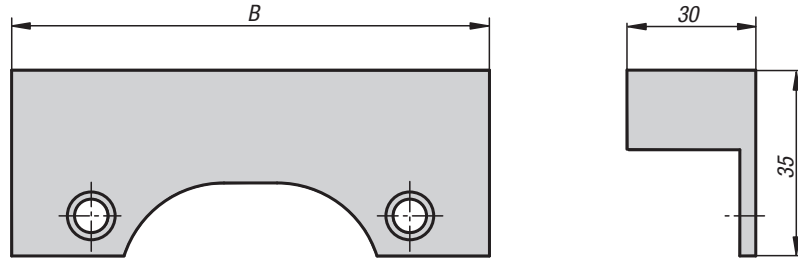
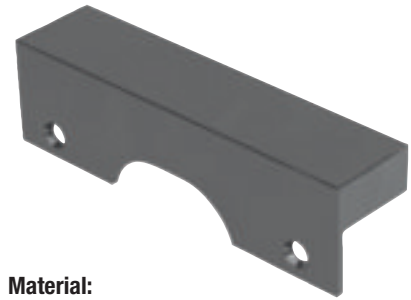
Supplied singly.

KIPP Jaw plates with pins

Order No.	B	No. of pins
K0975.0901	90	6
K0975.1251	125	8

Jaw plates

machinable



Material:
Carbon steel.

Version:
Black oxidised.

Sample order:
K0975.0902

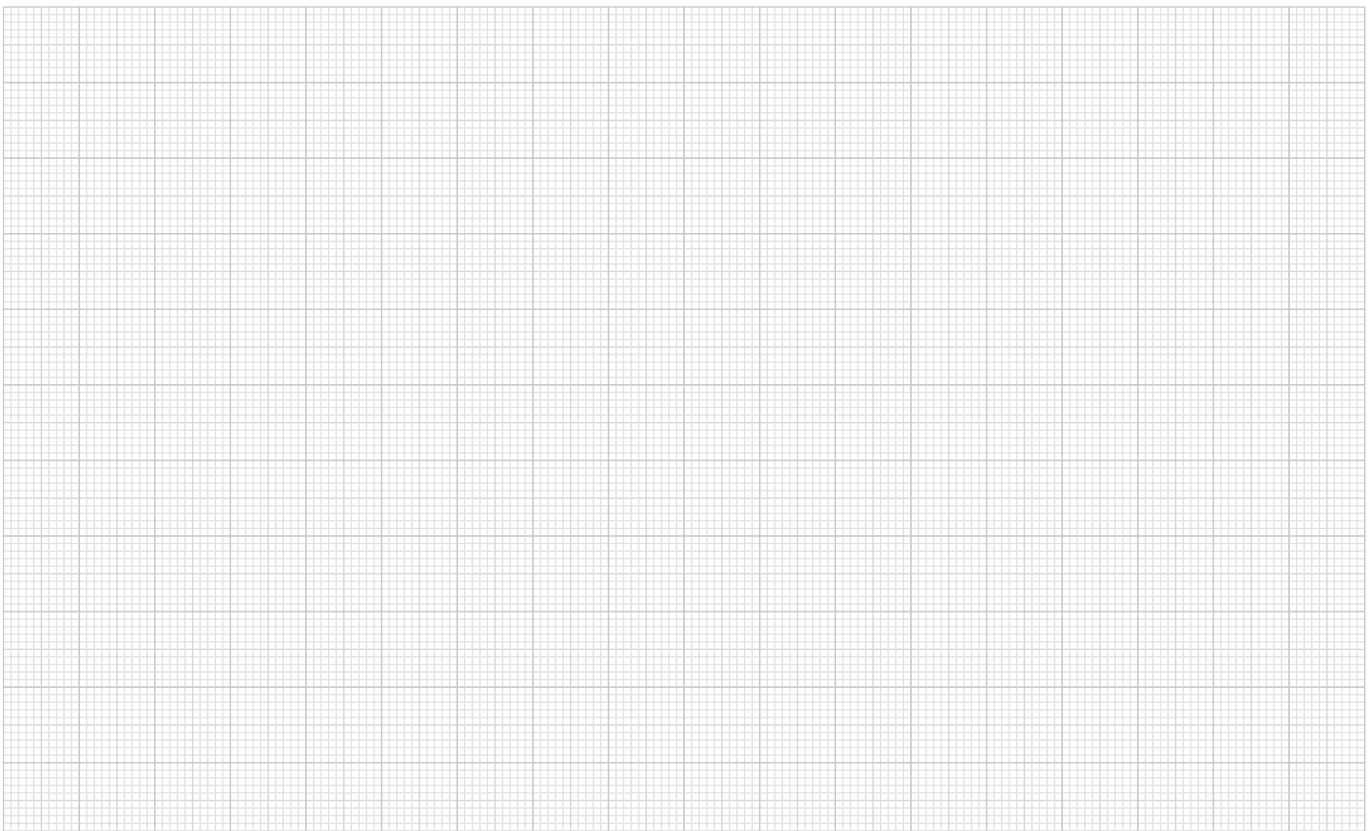
Note for ordering:
Supplied singly.

Note:
Machinable jaw plates are ideal for gripping on workpiece contours and machining in steps.

KIPP Machinable jaw plates

Order No.	B
K0975.0902	90
K0975.1252	125

Notes



Seating ledges



Material:
Hardened steel

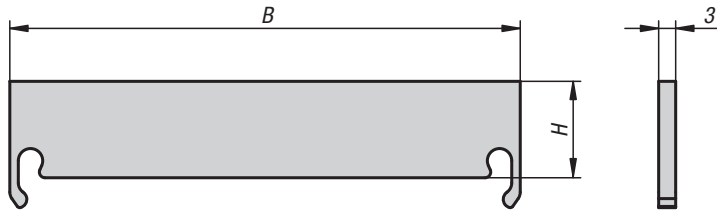
Version:
Bright.

Sample order:
K0974.0900312

Note:
The seating ledges are suitable for adjusting the clamping depth of the workpiece on the compact 5-axis clamping system. The 12 mm version does not interfere with the positive-down effect. By the 17 mm version, the positive-down force is reduced but causes less edge deformation.

Supplied in pairs.

Accessories:
for K0973



KIPP Seating ledges

Order No.	B	H
K0974.0900312	90	12
K0974.0900317	90	17
K0974.1250312	125	12
K0974.1250317	125	17

Seating ledges

screw-on



Material:
Steel.

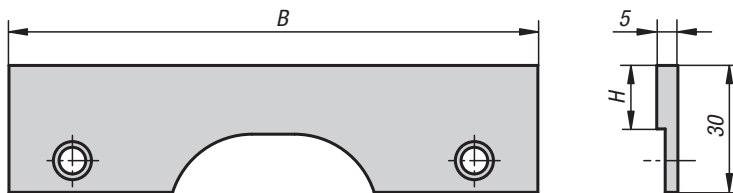
Version:
Bright.

Sample order:
K0974.0900515

Note:
Screw-on seating ledges are used to set the seating height of the workpiece. The desired seating height is achieved by milling over the screwed on ledges. A very high accuracy of the height to the machine table can be achieved.

Supplied in pairs.

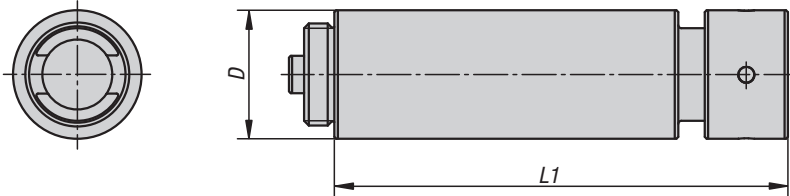
Accessories:
for K0973



KIPP Seating ledges, screw-on

Order No.	B	H
K0974.0900515	90	15
K0974.1250515	125	15

Extension shafts



Material:
Carbon steel.

Version:
Black oxidised.

Sample order:
K0990.060

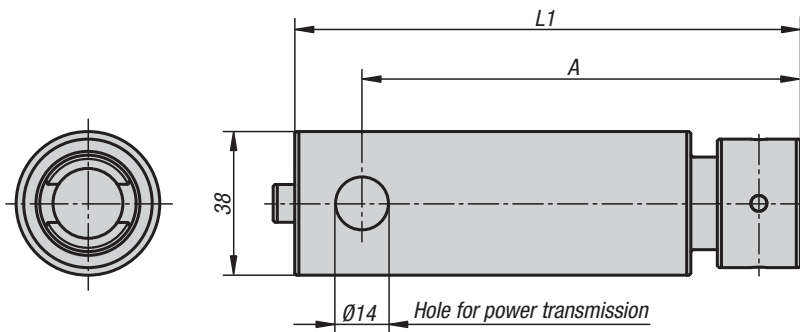
Note:
For setting the clamping width.
Supplied with union nut.
The extension shafts can be combined as required.

KIPP Extension shafts

Order No.	D	L1
K0990.060	34	60
K0990.120	34	120
K0990.240	34	240
K0990.480	34	480

K0991

Adapter shafts



Material:
Carbon steel.

Version:
Black oxidised.

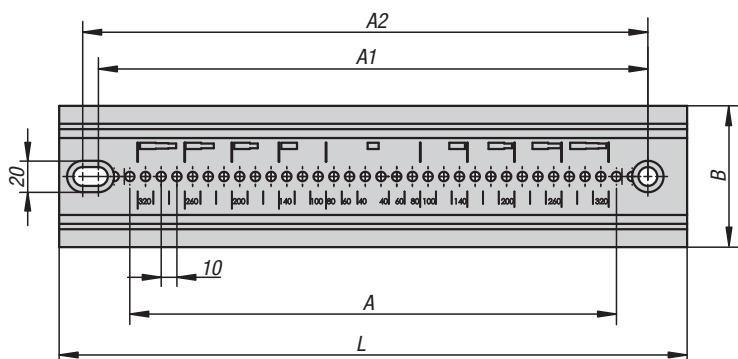
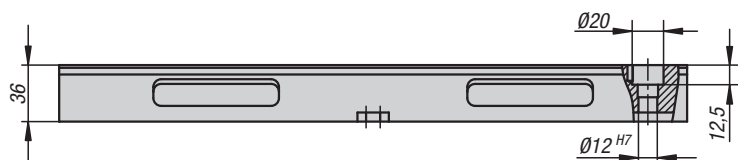
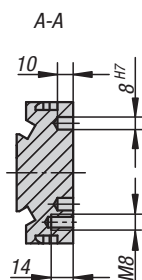
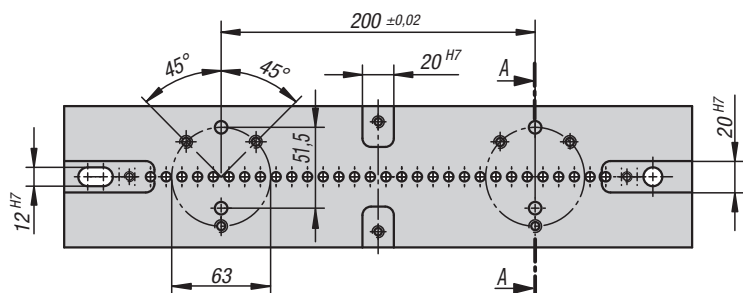
Sample order:
K0991.060

Note:
For setting the clamping width.
Supplied with union nut.
The adapter shafts are linked to the vice jaws by the lateral holes.
An adapter shaft must be mounted in every compact 5-axis clamp.

KIPP Adapter shafts

Order No.	D	L
K0991.060	38	60
K0991.120	38	120

Base plates



Material:

Steel.

Version:

Black oxidised.
Function faces ground.

Sample order:

K0994.090280

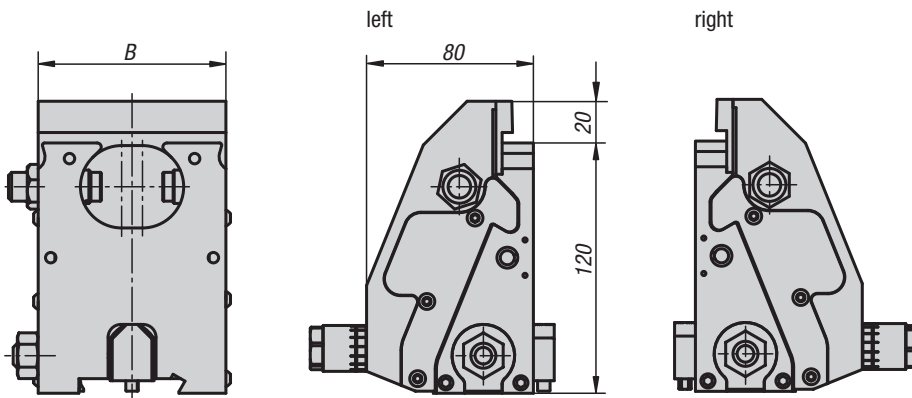
Note:

Base plates with locating slots on the underside for easy alignment of the plate on the machine table. Securing via grid holes 12F7 for 40 mm and 50 mm grid spacing possible. Lateral recesses provided for separate clamping means.

KIPP Base plates

Order No.	A	A1	A2	B	L	Suitable shoulder screw	weight kg
K0994.090280	20x10	240	250	90	280	K0815.12055	5.74
K0994.125280	20x10	240	250	125	280	K0815.12055	8.52
K0994.090400	31x10	350	360	90	400	K0815.12055	8.33
K0994.125400	31x10	350	360	125	400	K0815.12055	12.25

Vice jaws complete

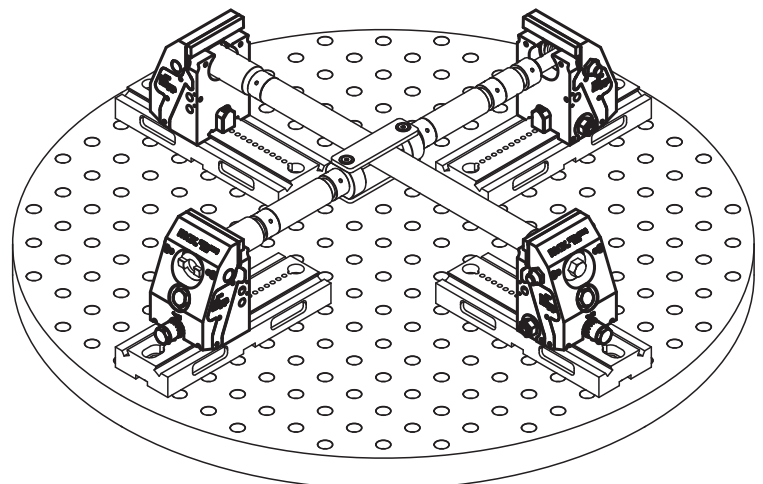


Material:
 Jaws mild steel.
 Jaw plates tool steel.

Version:
 Jaws black oxidised.
 Vice jaws bright.

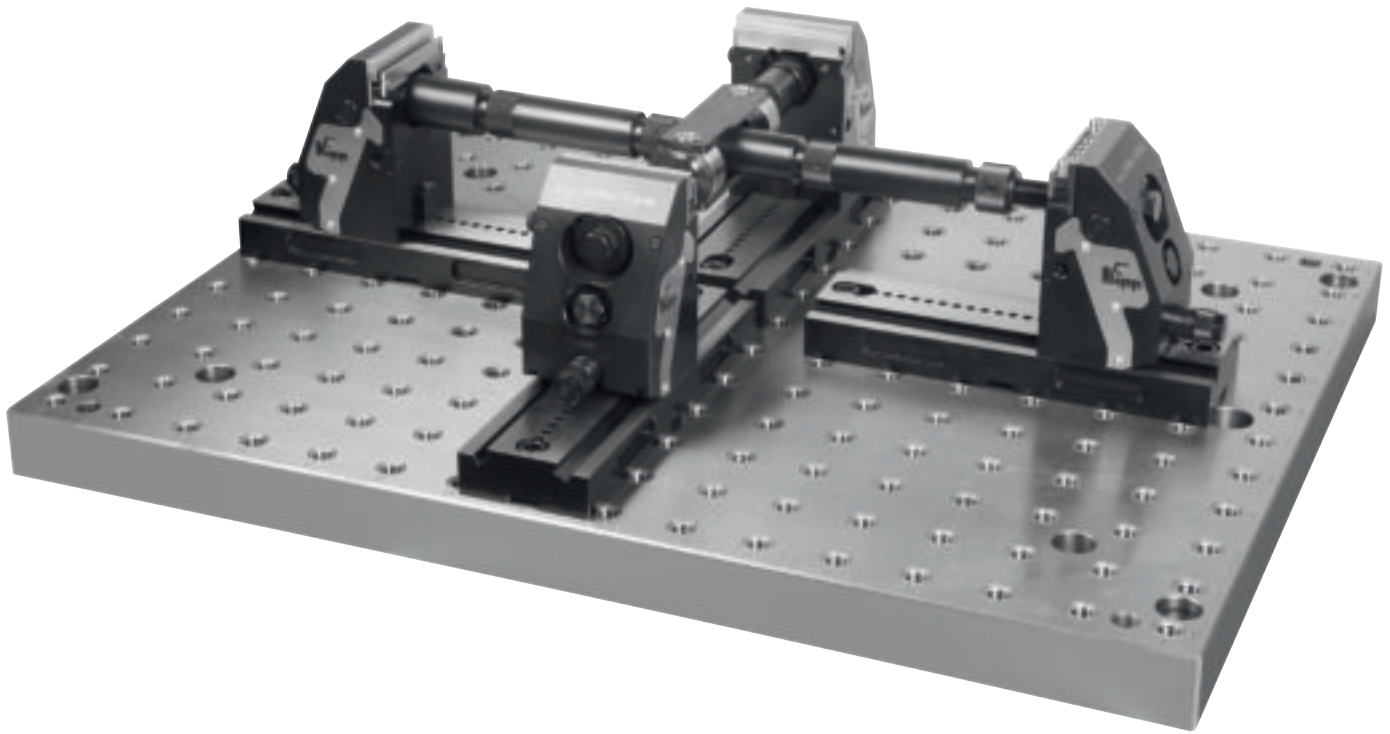
Sample order:
 K0976.09015010

Note:
 These vice jaws are for expanding the 5-axis clamping system compact. With these vice jaws large workpieces can be held on all four sides by cross clamping. Base plates, extension shafts and the coupling for cross-clamping are also needed for this set up.

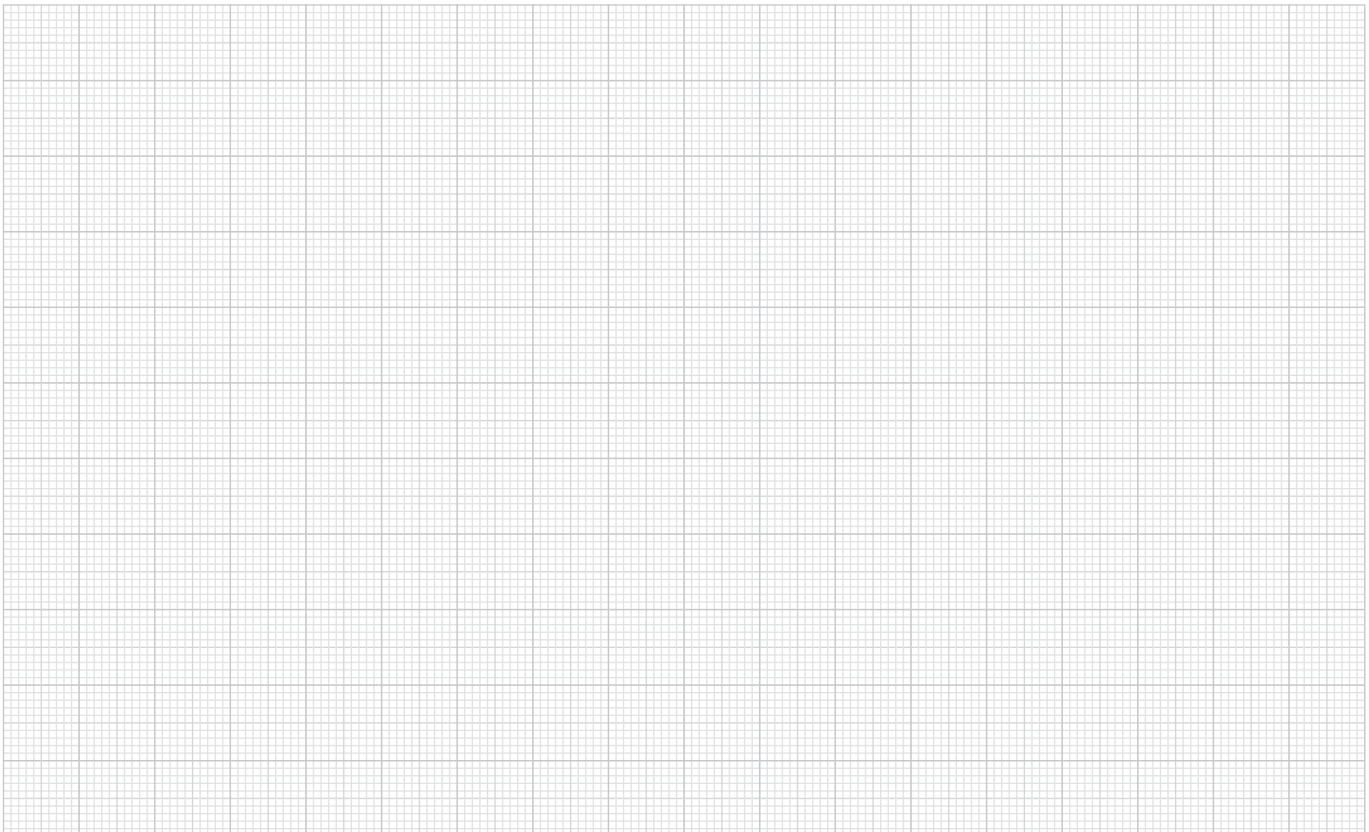


KIPP Vice jaws, complete

Order No.	Version	B	weight kg
K0976.09015010	right	90	5.18
K0976.09015020	left	90	5.18
K0976.12515010	right	125	7.416
K0976.12515020	left	125	7.416



Notes



Pendulum jaws



Material:

Body mild steel.
Jaw plates tool steel.

Version:

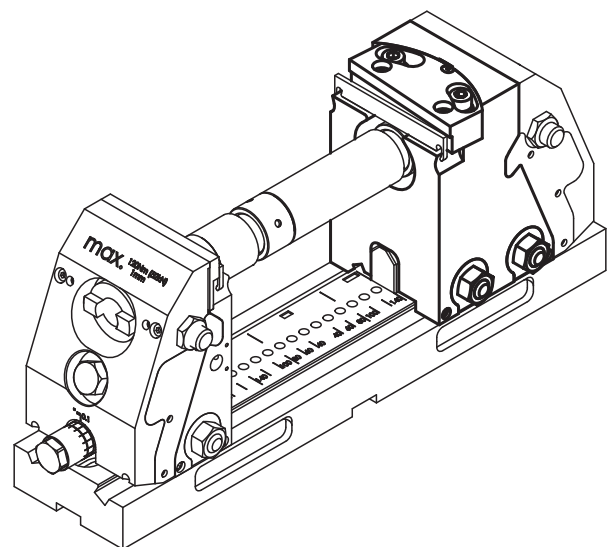
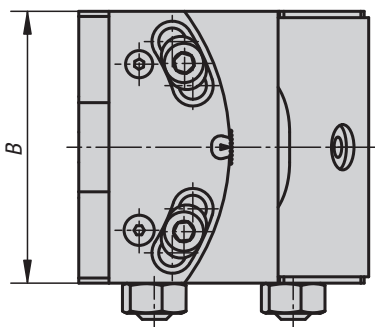
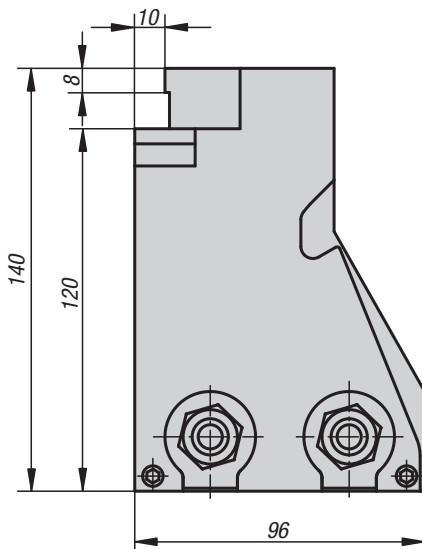
Body black oxidised.
Vice jaws hardened, bright.

Sample order:

K0988.09015010

Note:

Pendulum jaws are used to hold oblique workpieces.
The jaw plates of the pendulum jaws can be swivelled by $\pm 4^\circ$.
Pendulum jaws can also be used as fixed jaws.
Rigid design with 2 fastening screws.

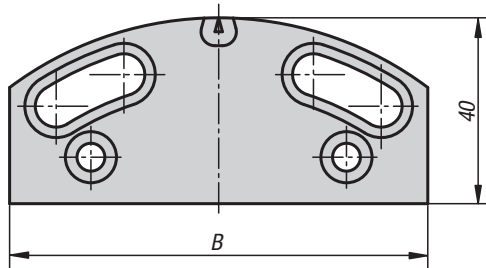
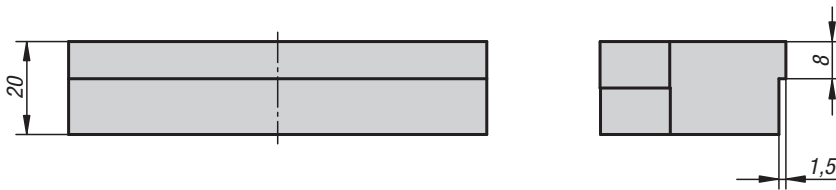


KIPP Pendulum jaws

Order No.	B	weight kg
K0988.09015010	90	6
K0988.12515010	125	8.77

Jaw plates smooth

for pendulum jaws



Material:
Tool steel.

Version:
Hardened, bright.

Sample order:
K1001.0900

Note:
For clamping pre-machined and ground workpieces.

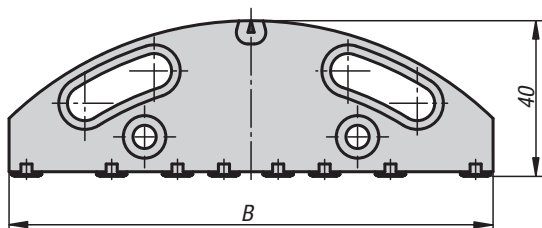
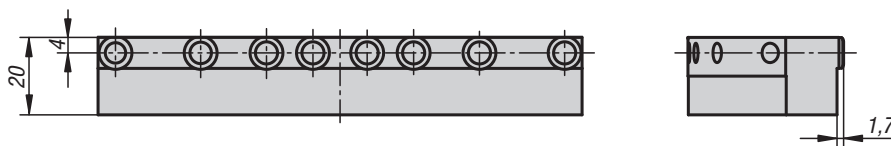
Supplied singly.

KIPP Jaw plates smooth for pendulum jaws

Order No.	B
K1001.0900	90
K1001.1250	125

Jaw plates with pins

for pendulum jaws



Material:
Tool steel.

Version:
Vice jaw hardened, bright.
Pins hardened, black oxidised.

Sample order:
K1001.0901

Note:
For positive clamping without preforming, e.g. rough pieces, heavy cutting, castings etc.

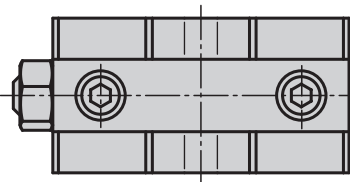
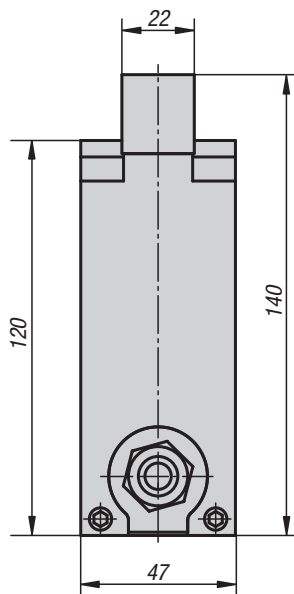
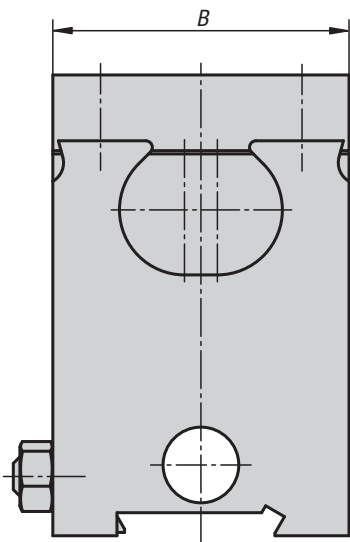
Supplied singly.

KIPP Jaw plates with pins for pendulum jaws

Order No.	B	No. of pins
K1001.0901	90	6
K1001.1251	125	8



Centre jaws

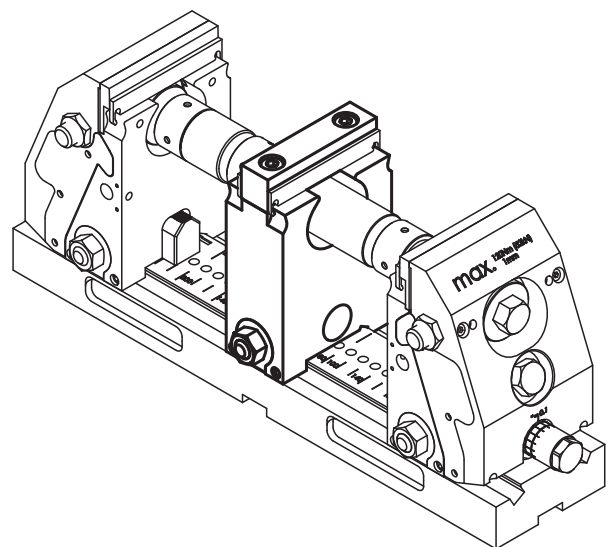


Material:
 Body mild steel.
 Jaw plates tool steel.

Version:
 Body black oxidised.
 Vice jaws hardened, bright.

Sample order:
 K0987.0901500

Note:
 Centre jaws are used to clamp 2 workpieces simultaneously.
 The centre jaws can be moved to suit the size of the workpiece. 2 different sized workpiece can be clamped.



KIPP Centre jaws

Order No.	B	weight kg
K0987.0901500	90	3.38
K0987.1251500	125	4.94

K1002

Jaw plates smooth

for centre jaws



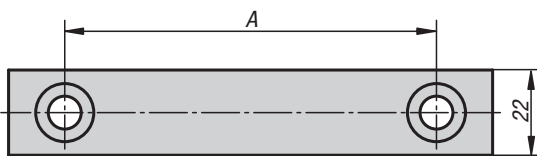
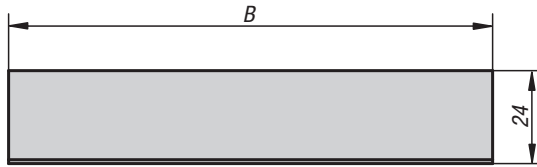
Material:
Tool steel.

Version:
Hardened, bright.

Sample order:
K1002.0900

Note:
For clamping pre-machined and ground workpieces.

Supplied singly.



KIPP Jaw plates smooth for centre jaws

Order No.	A	B
K1002.0900	61	90
K1002.1250	96	125

K1002

Jaw plates with pins

for centre jaws



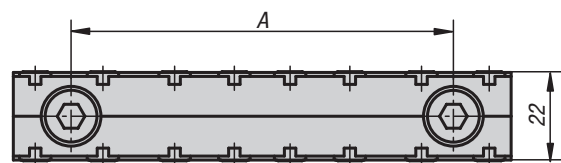
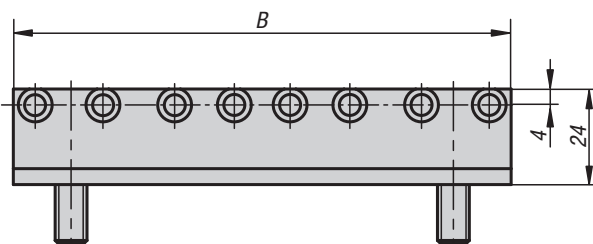
Material:
Tool steel.

Version:
Vice jaw hardened, bright.
Pins hardened, black oxidised.

Sample order:
K1002.0901

Note:
For positive clamping without preforming, e.g. rough pieces, heavy cutting, castings etc.

Supplied singly.



KIPP Jaw plates with pins for centre jaws

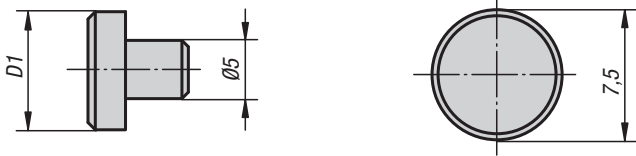
Order No.	A	B	No. of pins
K1002.0901	61	90	6
K1002.1251	96	125	8



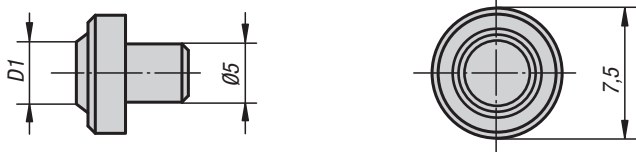
Jaw pins



flattened



cup point



Material, version:
Tool steel, hardened.

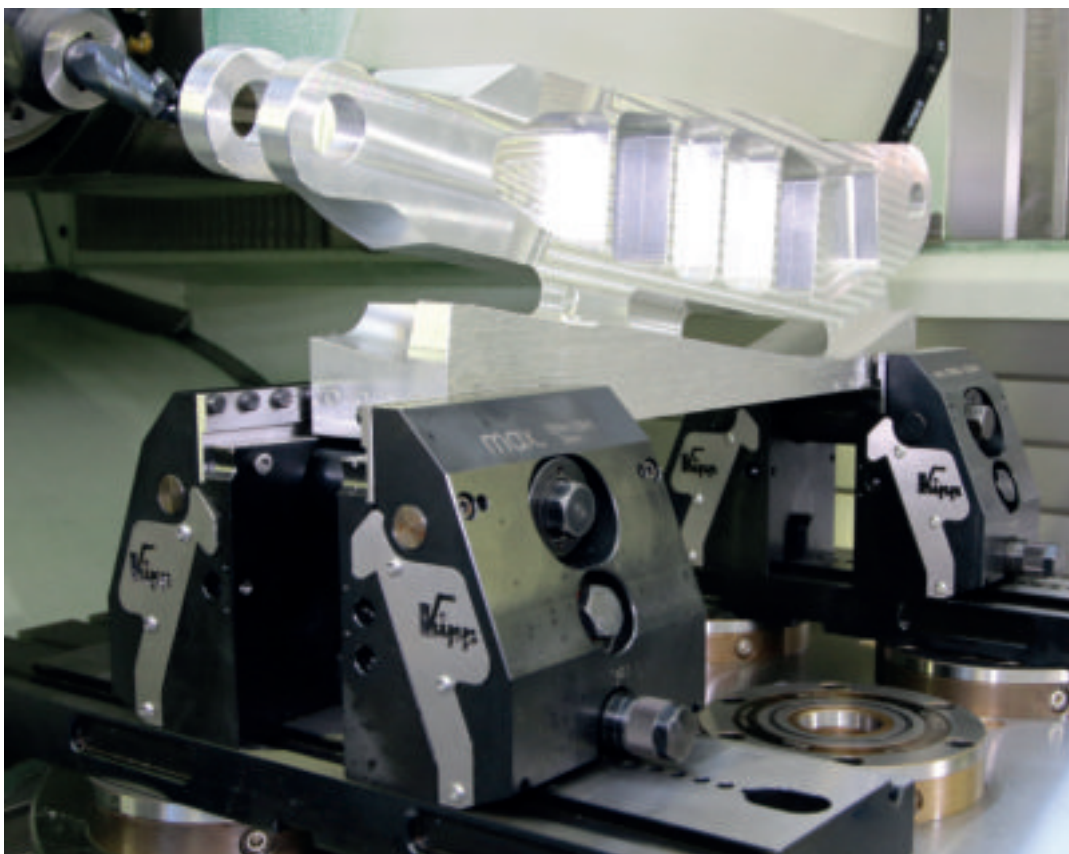
Sample order:
K0946.05600

Note:
Suitable for standard jaw plates and jaw adapters of round workpieces.
Installed by pressing in.

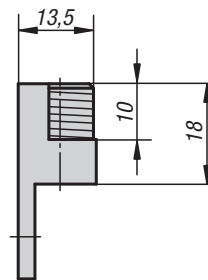
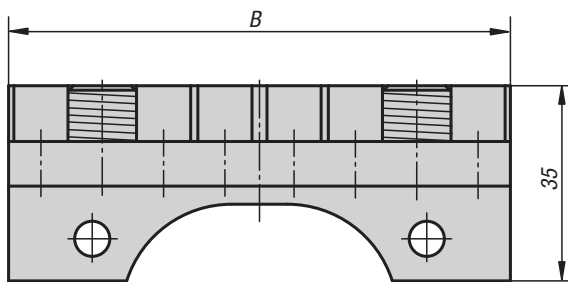
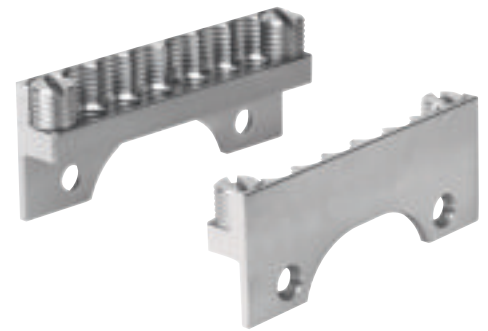
KIPP Jaw pins

Order No.	Version	D1	Application
K0946.05000	flattened	7,5	Material over 1000 N/mm ² tensile strength
K0946.05400	cup point	4	Material up to ca. 1000 N/mm ² tensile strength
K0946.05600	cup point	6	Material up to ca. 1000 N/mm ² tensile strength

Application example



Cylinder clamping sets



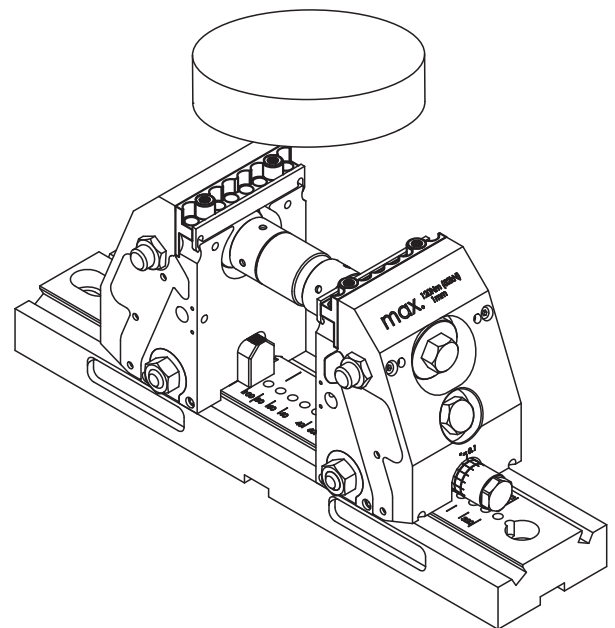
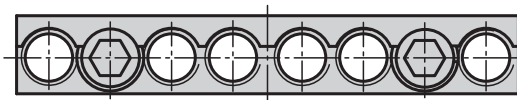
Material:
Tool steel.

Version:
Vice jaw hardened, bright.
Pins hardened, black oxidised.

Sample order:
K0989.09035

Note:
For holding round workpieces.

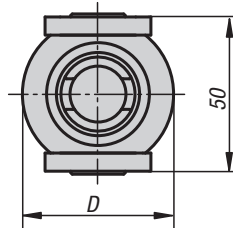
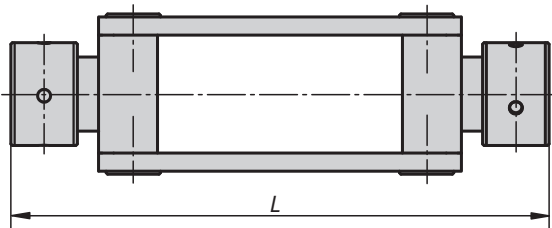
Supplied in pairs.



KIPP Cylinder clamping sets

Order No.	B	Clamping range min. - max.
K0989.09035	90	20 mm - 250 mm
K0989.12535	125	20 mm - 320 mm

Couplings for cross-clamping

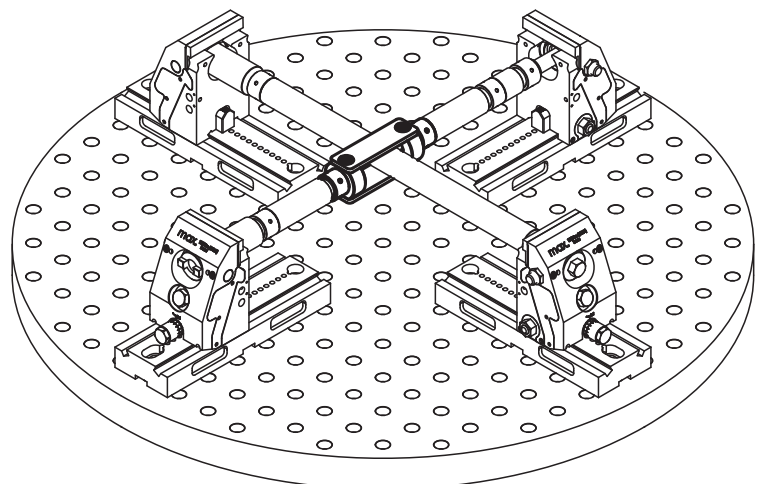
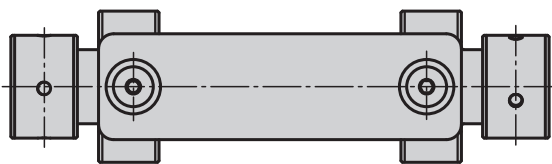


Material:
Carbon steel.

Version:
Black oxidised.

Sample order:
K0992.178

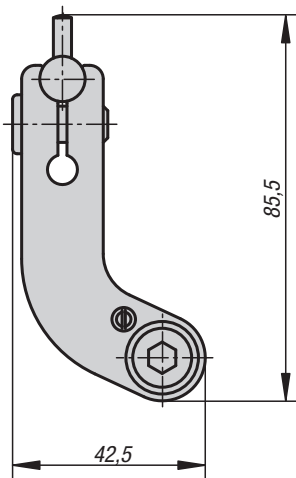
Note:
Two 5-axis clamping systems can be connected using a coupling for cross-clamping, allowing a workpiece to be held on four sides.



KIPP Couplings for cross-clamping

Order No.	D	L
K0992.178	50	178

Stop sets



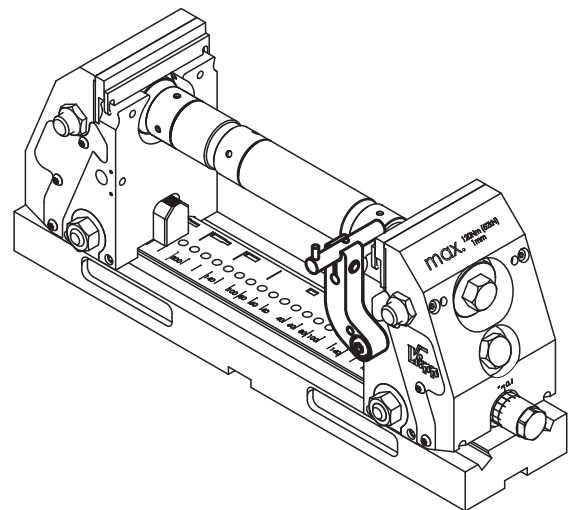
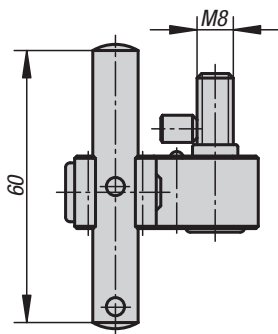
Material:
Steel.

Version:
Swivel arm, black oxidised.
Stop pin bright.

Sample order:
K0993.150

Note:
Stop set for direct fastening to jaws. The stop can be swivelled aside for machining the workpiece without losing the stop dimension.

Supplied complete with attachment parts.



KIPP Stop sets

Order No.

Suitable for

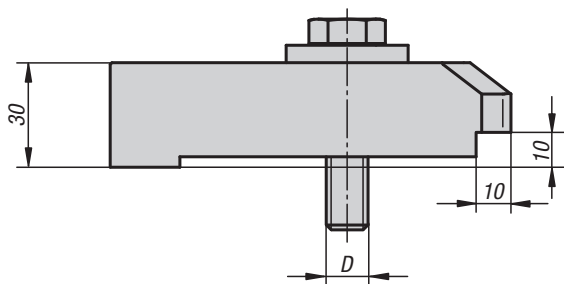
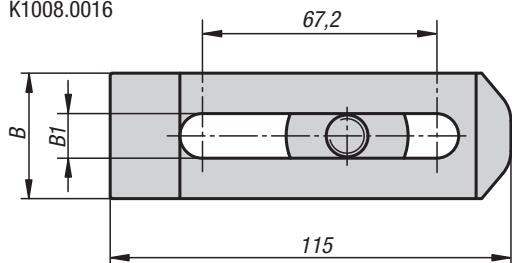
K0993.150

5-axis compact clamping system

Clamping claw sets



K1008.0012
K1008.0016



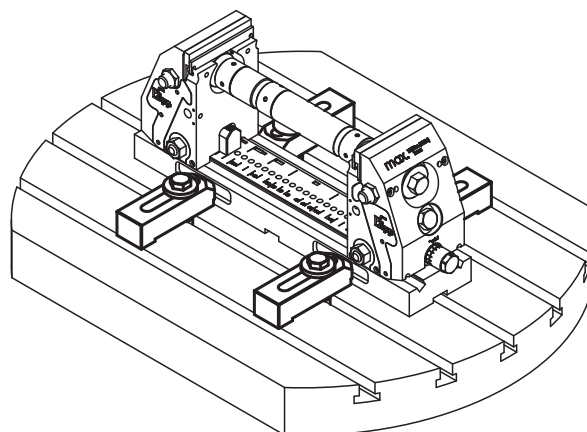
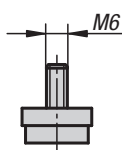
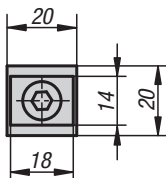
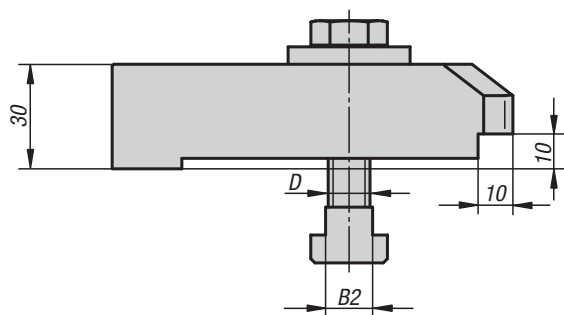
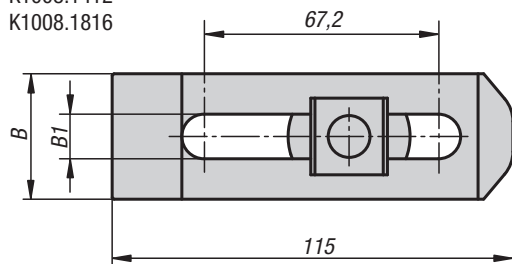
Material:
Carbon steel.

Version:
Black oxidised.

Sample order:
K1008.0012

Note:
Clamping claw set for compact 5-axis clamping system.
All common T-slots, grid and fastening hole spacings can be covered.

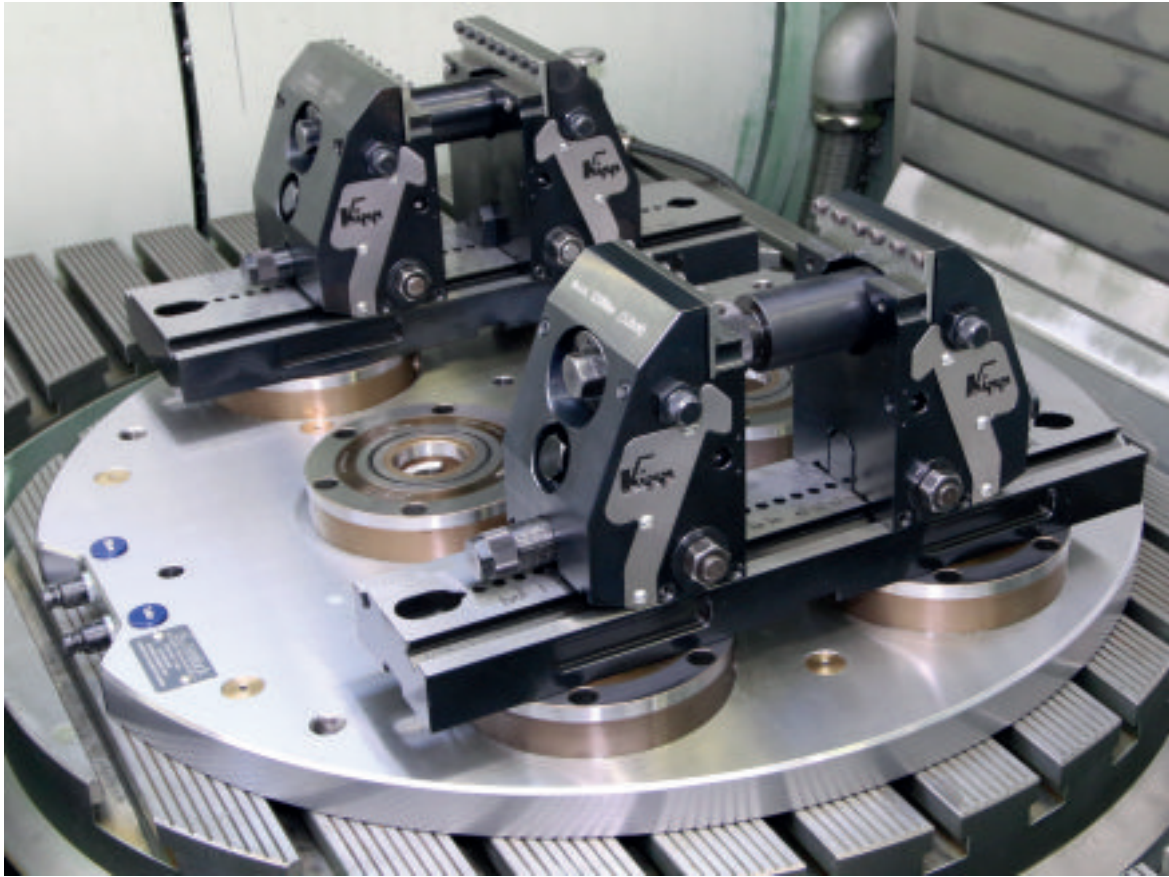
K1008.1412
K1008.1816



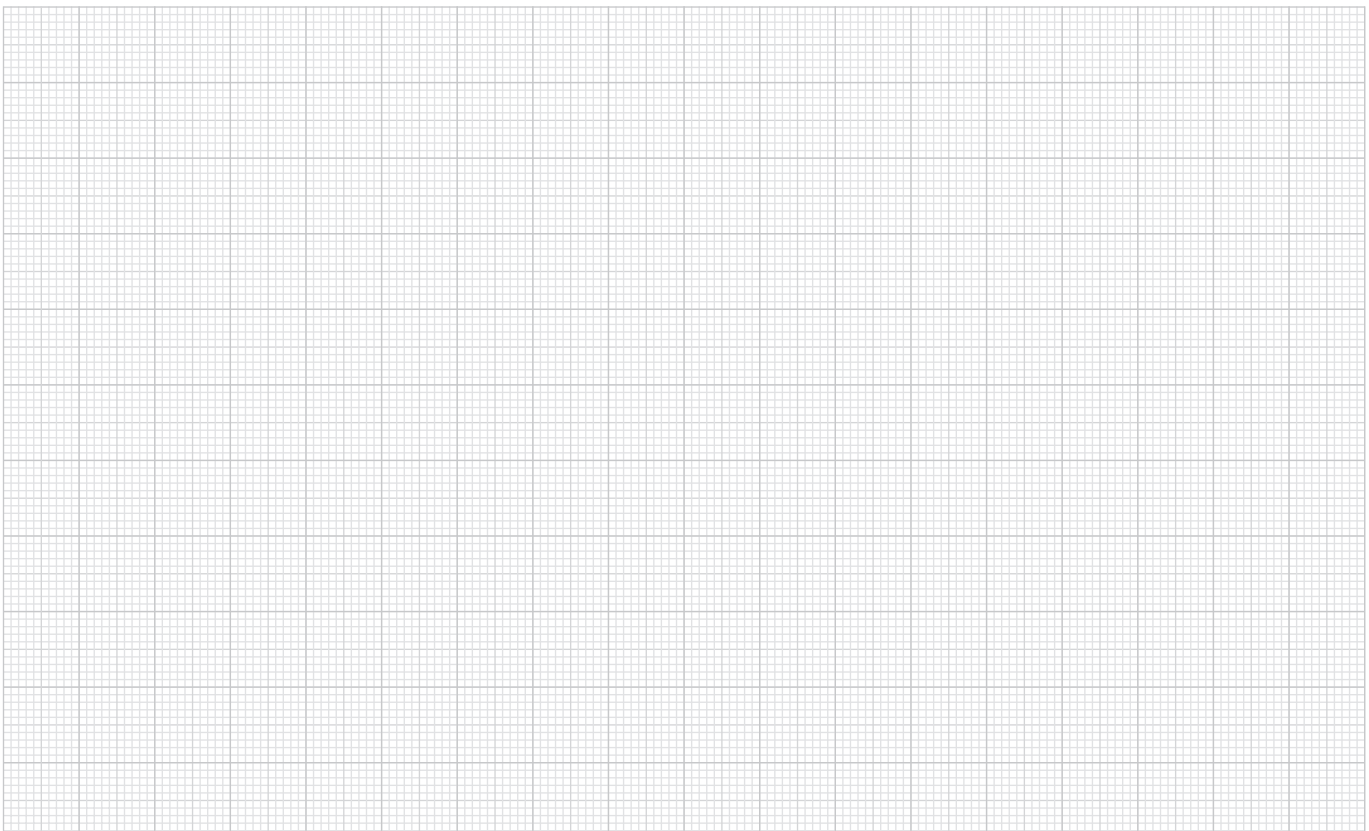
KIPP Clamping claw sets

Order No.	B	B1	B2	D
K1008.0012	40	12,8	-	M12
K1008.0016	40	16,8	-	M16
K1008.1412	40	12,8	13,5	M12
K1008.1816	40	16,8	17,5	M16

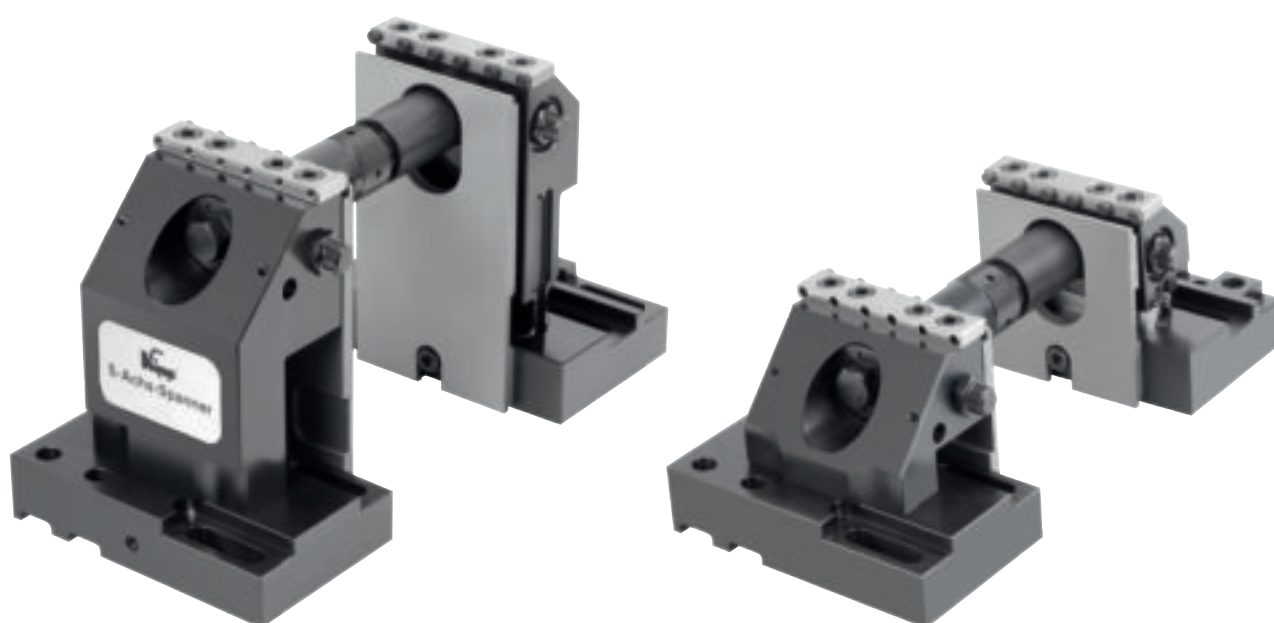
Application example



Notes



3-axis clamping system 5-axis clamping system



5 Axis clamping system



Trend-setting clamping concept for 5-sided machining

The 5-axis clamping system complements modern milling centres to produce an unbeatable overall concept.

Many products are becoming more complicated than ever, and also have to be produced in an extremely short time and with maximum precision. To satisfy these criteria workpieces must more often be completely machined in one set-up. Modern manufacturing technology adopted by machine tool manufacturers is the development of 5-axis machining. Complete machining of workpieces on 5-axis centres transfers the entire high precision to the workpiece.

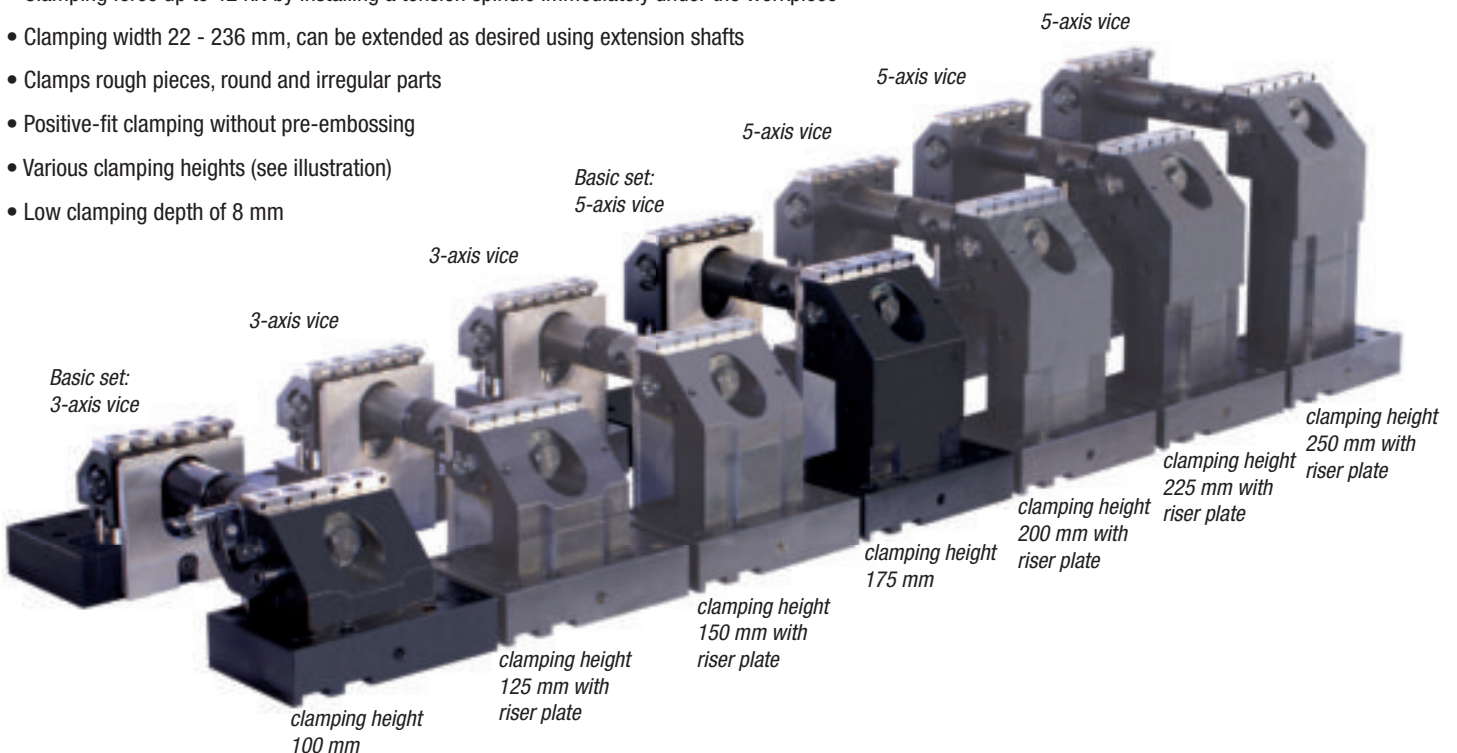
Due the greater configuration options for workpieces provided by 5-axis machining, a high-performance clamping system is an essential precondition for the efficient use of these machines. Among other things, an optimised clamping system helps guarantee that the machine's complex travel can produce a high-precision workpiece.

The 5-axis clamping systems allow machining free of interfering edges and vibration, with extremely high cutting and feed forces. They enable the application of extremely short tools in order to guarantee the required tolerances and surfaces.



5 and 3 axis vices for trouble-free 5-sided machining with a single setup

- Can be set up on grid hole plates, on T-slot plates and on your own fixtures
- Clamping force up to 42 kN by installing a tension spindle immediately under the workpiece
- Clamping width 22 - 236 mm, can be extended as desired using extension shafts
- Clamps rough pieces, round and irregular parts
- Positive-fit clamping without pre-embossing
- Various clamping heights (see illustration)
- Low clamping depth of 8 mm



5 Axis clamping system



Special technical features - clamping process



before clamping

The clamping process involves the penetration of hardened, exchangeable clamping pins in to the workpiece. This guarantees positive-fit clamping without pre-embossing. Optionally, flattened clamping pins are available for

clamping workpieces with sensitive surfaces. Additional flexible applications are possible using accessories, including clamping jaws for specific clamping tasks and round clamping elements for clamping round parts.

The 5 axis clamping systems provides you with a universal clamping element that is able to clamp workpieces with a clamping width of 22 - 236 mm. The clamping width can be extended as desired through the use of extension shafts.

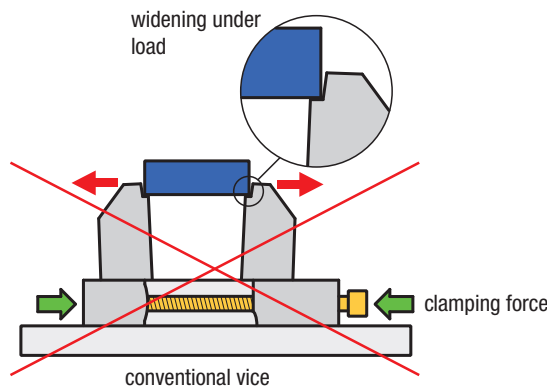


after clamping

High clamping forces up to 42 kN that are not lost due to flexing

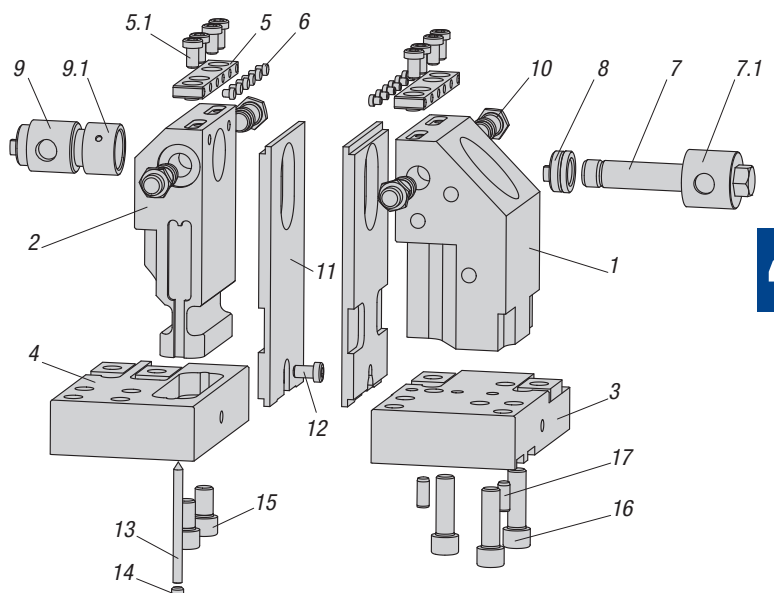
By installing a tension spindle directly under the workpiece support the clamping force is generated where it is required.

- no widening the jaws under load
- no distortion of the machine table
- extreme rigidity allows highest cutting forces



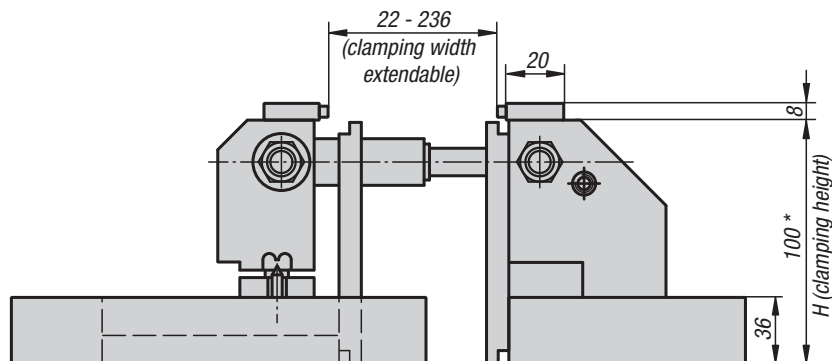
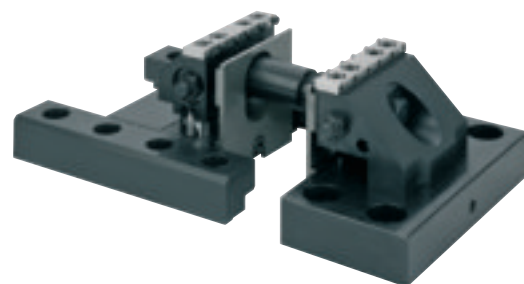
5-axis vice - system design

pos.	description	pcs.
1	fixed jaws	1
2	moveable jaws	1
3	base plate for fixed jaws	1
4	base plate for movable jaws	1
5	standard jaw pads with cap screws (5.1)	2
6	clamping pin	12
7	threaded spindle (7) with tension housing (7.1)	1
8	spindle nut	1
9	extension shaft (9) with union nut (9.1)	1
10	fastening screw	4
11	seating ledge	2
12	DIN 6912 M8x12 cap screw	2
13	pointer	1
14	DIN 913 M8x8 grub screw	1
15	DIN 912 M12x20 cap screw	2
16	DIN 912 M12x40 cap screw	3
17	DIN 7979 8x20 dowel pin	2



3-axis clamping system

for grid plates



Material:

Base plates and jaws low-carbon steel.
Seating ledges steel.
Jaw plates special steel.
Clamping pins tool steel.

Version:

Base plates and jaws black oxidised.
Seating ledges hardened, bright.
Jaw plates bright.
Clamping pins hardened, bright.

Sample order:

K0939.4012100

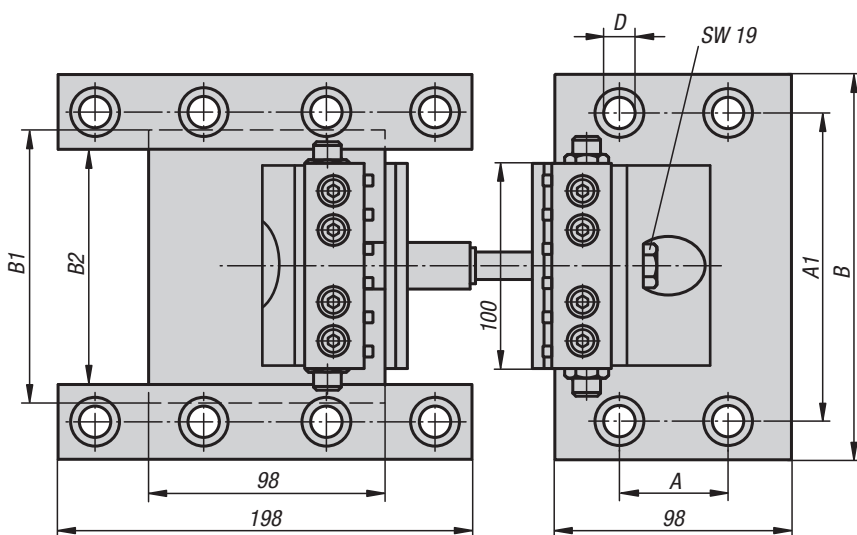
Note:

3-axis vices for mounting on grid plates.
These vices enable 3-sided machining free of interfering edges with a clamping depth of only 8 mm. With this clamping system, clamping widths of 22 - 236 mm are possible, and can be extended as desired using the optionally available K0947 extension shafts.
By installing a tension spindle immediately under the workpiece support, a force of up to 22 kN is applied to the workpiece; this is not lost due to flexing. The use of clamping pins with a 4 mm cup point allows positive-fit clamping without pre-embossing.
The shoulder screws K0815 are recommended for mounting the vices on grid hole plates.
The set includes one extension shaft with L = 60 mm and one with L = 120 mm.

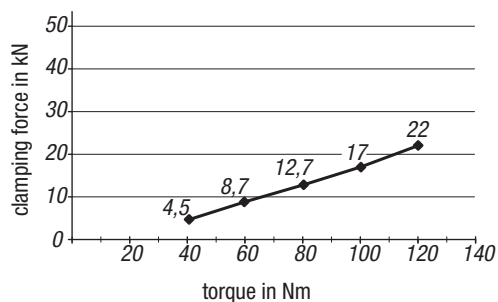
* The clamping height can be extended with the riser plates K0941 and seating ledges K0942.

Accessories:

Stop set K0948
Shoulder screws K0815



clamping force 3 axis clamping system

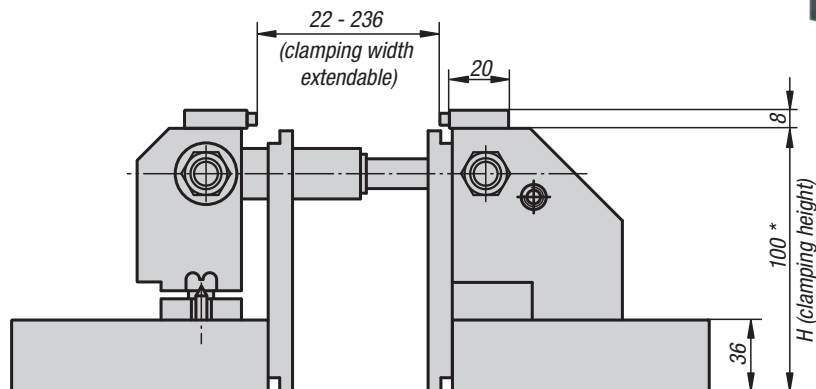
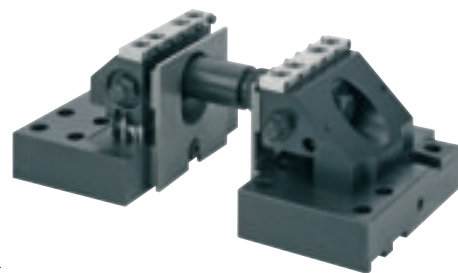


KIPP 3 Axis clamping system for grid plates

Order No.	Grid spacing	A	A1	B	B1	B2	D	H	Clamping force max. kN	weight kg
K0939.4012100	40x40 (M12)	40	160	190	148	124	12	100 *	22	18.88
K0939.5012100	50x50 (M12)	50	150	190	138	114	12	100 *	22	19.445
K0939.5016100	50x50 (M16)	50	150	190	134	110	16	100 *	22	18.74

3-axis clamping system

for T-slots



Material:

Base plates and jaws low-carbon steel.
Seating ledges steel.
Jaw plates special steel.
Clamping pins tool steel.

Version:

Base plates and jaws black oxidised.
Seating ledges hardened, bright.
Jaw plates bright.
Clamping pins hardened, bright.

Sample order:

K0940.063100

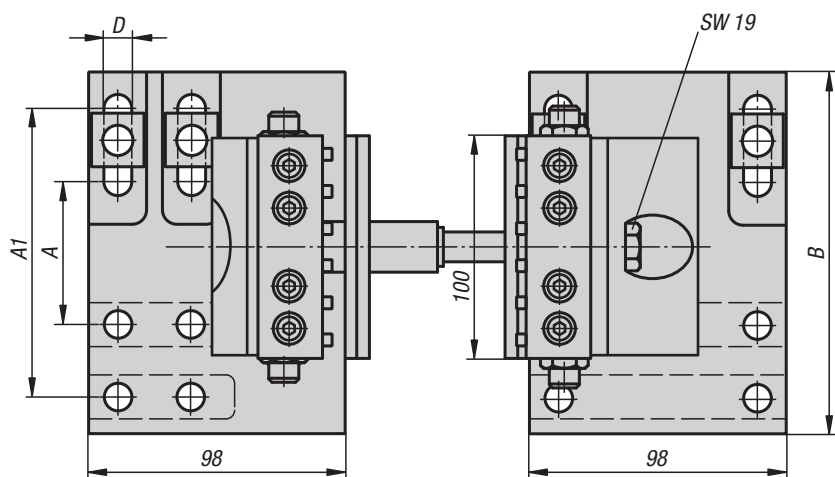
Note:

3-axis vices for mounting on machine tables with T-slots. These vices enable 3-sided machining free of interfering edges with a clamping depth of only 8 mm. With this clamping system, clamping widths of 22 - 236 mm are possible, and can be extended as desired using the optionally available K0947 extension shafts. By installing a tension spindle immediately under the workpiece support, a force of up to 22 kN is applied to the workpiece, this is not lost due to flexing. The use of clamping pins with a 4 mm cup point allows positive-fit clamping without pre-embossing. The fastening set K0951 is recommended for mounting the vices on T-slot tables. The set includes one extension shaft with L = 60 mm and one with L = 120 mm.

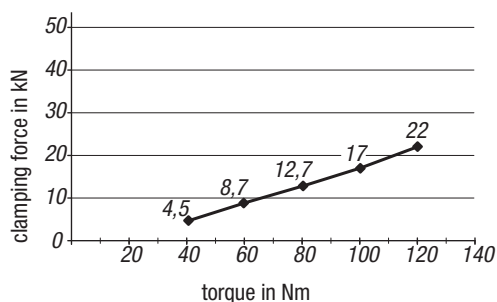
* The clamping height can be extended with the riser base plates K0941 and seating ledges K0942.

Accessories:

Stop set K0948
Fastening set K0951



clamping force 3 axis clamping system

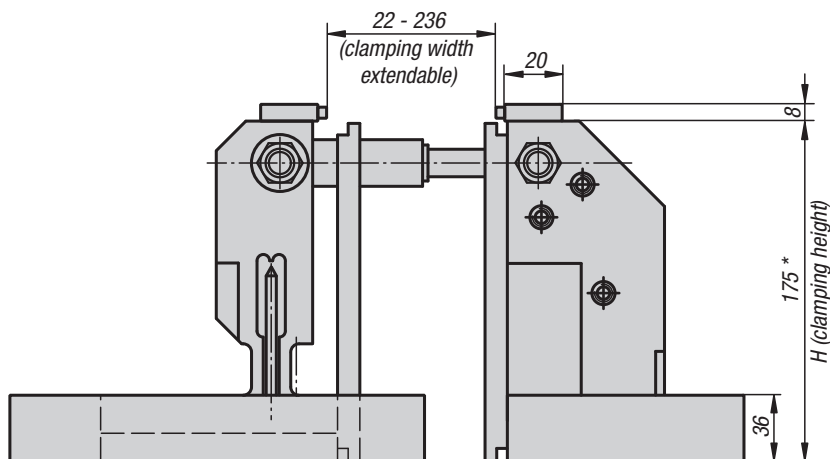
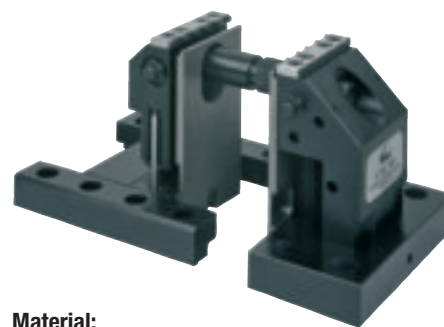


KIPP 3 Axis clamping system for T-slots

Order No.	Suitable for	A	A1	B	D	H	Clamping force max. kN	weight kg
K0940.063100	Slot spacing 63 - 126	63	126	158	12,5	100 *	22	14.8

5-axis clamping system

for grid plates



Material:

Base plates and jaws low-carbon steel.
Seating ledges steel.
Jaw plates special steel.
Clamping pins tool steel.

Version:

Base plates and jaws black oxidised.
Seating ledges hardened, bright.
Jaw plates bright.
Clamping pins hardened, bright.

Sample order:

K0939.4012175

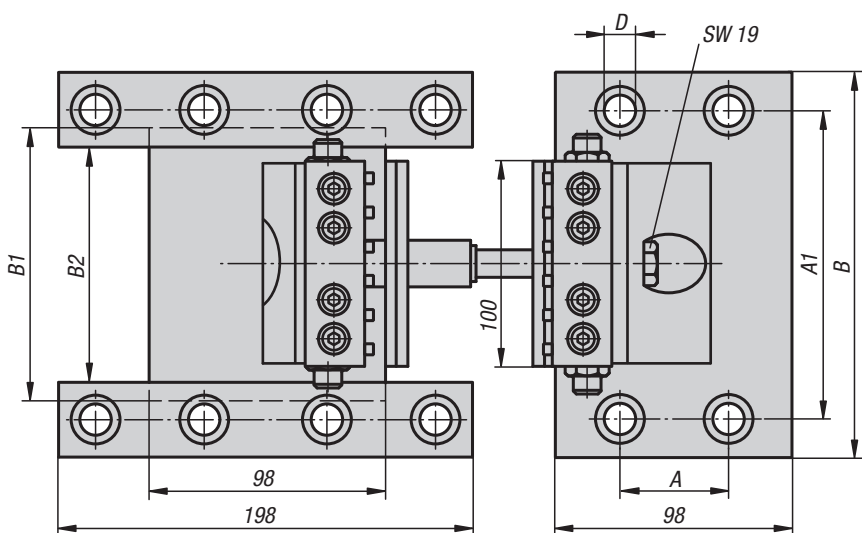
Note:

5-axis vices for mounting on grid plates. These vices enable 5-sided machining free of interfering edges with a clamping depth of only 8 mm. With this clamping system, clamping widths of 22 - 236 mm are possible, and can be extended as desired using the optionally available K0947 extension shafts. By installing a tension spindle immediately under the workpiece support, a force of up to 42 kN is applied to the workpiece; this is not lost due to bending. The use of clamping pins with a 4 mm cup point allows positive-fit clamping without pre-embossing. The shoulder screws K0815 are recommended for mounting the vices on grid hole plates. The set includes one extension shaft with L = 60 mm and one with L = 120 mm.

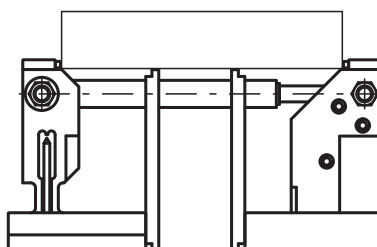
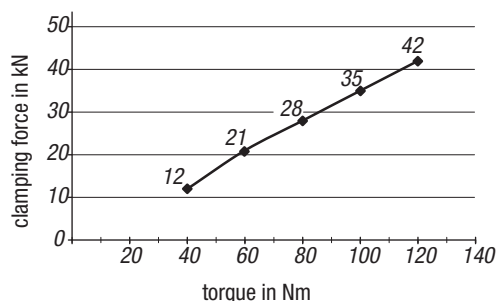
* The clamping height can be extended with the riser plates K0941 and seating ledges K0942.

Accessories:

Stop set K0948
Locating bolts K0815



clamping force 5 axis clamping system

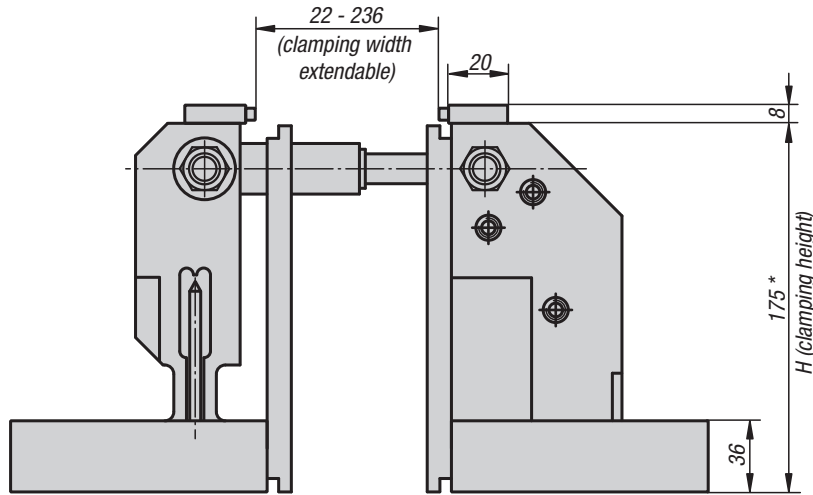


KIPP 5 Axis clamping system for grid plates

Order No.	Grid spacing	A	A1	B	B1	B2	D	H	Clamping force max. kN	weight kg
K0939.4012175	40x40 (M12)	40	160	190	148	124	12	175 *	42	25.095
K0939.5012175	50x50 (M12)	50	150	190	138	114	12	175 *	42	25.232
K0939.5016175	50x50 (M16)	50	150	190	134	110	16	175 *	42	25.265

5-axis clamping system

for T-slots



Material:

Base plates and jaws low-carbon steel.
Seating ledges steel.
Jaw plates special steel.
Clamping pins tool steel.

Version:

Base plates and jaws black oxidised.
Seating ledges hardened, bright.
Jaw plates bright.
Clamping pins hardened, bright.

Sample order:

K0940.063175

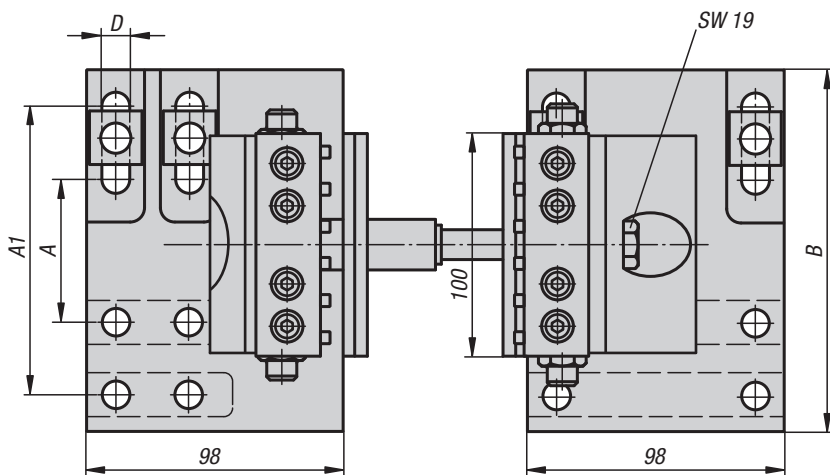
Note:

5-axis vices for mounting on machine tables with T-slots. These vices enable 5-sided machining free of interfering edges with a clamping depth of only 8 mm. With this clamping system, clamping widths of 22 - 236 mm are possible, and can be extended as desired using the optionally available K0947 extension shafts. By installing a tension spindle immediately under the workpiece support, a force of up to 42 kN is applied to the workpiece, this is not lost due to flexing. The use of clamping pins with a 4 mm cup point allows positive-fit clamping without pre-embossing. The fastening set K0951 is recommended for mounting the vices on T-slot tables. The set includes one extension shaft with L = 60 mm and one with L = 120 mm.

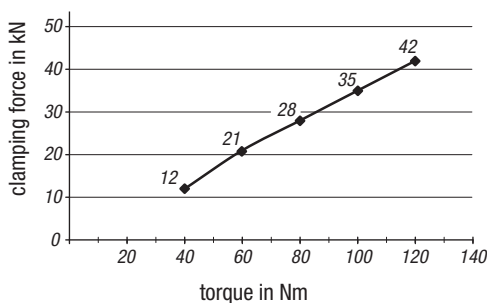
* The clamping height can be extended with the riser plates K0941 and seating ledges K0942.

Accessories:

Stop set K0948
Fastening set K0951



clamping force 5 axis clamping system



KIPP 5 Axis clamping system for T-slots

Order No.	Suitable for	A	A1	B	D	H	Clamping force max. kN	weight kg
K0940.063175	Slot spacing 63 - 126	63	126	158	12,5	175 *	42	21.32

Riser plates



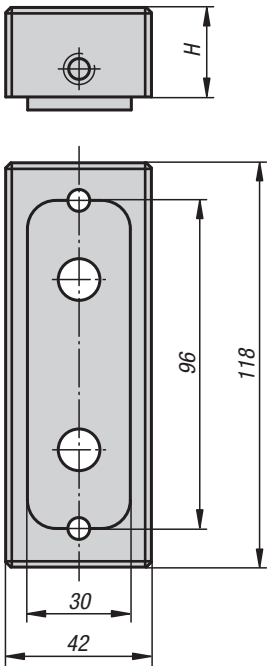
Material, version:
Steel, black oxidised.

Sample order:
K0941.025
(supplied in pairs)

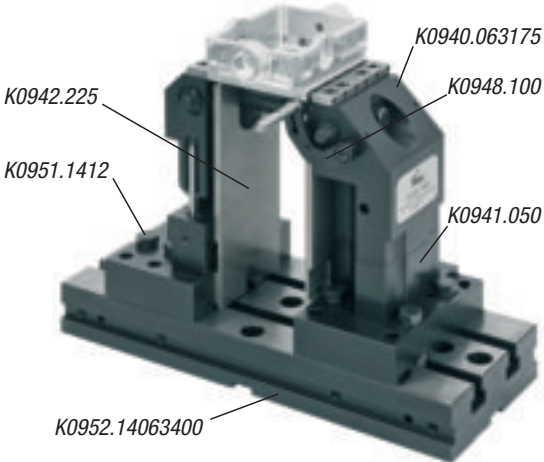
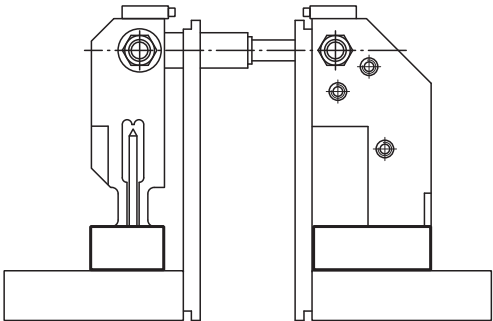
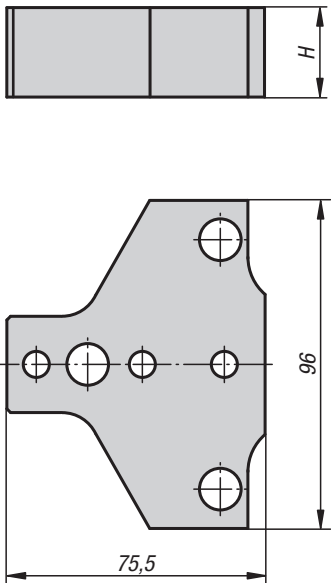
Note:
The riser plates are mounted between the base plate and the jaw body, raising the 3-axis vices to 125 or 150 mm. The 5-axis vices can be raised to 200, 225 or 250 mm. When using the riser plates the matching seating ledges K0942 must also be installed.

Supplied with fastening screws and cylindrical pins.

risers for moveable side



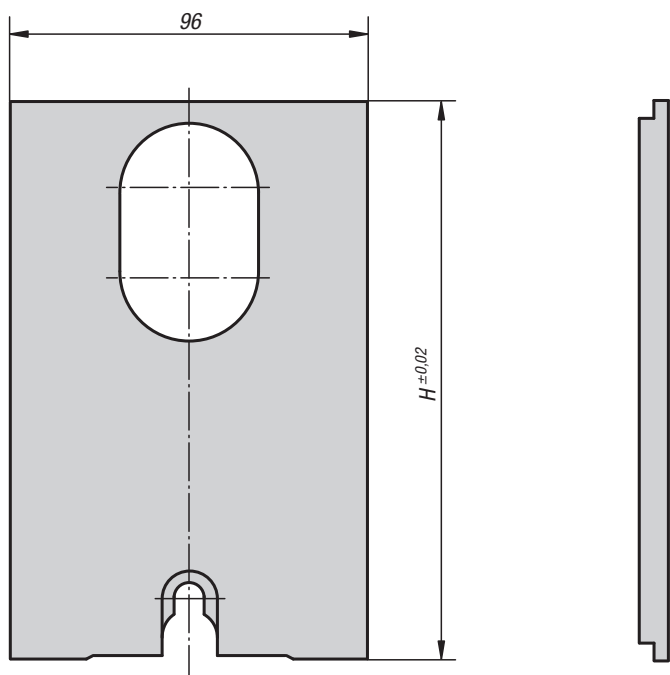
risers for fixed side



KIPP Riser plates

Order No.	H	weight kg
K0941.025	25	1.861
K0941.050	50	3.701
K0941.075	75 (25 + 50)	5.271

Seating ledges

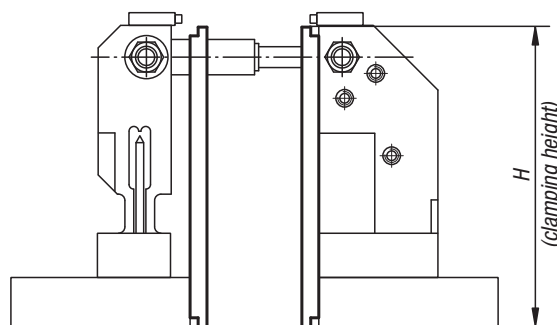


Material, version:
Steel hardened, bright.

Sample order:
K0942.100
(supplied in pairs)

Note:
If the riser plates K0941 are used to raise the height, the seating ledges must be changed to suit.

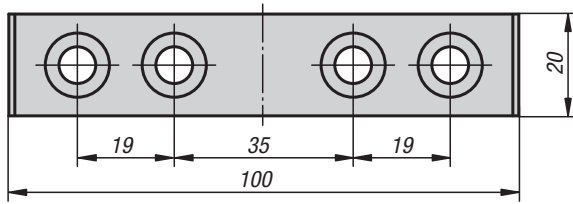
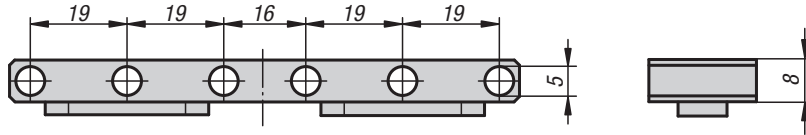
*Including 12 jaw pins K0946.05600.



KIPP Seating ledges

Order No.	H	Suitable for
K0942.100	100	3-axis vice basic set
K0942.105*	105	3-axis vice basic set
K0942.125	125	3-axis vice with 25 mm riser plate
K0942.150	150	3-axis vice with 50 mm riser plate
K0942.175	175	5-axis vice basic set
K0942.180*	180	5-axis vice basic set
K0942.200	200	5-axis vice with 25 mm riser plate
K0942.225	225	5-axis vice with 50 mm riser plate
K0942.250	250	5-axis vice with 75 mm riser plate (25 + 50)

Jaw plates standard



Material, version:
Special steel, bright.

Sample order:
K0943.110008

Note:
Jaw plates with holes to press the jaw pins into.
Suitable for all 3-axis and 5-axis vices.

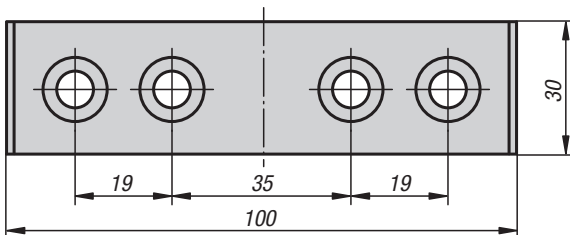
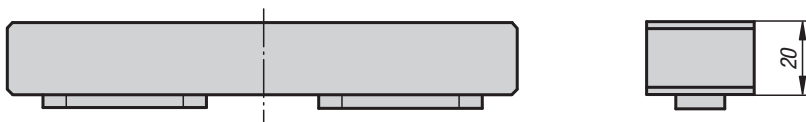
Accessories:
Jaw pins K0946

KIPP Jaw plates, standard

Order No.	Suitable for
K0943.110008	all 3-axis and 5-axis vices

K0944

Jaw plates machinable



Material, version:
Steel 1.0503, bright.

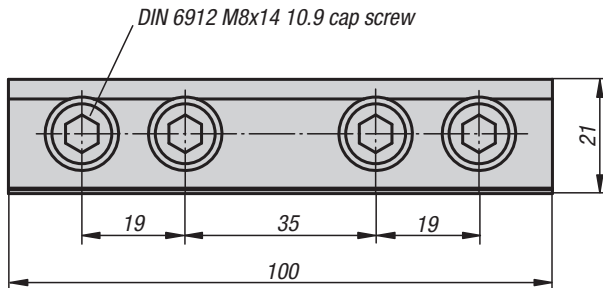
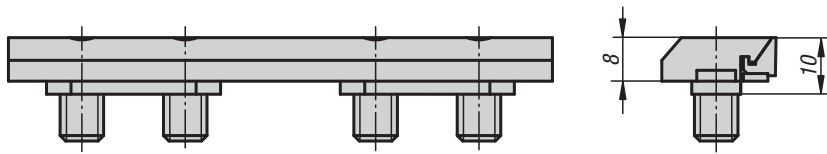
Sample order:
K0944.210020

Note:
Machinable jaw plates can be machined to suit
specific workpieces. Suitable for all 3-axis and 5-axis
vices.

KIPP Jaw plates machinable

Order No.	Suitable for
K0944.210020	all 3-axis and 5-axis vices

Draw-down jaws



Material, version:
Special steel, bright.

Sample order:
K0953.110008

Note:
Positive down jaw plates for clamping pre-machined workpieces.
Suitable for all 3-axis and 5-axis vices.

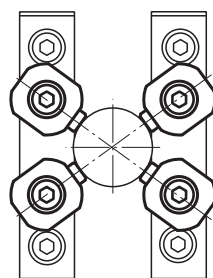
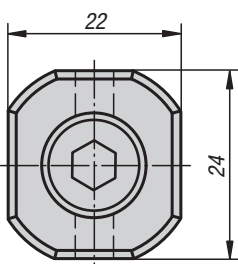
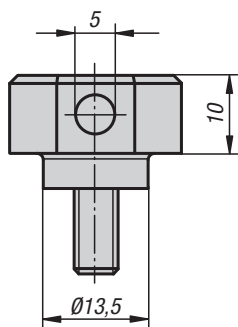
Supplied in pairs.

KIPP Draw-down jaws

Order No.	Suitable for
K0953.110008	all 3-axis and 5-axis vices

Jaw adapters

for round workpieces



Material, version:
Adapter blocks carbon steel, black oxidised.
Cap screw, grade 10.9.

Sample order:
K0945.135010
(supplied in sets of 4)

Note:
For clamping round workpieces with a diameter of 30 - 200 mm. Screwed directly into the standard or machinable jaw plates.

Accessories:
Jaw pins K0946



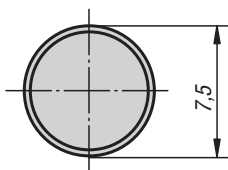
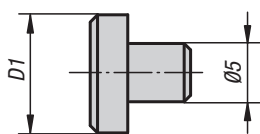
KIPP Jaw adapters for round workpieces

Order No.	Suitable for
K0945.135010	all 3-axis and 5-axis vices

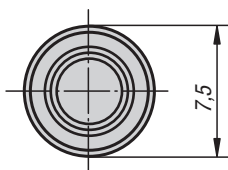
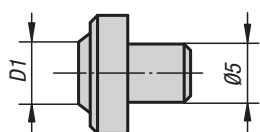
Jaw pins



flattened



cup point



Material, version:
Tool steel, hardened.

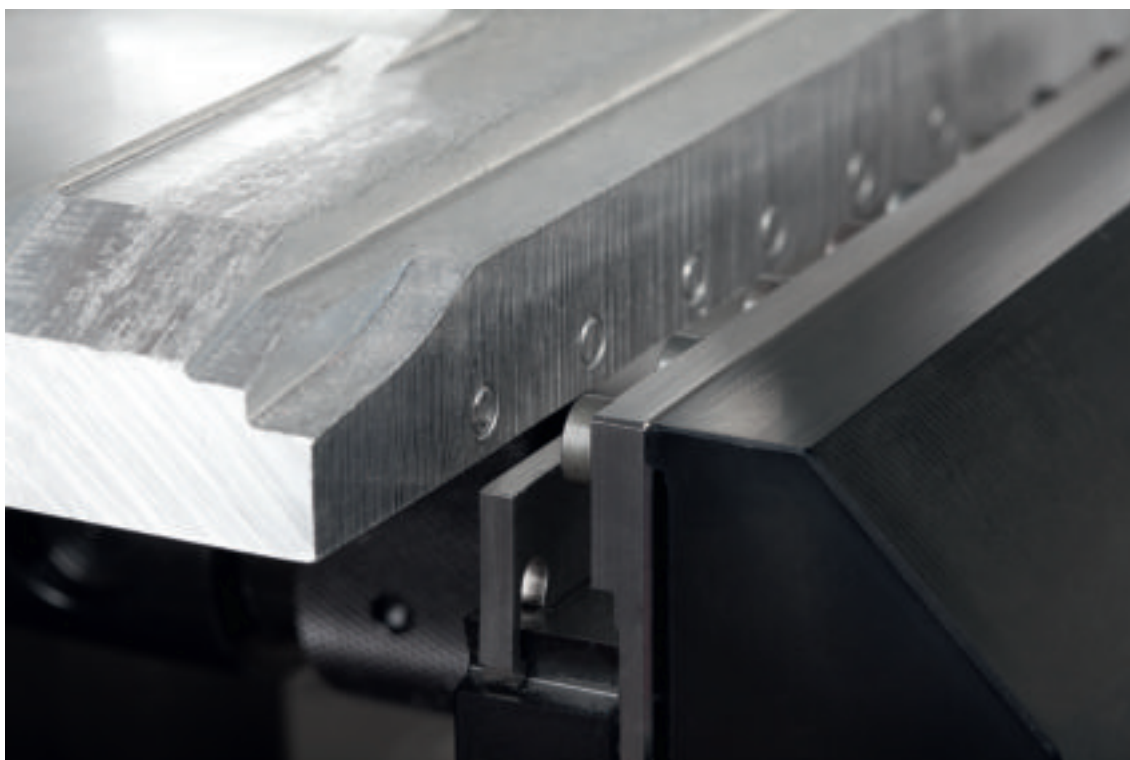
Sample order:
K0946.05600

Note:
Suitable for standard jaw plates and jaw adapters of round workpieces.
Installed by pressing in.

KIPP Jaw pins

Order No.	Version	D1	Application
K0946.05000	flattened	7,5	Material over 1000 N/mm ² tensile strength
K0946.05400	cup point	4	Material up to ca. 1000 N/mm ² tensile strength
K0946.05600	cup point	6	Material up to ca. 1000 N/mm ² tensile strength

Application example



Extension shafts

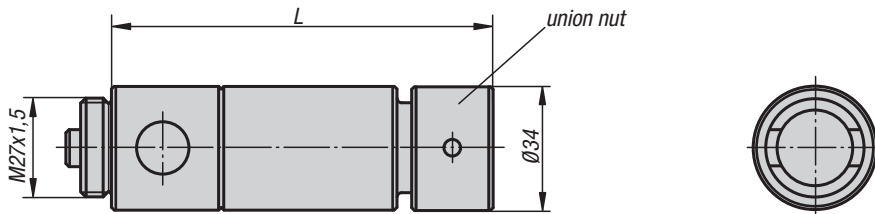
with union nut



Material, version:
Carbon steel, black oxidised.

Sample order:
K0947.060

Note:
To extend the clamping width.
Supplied with union nut. The extension shafts can be combined as desired.

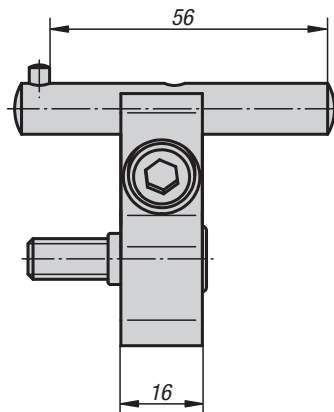
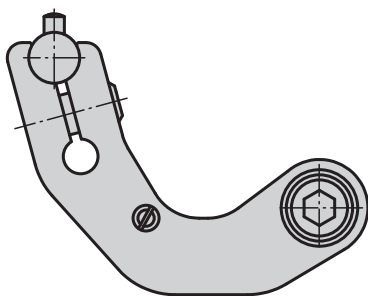


KIPP Extension shafts with union nut

Order No.	L	Clamp range
K0947.060	60	22 - 86
K0947.120	120	80 - 146
K0947.240	240	extended by 240 mm
K0947.480	480	extended by 480 mm

K0948

Stop set



Material:
Steel.

Version:
Swivel arm, black oxidised.
Stop pin bright.

Sample order:
K0948.100

Note:
Stop set for direct fastening to fixed jaws. The stop can be swivelled aside for machining of the workpiece without losing the stop dimension. Supplied complete with attaching parts.

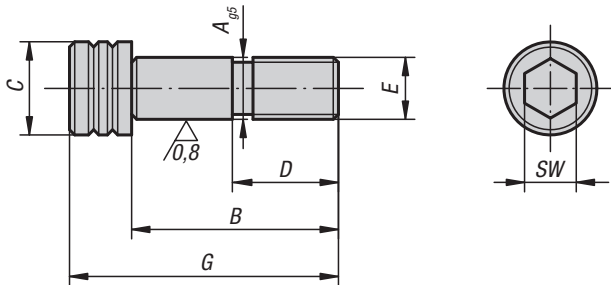


KIPP Stop set

Order No.	Suitable for
K0948.100	all 3-axis and 5-axis vices

Shoulder screws

Form B



Material:
Carbon steel.

Version:
Tempered, black oxidised.
Precision diameters ground.

Sample order:
K0815.12055

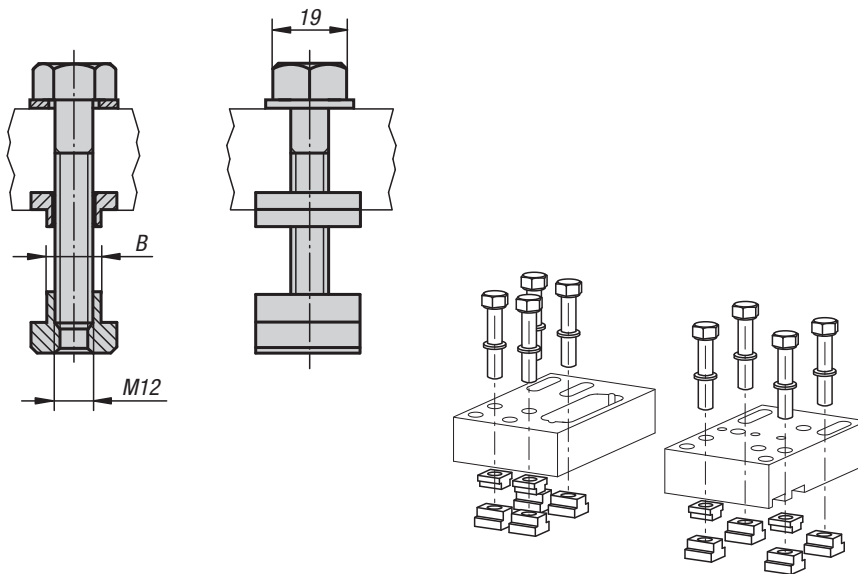
KIPP Shoulder screws Form B

Order No.	A	B	C	D	E	G	SW
K0815.12055	12	55	18	22	M12	67	10
K0815.16055	16	55	24	25	M16	71	14

K0951

Fastening set

for T-slots



Material, version:
Carbon steel, black oxidised.

Sample order:
K0951.1412

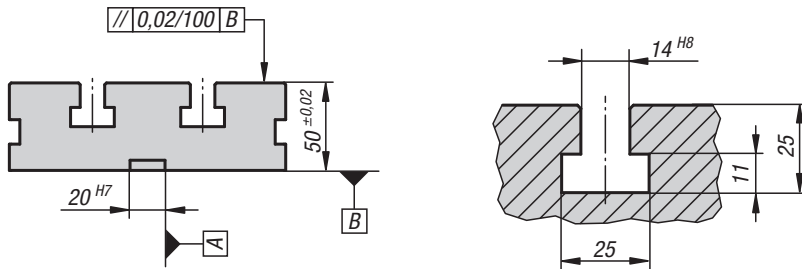
Note:
Fastening sets for aligning and securing 3 and 5 axis vices on tables with T-slots sizes 14 or 18.

Sets consisting of:
8x ISO 4014 M 12x60 12.9 hex head bolts
8x DIN 508 T-slot nuts
8x washers
4x slot keys

KIPP Fastening set for T-slots

Order No.	Version	B
K0951.1412	Slot width 14	14
K0951.1812	Slot width 18	18

T-slot plate



Material, version:

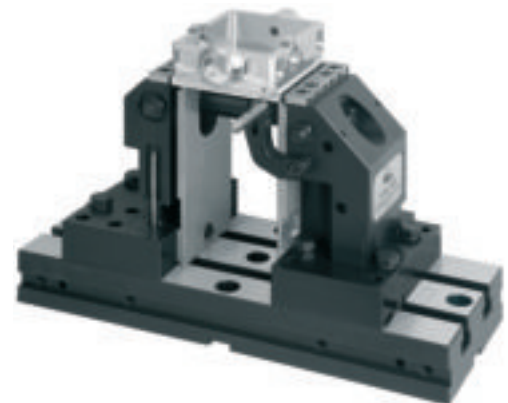
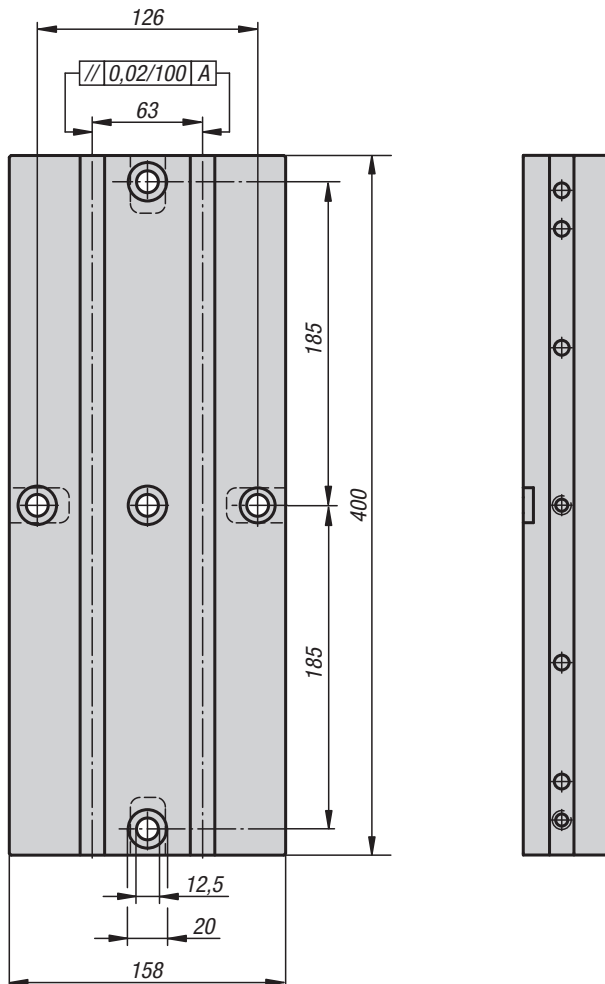
Carbon steel, black oxidised.
Contact faces ground.

Sample order:

K0952.14063400

Note:

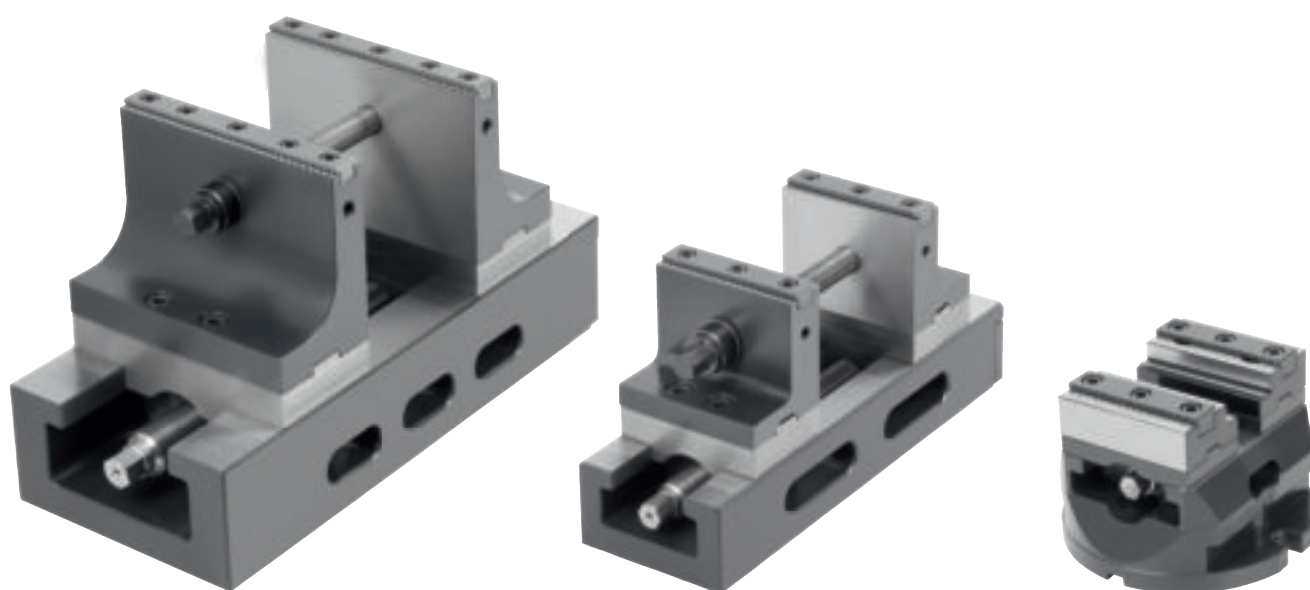
T-slot plates with locating slots on the underside for easy alignment of the plate on the machine table.



KIPP T-slot plate

Order No.	Version	weight kg
K0952.14063400	Slot width 14 / slot spacing 63	21.135

Centric vices



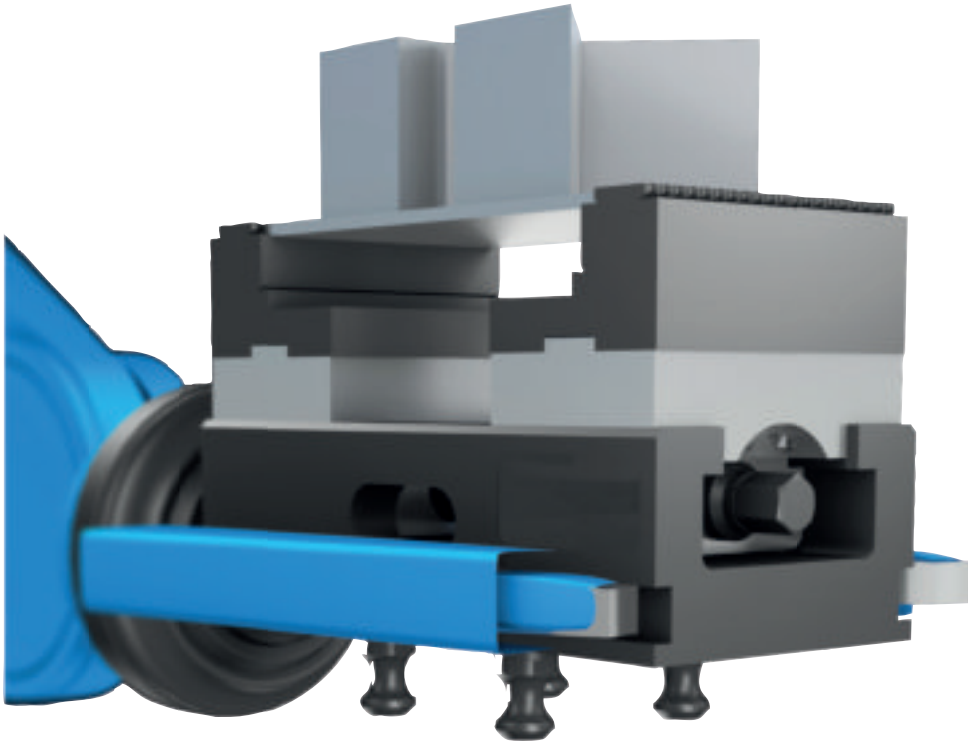
Technical information for centric vices



Mechanically actuated centric vice

Centring precision +/- 0.02 mm across the entire clamping range.

We recommend using a torque wrench for controlling the clamping force.



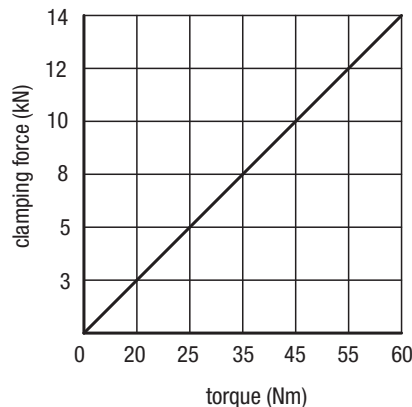
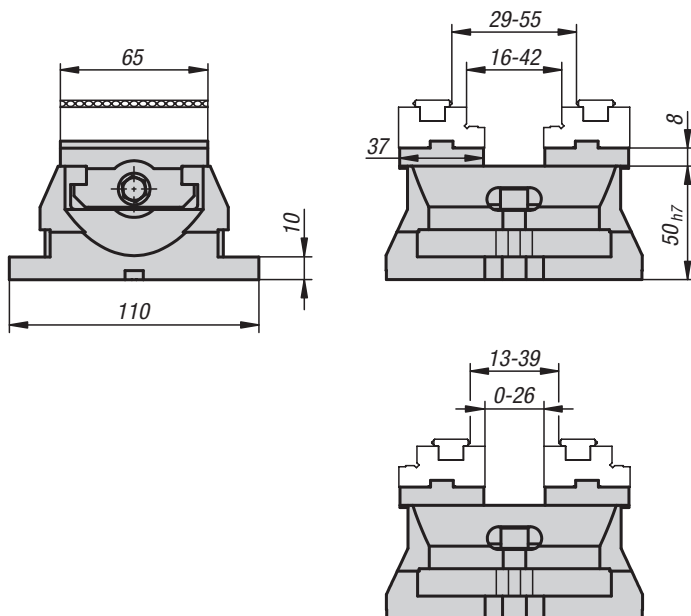
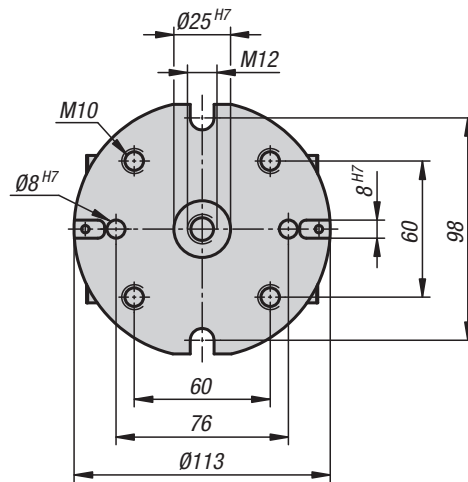
Flexible connection options:

1. Support for the zero point clamping system. Fitting 25H6/M12.
Reamed and tapped holes for fixing clamping pins for zero point clamping systems are integrated into each centric vice. These vices can therefore be used on conventional zero point clamping systems.
2. Support for handling systems / suitable for automation.
There is also the option of transporting the centric vice using handling systems.
3. Support with adapter plate for grid system M12/Ø12F7, grid spacing 50 mm.
Assembly with an adapter plate suitable for grid systems M12/Ø12F7 ensures flexible positioning on basic elements with a grid system.
4. Support directly on the machine table.
Using the lateral fastening slots, the centric vices can also be fixed to the machine table as required.



Centric vices

jaw width 65 mm



Material:

Body and jaw holder mild steel.
Spindle high-strength special steel.

Version:

Body and jaw holder hardened and ground.

Sample order:

K1236.065100

Note for ordering:

Supplied with hexagon crank handle.
Order jaw plates separately.

Note:

Mechanically operated centric vice.
Suitable for automation: prepared with gripper slot for handling systems.
Flexible mounting: suitable for zero-point systems, mounting on machine tables or on custom systems via a baseplate.
Centring precision: +/- 0.02 mm.

The use of a torque wrench is recommended to achieve a controlled clamping force.

Features:

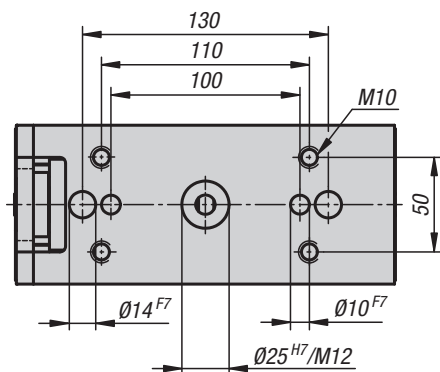
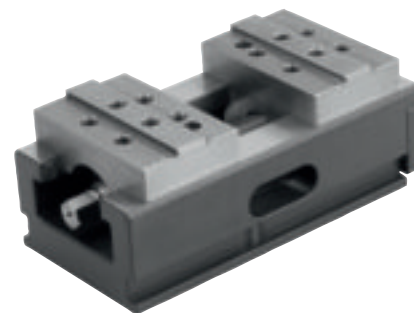
- Clamping slide and spindle nut in one piece
- Slots and fastening threads for mounting attachment jaws
- Reversible jaws (accessories) with lateral thread for workpiece stop enables a wider clamping range
- Good swarf and coolant removal

KIPP Centric vice jaw width 65 mm

Order No.	Dimensions	weight kg
K1236.065100	see drawing	3.2

Centric vices

jaw width 80–125 mm



Material:

Body and jaw holder mild steel.
Spindle high-strength special steel.

Version:

Body and jaw holder hardened and ground.

Sample order:

K1237.080200

Note for ordering:

Supplied with hexagon crank handle.
Order jaw plates separately.

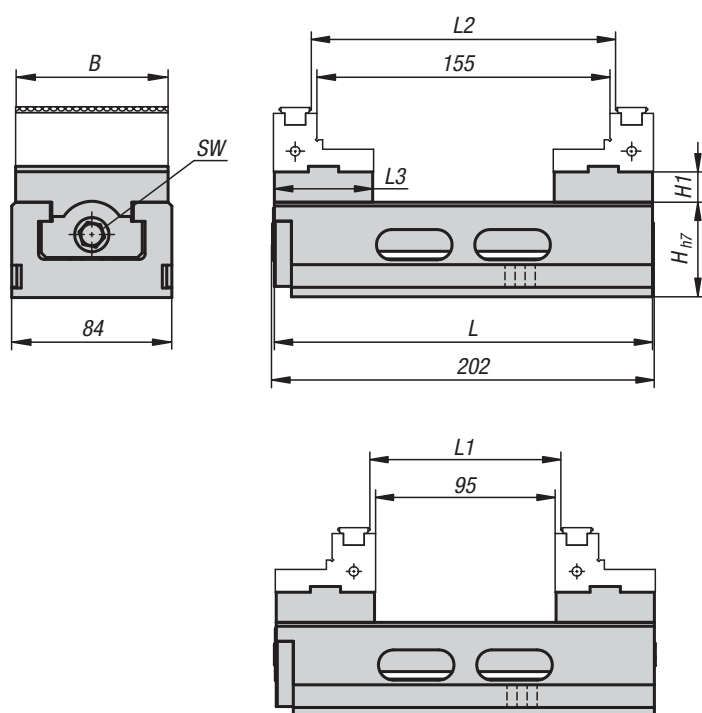
Note:

Mechanically operated centric vice.
Suitable for automation: prepared with gripper slot for handling systems.
Flexible mounting: suitable for zero-point systems, mounting on machine tables or on custom systems via a baseplate.
Centring precision: +/- 0.02 mm.

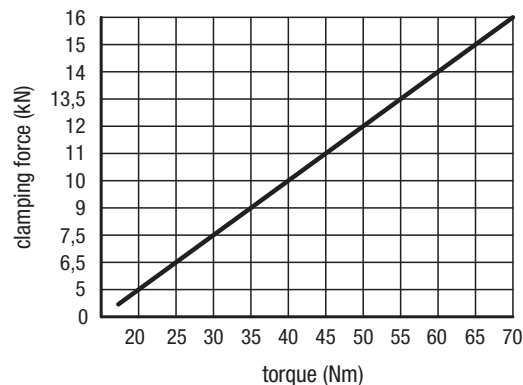
The use of a torque wrench is recommended to achieve a controlled clamping force.

Features:

- Clamping slide and spindle nut in one piece
- Slots and fastening threads for mounting attachment jaws
- Reversible jaws (accessories) with lateral thread for workpiece stop enables a wider clamping range
- Good swarf and coolant removal



B = 80 mm

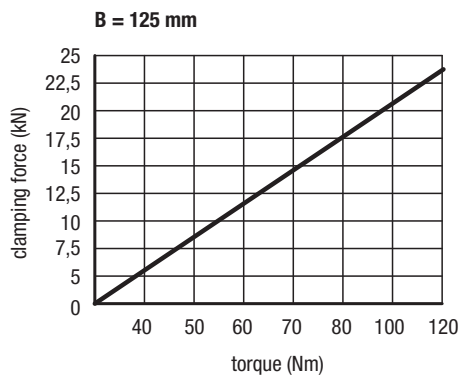
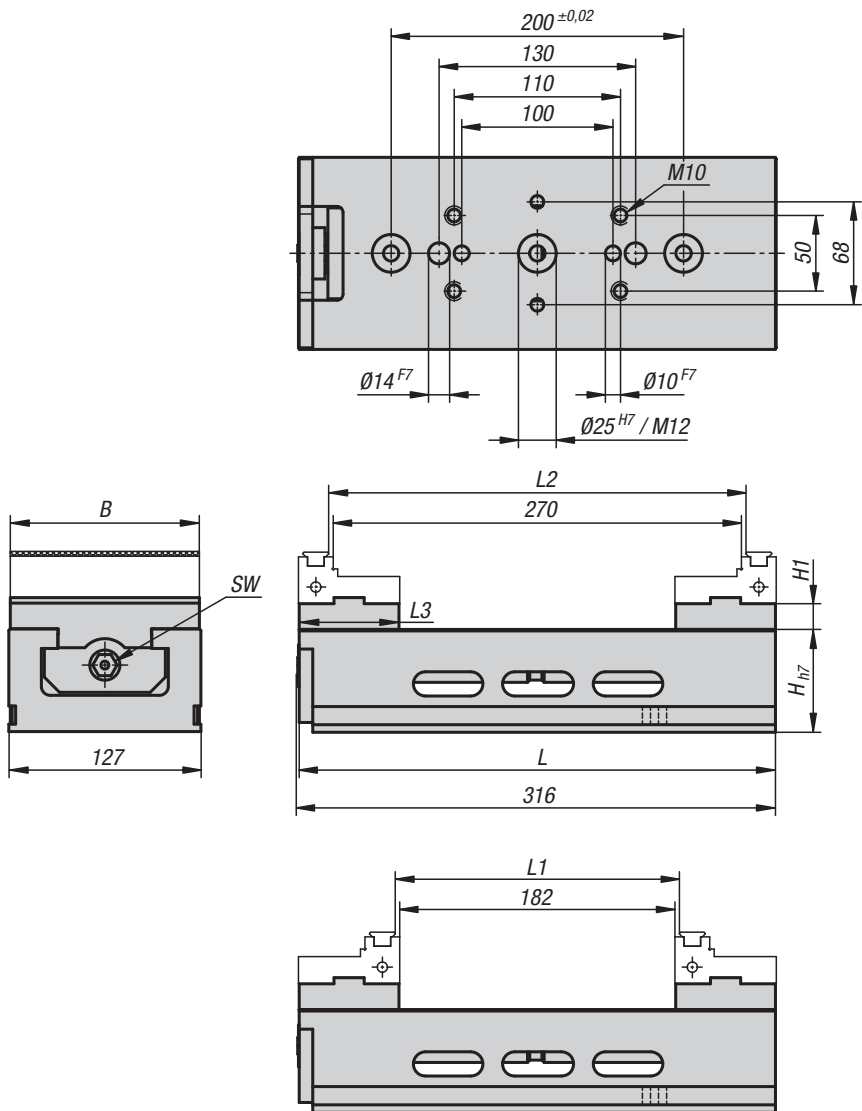


KIPP Centric vice, jaw width 80 mm

Order No.	B	H	H1	L	L1	L2	L3	SW	weight kg
K1237.080200	80	50h7	16	200	6-101	66-161	52	12	6.7

Centric vices

jaw width 80–125 mm

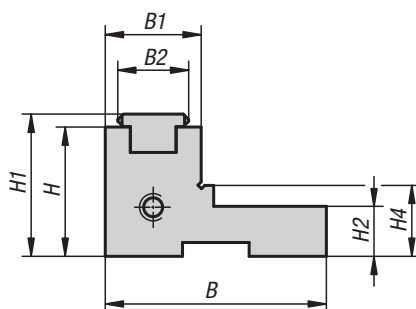
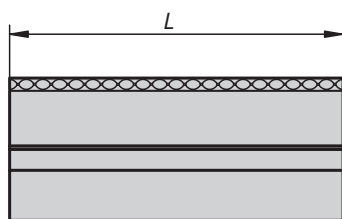


KIPP Centric vice, jaw width 125 mm

Order No.	B	H	H1	L	L1	L2	L3	SW	weight kg
K1237.125315	125	62h7	17	315	6-188	94-276	66	14	15.5

Attachment jaws

stepped, with grip rail



Material, version:

Step jaw steel, hardened, clamping surfaces ground.
Grip rail steel, hardened

Sample order:

K0587.0801

Note:

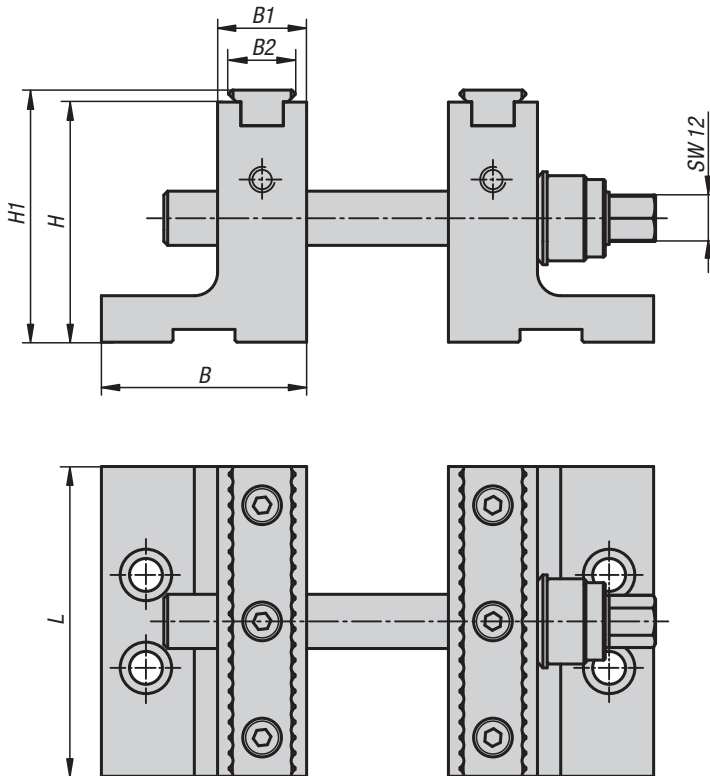
These attachment step jaws are suitable for centric vices. The clamping width can be increased or decreased by reversing the jaws. The gripper jaw pads can also be exchanged for smooth jaw pads.

KIPP Attachment jaws, stepped, with grip rail

Order No.	B	B1	B2	H	H1	H2	H4	L	weight kg
K0587.0651	38	30	17	18	21	9	9,5	65	0.3
K0587.0801	53	23	17	31	34	12	17	80	0.5
K0587.1251	67	23	17	31	34	18	23	125	0.7

Step jaw attachment

for 5-axis machining



Material, version:

Step jaw steel, hardened, clamping surfaces ground.
Grip rail steel, hardened

Sample order:

K1115.0801

Note for ordering:

High attachment step jaws in pairs with two gripper inserts and three different lengths of clamping spindle.

Note:

The workpiece is first centred using the lower centring spindle, then finally clamped using the upper clamping spindle.

Basic set:

Supplied with a pair of high add-on step jaws with 2 gripper inserts and 3 clamping spindles in various lengths.

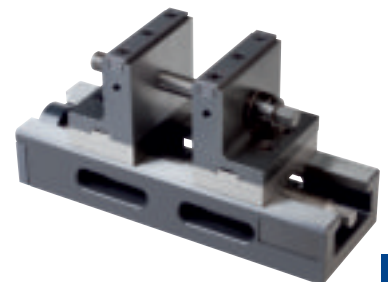
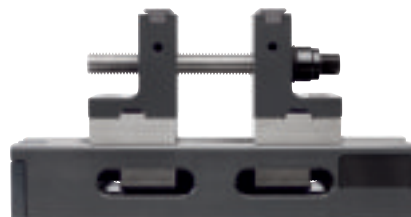
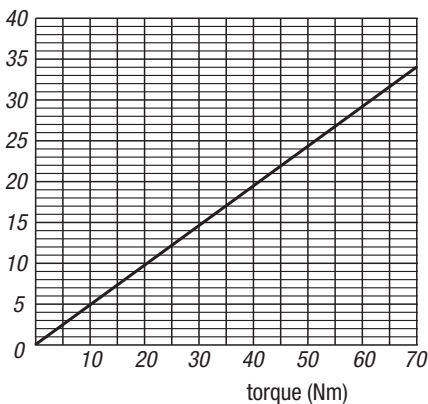
1. length 80 mm clamping range 6 mm - 35 mm.
2. length 140 mm clamping range 6 mm - 95 mm.
3. length 200 mm clamping range 6 mm - 155 mm.

Advantages:

Ideal for 5-side machining. High setup on the machine table for 5-axis machines. Clamping force directly under the workpiece. The attachment jaws can be retrofitted for the 80 mm and 125 mm centric vices. The workpiece is first centred using the lower centring spindle, then finally clamped using the upper clamping spindle.

clamping force diagram

clamping force (kN)

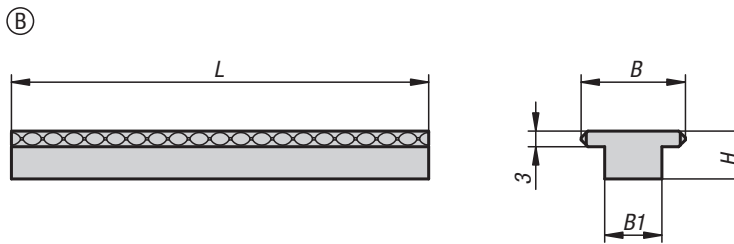
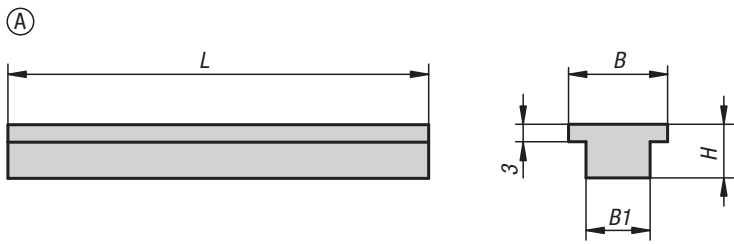


KIPP Step jaw attachment for 5-axis machining

Order No.	Version	B	B1	B2	H	H1	L	weight kg
K1115.0801	for 5-axis machining	53	23	17	62	65,1	80	2.689
K1115.1251	for 5-axis machining	53	23	17	90	93,1	125	2.5

Inserts

for stepped jaws



Material:
Steel.

Version:
Hardened and ground.

Sample order:
K0591.080117

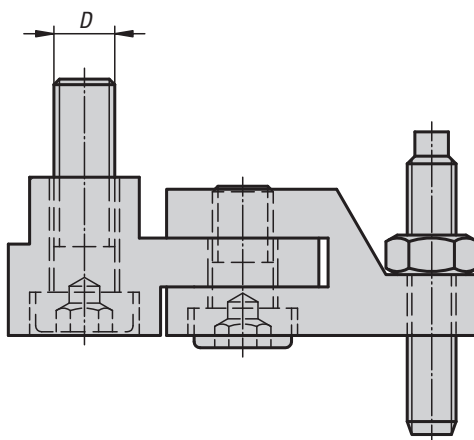
Note:
Inserts Form A with smooth face Form B serrated face for maximum holding force.

KIPP Inserts for stepped jaws

Order No. Form A	Order No. Form B	B	B1	H	L
K0591.065117	K0591.065217	17	11	9,2	65
K0591.080117	K0591.080217	17	11	9,2	80
K0591.125117	K0591.125217	17	11	9,2	125

K0607

Hinged stops



Material, version:
Steel, black oxidised.

Sample order:
K0607.080

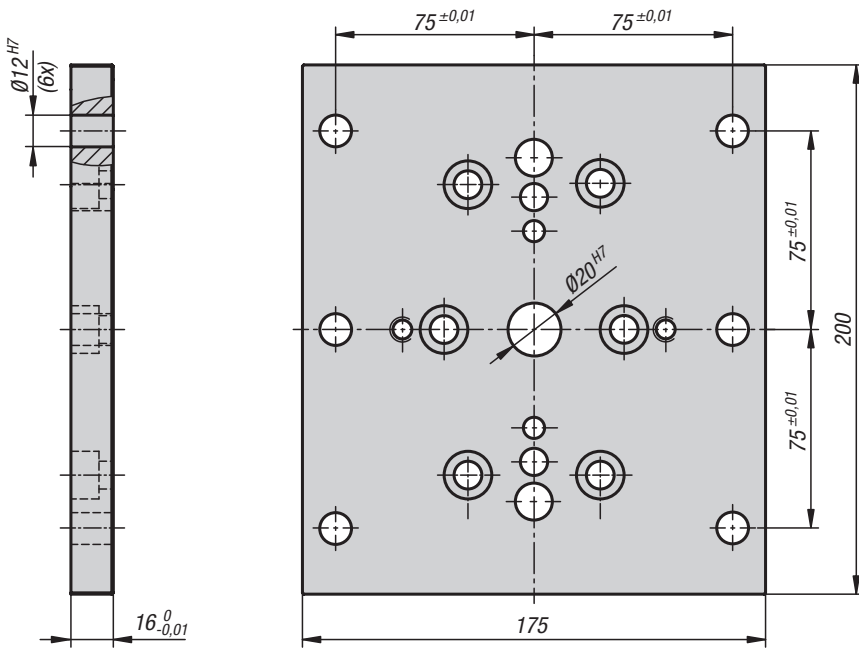
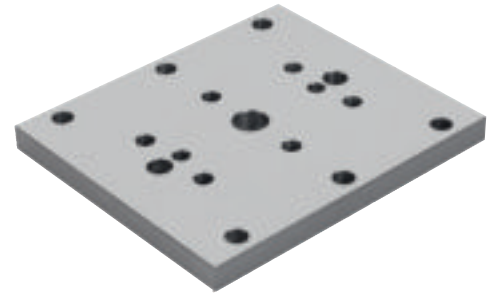
Note:
Hinged stop for fastening directly to the sliding or middle jaw.

KIPP Hinged stops

Order No.	D	Suitable for
K0607.080	M6	ZS 80-200
K0607.100	M8	ZS 100-350

Baseplate

for centric vice



Material:
Steel.

Version:
Hardened and ground.

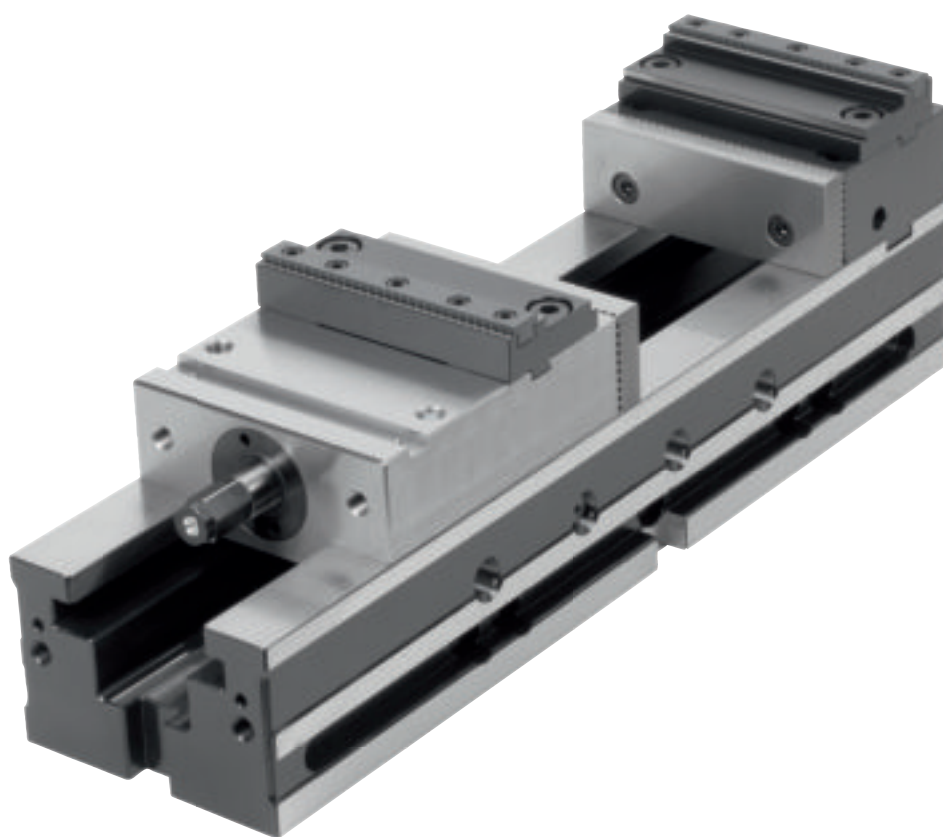
Sample order:
K1274.12175200

Note:
The base plate enables the centric vices (65 - 80 - 125) to be mounted on M12/12F7 grid systems with a grid spacing of 50 mm.

KIPP Baseplate for centric vice

Order No.	Suitable for	weight kg
K1274.12175200	centric vices 65, 80, 125	5

NC Vices



Technical information for NC vices



Adaptable

Slot and thread for attachment jaws and gripper inserts.

Optional

Multiple clamping

Several workpieces can be clamped using reversible jaws. Tools are not required for installation.

Individual

Flexible – can be used for any machine table, ready to use immediately with clamp strap set and slot keys (optional).

Optimum positioning

Cross slot for alignment.

Quick pre-adjustment

Locking pins for quick pre-positioning.

Spindle drive

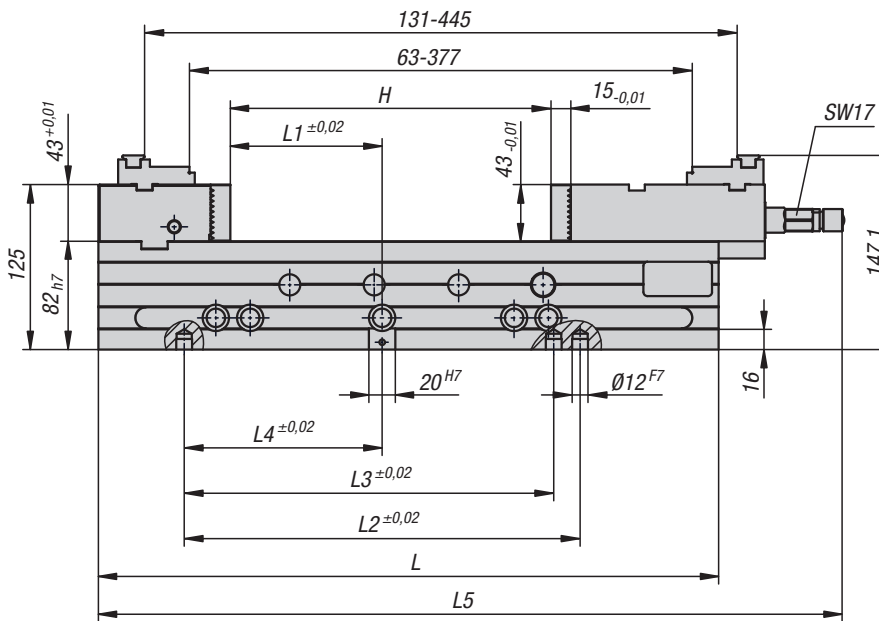
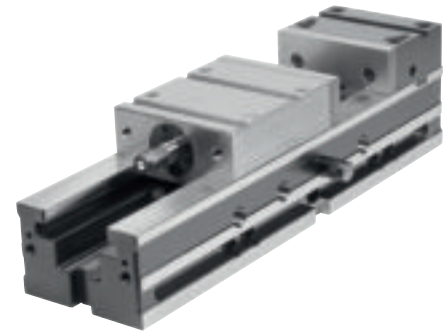
Mechanical-hydraulic version up to 40 kN or purely mechanical clamping up to 10 kN.

Impressive advantages:

- Repeat accuracy ≤ 0.01 mm
- Fixed jaw fixed in all directions (X,Y,Z)
- Wide clamping range due to use of attachment step jaws
- Basic equipment: 2 rotating screw-in jaws and 1 crank handle
- Can be inclined sideways, with fastening holes for slot spacing of 63 mm and 100 mm.

NC vice

jaw width 125 mm



Material:

Body and jaw holder mild steel.

Version:

Hardened and ground all sides.

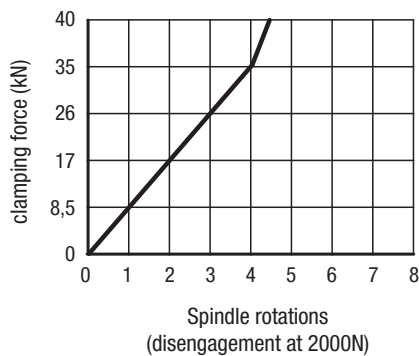
Sample order:

K1238.125470

Features:

NC vices can be used for a wide range of clamping tasks:

- Repeat accuracy ≤ 0.01 mm
- Fixed jaw locked in all axis (X,Y,Z)
- Vertical use directly on the machine table
- Wide clamping range by using attachment step jaws
- Can be laid on the side, with fastening holes for slot spacing of 63 mm and 10 mm
- Quick pre-adjustment of the clamping range using locking pins
- Basic equipment includes two reversible screw-on jaws and one crank handle

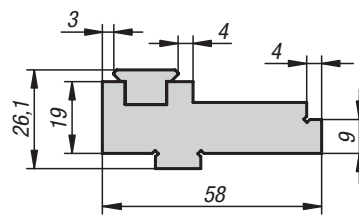
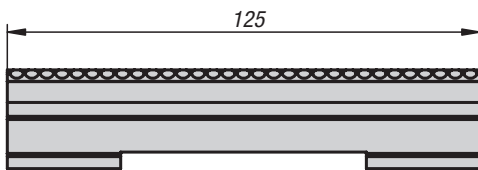


KIPP NC vice jaw width 125 mm

Order No.	B	L	L1	L2	L3	L4	L5	H	weight
								clamping range	kg
K1238.125470	125	470	115	300	280	150	564	0-239	37.6

Attachment step jaw

with gripper for NC vice



Material:

Steel.

Version:

Hardened and ground.

Sample order:

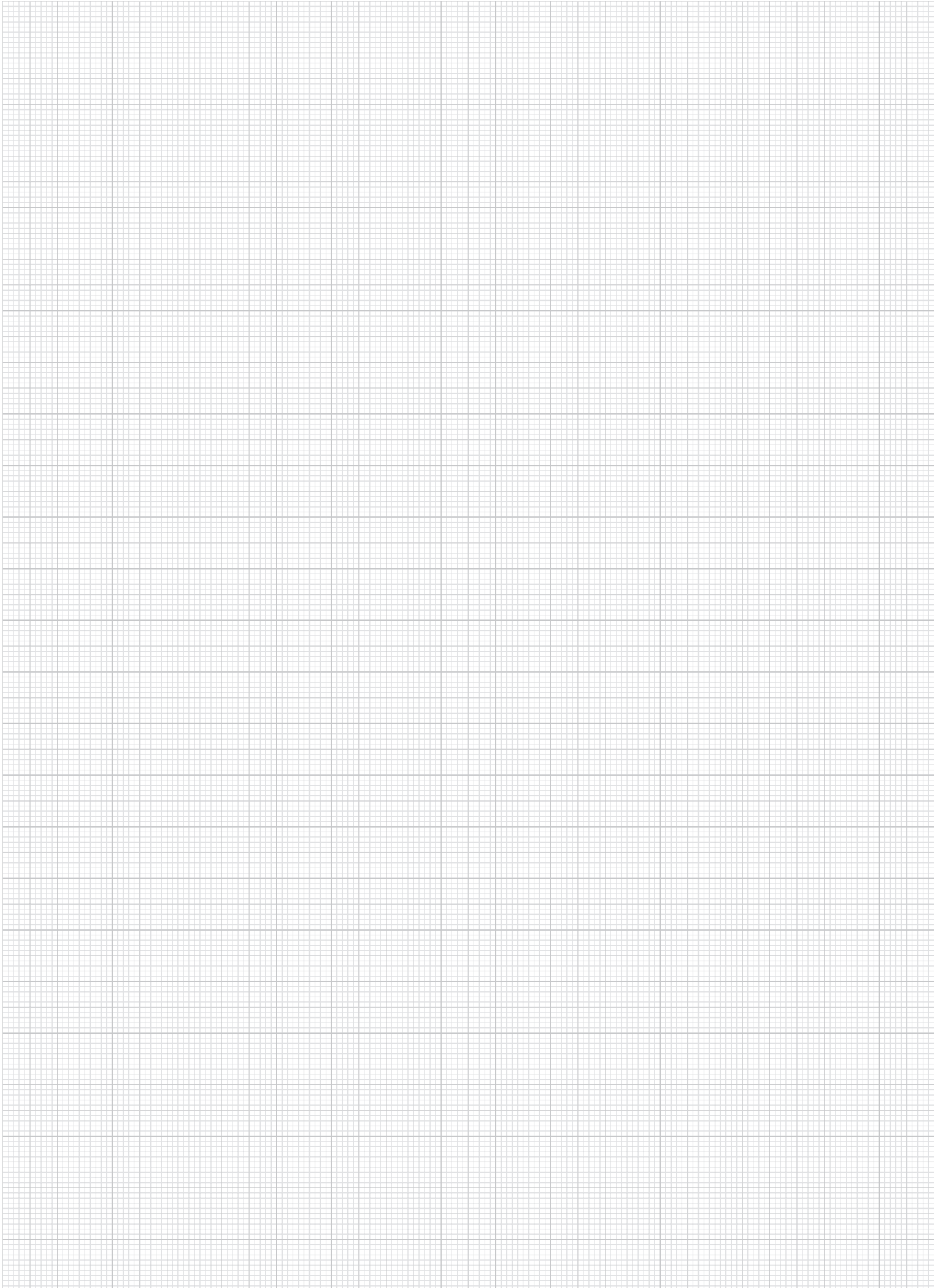
K1273.1251

Note:

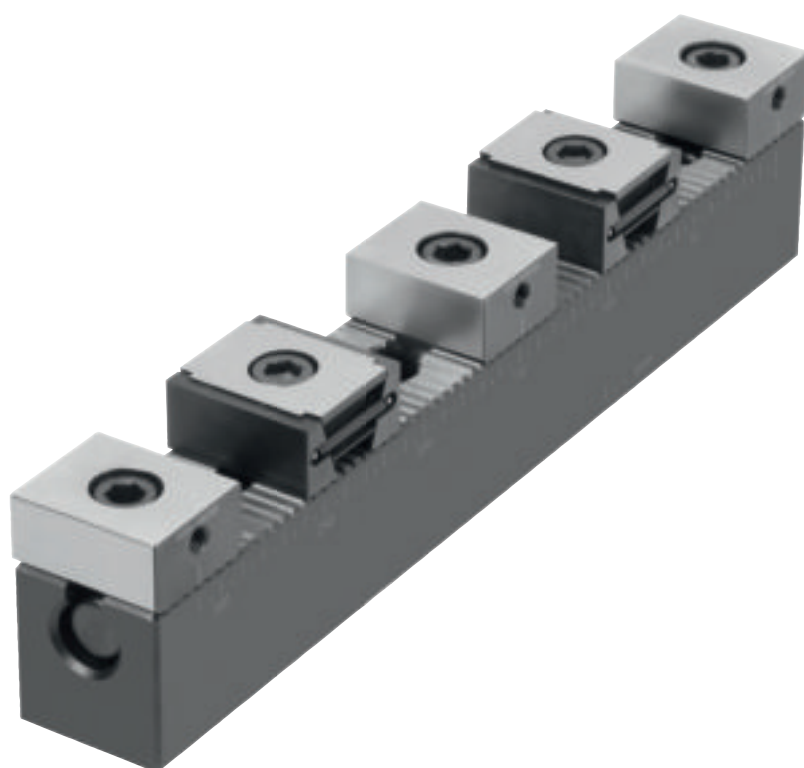
The attachment step jaws are for expanding the NC vice clamping width. The gripper jaw pads can be exchanged for smooth jaw pads.

KIPP Attachment step jaw with gripper jaw pad for NC vice

Order No.	Suitable for
K1273.1251	NC vice 125



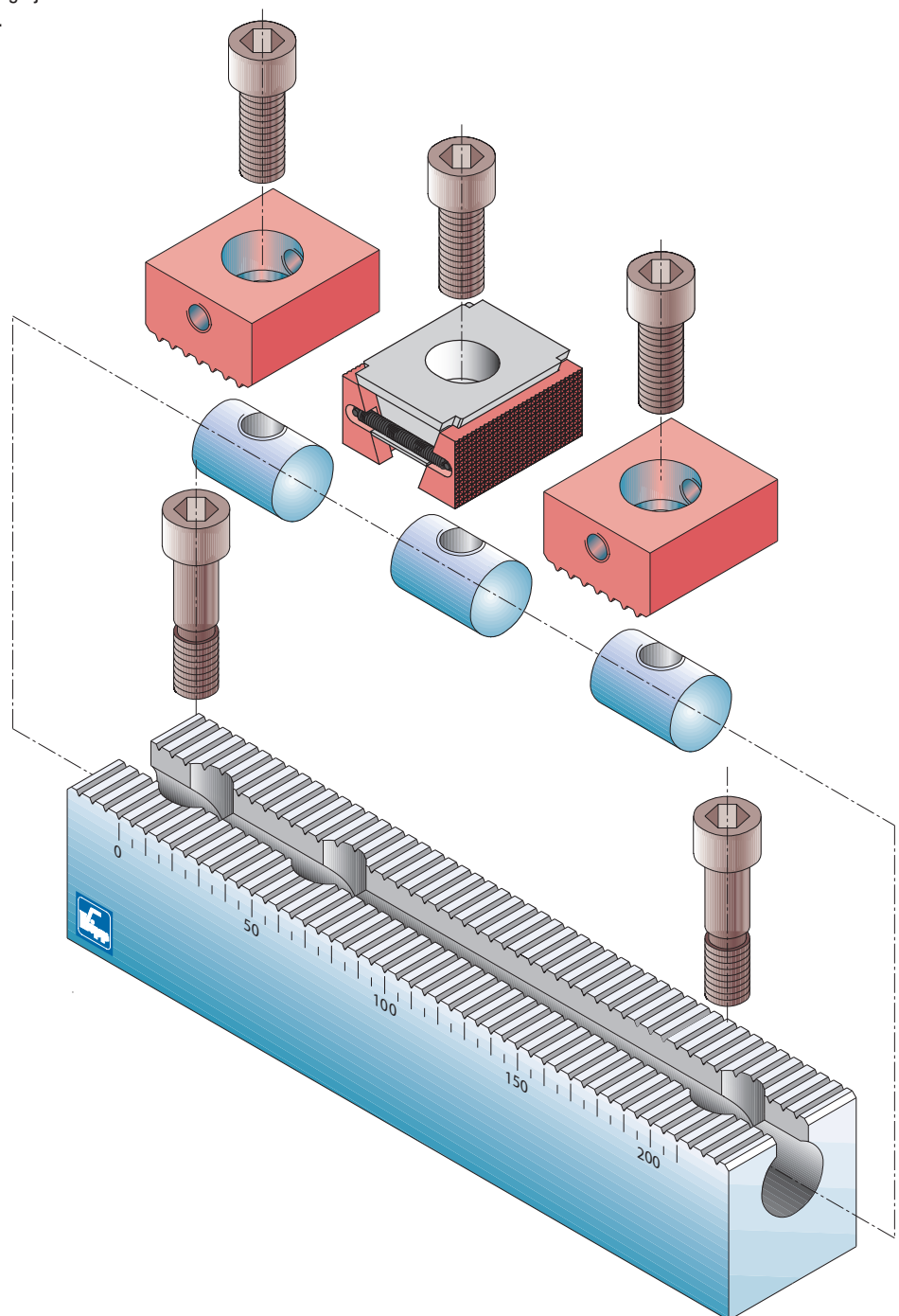
Multi-clamping system



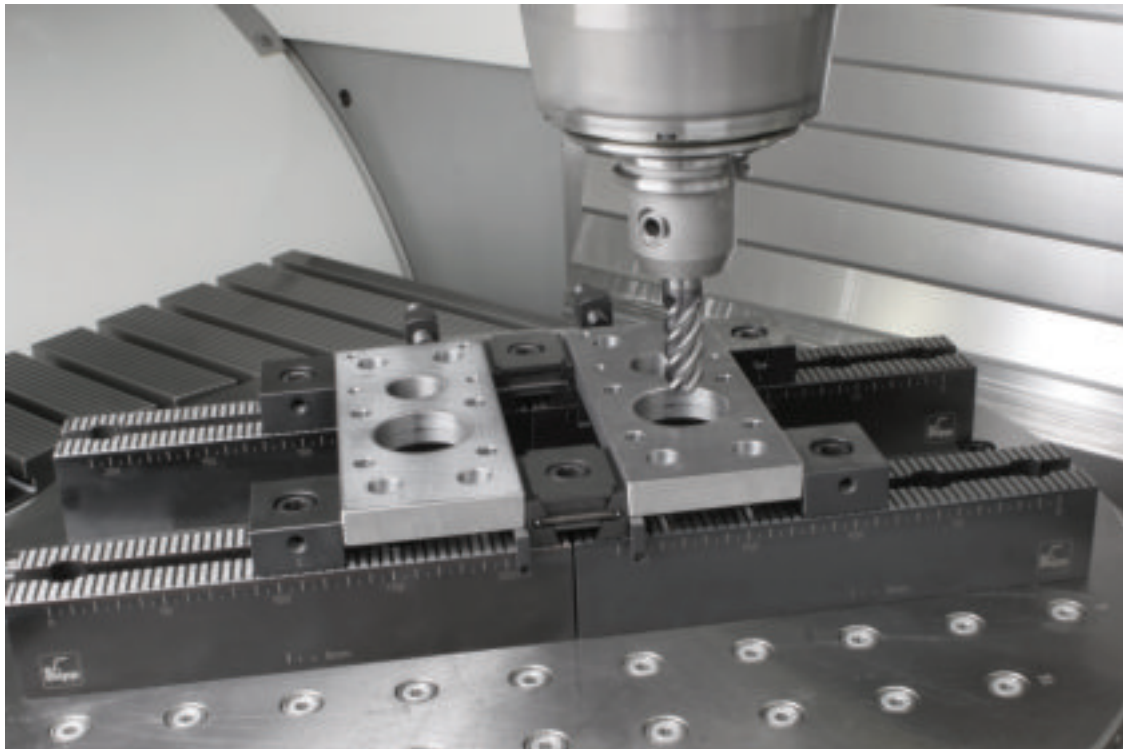
Multi-clamping system



The multi-clamping system is used to clamp diverse workpieces on a base plate or directly on a machine table. The various elements of the multi-clamping system (base rails, stops and wedge clamps) allow workpieces of varied sizes to be held without difficulty. The serrations on the base rail guarantee a secure and exact fastening of the stops. The working area of a machine can be more effectively used by mounting a number of base rails along and across the work surface. The wedge clamps allow two workpieces to be held simultaneously from one clamping point. The transverse wedge design works in the vertical and horizontal plane, guaranteeing a secure hold in all directions. As the clamp is tightened the wedge jaws expand pressing the workpiece against the stops.

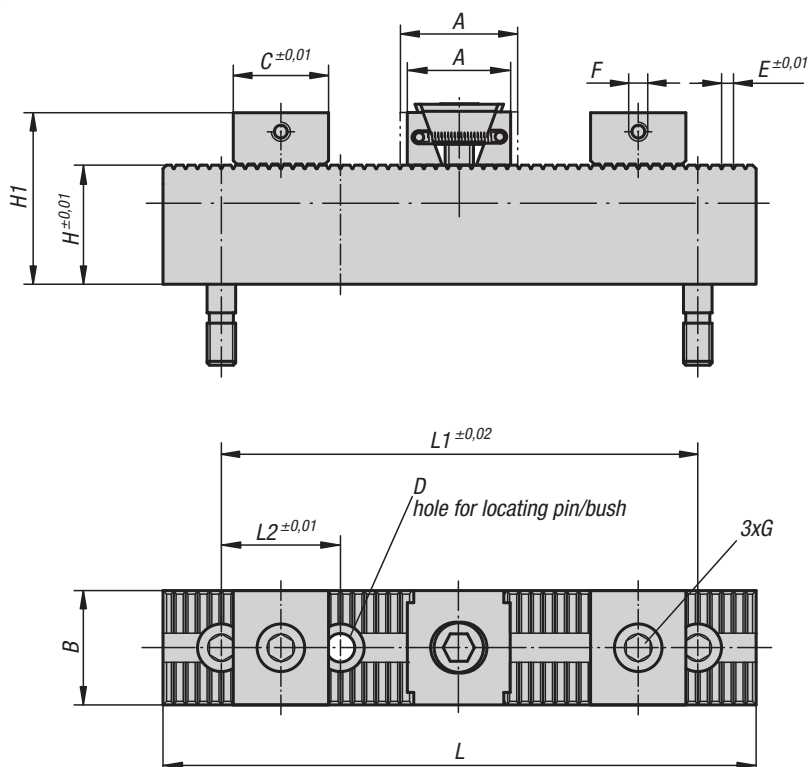
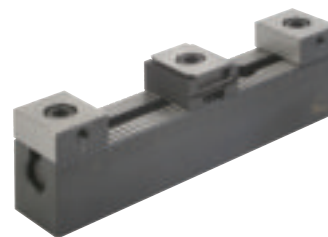


Example of a multi-clamping system



Multi-clamping system

hard stops



Material:

Base rail, stops and wedge clamp carbon steel.

Version:

Serrations case hardened and ground.

Stops tempered.

Clamping jaws hardened and black oxidised.

Sample order:

K0902.12

KIPP Multi-clamping system hard stops

Order No.	A min.	A max.	B	C	D	E	F	G cap screw DIN 912	H	H1	L	L1	L2	Clamping force ca. kN	weight kg
K0902.08	30,5	33,5	24	25	12 H6	2,5	M5	M8x25	40	55	199	150	50	15	1.35
K0902.12	44	49,5	48	40	12 F7	5	M8	M12x30	50	72	249	200	50	30	4.961
K0902.16	55	62	48	40	16 F7	5	M8	M16x40	63	92	249	200	50	50	6.016

Multi-clamping system

soft stops



Material:

Base rail, stops and wedge clamp carbon steel.

Version:

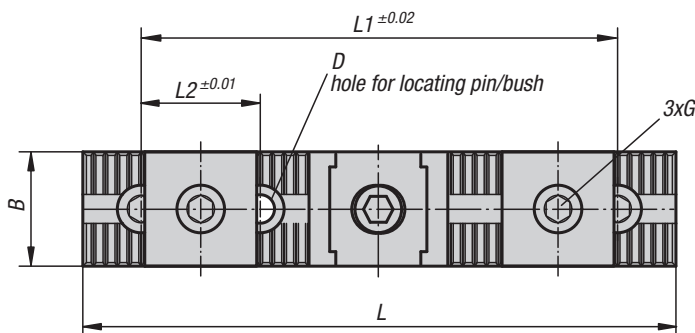
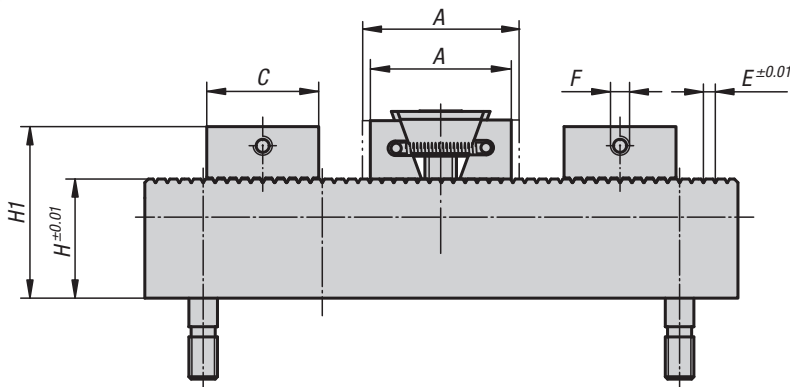
Serrations case hardened and ground.
Clamping jaws hardened and black oxidised.

Sample order:

K0903.12

Note:

Depending on the size the clamping jaws have 3 mm (K0903.08) or 5 mm (K0903.12, K0903.16) machining allowance per jaw.

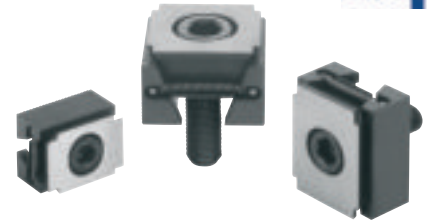


KIPP Multi-clamping system, soft stops

Order No.	A min.	A max.	B	C	D	E	F	G cap screw DIN 912	H	H1	L	L1	L2	Clamping force ca. kN	weight kg
K0903.08	36,5	39,5	24	31	12 H6	2,5	M5	M8x25	40	55	199	150	50	11	1.397
K0903.12	54	59,5	48	50	12 F7	5	M8	M12x30	50	72	249	200	50	23	4.9
K0903.16	65	72	48	50	16 F7	5	M8	M16x40	63	92	249	200	50	38	6.522

Wedge clamps

jaw face smooth or serrated



Material:

Wedge and jaw segments carbon steel.

Version:

Wedge and jaw segments hardened, black.

Sample order:

K0039.2208

Note:

The functioning principle make the wedge clamps ideal for series clamping. The wedge form can exert high clamping forces.

These wedge clamps can be mounted in grid holes or T-slots. Tightening the socket screw moves the wedge down and the jaws out pressing the workpieces against the fixtures fixed stops. The wedge has a slightly elongated hole allowing for movement to compensate for tolerances.

Spread width:

M8 = ±0.5 mm

M10 = ±1.0 mm

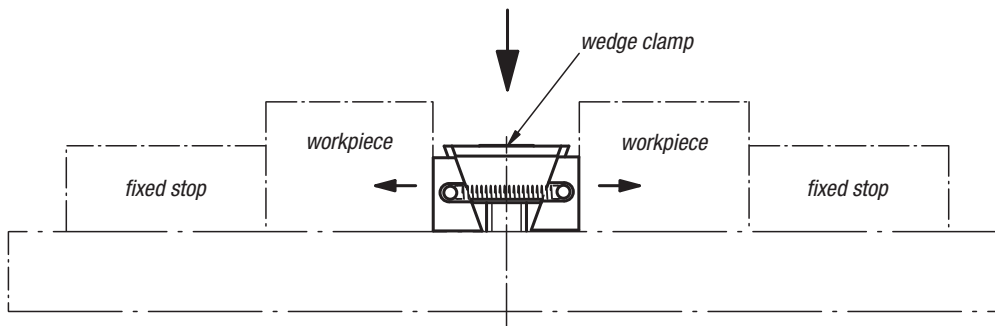
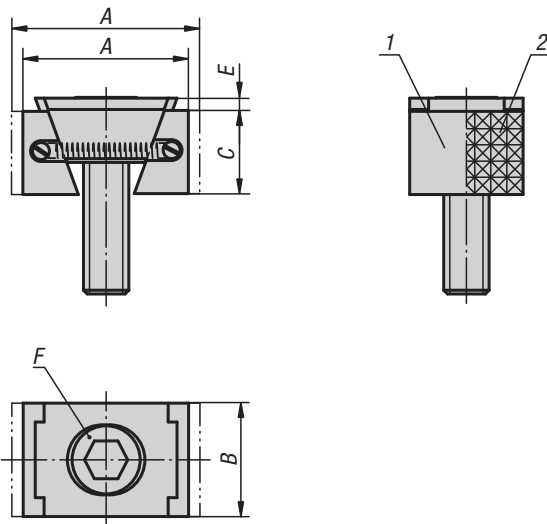
M12 = ±1.0 mm

M16 = ±1.5 mm

Drawing reference:

1) Jaw face smooth

2) Jaw face serrated



KIPP Wedge clamps, narrow version

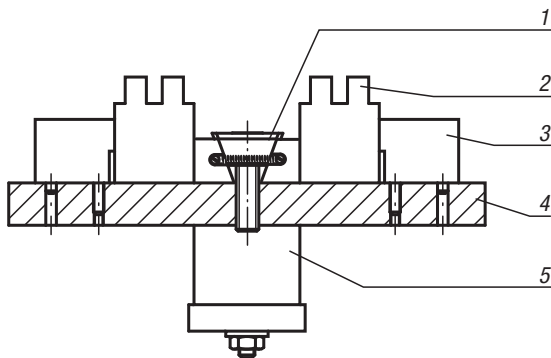
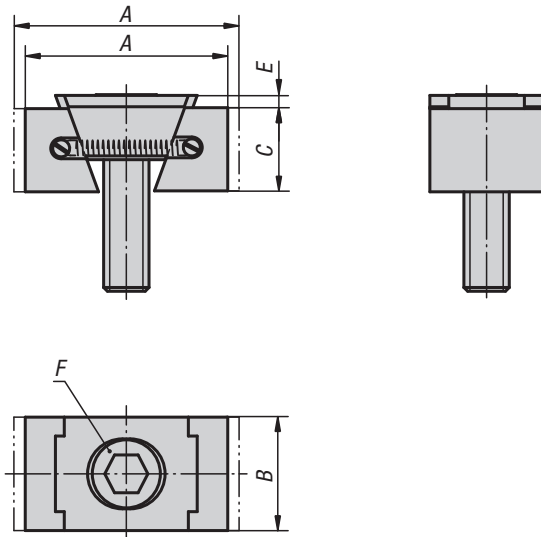
Order No. smooth	Order No. serrated	A min.	A max.	B	C	E	F DIN 6912 cap screw	Clamping force kN	Tightening torque Nm
K0039.1108	K0039.2108	30,5	33,5	24	15	2	M8x25	15	25
K0039.1110	K0039.2110	32	37	28	19	3,5	M10x25	20	49
K0039.1112	K0039.2112	44	49,5	30	22	3,5	M12x40	30	85
K0039.1116	K0039.2116	55	62	40	29	4	M16x60	50	210

KIPP Wedge clamps, wide version

Order No. smooth	Order No. serrated	A min.	A max.	B	C	E	F DIN 6912 cap screw	Clamping force kN	Tightening torque Nm
K0039.1208	K0039.2208	30,5	33,5	30	15	2	M8x25	15	25
K0039.1210	K0039.2210	32	37	38	19	3,5	M10x25	20	49
K0039.1212	K0039.2212	44	49,5	48	22	3,5	M12x40	30	85
K0039.1216	K0039.2216	55	62	48	29	4	M16x60	50	210

Wedge clamps

machinable



Material:

Wedge and jaw segments carbon steel.

Version:

Wedge and jaw segments hardened, black.

Sample order:

K0649.3110

Note:

These wedge clamps have extra long jaws. This extra material allows the jaws to be machined to suit the form of the workpiece.

The functioning principle makes the wedge clamps ideal for series clamping. The wedge form can exert high clamping forces.

These wedge clamps can be mounted in grid holes or T-slots. Tightening the socket screw moves the wedge down and the jaws out, pressing the workpieces against the fixtures fixed stops.

The wedge has a slightly elongated hole allowing for movement to compensate for tolerances.

Spread width:

M8 = ±0.5 mm

M10 = ±1.0 mm

M12 = ±1.0 mm

M16 = ±1.5 mm

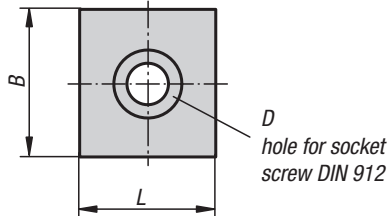
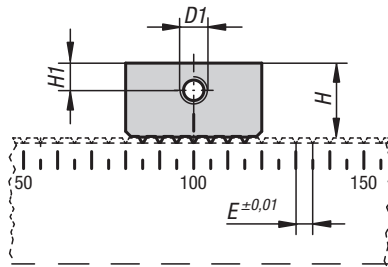
Drawing reference:

- 1) wedge clamps
- 2) workpiece
- 3) fixed stop
- 4) base plate
- 5) hydraulic/pneumatic cylinder

KIPP Wedge clamps machinable

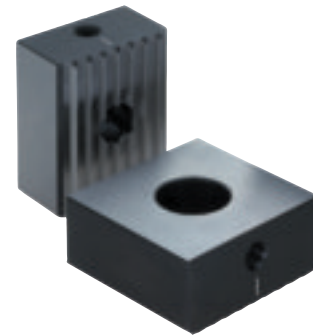
Order No.	Version	A min.	A max.	B	C	E	F DIN 6912 cap screw	Clamping force kN	Tightening torque Nm
K0649.3108	narrow	36,5	39,5	24	15	2	M8x25	11	19
K0649.3110	narrow	42	47	28	19	3,5	M10x25	15	37
K0649.3112	narrow	54	59,5	30	22	3,5	M12x40	23	65
K0649.3116	narrow	65	72	40	29	4	M16x60	38	160
K0649.3208	wide	36,5	39,5	30	15	2	M8x25	11	19
K0649.3210	wide	42	47	38	19	3,5	M10x25	15	37
K0649.3212	wide	54	59,5	48	22	3,5	M12x40	23	65
K0649.3216	wide	65	72	48	29	4	M16x60	38	160

Stops



KIPP Stops

Order No.	Version	B	D	D1	E	H	H1	L
K0905.5000802	hard	24	M8x25	M5	2,5	15	6	25 ±0,01
K0905.5001202	hard	48	M12x30	M8	5	22	8	40 ±0,01
K0905.5001602	hard	48	M16x40	M8	5	29	12,5	40 ±0,01
K0905.5100802	soft	24	M8x25	M5	2,5	15	6	31 ±0,1
K0905.5101202	soft	48	M12x30	M8	5	22	8	50 ±0,1
K0905.5101602	soft	48	M16x40	M8	5	29	12,5	50 ±0,1



Material:
Carbon steel 1.0503.

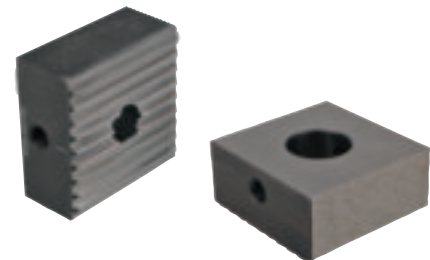
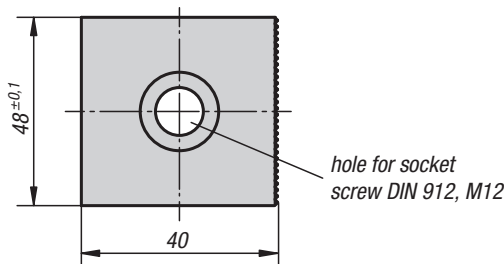
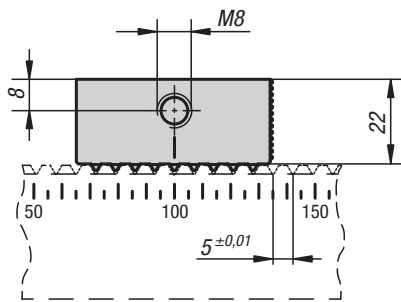
Version:
Hard stop:
Tempered to 1200-1400 N/mm², black oxidised.
Serrations and stop faces ground, bright.

Soft stop:
Hardness HRC 30, black oxidised. Serrations case hardened and ground, bright.

Sample order:
K0905.5000802

Stop

carbide-coated and serrated



Material:
Carbon steel 1.0503.

Version:
Hard stop.
Hardened to 58 +/2 HRC.
Serrations ground, bright.

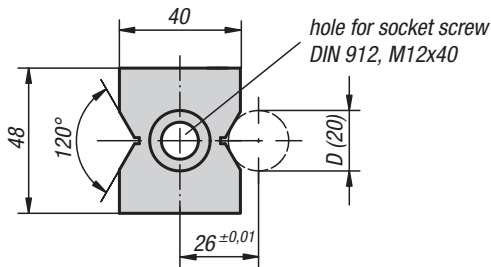
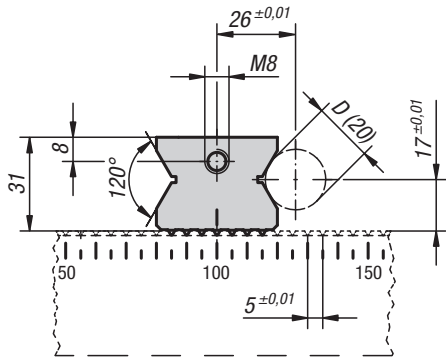
Sample order:
K0905.5201202

Note:
One stop face is serrated, the other side is carbide-coated.

KIPP Stop, carbide-coated and serrated

Order No.	Dimensions
K0905.5201202	see drawing

Stop prism



Material:
Carbon steel 1.0503.

Version:
Prism tempered to 1200-1400 N/mm², black oxidised.
Serrations and prism ground, bright.

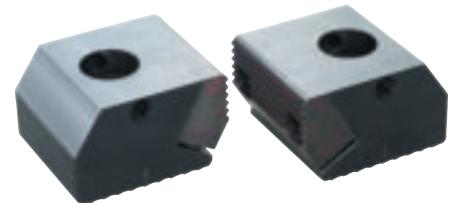
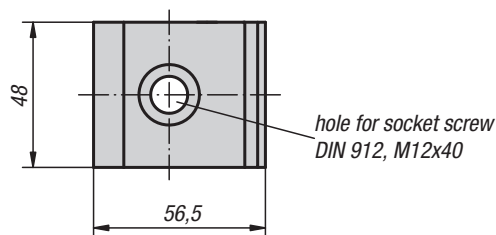
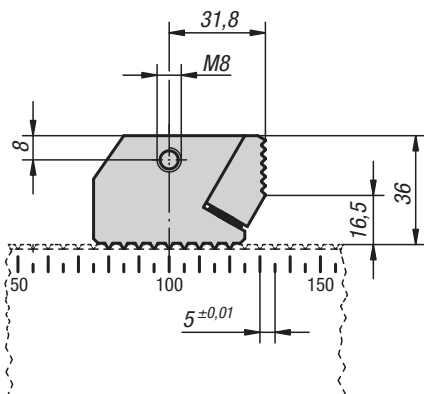
Sample order:
K0906.5001265

KIPP Stop prism

Order No.	D min. - max.
K0906.5001265	5 - 33

K0907

Stop with positive down force



Material:
Stop and jaw carbon steel 1.0503

Version:
Stop and jaw tempered to 1200-1400 N/mm², black oxidised.
Serrations ground, bright.

Sample order:
K0907.5001273

KIPP Stop with positive down force

Order No.	Dimensions
K0907.5001273	see drawing

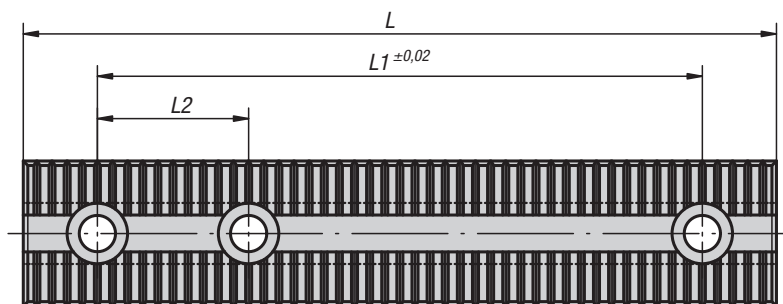
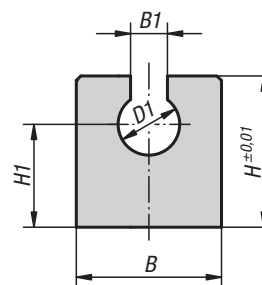
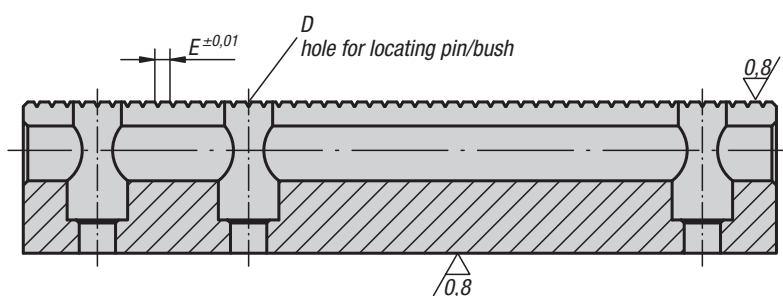




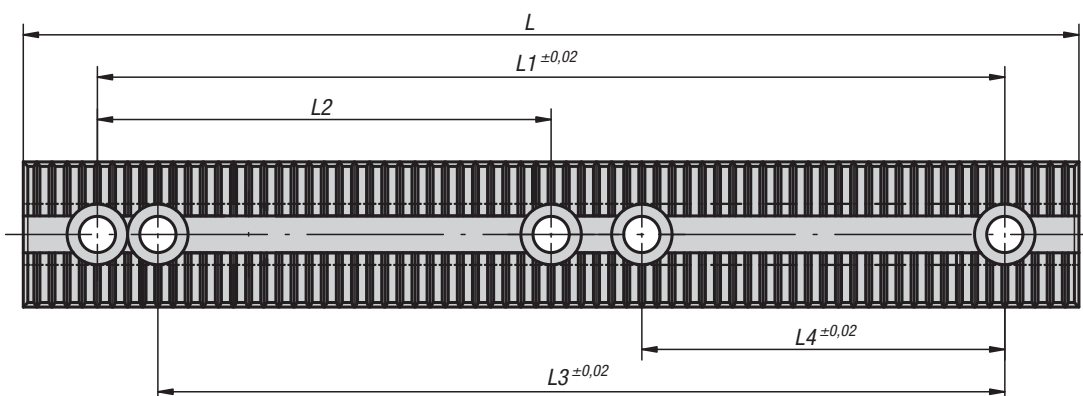
Material:
Carbon steel 1.0503.

Version:
Black oxidised.
Serrations case hardened and ground.

Sample order:
K0904.5000801



K0904.5021201

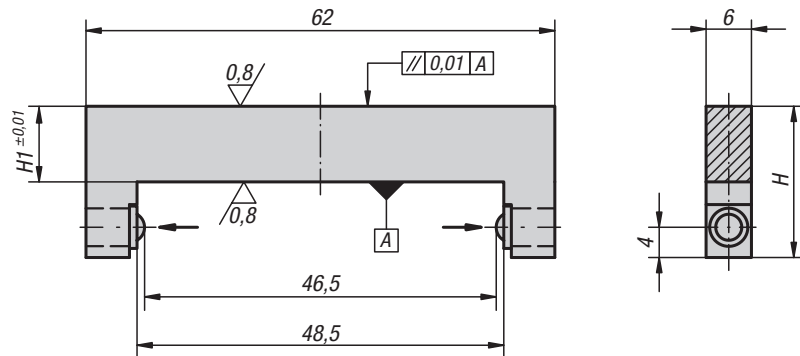


KIPP Base rails

Order No.	B	B1	D	D1	E	H	H1	L	L1	L2	L3	L4	weight kg
K0904.5000801	24	8,2	12 H6	14,2	2,5	40	25	199	150	50 ±0,01	-	-	1.1
K0904.5001201	48	12,2	12 F7	20,2	5	50	34	249	200	50 ±0,01	-	-	3.7
K0904.5021201	48	12,2	12 F7	20,2	5	50	34	349	300	150 ±0,02	280	120	5
K0904.5001601	48	16,2	16 F7	24,2	5	63	43	249	200	50 ±0,01	-	-	4.4

K0908

Seating ledges



Material:
Steel.

Version:
Ledges hardened, black oxidised.
Contact faces ground, bright.

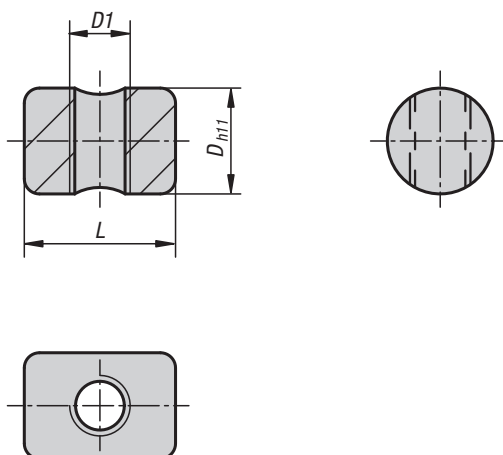
Sample order:
K0908.5001295

KIPP Seating ledges

Order No.	H	H1
K0908.5001295	20	10
K0908.5001298	27	17

K0909

Keyway nuts round



Material:
Steel.

Version:
Black oxidised.

Sample order:
K0909.0802

KIPP Keyway nuts round

Order No.	D	D1	L
K0909.0802	14	M8	20
K0909.1202	20	M12	30
K0909.1602	24	M16	35





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