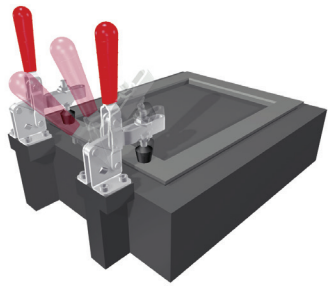
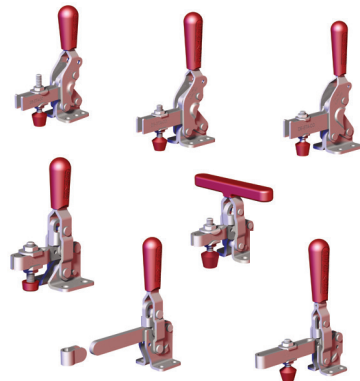



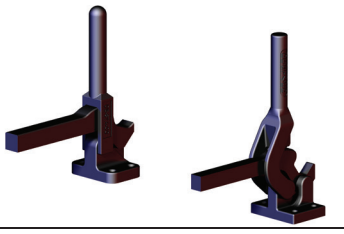
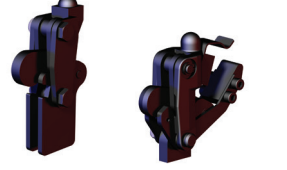


VERTICAL HOLD DOWN CLAMPS

Sizing and Application Chart

	Series	Page: MC-VHD-#	Max. Holding Capacity N [lb.]											Height Under Clamping Bar mm [inch]							Overall Height mm [inch]																		
			0 to 1000 [0 to 225]	1000 to 2000 [225 to 450]	2000 to 3000 [450 to 675]	3000 to 5000 [675 to 1125]	5000 to 7000 [1125 to 1575]	7000 to 10000 [1575 to 2250]	10000+ [2250+]	0 to 25 [0 to 0.98]	25 to 40 [0.98 to 1.57]	40 to 55 [1.57 to 2.17]	55 to 70 [2.17 to 2.76]	70 to 85 [2.76 to 3.35]	85 to 100 [3.35 to 3.94]	100+ [3.94+]	0 to 50 [0 to 1.97]	50 to 100 [1.97 to 3.94]	100 to 125 [3.94 to 4.92]	125 to 150 [4.92 to 5.91]	150 to 175 [5.91 to 6.89]	175 to 200 [6.89 to 7.87]	200 to 225 [7.87 to 8.86]	225 to 250 [8.86 to 9.84]	250 to 275 [9.84 to 10.83]	275+ [10.83+]													
	2002	3																																					
	2007	7																																					
	2010	9																																					
	201	11																																					
	202	13																																					
	207	17																																					
	210	21																																					
	247	23																																					
	267	23																																					
		5905	27																																				
5910		27																																					
5915		27																																					
5105		29																																					
5110		29																																					
	528	31																																					
	548/578	32																																					
	533/535	33																																					
	558	35																																					
	91090	36																																					
	317	37																																					
	527	39																																					
	7-101	40																																					
	7-58	40																																					
	7-59	40																																					
	7-60	40																																					
	229	41																																					
	501	43																																					
	503	43																																					
	505	43																																					
506	43																																						

VERTICAL HOLD DOWN CLAMPS

Sizing and Application Chart

Overall Length mm [inch]		Overall Width mm [inch]		Suitable Application Area		Standard Material		Arm Style	Mounting Style		Service Environment																						
50 to 75 [1.97 to 2.95]	75 to 100 [2.95 to 3.94]	100 to 125 [3.94 to 4.92]	125 to 150 [4.92 to 5.91]	150 to 175 [5.91 to 6.89]	175 to 200 [6.89 to 7.87]	200 to 225 [7.87 to 8.86]	225 to 250 [8.86 to 9.84]	0 to 20 [0 to 0.78]	20 to 40 [0.78 to 1.57]	40 to 60 [1.57 to 2.36]	60 to 80 [2.36 to 3.15]	80 to 100 [3.15 to 3.94]	100+ [3.94+]	Welding	Assembly	Checking Fixtures	Machining	Woodworking	Closures	Food Processing	Duty Cycle	Steel	Stainless Steel	Toggle Lock Plus	Accom. Workpiece Variation	U-Bar Version	Solid Arm Version	Straight Base	Flanged Base	Welded	Normal	Harsh/Dirty	
	✓	✓							○	●	●	●	●	○	●	○	○	○	○	○	○	✓	✓	✓		✓	✓	✓	✓	✓	✓	✓	
	✓	✓							○	●	●	●	●	○	●	○	○	○	○	○	○	○	✓	✓	✓		✓	✓	✓	✓	✓	✓	✓
		✓	✓						○	●	●	●	●	○	●	○	○	○	○	○	○	○	✓	✓	✓		✓	✓	✓	✓	✓	✓	✓
✓				✓					○	●	●	●	●	○	●	○	○	○	○	○	○	○	✓	✓	✓		✓	✓	✓	✓	✓	✓	✓
✓					✓				○	●	●	●	●	○	●	○	○	○	○	○	○	○	✓	✓	✓		✓	✓	✓	✓	✓	✓	✓
		✓	✓						○	●	●	●	●	○	●	○	○	○	○	○	○	○	✓	✓	✓		✓	✓	✓	✓	✓	✓	✓
		✓	✓						○	●	●	●	●	○	●	○	○	○	○	○	○	○	✓	✓	✓		✓	✓	✓	✓	✓	✓	✓
		✓	✓						○	●	●	●	●	○	●	○	○	○	○	○	○	○	✓	✓	✓		✓	✓	✓	✓	✓	✓	✓
			✓	✓					○	●	●	●	●	○	●	○	○	○	○	○	○	○	✓	✓	✓		✓	✓	✓	✓	✓	✓	✓
				✓	✓				○	●	●	●	●	○	●	○	○	○	○	○	○	○	✓	✓	✓		✓	✓	✓	✓	✓	✓	✓
					✓	✓			○	●	●	●	●	○	●	○	○	○	○	○	○	○	✓	✓	✓		✓	✓	✓	✓	✓	✓	✓
						✓	✓		○	●	●	●	●	○	●	○	○	○	○	○	○	○	✓	✓	✓		✓	✓	✓	✓	✓	✓	✓
							✓		○	●	●	●	●	○	●	○	○	○	○	○	○	○	✓	✓	✓		✓	✓	✓	✓	✓	✓	✓
								✓	○	●	●	●	●	○	●	○	○	○	○	○	○	○	✓	✓	✓		✓	✓	✓	✓	✓	✓	✓
									○	●	●	●	●	○	●	○	○	○	○	○	○	○	✓	✓	✓		✓	✓	✓	✓	✓	✓	✓
									○	●	●	●	●	○	●	○	○	○	○	○	○	○	✓	✓	✓		✓	✓	✓	✓	✓	✓	✓

● Excellent/High ○ Fair/Medium ● Poor/Low ⊗ Not Recommended

Dimensions and technical information are subject to change without notice

MC-VHD-2



2002 SERIES

Vertical Hold Down Clamps | Product Overview

Features:

- Large hand clearance for improved safety
- Bolt pattern interchangeable with 202 Series
- Three times the holding capacity of 202 Series
- Hardened bushings at key pivot points
- Near vertical clamping contact
- BLK models feature a black, non-reflective finish

Applications:

- Checking fixtures
- Assembly & test
- Light machining
- Woodworking

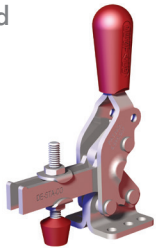
Also Available:

See page MC-ACC-1 for accessories
Accepts M6 or 1/4 spindle accessories

Covered under one or more U.S./International Patents

2002-**U**

Flanged
Base
U-Bar



2002-**U-LS-BLK** ⓘ

Blackout Series
Flanged Base
U-Bar



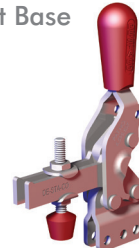
2002-**S**

Flanged Base
Solid Bar



2002-**UB**

Straight Base
U-Bar



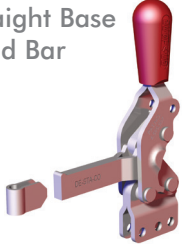
2002-**UB-LS-BLK** ⓘ

Blackout Series
Straight Base
U-Bar



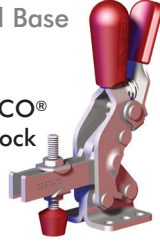
2002-**SB**

Straight Base
Solid Bar



2002-**UR**

Flanged Base
U-Bar
with
DE-STA-CO®
Toggle Lock
Plus



2002-**SR** ⓘ

Flanged Base
Solid Bar
with
DE-STA-CO®
Toggle Lock
Plus



2002-**UBR**

Straight Base
U-Bar
with
DE-STA-CO®
Toggle Lock
Plus



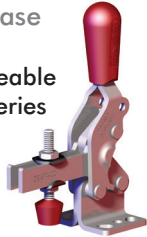
2002-**SBR** ⓘ

Straight Base
Solid Bar
with
DE-STA-CO®
Toggle Lock
Plus



2002-**U207**

Flanged Base
U-Bar
Interchangeable
with 207 Series



2002-**UR207**

Flanged Base
U-Bar
Interchangeable
with 207 Series,
DE-STA-CO®
Toggle
Lock Plus



Note: Clamps shown with included accessories.

ⓘ This item is available upon request

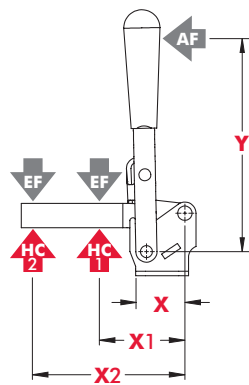
2002 SERIES

Vertical Hold Down Clamps | Technical Information

Model	Max. Holding Capacity	Clamp Bar Opening(+10°)	Handle Opening (+10°)	Weight	Accessories (Supplied)		
					Bolt Retainer	Spindle Assembly	Flanged Washers
2002-U	2700 N [600 lbf]	75°	66°	0,22kg [0.48lb]	--	215208-M	215105
2002-U-LS-BLK ⓘ					--	--	215105-BLK
2002-S					2002115-E	--	--
2002-UB					--	215208-M	215105
2002-UB-LS-BLK ⓘ					--	--	215105-BLK
2002-SB					2002115-E	--	--
2002-UR		--	215208-M	215105			
2002-SR ⓘ		2002115-E	--	--			
2002-UBR		--	215208-M	215105			
2002-SBR ⓘ		2002115-E	--	--			
2002-U207		90°	72°	0,26kg [0.57lb]	--	215208-M	215105
2002-UR207		75°	57°				

ⓘ This item is available upon request

Holding Capacities



Model	X	X1	X2	Y	±HC1	±HC2	±EF(X1):AF	±EF(X2):AF
2002-()	[1.12] 28,5	[1.45] 37	[2.64] 67	[3.66] 93	[600 lbf] 2700N	[295 lbf] 1310N	11:1	5:1

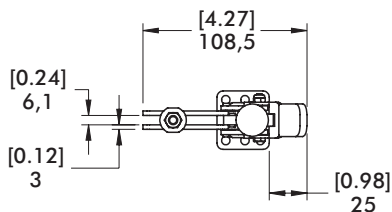
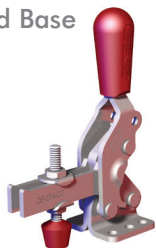
Dimensions shown "mm [inch]" ± HC = Holding Capacity, EF = Exerting Force, AF = Applied Force
Refer to See page MC-TEC-4 for additional information.

2002 SERIES

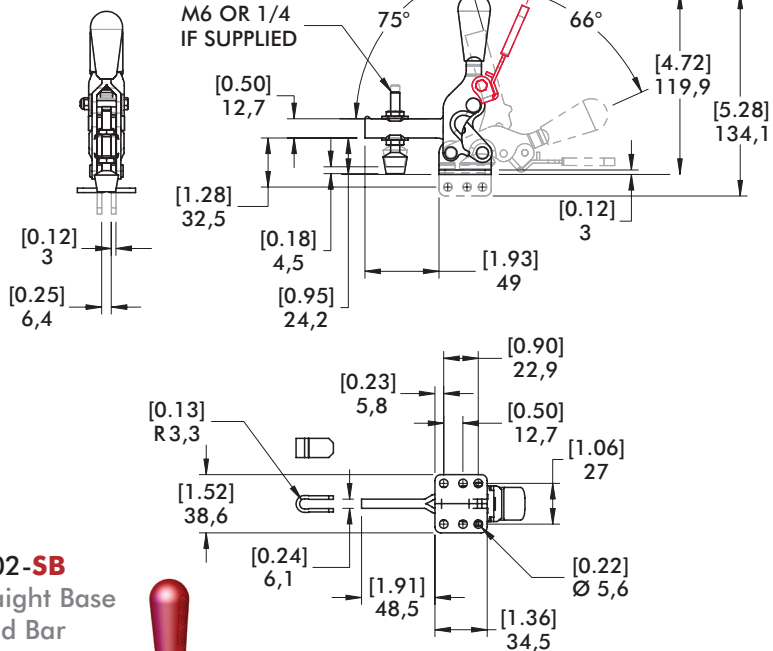
Vertical Hold Down Clamps | Dimensions | -U/-S/-UB/-SB/-UR/-SR/-UBR/-SBR

2002-U

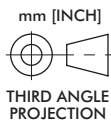
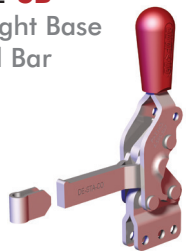
Flanged Base
U-Bar



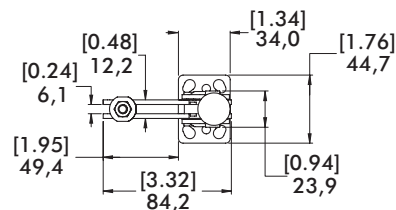
DE-STA-CO®
TOGGLE LOCK
PLUS OPTION



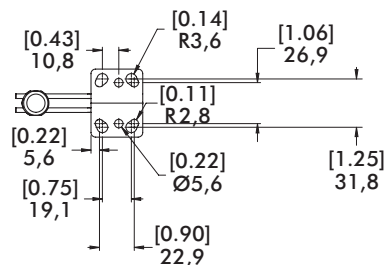
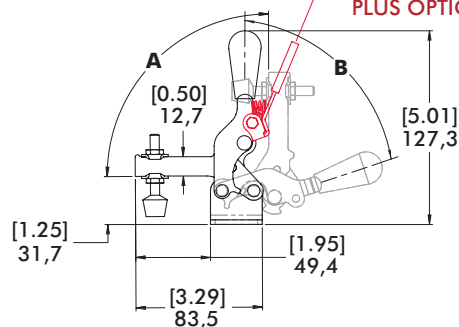
2002-SB
Straight Base
Solid Bar



2002-U207/2002-UR207 with interchangeable Series 207 Mounting Pattern



DE-STA-CO®
TOGGLE LOCK
PLUS OPTION



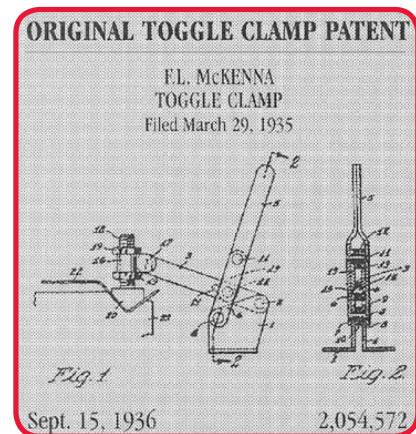
Model	A	B
2002-U-207	90°	72°
2002-UR207	75°	57°

CUSTOM SOLUTIONS FOR MANUAL CLAMPS

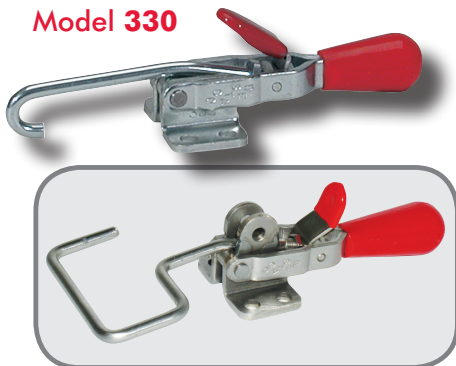
DE-STA-CO offers custom clamping solutions When an off-the-shelf product can't handle it - we can!

With years of experience using our expertise to develop custom solutions for unique applications, DE-STA-CO helps you save time and resources, allowing you to focus on your core business and gain a competitive advantage in the marketplace.

- **Proven quality** from the experts
- **Reduce risk** by using our experienced engineers
- **Easy reordering** with unique part numbers
- **Simplify** your supply chain
- **Three levels of customization** from simple alterations to complex custom products



Model 330

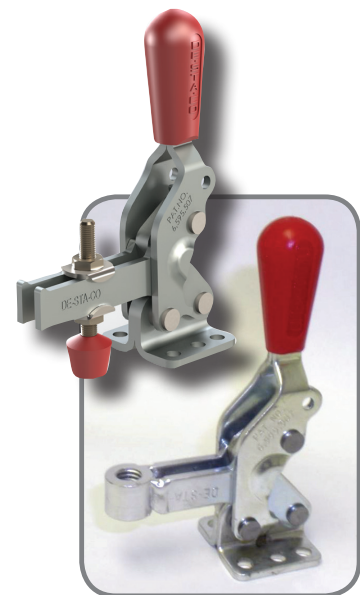


330-201 Stainless steel clamp with special hook and locking tab

Model 604



604-229 Stainless steel straight line clamp used in chemical machining process



2002-200 with bar cut and bolt retainer welded on

Contact us today to get started on your custom application: clamps@destaco.com

(*) All inquiries subject to minimum order

2007 SERIES

Vertical Hold Down Clamps | Product Overview

Features:

- Large hand clearance for improved safety
- Bolt pattern interchangeable with 207 Series
- Over two times the holding capacity of 207 Series
- Hardened bushings at key pivot points
- Near vertical clamping contact

Applications:

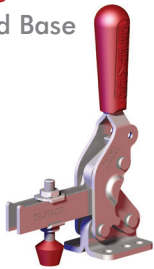
- Checking fixtures
- Assembly & test
- Light machining
- Woodworking

Also Available:

See page MC-ACC-1 for accessories
Accepts M8 or 5/16 spindle accessories

Covered under one or more U.S./International Patents

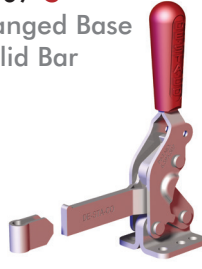
2007-U
Flanged Base
U-Bar



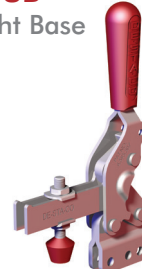
2007-U-LS-BLK ⓘ
Blackout Series
Flanged Base
U-Bar



2007-S
Flanged Base
Solid Bar



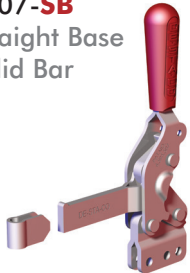
2007-UB
Straight Base
U-Bar



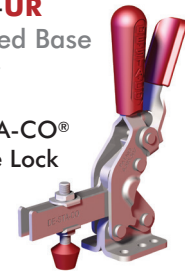
2007-UB-LS-BLK ⓘ
Blackout Series
Straight Base
U-Bar



2007-SB
Straight Base
Solid Bar



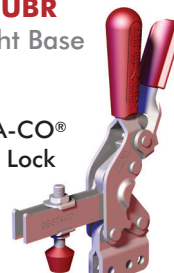
2007-UR
Flanged Base
U-Bar
with
DE-STA-CO®
Toggle Lock
Plus



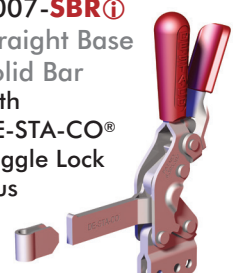
2007-SR ⓘ
Flanged Base
Solid Bar
with
DE-STA-CO®
Toggle Lock
Plus



2007-UBR
Straight Base
U-Bar
with
DE-STA-CO®
Toggle Lock
Plus



2007-SBR ⓘ
Straight Base
Solid Bar
with
DE-STA-CO®
Toggle Lock
Plus



Note: Clamps shown with included accessories.

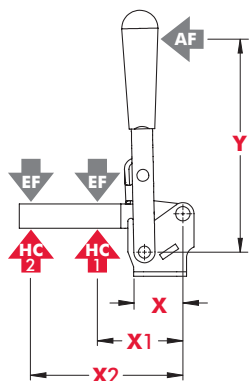
Technical Information

Model	Max. Holding Capacity	Clamp Bar Opening (+10°)	Handle Opening (+10°)	Weight	Accessories (Supplied)		
					Bolt Retainer	Spindle Assembly	Flanged Washers
2007-U	4450 N [1000 lbf]	76°	64°	0,54kg [1.20lbs]	--	2007208-M	507107
2007-U-LS-BLK ⓘ					--	--	507107-BLK
2007-S					2007115-E	--	--
2007-UB					--	2007208-M	507107
2007-UB-LS-BLK ⓘ					--	--	507107-BLK
2007-SB					2007115-E	--	--
2007-UR					--	2007208-M	507107
2007-SR ⓘ					2007115-E	--	--
2007-UBR					--	2007208-M	507107
2007-SBR ⓘ					2007115-E	--	--

ⓘ This item is available upon request

2007 SERIES

Vertical Hold Down Clamps | Holding Capacities



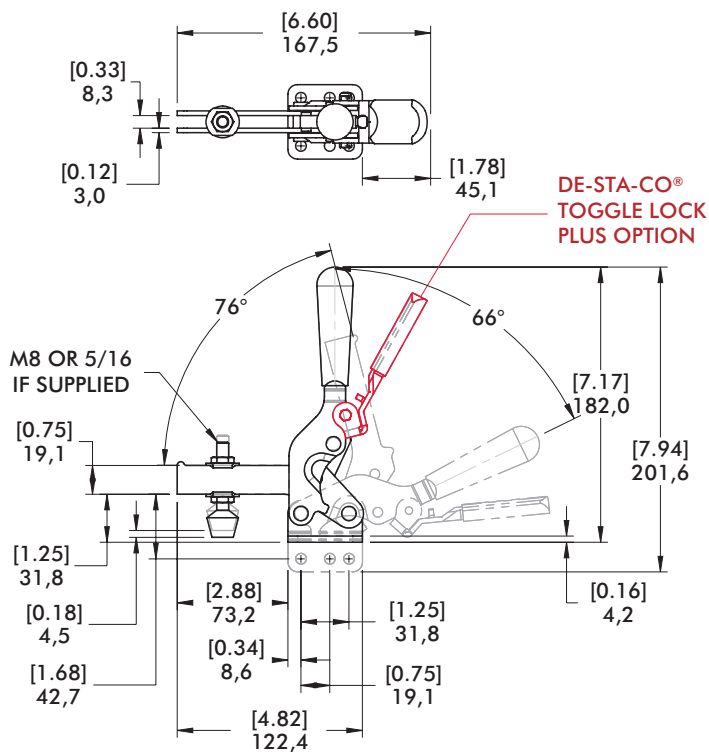
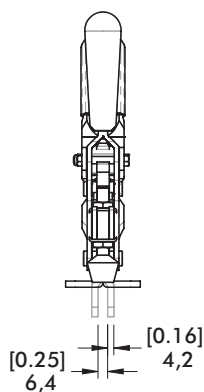
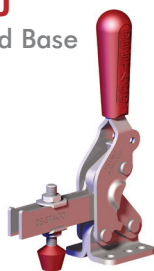
Model	X	X1	X2	Y	±HC1	±HC2	±EF(X1):AF	±EF(X2):AF
2007-()	[1.59] 40,5	[1.95] 49,5	[3.92] 99,5	[5.16] 131	[1000lbf.] 4450N	[470lbf.] 2090N	10:1	5.3:1

Dimensions shown "mm [inch]" ± HC = Holding Capacity, EF = Exerting Force, AF = Applied Force
Refer to See page MC-TEC-4 for additional information.

Dimensions | -U/-S/-UB/-SB/-UR/-SR/-UBR/-SBR

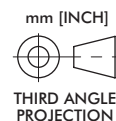
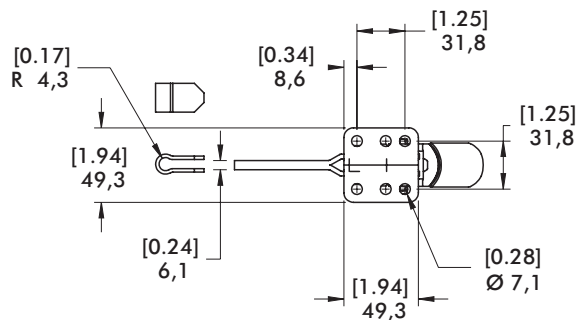
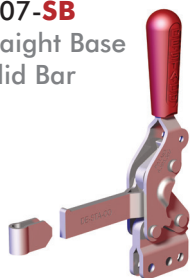
2007-U

Flanged Base
U-Bar



2007-SB

Straight Base
Solid Bar



2010 SERIES

Vertical Hold Down Clamps | Product Overview

Features:

- Large hand clearance for improved safety
- Bolt pattern interchangeable with 210 Series
- Over two times the holding capacity of 210 Series
- Hardened bushings at key pivot points
- Near vertical clamping contact

Applications:

- Checking fixtures
- Assembly & test
- Light machining
- Woodworking

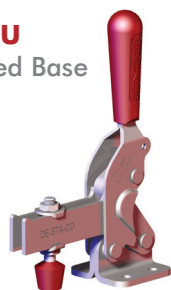
Also Available:

See page MC-ACC-1 for accessories

Accepts M10 or 3/8 spindle accessories

Covered under one or more U.S./International Patents

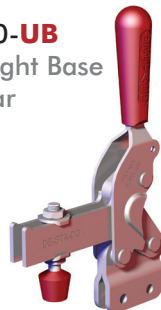
2010-U
Flanged Base
U-Bar



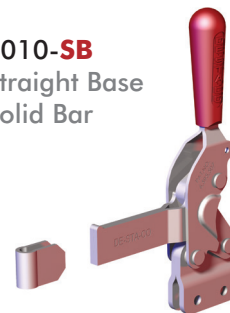
2010-S
Flanged Base
Solid Bar



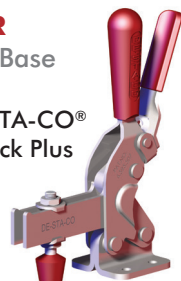
2010-UB
Straight Base
U-Bar



2010-SB
Straight Base
Solid Bar



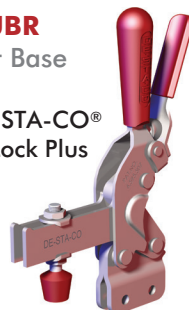
2010-UR
Flanged Base
U-Bar
with DE-STA-CO®
Toggle Lock Plus



2010-SR ⓘ
Flanged Base
Solid Bar
with DE-STA-CO®
Toggle Lock Plus



2010-UBR
Straight Base
U-Bar
with DE-STA-CO®
Toggle Lock Plus



2010-SBR ⓘ
Straight Base
Solid Bar
with DE-STA-CO®
Toggle Lock Plus



Note:
Clamps shown with included accessories.

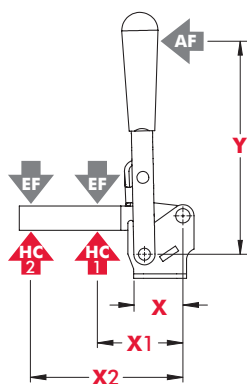
Technical Information

Model	Max. Holding Capacity	Clamp Bar Opening (+10°)	Handle Opening (+10°)	Weight	Accessories (Supplied)		
					Bolt Retainer	Spindle Assembly	Flanged Washers
2010-U	6230 N [1400 lbf]	78°	66°	1,16kg [2.56lbs]	---	240208-M	235106
2010-S					2010115-E	---	
2010-UB					---	240208-M	235106
2010-SB					2010115-E	---	
2010-UR					---	240208-M	235106
2010-SR ⓘ					2010115-E	---	
2010-UBR					---	240208-M	235106
2010-SBR ⓘ					2010115-E	---	

ⓘ This item is available upon request

2010 SERIES

Vertical Hold Down Clamps | Holding Capacities

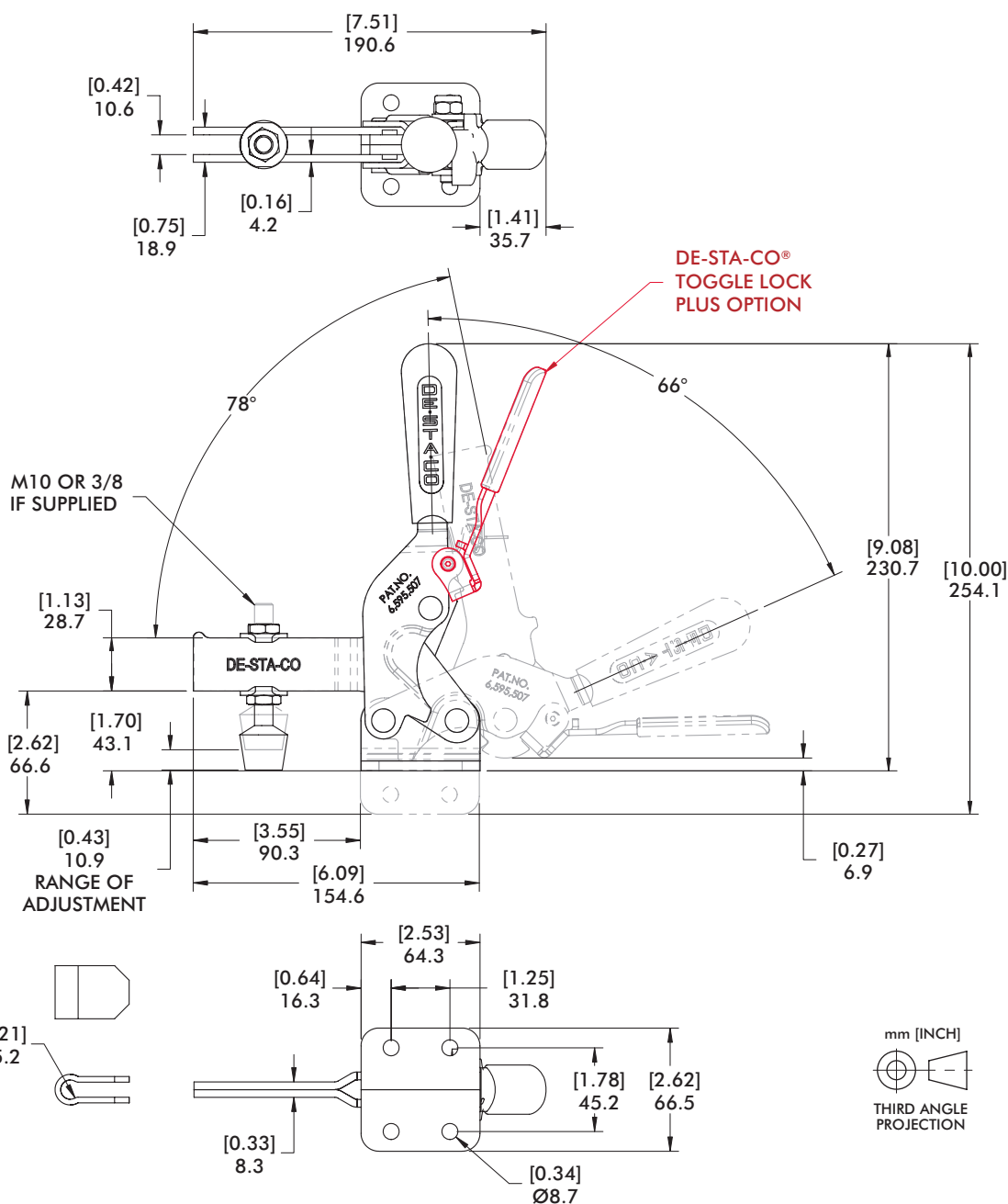
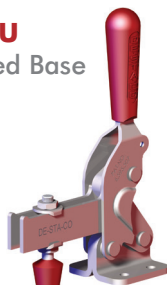


Model	X	X1	X2	Y	±HC1	±HC2	±EF(X1):AF	±EF(X2):AF
2010-()	[2.04] 51,8	[2.44] 62	[4.88] 124	[7.00] 178	[1400lbf.] 6230N	[720lbf.] 3200N	13:1	6:1

Dimensions shown "mm [inch]" ± HC = Holding Capacity, EF = Exerting Force, AF = Applied Force
Refer to See page MC-TEC-4 for additional information.

Dimensions | -U/-S/-UB/-SB/-UR/-SR/-UBR/-SBR

2010-U
Flanged Base
U-Bar



2010-SB
Straight Base
Solid Bar



201 SERIES

Vertical Hold Down Clamps | Product Overview

Features:

- Smallest series in the Vertical Handle series
- Stainless steel version available

Applications:

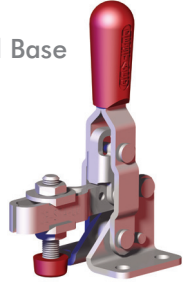
- Checking fixtures
- Assembly & test
- Woodworking

Also Available:

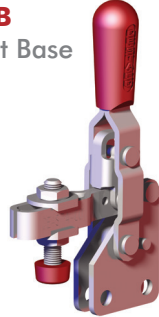
See page MC-ACC-1 for accessories

812-U Pneumatic Toggle Clamp
(See page MC-PTC-3)

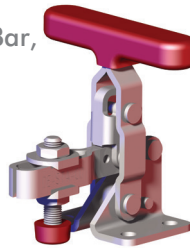
201-U
Flanged Base
U-Bar



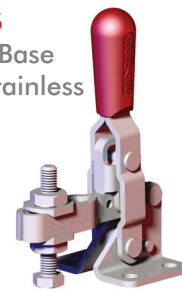
201-UB
Straight Base



201-TU
Flanged
Base, U-Bar,
T-Handle



201-USS
Flanged Base
U-Bar, Stainless
Steel

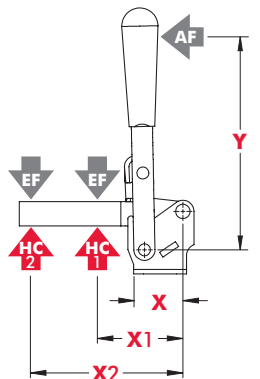


Note:
Clamps shown with included accessories.

Technical Information

Model	Max. Holding Capacity	Clamp Bar Opening (+10°)	Handle Opening (+10°)	Weight	Accessories (Supplied)	
					Spindle Assembly	Flanged Washers
201-U	440 N [100 lbf]	100°	55°	0,70kg [0.15lbs]	305208-M	102111
201-UB						
201-TU						
201-USS	560 N [125 lbf]				201943-M	102911

Holding Capacities



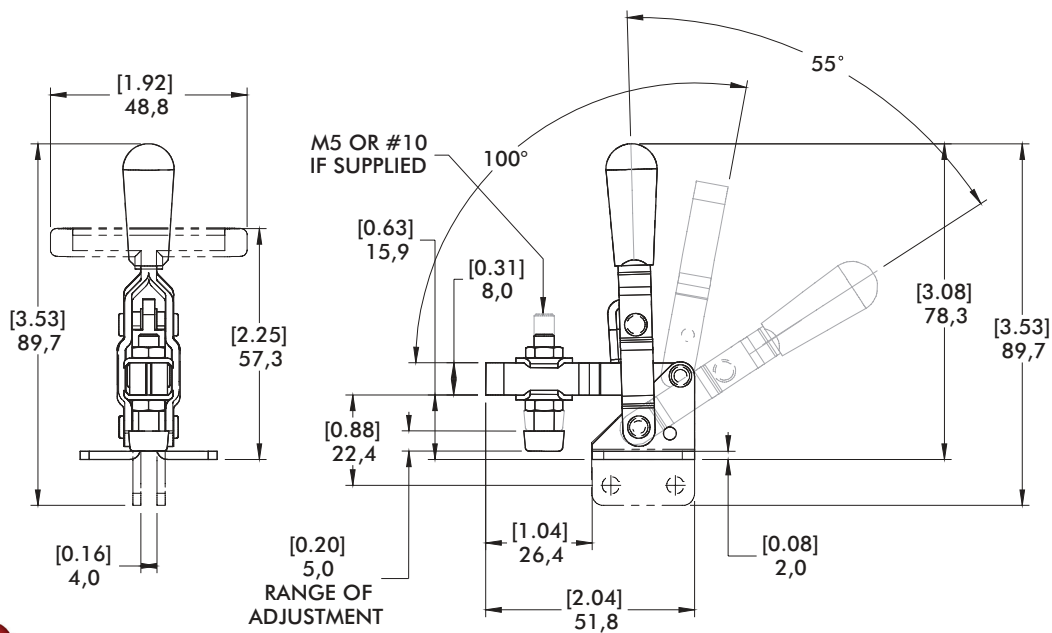
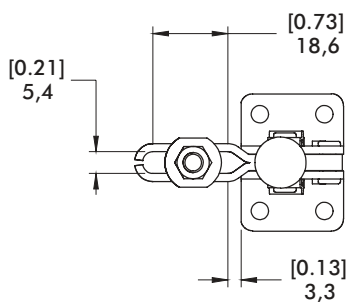
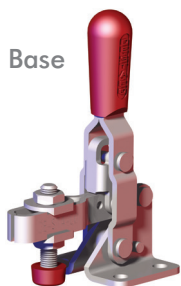
Model	X	X1	X2	Y	±HC1	±HC2	±EF(X1):AF	±EF(X2):AF
U/UB				[2.25] 57	[100lbf.] 440N	[55lbf.] 245N	9:1	6:1
TU	[0.87] 22	[1.06] 27	[1.75] 44,5	[1.38] 35			8.4:1	4:4:1
USS				[2.25] 57	[125lbf.] 560N	[60lbf.] 270N	9:1	6:1

Dimensions shown "mm [inch]" ± HC = Holding Capacity, EF = Exerting Force, AF = Applied Force
Refer to See page MC-TEC-4 for additional information.

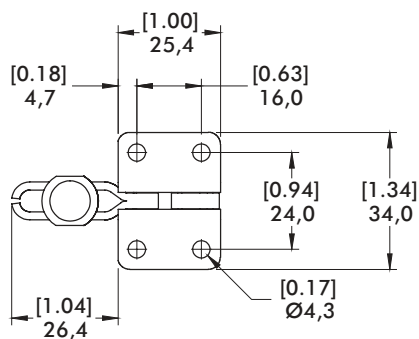
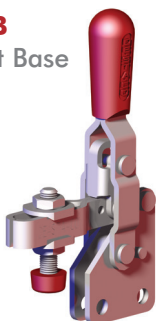
201 SERIES

Vertical Hold Down Clamps | Dimensions | -U/-UB/-TU/-USS

201-U
Flanged Base
U-Bar



201-UB
Straight Base



mm [INCH]
THIRD ANGLE
PROJECTION

202 SERIES

Vertical Hold Down Clamps | Product Overview

Features:

- Two bar styles available
- Low profile T-Handle version available
- Available in stainless steel
- Accommodates M6 or 1/4" spindle accessories
- BLK models feature a black, non-reflective finish

Applications:

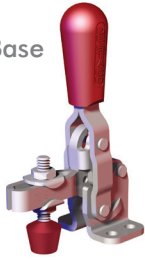
- Checking fixtures
- Assembly & test
- Light machining
- Woodworking

Also Available:

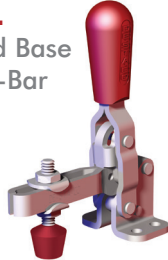
See page MC-ACC-1 for accessories

802-U Pneumatic Toggle Clamp
(See page MC-PTC-5)

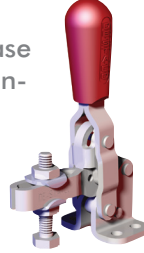
202-U
Flanged Base
U-Bar



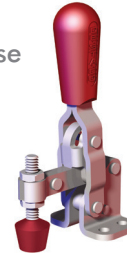
202-UL
Flanged Base
Long U-Bar



202-USS
Flanged Base
U-bar, Stain-
less Steel



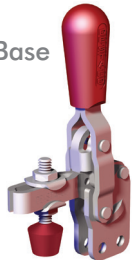
202
Flange Base
Solid Bar



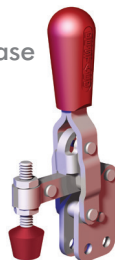
202-SS
Flanged Base
Solid Bar
Stainless Steel



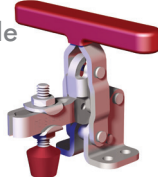
202-UB
Straight Base
U-bar



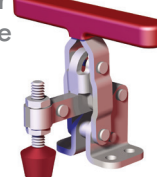
202-B
Straight Base
Solid Bar



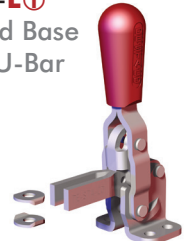
202-TU
Flanged Base
U-bar,
T-Handle



202-T
Flanged Base
Solid Bar
T-Handle



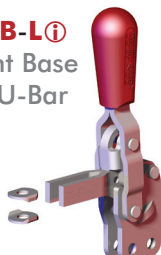
202-U-L ⓘ
Flanged Base
Open U-Bar



202-U-L-BLK ⓘ
Blackout Series
Flanged Base
Open U-Bar



202-UB-L ⓘ
Straight Base
Open U-Bar



202-UB-L-BLK ⓘ
Blackout Series
Straight Base
Open U-Bar



202305
Flanged Grip.
Provides added safety
and protection. Fits all
202 Series (except
T-Handle) clamps.
Order separately.



Note: Clamps shown with included accessories.

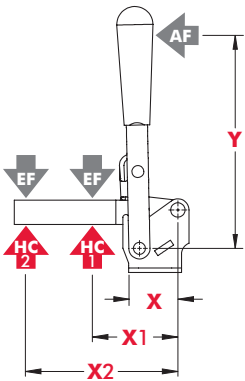
ⓘ This item is available upon request

Vertical Hold Down Clamps | Technical Information

Model	Max. Holding Capacity	Clamp Bar Opening (+10°)	Handle Opening (+10°)	Weight	Accessories (Supplied)	
					Spindle Assembly	Flanged Washers
202-U	890 N [200 lbf]	105°	65°	0,16kg [0.35lbs]	202208-M	215105
202-UL	890 N [200 lbf]				202943-M	215905
202-USS	1110 N [250 lbf]			202208-M	---	
202	890 N [200 lbf]			205943-M	---	
202-SS	1110 N [250 lbf]			0,16kg [0.35lbs]	202208-M	215105
202-UB	890 N [200 lbf]			0,15kg [0.33lbs]		
202-B	890 N [200 lbf]			0,17kg [0.38lbs]		
202-TU	890 N [200 lbf]			0,16kg [0.35lbs]		
202-U-L ⓘ	890 N [200 lbf]			---	---	
202-U-L-BLK ⓘ	890 N [200 lbf]			---	---	
202-UB-L ⓘ	890 N [200 lbf]			---	---	
202-UB-L-BLK ⓘ	890 N [200 lbf]			---	---	

ⓘ This item is available upon request

Holding Capacities



Model	X	X1	X2	Y	±HC1	±HC2	±EF(X1):AF	±EF(X2):AF
202-U	[0.79] 20	[1.25] 32	[2.25] 57	[3.42] 87	[200 lbf] 890N	[140 lbf] 625N	10:1	5:1
202-UL			[2.88] 73	[3.00] 76	[250 lbf] 1110N	[150 lbf] 670N		4:1
202-USS			[2.25] 57	[3.00] 76	[250 lbf] 1110N	[170 lbf] 760N		5:1
202		---	[1.88] 48	[3.42] 87	---	[200 lbf] 890N	---	8:1
202-SS		---	[1.88] 48	[3.00] 76	---	[250 lbf] 1110N	---	8:1
202-UB		[1.25] 32	[2.25] 57	[3.42] 87	[200 lbf] 890N	[140 lbf] 625N	10:1	5:1
202-B		---	[1.88] 48	[3.42] 87	---	[200 lbf] 890N	---	8:1
202-TU		[1.25] 32	[2.25] 57	[2.13] 54	[200 lbf] 890N	[140 lbf] 625N	11:1	7:1
202-T		---	[1.88] 48	[3.42] 87	---	[200 lbf] 890N	---	6:1
202-U-L ⓘ		---	---	---	---	---	---	---
202-U-L-BLK ⓘ		---	---	---	---	---	---	---
202-UB-L ⓘ		[1.25] 32	[2.25] 57	[3.42] 87	[200 lbf] 890N	[140 lbf] 625N	10:1	5:1
202-UB-L-BLK ⓘ		[1.25] 32	[2.25] 57	[3.42] 87	[200 lbf] 890N	[140 lbf] 625N	10:1	5:1

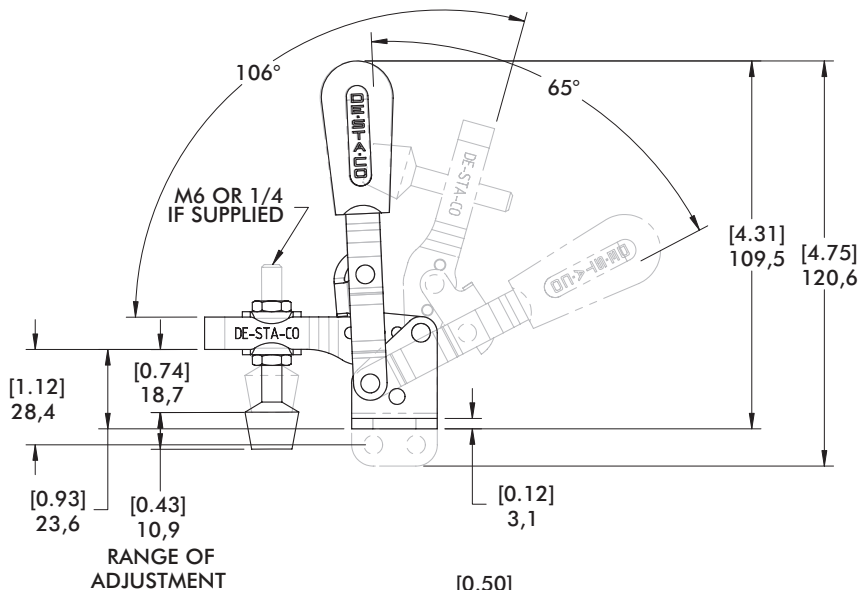
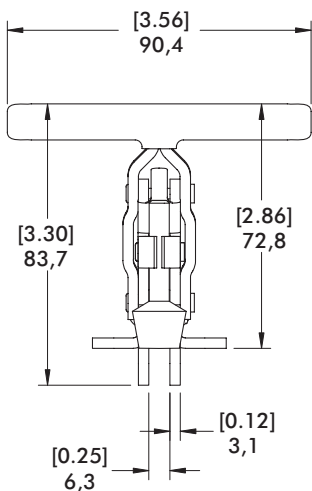
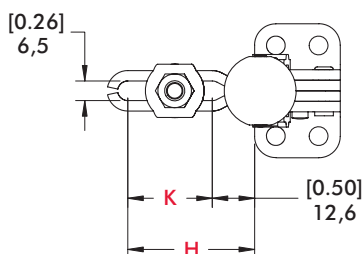
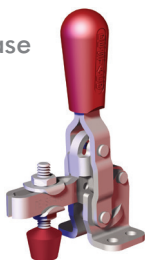
Dimensions shown "mm [inch]" ± HC = Holding Capacity, EF = Exerting Force, AF = Applied Force

ⓘ This item is available upon request

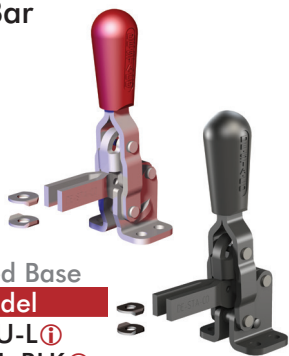
202 SERIES

Vertical Hold Down Clamps | Dimensions | 202-/U-/UL-/USS-/SS-/UB-/B-/TU-/T

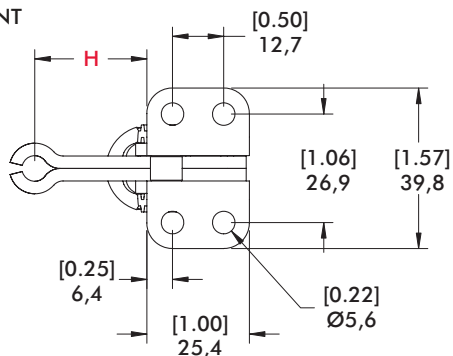
202-U
Flanged Base
U-Bar



Open Bar Option



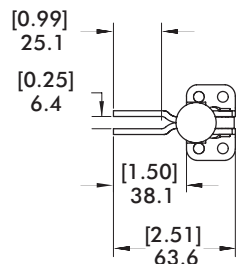
See page MC-ACC-7 for complete offering of open bar accessories



mm [INCH]
THIRD ANGLE PROJECTION

Flanged Base
Model

202-U-L ⓘ
202-U-L-BLK ⓘ



Straight Base
Model

202-UB-L ⓘ
202-UB-L-BLK ⓘ



Bar Style	Clamp Models	H	K
	202-U/202-UB/ 202-USS/202-TU	[1.73] 44,1	[0.98] 25
	202-UL ⓘ	[2.29] 58,1	[1.51] 38,4
	202/202-B/ 202-T/202-SS	[1.08] 27,4	---
	202-U-L ⓘ/ 202-UB-L ⓘ	[1.50] 38,1	---

ⓘ This item is available upon request

VERTICAL HOLD DOWN CLAMPS

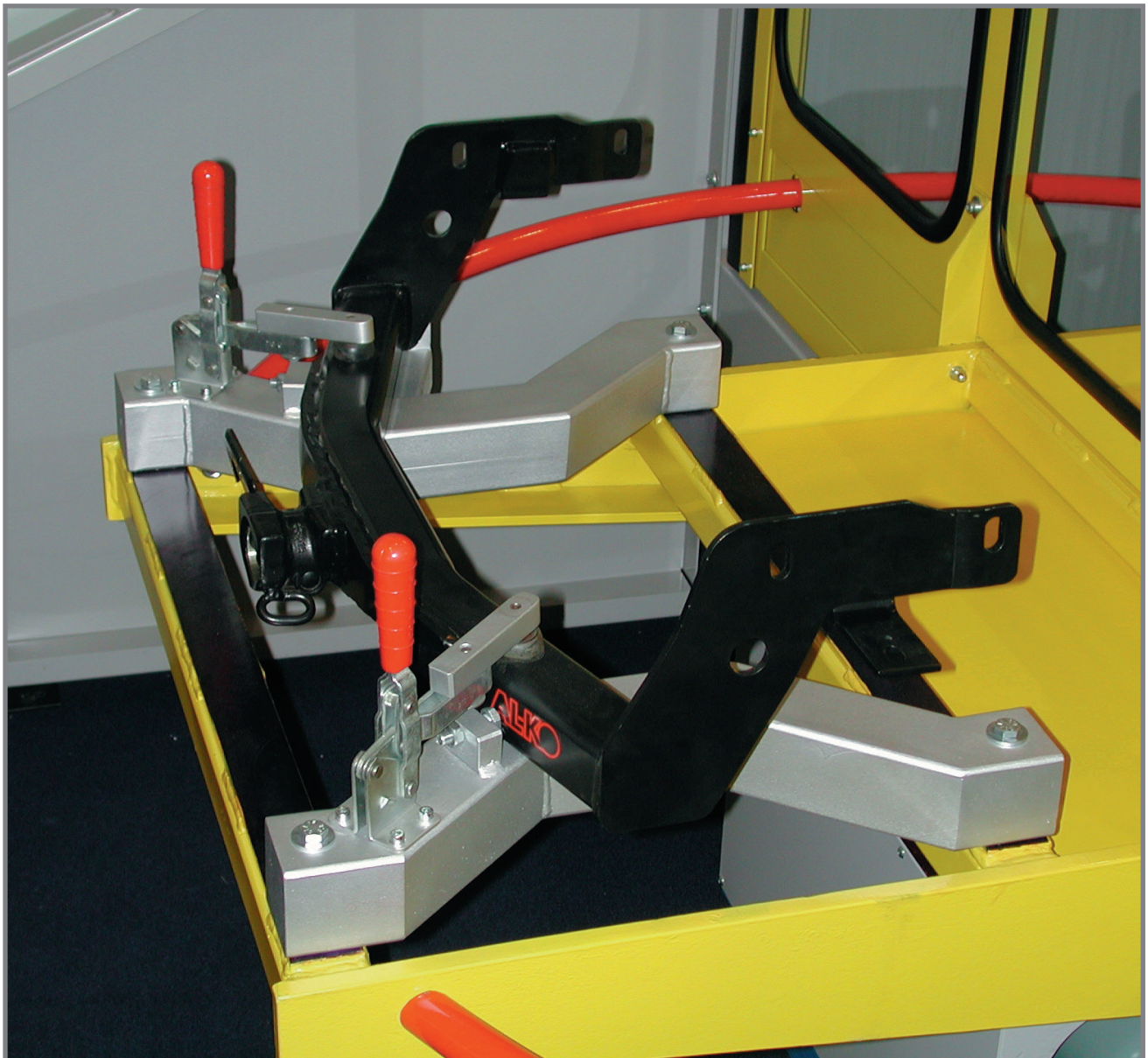
Application Example

Application Areas

Clamping during the assembling, drilling, testing, gluing, locking of covers and much more. The vertical clamp is the most frequently used product whenever clamping products are to be integrated with a manual fixture.

The essential product features

- In the clamping position, the handle is vertical
- Vertical clamps open at an angle between 75° and 215°
- Vertical clamps are offered with U-shaped or heavy-duty solid clamping bars
- Vertical clamps have a straight or flanged base.
The heavy-duty vertical clamps possess a base that can be welded on without a hole pattern



207 SERIES

Vertical Hold Down Clamps | Product Overview

Features:

- Largest selection of arm and mounting options
- Low profile T-Handle version available
- Available in stainless steel
- BLK models feature a black, non-reflective finish

Applications:

- Checking fixtures
- Assembly & test
- Light machining
- Woodworking

Also Available:

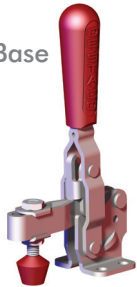
See page MC-ACC-1 for accessories

807-U Pneumatic toggle clamp
(See page MC-PTC-8)

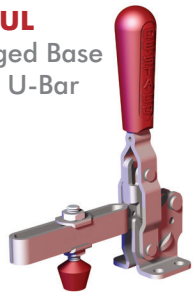
807-S Pneumatic toggle clamp
(See page MC-PTC-8)

Accepts M8 or 5/16 spindle accessories

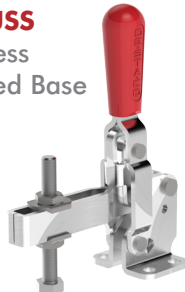
207-U
Flanged Base
U-Bar



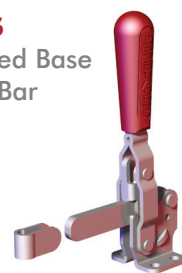
207-UL
Flanged Base
Long U-Bar



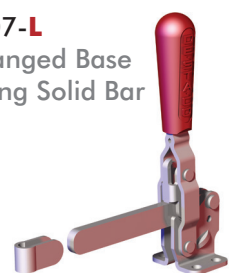
207-USS
Stainless
Flanged Base
U-Bar



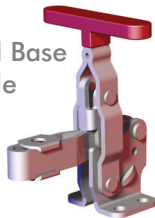
207-S
Flanged Base
Solid Bar



207-L
Flanged Base
Long Solid Bar



207-TU
Flanged Base
T-Handle
U-Bar



207-TUL
Flanged Base
T-Handle
Long U-Bar



207-UR
Flanged Base
U-Bar
with
DE-STA-CO®
Toggle Lock
Plus



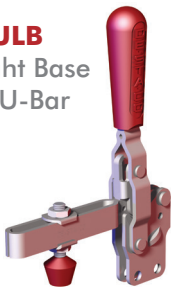
207-LR
Flanged Base
Long Solid Bar
with
DE-STA-CO®
Toggle Lock
Plus



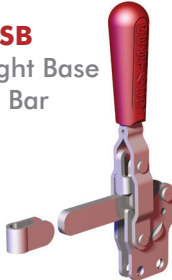
207-UB
Straight Base
U-Bar



207-ULB
Straight Base
Long U-Bar



207-SB
Straight Base
Solid Bar



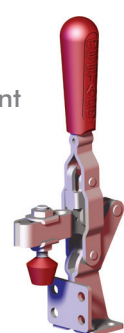
207-LB
Straight Base
Long Solid
Bar



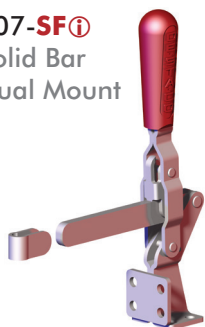
207-LBR ⓘ
Straight Base
Long Solid
Bar with
DE-STA-CO®
Toggle Lock
Plus



207-UF ⓘ
U-Bar
Dual Mount



207-SF ⓘ
Solid Bar
Dual Mount



207-U-L ⓘ
Flange Base
Open Bar



207-U-L-BLK
Blackout Series
Flanged Base
Open U-Bar



207-UB-L ⓘ
Straight Base
Open Bar



207-UB-L-BLK
Blackout Series
Straight Base
Open U-Bar



207305

Flanged Grip. Provides added safety and protection. Fits all 207 Series (except T-Handle) clamps. Order separately.



Note: Clamps shown with included accessories.

ⓘ This item is available upon request

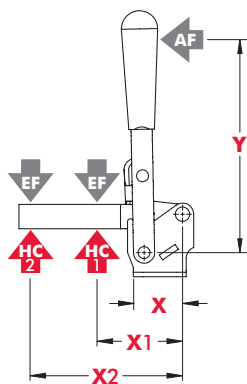
207 SERIES

Vertical Hold Down Clamps | Technical Information

Model	Max. Holding Capacity	Clamp Bar Opening (+10°)	Handle Opening (+10°)	Weight	Accessories (Supplied)				
					Bolt Retainer	Spindle Assembly	Flanged Washers		
207-U 207-UR 207-UL	1670 N [375 lbf]	99°	57°	0,30kg [0.67lb] 0,45kg [1.00lb] 0,30kg [.67lb]	---	225208-M	507107		
207-USS	2000 N [450 lbf]			---	207943-M	507907			
207-S 207-L 207-LR	2220 N [500 lbf]			207105	---	---			
207-UB 207-ULB	1670 N [375 lbf]			---	225208-M	507107			
207-SB 207-LB 207-LBR ⓘ	2220 N [500 lbf]			207105	---	---			
207-TU 207-TUL	1670 N [375 lbf]			---	---	507107			
207-UF ⓘ	1670 N [375 lbf]			96°	56°	0,43kg [0.94lb]	---	225208-M	507107
207-SF ⓘ	2220 N [500 lbf]			90°		0,38kg [0.84lb]	207105	---	---
207-U-L ⓘ 207-U-L-BLK ⓘ 207-UB-L ⓘ 207-UB-L-BLK ⓘ	1670 N [375 lbf]			99°	57°	0,38kg [0.84lb]	---	---	---

ⓘ This item is available upon request

Holding Capacities



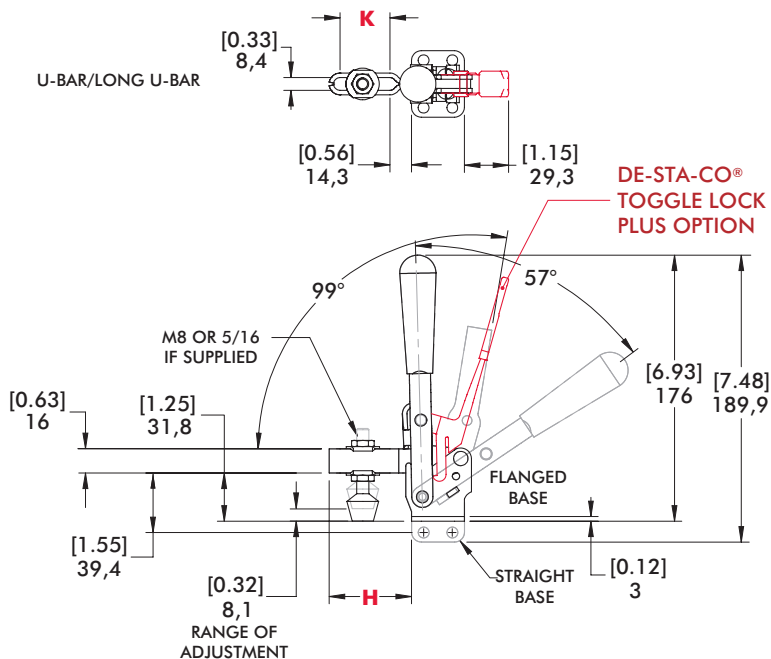
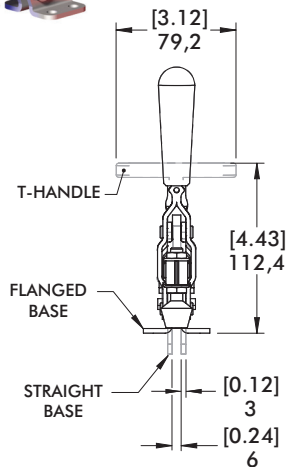
Model	X	X1	X2	Y	±HC1	±HC2	±EF(X1):AF	±EF(X2):AF
U/UB/UR		[2.00] 50,8	[3.75] 95,3		[375 lbf] 1670N	[225 lbf] 1000N	12:1	6:1
UL/ULB		[3.88] 98,5	[5.00] 127			[150 lbf] 670N	7:1	4:1
USS		[2.00] 50,8	[3.75] 95,3	[4.90] 124,5	[450 lbf] 2000N	[240 lbf] 1070N		5:1
S/SB		[2.88] 73,0			[500 lbf] 2220N	[350 lbf] 1560N	10:1	7:1
L/LR LB/LBR	[1.28] 32,6	[2.88] 73,0	[5.00] 127					5:1
TU		[2.00] 50,8	[3.75] 95,3	[3.66] 9	[375 lbf] 1670N	[225 lbf] 1000N	6:1	4:1
TUL		[3.88] 98,5	[5.00] 127			[150 lbf] 670N	4:1	3:1
U-L		[2.00] 50,8	[3.75] 95,3	[4.90] 124,5	[375 lbf] 1670N	[2225 lbf] 1000N	12:1	6:1
UB-L								

Dimensions shown "mm [inch]" ± HC = Holding Capacity, EF = Exerting Force, AF = Applied Force

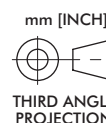
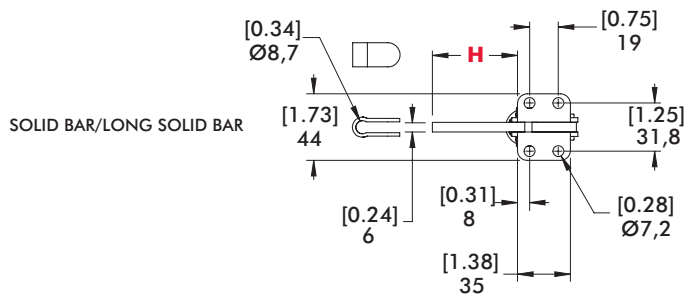
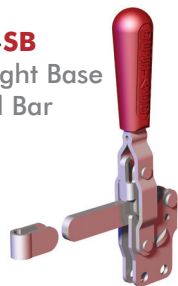
207 SERIES


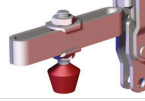
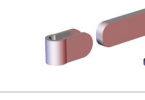
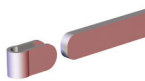
Vertical Hold Down Clamps | Dimensions | -U/-UL/-S/-L/-TU/-TUL/-UR/-LR/-UB/-ULB/-SB/-LB/-LBR

207-U Flanged Base U-Bar



207-SB Straight Base Solid Bar



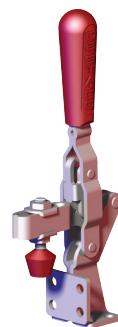
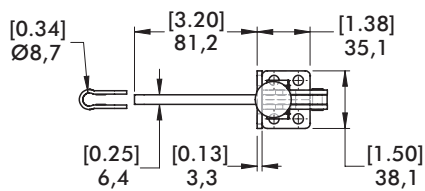
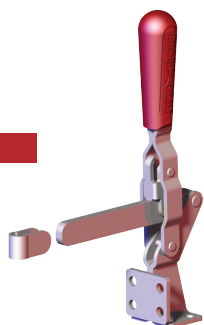
Bar Style	Clamp Models	H	K
	207-U/207-UR/207-TU/207-UB	[2.14] 54,4	[1.30] 33
	207-UL/207-ULB/207-TUL	[3.84] 97,6	[2.94] 74,6
	207-S/207-SB	[2.21] 56,2	---
	207-L/207-LR/207-LB/207-LBR ⓘ	[3.48] 88,4	---

ⓘ This item is available upon request

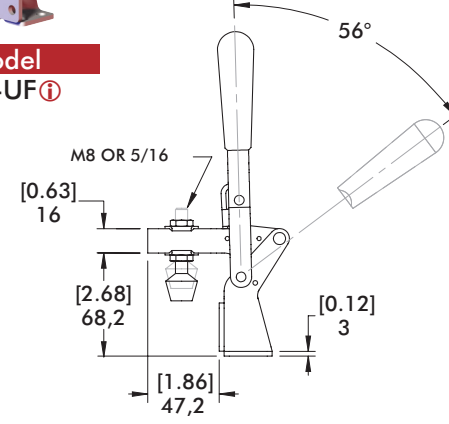
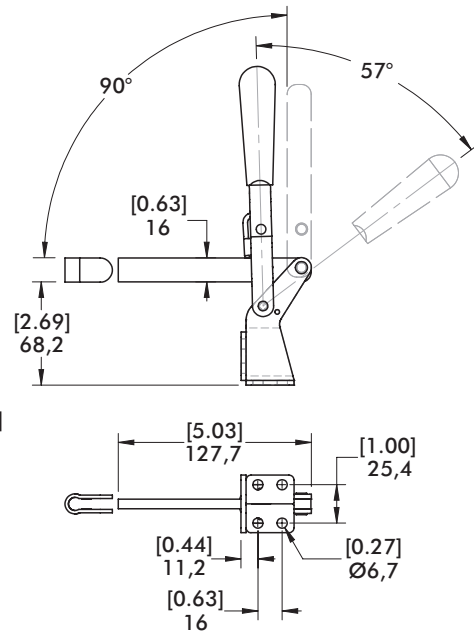
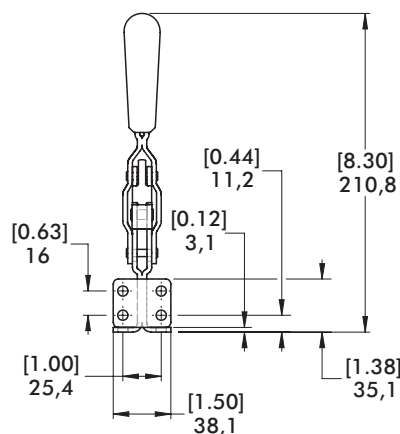
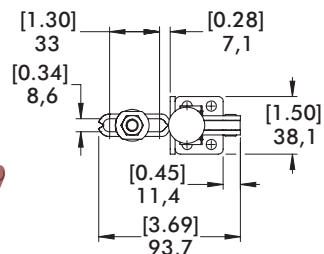
207 SERIES

Vertical Hold Down Clamps | Dimensions | Dual Mount

Model
207-SF ⓘ



Model
207-UF ⓘ



ⓘ This item is available upon request

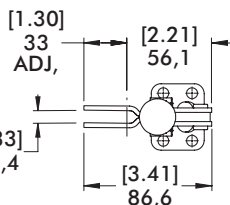
Open Bar Option

See page MC-ACC-7 for Complete offering of Open bar accessories

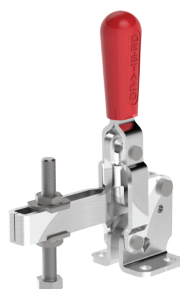


Flanged Base
Model

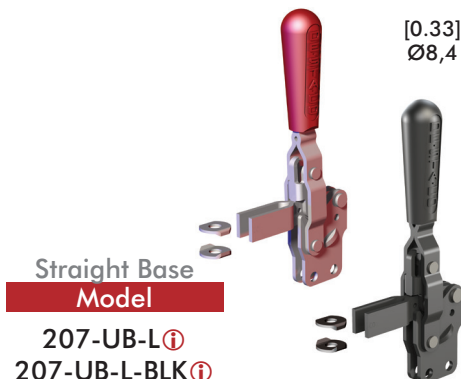
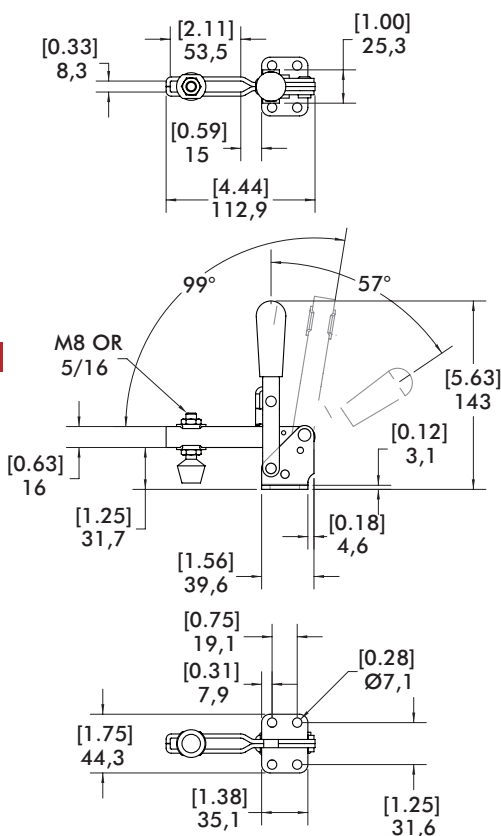
207-U-L ⓘ
207-U-L-BLK ⓘ



Stainless Steel

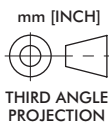


Model
207-USS



Straight Base
Model

207-UB-L ⓘ
207-UB-L-BLK ⓘ



210 SERIES

Vertical Hold Down Clamps | Product Overview

Features:

- DE-STA-CO® Toggle Lock Plus versions available
- Available in stainless steel
- Accomodates M10 or 3/8 spindle accessories

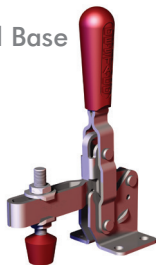
Applications:

- Assembly & test
- Light machining
- Light welding

Also Available:

See page MC-ACC-1 for accessories
 810-U Pneumatic Toggle Clamp
 (See page MC-PTC-9)
 810-S Pneumatic Toggle Clamp
 (See page MC-PTC-9)

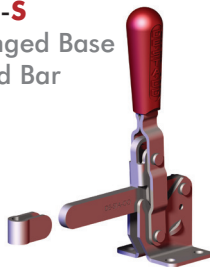
210-U
Flanged Base
U-Bar



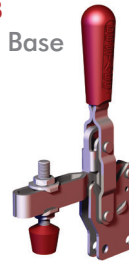
210-USS
Flanged Base
U-bar, Stainless
Steel



210-S
Flanged Base
Solid Bar



210-UB
Straight Base
U-bar



210-SB
Straight Base,
Solid Bar



210-UR
Flanged Base
U Bar
with
DE-STA-CO®
Toggle Lock
Plus



210-SR
Flanged Base
Solid Bar
with
DE-STA-CO®
Toggle Lock
Plus



210-TU
Flanged Base
U Bar,
T-Handle



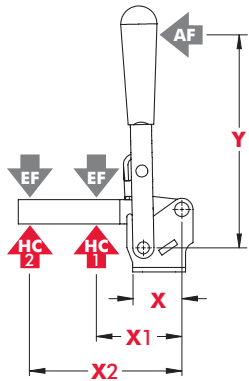
Note: Clamps shown with included accessories.

Technical Information

Model	Max. Holding Capacity	Clamp Bar Opening (+10°)	Handle Opening (+10°)	Weight	Accessories (Supplied)		
					Bolt Retainer	Spindle Assembly	Flanged Washers
210-U	2670 N [600 lbf]	103°	58°	0,59kg [1.29lbs]	---	240208-M	235106
210-USS	3340 N [750 lbf]				---	237943-M	235906
210-S					210114	237943-M	---
210-UB	2670 N [600 lbf]				---	240208-M	235106
210-SB	3340 N [750 lbf]			210114	---	---	
210-UR	2670 N [600 lbf]			---	240208-M	235106	
210-SR	3340 N [750 lbf]			210114	---	---	
210-TU	2670 N [600 lbf]			0,62kg [1.36lbs]	---	---	235106

210 SERIES

Vertical Hold Down Clamps | Holding Capacities



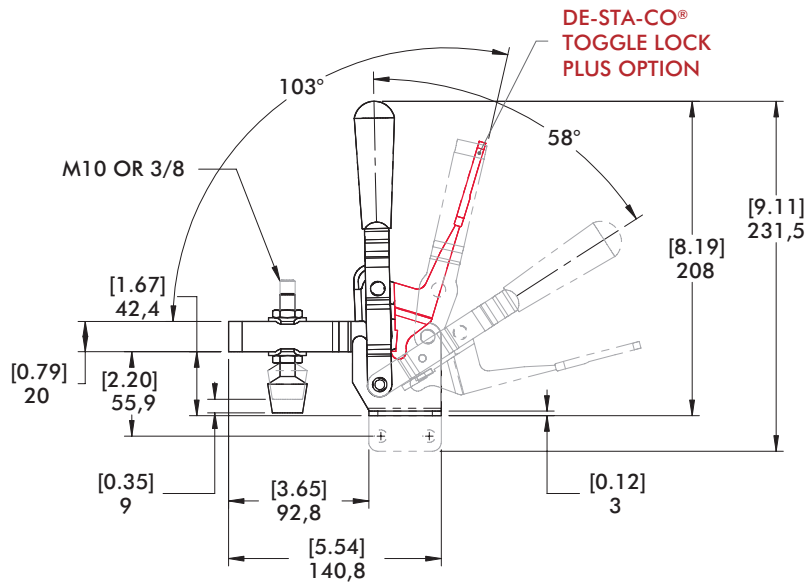
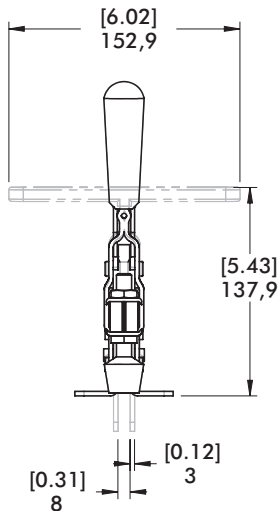
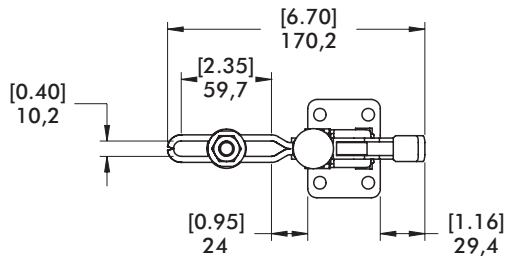
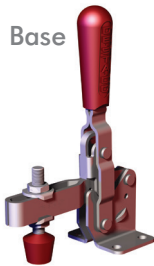
Model	X	X1	X2	Y	±HC1	±HC2	±EF(X1):AF	EF(X2):AF
U/UB/UR	[1.54] 39	[2.38] 60,5	[4.88] 124	[6.75] 171,5	[600lbf.] 2670N	[290lbf.] 1290N	14:1	7:1
USS		[3.62] 92,0	[5.25] 133	[4.50] 114,5	[750lbf.] 3340N	[360lbf.] 1600N		
S/SR/SB		[2.38] 60,5	[4.88] 124	[6.75] 171,5	[750lbf.] 3340N	[500lbf.] 2220N	11:1	9:1
TU		[2.38] 60,5	[4.88] 124	[6.75] 171,5	[600lbf.] 2670N	[290lbf.] 1290N		

Dimensions shown "mm [inch]" ± HC = Holding Capacity, EF = Exerting Force, AF = Applied Force
Refer to See page MC-TEC-4 for additional information.

Dimensions | -U/-USS/-S/-UB/-SB/-UR/-SR/-TU

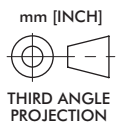
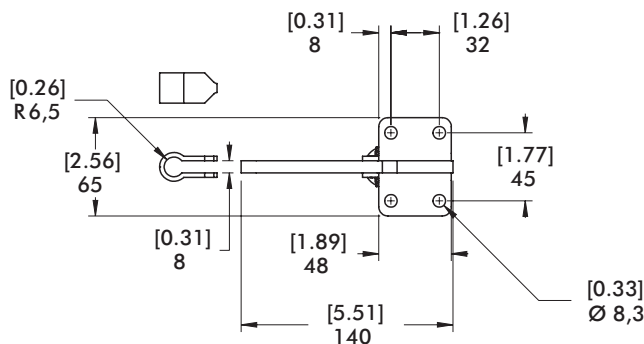
210-U

Flanged Base
U-Bar



210-SR

Flanged Base
Solid Bar
with
DE-STA-CO®
Toggle Lock
Plus



247, 267 SERIES

Vertical Hold Down Clamps | Product Overview

Features:

- Hardened steel bushings
- Large bar guides for greater lateral stability on Model 247
- Series 247 accomodates M12 or 1/2 spindle accessory
- Series 267 accomodates M16 or 5/8 spindle accessory

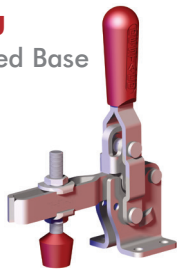
Applications:

- Assembly & test
- Light machining
- Welding

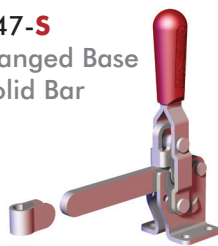
Also Available:

See page MC-ACC-1 for accessories
 847-U Pneumatic Toggle Clamp
 (See page MC-PTC-15)
 847-S Pneumatic Toggle Clamp
 (See page MC-PTC-15)

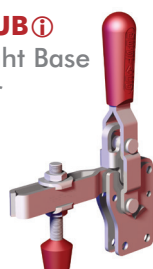
247-U
Flanged Base
U-Bar



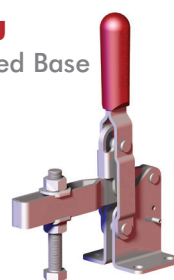
247-S
Flanged Base
Solid Bar



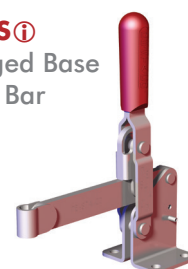
247-UB ⓘ
Straight Base
U-Bar



267-U
Flanged Base
U-Bar



267-S ⓘ
Flanged Base
Solid Bar



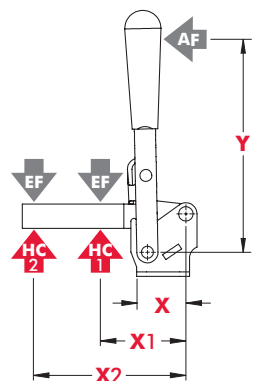
Note:
Clamps shown with included accessories.

Technical Information

Model	Max. Holding Capacity	Clamp Bar Opening (+10°)	Handle Opening (+10°)	Weight	Accessories (Supplied)		
					Bolt Retainer	Spindle Assembly	Flanged Washers
247-U	4400 N [1000 lbf]	120°	67°	1,07kg [2.36lbs]	---	247208-M	247109
247-S				1,08kg [2.36lbs]	247110	---	---
247-UB ⓘ				1,07kg [2.36lbs]	---	247208-M	247109
267-U	5340 N [1200 lbf]	140°	72°	2,18kg [4.80lbs]	---	267203-M	267102
267-S ⓘ				1,98kg [4.36lbs]	110122	---	---

ⓘ This item is available upon request

Holding Capacities



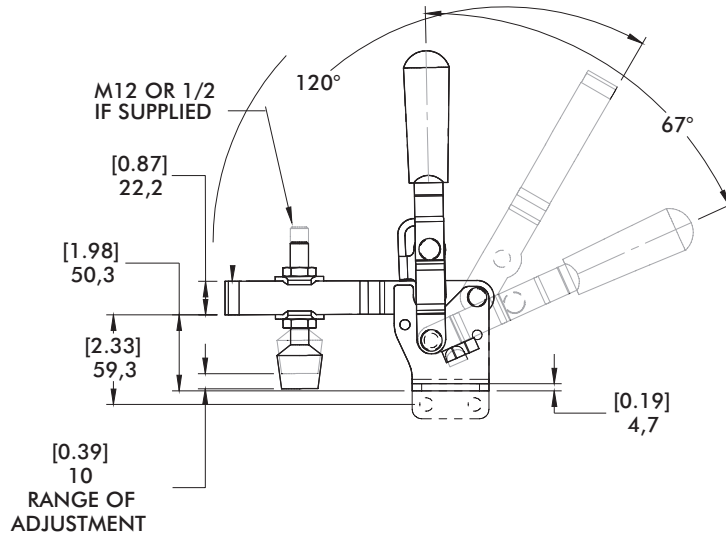
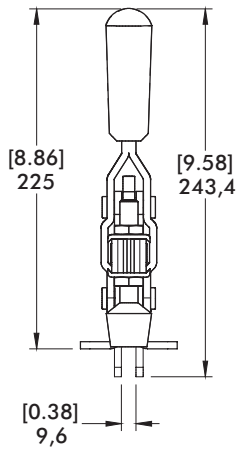
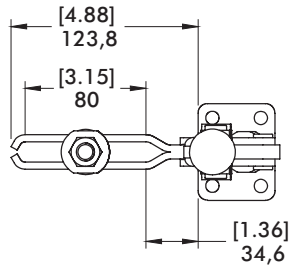
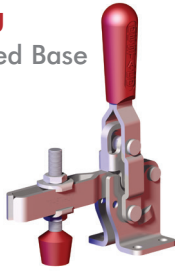
Model	X	X1	X2	Y	±HC1	±HC2	±EF(X1):AF	±EF(X2):AF
247-U/ 247-UB ⓘ	[1.69]	[3.00] 76,2	[6.13] 155,7	[6.71]	[1000lbf.] 4450N	[480lbf.] 2140N	12:1	6:1
247-S	43	[4.56] 115,8	[7.00] 177,8	170,5		[650lbf.] 2900N	10:1	5:1
267-U	[2.50]	[4.00] 101,6	[8.00] 203,2	[9.25]	[1200lbf.] 5340N	[600lbf.] 2670N	18:1	8:1
267-S ⓘ	63,5	[6.00] 152,4	[8.75] 222,3	235		[820lbf.] 3650N	12:1	

Dimensions shown "mm [inch]" ± HC = Holding Capacity, EF = Exerting Force, AF = Applied Force
 Refer to See page MC-TEC-4 for additional information. ⓘ This item is available upon request

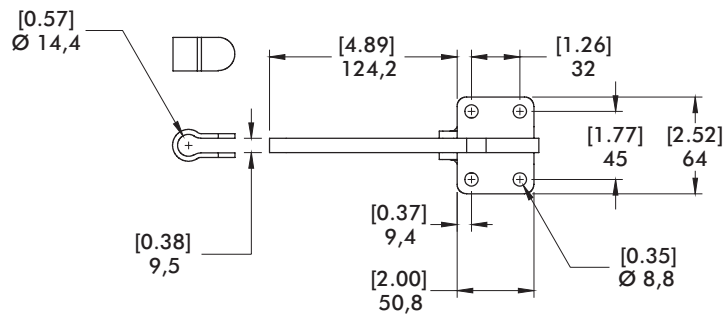
247, 267 SERIES

Vertical Hold Down Clamps | Dimensions | -U/-S/-UB

247-U
Flanged Base
U-Bar



247-S
Flanged Base
Solid Bar

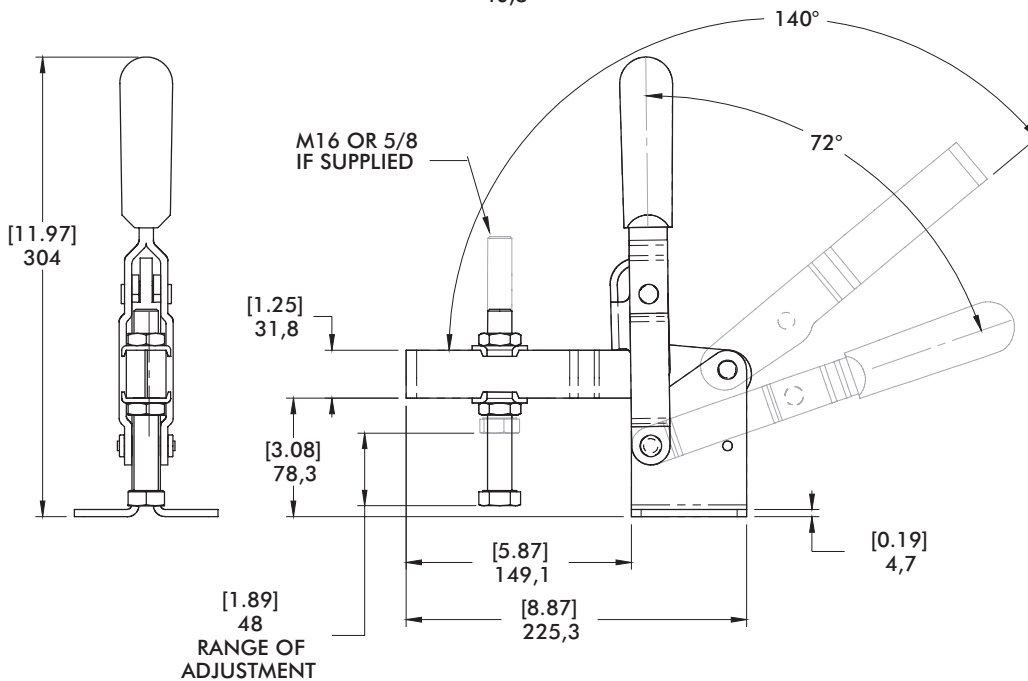
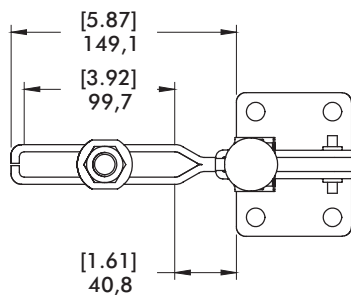
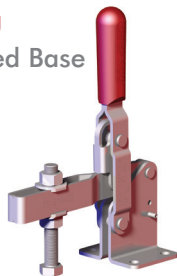


mm [INCH]
THIRD ANGLE PROJECTION

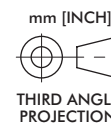
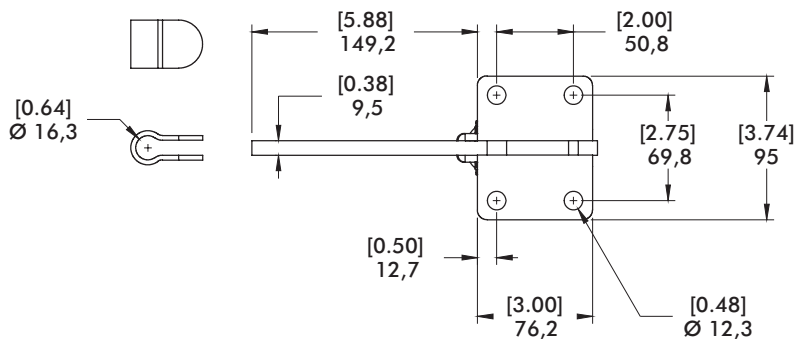
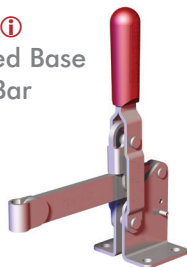
267 SERIES

Vertical Hold Down Clamps | Dimensions

267-U
Flanged Base
U-Bar

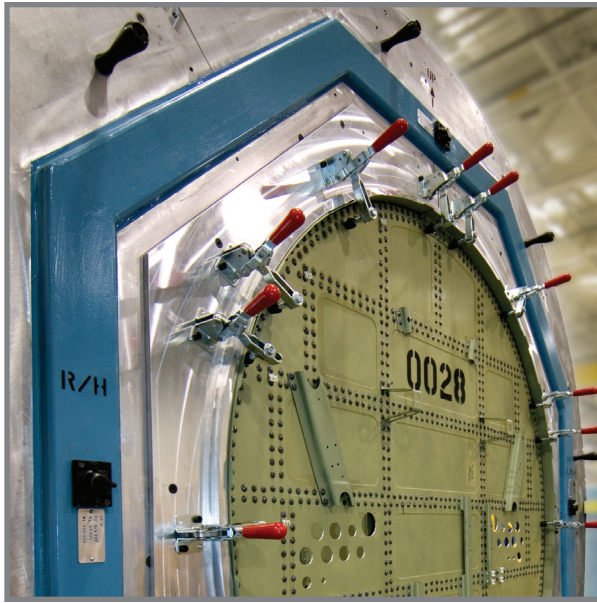


267-S
Flanged Base
Solid Bar



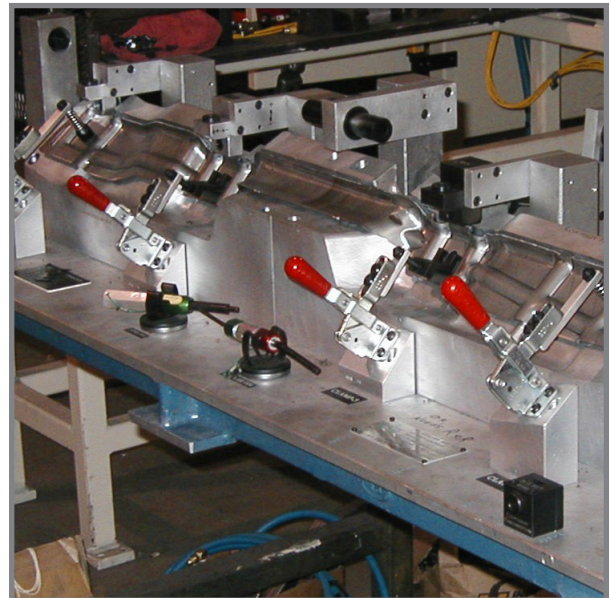
VERTICAL HOLD DOWN CLAMPS

Application Examples

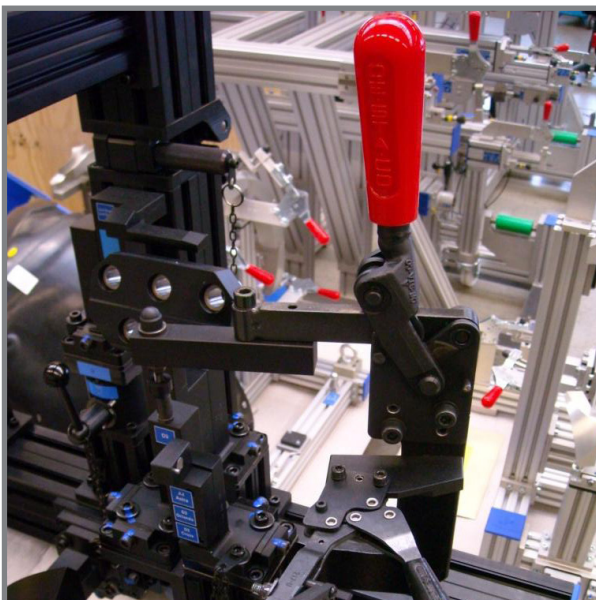


Model 210-U
used in an airframe
assembly fixture

Model 210-U
shown being used
in a checking fixture
application.



Model 533-LB
and **227-UB** shown
with black finish
in a fixture for used for
optical inspection.



5905, 5910, 5915 SERIES

Heavy-Duty Vertical Hold Down Clamps | Product Overview

Features:

- High strength forged clamping arm for heavy-duty service
- Hardened steel pivot pins and bushings provide long life
- Black oxide finish

Applications:

- Welding fixtures
- Assembly fixtures



5905/5910/5915
Flanged Base



5905-B/5910-B
Solid Base



Technical Information

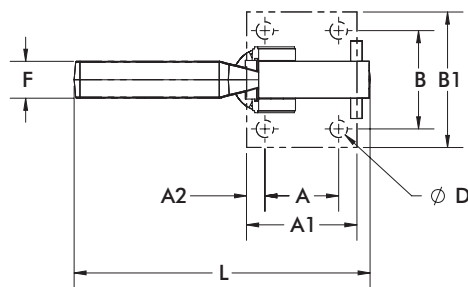
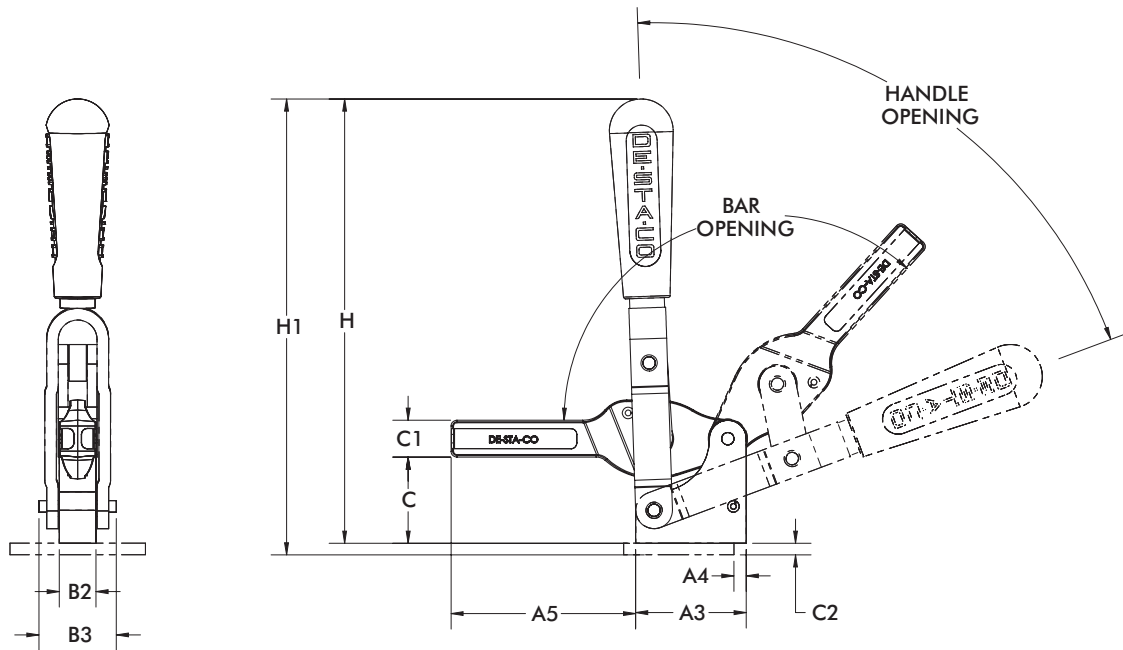
Model	Max. Holding Capacity	Clamp Bar Opening (+10°)	Handle Opening (+10°)	Weight
5905	[750lbf.] 3340N	135°	70°	[1.08lbs] 0,49kg
5905-B				[0.82lbs] 0,37kg
5910	[1600lbf.] 7120N	132°	71°	[2.84lbs] 1,29kg
5910-B				[2.24lbs] 1,02kg
5915	[2750lbf.] 12230N	147°	74°	[6.44lbs] 2,92kg



Removable handle stop can be repositioned to limit opening angle to 90°

5905, 5910, 5915 SERIES

Heavy-Duty Vertical Hold Down Clamps | Dimensions



mm [INCH]
THIRD ANGLE PROJECTION

Model	A	A1	A2	A3	A4	A5	B	B1	B2	B3	C	C1	C2	D	F	H	H1	L
5905	[1.00] 25,4	[1.50] 38,1	[0.25] 6,4	[1.51] 38,4	[0.25] 6,4	[2.49] 63,2	[1.50] 38,1	[2.13] 54,1	[0.59] 15,0	[1.02] 25,9	[1.27] 32,3	[0.51] 12,9	[0.24] 6,1	[0.29] 7,3	[0.56] 14,2	[6.51] 165,4	[6.75] 171,4	[4.02] 102.10
5910	[1.50] 38,1	[2.24] 56,9	[0.37] 9,4	[2.25] 57,2	[0.25] 6,4	[3.76] 95,5	[2.00] 50,8	[2.76] 70,1	[0.75] 19,1	[1.57] 39,9	[1.75] 44,5	[0.75] 19,1	[0.24] 6,1	[0.41] 10,5	[0.75] 19,1	[9.04] 229,5	[9.27] 235,5	[6.02] 152.88
5915	[2.00] 50,8	[2.95] 74,9	[0.48] 12,2	[2.99] 75,9	[0.38] 9,7	[5.00] 127,0	[2.75] 69,9	[3.88] 98,6	[0.98] 24,9	[1.97] 50,0	[2.37] 60,2	[1.00] 25,4	[0.35] 8,9	[0.55] 14,0	[1.00] 25,4	[10.89] 276,7	[11.25] 285,7	[7.50] 190.50

Model	A3	A5	B2	B3	F	H
5905-B	[1.51] 38,4	[2.49] 63,2	[0.59] 15,0	[1.02] 25,9	[0.56] 12,2	[6.24] 158,5
5910-B	[2.25] 57,2	[3.76] 95,5	[0.75] 19,1	[1.57] 39,9	[0.75] 19,1	[8.72] 221,5

5105, 5110 SERIES

Heavy-Duty Vertical Hold Down Clamps | Product Overview

Features:

- High strength forged clamping arm for heavy-duty service
- Hardened steel pivot pins and bushings provide long life
- Black oxide finish
- Large clearance under the clamping bar
- DE-STA-CO® Toggle Lock Plus versions available†

Applications:

- Welding fixtures
- Assembly fixtures



Covered under one or more U.S./International Patents

5105/5110
Flanged Base



5105-B/5110-B
Solid Base



5105-R/5110-R
Flanged Base
with
DE-STA-CO®
Toggle Lock
Plus



5105-BR†/5110-BR†
Solid Base
with
DE-STA-CO®
Toggle Lock
Plus



Technical Information

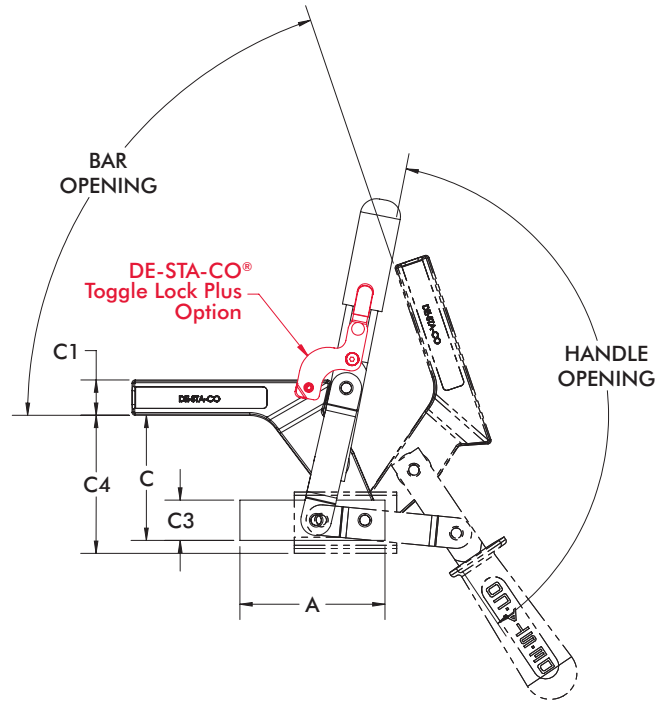
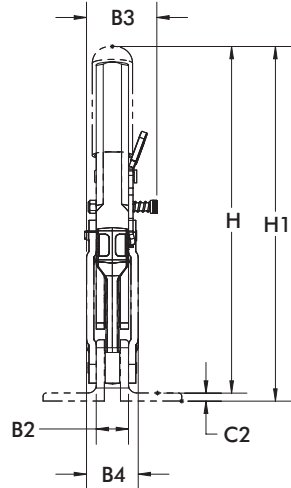
Model	Max. Holding Capacity	Clamp Bar Opening (+10°)	Handle Opening (+10°)	Weight
5105	[700lbf.] 3100N	89°	159°	[1.12lbs] 0,51kg
5105-B				[1.06lbs] 0,48kg
5105-R				[1.10lbs] 0,50kg
5105-BR†				[1.17lbs] 0,53kg
5110	[1150lbf.] 5100N	74°	138°	[2.98lbs] 1,35kg
5110-B				[2.95lbs] 1,34kg
5110-R				[3.00lbs] 1,36kg
5110-BR†				[3.02lbs] 1,37kg

† This item is available upon request.

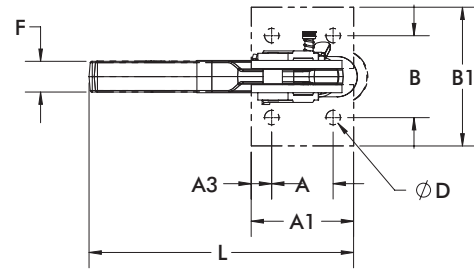
† Toggle Lock Plus locks the handle in the closed position only.

5105, 5110 SERIES

Heavy-Duty Vertical Hold Down Clamps | Dimensions



mm [INCH]
THIRD ANGLE PROJECTION



Model	A	A1	A2	B	B1	B2	B3	B4	C1	C2	C4	D	F	H1	L
5105	[1.00]	[1.62]	[0.31]	[1.46]	[2.24]	[0.59]	--	[0.98]	[0.51]	[0.16]	[2.54]	[0.26]	[0.56]	[6.54]	[4.13]
5105-R	25,4	41,2	7,9	37	57	15	[1.48] 37,5	25	13,0	4,0	64,6	6,6	14,3	166,1	104,9
5110	[1.50]	[2.50]	[0.50]	[2.00]	[2.76]	[0.79]	--	[1.26]	[0.87]	[0.20]	[3.37]	[0.35]	[0.75]	[8.70]	[6.33]
5110-R	38,1	63,5	12,7	50,8	70	20	[1.67] 42,5	32	22,0	5,0	85,6	9,0	19,1	221,1	160,9

Model	A3	B2	B3	B4	C	C1	C3	F	H
5105-B	[2.50]	[0.59]	--	[0.98]	[2.14]	[0.51]	[0.59]	[0.56]	[6.14]
5105-BR ⓘ	63,5	15	[1.48] 37,5	25	54,3	13,0	15,0	14,3	156,0
5110-B	[3.54]	[0.79]	--	[1.26]	[3.05]	[0.87]	[0.98]	[0.75]	[8.39]
5110-BR ⓘ	90	20	[1.67] 42,5	32	77,5	22,0	25,0	19,1	213,0

ⓘ This item is available upon request

528 SERIES

Heavy-Duty Vertical Hold Down Clamps | Product Overview

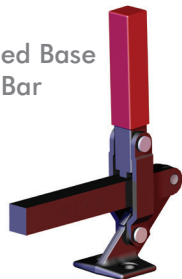
Features:

- Hardened steel bushings at pivot points for long life
- Solid bar may be modified to suit application requirements

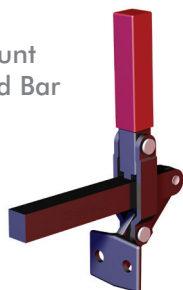
Applications:

- Assembly & test
- Light machining
- Welding
- Medium to heavy duty clamping requirements

528
Flanged Base
Solid Bar



528-F ⓘ
Front Mount
Base Solid Bar

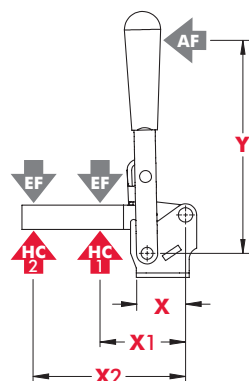


Technical Information

Model	Max. Holding Capacity	Clamp Bar Opening (+10°)	Handle Opening (+10°)	Weight
528	4450 N [1000 lbf]	180°	177°	[2.50lbs] 1,13kg
528-F ⓘ				

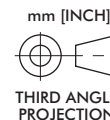
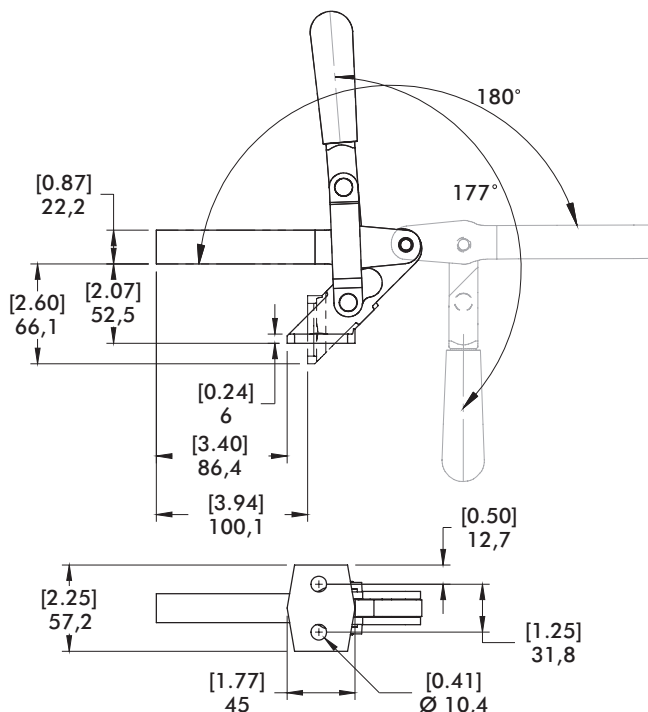
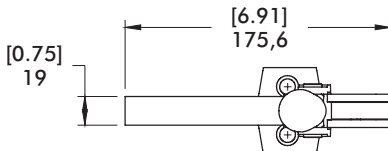
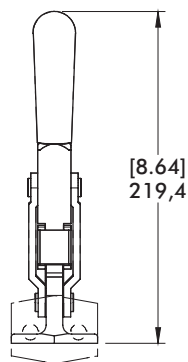
ⓘ This item is available upon request

Holding Capacities, Standard Clamp Dimensions



Model	X	X1	X2	Y	±HC1	±HC2	±EF(X1):AF	±EF(X2):AF
528	[1.38]	[3.50]	[6.00]	[5.50]	[1000lbf.]	[580lbf.]	23:1	12:1
528-F	35	89	152	140	4450N	2580N		

Dimensions shown "mm [inch]" ± HC = Holding Capacity, EF = Exerting Force, AF = Applied Force
Refer to See page MC-TEC-4 for additional information.



548, 578 SERIES

Heavy-Duty Vertical Hold Down Clamps | Product Overview

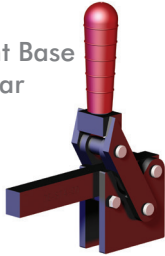
Features:

- Large bar guides for lateral stability
- Hardened steel pins and bushings for long life
- Replaceable pins

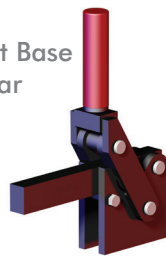
Applications:

- Assembly & test
- Light machining
- Welding
- Heavy duty clamping requirements

548
Straight Base
Solid Bar



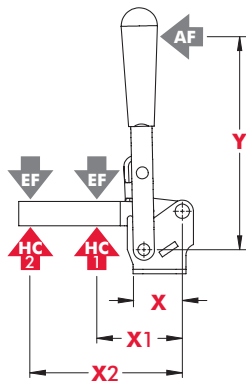
578
Straight Base
Solid Bar



Technical Information

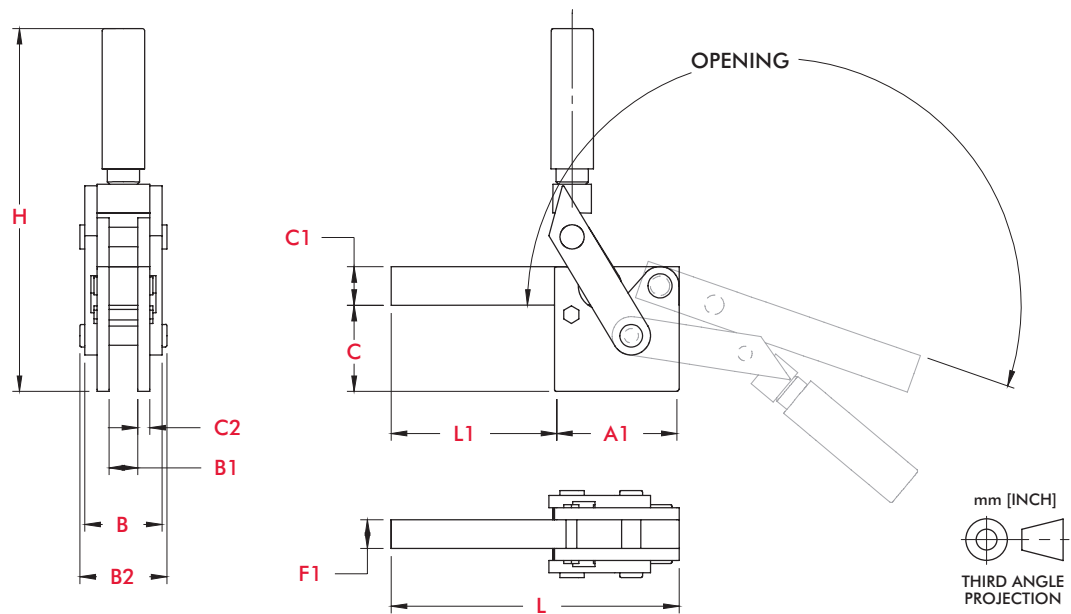
Model	Max. Holding Capacity	Clamp Bar Opening (+10°)	Handle Opening (+10°)	Weight
548	11100N [2500lbf]	199°	129°	2,40kg [5.30lbs]
578	17800N [4000lbf]			4,14kg [9.12lbs]

Holding Capacities, Standard Clamp Dimensions



Model	X	X1	X2	Y	±HC1	±HC2	±EF(X1):AF	±EF(X2):AF
548	[2.75] 70	[3.50] 89	[6.00] 152	[7.50] 190	[2500lbf] 11100N	[1500lbf.] 6680N	4.5:1	3.4:1
578	[4.25] 108	[4.50] 114	[7.00] 178	[10.31] 262	[4000lbf] 17800N	[2500lbf.] 11100N	7.6:1	4.2:1

Dimensions shown "mm [inch]" ± HC = Holding Capacity, EF = Exerting Force, AF = Applied Force
Refer to See page MC-TEC-4 for additional information.



Model	A1	B	B1	B2	C	C1	C2	F1	H	L	L1
548	[3.25] 82,6	[2.01] 51	[0.75] 19,1	[2.26] 57,5	[2.24] 56,9	[1.00] 25,4	[0.31] 7,9	[0.75] 19,1	[9.45] 240	[7.50] 190,5	[4.25] 107,9
578	[4.02] 102,1	[2.38] 60,5	[0.87] 22,1	[2.70] 68,6	[2.79] 70,9	[1.26] 32	[0.37] 9,5	[0.87] 22,1	[11.04] 280,3	[8.62] 219	[4.61] 117,1

533, 535 SERIES

Heavy-Duty Vertical Hold Down Clamps | Product Overview

Features:

- Hardened steel bushings and pivot pins
- Large bar guides for greater lateral support
- Solid clamping bar may be modified to suit application requirements

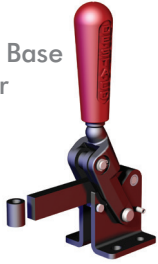
Applications:

- Welding
- Heavy duty clamping applications

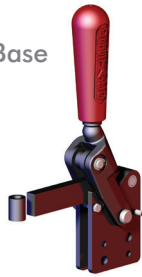
Also Available:

See page MC-ACC-1 for accessories

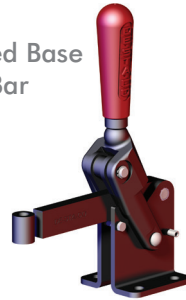
533-L
Flanged Base
Solid Bar



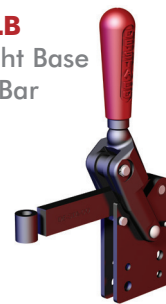
533-LB
Straight Base
Solid Bar



535-L
Flanged Base
Solid Bar



535-LB
Straight Base
Solid Bar



Technical Information

Model	Max. Holding Capacity	Clamp Bar Opening (+10°)	Handle Opening (+10°)	Weight	Accessories (Supplied)
					Bolt Retainer
533-L	7000 N [1575 lbf]	120°	90°	1,00kg [2.20lbs]	533108-M
533-LB					
535-L	10000 N [2250 lbf]			1,85kg [4.087lbs]	535108-M
535-LB					

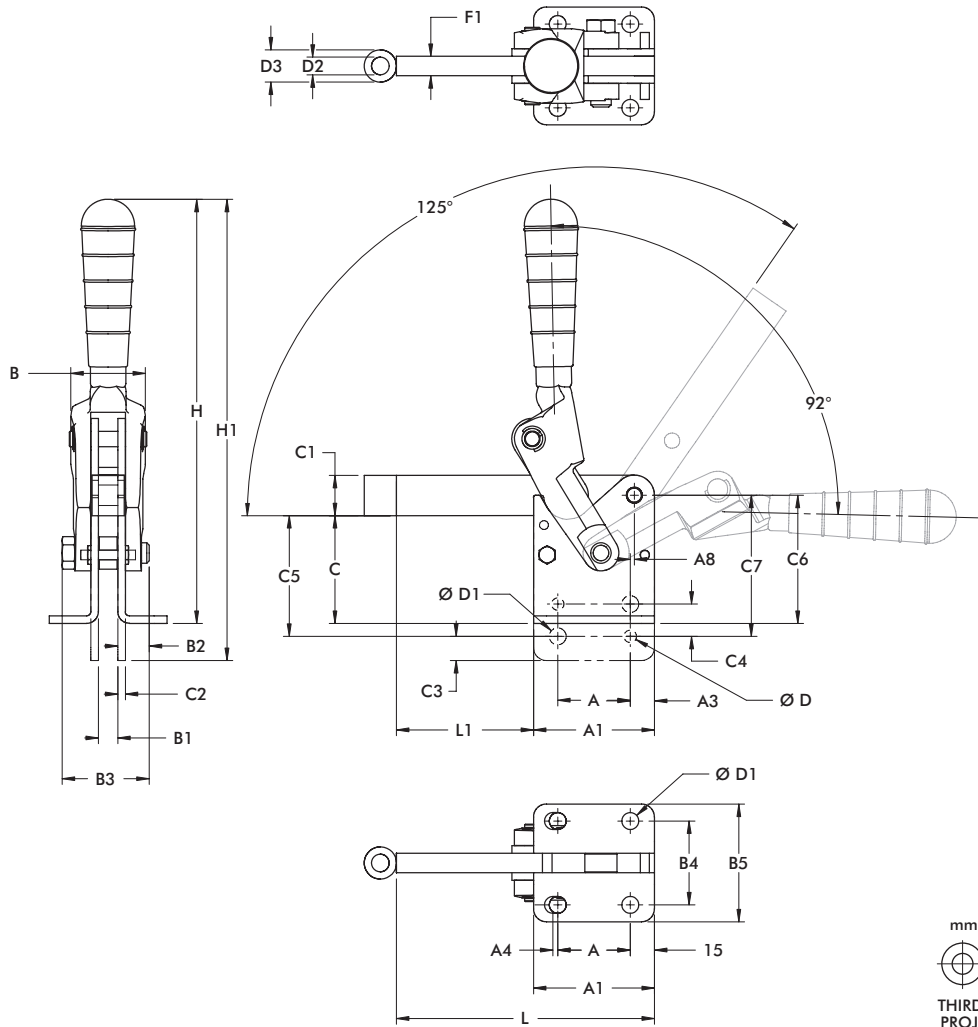
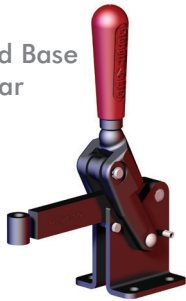
533, 535 SERIES

Heavy-Duty Vertical Hold Down Clamps | Dimensions

533-L
Flanged Base
Solid Bar



535-L
Flanged Base
Solid Bar



mm [INCH]
THIRD ANGLE PROJECTION

Model	A	A1	A3	A4	A8	B	B1	B2	B3	B4	B5	C	C1	C2
533-L	[1.18] 30	[2.36] 59,9		[0.08] 2	[0.20] 5,1	[1.52] 38,6	[0.39] 9,9	[0.69] 15,5	[1.75] 44,5	[1.77] 45	[2.44] 62	[1.86] 47,2	[0.79] 20,1	
533-LB			[0.59] 15							--	--	--		[0.19] 4,8
535-L	[1.77] 45	[2.95] 74,9		--	[0.18] 4,6	[1.89] 48	[0.47] 11,9	[0.89] 22,6	[2.13] 54,1	[2.05] 52,1	[2.87] 72,9	[2.63] 66,8	[0.98] 24,9	
535-LB										--	--	--		

Model	C3	C4	C5	C6	C7	D	D1	D2	D3	F1	H	H1	L	L1
533-L	--	--	--	[2.24] 56,9	--	--	[0.33] 8,4	[0.35] 8,9	[0.59] 15	[0.39] 9,9	[8.6] 218,4	--	[4.92] 125	[2.56] 65
533-LB	[0.39] 9,9	[0.59] 15	[1.86] 55,1	--	[2.56] 65	[0.22] 5,6					--	[9.31] 236,5		
535-L	--	--	--	[3.13] 79,5	--	--	[0.41] 10,4	[0.43] 10,9	[0.79] 20,1	[0.47] 11,9	[10.35] 262,9	--	[6.30] 160	[3.35] 85,1
535-LB	[0.59] 15	[0.79] 20,1	[2.95] 74,9	--	[3.44] 87,4	[0.30] 7,6					--	[11.26] 286		

558 SERIES

Heavy-Duty Vertical Hold Down Clamps | Product Overview

Features:

- Forged alloy steel handle and links for rugged service
- Hardened steel pins and bushings
- Hold down bar can be machined to suit application requirements

Applications:

- Welding
- Heavy duty clamping requirements

Also Available:

Model 858 Pneumatic Toggle clamp
See page MC-PTC-17

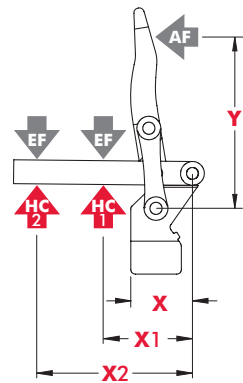
558



Technical Information

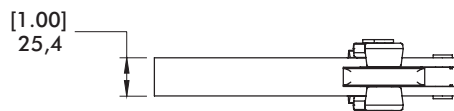
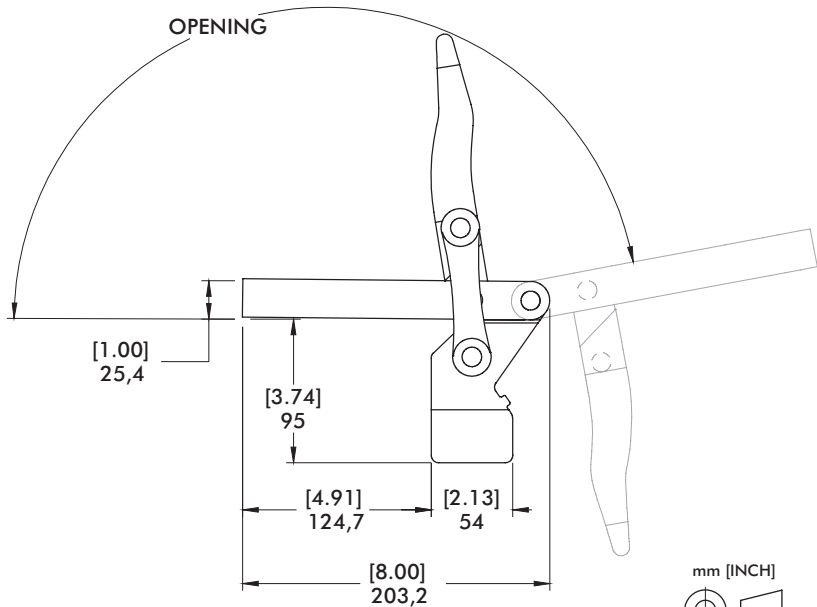
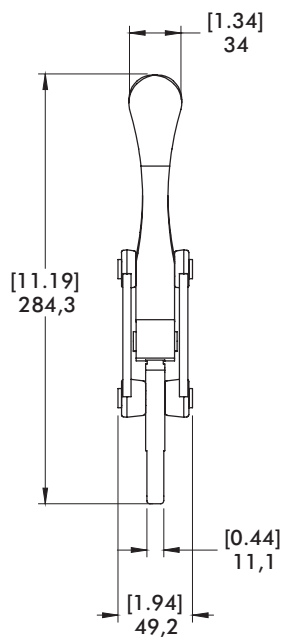
Model	Max. Holding Capacity	Clamp Bar Opening (+10°)	Handle Opening (+10°)	Weight
558	11100 N [2500 lbf]	192°	64°	2,27kg [5.0lbs]

Holding Capacities, Dimensions



Model	X	X1	±HC1	±HC2
558	65,8 [2.59]	76,2 [3.00]	[2500 lbf] 11100 N	[1500 lbf] 6680 N

Dimensions shown "mm [inch]", ± HC = Holding Capacity



mm [INCH]
THIRD ANGLE PROJECTION

91090 SERIES

Vertical Hold Down Clamps | Product Overview

Features:

- Front flange mount
- Accepts M8 or 5/16" spindle accessory (not supplied)

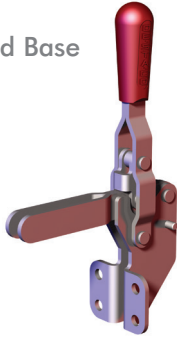
Applications:

- Assembly & test
- Checking fixtures
- Light machining
- Woodworking

Also Available:

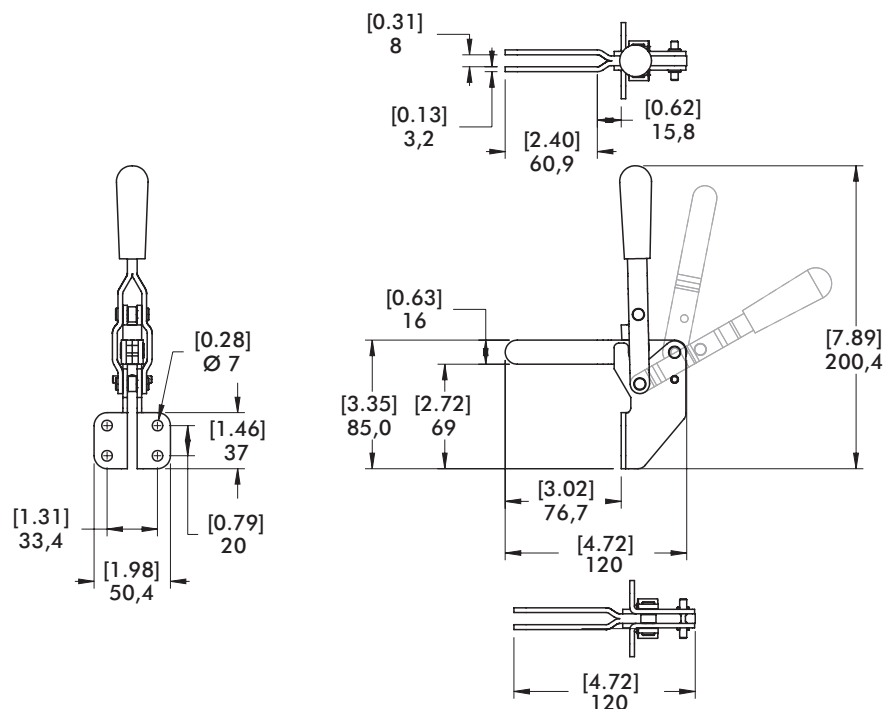
See page MC-ACC-1 for accessories

91090
Front Flanged Base
Open Bar



Technical Information, Dimensions

Model	Max. Holding Capacity	Clamp Bar Opening (+10°)	Handle Opening (+10°)	Weight	Recommended Accessories		
					Bolt Retainer	Spindle Assembly	Flanged Washers
91090	1710 N [385 lbf]	100°	60°	0,37kg [0.81lbs]	---	507208-M	507107



317 SERIES

Vertical Hold Down Clamps | Product Overview

Features:

- Dual mounting surfaces
- Large bar opening angle
- Accommodates M8 or 5/16" spindle accessories

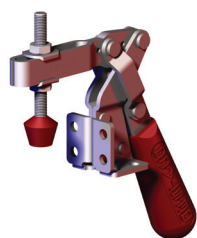
Applications:

- Assembly & test
- Checking fixtures
- Light machining
- Woodworking

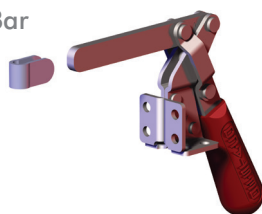
Also Available:

See page MC-ACC-1 for accessories
 817-U Pneumatic Toggle Clamp
 (See page MC-PTC-21)
 817-S Pneumatic Toggle Clamp
 (See page MC-PTC-21)

317-U
U-Bar



317-S
Solid Bar



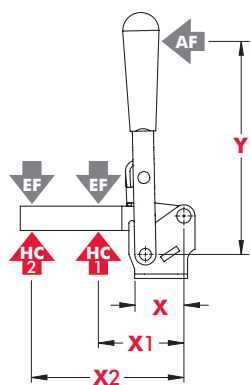
Note:

Clamps shown with included accessories.

Technical Information

Model	Max. Holding Capacity	Clamp Bar Opening (+10°)	Handle Opening (+10°)	Weight	Accessories (Supplied)		
					Bolt Retainer	Spindle Assembly	Flanged Washers
317-U	1670 N [375 lbf]	185°	60°	0,34kg [0.75lbs]	---	507208-M	507107
317-S	1780 N [400 lbf]				207105	---	---

Holding Capacities



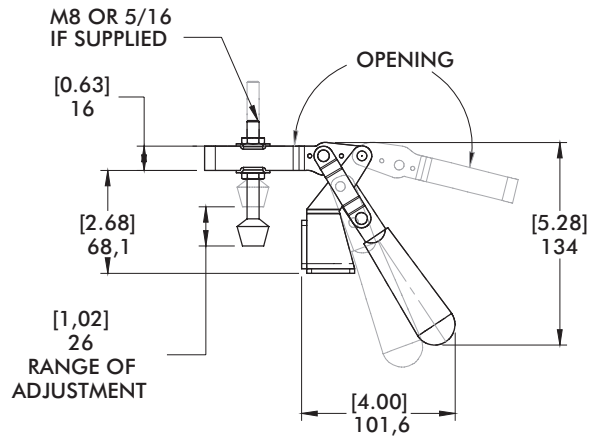
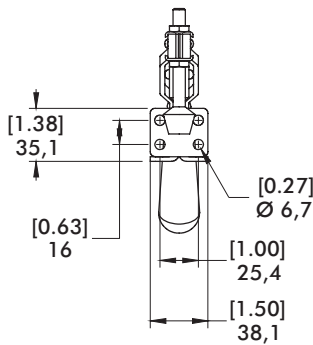
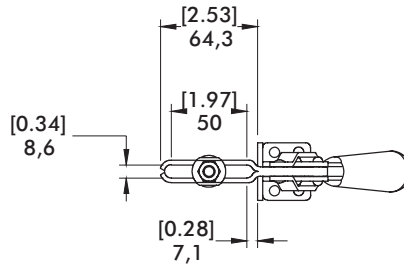
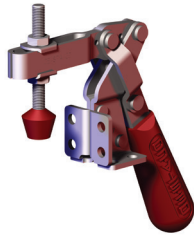
Model	X	X1	X2	Y	‡HC1	‡HC2	‡EF(X1):AF	‡EF(X2):AF
317-U	[1.57]	[2.00] 50,8	[3.75] 95,3	[4.00]	[375 lbf] 1670 N	[200lbf.] 900N	17:1	8:1
317-S	40,0	[2.50] 63,5	[5.00] 127,0	101,6	[400 lbf] 1780 N	[190lbf.] 850N	13:1	5:1

Dimensions shown "mm [inch]" ‡ HC = Holding Capacity, EF = Exerting Force, AF = Applied Force
 Refer to See page MC-TEC-4 for additional information.

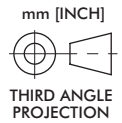
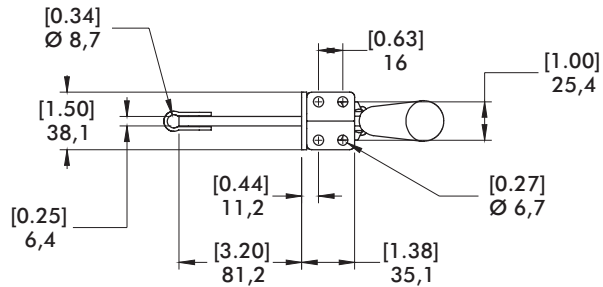
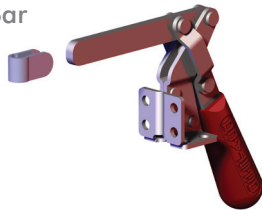
317 SERIES

Vertical Hold Down Clamps | Dimensions

317-U
U-Bar



317-S
Solid Bar



527 SERIES

Vertical Hold Down Clamps | Product Overview

Features:

- Hardened steel bushings at pivot points
- Solid bar can be modified to suit application requirements
- Thumb lever on link for easy opening

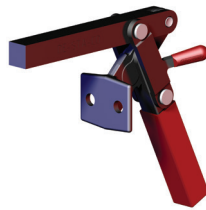
Applications:

- Assembly & test
- Light machining
- Woodworking

527
Flanged Base



527-F ⓘ
Front Mount

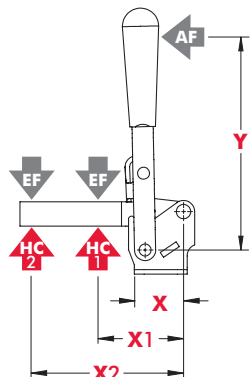


Technical Information

Model	Max. Holding Capacity	Clamp Bar Opening (+10°)	Handle Opening (+10°)	Weight
527	4450 N [1000 lbf]	195°	65°	[2.50lbs] 1,13kg
527-F ⓘ				

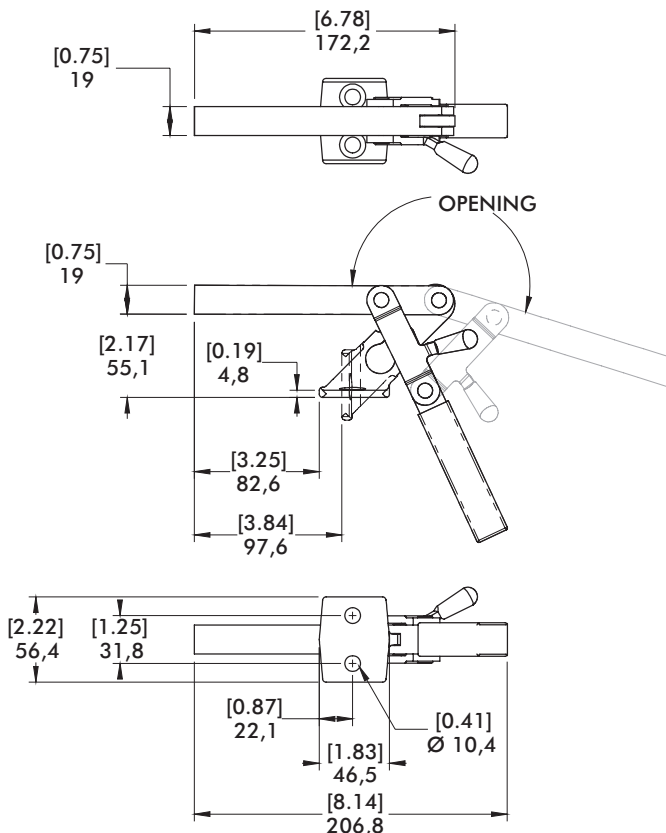
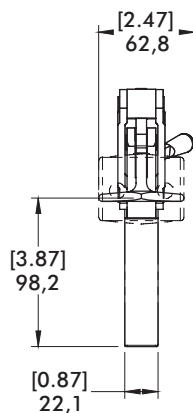
ⓘ This item is available upon request

Holding Capacities, Standard Clamp Dimensions



Model	X	X1	X2	Y	±HC1	±HC2	±EF(X1):AF	±EF(X2):AF
527	[3.12] 79,2	[3.50] 89,0	[6.00] 152,4	[4.00] 101,6	[1000lbf.]	[580lbf.]	23:1	12:1
527-F	[2.53] 64,3				4450N	2580N		

Dimensions shown "mm [inch]" ± HC = Holding Capacity, EF = Exerting Force, AF = Applied Force
Refer to See page MC-TEC-4 for additional information.



mm [INCH]
THIRD ANGLE PROJECTION

7-101, 7-58, 7-59, 7-60 SERIES

Heavy Duty Cam Action Series | Product Overview

Features:

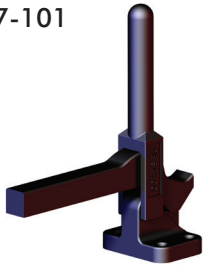
- Cam action accommodates variable workpiece thickness
- Heavy duty construction
- Solid clamp arms may be modified to suit application requirements

Applications:

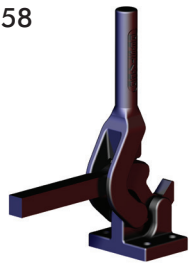
- Light machining
- Welding
- Assembly

Technical Information

7-101

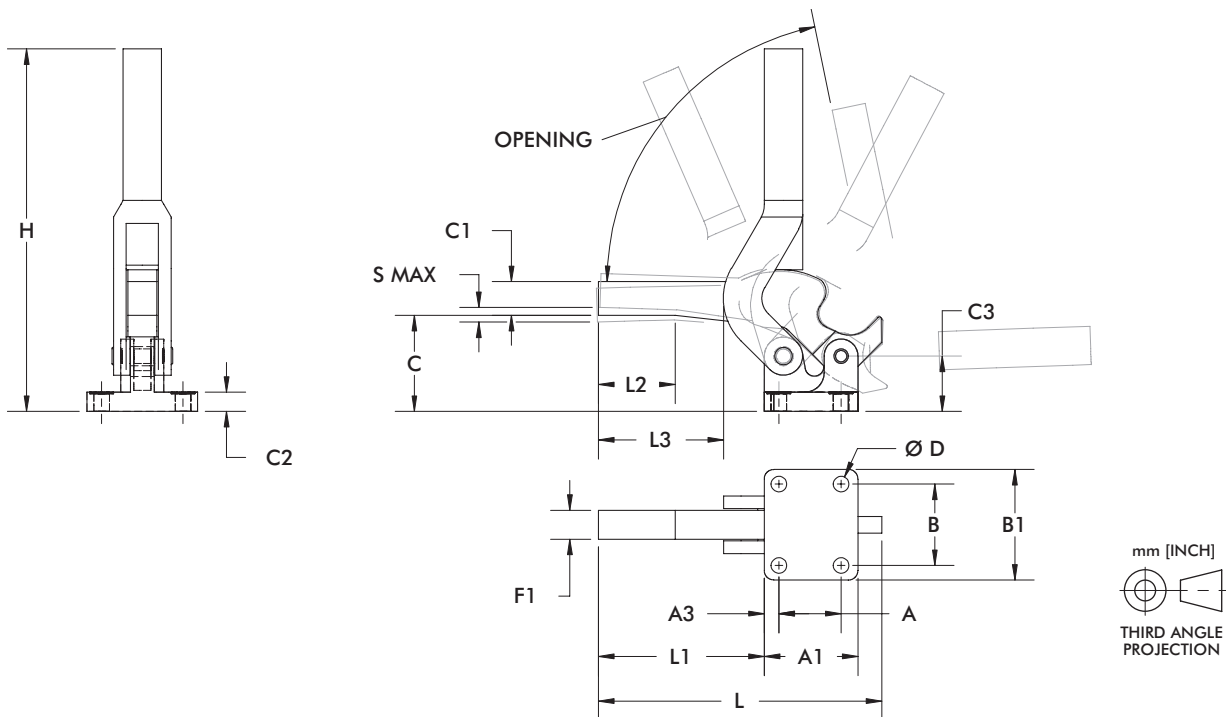


7-58



Model	Max. Holding Capacity	Clamp Bar Opening (+10°)	Weight
7-101	2110 N [475 lbf]	80°	0,45kg [1.0lbs]
7-58	2670 N [600 lbf]	95°	0,91kg [2.0lbs]
7-59	4450 N [1000 lbf]	95°	1,36kg [3.0lbs]
7-60	7120 N [1600 lbf]	80°	2,27kg [5.0lbs]

Standard Clamp Dimensions | Flanged Base



Model	A	A1	A3	B	B1	C	C1	C2	C3	D	F1	H	L	L1	L2	S max.
7-101	[0.75] 19,1	[1.25] 31,8	[0.25] 6,1	[1.25] 31,8	[1.75] 44,5	[1.44] 36,6	[0.50] 12,7	[0.31] 7,9	[1.00] 25,4	[0.22] 5,6	[0.50] 12,7	[5.00] 127	[4.63] 117,6	[3.12] 79,3	-	[0.13] 3,3
7-58	[1.00] 25,4	[1.69] 42,9	[0.34] 8,6	[1.62] 41,2	[2.25] 57,2	[1.87] 47,5	[0.56] 14,2	[0.38] 9,7	[1.12] 28,5	[0.28] 7,1	[0.50] 12,7	[7.00] 177,8	[6.99] 177,6	[2.55] 64,8	-	[0.13] 3,3
7-59	[1.38] 35,1	[2.06] 52,3	[0.39] 9,9	[1.88] 47,8	[2.50] 63,5	[2.19] 55,6	[0.63] 16	[0.44] 11,2	[1.25] 31,8	[0.34] 8,6	[0.63] 16	[8.50] 215,9	[6.00] 152,4	[3.50] 88,9	[1.24] 31,5	[0.19] 4,8
7-60	[1.62] 41,2	[2.44] 62	[0.44] 11,2	[2.12] 53,9	[2.88] 73,2	[2.50] 63,5	[0.88] 22,4	[0.50] 12,7	[1.44] 36,6	[0.41] 10,4	[0.75] 19,1	[9.50] 241,3	[7.40] 188	[4.38] 111,3	[1.97] 50	[0.25] 6,4

229 SERIES

Vertical Hold Down Clamps | Product Overview

Features:

- Cam action clamp holds workpieces of varying height
- Total clamping range of 8mm [.31in.]
- Accommodates M12 or 1/2" accessories

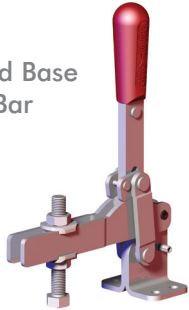
Applications:

- Assembly & test
- Light machining
- Welding

Also Available:

See page MC-ACC-1 for accessories

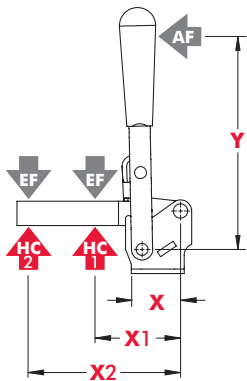
229
Flanged Base
Open Bar



Technical Information

Model	Max. Holding Capacity	Clamp Bar Opening (+10°)	Handle Opening (+10°)	Weight	Accessories (Supplied)	
					Spindle Assembly	Flanged Washers
229	4450 N [1000 lbf]	115°	180°	1,17kg [2.59lbs]	229203	247109

Holding Capacities



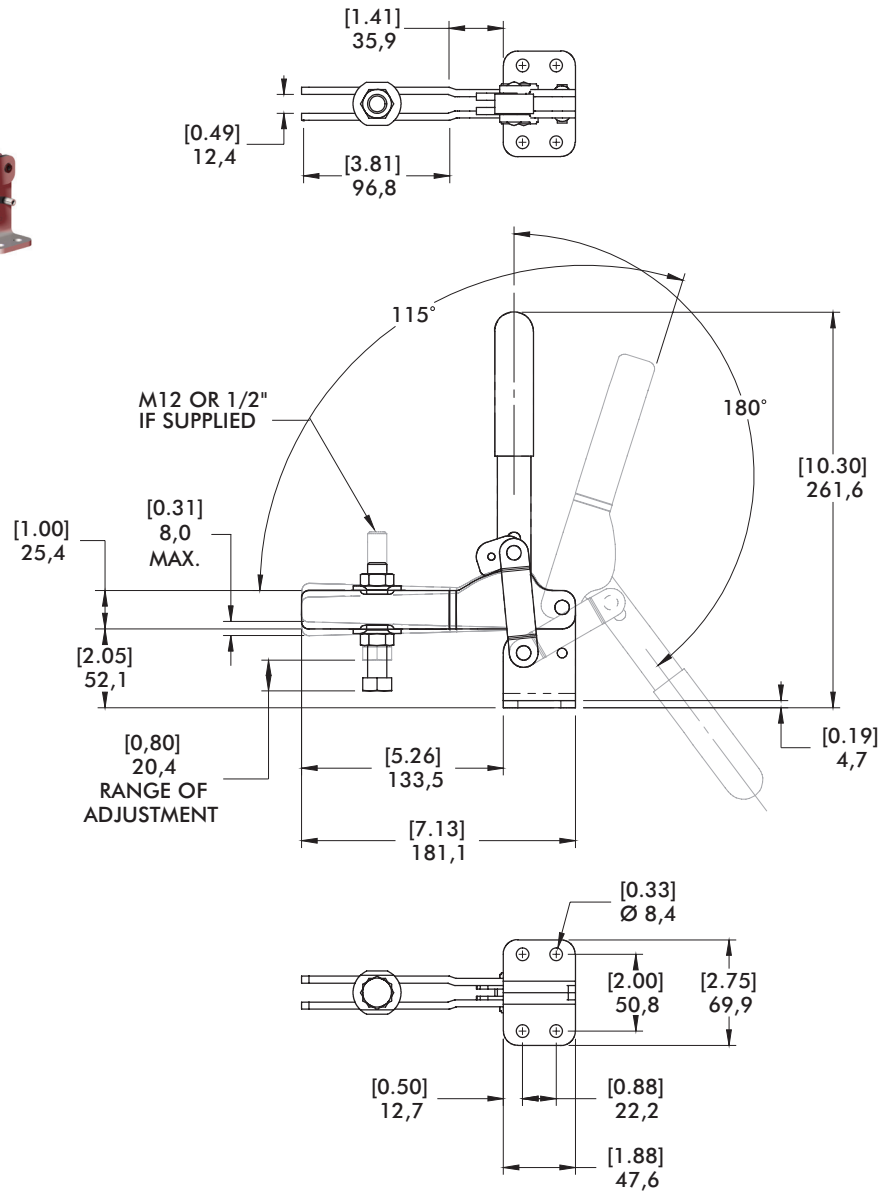
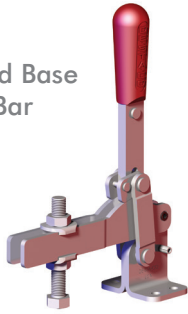
Model	X	X1	X2	Y	±HC1	±HC2	±EF(X1):AF	±EF(X2):AF
229	[1.53] 38,9	[3.00] 76,2	[6.12] 155,4	[7.06] 179,3	[1000lbf.] 4450N	[500lbf.] 2230N	7:1	3:1

Dimensions shown "mm [inch]" ± HC = Holding Capacity, EF = Exerting Force, AF = Applied Force
Refer to See page MC-TEC-4 for additional information.

229 SERIES

Vertical Hold Down Clamps | Dimensions

229
Flanged Base
Open Bar



500 SERIES

Weldable Vertical Hold Down Clamps | Product Overview

Features:

- Hardened pivot pins and bushings
- Weldable clamping bar
- LSC version with locking spring clip for securing the handle in the open position
- Modular design allows you to set up the clamp to meet application requirements

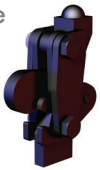
Applications:

- Welding
- Assembly
- Heavy duty, production clamping applications

Also Available:

See page MC-VHD-46 for accessories

501-B ⓘ
Swivel Base



501-LB ⓘ
Long Base



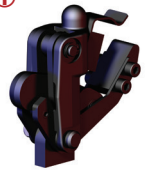
503-MB
Swivel Base



503-MLB
Long Base



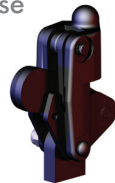
503-MBLSC ⓘ
Swivel Base
with Locking
Spring Clip



503-MLBLSC ⓘ
Long Base
with Locking
Spring Clip



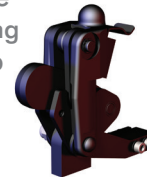
505-MB
Swivel Base



505-MLB
Long Base



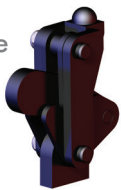
505-MBLSC ⓘ
Swivel Base
with Locking
Spring Clip



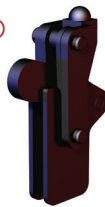
505-MLBLSC ⓘ
Long Base
with Locking
Spring Clip



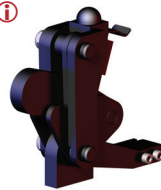
506-MB
Swivel Base



506-MLB ⓘ
Long Base



506-MBLSC ⓘ
Swivel Base
with Locking
Spring Clip

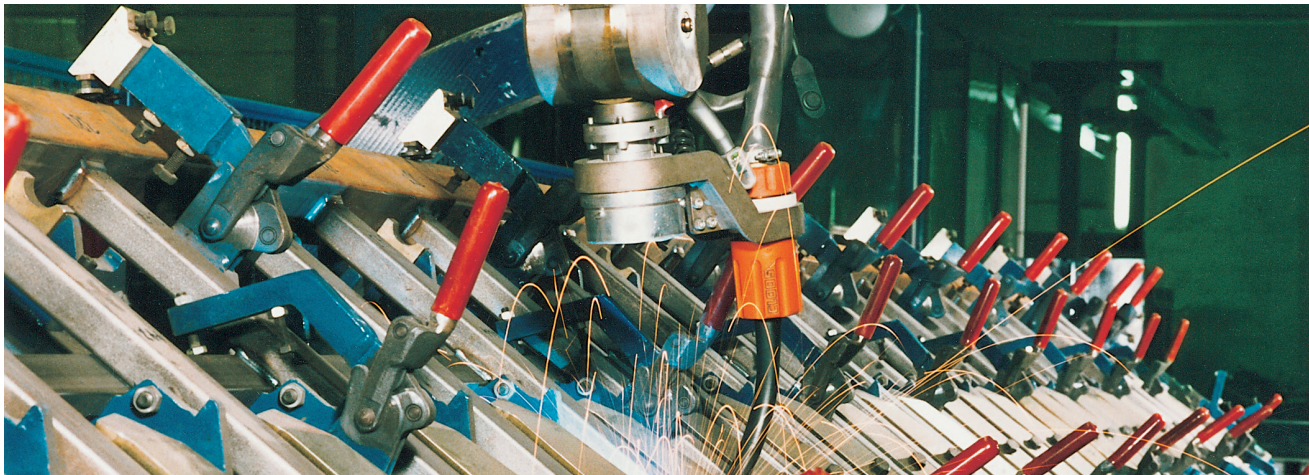


506-MLBLSC ⓘ
Long Base
with Locking
Spring Clip



Model 505-MLB in a robotic welding fixture

ⓘ This item is available upon request



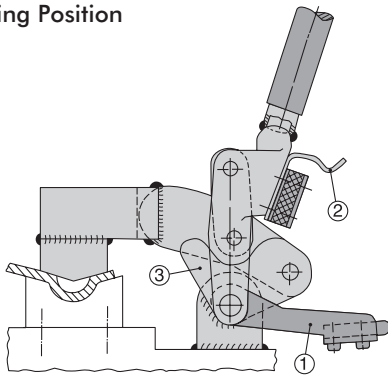
Vertical Hold Down Clamps | Technical Information

Model	Max. Holding Capacity	Clamp Bar Opening (+10°)	Weight	
501-B ⓘ	2000 N [450 lbf]	200°	0,18kg [0.40lbs]	
501-LB ⓘ			0,20kg [0.44lbs]	
503-MB	7000 N [1575 lbf]		0,70kg [1.54lbs]	
503-MLB			0,80kg [1.76lbs]	
503-MBLSC ⓘ				0,90kg [1.98lbs]
503-MLBLS ⓘ				
505-MB	11000 N [2475 lbf]		1,40kg [3.09lbs]	
505-MLB			1,50kg [3.31lbs]	
505-MBLSC ⓘ				1,60kg [3.53lbs]
505-MLBLS ⓘ				
506-MB	22500 N [5060 lbf]		2,60kg [5.73lbs]	
506-MLB ⓘ			2,80kg [6.17lbs]	
506-MBLSC ⓘ		3,00kg [6.61lbs]		
506-MLBLS ⓘ				

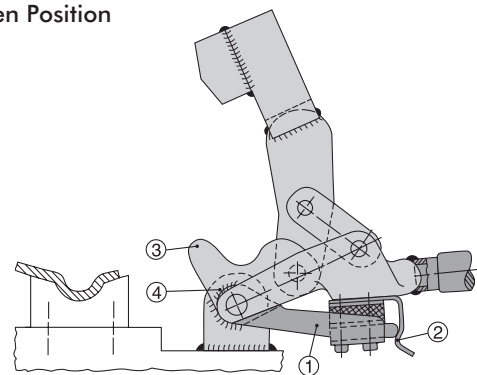
Note:

The clamping bars are made from forged alloy steel and must be heated to 200°C(400°F) prior to welding. We recommend welding the handles, clamp arms, and mounting bases when disassembled. Welding of non pre-heated parts may only be done with the addition of welding fillers.

ⓘ This item is available upon request

Clamping Position**Patented spring latch hold-open device**

1. Mount the clamp and place it in the closed position
2. Position the bracket in the leaf spring

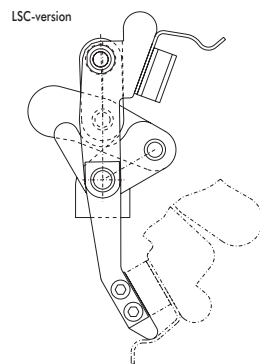
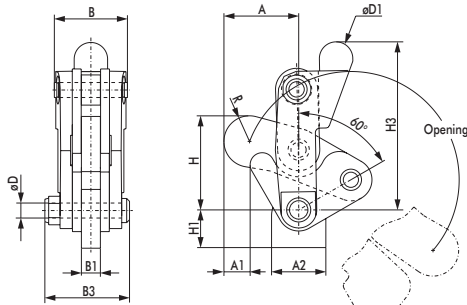
Open Position

3. Swivel the clamp into the open position
4. In this position, weld the bracket with the bar guide feature at point

500 SERIES

Weldable Vertical Hold Down Clamps | Dimensions | -B/-LB/-MB/-MLB/-MBLSC/-MLBSC

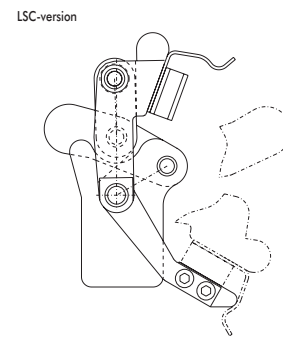
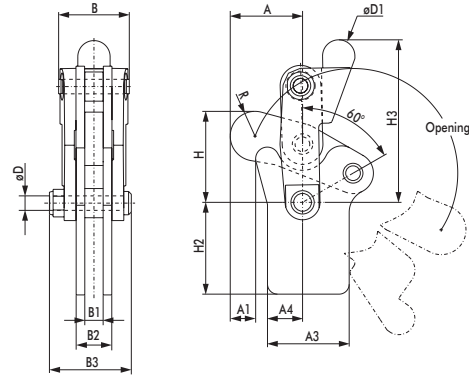
Swivel Base



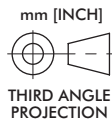
503-MB
Swivel Base



Long Base



503-MLB
Long Base



Swivel Base Dimensions

Model	A	A1	A2	B	B1	B3	ØD	ØD1	H	H1	H3	R
501-B ⓘ	[1.13] 28,6	[0.56] 14,3	[0.75] 19,1	[0.79] 20,0	[0.25] 6,4	[1.09] 27,8	[0.19] 4,8	[0.50] 12,7	[1.12] 28,5	[0.79]	[2.20] 56	[0.37] 9,5
503-MB	[1.54]	[0.50]	[1.12]	[1.52]	[0.39]	[1.82]	[0.31]	[0.69]	[1.96]	20	[3.51]	[0.53]
503-MBLSC ⓘ	39,2	12,8	28,5	38,5	10	46,2	8	17,5	49,8		89,1	13,5
505-MB	[2.22]	[1.02]	[1.38]	[1.89]	[0.48]	[2.31]	[0.37]	[0.87]	[2.79]	[1.10]	[4.33]	[0.72]
505-MBLSC ⓘ	56,5	25,9	35	48	12,3	58,6	9,5	22,2	70,8	28	110,1	18,3
506-MB	[2.82]	[1.27]	[1.97]	[1.91]	[0.63]	[2.72]	[0.47]	[0.94]	[3.45]	[1.29]	[5.30]	[0.84]
506-MBLSC ⓘ	71,7	32,3	50	48,4	16	69	12	24	87,7	32,8	134,6	21,4

Long Base Dimensions

Model	A	A1	A3	A4	B	B1	B2	B3	ØD	ØD1	H	H2	H3	R
501-LB ⓘ	[1.13] 28,6	[0.50]	[1.13] 28,6	[0.56] 14,3	[0.79] 20	[0.25] 6,4	[0.51] 13	[1.09] 27,8	[0.19] 4,8	[0.50] 12,7	[1.12] 28,5	[1.32] 33,5	[2.21] 56,1	[0.37] 9,5
503-MLB	[1.54]	12,8	[1.75]	[0.75]	[1.52]	[0.39]	[0.79]	[1.82]	[0.31]	[0.69]	[1.96]	[1.97]	[3.51]	[0.53]
503-MLBSC ⓘ	39,2		44,5	19	38,5	10	20	46,2	8	17,5	49,8	50	89,1	13,5
505-MLB	[2.22]	[1.02]	[2.09]	[1.08]	[1.89]	[0.48]	[0.88]	[2.31]	[0.37]	[0.87]	[2.79]	[2.50]	[4.33]	[0.72]
505-MLBSC ⓘ	56,5	25,9	53	27,5	48	12,3	22,3	58,6	9,5	22,2	70,8	63,5	110,1	18,3
506-MLB	[2.82]	[1.27]	[2.58]	[1.45]	[1.91]	[0.63]	[1.10]	[2.72]	[0.47]	[0.94]	[3.45]	[3.00]	[5.30]	[0.84]
506-MLBSC ⓘ	71,7	32,3	65,5	36,9	48,4	16	28	69	12	24	87,7	76,2	134,6	21,4

500 SERIES

Weldable Vertical Hold Down Clamps | Accessories

Features:

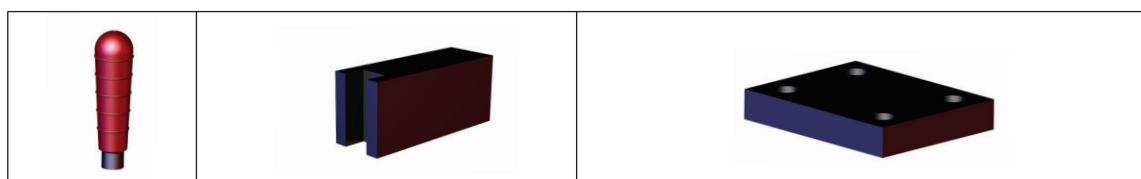
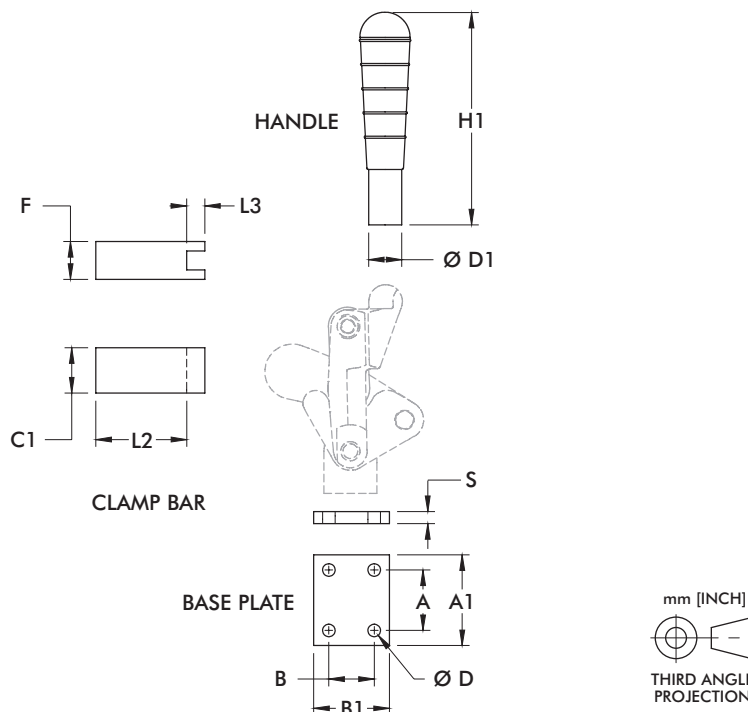
- Used with 500 Series Vertical Clamps
- Allows you to customize the clamp to suit application requirements

Applications:

- Welding
- Assembly
- Heavy duty, production clamping applications

Also Available:

See page MC-VHD-43 for clamp linkage



Use with	Part No.	Handle		Clamping Bar				Base Plate					
		ØD1	H1	C1	F	L2	L3	A	A1	B	B1	ØD	S
501	501503 ⓘ	6x10	61	-	-	-	-	-	-	-	-	-	-
	501501 ⓘ	-	-	15	15	40	10	-	-	-	-	-	-
	503502	-	-	-	-	-	-	25	40	35	50	6.3	8
503	503503-L	Ø18	129.5	-	-	-	-	-	-	-	-	-	-
	503501	-	-	25	20	50	8	-	-	-	-	-	-
	503502	-	-	-	-	-	-	25	40	35	50	6.3	8
505	505503-L	Ø22	159	-	-	-	-	-	-	-	-	-	-
	505501	-	-	30	25	60	12	-	-	-	-	-	-
	505502	-	-	-	-	-	-	40	60	30	50	8.1	8
506	506503-L	Ø28	188	-	-	-	-	-	-	-	-	-	-
	506501	-	-	35	30	75	15	-	-	-	-	-	-
	506502	-	-	-	-	-	-	50	70	45	65	8.1	8

ⓘ This item is available upon request Note: Dimensions shown in millimeters.