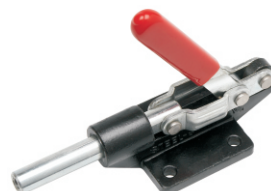




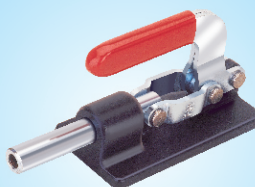
**STEEL-SMITH**®



**Toggle Clamps**  
**Pneumatic Clamps**  
**Swing Clamps**  
**Clamping Elements**  
**Fixture Elements**



Clamps on the go...  
that never let go!



**STEEL-SMITH**®

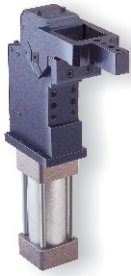
Plot No. 12, Sector - 2,  
Vasai Taluka Industrial Co-op Estate Ltd.,  
Village Gauripada, Vasai (E), Thane - 401 208, India.

Tel.: 0091 - 0250 - 245 2530 / 245 2650 / 51

Fax: 0091 - 0250 - 245 6970.

E-mail: [clamps@steelsmith.com](mailto:clamps@steelsmith.com)

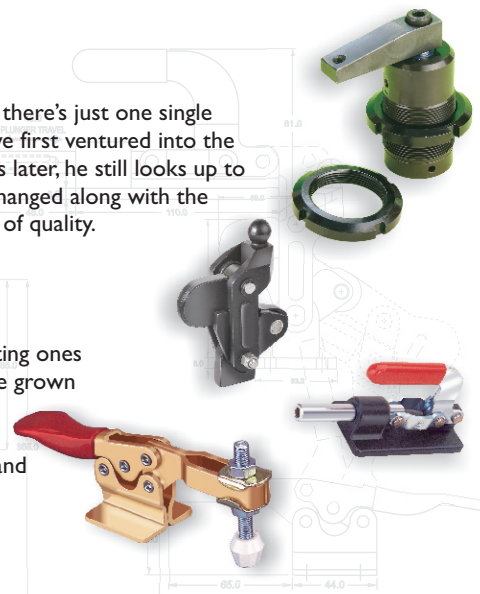
[www.steelsmith.com](http://www.steelsmith.com)



## Company Profile

From conceptualization to execution, from drawing to production, there's just one single largest force that drives us. Our customer. He was with us when we first ventured into the uncharted area of toggle clamp manufacturing in India. Two decades later, he still looks up to us with the same trust he began with. Because even as the times changed along with the application areas our products kept pace. Only improving in terms of quality.

Introducing newer and innovative products, continuously improving upon the existing ones and catering to our customers with prompt after sales service; we've grown. We've grown from a small set-up to an established brand name. Today Steel-Smith is the largest manufacturer and exporter of a wide range of toggle clamps and other industrial accessories. In doing so, we owe a lot to our customer; our source of inspiration and unrelenting support.

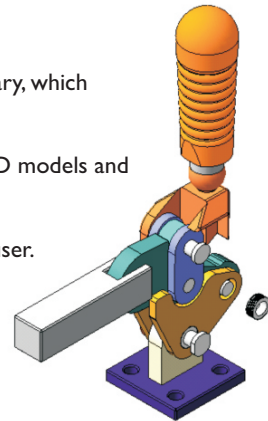
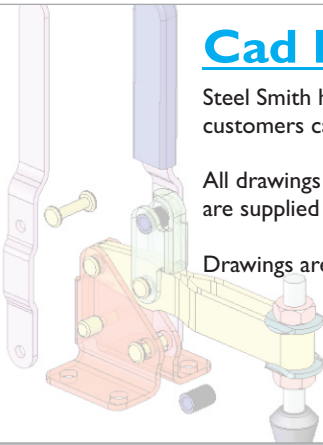


## Cad Database

Steel Smith has placed its entire line of standard clamping products in a CAD library, which customers can use to save valuable drafting time and increase fixture productivity.

All drawings are done in accurate two dimensional orthographic projections or 3D models and are supplied on CDs or by e-mail.

Drawings are available in all of the popular software formats at no charge to the user.



## Exports

After capturing 75% of the Indian market share, Steel-Smith is now making its presence felt in the global scenario. Constant endeavour in quality enhancements and application areas has led Steel Smith to be a globally competitive toggle clamp manufacturer.

We are proud that we have put India on the world map as far as broad-spectrum toggle clamp manufacturing is concerned. Steel-Smith has exported over one million clamps worldwide.

The latest launch of the international range of clamps has broadened the horizon for the company. Our goal is to see Steel-Smith becoming the first choice for Toggle Clamp application, globally in the next new millennium.

## Dealers Network

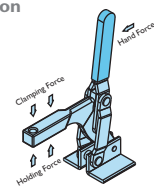
Steel Smith is now near a city closest to you. With over 10 distributors & stockiest, our Toggle Clamps are just a phone call away from you.

All our distributing centres have application engineers who will assist you in selecting the right clamp for the right application. Please write to us to get our dealers' list.



## Steel Smith Range

### Introduction



Pg. 1 - 2

### Vertical Hold Down Action



Pg. 3 - 5

### Horizontal Hold Down Action



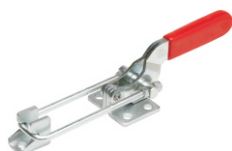
Pg. 6 - 7

### Straight Line Action



Pg. 8 - 12,

### Pull Action Clamps



Pg. 13 - 19

### Squeeze Action Clamps



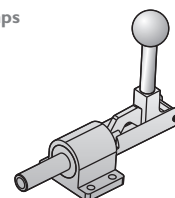
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### H.V. Series Clamps



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### Plunger Clamps



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## International Range

### Vertical Hold Down Action



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### Horizontal Hold Down Action



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### Pull Action Clamps



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### Heavy Duty Vertical



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### Accessories



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### Fixture Elements



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### Clamping Devices



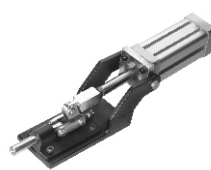
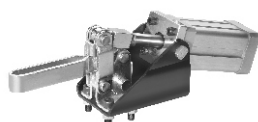
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Pg. 60

## Pneumatic Clamps



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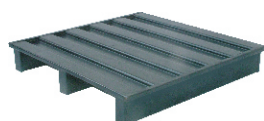


## Swing Clamps



Pg. 75 - 81

## Other Line of Products.



All dimensions in this catalogue are specified in "mm".

For the betterment of the products, we reserve the right to change the design and dimensions without prior intimation.

# Introduction

## What is a Toggle Clamp?

Toggle clamp is a simple Mechanism which holds instantly. The Toggle Clamps Consist of a handle to operate, a Clamping Arm to Reach the work piece, linkages for multiplying the applied force, and a base for mounting at the workplace on it's base. The handle is operated which thereby moves the clamping arm to hold the work piece. A required clamping force is achieved and exerted on the work piece. Under this action the Toggle Clamp Holds the work piece firmly and positively.

## Toggle Action Force Factors:

### Holding Capacity:

The holding capacity mentioned for each clamp refers to the maximum force, which the clamp can withstand after being over-centered without damage to the clamp and without the toggle unlocking due to distortion of the clamp.

The over-center dimension is carefully chosen in relation to the elasticity of the clamp to maximize clamping force while ensuring that the clamp locks closed even under vibration or intermittent loading. For Hold Down Clamps, holding capacity is measured with the spindle at the farthest end of the clamping arm and will increase as the spindle goes closer to the clamping arm.

### Clamping Force:

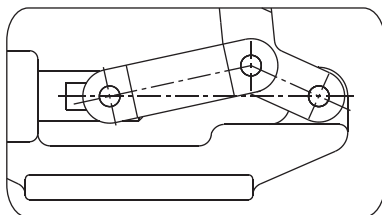
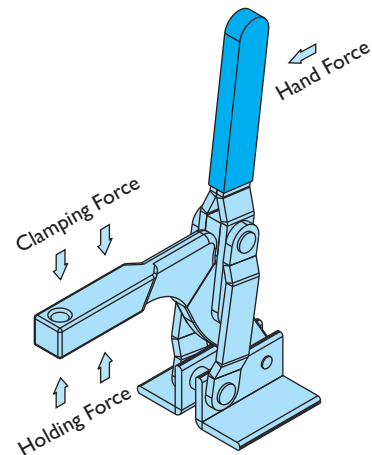
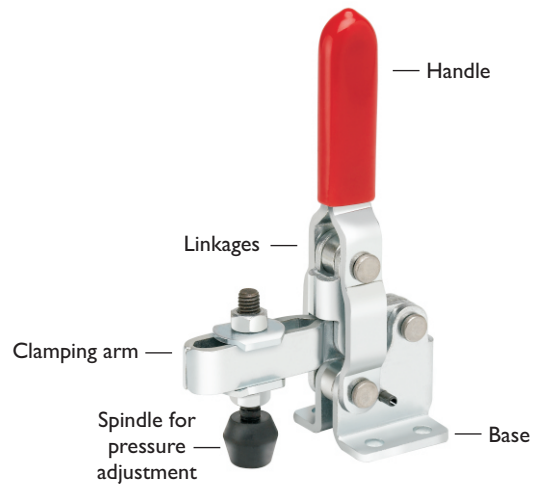
Clamping Force, the amount of force actually applied to the work piece by closing and locking the clamp, is generally less than the stated holding capacity. Actual clamping force depends on many factors including: spindle position, proper spindle height adjustment, spindle cushioning, work piece material and the clamps mechanical advantage. In most cases, roughly  $1/3^{\text{rd}}$  of the stated holding capacity can be applied by hand with medium effort.

### Toggle Principle:

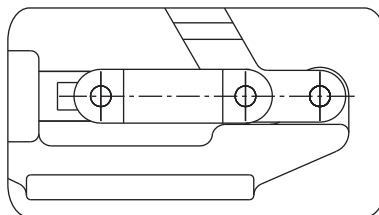
Toggle action clamps operate through a linkage system of levers and pivots. The fixed length levers, connected by pivot pins supply the action and clamping force. Toggle action has an over centre lock point which is a fixed stop and linkage. Once in the over centre position, the clamp cannot move or unlock unless the linkage is moved. All types of toggle clamps have same action, just oriented differently.

The Toggle Mechanism in a clamp has three functions.

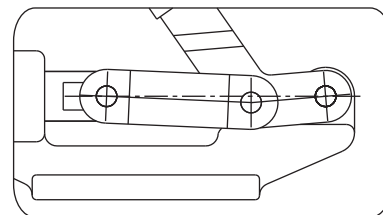
- 1) To multiply applied load at the handle into a high clamping force to hold the work piece.
- 2) To create an over - centre lock to prevent the clamp from opening & releasing the work piece until opened by the operator.
- 3) To rapidly open & close the clamp giving a maximum clearance in which to load & unload the work piece.



Unclamped Position



Centre Position



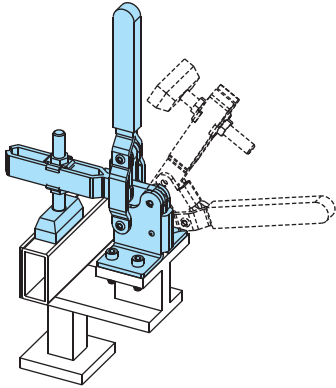
Over-centre, Clamped Position



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## Types Of Toggle Actions

This catalogue contains about 300 different standard toggle clamps & clamping systems. Steel-Smith has developed its range of clamps & clamping equipments for infinite applications, considering the different shapes, sizes, holding capacity, operator's position & strength, frequency of operation etc. Most of the Toggle Clamps belong to one of the following five main actions groups, which are:

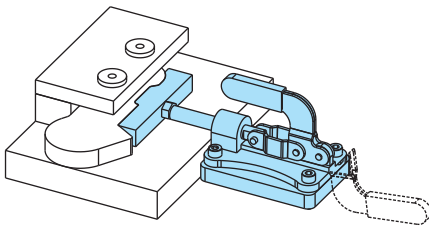
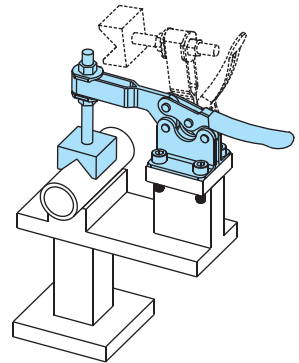


### Vertical Hold Down Action : (VTC-Series)

As the name implies clamps of this type hold the work piece with a downward clamping action. These clamps are manufactured with a holding capacity up to 3000 kgs. The clamping exhibits a minimum of 90° opening angle giving full clearance for loading & unloading of workpiece. Clamping arm can be solid bar, U shaped or fixed hole to suit individual requirements.

### Horizontal Hold Down Action : (H-Series)

The holding action in these types of Toggle Clamps is same as VTC-Series clamps. The outstanding characteristic is the low height design. Unlike the handle & the clamping bar of the VTC-Series, these of the H-Series clamps move in opposite direction. The holding capacities range upto 1,000 kgs. The clamping arm can be solid bar, U shaped or fixed hole type.

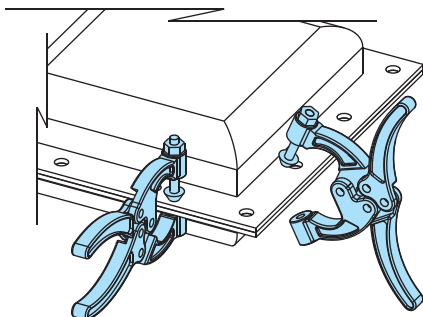
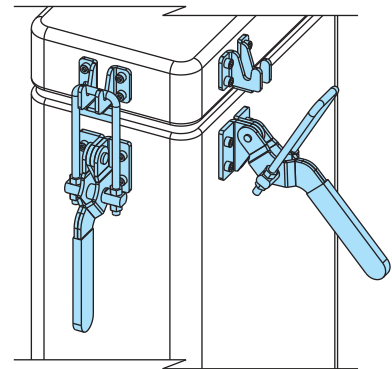


### Straight Line Action : (HTC-Series)

The straight line action toggle clamps design uses a straight-line or push/pull, Toggle clamping action. The push / pull handle is easy to operate & moves the plungers of the clamp in and out along its axis. Most of these clamps can be locked in two positions, allowing you to use them as either push or pull clamps. These clamps are manufactured in a variety of models to accommodate a wide range of load ratings. (45 kgs - 4,500 kgs)

### Pull Action Clamps : (PAH-Series)

Steel-Smith's Pull Action Clamps are designed for sealing chambers, doors, mould closures or other such applications requiring closure mechanisms. The handle can be moved to place the clamping U - Bolt Bar hook around the opposing latch & pull down to reach the lock position. The threaded "hook" or "U-bolt" type bar offer an adjustment feature. The clamps can withstand pressures from 150 kgs. to 3000 kgs.



### Squeeze Action Clamps: (TP-Series)

Squeeze Action Toggle Clamps hold parts with a pinching or squeezing action between two clamping jaws. The jaws are locked automatically when closing as one or both handle are Squeezed against the central position. The Squeezing action of the clamps makes them well suited for applications where they can replace 'C' clamps. The arms are drop-forged in steel & hence can withstand heat without deformation.

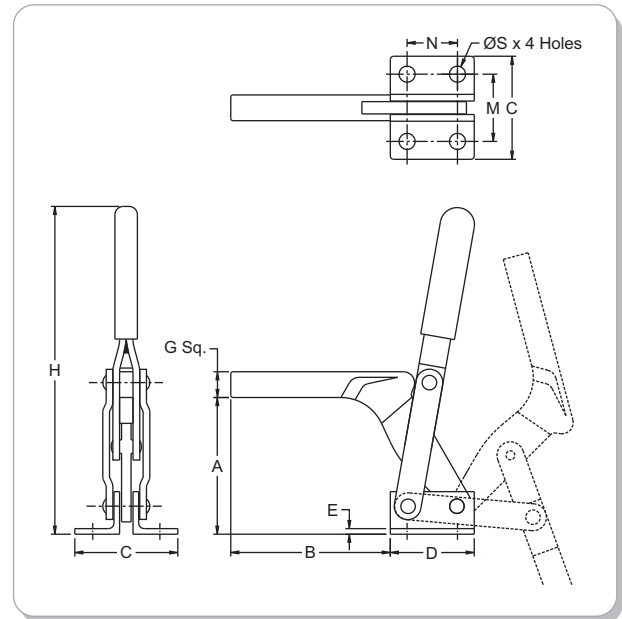
# Vertical Hold Down Action

## VTC Series Heavy Duty Clamps - Angle Base

These models feature a drop forged clamping arm which can be drilled and tapped for mounting either an adjustable spindle or a special clamping element. The 'A' series has an angle base for drilling and bolting into work position. It also has a deeper throat depth and more height under the clamping bar in closed position.



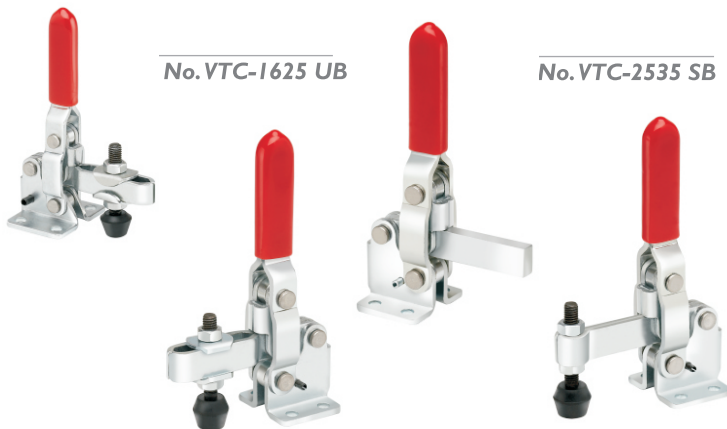
Model No. VTC-120132 A    Model No. VTC-6561 A



Model No.	A	B	Mounting Base			G	H	Mounting Dimensions			Holding Capacity	Wt. in Kgs
			C	D	E			M	N	ØS		
VTC-6561 A	65	61	85	45	6	20 x 20	170	55	25	6.5	500 Kgs	1.000
VTC-120132 A	120	132	92	75	6	24 x 25	300	60	45	10.5	1000 Kgs	2.400

## VTC Series Medium Duty Clamps - Flanged Base

These models have a flange base for drilling and bolting onto the work position. All models are provided with stop pin for the safety of the operator. The clamping arm exhibits a minimum 90° opening angle for easy unloading of work piece.

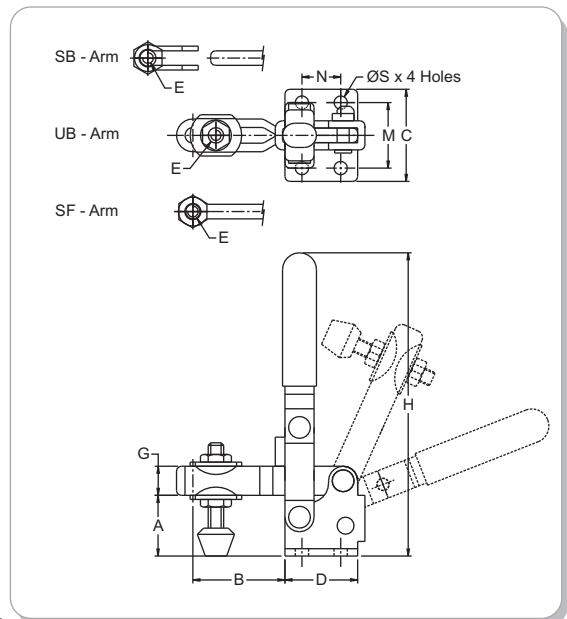


No. VTC-1625 UB

No. VTC-2535 SB

Model No. VTC-2535 UB

Model No. VTC-2535 SF



Model No.	A	B	Mounting Base		Spindle Dia. E	G	H	Mounting Dimensions			Holding Capacity	Wt. in Kgs
			C	D				M	N	ØS		
VTC-1625 UB VTC-1625 SF	16	25	33	25	M5	8	80	24	16	4.5	50 Kgs	0.090
VTC-2535 UB VTC-2535 SF VTC-2535 SB	25	38	38	30	M6	12	125	27	16	5.5	100 Kgs	0.180



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# Vertical Hold Down Action

## VTC Series Medium Duty Clamps - Flanged Base

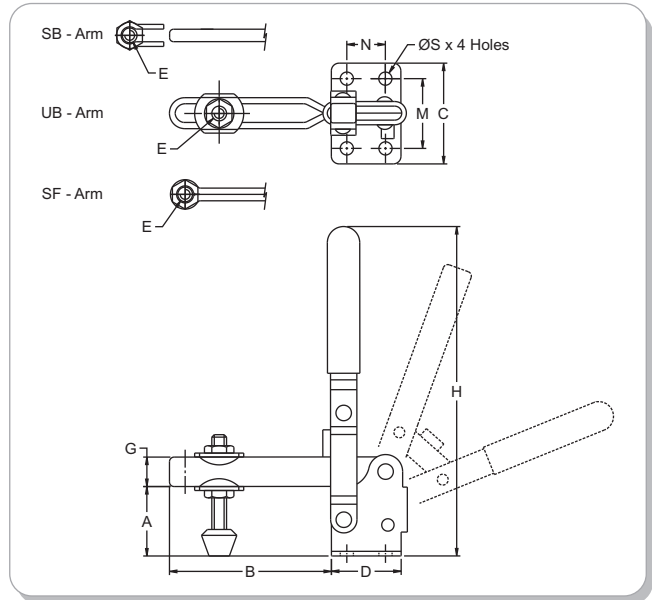
This series has more models than any other series manufactured by Steel - Smith. These models have a flange base for drilling and bolting onto the work position. The clamping bar and handle are offered with different variations to suit individual requirements. All models are provided with stop pin for the safety of the operator. The clamping arm exhibits a minimum 90° opening angle for easy unloading of work piece. The clamping arm is available in three different options as illustrated on this page.



Model No. VTC-3670 UB



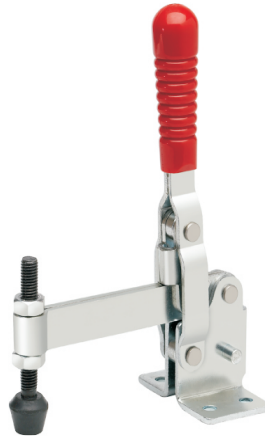
Model No. VTC-3670 SF



The **SF Series** have a solid hold down bar which has a fixed guide bush at its end for the spindle assembly.  
The **SB Series** have a solid bar onto which the bolt retainer can be welded at any desired angle.  
The **UB Series** have a 'U' bar arm which enables one or more spindles to be moved into any desired position along the arm.



Model No. VTC-4595 UB



Model No. VTC-4595 SF



Model No. VTC-4595 SB

Model No.	A	B	Mounting Base		Spindle Dia. E	G	H	Mounting Dimensions			Holding Capacity	Wt. in Kgs
			C	D				M	N	ØS		
VTC-3670UB VTC-3670SF VTC-3670SB	36	70	58	35	M 8	16	155	38	19	6.5	200 Kgs	0.450
VTC-4595UB VTC-4595SF VTC-4595SB	45	95	82	45	M 10	20	205	55	25	8.5	400 Kgs	0.650
VTC-5040SF	50	40	72	45	M 10	20	210	45	25	8.5	500 Kgs	0.600
VTC-50125UB VTC-50125SF VTC-50125SB	50	125	72	45	M 12	20	210	45	25	8.5	350 Kgs	0.700
VTC-85150UB VTC-85150SF VTC-85150SB	85	150	90	76	M 16	30	330	60	45	8.5	600 Kgs	2.100
VTC-10088SF	100	88	90	76	M 12	28	275	60	45	8.5	800 Kgs	1.800



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# Vertical Hold Down Action

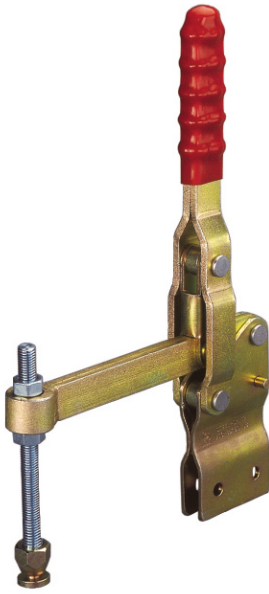
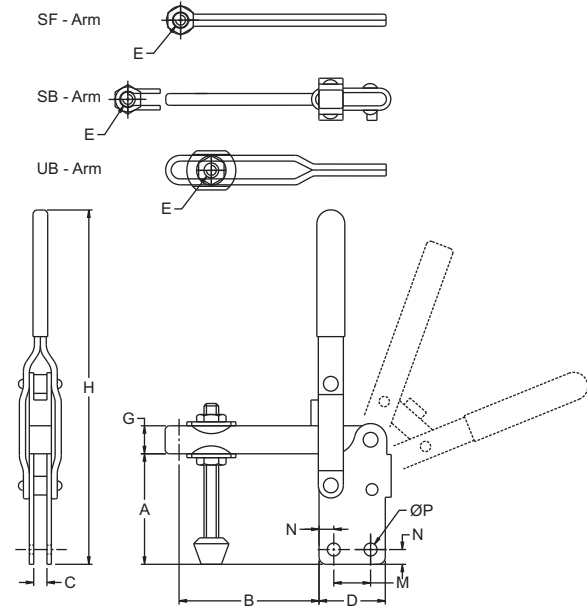
## VTC Series Medium Duty Clamps - Straight Base

The Base Straight series is identical to the VTC - Flanged Base Series with the exception of the Base Design. For Situations where a vertical surface is used to mount the clamp a straight base can be used. All the models are provided with stop pins. The clamping arm is available in three different options as illustrated on this page:

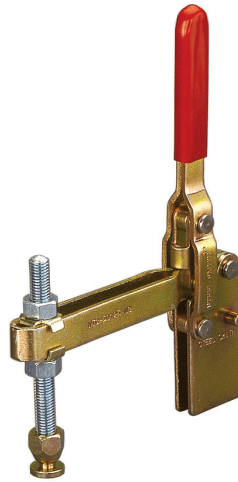
The **SF Series** have a solid hold down bar which has a fixed guide bush its end for the spindle assembly.

The **SB Series** have a solid bar onto which the bolt retainer can be welded at any desired angle.

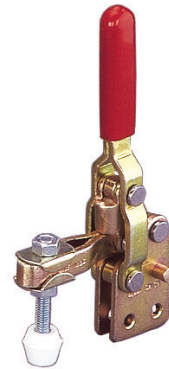
The **UB Series** have a 'U' bar arm which enables one or more spindles to be moved onto any desired position along the arm.



Model No. VTC-85150 SF/BS



Model No. VTC-50125 UB/BS



Model No. VTC-2535 UB/BS

Model No.	A	B	Mounting Base					E	G	H	Holding Capacity	Wt. in Kgs
			C	D	M	N	PØ					
VTC-2535 UB/BS VTC-2535 SF/BS VTC-2535 SB/BS	36	38	6	30	15	7	5.5	M 6	12	135	100 Kgs	0.180
VTC-8154 SB/BS	80	50	5	40	—	—	—	M 6	20	230	200 Kgs	0.300
VTC-3670 UB/BS VTC-3670 SF/BS VTC-3670 SB/BS	58	70	6	35	19	8	6.5	M 8	16	185	200 Kgs	0.450
VTC-4595 UB/BS VTC-4595 SF/BS VTC-4595 SB/BS	75	95	8	45	25	10	8.5	M 10	20	235	400 Kgs	0.650
VTC-50125 UB/BS VTC-50125 SF/BS VTC-50125 SB/BS	75	125	8	45	25	10	8.5	M 12	20	235	350 Kgs	0.700
VTC-85150 UB/BS VTC-85150 SF/BS VTC-85150 SB/BS	110	150	10	76	45	15	8.5	M 16	30	370	600 Kgs	2.100



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# Horizontal Hold Down Action

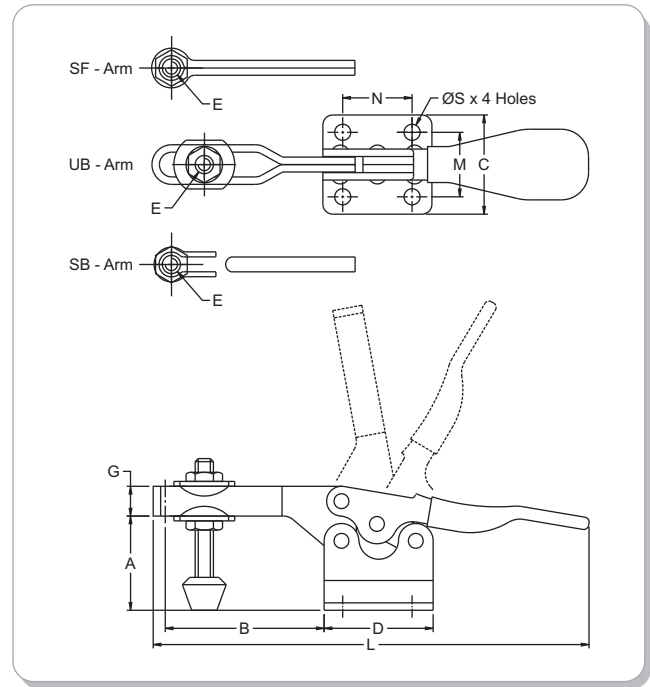
## H - Series Medium Duty Clamps

The outstanding characteristic of the H-series models is their low height design. Minimum overhead clearance is required by this low profile series, allowing free movement of operating tools in drilling, tapping, milling etc. The holding action in these types of clamps is same as the VTC-Series clamps. Unlike the handle & the clamping bar of the VTC-Series, these of the H-Series clamps move in opposite direction. The clamping arm is available in three different options as illustrated on this page

The **SF Series** have a solid hold down bar which has a fixed guide bush its end for the spindle assembly.

The **SB Series** have a solid bar onto which the bolt retainer can be welded at any desired angle.

The **UB Series** have a 'U' bar arm which enables one or more spindles to be moved onto any desired position along the arm. .



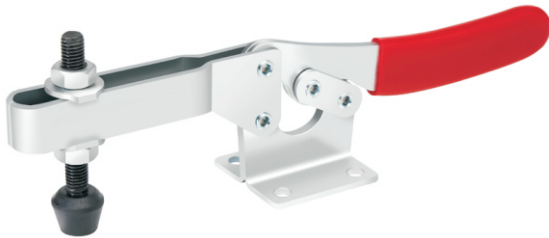
Model No. H - 2655 SF



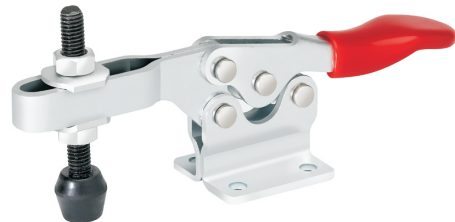
Model No. H - 2655 UB



Model No. H - 3665 SF



Model No. H - 45105 UB



Model No. H - 3655 UB

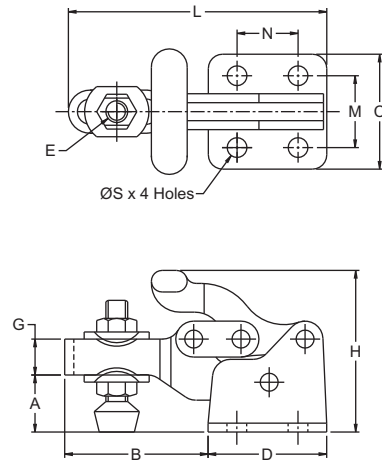
Model No.	A	B	Mounting Base		E	G	L	Mounting Dimensions			Holding Capacity	Wt. in Kgs
			C	D				M	N	ØS		
H-2655UB H-2655SF	26	55	33	35	M 6	12	150	22	24	4.5	150 Kg	0.150
H-3665UB H-3665SF H-3665SB	36	65	40	44	M 8	13	175	26	29	6.5	250 Kg	0.260
H-45105UB H-45105SF H-45105SB	45	105	55	57	M 10	21	290	38	40	8.5	350 Kg	0.560
H-57126UB H-57126SF H-57126SB	57	126	60	65	M 12	25	310	40	45	8.5	500 Kg	0.880



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# Horizontal Hold Down Action

Model No: H - 1330 UB



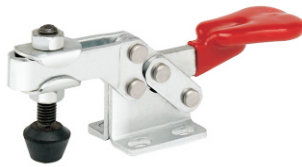
Model No.	A	B	Mounting Base		E	G	H	L	Mounting Dimensions			Holding Capacity	Wt. in Kgs
			C	D					M	N	ØS		
H-1330UB	13	30	29	27	6	9	42	58	19	16	4.3	50 Kg	0.070

## H - Series Miniature Clamps

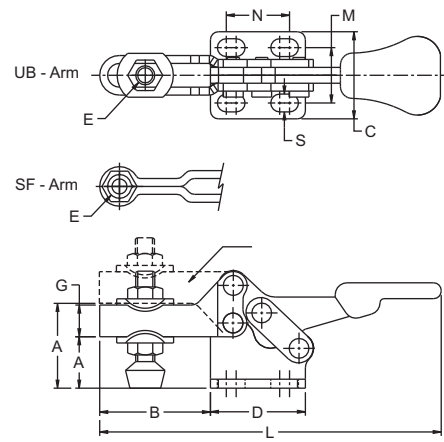


Model No. H - 1323 UB

Model No. H - 1323 SF

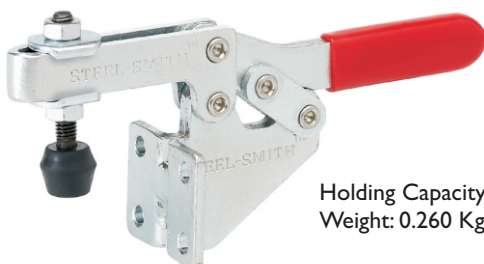


Model No. H - 2123 UB

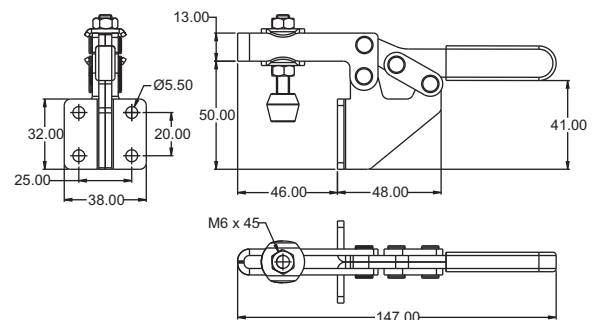


Model No.	A	B	Mounting Base		E	G	L	Mounting Dimensions			Holding Capacity	Wt. in Kgs
			C	D				M	N	ØS		
H-1323UB H-1323SF	13	23	22	24	M 5	8	85	14	11 - 16	4.5	50 Kg	0.040
H-2123UB H-2123SF	21	23	22	24	M 5	8	85	14	11 - 16	4.5	50 Kg	0.040

## Model No: H - 4835 UB/FM

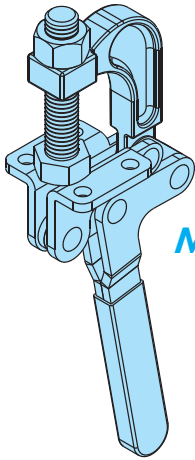


Holding Capacity: 250 Kgs.  
Weight: 0.260 Kgs.



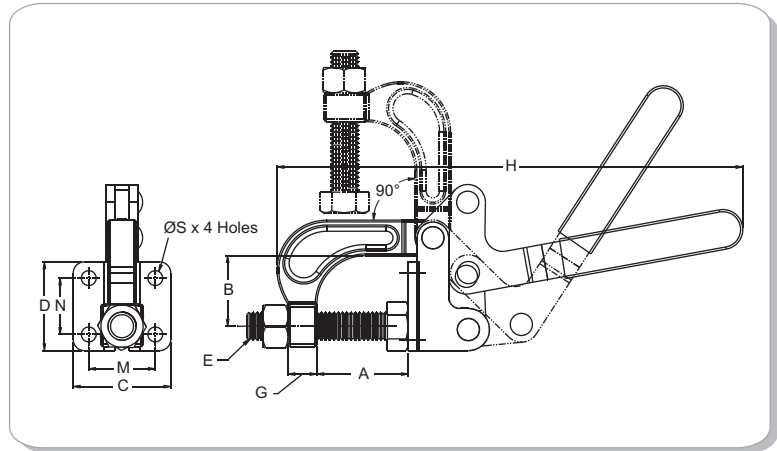
HOME



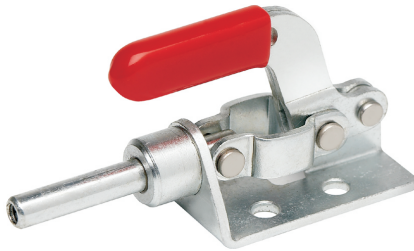


**Model No: PB-4042**

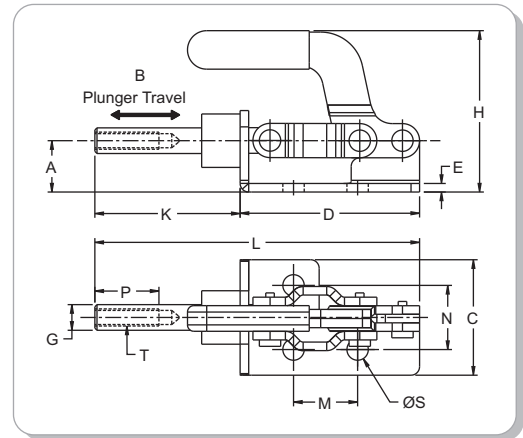
Also Available  
in Stainless Steel  
PB-4042-SS



Model No.	A	B	Mounting Base		E	G	H	M	N	S	Holding Capacity	Wt. in Kgs
			C	D								
PB-4042	41	32	44	40	M 12	13	210	30	25.4	6.70	400 Kg	0.640

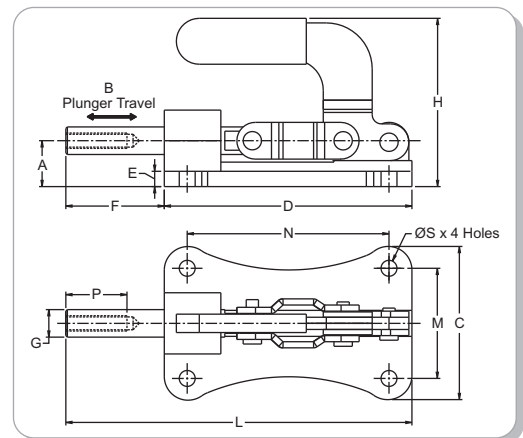
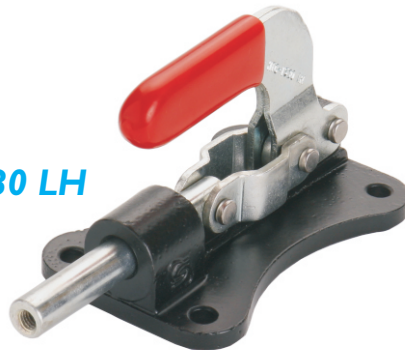


**Model No: HTC - 1220**



Model No.	A	Plunger Travel B	Mounting Base					ØS	Plunger Dia. G	H	K	L	Hole Depth P	Tapped Hole TØ	Holding Capacity	Wt. in Kgs
			C	D	E	M	N									
HTC-1220	12	20	27	42	2	15	15	5	6	38	34	76	20	M 4 x 0.70	50 Kg	0.050

**Model No: HTC - 1530 LH**



Model No.	A	Plunger Travel B	Mounting Base				Plunger Dia. G	H	L	Hole Depth P	Mounting Dimensions			Tapped Hole TØ	Holding Capacity	Wt. in Kgs
			C	D	E	F					M	N	ØS			
HTC-1530LH	15	30	51	81	5	30	9	55	110	20	36	66	5.2	M 5 x 0.80	200 Kg	0.400



HOME

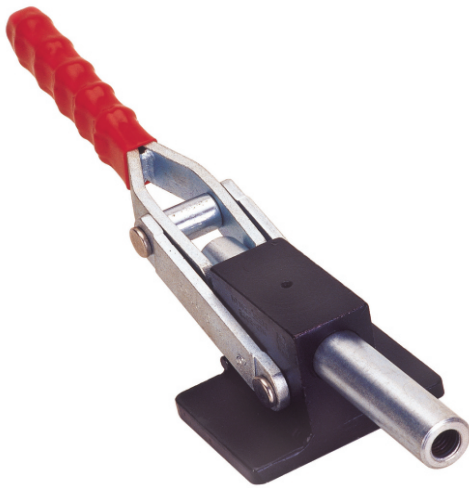
# Straight Line Action

## HTC - Series Clamps Forged Base

Horizontal Toggle Clamps of this type are low profile, fast acting Straight Line Action clamps. These clamps are of exceptionally robust construction, featuring forged & machined bases. The handle & linkages of the clamps are from heavy flat sections designed to resist high vibration & forces on the work piece. Plungers are hardened & their precision ground diameter runs in a close-toleranced hole in the base forging. Plungers are drilled & tapped for easy attachment of threaded spindles or adaptors. These clamps are particularly suitable for operations where the operators hand has to be away from the work piece while locking the clamp.



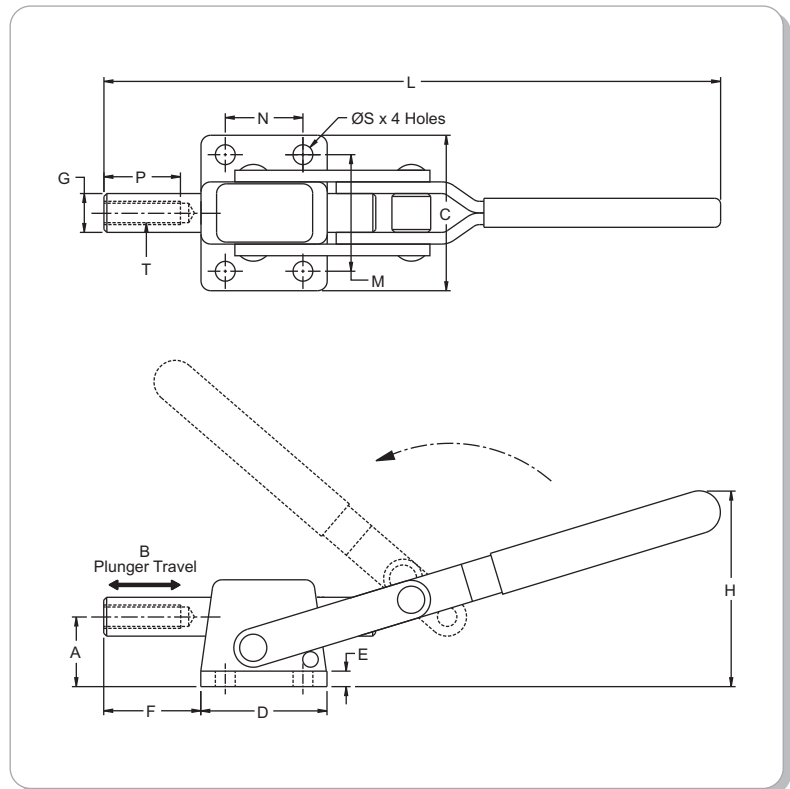
Model No. HTC - 3545



Model No. HTC - 5065



Model No. HTC - 3025

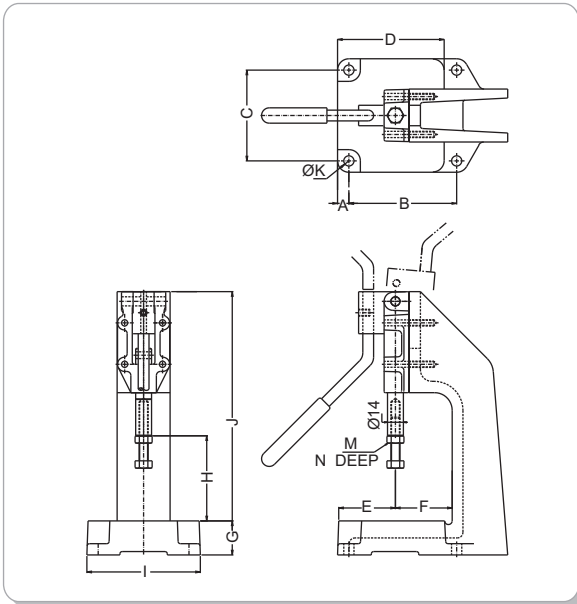


Model No.	A	Plunger Travel B	Mounting Base			F	Plunger Dia. G	H	L	Hole Depth P	Mounting Dimensions			Tapped Hole TØ	Holding Capacity	Wt. in Kgs
			C	D	E						M	N	ØS			
HTC-2326	23	26	54	28	6	26	9	58	170	20	42	16	5.5	M5 x 0.80	300 Kg	0.400
HTC-3025	30	25	75	50	6	25	12	75	245	25	55	30	6.5	M 8 x 1.25	1100 Kg	0.870
HTC-3545	35	45	78	68	8	46	20	92	310	30	60	45	8.5	M 12 x 1.75	2600 Kg	1.750
HTC-5065	50	68	100	75	10	85	25	130	375	35	75	50	10.5	M 16 x 2.00	4500 Kg	3.150



HOME

## Toggle Presses



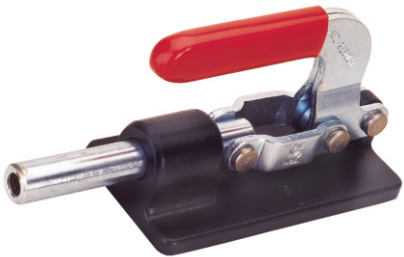
Model No.	Clamping Force
VTP-30600-PR	580 Kg
VTP-31200-PR	930 Kg
VTP-32500-PR	1100 Kg

Clamping Force is in Full Extended Condition with a 14 Kg Hand Force



Model No.	A	B	C	D	E	F	G	H	I	J	ØK	L	M	N	Holding Capacity	Wt. in Kgs	Handle Opens	Plunger Stroke
VTP-30600-PR	10	95	80	94	50	50	30	75	100	202	9	150	M8 x 1.25	30	600 Kg	3.600	185°	32
VTP-31200-PR	12.5	115	95	113	60	60	40	100	120	290	11.1	192	M10 x 1.5	40	1200 Kg	7.350	185°	50
VTP-32500-PR	12.5	145	125	139	67	75	50	120	150	418	11	238	M12 x 1.75	60	2500 Kg	17.920	185°	75

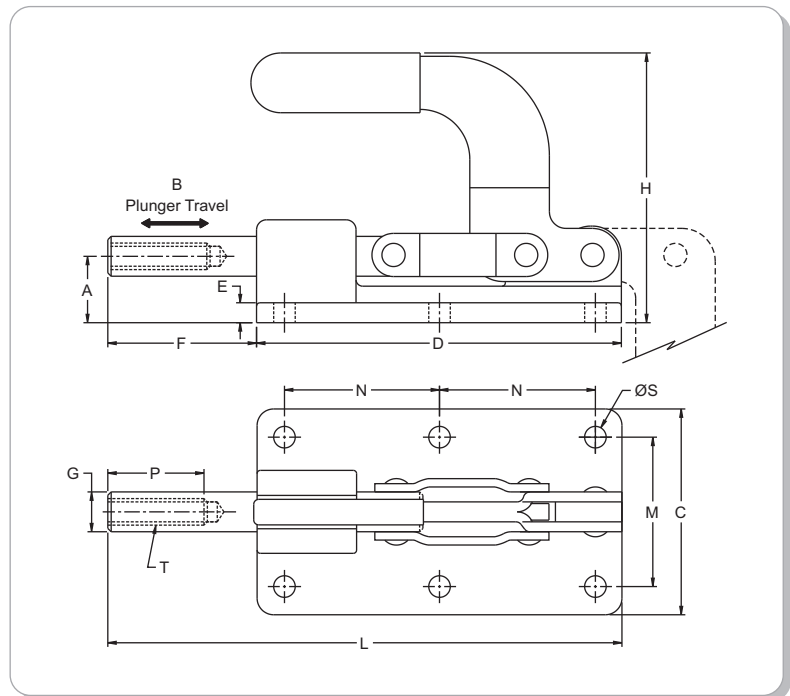
## HTC - Series Clamps - Low Height



Model No. HTC - 2550 LH



Model No. HTC - 2040 LH



Model No.	A	Plunger Travel B	Mounting Base			F	Plunger Dia. G	H	L	Hole Depth P	Mounting Dimensions			Tapped Hole TØ	Holding Capacity	Wt. in Kgs
			C	D	E						M	N	ØS			
HTC-2040 LH	20	40	60	110	6	41	12	80	150	25	45	47	6.5	M 8 x 1.25	600 Kg	0.850
HTC-2550 LH	25	50	65	130	8	56	16	85	185	30	48	52	8.5	M 10 x 1.50	800 Kg	1.200
HTC- 3075 LH	30	75	75	185	10	75	20	110	260	30	55	82.5	8.5	M 12 x 1.75	1200 Kg	2.000
HTC-35100 LH	35	100	90	215	12.5	111	25	130	319	35	66	95	10.5	M 16 x 2.00	2000 Kg	3.600



HOME

# Straight Line Action

## HTC - Series Clamps - Package Size

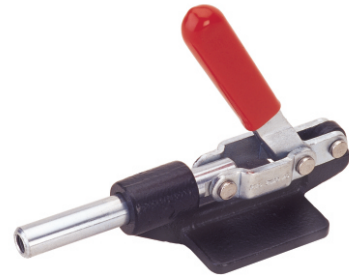
Horizontal Toggle Clamps of this series are designed with a high plunger height to accommodate large work pieces. The mounting base of the clamps are extremely compact for their stroke length & plunger height, hence the clamps are known as the Package Size Clamps. Similar to all the HTC clamps the plunger of these clamps are hardened & ground for higher efficiency of the clamp & are also drilled & tapped for easy attachment of threaded spindles & adapters. The plunger moves forward & locks as the handle is moved forward. Plunger also locks in retracted position when handle is moved backward. The mounting base of the clamps are available in two different options for individual requirements as mentioned below.



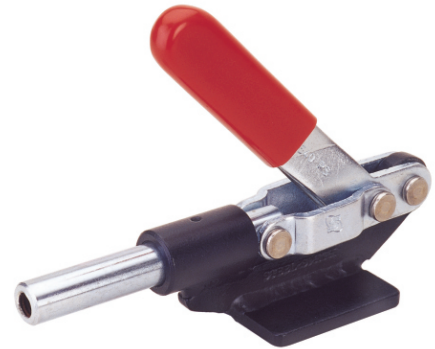
Model No. HTC - 2530 PS/BS



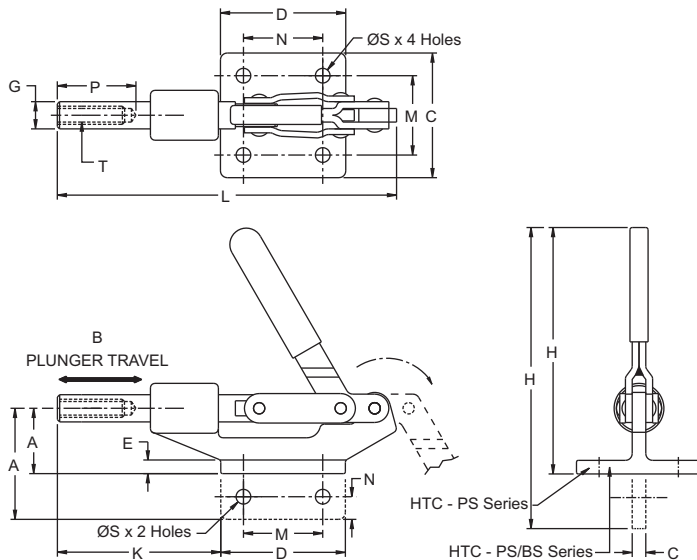
Model No. HTC - 4560 PS



Model No. HTC - 2530 PS



Model No. HTC - 3540 PS



Model No.	Plunger Travel		Mounting Base						Plunger Dia. G	H	K	L	Hole Depth P	Tapped Hole TØ	Holding Capacity	Wt. in Kgs
	A	B	C	D	E	M	N	SØ								
HTC-1825 PS	18	29	40	40	5	28	28	5.5	9	70	33	110	20	M5 x 0.80	100 Kg	0.200
HTC-2530 PS	25	34	55	55	6	38	38	6.5	12	100	65	147	25	M 8 x 1.25	300 Kg	0.400
HTC-3540 PS	35	40	61	61	6	42	42	6.5	16	115	85	180	30	M 10 x 1.50	400 Kg	0.880
HTC-4560 PS	45	60	75	75	9	50	50	10.5	20	160	115	230	30	M 12 x 1.75	700 Kg	1.750
HTC-2530 PS/BS	49	34	6	55	-	35	10	6	12	130	67	146	25	M 8 x 1.25	300 Kg	0.375
HTC-3540 PS/BS	61	40	8	61	-	40	10	8	16	135	90	185	30	M 10 x 1.50	400 Kg	0.850
HTC-4560 PS/BS	75	60	8	75	-	50	12.5	10	20	185	122	235	30	M 12 x 1.75	700 Kg	1.650





## HTC Series Clamps - Front Mounting

The particular feature of this series is its single hole mounting system. These clamps can be directly mounted through a member by a check nut or by drilling & tapping the member. Designed with low clamping pressures these clamps are ideally used as locators, reference tools & for assembly fixtures. When flush mounted the plunger of the clamp retracts completely from the work area giving full clearance for unloading of the work piece. All clamps lock in the closed as well as in the open position & hence can be used as pull-action clamps. The handle moves a complete 180° while locking in either positions & can be swivelled into any position in the other axis to suit the various space requirements. All the straight line action clamps of this series have a hardened & ground tapped plunger.



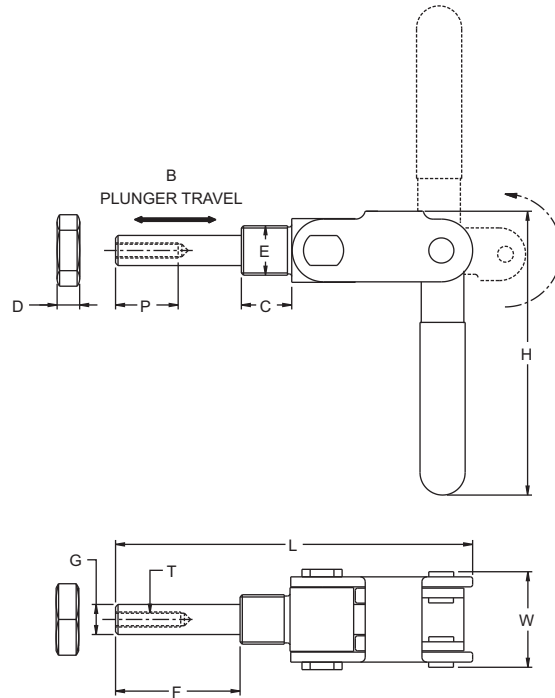
Model No. HTC - 600 FM



Model No. HTC - 500 FM



Model No. HTC - 350 FM



Model No.	Plunger Travel B	C	D	Mounting Thread Size E	F	Plunger Dia. G	H	L	P	W	Tapped Hole T	Holding Capacity	Wt. in Kgs
HTC-190 FM	24	11	6	M 16 x 2.0	30	9.5	78	77	28	24	M 6 x 1.0	50 Kg	0.130
HTC-350 FM	36	15	6	M 20 x 1.5	42	12	102	110	30	33	M 8 x 1.25	100 Kg	0.260
HTC-500 FM	39	18	9	M 20 x 1.5	53	12	120	140	30	40	M 8 x 1.25	150 Kg	0.550
HTC-600 FM	60	24	10	M 24 x 2.0	64	16	145	175	30	47	M 10 x 1.5	350 Kg	0.850

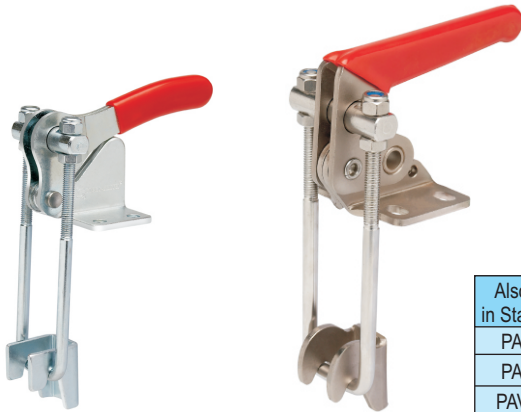


HOME

# Pull Action clamps

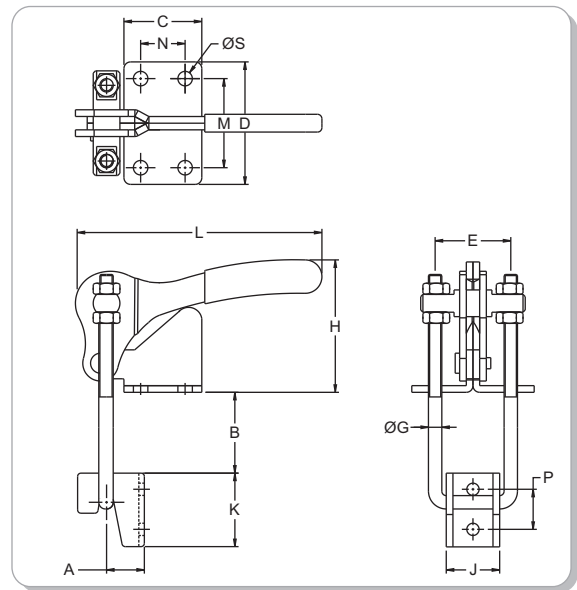
## PullAction Clamps - PAV Series

The clamping action of the PAV series is perpendicular to the base of the clamp. These clamps are ideal for installations on lid closures where it is preferable to mount the clamp on the top face of the lid and the latch plate on the side face of the vessel. The 'U-bolt' is threaded for easy adjustment.



Also Available  
in Stainless Steel  
PAV-620-SS  
PAV-850-SS  
PAV-1065-SS

Model No. PAV - 850 Model No. PAV - 1065



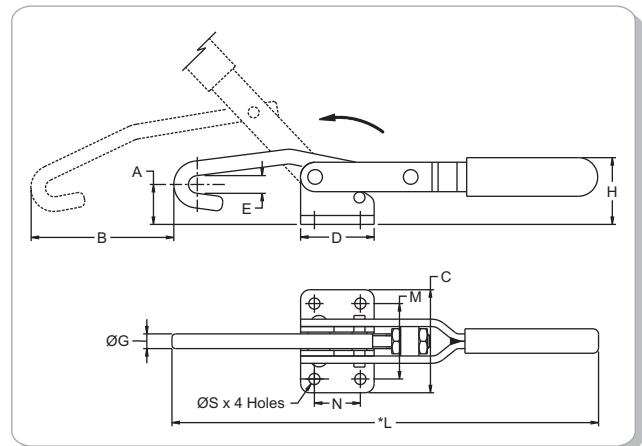
Model No.	A	B		Mounting Base		E	G	H	Latch Plate		L	Mounting Dimensions				Thread Adjustment T	Holding Capacity	Wt. in Kgs
		Min	Max	C	D				J	K		M	N	P	ØS			
PAV-620	6	13	39	25.4	35	22	4	44	15	20	85	23	13	11	5.1	28	100 Kg	0.130
PAV-850	8	26	61	35	55	34	6	65	23	33	110	40	20	18	6.5	35	500 Kg	0.650
PAV-1065	25.4	35	70	50.8	65	47	8	91	28.5	40	130	45	31.7	19	8.5 x 13.5	35	1000 Kg	0.800

## PullAction Clamps - PA Series

The PA Series clamps are the most compact in our line of pull action clamps due to their straight line design of the pull bar. Mounted suitably the clamps can be used in a variety of latching applications such as locking pressure vessels, automobile tail gates, closing & holding of doors etc. The pull bar is threaded for convenient adjustment.



Model No. PA - 4575



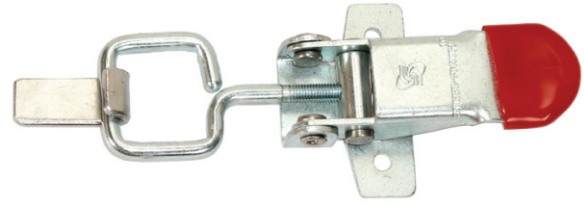
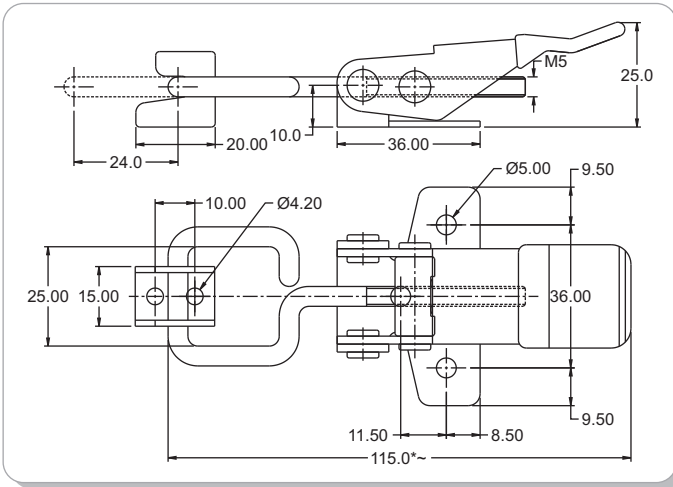
Also Available in Stainless Steel  
PA-1010-SS  
PA-2056-SS  
PA-3580-SS  
PA-4575-SS

Model No.	A	B		Mounting Base		E	G	H	L*	Mounting Dimensions			Thread Adjustment T	Holding Capacity	Wt. in Kgs
		Min	Max	C	D					M	N	ØS			
PA-1010	12	13	28	38	26	8	6	25	150	27	16	4.5	15	75 Kg	0.120
PA-2056	20	53	66	55	40	10	8	37	245	40	25	6.5	13	200 Kg	0.380
PA-3580	35	52	72	67	47	12	10	55	305	48	30	6.5	20	400 Kg	0.650
PA-4575	45	64	84	85	54	16	12	66	365	60	29	10.5	20	500 Kg	0.950

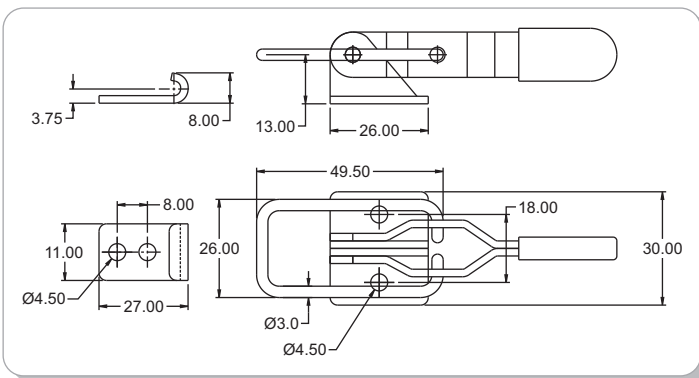
\* Maximum Dimension

# Pull Action Clamps

**Model: PAH - 280I**

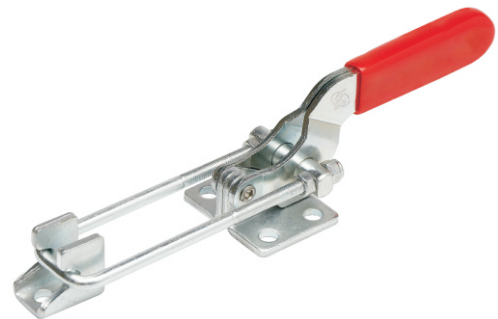
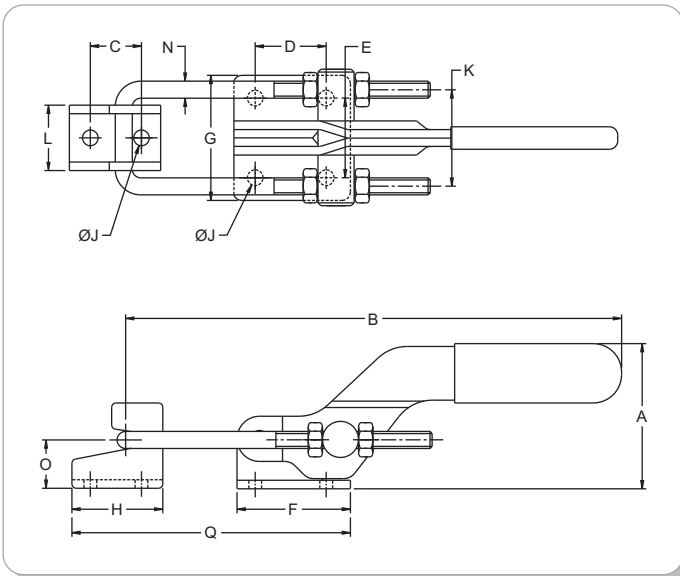


**Model: PA - 325-SS**



## Miniature Pull Action Clamps - PAH Series

These clamps are the smaller version of the PAH - Series clamps. The clamps are available with a holding force of 100 to 200 Kgs. The threaded U-Bolts permit easy length adjustment & provide a positive connection with the supplied latch plate. While installing it is important that the horizontal variants of the clamp & latch bracket are in alignment when viewed from both the top & the side, to ensure that the clamp locks positively.



**Model No. PAH - 1515**

Also Available  
in Stainless Steel  
PAH - 1210 - SS  
PAH - 1515 - SS

\* Minimum Dimension

Model No.	Holding Capacity	Weight	Drawing Movement	Dimensions														
				A	B*	C	D	E	F	G	H	J	K	L	N	O	Q Min	Q Max
PAH - 1210	100 Kgs	0.100	46.0	29	120	11	16	20	26	30	20	4.5	21	15	4	12	47.0	59.4
PAH - 1515	200 Kgs	0.220	44.0	45	162	11	20	32	35	45	25	6.5	28	19	5	15	65.0	80.0

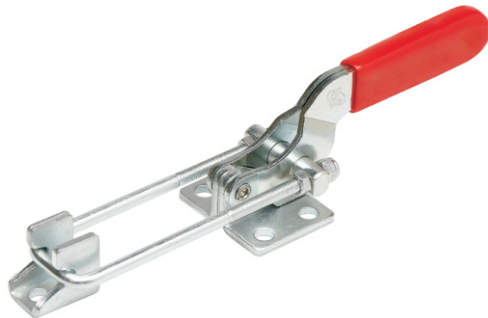


HOME

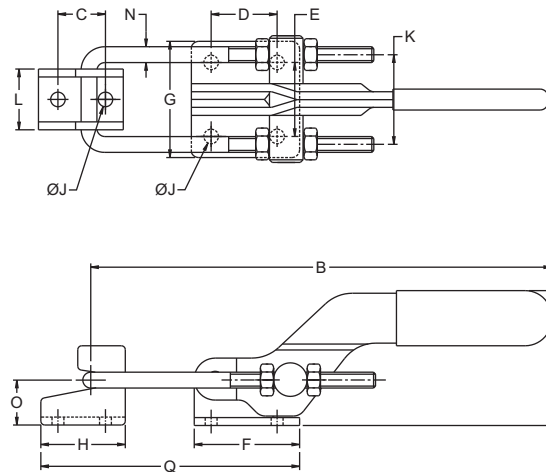
# Pull Action clamps

## PULLACTION CLAMPS - PAH SERIES

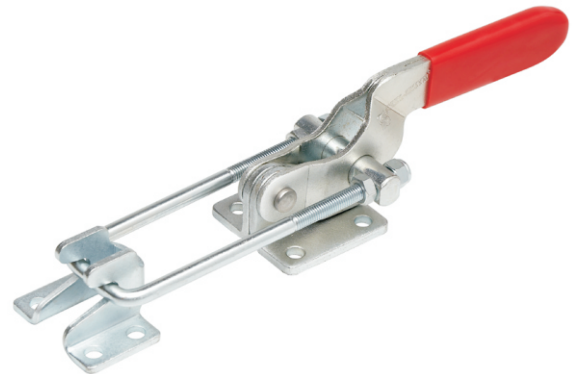
Pull Action Clamps derived from the Toggle lever principle enable quick clamping of flaps, lids, doors of moulds or access covers on to drums, containers or other vessels. The clamps are suitable for clamping moulds in the resin, expanding foam and the fibre glass industry as well as for applications in the chemical & the food industry. The threaded U-Bolts permit easy length adjustment & provide a positive connection with the supplied latch plate. While installing it is important that the horizontal variants of the clamp & latch bracket are in alignment when viewed from both the top & the side, to ensure that the clamp locks positively.



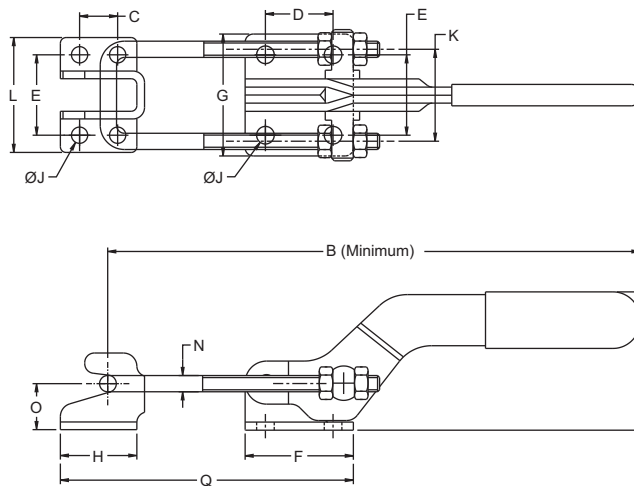
Model No. PAH - 1725



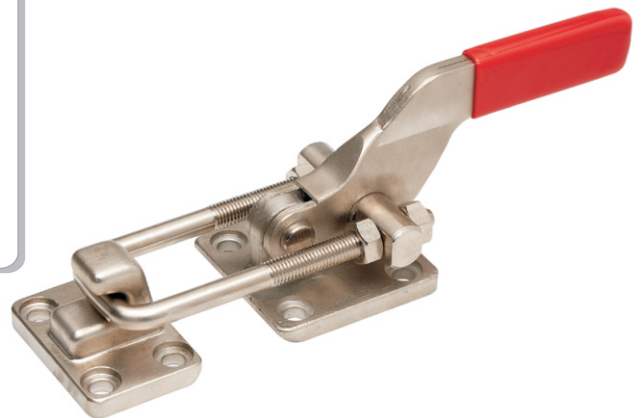
Drawing for Model No. PAH - 1725



Model No. PAH - 2445



Drawing for  
Model No. PAH - 2445 & Model No. PAH - 3062



Model No. PAH - 3062

Also Available in Stainless Steel

PAH - 1725 - SS

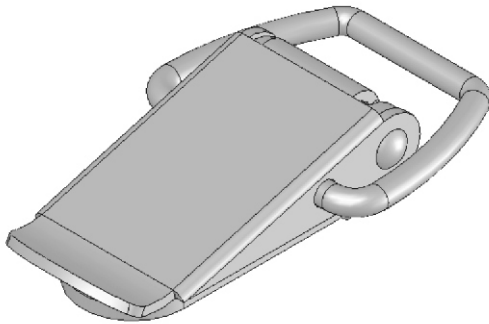
PAH - 2445 - SS

\* Minimum Dimension

Model No.	Holding Capacity	Weight	Drawing Movement	Dimensions														Minimum Dimension
				A	B*	C	D	E	F	G	H	J	K	L	N	O	Q Min	Q Max
PAH-1725	350 Kgs	0.350	50.0	50	190	18	25	28	40	45	32	6.5	34	23	6	16.5	105	140
PAH-2445	950 Kgs	0.900	88.0	61	240	22	40	42	60	60	40	8.2	47	60	8	23.5	130	170
PAH-3062	3000 Kgs	2.250	89.0	93	245	35	57.15	57.15	85	80	55	10.2	48	80	11	31.50	143	175





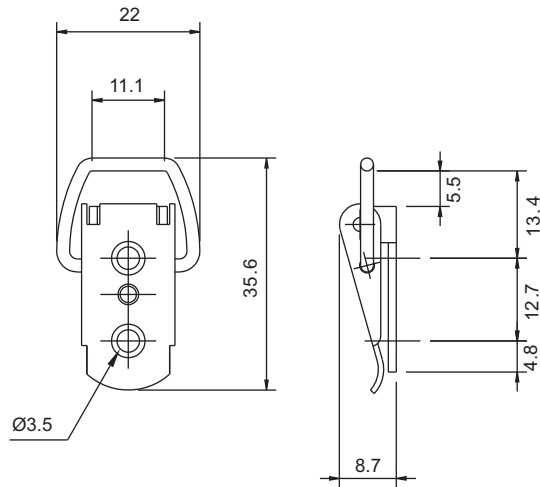


## Model No: PAH-I5-53I

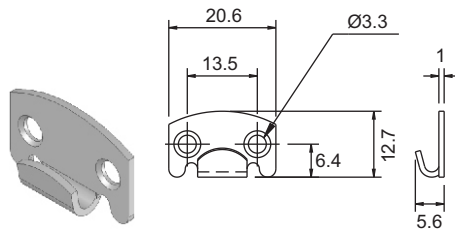
Holding Capacity - 60 kgs

Weight - 0.009 kg

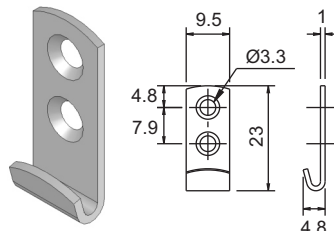
Also available in Stainless Steel



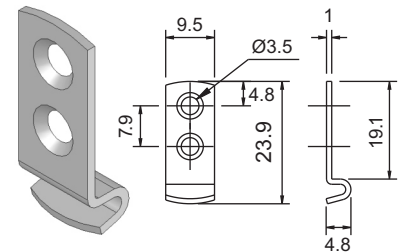
### Front hooks related to PAH-I5-53I



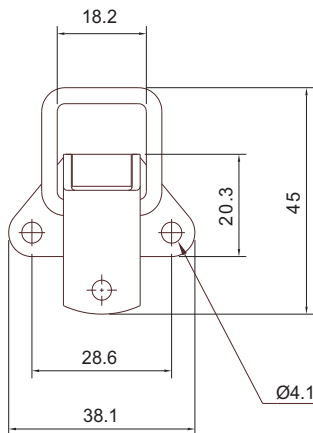
Model No: 01-53I



Model No: 02-53I



Model No: 03-53I

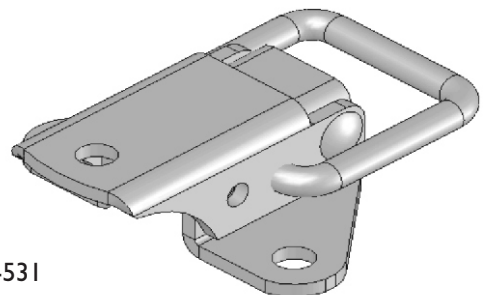
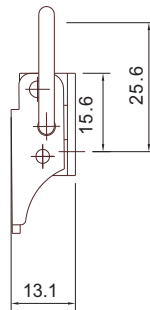


## Model No: PAH-I8-613

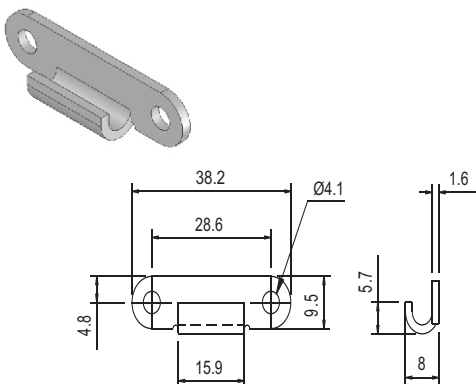
Holding Capacity - 150 kgs

Weight - 0.023 kg

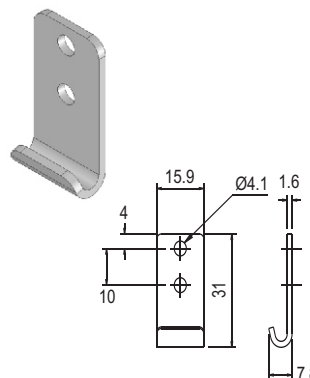
Also available in Stainless Steel



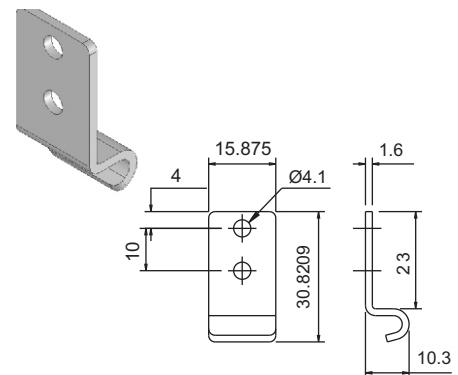
### Front hooks related to PAH-I5-53I



Model No.: 01-613

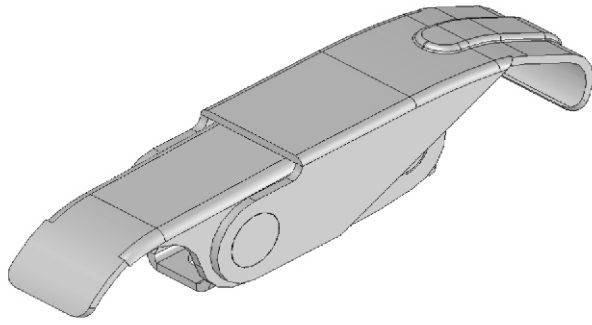


Model No.: 02-613



Model No.: 03-613

## Pull Action clamps

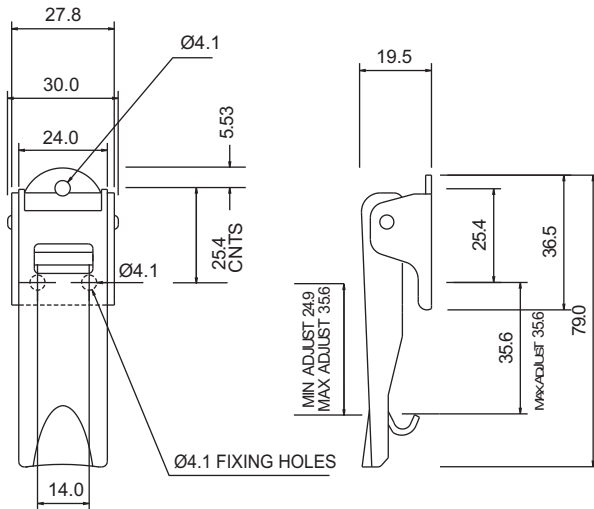
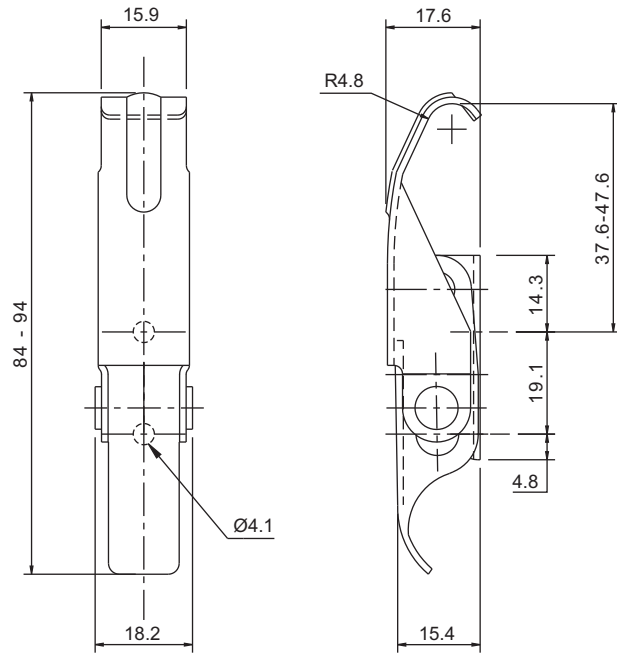


### Model No: PAH-50-I546

Holding Capacity - 100 kgs

Weight - 0.055 kg

Also available in Stainless Steel

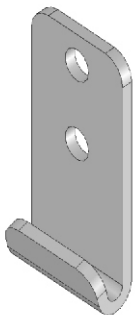
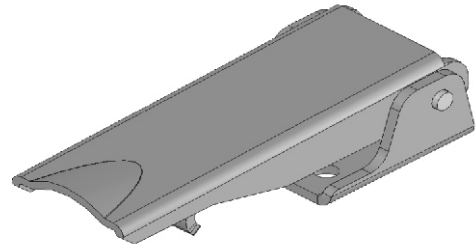


### Model No: PAH-200-5000

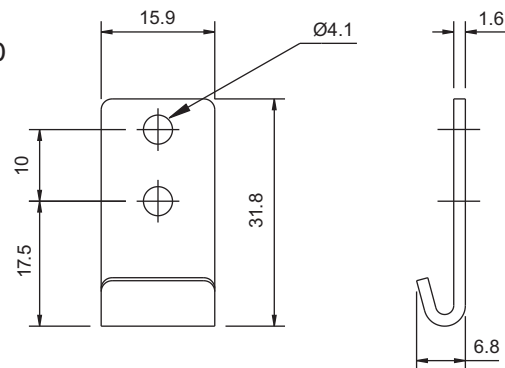
Holding Capacity - 90 kgs

Weight - 0.063 kg

Also available in Stainless Steel



Front hook related to PAH-200-5000



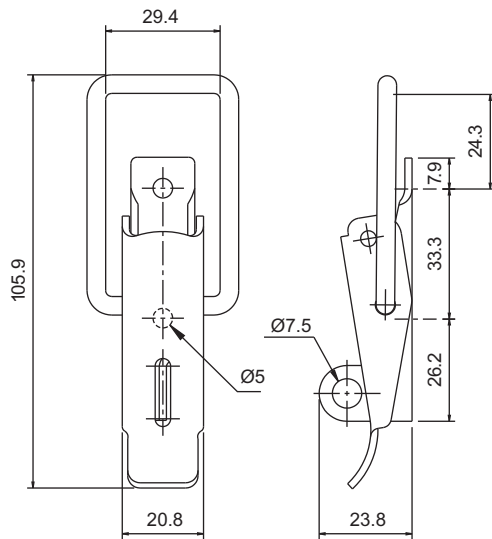
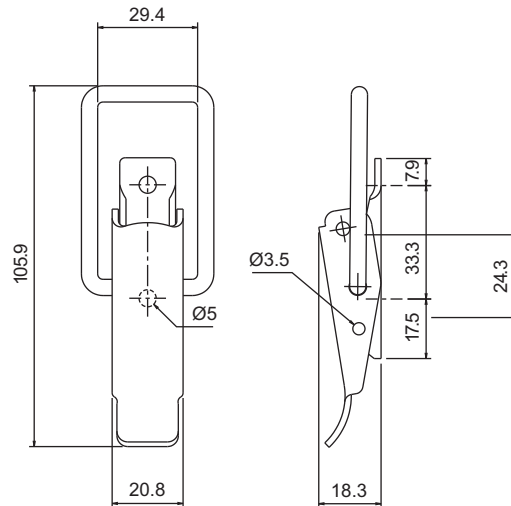
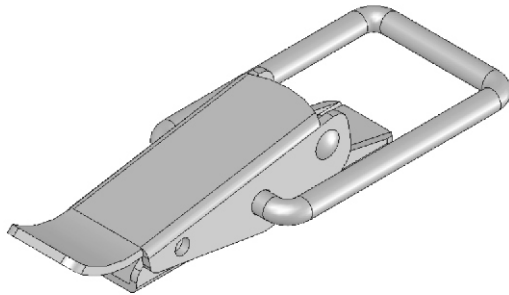
Model No.: 02-633

## Model No: PAH-30-502

Holding Capacity - 450 kgs

Weight - 0.070 kg

Also available in Stainless Steel

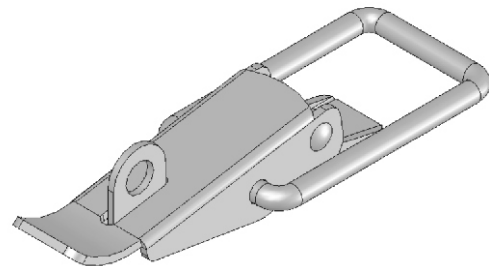


## Model No: PAH-30-570

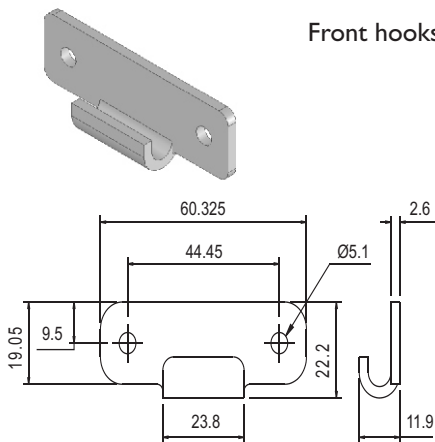
Holding Capacity - 450 kgs

Weight - 0.078 kg

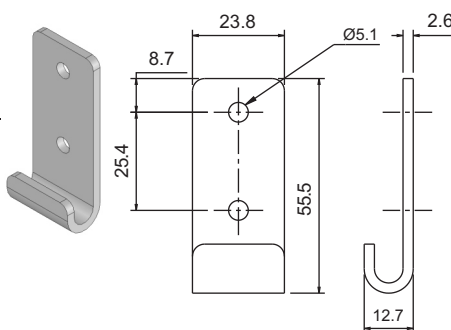
Also available in Stainless Steel



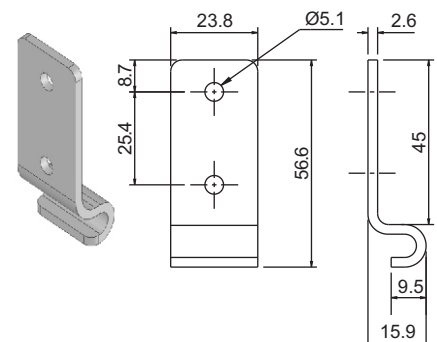
## Front hooks related to PAH-30-502, PAH-30-570 & PAH-30-588LP



Model No: 01-502



Model No: 02-502

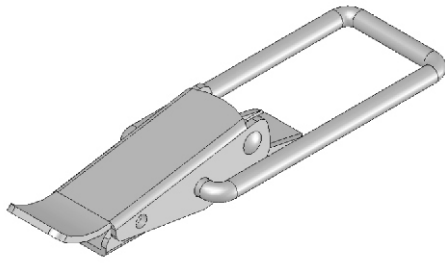


Model No: 03-502



HOME

## Pull Action clamps

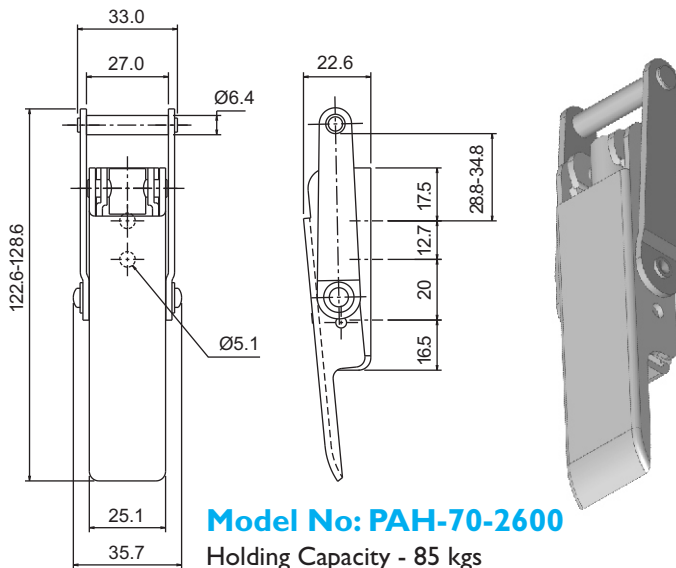
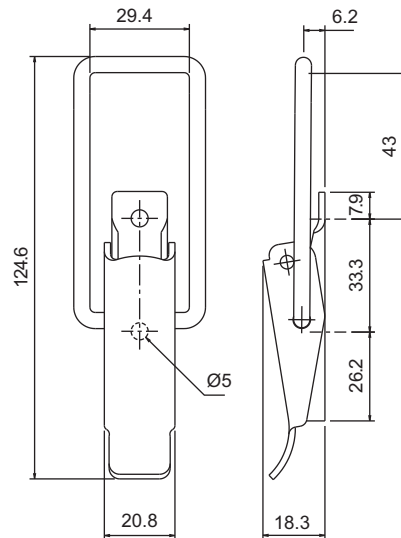


### Model No: PAH-30-588LP

Holding Capacity - 450 kgs

Weight - 0.081 kg

Also available in Stainless Steel



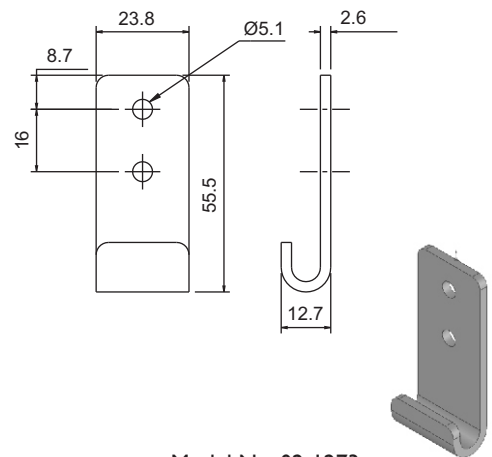
### Model No: PAH-70-2600

Holding Capacity - 85 kgs

Weight - 0.170 kg

Also available in Stainless Steel

### Front hook related to PAH-70-2600



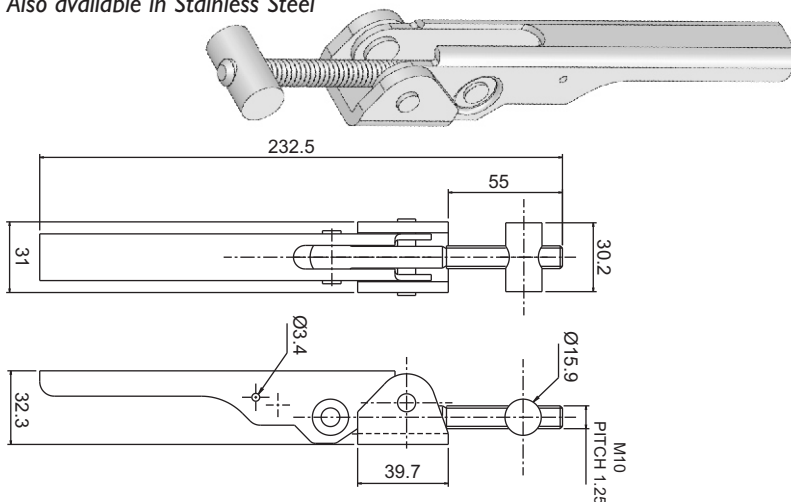
Model No: 02-1273

### Model No: PAH-40-1292LB

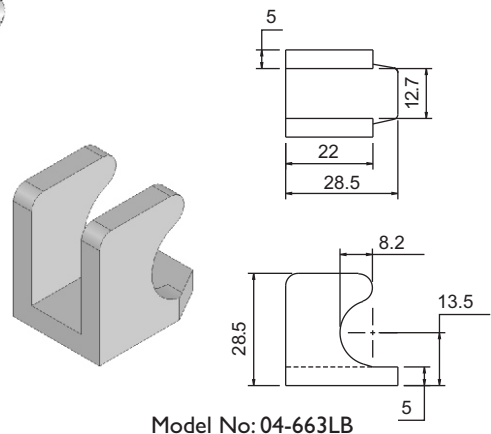
Holding Capacity - 2000 kgs

Weight - 0.355 kg

Also available in Stainless Steel



### Front hook related to PAH-40-1292LB



Model No: 04-663LB

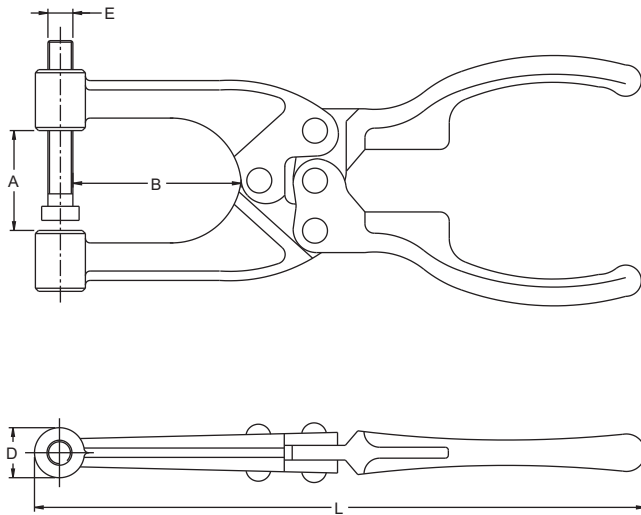
## Squeeze Action Clamps

### Toggle Pliers - TP Series

Steel - Smith Toggle Pliers utilizing the toggle principle are made of heat resistant drop-forged steel. Toggle pliers are portable clamps & are not required to be mounted on the fixture. Toggle pliers can have their clamping position pre-set for quick & Repetitive clamping. The adjustment is very easy & is done by moving the spindle either forward or backward till the required clamping thickness is achieved, the clamping pressure can be increased or decreased by moving the spindle half a turn as required. A relatively light hand pressure locks the plier with a heavy grip & stays locked until the handles are pulled apart. The range of jaw openings & depths in the toggle pliers allows them to be used in all areas of the manufacturing industry and also over obstacles such as flanges etc.



Model No. TP - 4570



Model No. TP - 2528



Model No. TP - 3245

MODEL	A	B	DØ	E	L	HOLDING CAPACITY	WT. IN KGS.
TP - 2528	25	28	13	M 6 X 1.00	128	100 Kg	0.220
TP - 3245	32	45	15	M 8 x 1.25	195	200 Kg	0.570
TP - 4570	45	70	18	M 10 x 1.50	220	400 Kg	0.640



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# V.G. Series

## VG Series

Steel-Smith introduces the all new VG Plier series. This new generation plier series expands the wide portfolio of toggle clamps and clamping equipments. Designed and developed for easy, single hand operation, the VG Plier series come as a great aid in tool room and fixturing applications.

The 11 member strong family of VG Pliers can take on multiple tasks with remarkable ease. Be it delicate wood work or the extreme welding applications. Each plier comes with a spindle assembly which enables the adjustment of pressure. The spring-loaded mechanism provided at one end of the plier ensures quick release at just a touch of finger.

What's more, with an ever innovative team at the helm of our relentless R & D department, you can always expect newer additions. And If you have a specialised application area, we are equipped to deliver customised design solutions.

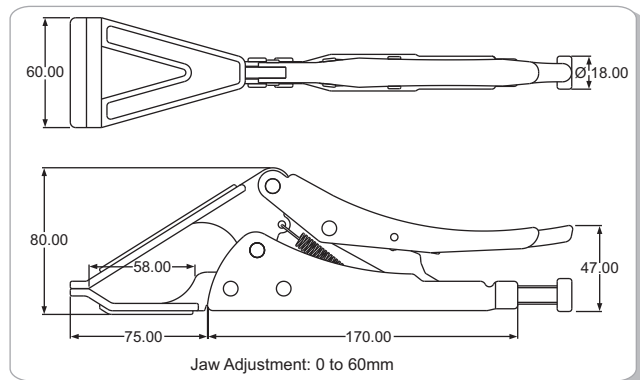


### VG-3070 Flat Jaw Plier

Having a 60mm wide jaw this Plier has a complete surface contact in the clamped position, distributing pressure evenly on the clamped surfaces. The Plier locks with a powerful grip making it ideal as a sheet metal tool and for applications such as bending, forming and crimping.



Model No. VG-3070

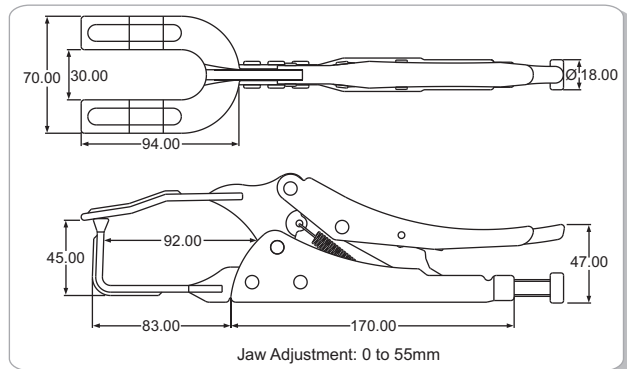


### VG-3060 U Jaw Deep Throat Plier

This Plier is designed with a "U" Shaped Jaw, which gives it a deeper throat depth in the clamped position. Permits the clamping of adjacent joints and perfect visibility when welding.



Model No. VG-3060 U

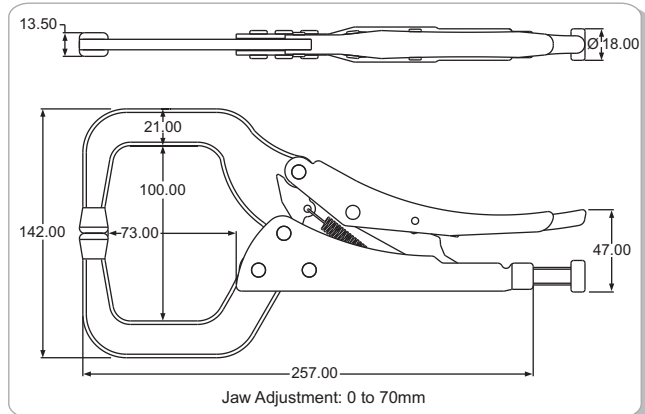


### VG-8070 C Jaw Plier

This clamp features wide arms that reach over or around most obstructions. The Plier has a throat depth of 73mm and a jaw depth of 100mm. These pliers can easily replace the conventional C clamps in applications such as welding, spotting, assembling etc.



Model No. VG-8070 C



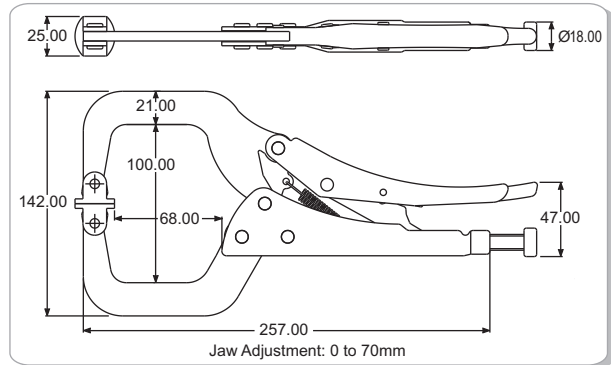
HOME

## VG-10764 C Jaw Plier

Dimensionally this Plier is same as the VG 8070 Plier with an exception of the swivel pad. The swivel pads adjust parallel to the work piece. The Plier had a throat depth of 68mm and a jaw depth of 100mm.



Model No. VG-10764 C

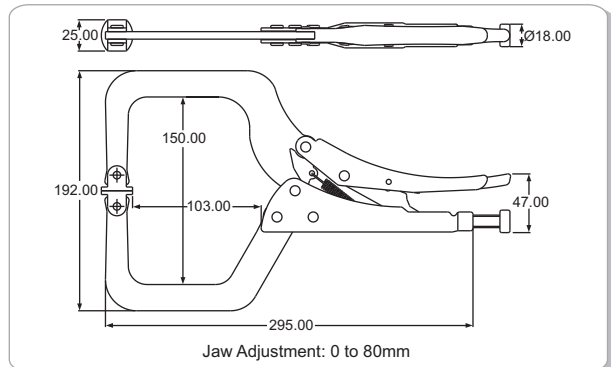


## VG-150100 C Jaw Plier

This Plier has the deepest jaw depth i.e. 150mm, to reach over flanges or obstructions on the work piece. Swivel pads are a standard feature & they adjust parallel to the work piece. The Plier had a throat depth of 100mm and a jaw depth of 150mm.

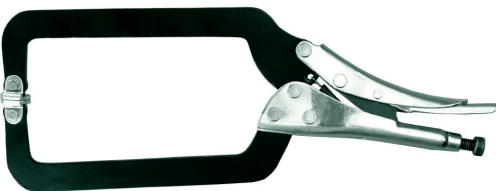


Model No. VG-150100 C

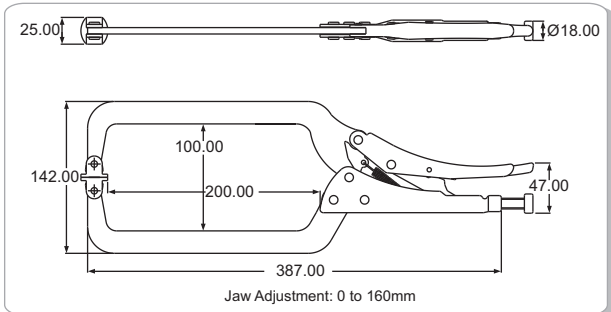


## VG-80200 C Jaw Plier

This is the longest Plier available with Steel Smith. It has a reach of 200mm, which enables it to reach a distant clamping area. The swivel pads adjust parallel to the work piece. The Plier has an adjustment of 0 to 160mm also the highest in the series.

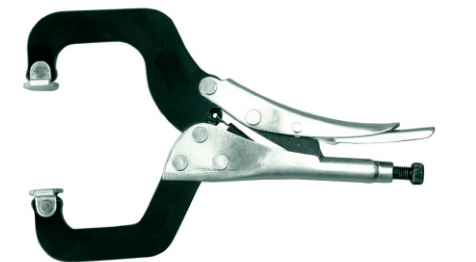


Model No. VG-80200 C

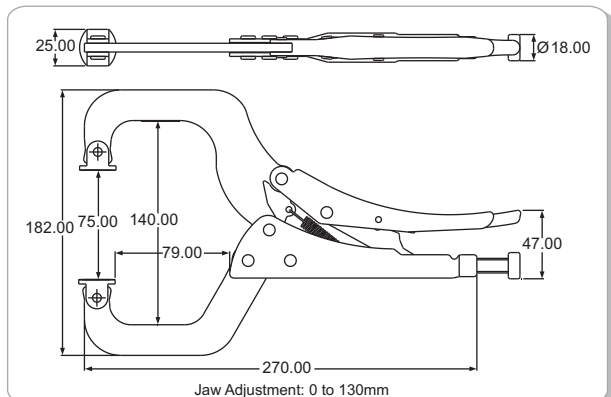


## VG-14075 C Jaw Plier

The unique feature of this Plier is that it has a preset Jaw distance of the 75mm. It is specially designed for clamping larger sections. The Plier has an adjustment of 0 to 130mm, so it can clamp a section of 200mm thickness Swivel pads are a standard feature & they adjust parallel to the work piece.



Model No. VG-14075 C



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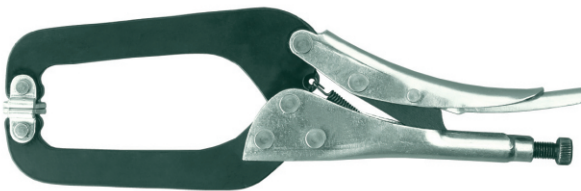
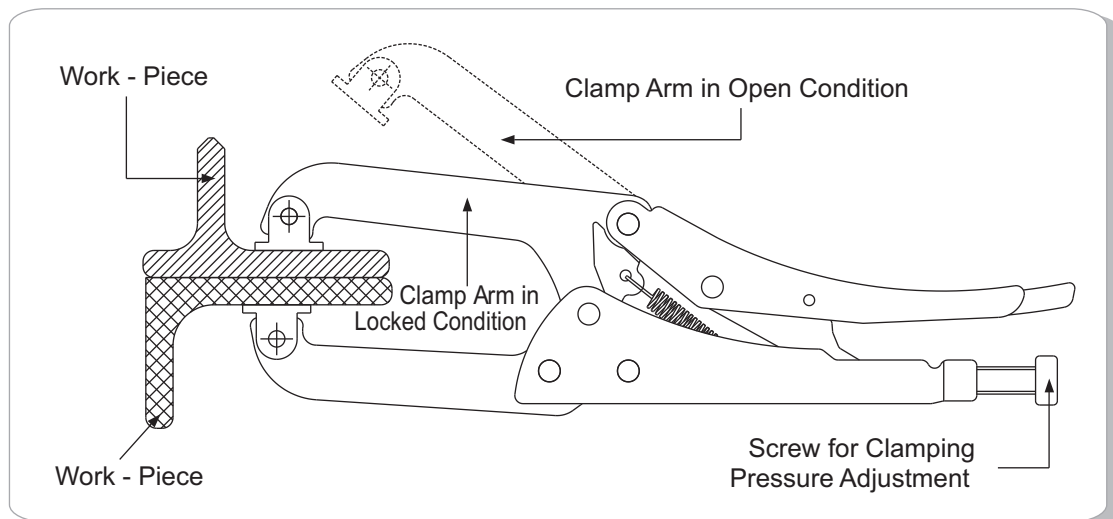
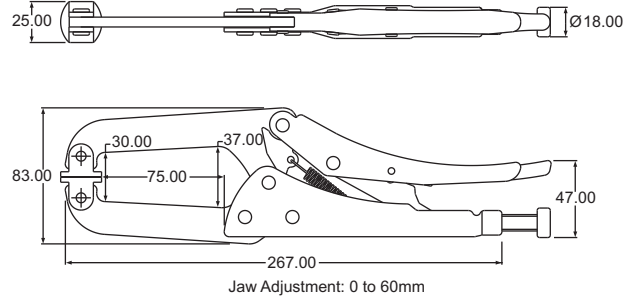
## V.G. Series

### Tapered Jaw Pliers VG-3075 & VG-50125

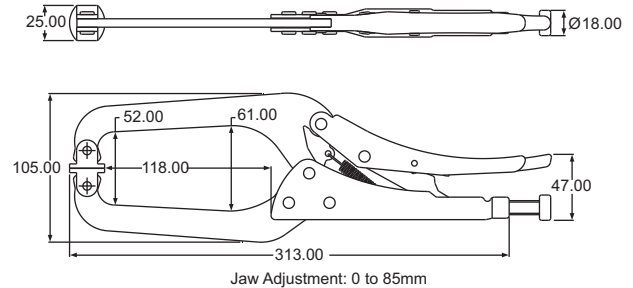
These Pliers have a slim compact design for easy reach into tight corners or small work areas. The pliers are available in 2 different sizes. VG-3075 has a jaw depth of 75mm whereas VG-50125 has a depth of 125mm.



Model No. VG-3075



Model No. VG-50125



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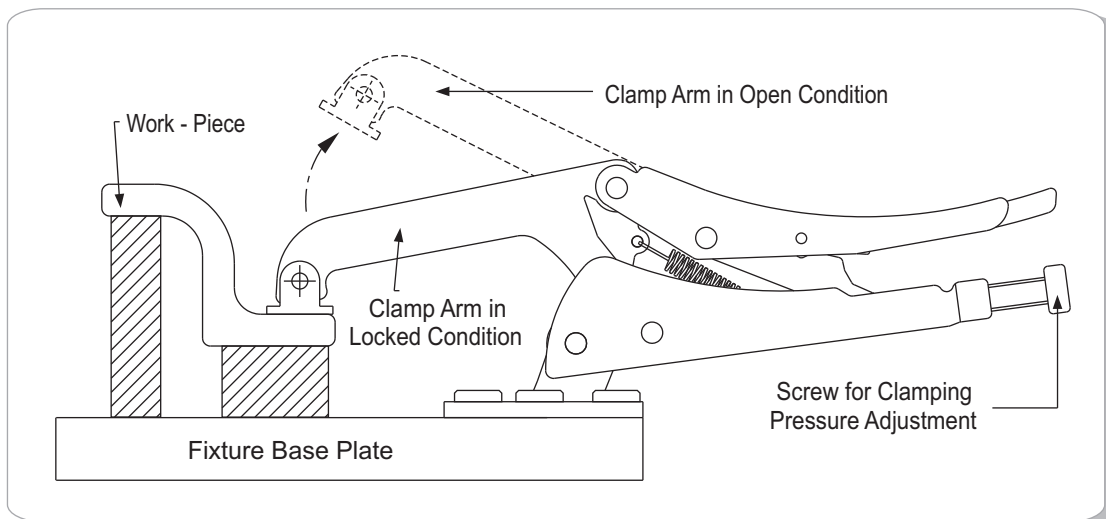
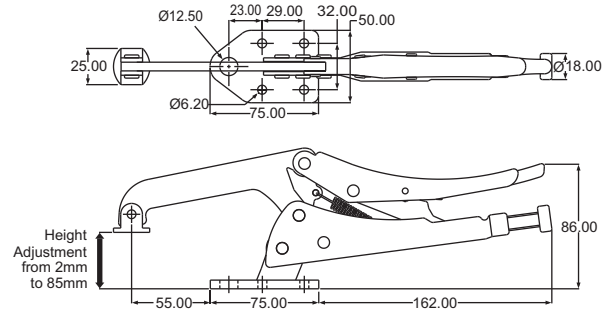
## Single Jaw Pliers

### VG-5090 OA and VG-95100 OA

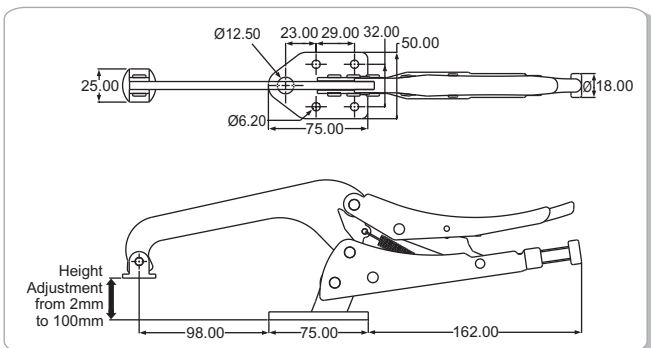
The Single Jaw Pliers have only the Top Jaw and the machine bed or the fixture base plate becomes the second jaw of the Plier. The Plier holds the work-piece against the bench and takes up very little space. This is an excellent Plier for drilling, fitting or gluing applications. The trigger release enables quick opening and closing of the Plier.



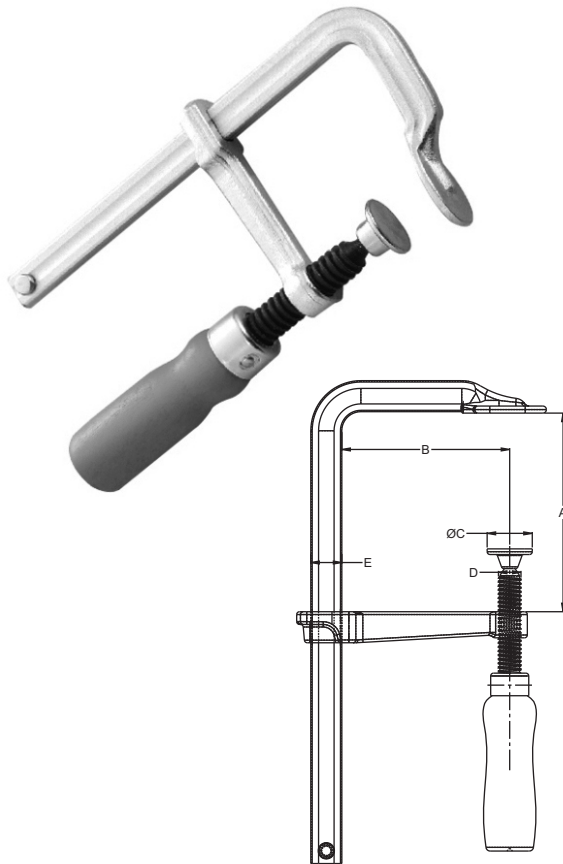
Model No. VG-5090 OA



Model No. VG-95100 OA



# F Clamps



G-C Series F Clamps with Wooden Handle

MODEL NO	A MAX JAW OPENING	B THROAT DEPTH	C SWIVEL PAD	D ACME SCREW	E RAIL SIZE	WEIGHT IN KGS.
G12C	120	60	22	12	13.5 x 6.5	0.30
G16C	160	80	25	14	16.0 x 7.5	0.50
G20C	200	100	32	16	19.5 x 7.5	0.88
G25C	250	120	32	16	22.0 x 10.5	1.23
G30C	300	140	38	18	25.0 x 12.0	1.85
G40C	400	175	38	18	27.0 x 13.0	2.57
G60C	600	175	38	18	27.0 x 13.0	3.06
G80C	800	175	38	18	27.0 x 13.0	3.55

SG-C Series F Clamps with Wooden Handle

MODEL NO	A MAX JAW OPENING	B THROAT DEPTH	C SWIVEL PAD	D ACME SCREW	E RAIL SIZE	WEIGHT IN KGS.
SG40C	400	120	38	18	25 x 12	1.91
SG50C	500	120	38	18	25 x 12	2.12
SG60C	600	120	38	18	25 x 12	2.33
SG80C	800	120	38	18	27 x 13	3.26
SG100C	1000	120	38	18	27 x 13	3.75
SG125C	1250	120	38	18	27 x 13	4.36
SG150C	1500	120	38	18	27 x 13	4.98

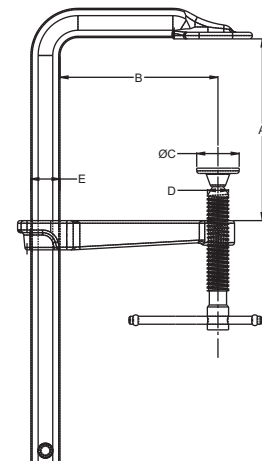
G-C Series F Clamps with Tommy Bar Handle

MODEL NO	A MAX JAW OPENING	B THROAT DEPTH	C SWIVEL PAD	D ACME SCREW	E RAIL SIZE	WEIGHT IN KGS.
G16CS	160	80	25	14	16.0 x 7.5	0.50
G20CS	200	100	32	16	19.5 x 7.5	0.88
G25CS	250	120	32	16	22.0 x 10.5	1.23
G30CS	300	140	38	18	25.0 x 12.0	1.85
G40CS	400	175	38	18	27.0 x 13.0	2.57
G60CS	600	175	38	18	27.0 x 13.0	3.06
G80CS	800	175	38	18	27.0 x 13.0	3.55



SG-C Series F Clamps with Tommy Bar Handle

MODEL NO	A MAX JAW OPENING	B THROAT DEPTH	C SWIVEL PAD	D ACME SCREW	E RAIL SIZE	WEIGHT IN KGS.
SG40CS	400	120	38	18	25 x 12	1.91
SG50CS	500	120	38	18	25 x 12	2.12
SG60CS	600	120	38	18	25 x 12	2.33
SG80CS	800	120	38	18	27 x 13	3.26
SG100CS	1000	120	38	18	27 x 13	3.75
SG125CS	1250	120	38	18	27 x 13	4.36
SG150CS	1500	120	38	18	27 x 13	4.98



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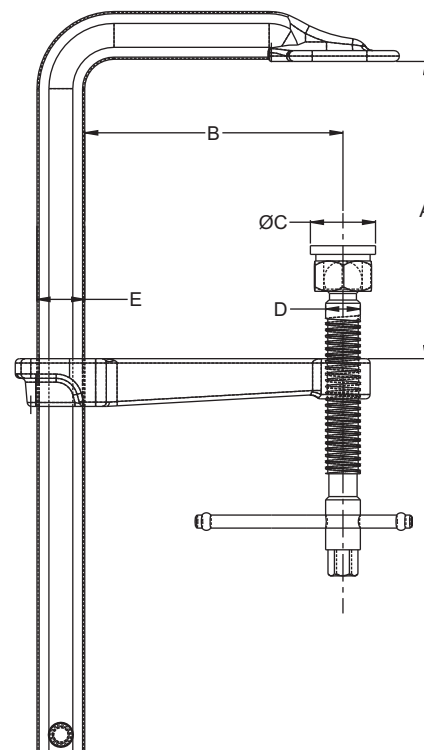


SG-C12 Series F Clamps with Tommy Bar Handle & Removable Adapter

MODEL NO	A MAX JAW OPENING	B THROAT DEPTH	C SWIVEL PAD	D ACME SCREW	E RAIL SIZE	WEIGHT IN KGS.
S20C12	200	120	38	18	27 x 13	1.97
S25C12	250	120	38	18	27 x 13	2.09
S30C12	300	120	38	18	27 x 13	2.21
S40C12	400	120	38	18	27 x 13	2.46
S50C12	500	120	38	18	27 x 13	2.71
S60C12	600	120	38	18	27 x 13	2.96
S100C12	1000	120	38	18	27 x 13	3.88

GS-C Series Heavy Duty F Clamps with Tommy Bar Handle & Removable Adapter

MODEL NO	A MAX JAW OPENING	B THROAT DEPTH	C SWIVEL PAD	D ACME SCREW	E RAIL SIZE	WEIGHT IN KGS.
GS25C	250	120	41	20	30 x 15	2.76
GS30C	300	140	41	20	30 x 15	3.03
GS40C	400	120	41	20	30 x 15	3.24
GS50C	500	140	41	20	30 x 15	3.66
GS60C	600	120	41	20	30 x 15	3.87
GS80C	800	140	41	20	30 x 15	4.62
GS100C	1000	120	41	20	30 x 15	5.15
GS125C	1250	120	41	20	30 x 15	5.94
GS150C	1500	120	41	20	30 x 15	6.65



SS-C Series Extra Heavy Duty F Clamps with Tommy Bar Handle & Removable Adapter

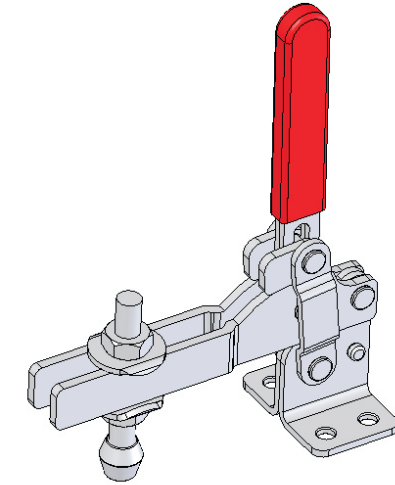
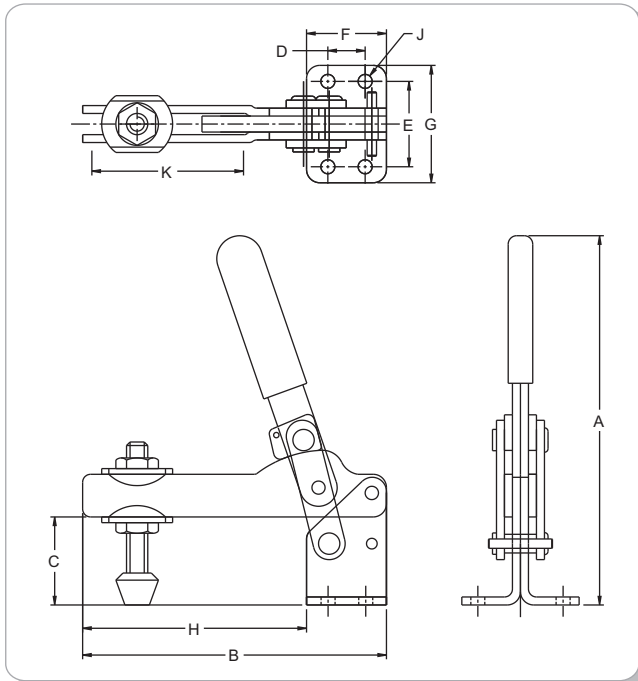
MODEL NO	A MAX JAW OPENING	B THROAT DEPTH	C SWIVEL PAD	D ACME SCREW	E RAIL SIZE	WEIGHT IN KGS.
SS30C	300	175	41	22	40 x 20	5.50
SS40C	400	175	41	22	40 x 20	6.06
SS50C	500	175	41	22	40 x 20	6.62
SS60C	600	175	41	22	40 x 20	7.18
SS80C	800	175	41	22	40 x 20	8.30
SS100C	1000	175	41	22	40 x 20	9.43
SS125C	1250	175	41	22	40 x 20	10.83
SS150C	1500	175	41	22	40 x 20	12.07



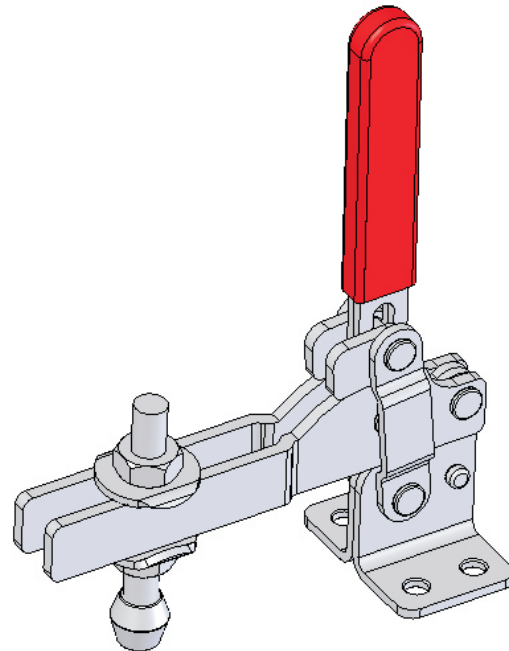
# Cam Clamps

## CAM ACTION CLAMPS

Built in clamping range automatically compensates for variations in part thickness. Cam Clamps are similar to Vertical clamps but the clamping force is generated not by a toggle linkage but by the action of a roller on a cam. The Cam Clamps have a high to low limit clamping range that automatically compensates for part thickness variation & therefore eliminates time consuming readjustments. Cam Clamps are available in three sizes offering part variation thickness allowance from 3 mm to 5 mm. These clamps are ideal for fixtures designed for clamping of castings & forgings. The pivots pins, cam & its roller are hardened for higher efficiency of clamps.



Model No. CAM - 219



Model No. CAM - 229

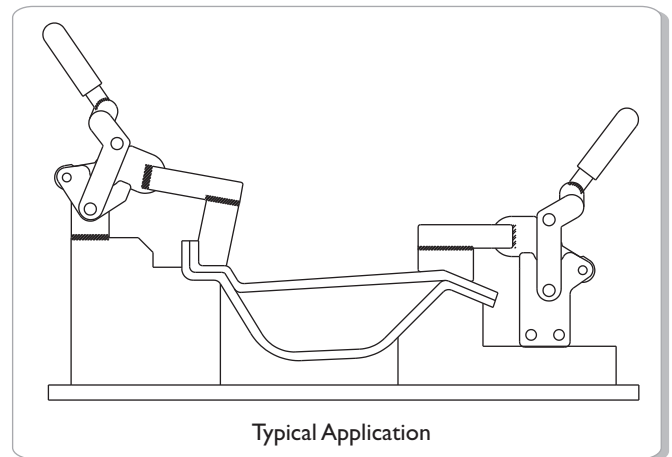
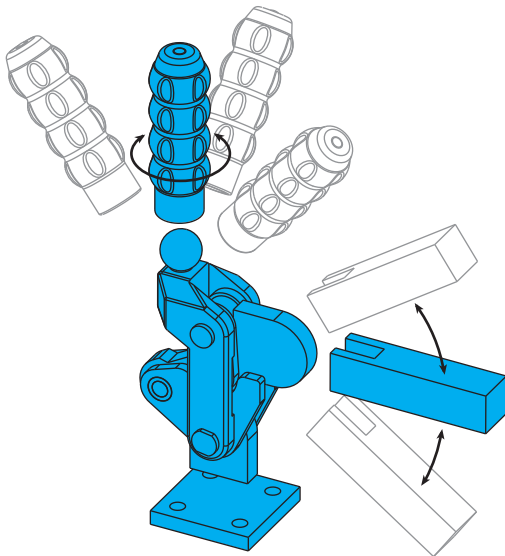
Model No.	Holding Capacity	Weight Kg	Handle Moves	Bar Opens	Dimensions									
					A	B	C	D	E	F	G	H	J	K
CAM - 219	150 Kgs	0.800	180	115	190.5	146.1	39.6	19.1	38.1	38.1	57.2	108.0	7.1	63.5
CAM - 229	450 Kgs	1.100	180	115	252.5	181.1	52.3	22.4	50.8	47.8	69.9	133.4	8.4	69.9



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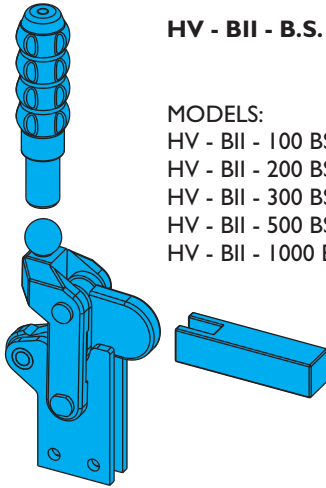
## H.V. SERIES TOGGLE CLAMPS

Steel-Smith has designed the H.V. Series clamps to be adaptable & durable, and to withstand abuse in heavy duty applications. They are ideally used in automotive manufacturing & other production environment which require high clamping forces & long service life. These clamps have a unique design that offers the designer both complete design flexibility & clamping force. The H.V. Series clamps comprise of a very strong & rugged toggle mechanism. The clamping arm & handle which are provided with the clamp can be welded at the desired angle to suit the individual requirements of work pieces. All components are of first grade steel & the axles are hardened running in either hardened bushes or directly in close tolerance holes. The clamps are finished chemi-black.



The Versatility of Steel-Smith Clamps allows handle positioning of 120° maximum angular positioning arc through 360° orbital arc. The clamping arm has 120° maximum angular positioning arc. These exceptional features make Steel-Smith H.V. Series clamps ideal for many job requirements otherwise requiring special designed clamps.

The H.V. Series clamps are available in two different versions classified as per their base design and handle positions:

 <p><b>HV - BII - Series</b></p> <p>MODELS:              HV - BII - 100              HV - BII - 200              HV - BII - 300              HV - BII - 500              HV - BII - 1000</p>	 <p><b>HV - BII - B.S. Series</b></p> <p>MODELS:              HV - BII - 100 BS              HV - BII - 200 BS              HV - BII - 300 BS              HV - BII - 500 BS              HV - BII - 1000 BS</p>
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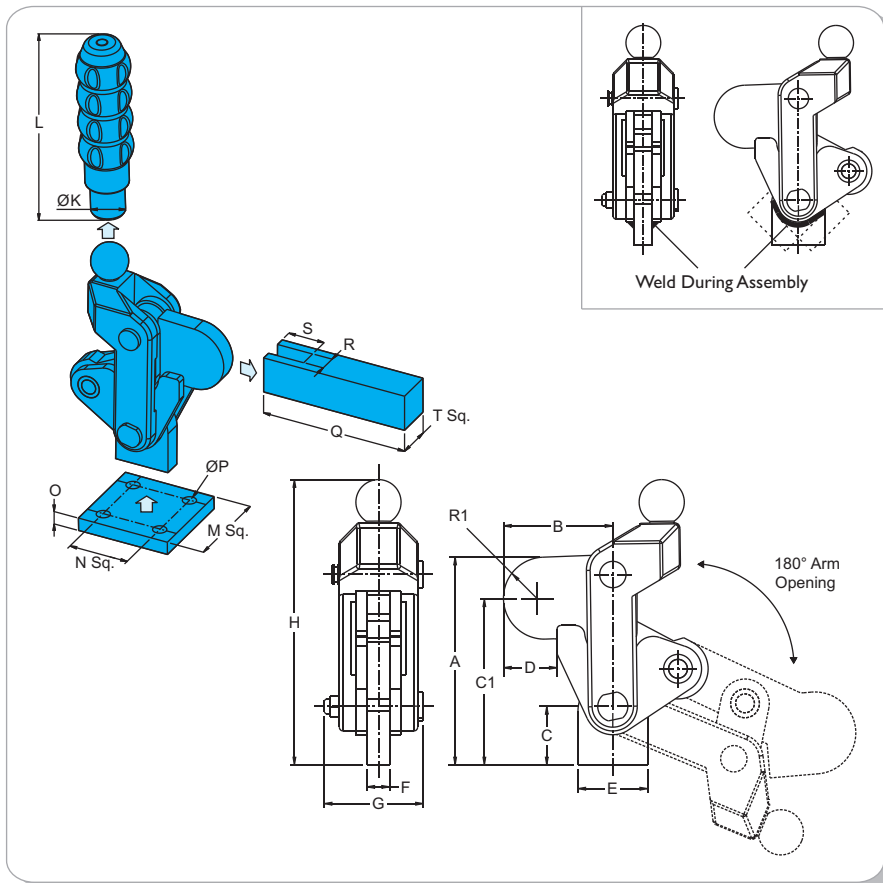
# H.V. Series Clamps

## H.V. SERIES TOGGLE CLAMPS - SWIVEL BASE

The H.V. Series Toggle Clamps comprise of a basic toggle mechanism onto which can be welded at a desired angle, the clamping arm and handle which are supplied with the clamp. These models feature a swivel base which is welded at the desired angle to the mechanism, then welded either directly to the fixture or alternatively to a base which is offered as an accessory for bolt mounting. The clamping arm exhibits 180 degree opening angle which enables easy unloading of workpiece. Accurately machined steel components are equipped with hardened bushes & pivot pins. Three sizes basic linkages are available which allows the designer complete flexibility to position the base, clamp arm handle and weld them to suit the application.

### Installation:

When welding the swivel base of the clamp mechanism ensure that the full length of the adjoining surfaces are welded. Ensure that the welding splatters do not enter the slots which form the forward stop of the mechanism.



Model No. HV - BII - 500



Assembled Swivel Base Clamp



Clamp is supplied in separate parts

Anatomy of Swivel Base Clamp

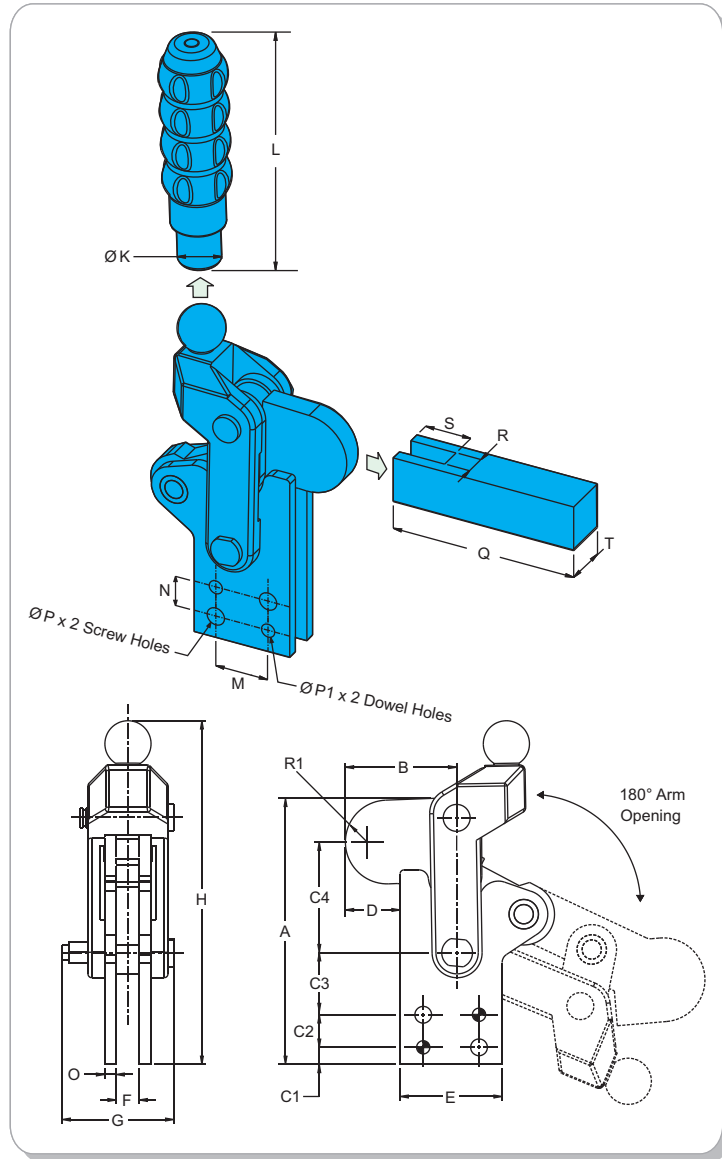
Model No.	A	B	C	C1	D	E	F	G	H	K	L	M Sq.	N Sq.	O	P	Q	R	S	T Sq.	R1	Holding Capacity	Wt. In Kgs
HV-BII-100	60	30	19	30	13	20	6	28	85	12	50	35	20	6	5.5	50	6	13	12	12	100 Kgs.	0.500
HV-BII-200	75	40	22	37	17	24	8	41	106	16	75	29	45	6	7	75	8	15	20	16	200 Kgs.	0.770
HV-BII-300	91	53	26	47.5	26	30	10	44	127	22	90	50	30	8	6.5	90	10	21	22	17.5	300 Kgs.	0.850
HV-BII-500	111	60	31	51.5	30	37	12	58	151	22	100	63	40	9	9	100	12	25	25	22	750 Kgs.	1.990
HV-BII-1000	136	77	37	72	42	58	15	60.5	191	22	125	80	55	10	11	125	15	32	30	27	1300 Kgs.	3.550



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## H.V. SERIES TOGGLE CLAMPS - BASE STRAIGHT

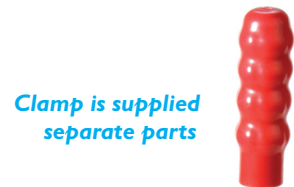
The Base Straight Series is identical to the Swivel Base Series with the exception of the base design. For situations where a vertical surface is used to mount the clamp a straight base can be used. The B.S. series clamps have more height under the clamping bar in the closed position. The clamp opens a full 180° to completely clear the work area. The handle and the clamping arm supplied with the clamp can be welded at a desired angle. Similar to the Swivel Base Series clamps the bushes and pivot pins are hardened for higher efficiency of the clamp. The clamps are available in five sizes.



Model No. HV - BII - 500 BS



Assembled Base Straight Clamp



Clamp is supplied separate parts



Anatomy of a Base Straight Clamp

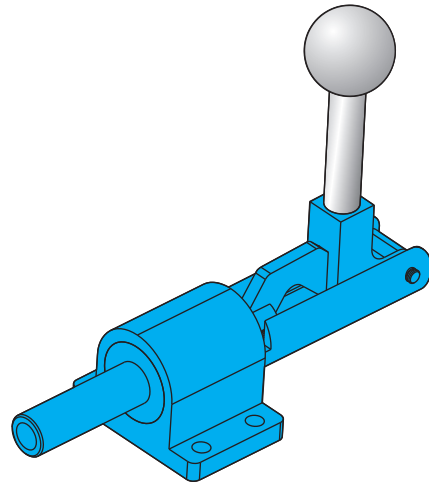
Model No.	A	B	B1	C1	C2	C3	C4	D	E	F	G	H	K	L	M	N	O	P	P1	Q	R	R1	S	T	Holding Capacity	Wt. In Kgs
HV-BII-100 BS	71	30	14	8	12	10	30	16	30	6	28	97	12	55	15	12	3	5.5	5	50	6	12	13	12	100 Kgs.	0.500
HV-BII-200 BS	100	40	21	9.5	16	21	36.5	16	45	8	41	130	16	75	26	16	4	6.5	6	75	8	16	15	20	200 Kgs.	0.700
HV-BII-300 BS	122	53	22.5	12	25	20	47.5	26	50	10	44	158	22	90	30	25	5	9.0	8	90	10	17.5	21	22	300 Kgs.	0.850
HV-BII-500 BS	138	58	25	10	25	23	54.5	30	53	12	58	178	22	100	35	25	6	9.0	8	100	12	22	25	25	750 Kgs.	2.100
HV-BII-1000 BS	167	76	30	15	30	30	74.5	42	66	15	61	227	22	125	35	30	6	10.5	10	125	15	27	32	30	1300 Kgs.	3.650



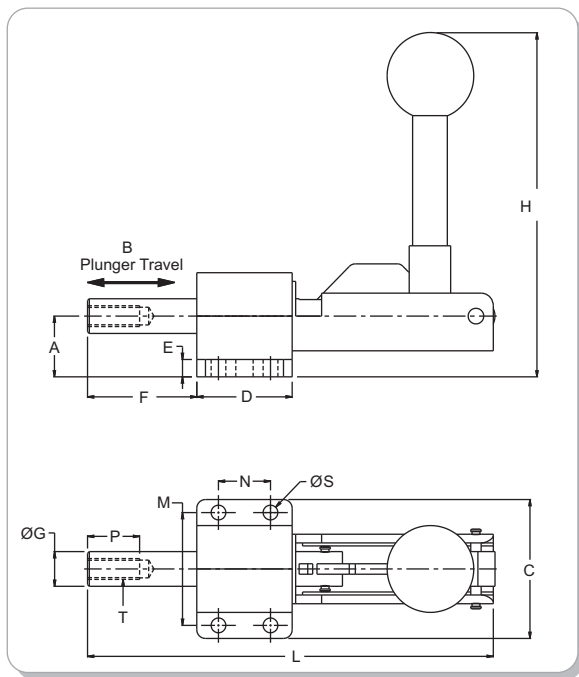
# Plunger Clamps

## PLUNGER CLAMPS

The Plunger Clamps have the same straight line action and features of the HTC - Series clamps. The unique feature of these clamps is the collet type bushing that can be adjusted to eliminate plunger end movement after long, repeated usage. The plunger moves forward and locks as the handle is moved forward. Plunger also locks in retracted position when handle is moved backward. The handle moves a complete 180° while locking in either positions and can be swivelled into any position in the other axis to suit the various space requirements. The handle and linkages are from heavy sections designed to resist high vibration and forces on the workpiece. Both the models of this series have a hardened and ground tapped plunger.



Model No. PC - 3556



Model No.	A	Plunger Travel B	Mounting Base			F	Plunger Dia. GØ	H	L	Mounting Dimensions			Hole Depth P	Tapped Hole TØ	Holding Capacity	Wt. in Kgs
			C	D	E					M	N	S				
PC-3556	35	56	80	55	10	63	20	200	235	65	30	8.5	30	M 12 x 1.75	700 Kg	2.200
PC-4070	40	70	100	70	12	81	25	221	281	80	40	10.5	30	M 16 x 1.75	1500 Kg	3.600

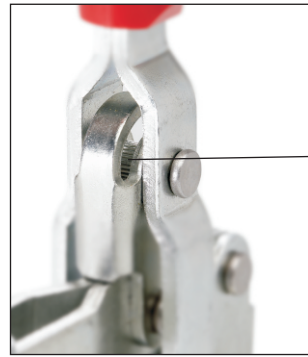


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The all new international equivalent range of toggle clamps from Steel-Smith. Now all the leading international toggle clamps have their equivalents in this range. What's more, these quality clamps come with hardened bushes for enhanced life, several safety features and slicker finish.

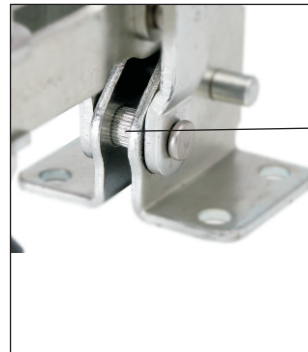


*This feature protects the user's finger from accidentally entering the clamp linking and getting injured during clamping operations.*

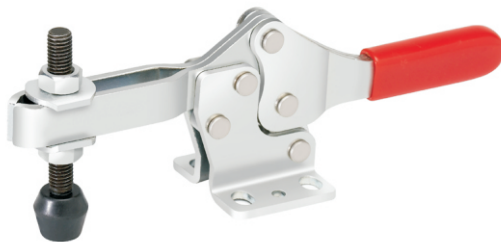


**Hardened Bushes**

Hardened Bushes increase the life of the clamp, thereby multiplying the productivity.

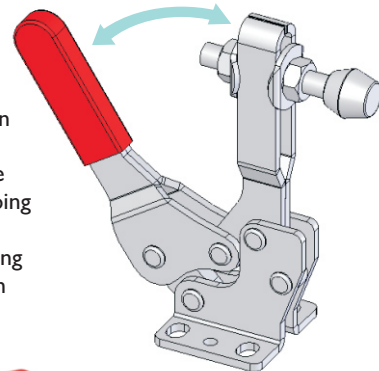


**Hardened Bushes**

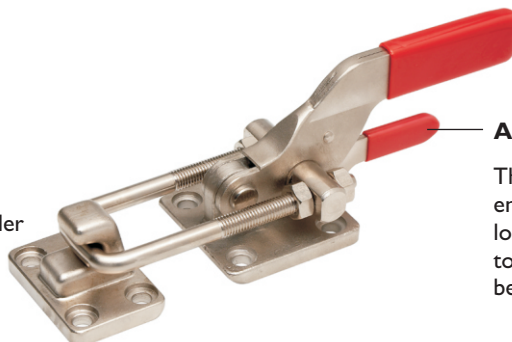


New improved design includes increased distance between the handle and the clamping arm. This ensures maximum safety during the clamp's fully open position.

**Extra distance for safety**



Kindly refer the cross-reference list on Page No.78 & 79 to order the Steel-Smith equivalent toggle clamp that meets your requirement.

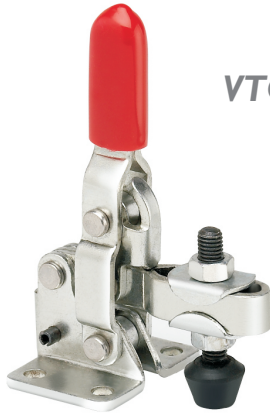


**Additional Locking Mechanism**

The additional locking Mechanism ensures that the clamp remains locked in any condition. In order to unclamp, the mechanism must be first released.

# Vertical & Horizontal Hold Down Action

## Vertical Hold Down Action



**VTC - 201 Series**

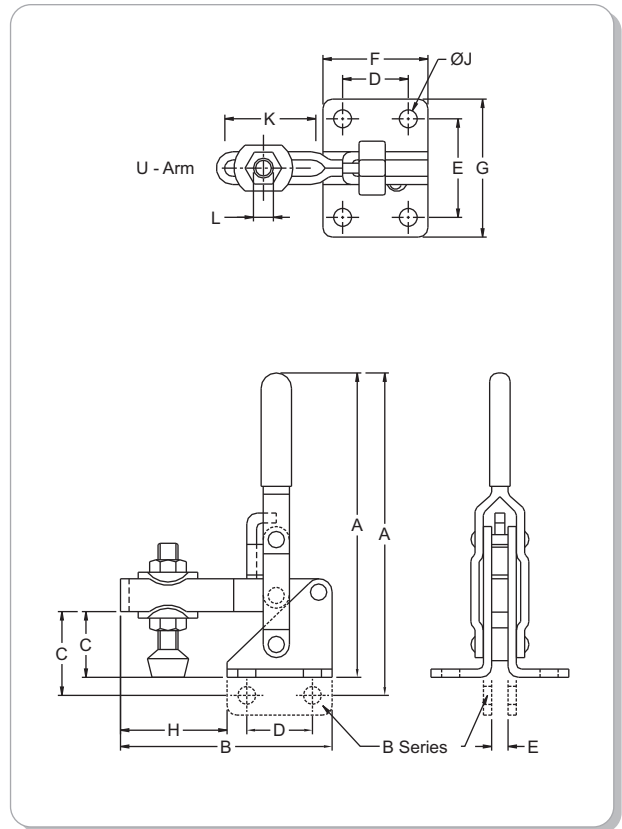
**Model No. VTC-201-U**



**Model No. VTC-201-UB**

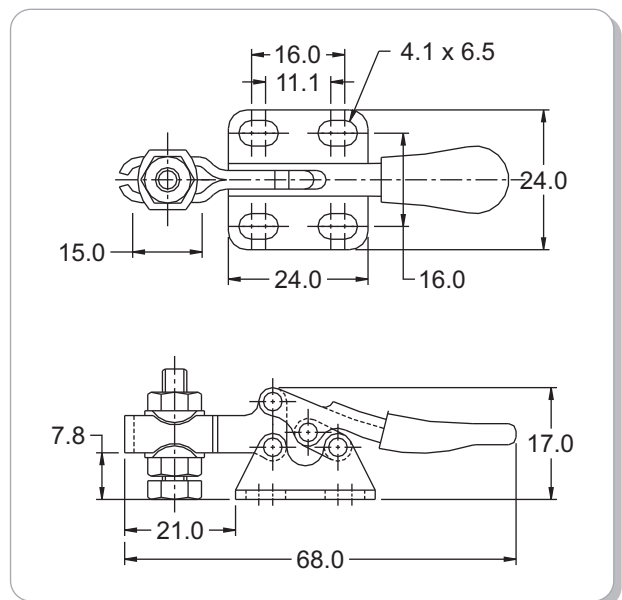
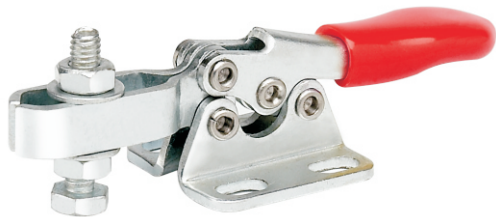
Model No.	Arm Type	Base Type
VTC-201-U	Adjustable Arm	Flanged
VTC-201-UB	Adjustable Arm	Straight

Model No.	Holding Capacity	Weight Kg	Handle Moves	Bar Opens	Dimensions										
					A	B	C	D	E	F	G	H	J	K	L
VTC-201-U	50 Kgs	0.330	60°	110°	80.0	51.3	16.0	16.0	23.9	25.4	33.3	25.9	4.3	18.3	M5 Bolt
VTC-201-UB	50 Kgs	0.330	60°	110°	85.0	51.3	22.4	16.0	4.1	25.4	—	25.9	4.3	18.3	M5 Bolt



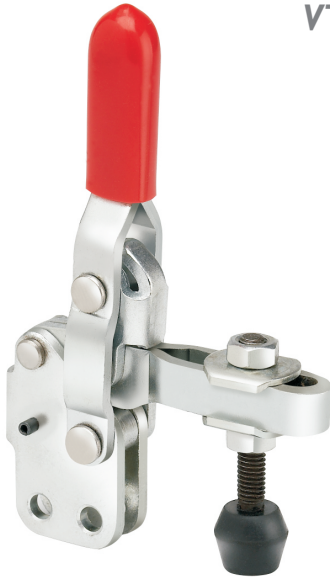
## Horizontal Hold Down Action

**H - 205 U**



HOME

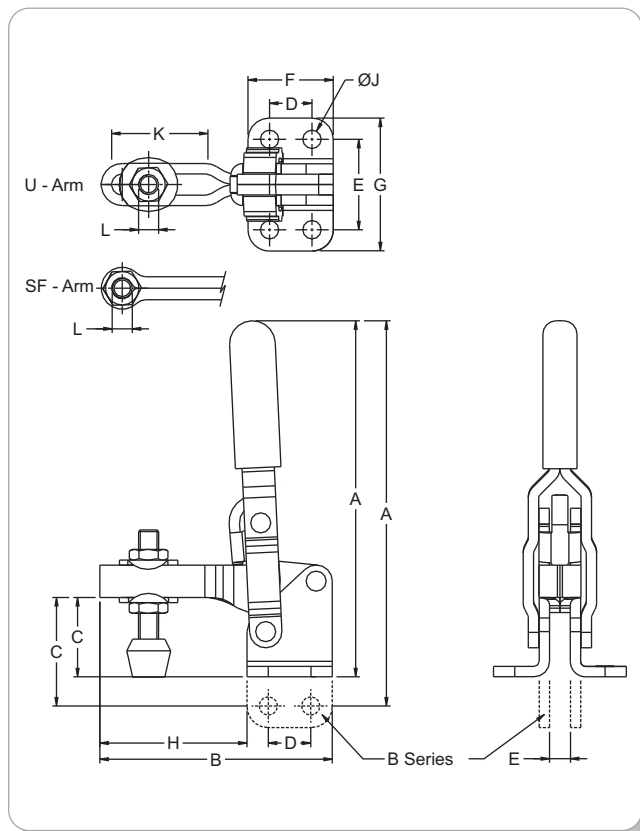
## VTC - 202 Series



Model No. VTC-202-UB



Model No. VTC-202-U



Model No.	Arm Type	Base Type
VTC-202-SF	Spindle Fixed	Flanged
VTC-202-SFB	Spindle Fixed	Straight
VTC-202-U	Adjustable Arm	Flanged
VTC-202-UB	Adjustable Arm	Straight
VTC-202-UL	Adjustable Arm	Flanged

Model No.	Holding Capacity	Weight Kg	Handle Moves	Bar Opens	Dimensions										
					A	B	C	D	E	F	G	H	J	K	L
VTC-202-SF	100 Kgs	0.150	64°	104°	105.0	58.7	23.9	12.7	26.9	25.4	39.6	33.3	5.6	—	M6 Bolt
VTC-202-SFB	100 Kgs	0.150	64°	104°	111.8	58.7	28.7	12.7	6.0	25.4	—	33.3	5.6	—	M6 Bolt
VTC-202-U	100 Kgs	0.160	64°	104°	105.0	71.3	23.9	12.7	26.9	25.4	39.3	45.8	5.6	25.4	M6 Bolt
VTC-202-UB	100 Kgs	0.160	64°	104°	111.8	71.3	28.7	12.7	6.0	25.4	—	45.8	5.6	25.4	M6 Bolt
VTC-202-UL	100 Kgs	0.160	64°	104°	105.0	83.1	23.9	12.7	26.9	25.4	39.3	57.7	5.6	39.1	M6 Bolt



# Vertical Hold Down Action

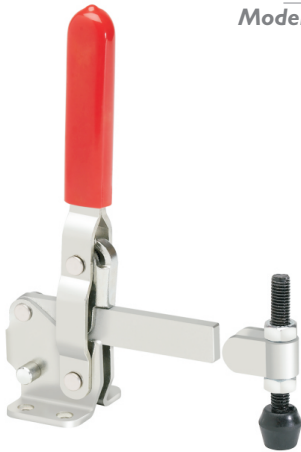
## VTC - 207 Series



Model No. VTC-207-U



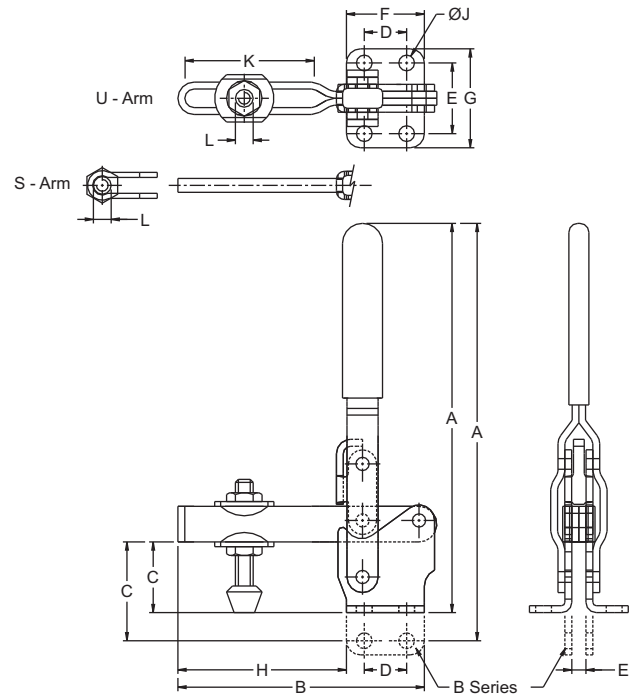
Model No. VTC-207-UB



Model No. VTC-207-S



Model No. VTC-207-SB



Model No.	Arm Type	Base Type
VTC-207-L	Solid Arm	Flanged
VTC-207-LB	Solid Arm	Straight
VTC-207-S	Solid Arm	Flanged
VTC-207-SB	Solid Arm	Straight
VTC-207-U	Adjustable Arm	Flanged
VTC-207-UB	Adjustable Arm	Straight
VTC-207-UL	Adjustable Arm	Flanged
VTC-207-ULB	Adjustable Arm	Straight

Model No.	Holding Capacity	Weight Kg	Handle Moves	Bar Opens	Dimensions										
					A	B	C	D	E	F	G	H	J	K	L
VTC-207-L	200 Kgs	0.340	62°	115°	170.0	128.0	31.2	19.1	31.8	35.1	44.5	89.6	7.1	–	M8 Bolt
VTC-207-LB	200 Kgs	0.340	62°	115°	180.0	128.0	40.0	19.1	6.0	35.1	–	89.6	7.1	–	M8 Bolt
VTC-207-S	215 Kgs	0.315	62°	115°	170.0	89.5	31.2	19.1	31.8	35.1	44.5	55.0	7.1	–	M8 Bolt
VTC-207-SB	215 Kgs	0.300	62°	115°	180.0	89.5	40.0	19.1	6.0	35.1	–	55.0	7.1	--	M8 Bolt
VTC-207-U	175 Kgs	0.300	62°	115°	170.0	89.5	31.2	19.1	31.8	35.1	44.5	57.7	7.1	33.0	M8 Bolt
VTC-207-UB	175 Kgs	0.300	62°	115°	180.0	89.5	40.0	19.1	6.0	35.1	–	57.7	7.1	33.0	M8 Bolt
VTC-207-UL	150 Kgs	0.340	62°	115°	170.0	137.0	31.2	19.1	31.8	35.1	44.5	97.8	7.1	69.9	M8 Bolt
VTC-207-ULB	150 Kgs	0.340	62°	115°	180.0	137.0	40.0	19.1	6.0	35.1	–	97.8	7.1	69.9	M8 Bolt



HOME



## VTC - 210 Series



Model No. VTC-210-U



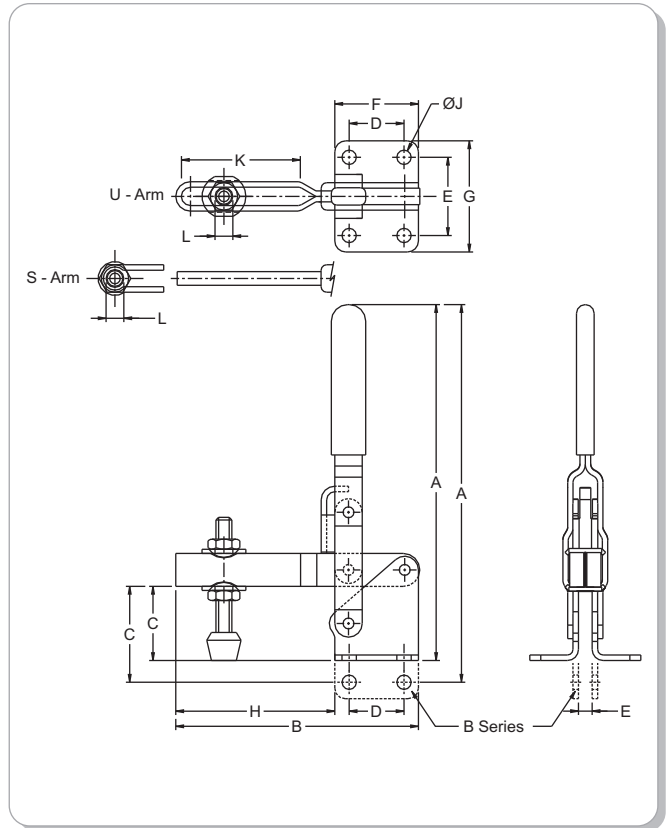
Model No. VTC-210-UB



Model No. VTC-210-S



Model No. VTC-210-SB



Model No.	Arm Type	Base Type
VTC-210-S	Solid Arm	Flanged
VTC-210-SB	Solid Arm	Straight
VTC-210-U	Adjustable Arm	Flanged
VTC-210-UB	Adjustable Arm	Straight

Model No.	Holding Capacity	Weight Kg	Handle Moves	Bar Opens	Dimensions										
					A	B	C	D	E	F	G	H	J	K	L
VTC-210-S	350 Kgs	0.590	58°	106°	200.0	138.0	42.9	31.8	45.2	48.5	64.3	90.0	8.3	—	M10 Bolt
VTC-210-SB	350 Kgs	0.590	58°	106°	213.0	138.0	55.6	31.8	8.0	48.5	—	90.0	8.3	—	M10 Bolt
VTC-210-U	275 Kgs	0.590	58°	106°	200.0	138.0	42.9	31.8	45.2	48.5	64.3	90.0	8.3	60.0	M10 Bolt
VTC-210-UB	275 Kgs	0.590	58°	106°	213.0	138.0	55.6	31.8	8.0	48.5	—	90.0	8.3	60.0	M10 Bolt



# Vertical Hold Down Action

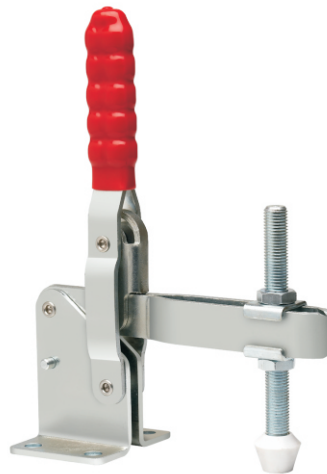
## VTC - 247 & VTC - 267 Series



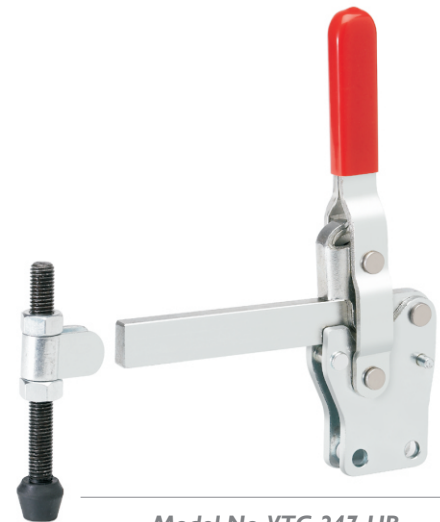
Model No. VTC-247-U



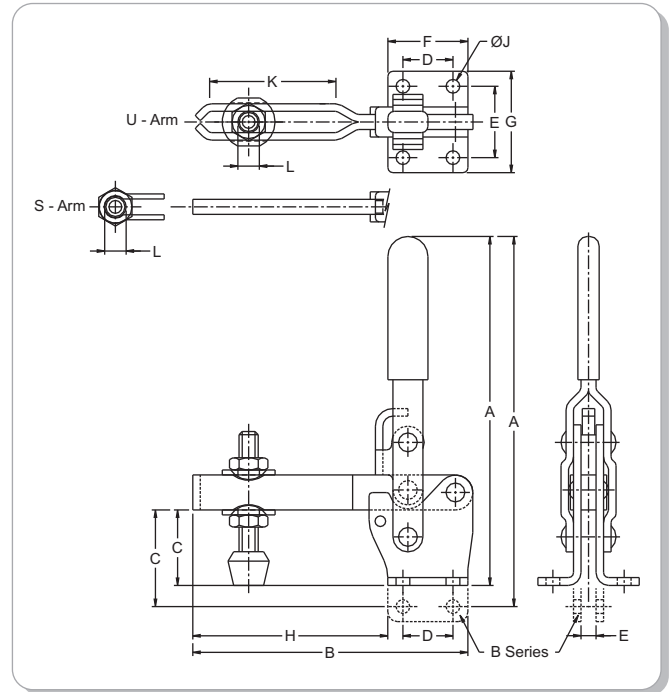
Model No. VTC-247-S



Model No. VTC-267-U



Model No. VTC-247-UB

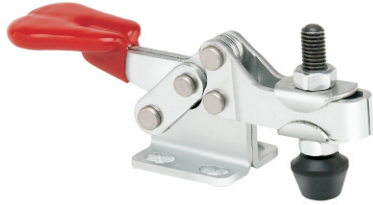


Model No.	Arm Type	Base Type
VTC-247-S	Solid Arm	Flanged
VTC-247-SB	Solid Arm	Straight
VTC-247-U	Adjustable Arm	Flanged
VTC-247-UB	Adjustable Arm	Straight
VTC-267-S	Solid Arm	Flanged
VTC-267-SB	Solid Arm	Straight
VTC-267-U	Adjustable Arm	Flanged
VTC-267-UB	Adjustable Arm	Straight

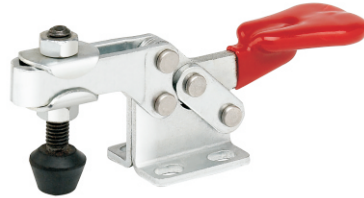
Model No.	Holding Capacity	Weight Kg	Handle Moves	Bar Opens	Dimensions										
					A	B	C	D	E	F	G	H	J	K	L
VTC-247-S	450 Kgs	1.000	75°	136°	220.7	177.8	50.8	31.8	45.2	50.8	64.3	124.0	8.6	—	M12 Bolt
VTC-247-SB	450 Kgs	1.000	75°	136°	227.1	177.8	57.2	31.8	10.0	50.8	—	124.0	8.6	—	M12 Bolt
VTC-247-U	450 Kgs	1.100	75°	136°	220.7	177.8	50.8	31.8	45.2	50.8	64.3	124.0	8.6	71.4	M12 Bolt
VTC-247-UB	450 Kgs	1.100	75°	136°	227.1	177.8	57.2	31.8	10.0	50.8	—	124.0	8.6	71.4	M12 Bolt
VTC-267-S	550 Kgs	2.000	70°	140°	310.0	228.5	82.0	50.8	69.9	76.2	95.0	147.6	12.5	—	M16 Bolt
VTC-267-SB	550 Kgs	2.000	70°	140°	325.0	228.5	102.0	50.8	10.0	76.2	—	147.6	12.5	—	M16 Bolt
VTC-267-U	550 Kgs	2.200	70°	140°	310.0	230.0	82.0	50.8	69.9	76.2	95.0	147.6	12.5	108.0	M16 Bolt
VTC-267-UB	550 Kgs	2.200	70°	140°	325.0	230.0	102.0	50.8	10.0	76.2	—	147.6	12.5	108.0	M16 Bolt



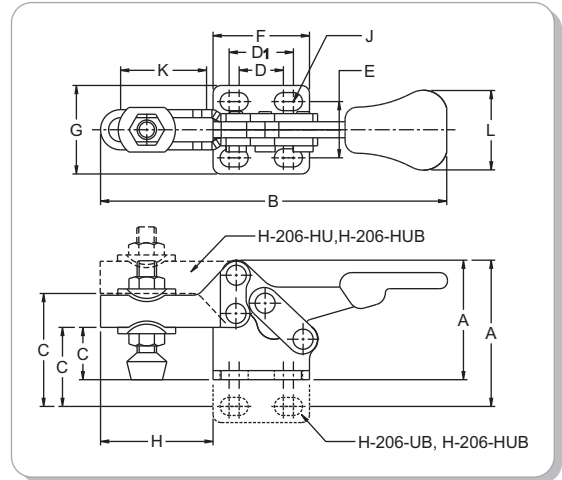
HOME



Model No. H-206-U

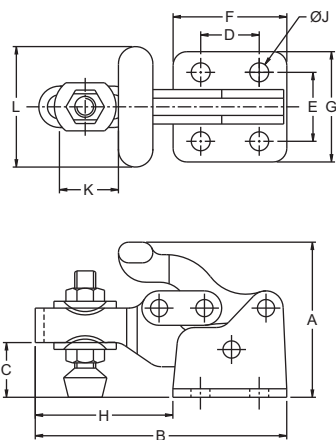


Model No. H-206-HU



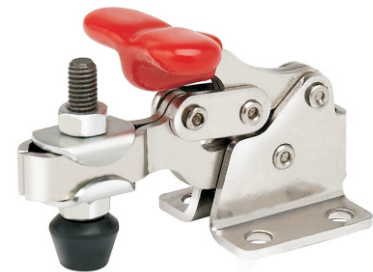
Model No.	Arm Type	Base Type
H-206-U	Adjustable Arm	Flanged
H-206-UB	Adjustable Arm	Straight
H-206-HU	High Adjustable Arm	Flanged
H-206-HUB	High Adjustable Arm	Straight

Model No.	Holding Capacity	Weight Kg	Handle Moves	Bar Opens	Dimensions												
					A	B	C	D	D1	E	F	G	H	J/Slot	K	L	M
H-206-U	50 Kgs	0.040	90°	90°	27.5	85.0	11.0	11.2	16.0	16.0	24.0	24.0	28.0	4.3 x 6.8	10.4	20.0	M5 Bolt
H-206-UB	50 Kgs	0.040	90°	90°	33.5	85.0	17.0	11.2	16.0	--	24.0	--	28.0	4.3 x 6.8	10.4	20.0	M5 Bolt
H-206-HU	50 Kgs	0.040	90°	90°	27.5	85.0	20.0	11.2	16.0	16.0	24.0	24.0	28.0	4.3 x 6.8	10.4	20.0	M5 Bolt
H-206-HUB	50 Kgs	0.040	90°	90°	33.5	85.0	24.9	11.2	16.0	--	24.0	--	28.0	4.3 x 6.8	10.4	20.0	M5 Bolt



Model No. H-305-U

## H - 305, 307, 309 Series



Model No. H-307-U

Model No.	Holding Capacity	Weight Kg	Handle Moves	Bar Opens	Dimensions											
					A	B	C	D	E	F	G	H	J	K	L	N
H-305-U	50 Kgs	0.070	175°	92°	38.0	62.0	13.5	13.5	16.0	26.0	29.0	34.0	4.3	15.0	32.0	M5 Bolt
H-307-U	150 Kgs	0.250	175°	92°	62.0	91.7	22.4	23.1	29.5	43.7	46.0	48.0	7.1	19.1	50.8	M8 Bolt
H-309-U	350 Kgs	0.600	160°	88°	91.2	131.8	33.3	35.1	38.1	64.0	62.7	67.6	8.4	26.9	91.2	M10 Bolt

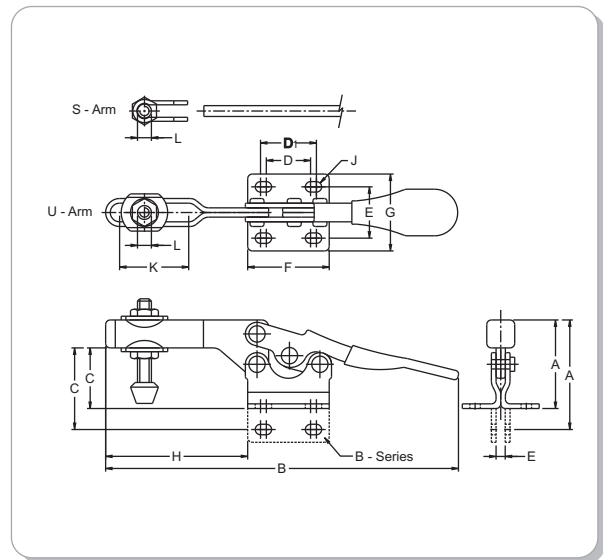
# Horizontal Hold Down Action

## H - 215 Series



Model No. H-215-U

Model No.	Arm Type	Base Type
H-215-S	Solid Arm	Flanged
H-215-SB	Solid Arm	Straight
H-215-U	Adjustable Arm	Flanged
H-215-UB	Adjustable Arm	Straight



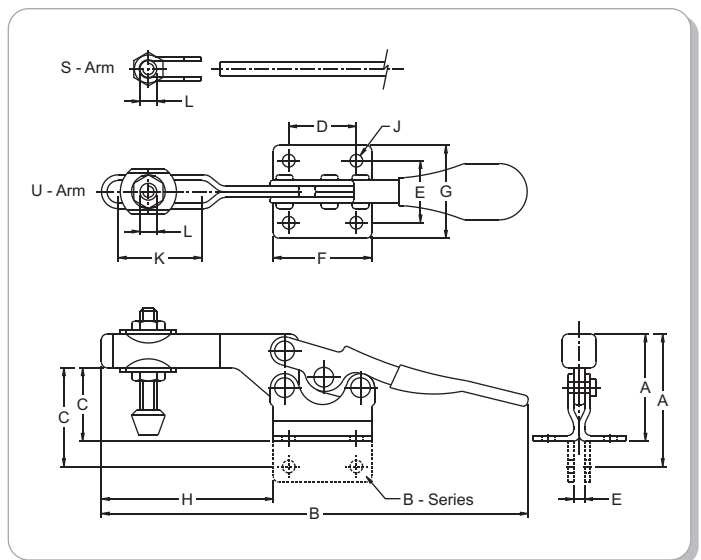
Model No.	Holding Capacity	Weight Kg	Handle Moves	Bar Opens	Dimensions											
					A	B	C	D	D1	E	F	G	H	J	K	L
H-215-S	100 Kgs	0.150	70°	90°	39.0	148.0	27.0	25.4	26.9	22.4	35.0	33.0	62.0	5.1	—	M6 Bolt
H-215-SB	100 Kgs	0.150	70°	90°	45.2	148.0	35.0	25.4	26.9	5.0	35.0	—	62.0	5.1	—	M6 Bolt
H-215-U	100 Kgs	0.150	70°	90°	39.0	148.0	27.0	25.4	26.9	22.4	35.0	33.0	62.0	5.1	35.0	M6 Bolt
H-215-UB	100 Kgs	0.150	70°	90°	45.2	148.0	35.0	25.4	26.9	5.0	35.0	—	62.0	5.1	35.0	M6 Bolt

## H - 225 Series



Model No. H-225-U

Model No.	Arm Type	Base Type
H-225-S	Solid Arm	Flanged
H-225-SB	Solid Arm	Straight
H-225-U	Adjustable Arm	Flanged
H-225-UB	Adjustable Arm	Straight

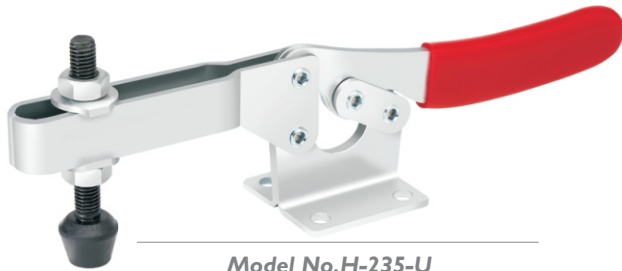


Model No.	Holding Capacity	Weight Kg	Handle Moves	Bar Opens	Dimensions										
					A	B	C	D	E	F	G	H	J	K	L
H-225-U	225 Kgs	0.260	70°	90°	49.0	175.0	35.0	25.4	22.4	38.1	35.1	70.0	6.9	38.0	M8 Bolt
H-225-UB	225 Kgs	0.260	70°	90°	54.1	175.0	40.0	25.4	6	38.1	—	70.0	6.9	38.0	M8 Bolt

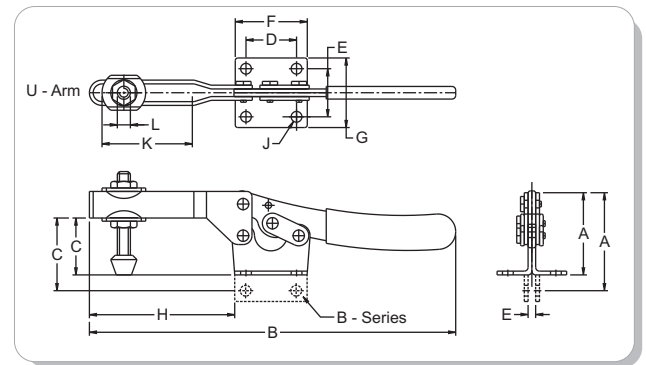


HOME

## H - 235 Series



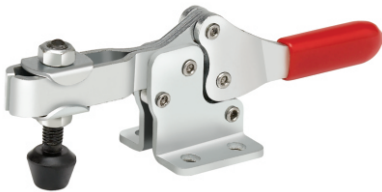
Model No. H-235-U



Model No.	Arm Type	Base Type
H-235-U	Adjustable Arm	Flanged
H-235-UB	Adjustable Arm	Straight

Model No.	Holding Capacity	Weight Kg	Handle Moves	Bar Opens	Dimensions										
					A	B	C	D	E	F	G	H	J	K	L
H-235-U	350 Kgs	0.560	60°	85°	65.0	290.0	44.5	41.4	41.4	57.2	57.2	110.0	8.5	75.0	M10 Bolt
H-235-UB	350 Kgs	0.560	60°	85°	74.0	290.0	52.5	41.4	8.0	57.2	–	110.0	8.5	75.0	M10 Bolt

## H - 213, 217 Series



Model No. H-213-U



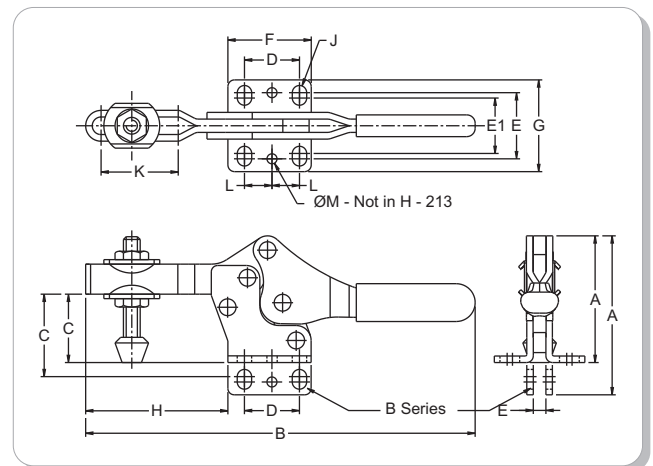
Model No. H-217-U



Model No. H-217-UB



Model No. H-217-UB



Model No.	Arm Type	Base Type
H-213-U	Adjustable Arm	Flanged
H-213-UB	Adjustable Arm	Straight
H-217-U	Adjustable Arm	Flanged
H-217-UB	Adjustable Arm	Straight

Model No.	Holding Capacity	Weight Kg	Handle Moves	Bar Opens	Dimensions												
					A	B	C	D	E	E1	F	G	H	J	K	M	N
H-213-U	70 Kgs	0.070	60°	90°	34.5	107.0	19.1	13.5	17.5	16.2	25.4	28.0	35.3	4.3 x 5.0	21.3	—	M5 Bolt
H-213-UB	70 Kgs	0.070	60°	90°	44.7	107.0	27.0	13.5	4.0	—	25.4	0.0	35.3	4.3 x 5.0	21.3	—	M5 Bolt
H-217-U	100 Kgs	0.190	76°	92°	51.0	165.0	24.6	26.2	29.2	26.4	37.3	41.0	58.9	4.3 x 8.5	38.1	4.7	M6 Bolt
H-217-UB	100 Kgs	0.190	76°	92°	63.5	165.0	34.0	26.2	6.0	—	37.3	0.0	58.9	4.3 x 8.5	38.1	4.7	M6 Bolt





# Horizontal Hold Down Action

## H - 227, 237, 245 Series



Model No. H-227-U



Model No. H-237-U



Model No. H-245-U



Model No. H-227-UB



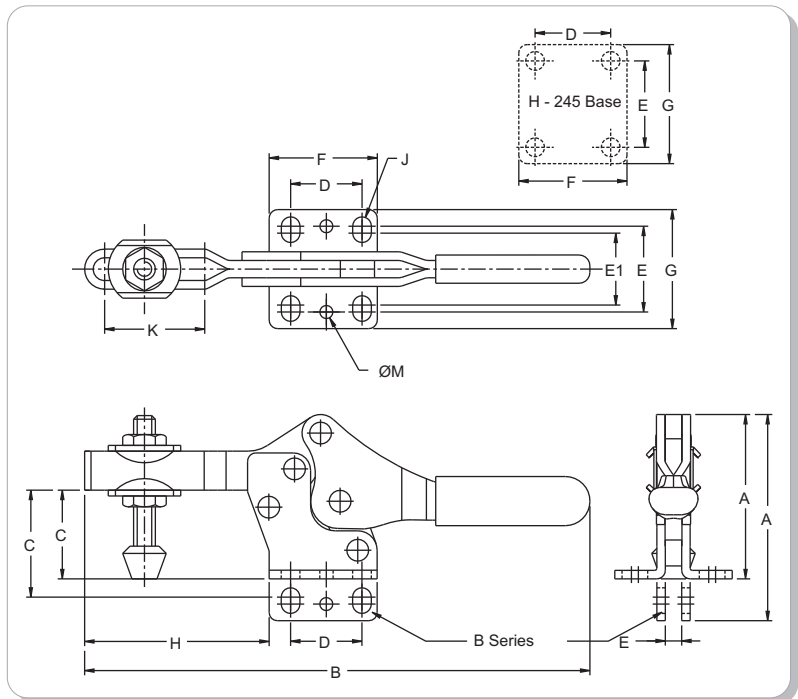
Model No. H-237-UB



Model No. H-245-UB



Model No. H-245-S



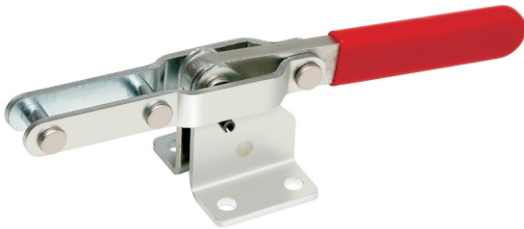
Model No.	Arm Type	Base Type
H-227-U	Adjustable Arm	Flanged
H-227-UB	Adjustable Arm	Straight
H-237-U	Adjustable Arm	Flanged
H-237-UB	Adjustable Arm	Straight
H-245-S	Solid Arm	Flanged
H-245-SB	Solid Arm	Straight
H-245-U	Adjustable Arm	Flanged
H-245-UB	Adjustable Arm	Straight

Model No.	Holding Capacity	Weight Kg	Handle Moves	Bar Opens	Dimensions												
					A	B	C	D	E	E1	F	G	H	J	K	M	N
H-227-U	225 Kgs	0.300	62°	92°	62.0	189.0	34.0	26.2	31.8	26.2	39.6	44.0	68.1	6.8 x 9.4	38.1	4.5	M8 Bolt
H-227-UB	225 Kgs	0.300	62°	92°	76.0	189.0	40.0	26.2	6.0	—	39.6	—	68.1	6.8 x 9.4	38.1	4.5	M8 Bolt
H-237-U	350 Kgs	0.750	63°	92°	81.0	275.0	45.0	41.4	42.9	39.5	57.2	57.2	105.0	8.5 x 10.5	80.0	5.5	M10 Bolt
H-237-UB	350 Kgs	0.750	63°	92°	99.0	275.0	55.6	41.4	8.0	—	57.2	—	105.0	8.5 x 10.5	80.0	5.5	M10 Bolt
H-245-S	450 Kgs	1.400	67°	105°	110.5	330.0	58.0	41.4	41.4	—	66.8	67.0	132.0	8.7	—	—	M12 Bolt
H-245-SB	450 Kgs	1.400	67°	105°	128.0	330.0	65.4	41.4	10.0	—	66.8	—	132.0	8.7	—	—	M12 Bolt
H-245-U	450 Kgs	1.400	67°	105°	110.5	325.0	58.0	41.4	41.4	—	66.8	67.0	128.0	8.7	82.0	—	M12 Bolt
H-245-UB	450 Kgs	1.400	67°	105°	128.0	325.0	65.4	41.4	10.0	—	66.8	—	128.0	8.7	82.0	—	M12 Bolt



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## PAH - 30I, 31I Series

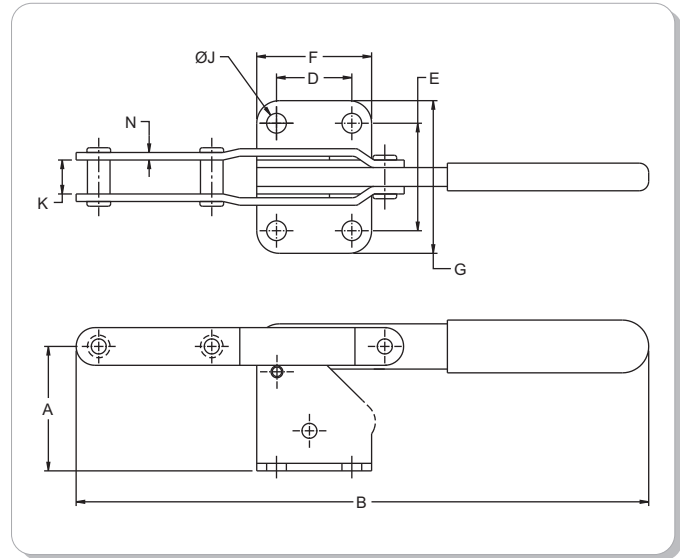


Model No. PAH - 31I

Also Available in Stainless Steel

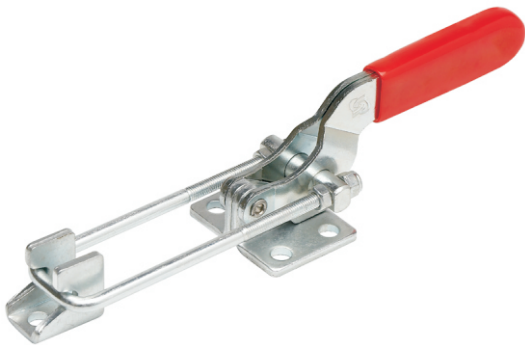
PAH - 30I - SS

PAH - 31I - SS



Model No.	Holding Capacity	Weight	Drawing Movement	Dimensions								
				A	B	D	E	F	G	J	K	N
PAH-30I	170 Kgs	0.300	101.0	41.4	212.3	19.1	31.8	35.1	44.5	7.1	14.2	3.3
PAH-31I	550 Kgs	0.550	85.0	52.3	244.6	31.8	45.2	48.5	64.3	8.4	14.2	3.3

## PAH - 323, 33I, 34I Series



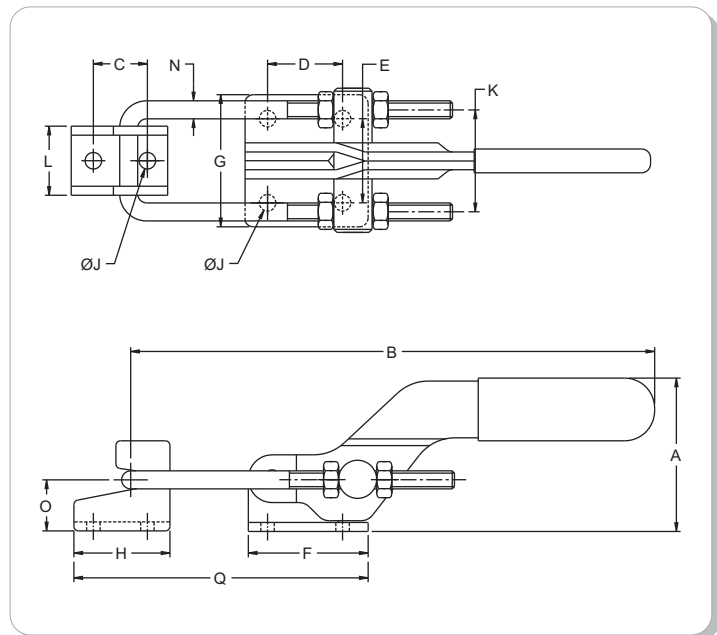
Model No. PAH - 323

Also Available in Stainless Steel

PAH-323-SS

PAH-33I-SS

PAH-34I-SS



Model No.	Holding Capacity	Weight	Drawing Movement	Dimensions														
				A	B*	C	D	E	F	G	H	J	K	L	N	O	Q Min	Q Max
PAH-323	150 Kgs	0.100	46.0	29.0	88.1	9.9	16.0	19.1	26.2	28.2	19.8	4.3	19.1	13.2	3.3	11.9	47.0	59.4
PAH-33I	250 Kgs	0.220	44.0	45.2	151.6	14.2	19.1	31.8	39.6	44.5	25.4	6.9	25.4	17.5	4.8	16.8	65.0	80.0
PAH-34I	900 Kgs	1.000	63.0	70.6	190.5	19.1	41.4	38.1	60.5	54.1	38.1	8.4	44.5	30.2	7.9	23.9	98.6	117.9

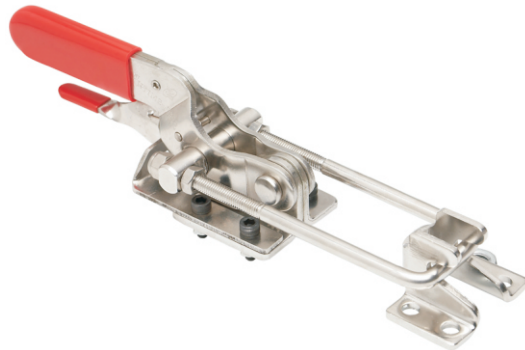
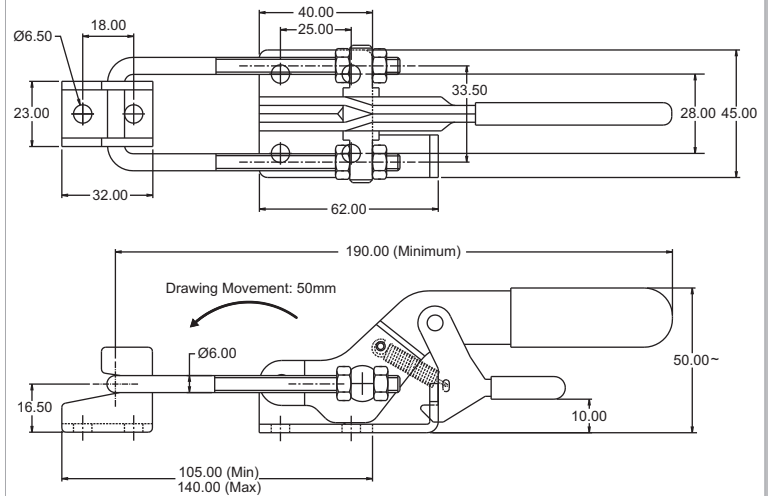


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## A detailed view of a Yale lever lock mechanism. It features a red plastic handle attached to a metal lever. The lever is connected to a complex internal mechanism of springs and pins, which is mounted on a metal base plate. A long metal rod extends from the mechanism, ending in a rectangular metal foot. The entire assembly is shown in a side profile, highlighting its mechanical components.

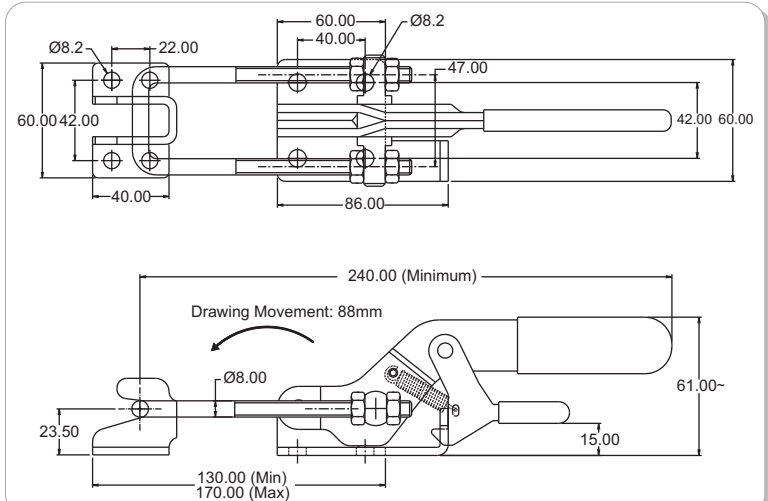
**Model: PAH - 527I - TRIG**

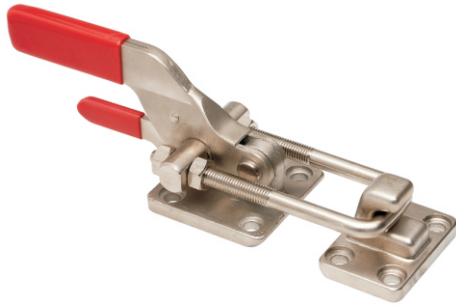
PAH - 5271 - TRIG - SS



**Model: PAH - 5442 - TRIG**

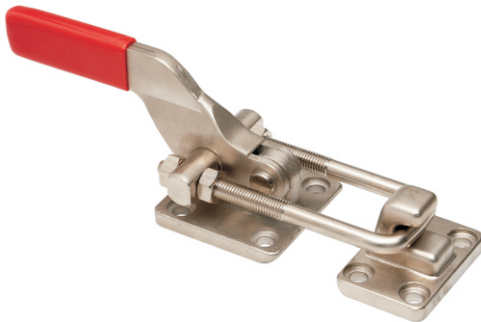
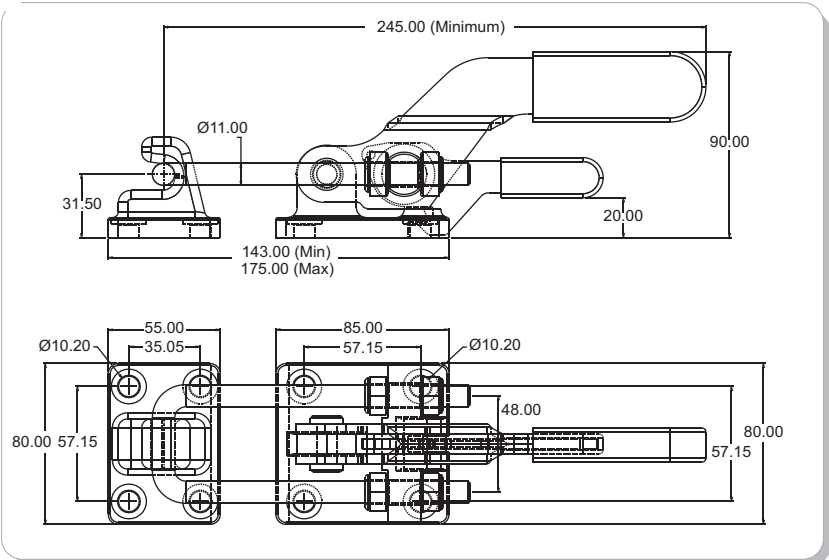
PAH - 5442 - TRIG - SS





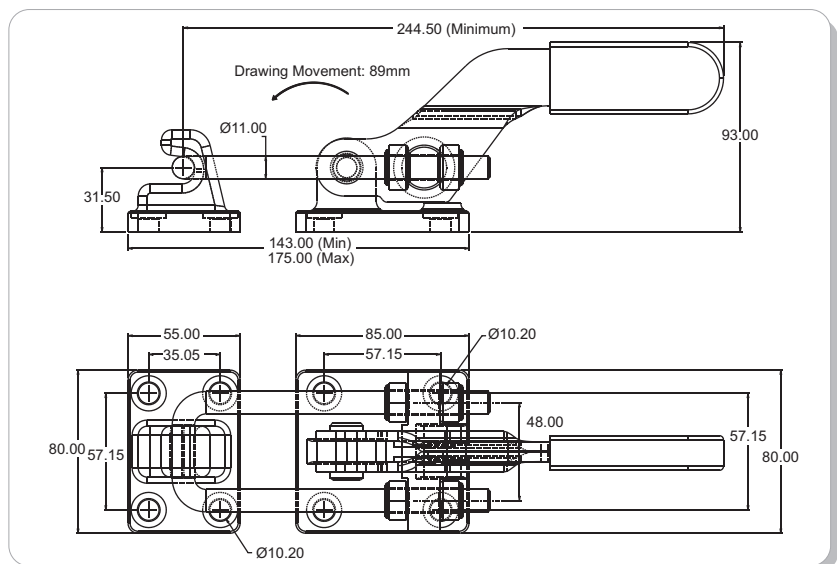
**Model: PAH - 2603 - TRIG**

*Model No. PAH-2603-TRIG*



**Model: PAH - 375**

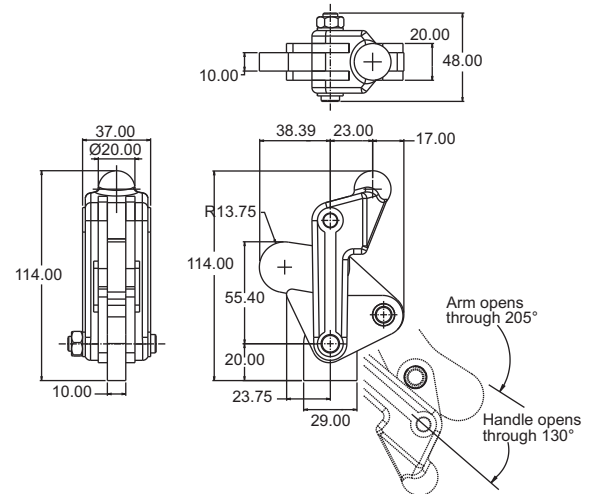
*Model No. PAH-375*



# Heavy Duty Vertical Clamps

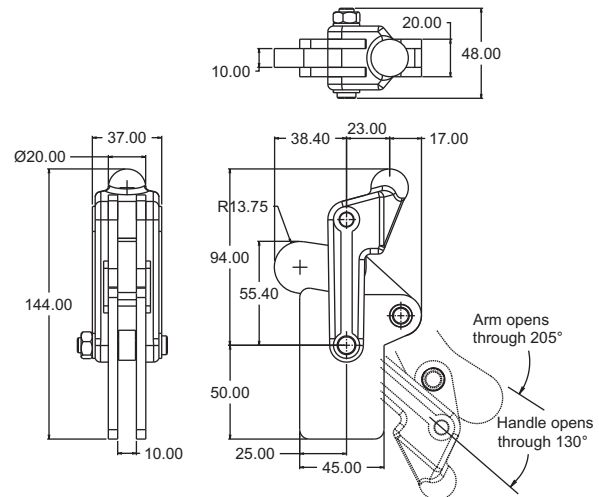
## Model No: HV - 700 - S

Arm: Stub nose for welded extensions.  
Base: Swivel for welding in the desired position.  
Nominal Holding Force: 700 Kgs.  
Weight: 0.700 Kg  
See "Accessories" for other items.



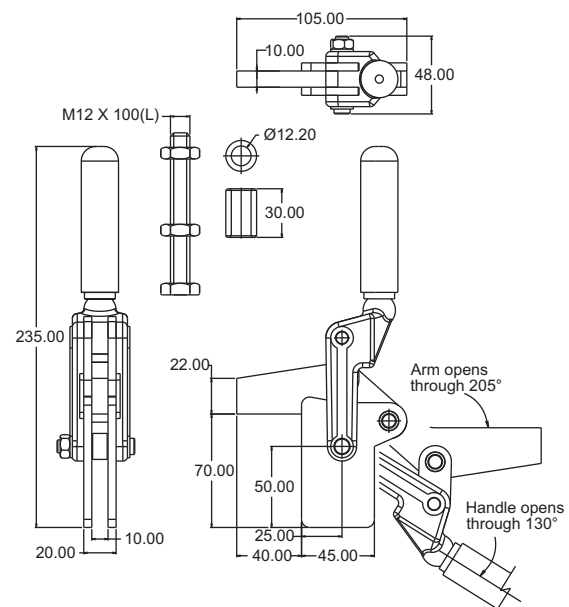
## Model No: HV - 700 - T

Arm: Stub nose for welded extensions.  
Base: Straight.  
Nominal Holding Force: 700 Kgs.  
Weight: 0.800 Kgs.  
See "Accessories" for other items.



## Model No: HV - 700 - 1A

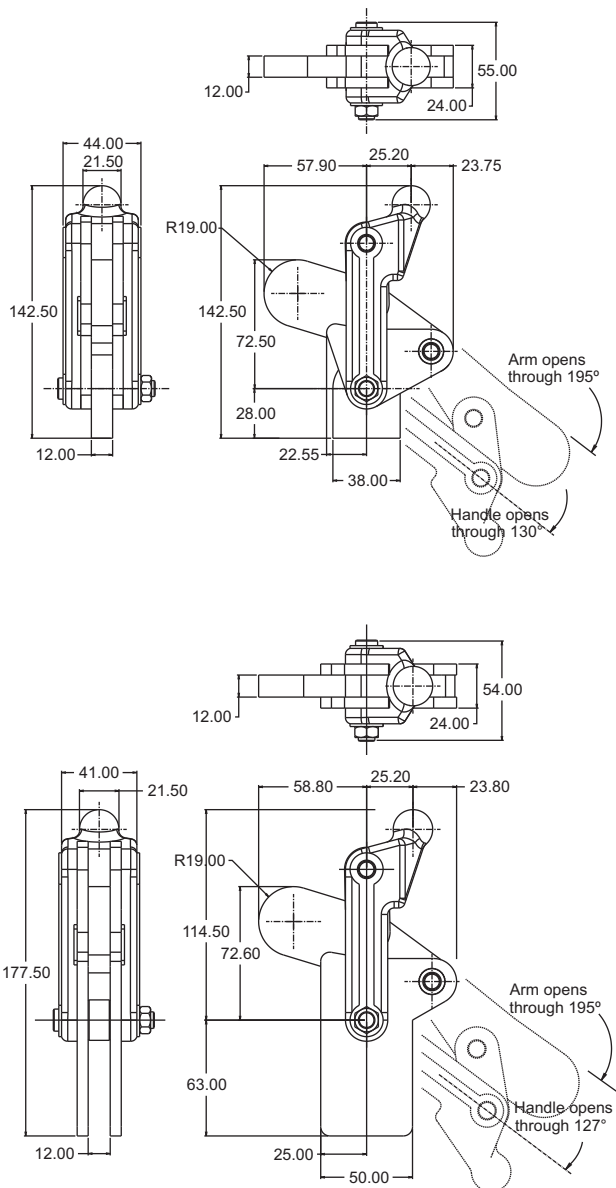
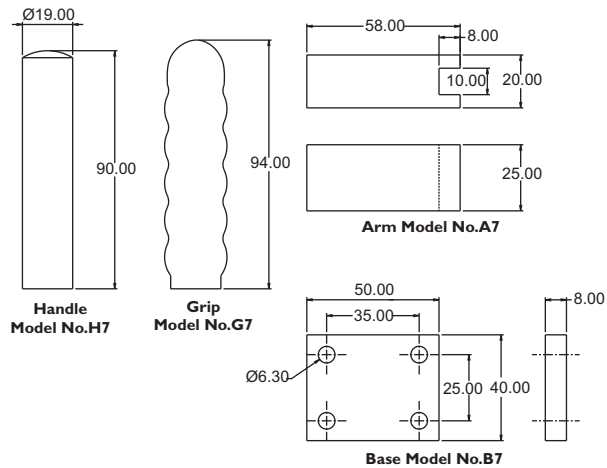
Arm: Solid Arm with weldable bush.  
Base: Straight  
Nominal Holding Force: 700 Kgs.  
Weight: 1.100 Kgs.



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# Heavy Duty Vertical Clamps



## Accessories for HV - 700

Model H7 Handle: For welding at the desired angle.

Model G7 Grip: To fit H7 handle.

Model A7 Arm: Clamping Arm.

Model B7 Base: For bolt mounting



## Model No: HV - 1200 - S

Arm: Stub nose for welded extensions.

Base: Swivel for welding in the desired position.

Nominal Holding Force: 1200 Kgs.

Weight: 1.300 Kg

See "Accessories" for other items



## Model No: HV - 1200 - T

Arm: Stub nose for welded extensions.

Base: Straight.

Nominal Holding Force: 1200 Kgs.

Weight: 1.450 Kgs.

See "Accessories" for other items.



# Heavy Duty Vertical Clamps

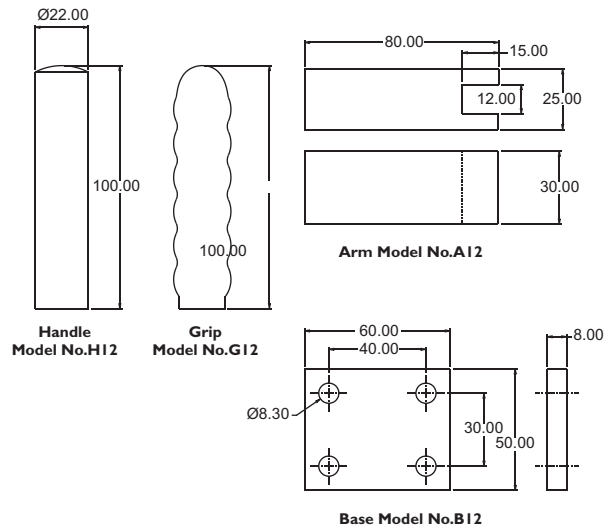
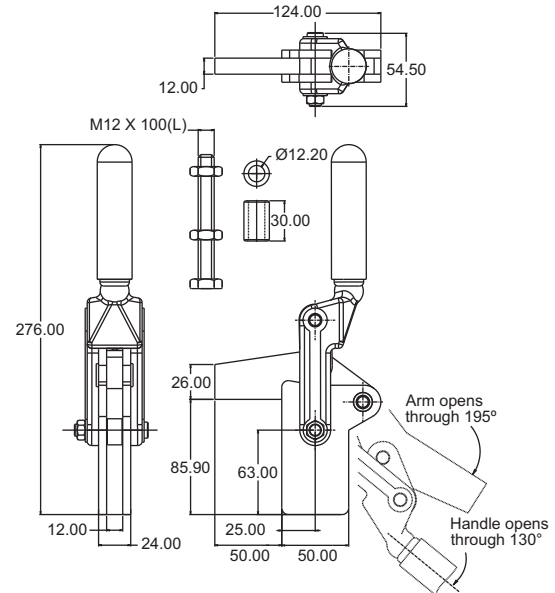
## Model No: HV - 1200

Arm: Solid Arm with weldable bush.  
Base: Straight  
Nominal Holding Force: 1200 Kgs.  
Weight: 1.800 Kgs.



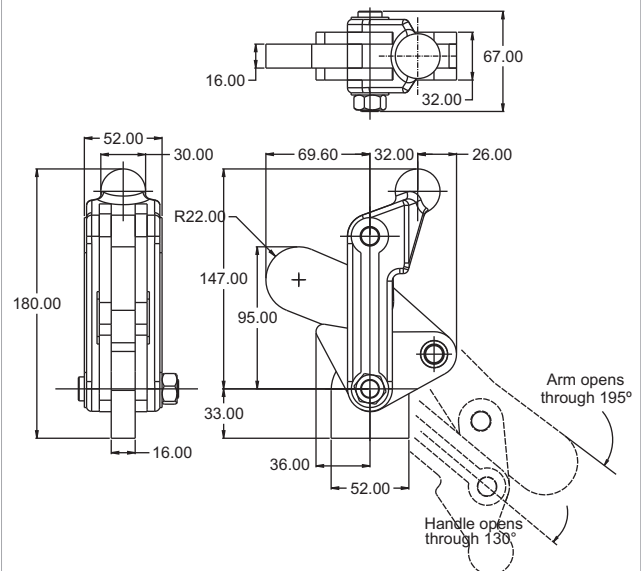
## Accessories for HV - 1200

Model H12 Handle: For welding at the desired angle.  
Model G12 Grip: To fit H7 handle.  
Model A12 Arm: Clamping Arm.  
Model B12 Base: For bolt mounting



## Model No: HV - 2400 - S

Arm: Stub nose for welded extensions.  
Base: Swivel for welding in the desired position.  
Nominal Holding Force: 2400 Kgs.  
Weight: 2.900 Kg  
See "Accessories" for other iter



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# Heavy Duty Vertical Clamps

## Model No: HV - 2400 - T

Arm: Stub nose for welded extensions.  
Base: Straight.  
Nominal Holding Force: 2400 Kgs.  
Weight: 3.200 Kgs.  
See "Accessories" for other items.



## Model No: HV - 2400 - 1A

Arm: Solid Arm with weldable bush.  
Base: Straight  
Nominal Holding Force: 2400 Kgs.  
Weight: 3.7500 Kgs.

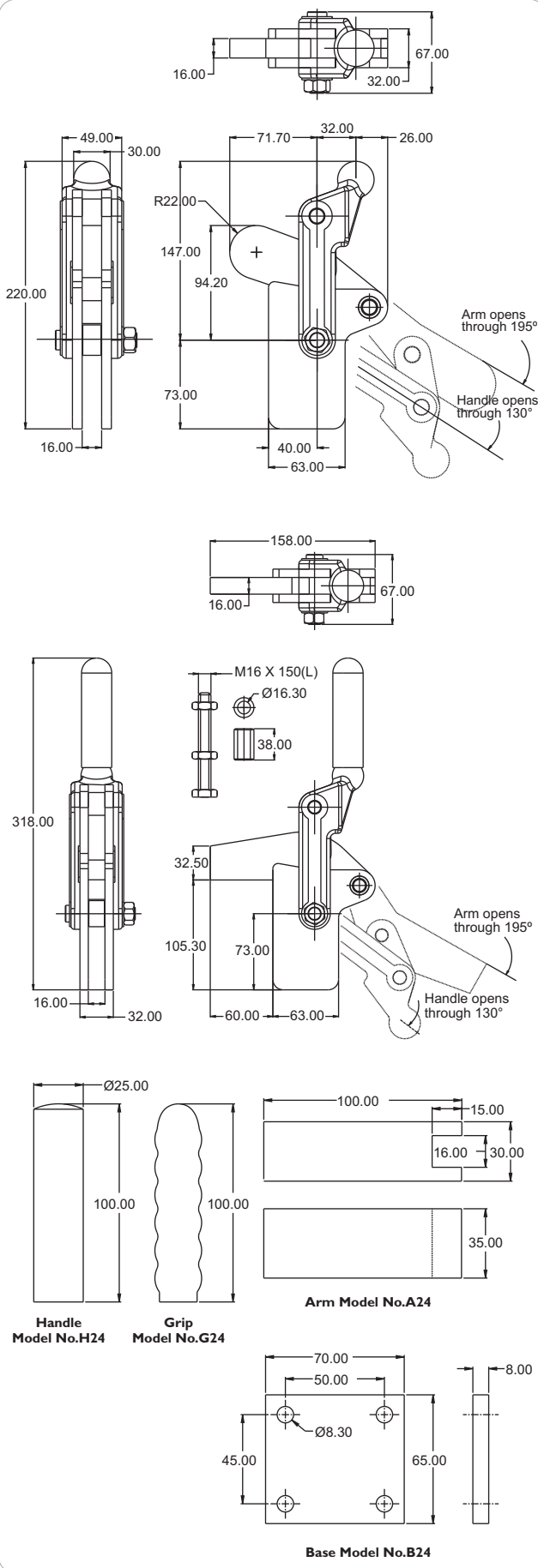


## Accessories for HV - 2400

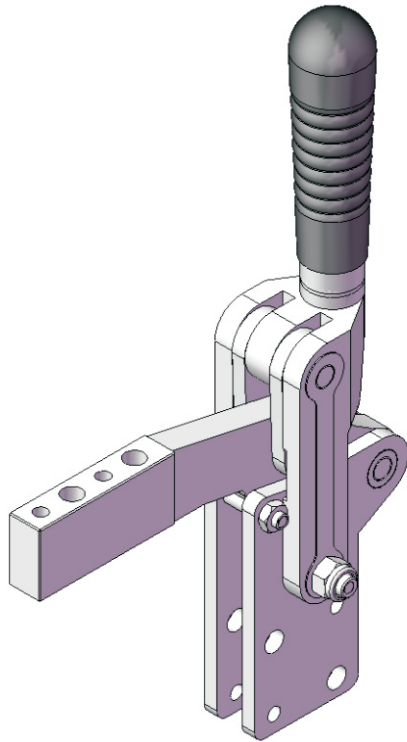
Model H24 Handle: For welding at the desired angle.  
Model G24 Grip: To fit H7 handle.  
Model A24 Arm: Clamping Arm.  
Model B24 Base: For bolt mounting



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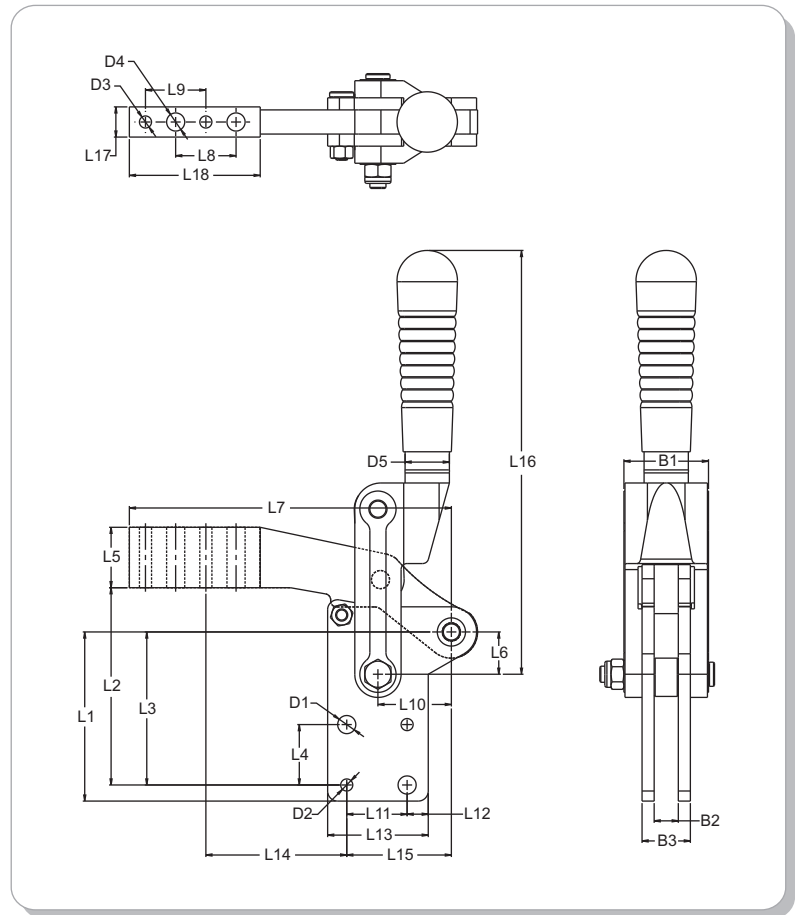


# Heavy Duty Vertical Clamps



## HEAVY DUTY VERTICAL CLAMPS - HORIZONTAL ARM

Steel-Smith has designed these clamps to be adaptable & durable, and to withstand abuse in heavy duty applications. They are ideally used in automotive manufacturing & other production environment which require high clamping forces & long service life. These heavy duty clamps comprise of a very strong & rugged toggle mechanism. The clamps are provided with a high precision horizontal clamping arm & a pre-welded handle which makes them ready to use clamps. All components are of first grade steel & the axles are hardened running in either hardened bushes or directly in close tolerance holes. The clamps are finished chemi-black.



Model No.	Holding Capacity	Arm Opening	Wt. In Kgs
HV - 300 - H	100 Kgs.	200°	0.400
HV - 700 - H	200 Kgs.	200°	1.200
HV - 1200 - H	300 Kgs.	200°	2.100
HV - 2400 - H	750 Kgs.	200°	3.100

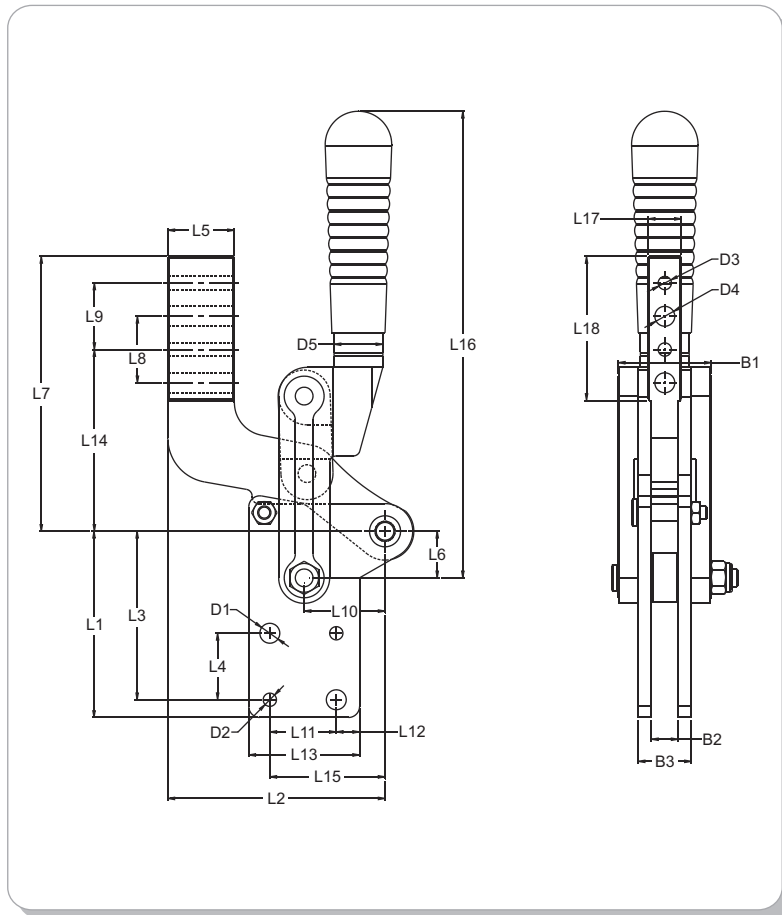
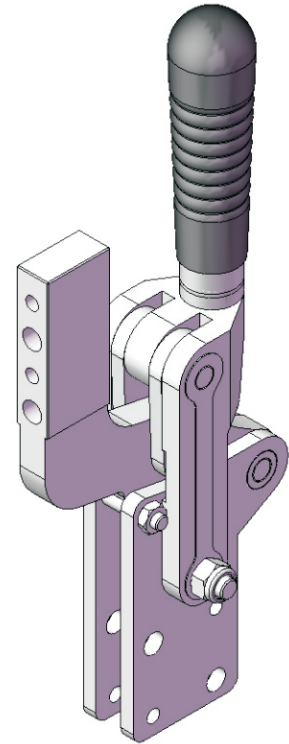
Model No.	B1	B2 -0.05	B3	D1	D2 H7	D3 H7	D4	D5	L1	L2 ±0.2	L3	L4 ±0.02	L5	L6	L7	L8 ±0.8	L9 ±0.02	L10	L11 ±0.02	L12	L13	L14 ±0.2	L15	L16	L17	L18
HV - 300 - H	22	6	12	5.5	4	4	5.5	12	39.5	40	34.5	15	15	9.5	87	15	15	17.4	15	6	27	40	26.4	97	12	35
HV - 700 - H	36	10	20	9	6	6	9	19	66	70	56	19	20	16	135	30	30	19.5	24	10.5	45	55	43.5	164	15	60
HV - 1200 - H	42	12	24	9	6	6	9	22	84	98	76	30	30	21	160	30	30	36.5	30	10.5	50	70	52.0	211	15	65
HV - 2400 - H	52	16	32	9	6	6	9	22	102	127	94	30	30	24	189	30	30	44.0	30	10.5	63	85	66.5	214	15	65



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## HEAVY DUTY VERTICAL CLAMPS - VERTICAL ARM

The Vertical Arm Series is identical to the Horizontal Arm Series with the exception of the Arm design. These clamps are designed for applications where a vertical surface has to be clamped. The clamps are provided with a high precision vertical clamping arm & a pre-welded handle which makes them ready to use clamps. All components are of first grade steel & the axles are hardened running in either hardened bushes or directly in close tolerance holes. The clamps are finished chemi-black.



Model No.	Holding Capacity	Arm Opening	Wt. In Kgs
HV - 300 - V	100 Kgs.	130°	0.400
HV - 700 - V	200 Kgs.	130°	1.200
HV - 1200 - V	300 Kgs.	130°	2.100
HV - 2400 - V	750 Kgs.	130°	3.100

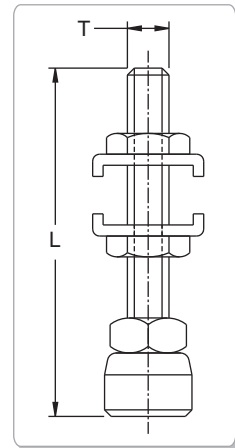
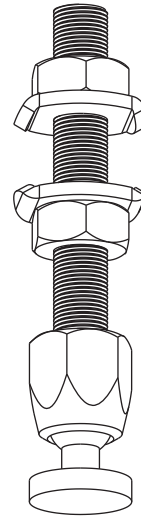
Model No.	B1	B2 -0.05	B3	D1	D2 H7	D3 H7	D4	D5	L1	L2 ±0.2	L3	L4 ±0.02	L5	L6	L7	L8 ±0.8	L9 ±0.02	L10	L11 ±0.02	L12	L13	L14 ±0.2	L15	L16	L17	L18
HV - 300 - V	22	6	12	5.5	4	4	5.5	12	39.5	48	34.5	15	15	9.5	60	15	15	17.4	15	6	27	37.3	26.4	97	12	35
HV - 700 - V	36	10	20	9	6	6	9	19	66	70	56	19	20	16	105	30	30	19.5	24	10.5	45	62	43.5	164	15	60
HV - 1200 - V	42	12	24	9	6	6	9	22	84	98	76	30	30	21	124	30	30	36.5	30	10.5	50	82	52.0	190	15	65
HV - 2400 - V	52	16	32	9	6	6	9	22	102	121	94	30	30	24	130	30	30	44.0	30	10.5	63	92	66.5	214	15	65



# Accessories

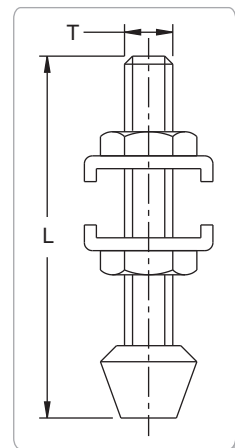
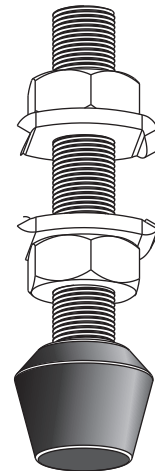
## SWIVEL FOOT SPINDLES - SW

Model No.	T	L	Suitable For Model No.
SW-645	M 6	45	VTC - 2535, TP 2528
SW-865	M 8	65	H-3665, HTC-3025, HTC-2040, HTC-2530, TP-3245, AOT-3231-HTC, AOT-3586
SW-1085	M 10	85	VTC - 6561a, VTC - 6136- SB, VTC - 4595, VTC - 5040, H - 45105, HTC - 2550, HTC - 3540, HTC - 624, TP - 4570, TP 5890, AOT - 4690
SW-12115	M 12	115	VTC - 50125, H - 57126, HTC - 3545, HTC - 4560 P.S., TP - 7665, PC - 2556, AOT - 57124
SW-12155	M 12	155	VTC - 10088, VTC - 120132, VTC - 11890, TP - 11570
SW-16170	M 16	170	VTC - 85150 UB, HTC - 5065, HTC - 35100, AOT - 6750 - HTC



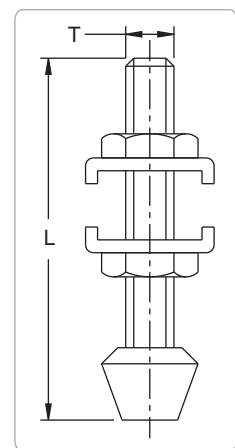
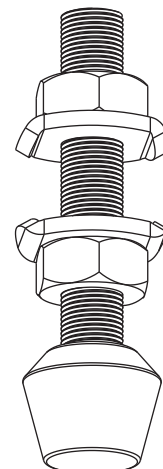
## RUBBER TIP SPINDLES - RT

Model No.	T	L	Suitable For Model No.
RT-645	M 6	45	VTC - 2535, TP - 2528
RT-865	M 8	65	H-3665, HTC-3025, HTC-2040, HTC-2530, TP - 3245, AOT - 3231 HTC, AOT - 3586
RT-1085	M 10	85	VTC - 6561a, VTC - 6136- SB, VTC 4595, VTC - 5040, H - 45105, HTC - 2550, HTC - 3540, HTC - 624, TP - 4570, TP - 5890, AOT - 4690
RT-12115	M 12	115	VTC 50125, H - 57126, HTC - 3545, HTC - 4560 PS, TP - 7665, PC - 2556, AOT - 57124
RT-12155	M 12	155	VTC - 10088, VTC - 120132, VTC - 11890, TP - 11570
RT-16170	M 16	170	VTC - 85150 UB, HTC - 5065, HTC - 35100, AOT - 6750 - HTC



## NYLON TIP SPINDLES - NT

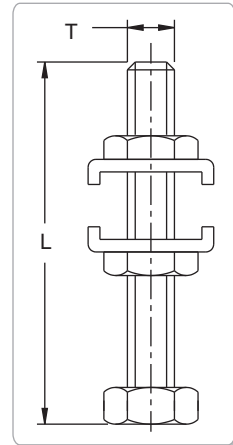
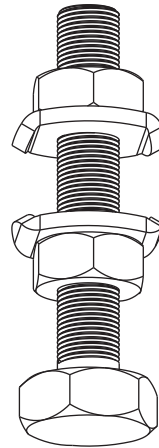
Model No.	T	L	Suitable For Model No.
NT-645	M 6	45	VTC - 2535, TP - 2528
NT-865	M 8	65	H-3665, HTC-3025, HTC-2040, HTC-2530, TP - 3245, AOT - 3231 HTC, AOT - 3586
NT-1085	M 10	85	VTC - 6561a, VTC - 6136- SB, VTC 4595, VTC - 5040, H - 45105, HTC - 2550, HTC - 3540, HTC - 624, TP - 4570, TP - 5890, AOT - 4690
NT-12115	M 12	115	VTC 50125, H - 57126, HTC - 3545, HTC - 4560 PS, TP - 7665, PC - 2556, AOT - 57124
NT-12155	M 12	155	VTC - 10088, VTC - 120132, VTC - 11890, TP - 11570
NT-16170	M 16	170	VTC - 85150 UB, HTC - 5065, HTC - 35100, AOT - 6750 - HTC



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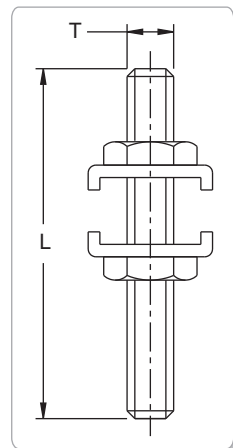
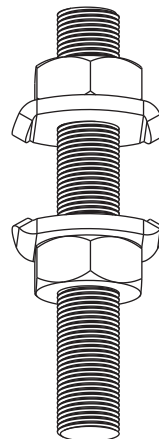
## STANDARD HEX SPINDLES - SH

Model No.	T	L	Suitable For Model No.
SH-645	M 6	45	VTC-2535, TP-2528
SH-865	M 8	65	H-3665, HTC-3025, HTC-2040, HTC-2530, TP-3245, AOT-3231, HTC, AOT-3586
SH-1085	M 10	85	VTC-6561, VTC-6136-SB, VTC-4595, VTC-5040, H-45105, HTC-2550, HTC-3540, HTC-624, TP-4570, TP-5890, AOT-4690.
SH-12115	M 12	115	VTC-50125, H-57126, HTC-3545, HTC-4560 PS, TP-7665, PC-2556, AOT-57124.
SH-12155	M 12	155	VTC-10088, VTC-120132, VTC-11890, TP-11570
SH-16170	M 16	170	VTC - 85150 UB, HTC - 5065, HTC - 35100, AOT - 6750 - HTC



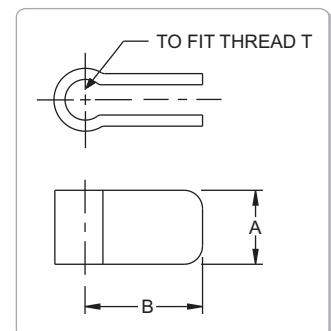
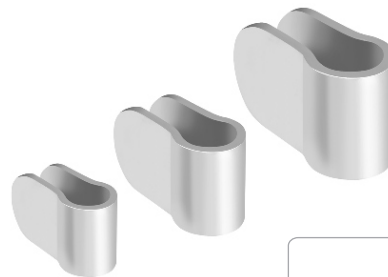
## PLAIN SPINDLES - PS

Model No.	T	L	Suitable For Model No.
PS-645	M 6	45	VTC - 2535, TP - 2528
PS-865	M 8	65	H - 3665, HTC - 3025, HTC - 2040, HTC - 2530, TP 3245, AOT - 3231 HTC, AOT - 3586
PS-1085	M 10	85	VTC - 6561a, VTC - 6136 - SB, VTC - 4595, VTC - 5040, H-45105, HTC - 2550, HTC - 3540, HTC - 624, TP - 4570, TP - 5890, AOT - 4690
PS-12115	M 12	115	VTC - 50125, H - 57126, HTC - 3545, HTC - 4560 PS, TP - 7665, PC - 2556, AOT - 57124
PS-12155	M 12	155	VTC - 10088, VTC - 120132, VTC - 11890, TP - 11570
PS-16170	M 16	170	VTC - 85150 UB, HTC - 5065, HTC - 35100, AOT - 6750 - HTC



## BOLT RETAINER - BR

Model No.	A	B	TØ	For Clamps No.
BR-1	10	20	6	VTC-2535SB
BR-2	20	27	10	VTC-4595SB
BR-3	20	30	12	VTC-50125SB
BR-4	25	32	16	VTC-85150SB
BR-5	12	23	8	H-3665SB
BR-6	20	27	10	H-45105SB
BR-7	25	30	12	H-57126SB





## BUTTON HANDLE - BALL LOCK PINS

## LEVELING PADS - FEMALE

## LEVELING PADS - MALE

## LOCATING PINS

## FIXTURE HEX NUTS

## EXTENSION FIXTURE HEX NUTS

## PLAIN WASHERS

## SPHERICAL WASHERS - CONICAL SEATS

STUDS FOR T - NUTS

COLLAR NUTS

## UNIVERSAL STEP BLOCKS

## SPRING PLUNGERS

## T - NUTS

## T - BOLTS

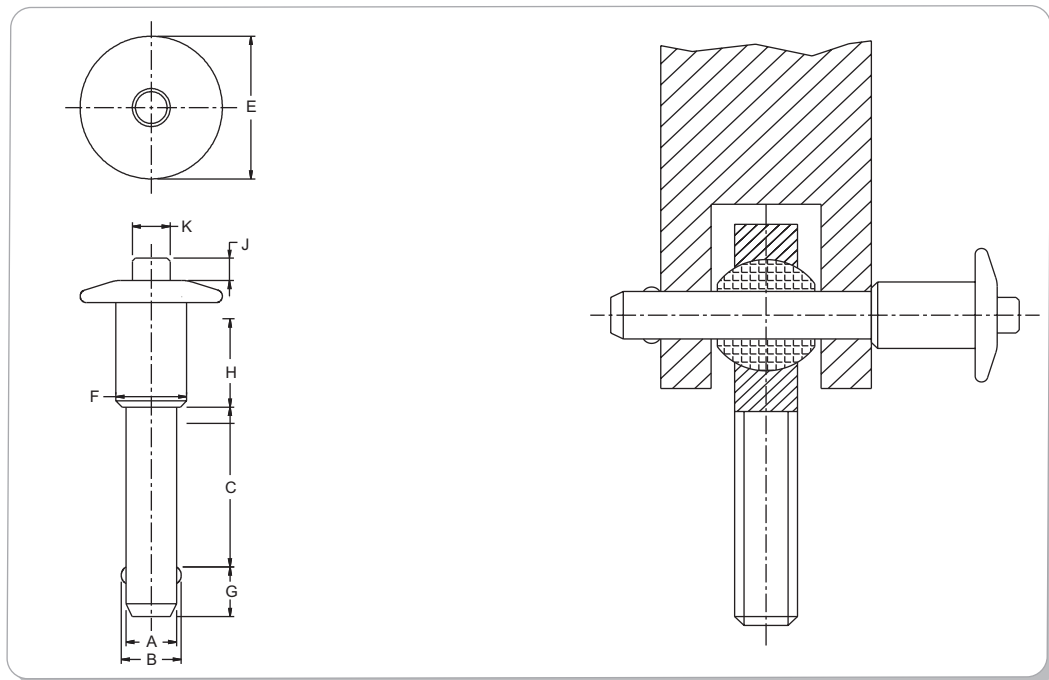
## STRAP CLAMPS



HOME

## BUTTON HANDLE - BALL LOCK PINS

These Pins are precision ground Locating Pins. By simply pressing the button of the pin you can either insert or remove the pin. The balls in the pin ensure Positive Locking until released by pressing the button. The Ball Lock Pins are available in 6 different outer diameters & the length is to be decided by the customer as per the application. The standard pins are offered with Two locking balls, but can also be supplied with four balls for greater pull-out strength. Available in alloy or stainless steel.



### Ordering Example:

QRP - BUT - S - 6 - 30

S - Stainless Steel  
A - Alloy Steel

Grip Length (mm)

Pin Diameter (mm)

For Example if a order is placed for:

QRP - BUT - S - 6 - 45, then a Stainless Steel Button Pin of 6mm Diameter & Grip length of 45mm Will be supplied.

Model No.	"A" Diameter		B (+/-0.25)	C Grip	E Dia.	F Dia.	G (+/-0.1)	H	J	K Dia.
	Minimum	Maximum								
QRP-BUT-X-6-XX	5.92	5.96	7.0	As per customer's requirement	20.0	10	8.0	19.8	6	4.8
QRP-BUT-X-8-XX	7.92	7.96	9.5		22.2	12	9.5	19.8	6	6
QRP-BUT-X-10-XX	9.92	9.96	11.9		25.4	14	9.5	20.0	7	6.6
QRP-BUT-X-12-XX	11.92	11.96	14.2		31.8	15	10.0	20.0	7	9.2
QRP-BUT-X-16-XX	15.92	15.95	19.0		42.0	21	12.2	25.0	8	12.2

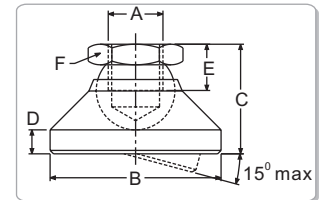


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# Fixture Elements

## LEVELING PADS - FEMALE

Model No.	A	B	C	D	E	F	Wt. in Kgs
SLPF-624	M 6	20	14	2.5	5	10	0.017
SLPF-825	M 8	25	18	4.0	7.0	13	0.036
SLPF-1032	M 10	32	22	5.0	9.0	17	0.077
SLPF-1240	M 12	40	26	6.0	11.0	19	0.125
SLPF-1650	M 16	50	32	7.0	13.5	24	0.250
SLPF-2060	M 20	60	42	8.0	17.0	30	0.480
SLPF-2460	M 24	60	45	9.5	19.0	36	0.665

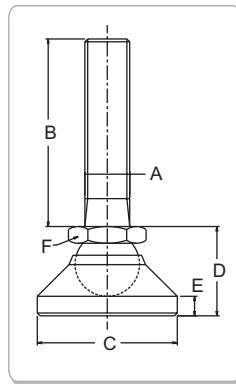


### FEATURES:

Material: Steel Quality - Heat Treated

Finish: Black Oxide

## LEVELING PADS - MALE



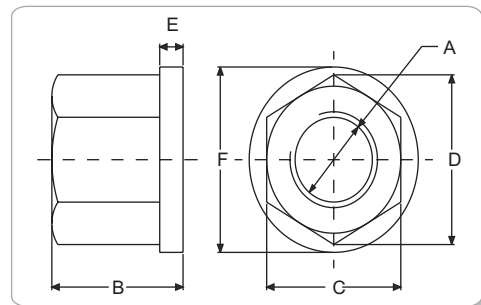
### FEATURES:

Material: Steel Quality - Heat Treated

Finish: Black Oxide

Model No.	A	B	C	D	E	F	Wt. in Kgs
SLPM-660	M 6	60	20	14	2.5	10	0.032
SLPM-880	M 8	80	25	18	4.0	13	0.064
SLPM-10100	M 10	100	32	22	5.0	17	0.130
SLPM-10150	M 10	150	32	22	5.0	17	0.155
SLPM-12100	M 12	100	40	26	6.0	19	0.210
SLPM-12150	M 12	150	40	26	6.0	19	0.255
SLPM-16100	M 16	100	50	32	7.0	24	0.400
SLPM-16200	M 16	200	50	32	7.0	24	0.540
SLPM-20100	M 20	100	60	42	8.0	30	0.740
SLPM-20200	M 20	200	60	42	8.0	30	0.950
SLPM-24100	M 24	100	60	45	9.5	36	0.850
SLPM-24200	M 24	200	60	45	9.5	36	1.145

## COLLAR NUTS DIN - 6331



Model No.	A	B	C	D	E	F	Wt. in Kgs
DCCN-812	M 8	12	13	15.0	3.5	18	0.012
DCCN-1015	M 10	15	16	18.5	4.0	22	0.022
DCCN-1218	M 12	18	18	20.8	4.0	25	0.031
DCCN-1624	M 16	24	24	27.7	5.0	31	0.069
DCCN-2030	M 20	30	30	34.6	6.0	37	0.127
DCCN-2436	M 24	36	36	41.6	6.0	45	0.215

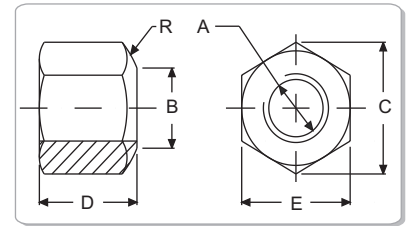


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## FIXTURE HEX NUTS

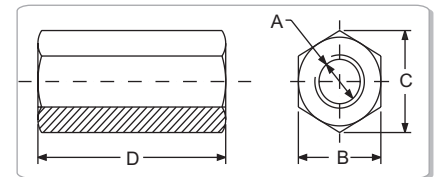
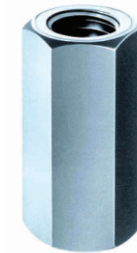
Model No.	A	B	C	D	E	R	Wt. in Kgs
FXN-8120	M 8	9	15	12	13	11	0.010
FXN-10150	M 10	11.5	19.6	15	17	15	0.020
FXN-12180	M 12	14	21.9	18	19	17	0.032
FXN-16240	M 16	18	27.7	24	24	22	0.060
FXN-20300	M 20	22	34.6	30	30	27	0.120
FXN-24360	M 24	26	41.6	36	45	30	0.195
FXN-30450	M 30	32	53.1	45	46	34	0.405



**FEATURES:**  
Material: Steel Quality  
Finish: Black Oxide

## EXTENSION FIXTURE HEX NUTS

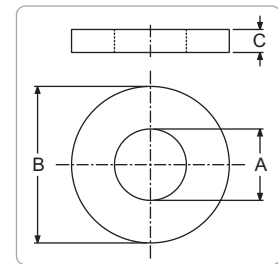
Model No.	A	B	C	D	Wt. in Kgs
EFXN-824	M 8	13	15	24	0.190
EFXN-1030	M 10	17	19.6	30	0.420
EFXN-1236	M 12	19	21.9	36	0.640
EFXN-1648	M 16	24	27.7	48	0.120
EFXN-2060	M 20	30	34.5	60	0.240
EFXN-2472	M 24	36	41.6	72	0.400
EFXN-3090	M 30	45	53.1	90	0.850



**FEATURES:**  
Material: Steel Quality  
Finish: Black Oxide

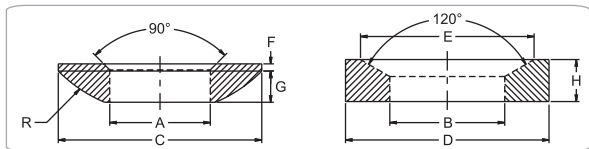
## PLAIN WASHERS - DIN-6340

Model No.	A	B	C	For Bolt	Wt. in Kgs
SPW-84	8.4	23	4	M 8	0.010
SPW-104	10.5	28	4	M 10	0.016
SPW-125	13	35	5	M 12	0.035
SPW-166	17	45	6	M 16	0.060
SPW-206	21	50	6	M 20	0.100
SPW-248	25	60	8	M 24	0.170
SPW-3010	31	68	10	M 30	0.230



**FEATURES:**  
Material: Heat Treated Steel  
Finish: Black Oxide

## SPHERICAL WASHERS - CONICAL SEATS DIN - 6319



**FEATURES:**  
Material: Heat Treated Steel  
Finish: Black Oxide

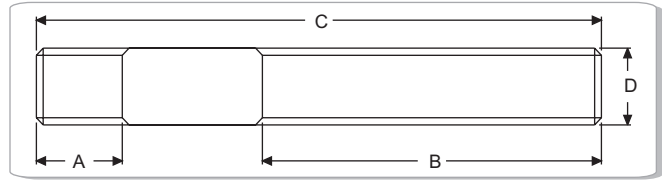
Model No.	For Bolt	A	B	C	D	E	F	G	H	R	Wt. in Kgs
DSWCS-812	M 8	8.4	9.6	17	17	14.5	0.6	3.2	3.5	12	0.006
DSWCS-1015	M 10	10.5	12	21	21	18.5	0.8	4.0	4.2	15	0.012
DSWCS-1217	M 12	13	14.2	24	24	20.0	1.1	4.6	5.0	17	0.012
DSWCS-1622	M 16	17	19	30	30	26.0	1.3	5.3	6.2	22	0.031
DSWCS-2027	M 20	21	23.2	36	36	31.0	2.0	6.3	7.5	27	0.055
DSWCS-2432	M 24	25	28	44	44	37.0	2.4	8.2	9.5	32	0.100

# Clamping Devices

## STUDS FOR T-NUTS DIN-6379



Finish: Black Oxide



### FEATURES:

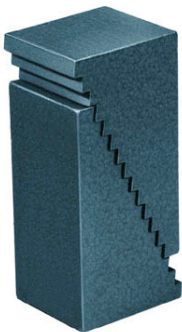
Material: Heat Treated Steel

Special: Longer or special studs are available on request.

Model No.	A	B	C	D	Wt. in Kgs.
DCS-632	9	16	32	M 6	0.008
DCS-650	9	30	50	M 6	0.011
DCS-663	9	40	63	M 6	0.014
DCS-680	9	50	80	M 6	0.018
DCS-840	11	20	40	M 8	0.010
DCS-863	11	40	63	M 8	0.020
DCS-8100	11	63	100	M 8	0.030
DCS-8160	11	100	160	M 8	0.045
DCS-1080	13	50	80	M 10	0.040
DCS-10100	13	75	100	M 10	0.050
DCS-10125	13	75	125	M 10	0.065
DCS-10160	13	100	160	M 10	0.080
DCS-10200	13	125	200	M 10	0.100
DCS-1280	15	50	80	M 12	0.060
DCS-12100	15	63	100	M 12	0.070
DCS-12125	15	75	125	M 12	0.090
DCS-12200	15	125	200	M 12	0.140
DCS-16100	19	63	100	M 16	0.130
DCS-16125	19	75	125	M 16	0.160
DCS-16160	19	100	160	M 16	0.210

Model No.	A	B	C	D	Wt. in Kgs.
DCS-16200	19	125	200	M 16	0.280
DCS-16250	19	160	250	M 16	0.325
DCS-16315	19	180	315	M 16	0.425
DCS-16500	19	180	500	M 16	0.650
DCS-20125	27	70	125	M 20	0.255
DCS-20160	27	100	160	M 20	0.330
DCS-20200	27	125	200	M 20	0.410
DCS-20250	27	160	250	M 20	0.510
DCS-20315	27	190	315	M 20	0.640
DCS-20400	27	250	400	M 20	0.815
DCS-20500	27	315	500	M 20	1.020
DCS-24100	35	45	100	M 24	0.290
DCS-24125	35	63	125	M 24	0.380
DCS-24160	35	100	160	M 24	0.470
DCS-24200	35	125	200	M 24	0.580
DCS-24250	35	160	250	M 24	0.725
DCS-24315	35	200	315	M 24	0.920
DCS-24400	35	250	400	M 24	1.160
DCS-24630	35	315	630	M 24	1.850

## UNIVERSAL STEP BLOCKS

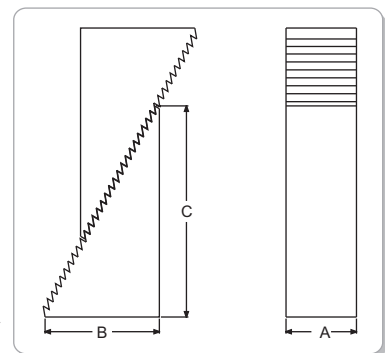


### FEATURES:

Material: Heat Treated Steel

Finish: Black Oxide

Note: All three sizes can be combined with one another

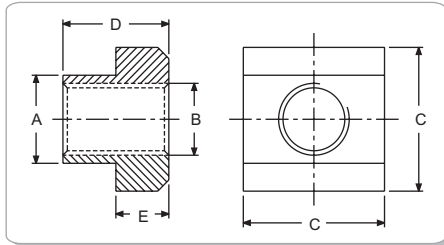


Model No.	A	B	C	Adjustable Height		Wt. in Kgs.
				Min.	Max.	
SSB-5033	24	30	33	22	50	0.110
SSB-10766	40	30	66	38	107	0.220
SSB-210131	73	30	131	69	208	0.490



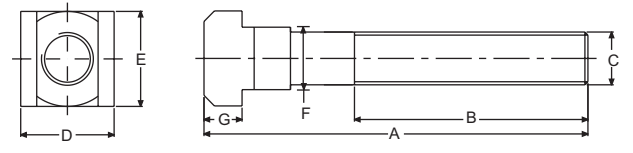
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## T-NUTS DIN-508



Model No.	T-Slot Size	A	B	C	D	E	Wt. in Kgs
TNSS-108	10	9.6	M 8	15	12	6	0.014
TNSS-128	12	11.6	M 8*	18	14	7	0.022
TNSS-1210	12	11.6	M 10	18	14	7	0.022
TNSS-1410	14	13.6	M 10*	22	16	8	0.034
TNSS-1412	14	13.6	M 12	22	16	8	0.034
TNSS-1612	16	15.6	M 12*	25	18	9	0.050
TNSS-1816	18	17.6	M 16	28	20	10	0.068
TNSS-2016	20	19.6	M 16*	32	24	12	0.107
TNSS-2220	22	21.6	M 20	35	28	14	0.155
TNSS-2420	24	23.6	M 20*	40	32	16	0.220
TNSS-2824	28	27.6	M 24	44	36	18	0.330

## T-BOLTS DIN-787



Model No.	T-Slot	A	B	C	D	E	F	G	Wt. in Kgs
TBSS - 850	8	50	35	M 8	13	13	7.6	6	0.025
TBSS - 865	8	65	35	M 8	13	13	7.6	6	0.035
TBSS - 880	8	80	50	M 8	13	13	7.6	6	0.040
TBSS - 1050	10	50	30	M 10	15	15	9.6	6	0.040
TBSS - 1065	10	65	45	M 10	15	15	9.6	6	0.050
TBSS - 1080	10	80	50	M 10	15	15	9.6	6	0.060
TBSS - 10100	10	100	60	M 10	15	15	9.6	6	0.070
TBSS - 1250	12	50	35	M 12	18	18	11.6	7	0.060
TBSS - 1265	12	65	40	M 12	18	18	11.6	7	0.065
TBSS - 1280	12	80	55	M 12	18	18	11.6	7	0.075
TBSS - 12100	12	100	65	M 12	18	18	11.6	7	0.090
TBSS - 12125	12	125	75	M 12	18	18	11.6	7	0.120
TBSS - 12160	12	160	80	M 12	18	18	11.6	7	0.145
TBSS - 12200	12	200	120	M 12	18	18	11.6	7	0.165
TBSS - 12250	12	250	150	M 12	18	18	11.6	7	0.185
TBSS - 1450	14	50	35	M 12	22	22	13.6	8	0.070
TBSS - 1465	14	65	40	M 12	22	22	13.6	8	0.080
TBSS - 1480	14	80	55	M 12	22	22	13.6	8	0.100
TBSS - 14100	14	100	65	M 12	22	22	13.6	8	0.110
TBSS - 14125	14	125	75	M 12	22	22	13.6	8	0.120
TBSS - 14160	14	160	80	M 12	22	22	13.6	8	0.150
TBSS - 14200	14	200	120	M 12	22	22	13.6	8	0.180
TBSS - 14250	14	250	150	M 12	22	22	13.6	8	0.220
TBSS - 1665	16	65	45	M 16	25	25	15.6	9	0.140
TBSS - 1680	16	80	55	M 16	25	25	15.6	9	0.160
TBSS - 16100	16	100	65	M 16	25	25	15.6	9	0.186
TBSS - 16125	16	125	80	M 16	25	25	15.6	9	0.205
TBSS - 16160	16	160	100	M 16	25	25	15.6	9	0.264
TBSS - 16200	16	200	100	M 16	25	25	15.6	9	0.315
TBSS - 16250	16	250	150	M 16	25	25	15.6	9	0.380
TBSS - 16315	16	315	180	M 16	25	25	15.6	9	0.440
TBSS - 1865	18	65	45	M 16	28	28	17.6	10	0.160
TBSS - 1880	18	80	55	M 16	28	28	17.6	10	0.185

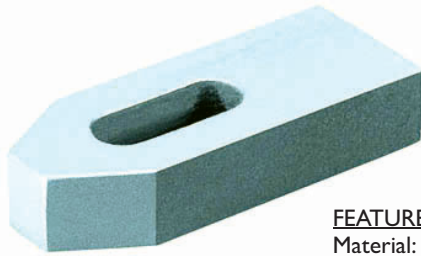
Model No.	T-Slot	A	B	C	D	E	F	G	Wt. in Kgs
TBSS - 18100	18	100	65	M 16	28	28	17.6	10	0.203
TBSS - 18125	18	125	65	M 16	28	28	17.6	10	0.235
TBSS - 18160	18	160	100	M 16	28	28	17.6	10	0.280
TBSS - 18200	18	200	125	M 16	28	28	17.6	10	0.330
TBSS - 18250	18	250	150	M 16	28	28	17.6	10	0.430
TBSS - 18315	18	315	180	M 16	28	28	17.6	10	0.530
TBSS - 2080	20	80	55	M 20	32	32	19.6	12	0.290
TBSS - 20100	20	100	65	M 20	32	32	19.6	12	0.340
TBSS - 20125	20	125	85	M 20	32	32	19.6	12	0.390
TBSS - 20160	20	160	110	M 20	32	32	19.6	12	0.470
TBSS - 20200	20	200	125	M 20	32	32	19.6	12	0.550
TBSS - 20250	20	250	150	M 20	32	32	19.6	12	0.670
TBSS - 20315	20	315	190	M 20	32	32	19.6	12	0.800
TBSS - 2280	22	80	55	M 20	35	35	21.6	14	0.330
TBSS - 22100	22	100	60	M 20	35	35	21.6	14	0.400
TBSS - 22125	22	125	85	M 20	35	35	21.6	14	0.428
TBSS - 22125	22	160	100	M 20	35	35	21.6	14	0.500
TBSS - 22200	22	200	125	M 20	35	35	21.6	14	0.570
TBSS - 22250	22	250	150	M 20	35	35	21.6	14	0.680
TBSS - 22315	22	315	190	M 20	35	35	21.6	14	0.820
TBSS - 24100	24	100	70	M 24	40	40	23.6	16	0.540
TBSS - 24125	24	125	85	M 24	40	40	23.6	16	0.640
TBSS - 24160	24	160	110	M 24	40	40	23.6	16	0.770
TBSS - 24200	24	200	125	M 24	40	40	23.6	16	0.900
TBSS - 24250	24	250	150	M 24	40	40	23.6	16	1.040
TBSS - 24315	24	315	190	M 24	40	40	23.6	16	1.270
TBSS - 28100	28	100	70	M 24	44	44	27.6	18	0.650
TBSS - 28125	28	125	75	M 24	44	44	27.6	18	0.720
TBSS - 28160	28	160	110	M 24	44	44	27.6	18	0.800
TBSS - 28200	28	200	125	M 24	44	44	27.6	18	0.950
TBSS - 28250	28	250	150	M 24	44	44	27.6	18	1.120
TBSS - 28315	28	315	160	M 24	44	44	27.6	18	1.350
TBSS - 28400	28	400	250	M 24	44	44	27.6	18	1.500



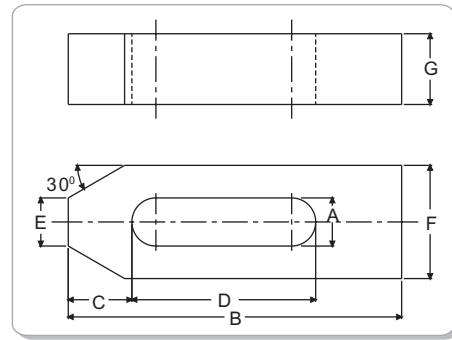
HOME

# Clamping Devices

## STRAP CLAMP FLAT DIN-6134



**FEATURES:**  
Material: Heat Treated Steel  
Finish: Black Oxide

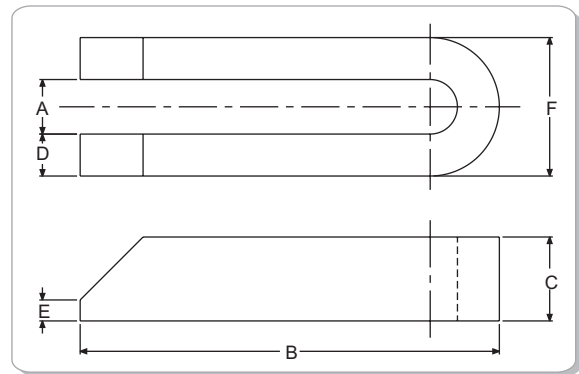


Model No.	A	B	C	D	E	F	G	For Bolt	Wt. in Kgs
SCF-860	9	60	13	22	10	25	12	M 8	0.110
SCF-1080	11	80	15	30	12	30	16	M 10	0.220
SCF-12100	14	100	21	40	14	40	20	M 12	0.490
SCF-12125	14	125	21	50	14	40	20	M 12	0.600
SCF-16125	18	125	26	45	18	50	25	M 16	1.000
SCF-16160	18	160	26	65	18	50	25	M 16	1.200
SCF-20160	22	160	30	60	22	60	30	M 20	1.830
SCF-20200	22	200	30	80	22	60	30	M 20	2.290
SCF-24200	26	200	30	80	26	70	40	M 24	3.400
SCF-24250	26	250	35	105	26	70	40	M 24	3.850

## OPEN-ENDED STRAP CLAMP FLAT DIN -6135-B



**FEATURES:**  
Material: Heat Treated Steel  
Finish: Black Oxide



Model No.	A	B	C	D	E	F	For Bolt	Wt. in Kgs
UFS-880	9	80	15	8	4	25	M 8	0.150
UFS-10100	11	100	20	10	5	31	M 10	0.300
UFS-12125	14	125	25	12	6	38	M 12	0.570
UFS-12160	14	160	25	12	6	38	M 12	0.730
UFS-12200	14	220	25	12	6	38	M 12	0.910
UFS-16160	18	160	30	16	8	50	M 16	1.080
UFS-16200	18	200	30	16	8	50	M 16	1.360
UFS-16250	18	250	30	16	8	50	M 16	1.700
UFS-20200	22	200	40	20	10	62	M 20	1.800
UFS-20250	22	250	40	20	10	62	M 20	3.020
UFS-20315	22	315	40	20	10	62	M 20	3.830
UFS-24200	26	200	40	20	10	66	M 24	2.400
UFS-24250	26	250	40	20	10	66	M 24	3.050
UFS-24315	26	315	40	20	10	66	M 24	3.830



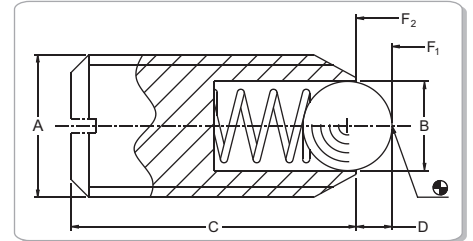
HOME

## SPRING PLUNGERS - SP-01 Series

With Ball and Slot

Black Oxide Steel Body, Hardened Steel Ball, Stainless Steel Spring

Model No.	A	B	C	D	Spring load $F_1$ N~*	Spring load $F_2$ N~*
SP-01.03	M 3	1.5	7	0.4	3.0	4.5
SP-01.04	M 4	2.5	9	0.8	8.5	14.0
SP-01.05	M 5	3.0	12	0.9	8.0	14.0
SP-01.06	M 6	3.5	14	1.0	11.0	18.0
SP-01.08	M 8	4.5	16	1.5	18.0	31.0
SP-01.10	M 10	6.0	19	2.0	24.0	45.0
SP-01.12	M 12	8.0	22	2.5	26.0	49.0
SP-01.16	M 16	10.0	24	3.5	41.0	86.0
SP-01.20	M 20	12.0	30	4.5	56.0	111.0
SP-01.24	M 24	15.0	34	5.5	81.0	151.0

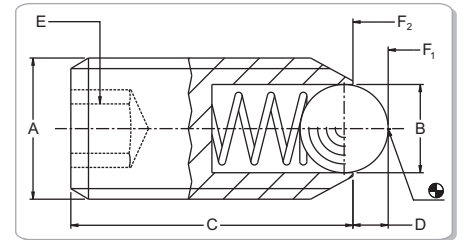
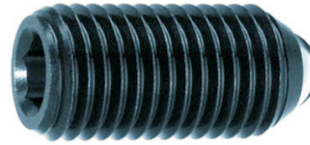


## SPRING PLUNGERS - SP-02 Series

With Ball and Internal Hexagon

Black Oxide Steel Body, Hardened Steel Ball, Stainless Steel Spring

Model No.	A	B	C	D	E	Spring load $F_1$ N~*	Spring load $F_2$ N~*
SP-02.04	M 4	2.5	9	0.8	2.0	8.0	13.0
SP-02.05	M 5	3.0	14	0.9	2.5	6.0	12.0
SP-02.06	M 6	3.5	15	1.0	3.0	11.0	18.0
SP-02.08	M 8	4.5	18	1.5	4.0	18.0	31.0
SP-02.10	M 10	6.0	23	2.0	5.0	24.0	45.0
SP-02.12	M 12	8.0	26	2.5	6.0	26.0	49.0
SP-02.16	M 16	10.0	33	3.5	8.0	41.0	86.0
SP-02.20	M 20	12.0	43	4.5	10.0	66.0	111.0
SP-02.24	M 24	15.0	48	5.5	12.0	81.0	151.0

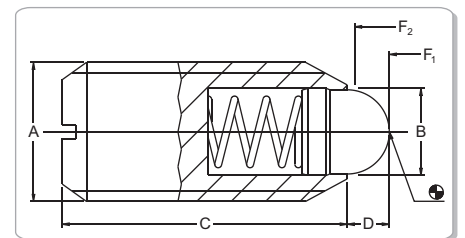


## SPRING PLUNGERS - SP-03 Series

With Round-ended Bolt & Slot

Black Oxide Steel Body, Hardened & Blackened Steel Bolt, Stainless Steel Spring

Model No.	A	B	C	D	Spring load $F_1$ N~*	Spring load $F_2$ N~*
SP-03.04	M 4	1.8	9	1.5	4.5	12.5
SP-03.05	M 5	2.4	12	2.0	5.0	13.0
SP-03.06	M 6	2.7	14	2.0	6.0	17.0
SP-03.08	M 8	3.8	16	2.0	16.0	33.0
SP-03.10	M 10	4.5	19	2.5	19.0	42.0
SP-03.12	M 12	6.2	22	3.5	22.0	57.0
SP-03.16	M 16	8.5	24	4.5	38.0	78.0
SP-03.20	M 20	10.0	30	6.5	39.0	81.0
SP-03.24	M 24	13.0	34	8.0	72.0	155.0

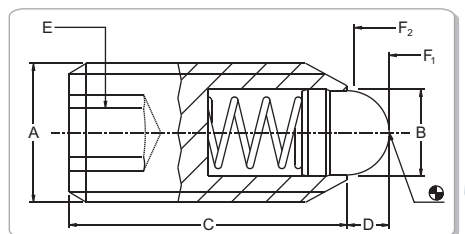


## SPRING PLUNGERS - SP-04 Series

With Round-ended Bolt & Internal Hexagon

Black Oxide Steel Body, Hardened & Blackened Steel Bolt, Stainless Steel Spring

Model No.	A	B	C	D	E	Spring load $F_1$ N~*	Spring load $F_2$ N~*
SP-04.04	M 4	1.8	9	1.5	2.0	4.5	12.5
SP-04.05	M 5	2.4	14	2.0	2.5	5.0	13.0
SP-04.06	M 6	2.7	15	2.0	3.0	6.0	17.0
SP-04.08	M 8	3.8	18	2.0	4.0	16.0	33.0
SP-04.10	M 10	4.5	23	2.5	5.0	19.0	42.0
SP-04.12	M 12	6.2	26	3.5	6.0	22.0	57.0
SP-04.16	M 16	8.5	33	4.5	8.0	38.0	78.0
SP-04.20	M 20	10.0	43	6.5	10.0	39.0	81.0
SP-04.24	M 24	13.0	48	8.0	12.0	72.0	155.0

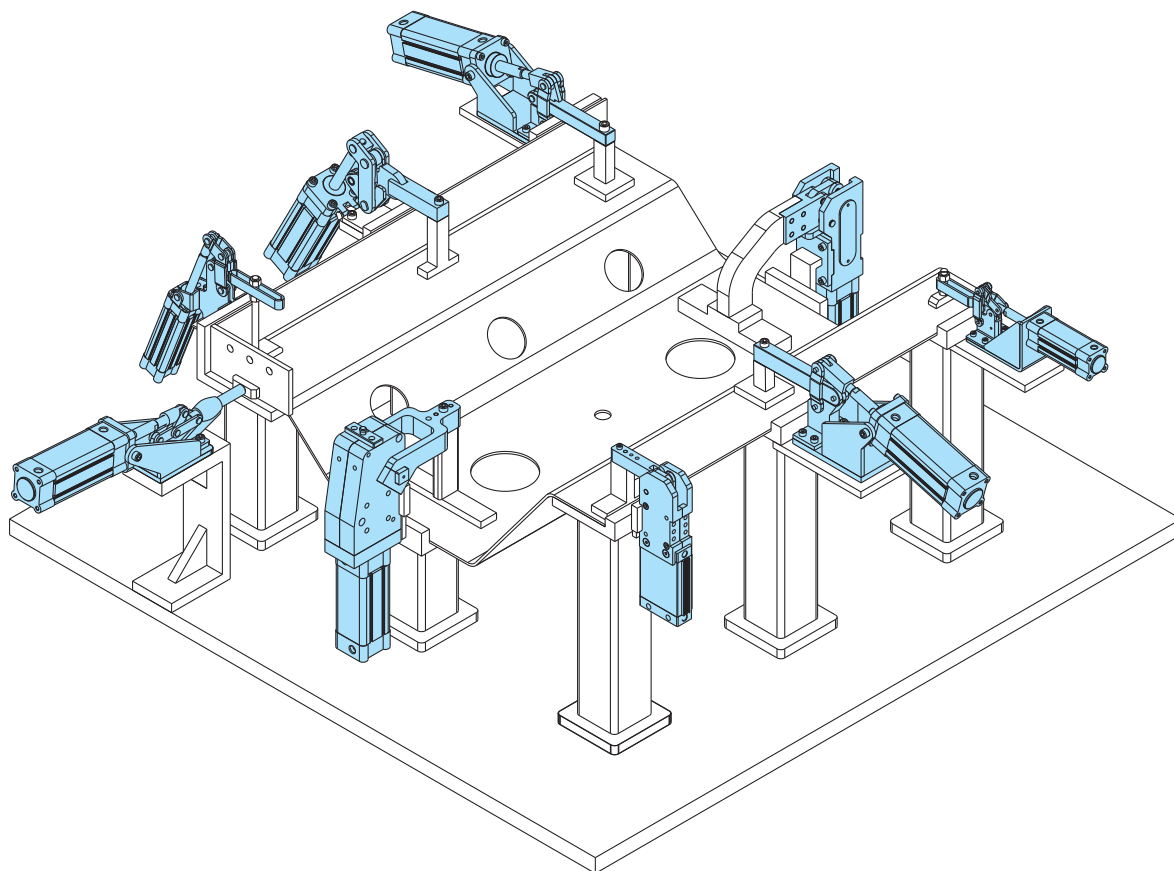




## The sheer power of air clamping at your command

Steel-Smith Pneumatic Toggle Clamps combine the unfaltering Steel-smith toggle action with the speed and efficiency of pneumatic actuators.

These clamps yield high-speed operations with secure and finely controlled clamping pressures. Any number of these clamps can be operated instantly at the touch of a switch and where required they can be arranged to operate in any desired clamping sequence. Pneumatic Toggle Clamps are available in a variety of actions and models to meet the various clamping requirements.



### Advantages:

- Pneumatic Toggle Clamps relieve operator of strenuous clamping movement
- A number of clamps can be used simultaneously
- A number of clamps with different sequences can be simultaneously operated
- One or more clamps can be controlled from the machine panel
- One or more clamps can be operated from different positions
- Clamps stay locked in the event of air failure
- Low air consumption with maximum leverage
- Large opening angle ensures easy component removal
- Assurance of a maximum power-to movement ratio
- Production time is reduced by 40%



HOME

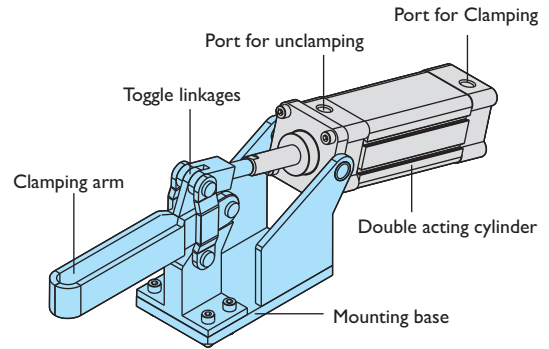
## Introduction

### What is a Pneumatic Toggle Clamp?

A Pneumatic Toggle clamp is basically a Toggle Clamp actuated with a double acting pneumatic cylinder.

The Clamps consists of a double acting cylinder, a clamping arm, linkages for multiplying the applied force, and a base for mounting at the workplace on its base.

Air pressure is applied in the clamping port, which thereby moves the clamping arm to hold the work piece. A required clamping force is achieved and exerted on the work piece. Under this action the Toggle Clamp Holds the work piece firmly and positively. To unlock the clamp the air pressure is applied in the unclamping port.



### Pneumatic Toggle Action Force Factors

#### Holding Capacity:

The holding capacity mentioned for each clamp refers to the maximum force, which the clamp can withstand after being over-centered without damage to the clamp and without the toggle unlocking due to distortion of the clamp.

The over-center dimension is carefully chosen in relation to the elasticity of the clamp to maximize clamping force while ensuring that the clamp locks closed even under vibration or intermittent loading.

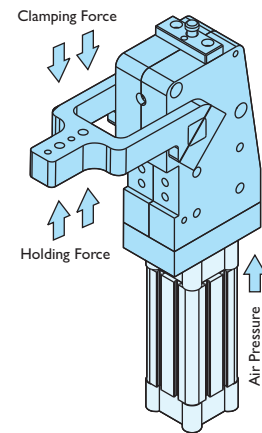
For Hold Down Clamps, holding capacity is measured with the spindle at the nearest end of the clamping arm and will decrease as the spindle goes farther away from the clamping arm. In cases of DCTC & SSC series the holding capacity is measured considering the specified arm length and if the arm length is increased the holding capacity will decrease accordingly.

#### Clamping Force:

Clamping Force, the amount of force actually applied to the work piece by closing and locking the clamp, is generally less than the stated holding capacity. Actual clamping force depends on many factors including; spindle position (clamping arm length), cylinder bore, cylinder area, available air pressure and the clamps mechanical advantage. In most cases, the Clamping force is roughly 2 to 3 times the force exerted by the pneumatic cylinder.

#### Clamping Arm Lengths:

Steel Smith strongly recommends using of clamping arms as per its specified data. Using heavier and longer clamping arms on smaller clamps may disturb the smooth movement of the clamp linkages and also a higher wear and tear in its pins & bushes. Please ask for data sheets on each clamp to know the maximum permissible clamp arm usage for that particular clamp.

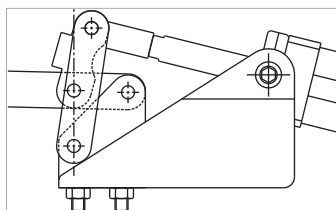


#### Toggle Principle:

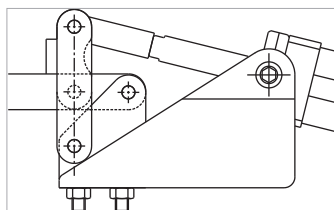
Toggle action clamps operate through a linkage system of levers and pivots. The fixed length levers, connected by pivot pins supply the action and clamping force. Toggle action has an over center lock point which is a fixed stop and linkage. Once in the over center position, the clamp cannot move or unlock unless the linkage is moved. All types of toggle clamps have same action, just oriented differently.

#### The Toggle Mechanism in a clamp has three functions:

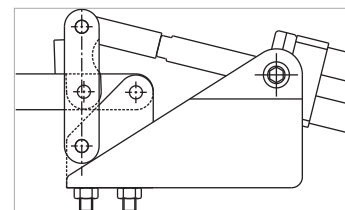
- 1) To multiply applied load at the handle into a high clamping force to hold the work piece.
- 2) To create an over - center lock to prevent the clamp from opening & releasing the work piece until opened by the operator.
- 3) To rapidly open & close the clamp giving a maximum clearance in which to load & unload the work piece.



Unclamped



Center position

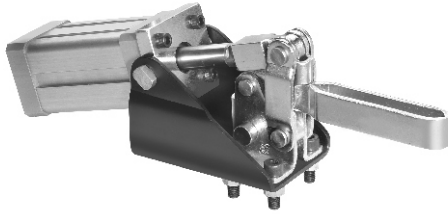


Over-center, clamped position

## Types of Pneumatic Clamps

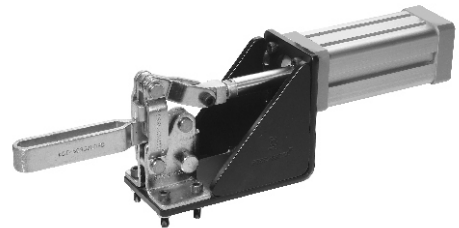
### Hold Down Action - Pneumatic Clamps

These clamps utilize the same basic design and operation as manual hold down, only they are operated pneumatically. As the clamp uses the toggle action principle it ensures that the clamp stays locked in the event of air failure. These clamps are extremely compact in design and feature a very low height, allowing free movement of operating tools in drilling, tapping, milling etc. The clamp units are completely self contained with a double acting cylinder and require only to be connected to the air line. The clamping arm exhibits a minimum 95° opening angle for easy unloading of workpiece and is available in two different options.



### Hold Down Action - Pneumatic Clamps Fixed Cylinder

These Fixed Cylinder clamps are identical to the Hold Down Action Pneumatic clamps with the exception of Cylinder Mounting design. The outstanding characteristic of the clamp is that the cylinder does not move at all while the clamp is in operation. As there is no movement in the cylinder, fixed solid tubing can be used instead of flexible tubing in welding applications. The clamping arm exhibits a minimum 80° opening angle for easy unloading of workpiece and is available in two different options.



### Right Angle Hold Down Clamps

Primarily these clamps belong to the same family of pneumatical hold down clamps with a exception of mounting flexibility. These clamps utilize the same basic design and operation as the pneumatic hold down clamps. In addition these clamps have a flexibility of mounting themselves on the side of the fixture and can also be mounted on top of the fixture. The clamps are used where a right angle model is desirable due to the space constraint. These clamps are nomenclatured as Right Angle Hold Down Clamps as the position of the cylinder is in the downwards perpendicular direction to the clamping unit. Due to these features these clamps can be accommodated in lesser area than the hold down clamps. The clamping arm exhibits a maximum 95° opening and is available in two different options. The typical applications of these clamps are on rotary indexing tables, wood working, injection moulding, PU mould closures, etc.



### H.V. Series Pneumatic Clamps

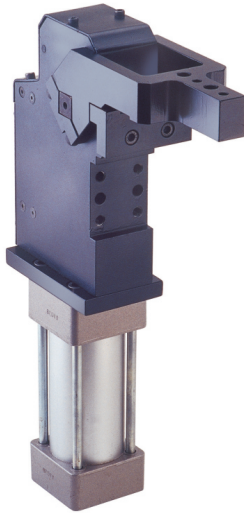
These clamps are the air powered version of the manual H.V. Series. They comprise of a very strong and rugged toggle mechanism actuated by a double acting cylinder. The clamping arm is provided with the clamp and can be welded at any desired angle to suit the individual requirement of work pieces. These clamps carry the 'Over Centre Toggle Lock' principle for maximum safety as they remain in locked condition even in case of air failure. The clamps have almost all the features of the manual H.V. Series clamps. These clamps are available in three sizes off the shelf.



### Straight Line Action Clamps

These clamps utilize the same basic design as manual straight line action clamps with an exception of pneumatic actuation. They are completely self contained with a double acting cylinder suitable to the clamp design and only need pressurised air connection. These cylinders are mounted in line with the plunger of the clamp. The to-and-fro motion of the cylinder operates the clamp. The cylinder piston extends the plunger of the clamp to achieve the lock position and vice versa for unlocking the clamp. The clamp plunger is drilled and tapped for easy loading of suitable adaptors. Plungers are hardened and ground which run in closed tolerated holes for smooth and accurate functioning of clamps. These clamps are widely used in fixtures where locating of components or holes is required and also in mini-automized presses.





## AOT - DCTC Series Pneumatic Clamps

These clamps are made from graded cast iron. The unique design of the clamps enables them to be mounted on any three sides as per the requirement. The clamping arm exhibits an opening of  $110^\circ$  giving full clearance for unloading of work-piece. The clamping arm shown in the drawing below is an illustration and one can mount it as per the requirement. A unique feature of these clamps are the enclosed linkages which keep them free from contaminations which makes them suitable for use in welding, assembly and machining fixtures. The clamps are fitted with a suitable double acting cylinder to actuate the clamps. The linear motion of the cylinder results in the angular motion of the clamping arm. All the pivots of these clamps are hardened and ground and run in closed tolerance with precisely ground bushes for smooth, accurate and long life of the clamps. Utilizing 'Over Centre Toggle Lock Design' for maximum safety and clamping forces, These clamps offer an exceptionally greater clamping force than other clamps of similar sizes. Compact design, narrow profile and mounting flexibility enables these clamps to be ganged close together on machining or welding fixtures.

## SSC-Series Pneumatic Clamps

SSC Series Pneumatic Clamps are the solution to applications, which demands 'Precision' 'Performance' and the most important factor as far as fixturing is concerned 'Compactness'. These clamps have been specially designed by gathering information and suggestions from customers presently using Steel-Smith pneumatic clamps. The design helps a fixture manufacturer as far as space constraints is concerned.

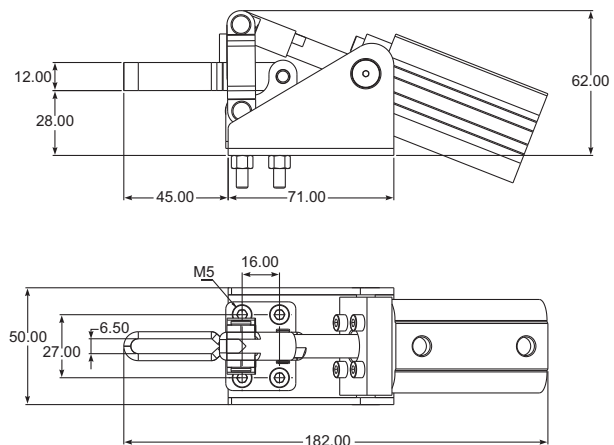
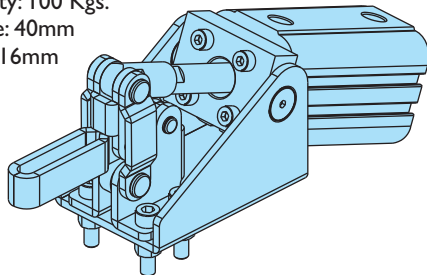
These clamps are flexible from the maintenance point of view, with features like compatible to all standards, brands and types of pneumatic cylinders. The linkages, connector to piston rod and the clamping device consists hardened bushings and pivot pins which are easily replaceable in case of wear outs. The clamping device comes with mounting holes, which can be according to the customer's requirement helping them to standardize on their clamping adaptors. The Mounting of the clamp can also be customized in case of substitutes. SSC - Series pneumatic clamps are available in cylinder size from 16mm bore to 63mm bore size.



## Hold Down Action

### Model No: AOT - 2535 UB

Operating Pressure: 2 - 6 Bar  
Holding Capacity: 100 Kgs.  
Cylinder Stroke: 40mm  
Cylinder Bore: 16mm  
Port Size: M5

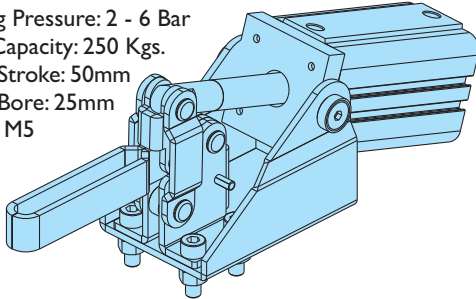


# Pneumatic Clamps

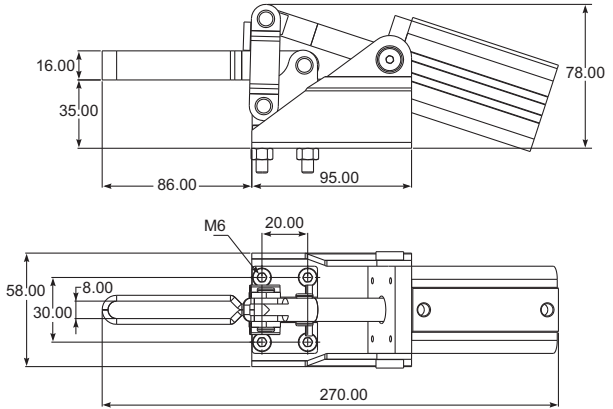
## Hold Down Action

### Model No: AOT - 3586 UB

Operating Pressure: 2 - 6 Bar  
Holding Capacity: 250 Kgs.  
Cylinder Stroke: 50mm  
Cylinder Bore: 25mm  
Port Size: M5

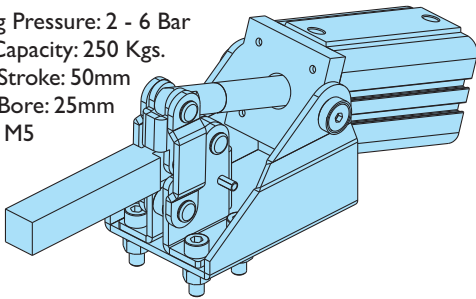


Clamp Arm Opening: 95°

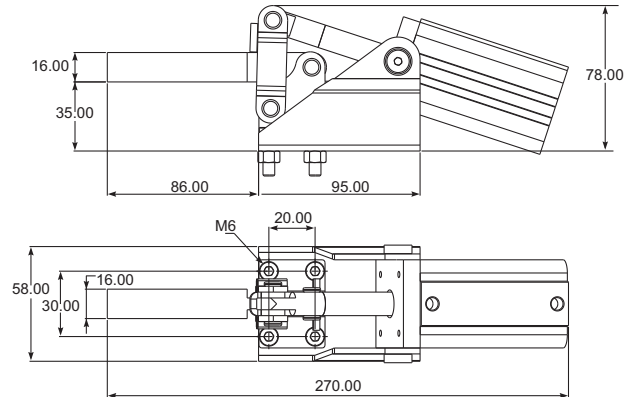


### Model No: AOT - 3586 SB

Operating Pressure: 2 - 6 Bar  
Holding Capacity: 250 Kgs.  
Cylinder Stroke: 50mm  
Cylinder Bore: 25mm  
Port Size: M5

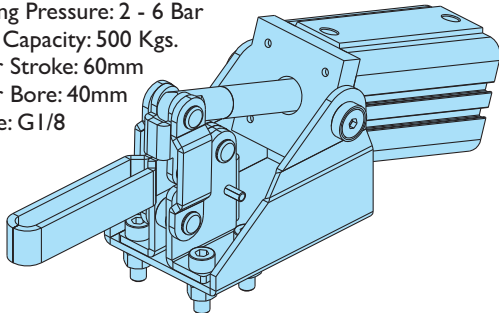


Clamp Arm Opening: 95°

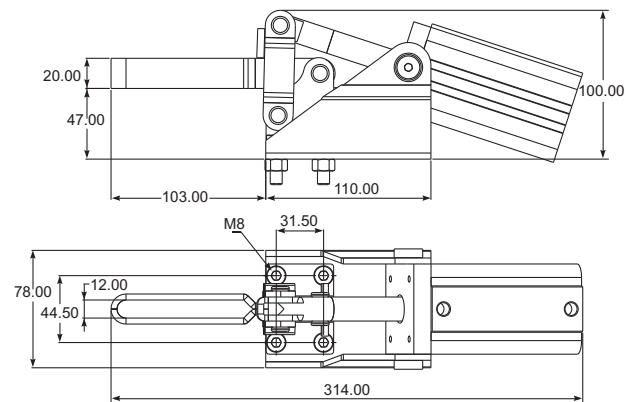


### Model No: AOT - 4690 UB

Operating Pressure: 2 - 6 Bar  
Holding Capacity: 500 Kgs.  
Cylinder Stroke: 60mm  
Cylinder Bore: 40mm  
Port Size: G1/8

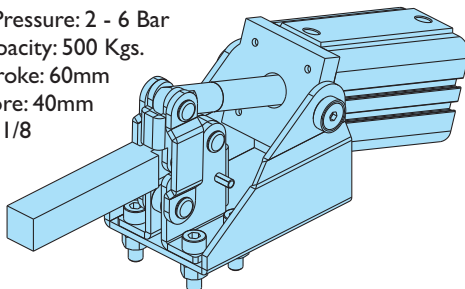


Clamp Arm Opening: 95°

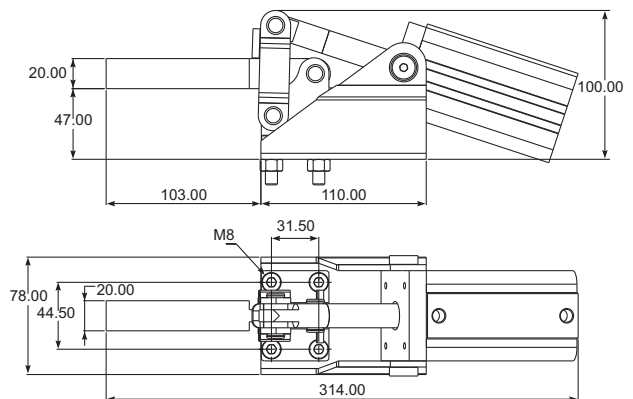


### Model No: AOT - 4690 SB

Operating Pressure: 2 - 6 Bar  
Holding Capacity: 500 Kgs.  
Cylinder Stroke: 60mm  
Cylinder Bore: 40mm  
Port Size: G1/8



Clamp Arm Opening: 95°



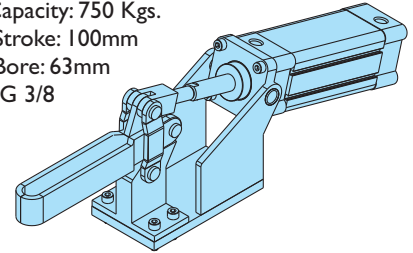
HOME



## Hold Down Action

### Model No: AOT - 57124 UB

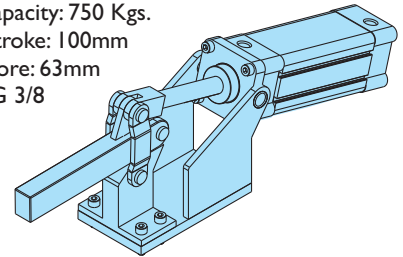
Operating Pressure: 2 - 6 Bar  
Holding Capacity: 750 Kgs.  
Cylinder Stroke: 100mm  
Cylinder Bore: 63mm  
Port Size: G 3/8



Clamp Arm Opening: 100°

### Model No: AOT - 57124 SB

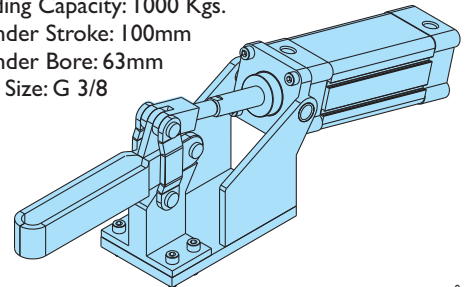
Operating Pressure: 2 - 6 Bar  
Holding Capacity: 750 Kgs.  
Cylinder Stroke: 100mm  
Cylinder Bore: 63mm  
Port Size: G 3/8



Clamp Arm Opening: 100°

### Model No: AOT - 98125 UB

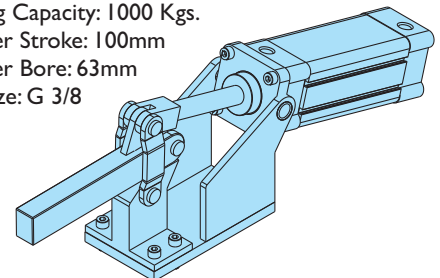
Operating Pressure: 2 - 6 Bar  
Holding Capacity: 1000 Kgs.  
Cylinder Stroke: 100mm  
Cylinder Bore: 63mm  
Port Size: G 3/8



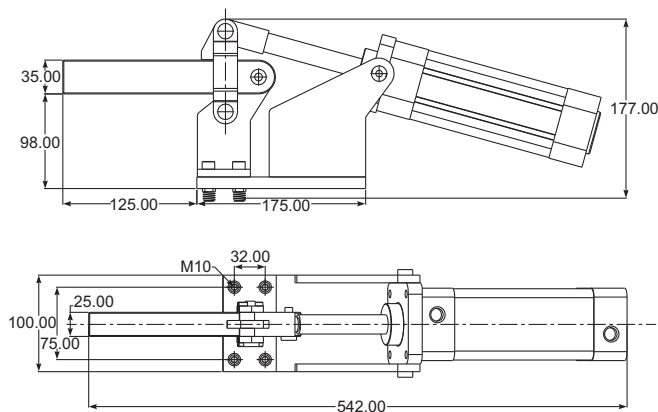
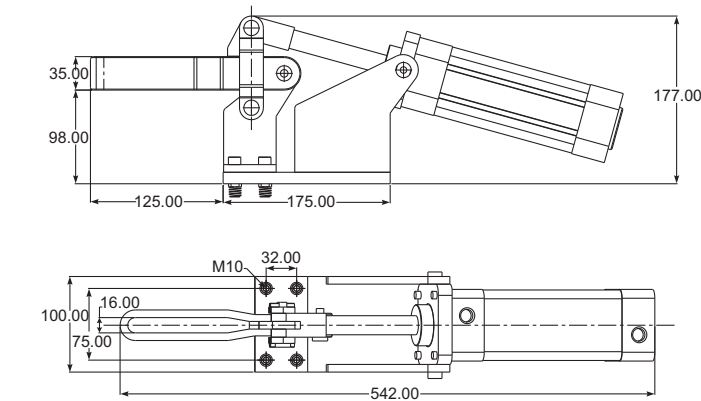
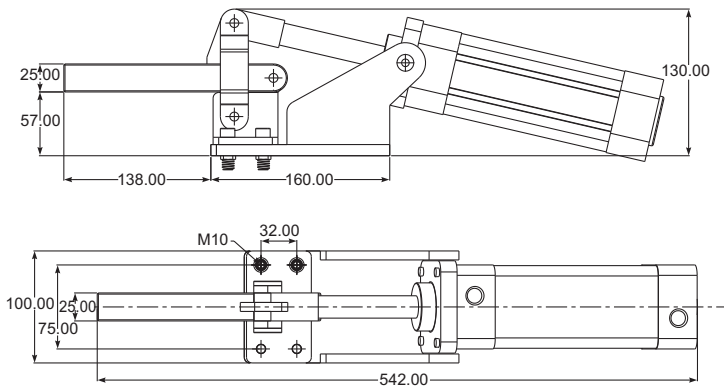
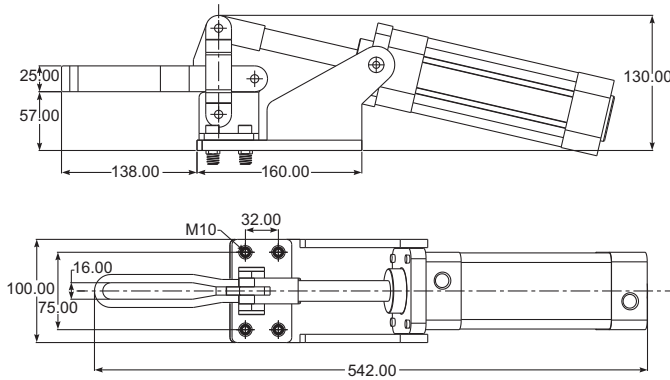
Clamp Arm Opening: 100°

### Model No: AOT - 98125 SB

Operating Pressure: 2 - 6 Bar  
Holding Capacity: 1000 Kgs.  
Cylinder Stroke: 100mm  
Cylinder Bore: 63mm  
Port Size: G 3/8



Clamp Arm Opening: 100°

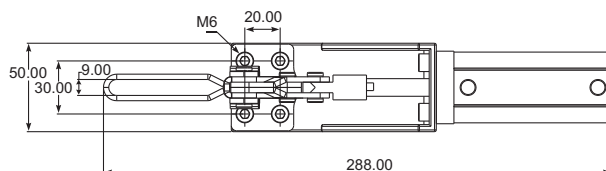
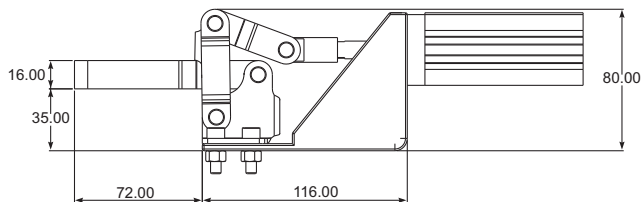
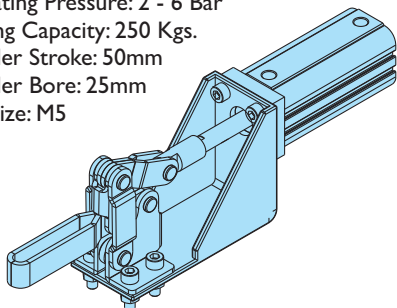


# Pneumatic Clamps

## Hold Down Action - Fixed Cylinder

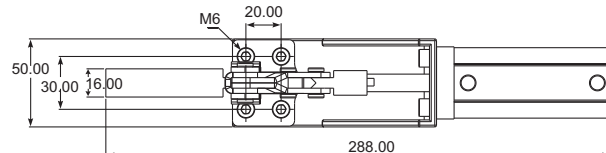
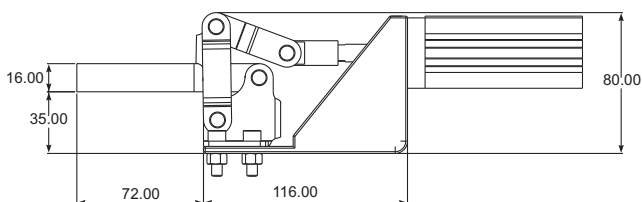
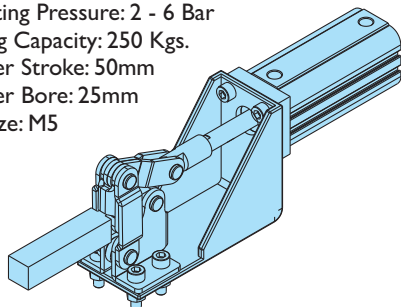
### Model No: AOT - 3565 UB/FC

Operating Pressure: 2 - 6 Bar  
Holding Capacity: 250 Kgs.  
Cylinder Stroke: 50mm  
Cylinder Bore: 25mm  
Port Size: M5



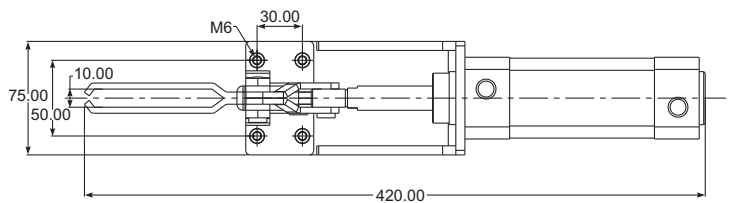
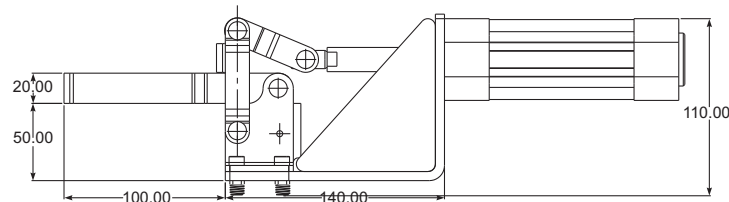
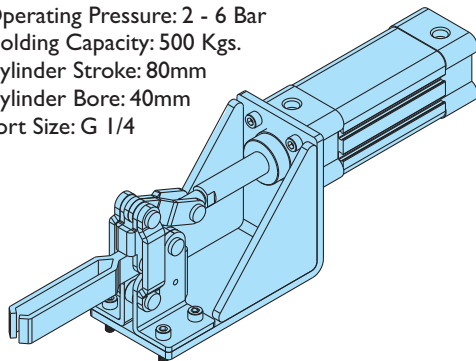
### Model No: AOT - 3565 SB/FC

Operating Pressure: 2 - 6 Bar  
Holding Capacity: 250 Kgs.  
Cylinder Stroke: 50mm  
Cylinder Bore: 25mm  
Port Size: M5



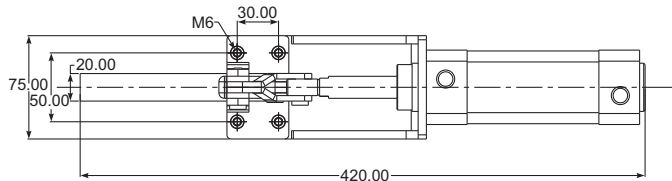
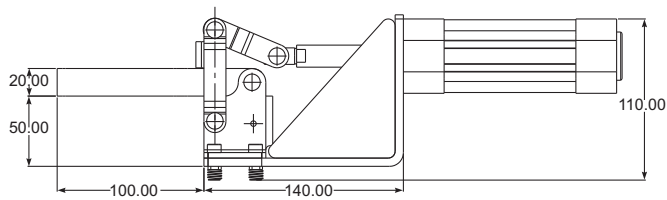
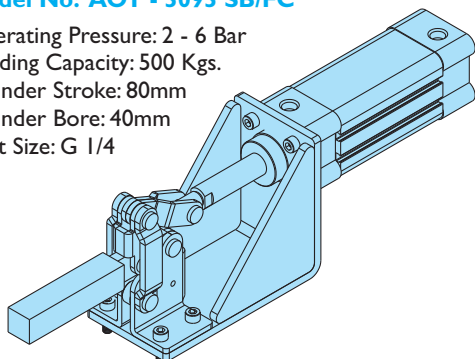
### Model No: AOT - 5095 UB/FC

Operating Pressure: 2 - 6 Bar  
Holding Capacity: 500 Kgs.  
Cylinder Stroke: 80mm  
Cylinder Bore: 40mm  
Port Size: G 1/4



### Model No: AOT - 5095 SB/FC

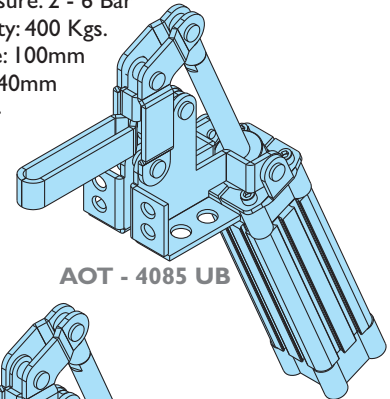
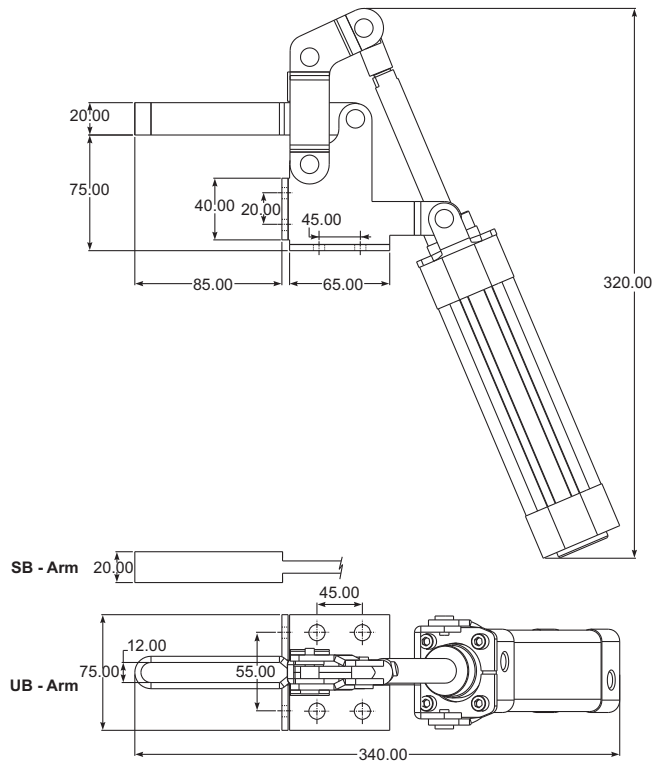
Operating Pressure: 2 - 6 Bar  
Holding Capacity: 500 Kgs.  
Cylinder Stroke: 80mm  
Cylinder Bore: 40mm  
Port Size: G 1/4



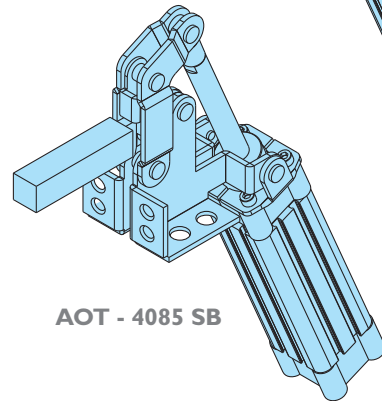
## Hold Down Action - Right Angle

**Model No: AOT - 4085 UB / AOT - 4085 SB**

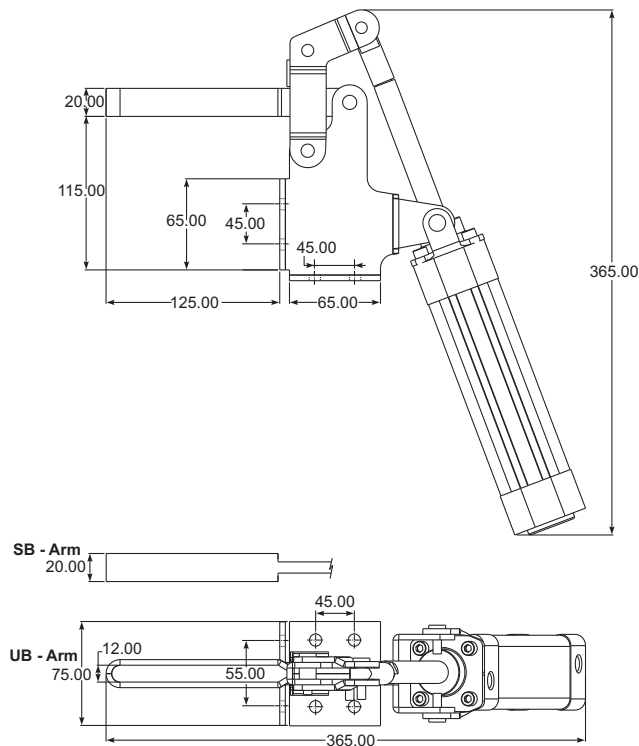
Operating Pressure: 2 - 6 Bar  
Holding Capacity: 400 Kgs.  
Cylinder Stroke: 100mm  
Cylinder Bore: 40mm  
Port Size: G 1/4



**AOT - 4085 UB**

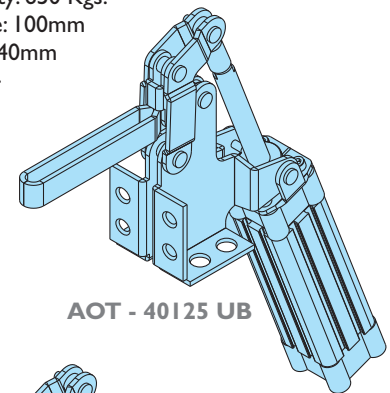


**AOT - 4085 SB**

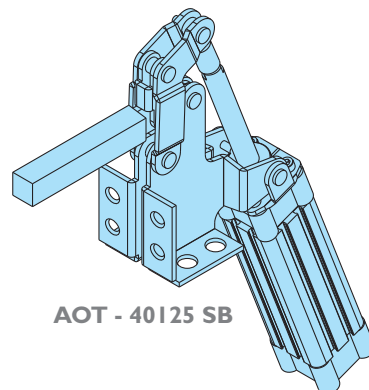


**Model No: AOT - 40125 UB / AOT - 40125 SB**

Operating Pressure: 2 - 6 Bar  
Holding Capacity: 650 Kgs.  
Cylinder Stroke: 100mm  
Cylinder Bore: 40mm  
Port Size: G 1/4



**AOT - 40125 UB**



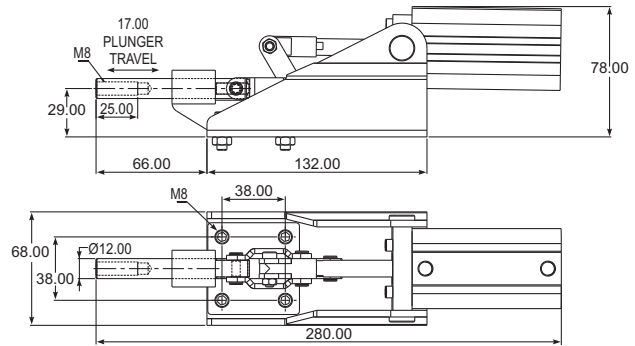
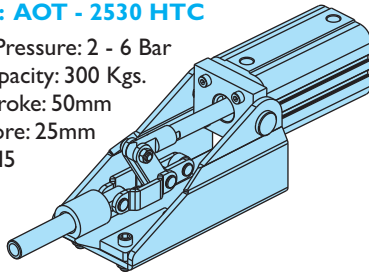
**AOT - 40125 SB**

# Pneumatic Clamps

## Straight Line Action

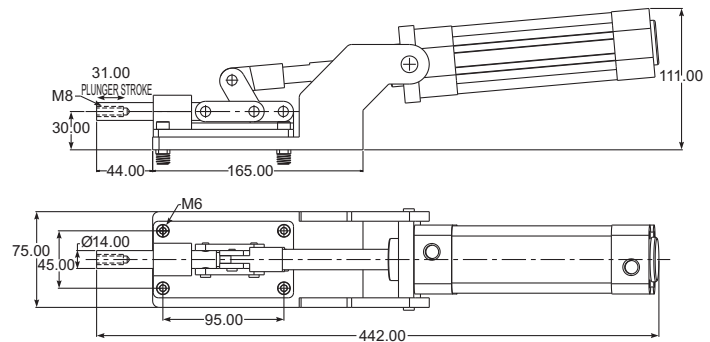
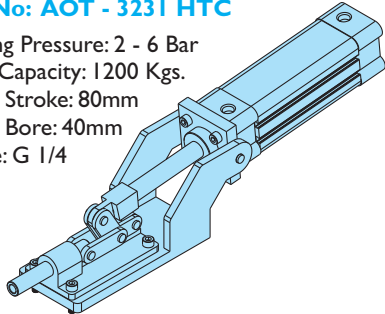
### Model No: AOT - 2530 HTC

Operating Pressure: 2 - 6 Bar  
Holding Capacity: 300 Kgs.  
Cylinder Stroke: 50mm  
Cylinder Bore: 25mm  
Port Size: M5



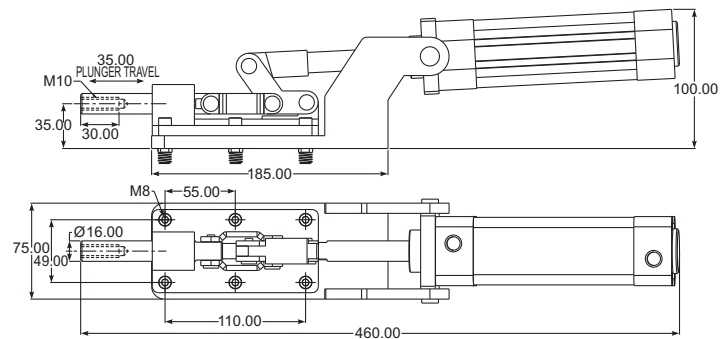
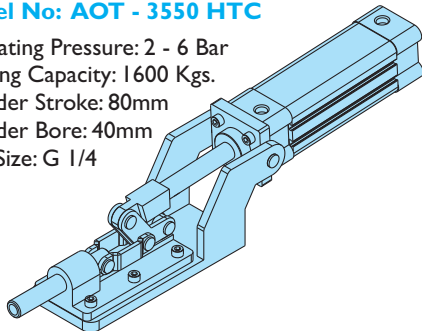
### Model No: AOT - 3231 HTC

Operating Pressure: 2 - 6 Bar  
Holding Capacity: 1200 Kgs.  
Cylinder Stroke: 80mm  
Cylinder Bore: 40mm  
Port Size: G 1/4



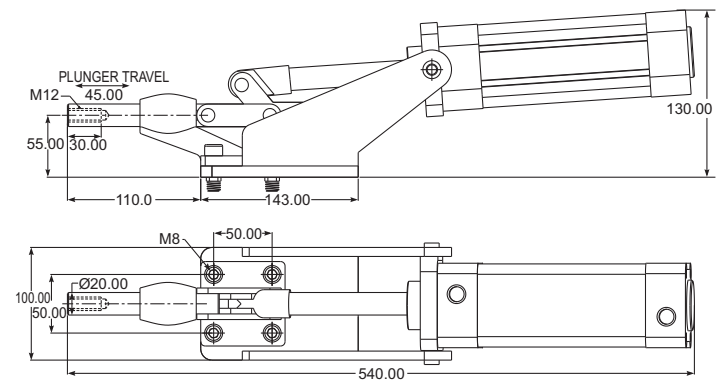
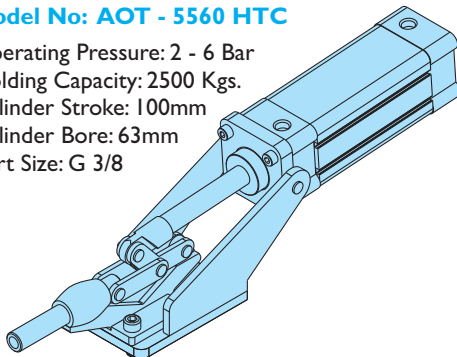
### Model No: AOT - 3550 HTC

Operating Pressure: 2 - 6 Bar  
Holding Capacity: 1600 Kgs.  
Cylinder Stroke: 80mm  
Cylinder Bore: 40mm  
Port Size: G 1/4



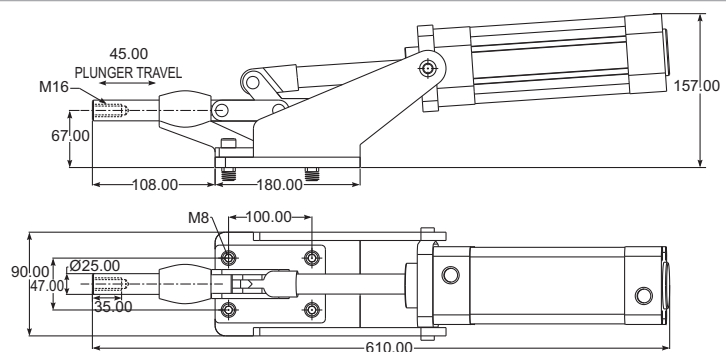
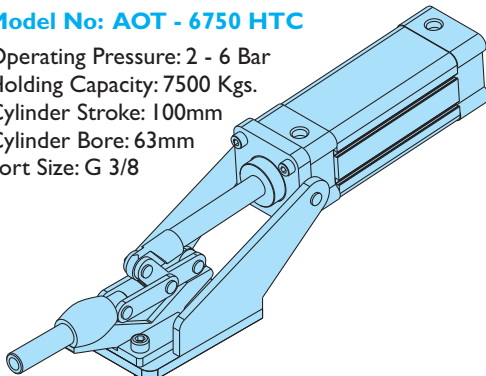
### Model No: AOT - 5560 HTC

Operating Pressure: 2 - 6 Bar  
Holding Capacity: 2500 Kgs.  
Cylinder Stroke: 100mm  
Cylinder Bore: 63mm  
Port Size: G 3/8



### Model No: AOT - 6750 HTC

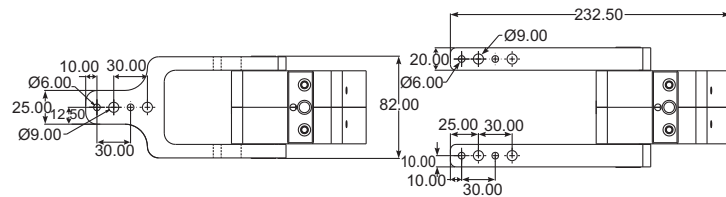
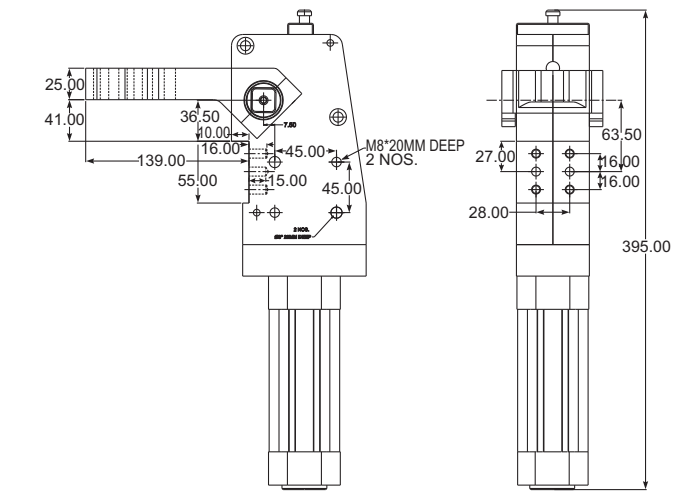
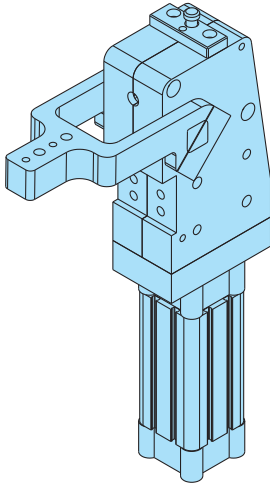
Operating Pressure: 2 - 6 Bar  
Holding Capacity: 7500 Kgs.  
Cylinder Stroke: 100mm  
Cylinder Bore: 63mm  
Port Size: G 3/8



## DCTC Series

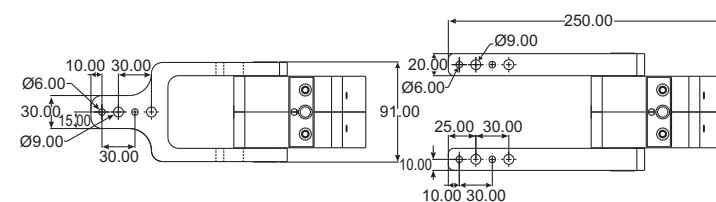
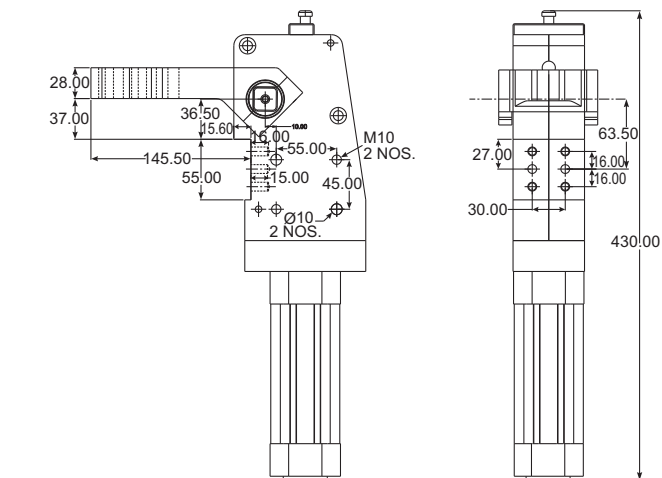
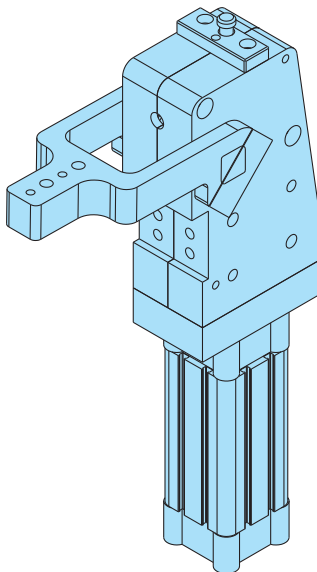
### Model No: AOT - DC - 4080

Operating Pressure: 3.5 - 6 Bar  
Holding Capacity: 380 Kgs.  
Cylinder Stroke: 80mm  
Cylinder Bore: 40mm  
Port Size: G 1/4



### Model No: AOT - DC - 5080

Operating Pressure: 3.5 - 6 Bar  
Holding Capacity: 800 Kgs.  
Cylinder Stroke: 80mm  
Cylinder Bore: 50mm  
Port Size: G 1/4

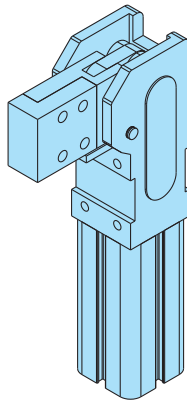


HOME

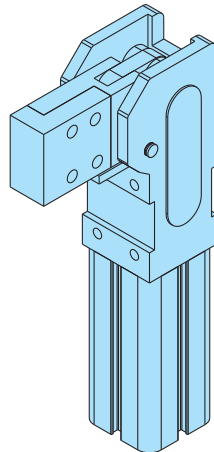




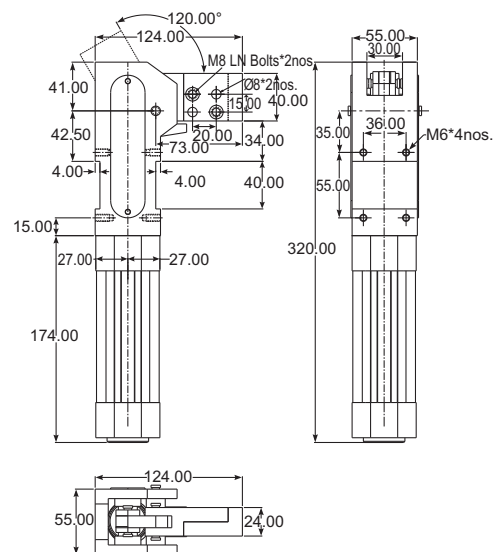
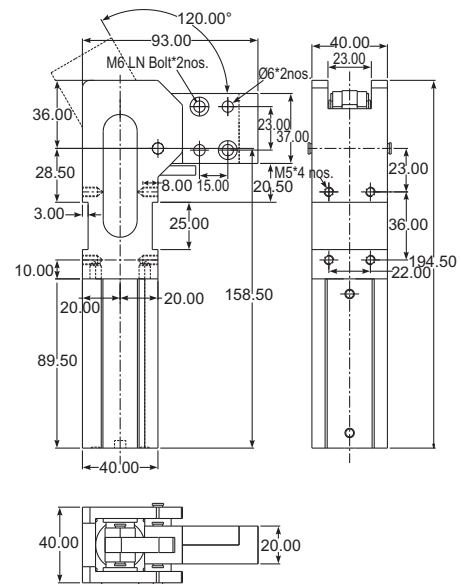
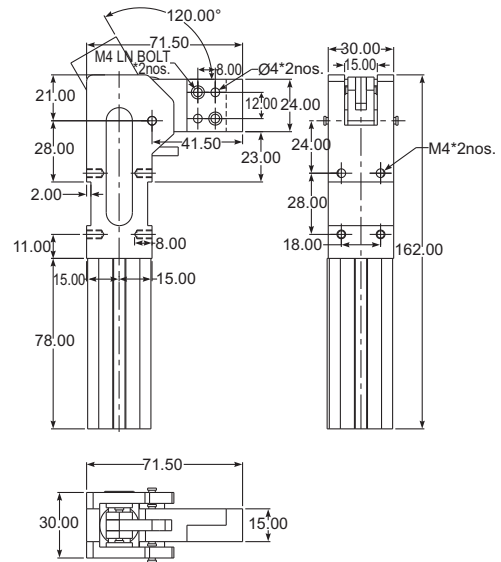
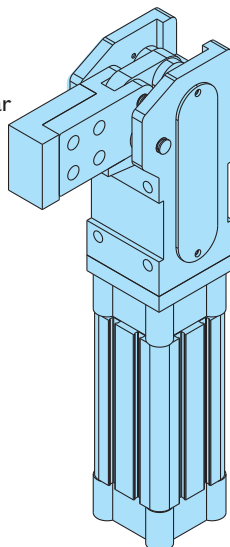
Operating Pressure: 2 - 6 Bar  
Holding Capacity: 250 Kgs.  
Cylinder Stroke: 40mm  
Cylinder Bore: 16mm  
Port Size: M5



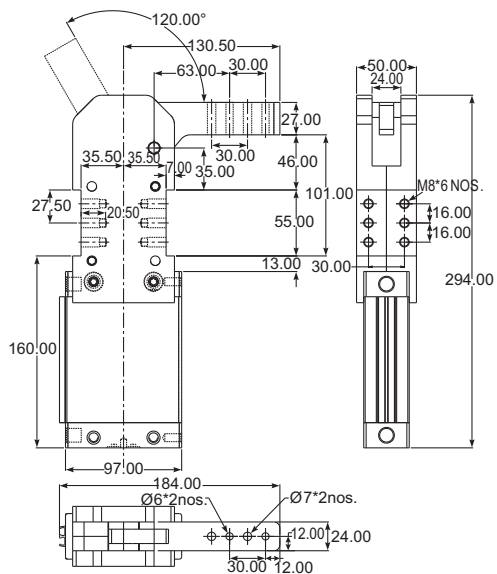
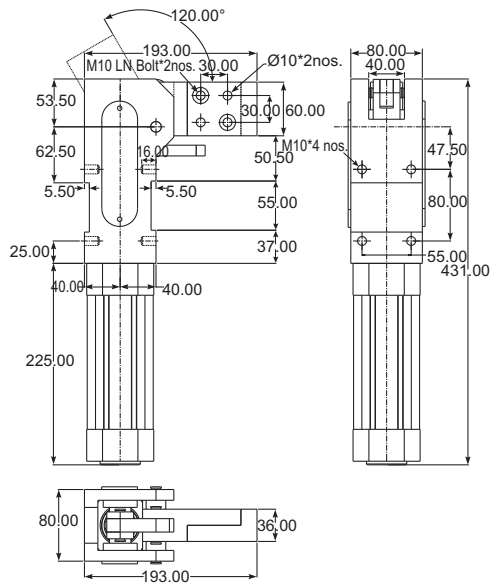
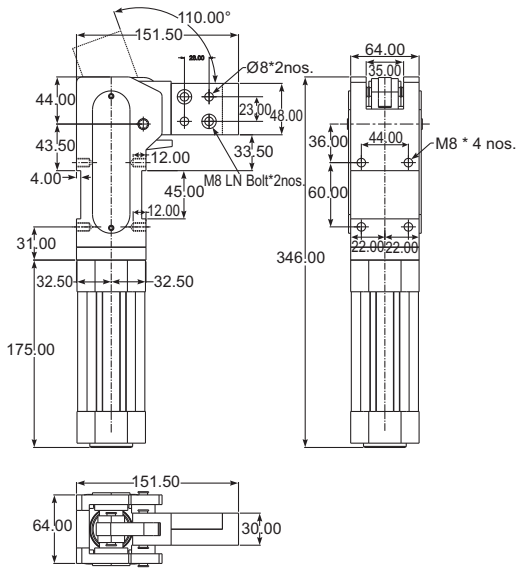
Operating Pressure: 2 - 6 Bar  
Holding Capacity: 500 Kgs.  
Cylinder Stroke: 50mm  
Cylinder Bore: 25mm  
Port Size: M5



Operating Pressure: 2 - 6 Bar  
Holding Capacity: 800 Kgs.  
Cylinder Stroke: 80mm  
Cylinder Bore: 40mm  
Port Size: G 1/4



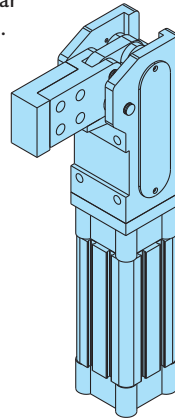
## Pneumatic Clamps



## SSC Series

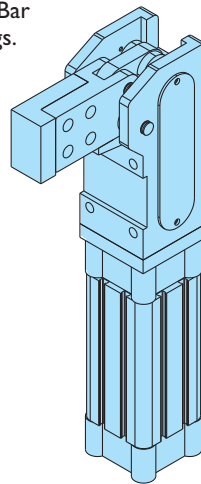
**Model No: SSC - 5065**

Operating Pressure: 2 - 6 Bar  
Holding Capacity: 1500 Kgs.  
Cylinder Stroke: 80mm  
Cylinder Bore: 50mm  
Port Size: G 1/4



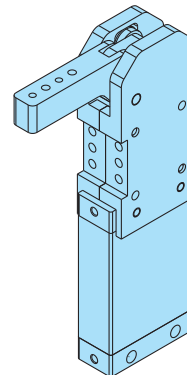
**Model No: SSC - 63100**

Operating Pressure: 2 - 6 Bar  
Holding Capacity: 2500 Kgs.  
Cylinder Stroke: 100mm  
Cylinder Bore: 63mm  
Port Size: G 3/8



**Model No: FSSC - 5065**

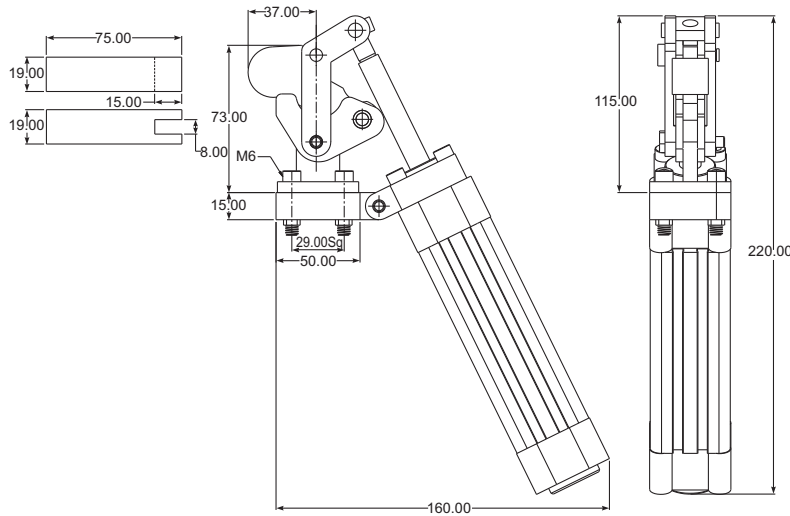
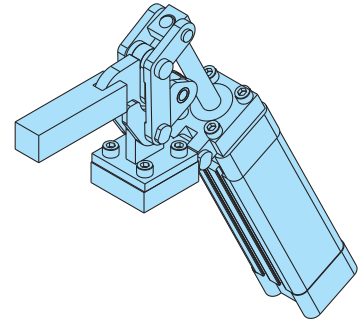
Operating Pressure: 2 - 6 Bar  
Holding Capacity: 1500 Kgs.  
Cylinder Stroke: 80mm  
Cylinder Bore: 50mm  
Port Size: G 1/4



## H.V. Series

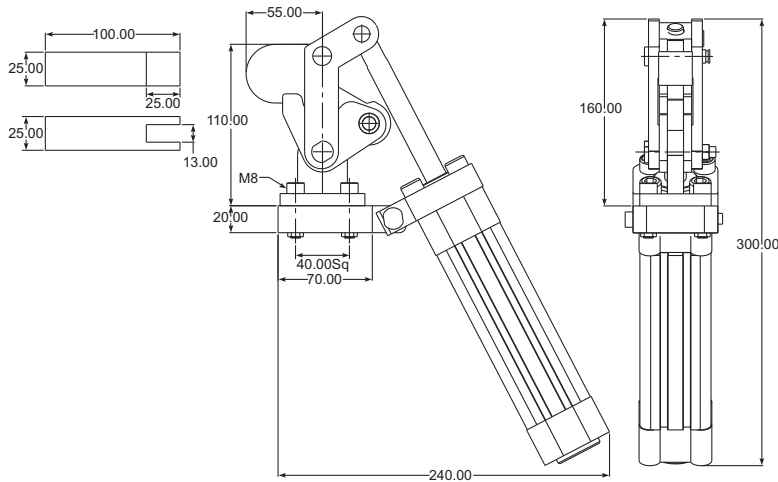
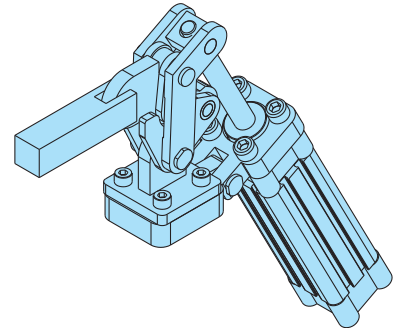
### Model No: AOT - BII - 200

Operating Pressure: 2 - 6 Bar  
Holding Capacity: 200 Kgs.  
Cylinder Stroke: 80mm  
Cylinder Bore: 32mm  
Port Size: G 1/8



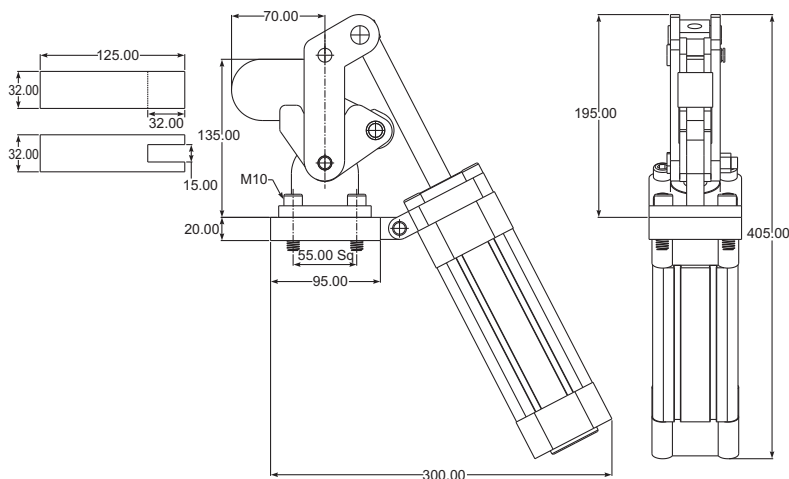
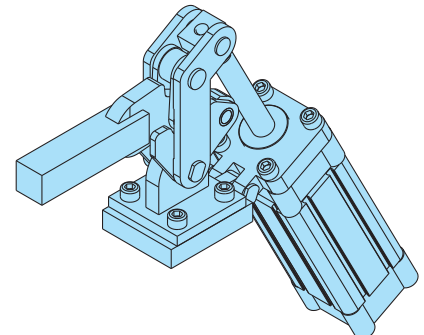
### Model No: AOT - BII - 500

Operating Pressure: 2 - 6 Bar  
Holding Capacity: 750 Kgs.  
Cylinder Stroke: 100mm  
Cylinder Bore: 40mm  
Port Size: G 1/4



### Model No: AOT - BII - 1000

Operating Pressure: 2 - 6 Bar  
Holding Capacity: 1000 Kgs.  
Cylinder Stroke: 100mm  
Cylinder Bore: 63mm  
Port Size: G 3/8



# SWING CLAMPS



clamps on the go...that **never let go!**



HOME



## Introduction

Steel-Smith introduces India's biggest range of Swing Clamps. These Clamps are the most complete, comprehensively featured & compact Swing Clamps. Clamping Capacities range from 20 kgs. to 1600 kgs. The unique single cylinder design powers both the swing & force cycles eliminating the bulkier, two-cylinder concept that requires one cylinder for the swing motion and another cylinder for the force cycles. Gives you more force in less space with less parts. Swing Clamps also give you an absolute in line "linear clamping action" without rocker arm motion in the force stroke. The piston rotates by  $90^\circ$  during the swing stroke, followed by the straight clamping stroke due to the internal cam. Loading and unloading of the job is very easy due to the swing action. In the unclamped position, the work piece area is free from the strap. Depending upon cylinder model, arm pivots in a left or right-hand direction in to work holding area and applies downward clamping force. All capacities are offered as standard in Block Version, Profile Body, Threaded Body or Lower Flange versions.



### Applications:

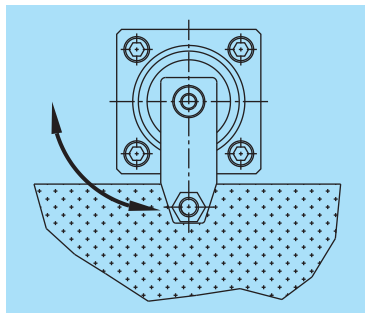
Swing clamps are designed for applications where the fixture work piece area must be free for unobstructed work piece loading and unloading. Swing clamps are also suitable for oven-door clamping, die clamping and machine bed clamping.

### Function:

This Clamping element is a pull type cylinder where a part of the total stroke is used to swing the piston.

### Direction of Rotation:

These Clamps are available with clockwise (right) or counter clockwise (left) rotation. Cylinder arm adjustable full  $360^\circ$  for easy and precise locating of arm for positioning clamp. For ordering add 'R' to model number for right hand (clockwise) swing unit, and 'L' for left hand (counter clockwise) swing unit.

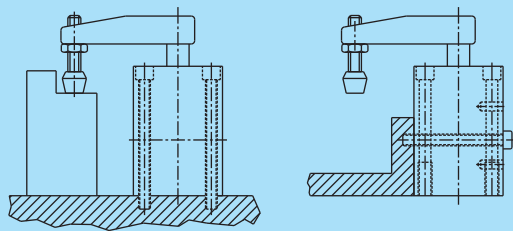
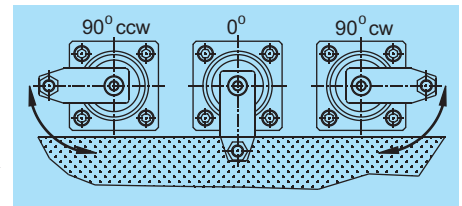


Stroke to swing

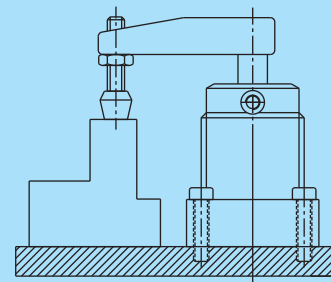
Stroke to clamp

### Version:

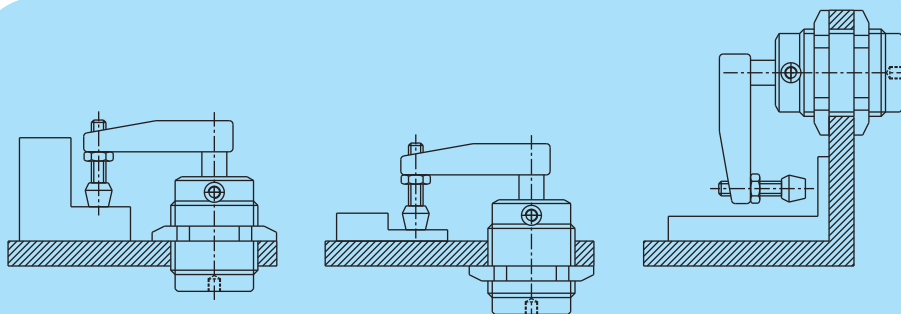
The Swing Clamps are available in Single & Double Acting versions



Mounting of Block Version  
or Profile Body Clamps



Mounting of Lower Flange Version



Mounting of Threaded Body Clamps

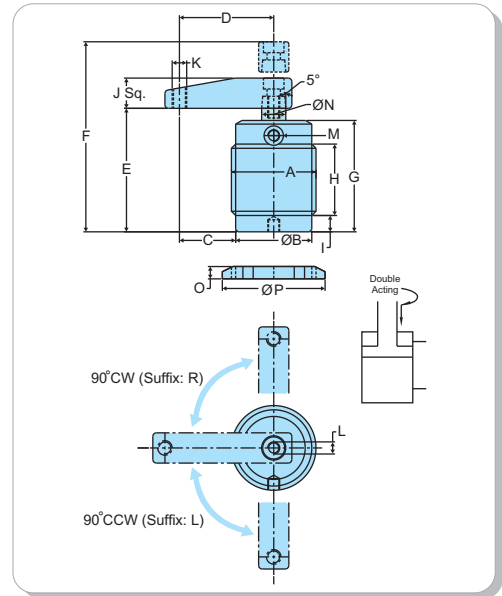
# Swing Clamps

## Pneumatic Swing Clamps

### Pneumatic Swing Clamp - PST Series Threaded Body Model

- Body Thread for precise cylinder height positioning
- Threaded port connection
- Easy installation and removal
- Greatest flexibility in fixture des
- Available with two Flange Nuts

Force	20 - 160 kgs.
Stroke	28 - 30 mm
Pressure	4 - 6 Bar

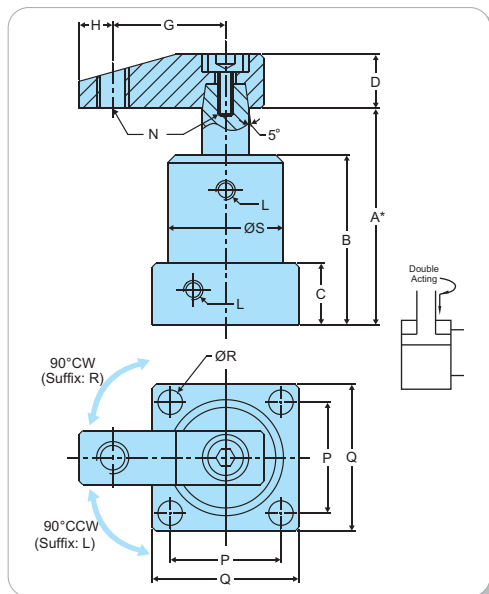


Model No.	A	B	C	D	E	F	G	H	I	J	K	L	M	N Dia.	O	P	Piston Dia.	Bore Dia.	Swing Stroke	Clamping Stroke	Force in Kgs (5 kg/cm <sup>2</sup> )
PST-25-R/L	M40 x M1.5	38	30	50	74	118	70	35	10	16	M6	M8	M5	14	9	58	14	25	14	14	16
PST-32-R/L	M50 x M1.5	48	35	60	83	132	79	40	15	19	M8	M8	1/8 PT	16	11	70	16	32	14	15	30
PST-40-R/L	M55 x M1.5	53	42.5	70	87	135	83	45	15	19	M8	M8	1/8 PT	16	11	75	16	40	14	15	50
PST-50-R/L	M65 x M1.5	62	47.5	80	92	145	87	50	15	25	M12	M10	1/8 PT	20	12	85	20	50	14	14	85
PST-63-R/L	M80 x M1.5	77	50	90	97	152	92	56	15	25	M12	M10	1/8 PT	20	12	100	20	63	15	15	140

### Pneumatic Swing Clamp - PSF Series Lower Flange Version

- No Fixture hole required
- Cylinder can be bolted directly to the fixture
- Flexible design allows for manifold or threaded port connection
- Easiest mounting preparation in the swing clamp line
- Square flange design enables clamping at all four sides of the clamp
- Allows extra large parts to be clamped

Force	16 - 140 kgs.
Stroke	26 - 29 mm
Pressure	4 - 6 Bar



Model No.	A Unclamp	B	C	D Sq.	G	H	L	N	P	Q	R	S	Piston Dia.	Bore Dia.	Swing Stroke	Clamping Stroke	Force in Kgs (5 kg/cm <sup>2</sup> )
PSF-25-R/L	95.5	66.5	23	16	30	8	M5 x 0.8	M6 x 1.00	31	40	4.5	35	14	25	12	14	16
PSF-32-R/L	102.5	71	23	19	50	9	1/8 PT	M8 x 1.25	44	54	6.5	50	16	32	12	14	30
PSF-40-R/L	106	75	26	19	50	9	1/8 PT	M8 x 1.25	48	58	6.5	55	16	40	12	15	50
PSF-50-R/L	113	80	26	25	70	10	1/8 PT	M10 x 1.5	55	68	8.5	65	20	50	14	15	85
PSF-63-R/L	119	86	30	25	70	10	1/8 PT	M10 x 1.5	64	80	8.5	75	20	63	14	15	140

## Pneumatic Swing Clamps

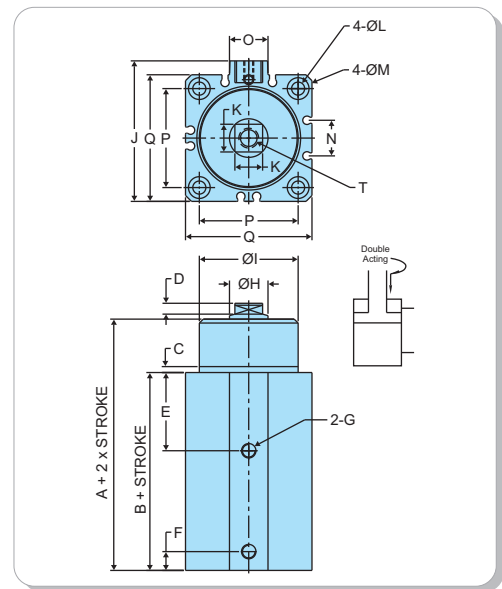
### Pneumatic Swing Clamp - PNS Series Profile Body Version



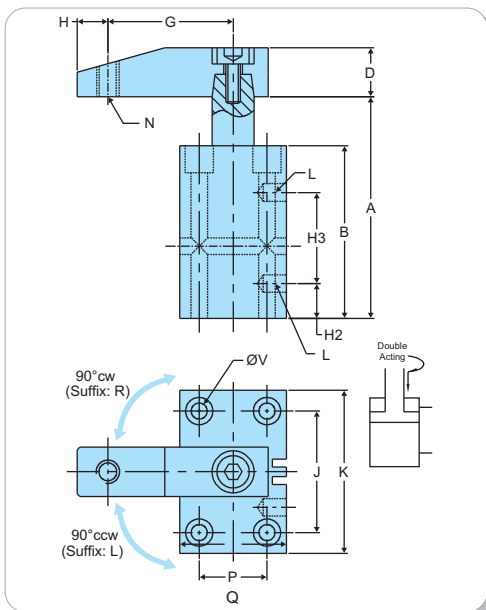
- Compact & Strong Clamping Force
- High Speed Operation
- Grooves on all sides for Reed switch mounting
- Auto Switch is attachable

Force	16 - 85 kgs.
Stroke	19.5 - 69 mm
Pressure	4 - 6 Bar

(Clamping arm is to be ordered separately.)



Model No.	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	T	Swing Stroke	Clamping Stroke	Force in Kgs (5 kg/cm <sup>2</sup> )
PNS-25-R/L	73.5	63	3	3	27	6.5	M5	12	23	45	10	5.5	9 deep 7	12.7	9.6	29	40	M8 x 1.25	9.5	10	16
PNS-32-R/L	93.5	70	3	5.5	34.5	9	1/8 PT	16	30	49.5	14	5.5	9 deep 7	16.5	16.5	34	45	M10 x 1.5	15	10	30
PNS-40-R/L	94.5	70	3	5.5	34.5	9	1/8 PT	16	30	57	14	5.5	9 deep 7	18	18	40	52	M10 x 1.5	15	10	50
PNS-50-R/L	112	81.5	3.5	5.5	39	11	1/4 PT	20	37	71	17	6.6	11 deep 8	8	21	50	64	M12 x 1.75	19	20	85



### Pneumatic Swing Clamp - PSB Series Block Version

- Block Design permits the clamp to be mounted from three different faces
- Grooves on one side for Reed switch mounting
- Simple mounting preparation and easy installation 2 or 4 mounting bolts

Force	16 - 140 kgs.
Stroke	27 - 30 mm
Pressure	4 - 6 Bar



Model No.	A Unclamp	B	D	G	H	H2	H3	J	K	L	N	P	Q	ØV	Piston Dia.	Bore Dia.	Swing Stroke	Clamping Stroke	Force in Kgs (5 kg/cm <sup>2</sup> )
PSB-25-R/L	109	78	16x16	50	6	21	34.5	40	55	M5 x 0.8	M8 x 1.25	20	35	6.5	14	25	13	14	16
PSB-32-R/L	126	90	19x19	60	9	21	51.5	45	60	G 1/8"	M8 x 1.25	30	45	6.5	16	32	14	16	30
PSB-40-R/L	126	90	19x19	70	9	22	50.5	52	70	G 1/8"	M8 x 1.25	37	55	8.5	16	40	15	15	50
PSB-50-R/L	137	100	25x25	80	10	25	53.5	66	85	G 1/8"	M12 x 1.5	46	65	8.5	20	50	15	17	80
PSB-63-R/L	137	100	25x25	90	10	28	52	80	100	G 1/8"	M12 x 1.5	60	80	10.5	20	63	15	15	140

# Swing Clamps

## Hydraulic Swing Clamps

### Hydraulic Swing Clamp - HST Series Threaded Body

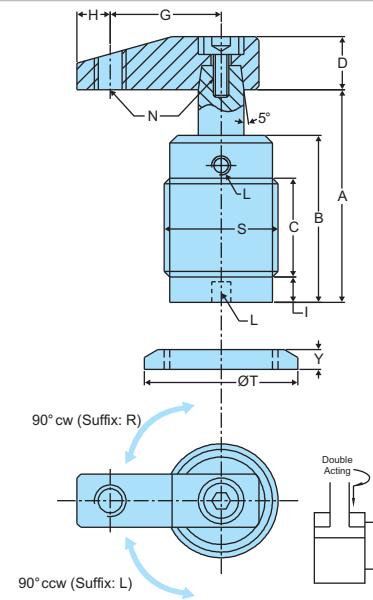
- Body Thread for precise cylinder height positioning
- Threaded port connection
- Easy installation and removal
- Greatest flexibility in fixture design
- Available with two Flange Nuts



Force 59 - 400 kgs.

Stroke 26 - 29 mm

Pressure 20 - 70 kg/cm<sub>2</sub>



Model No.	A Unclamp	B	C	D Sq.	G	H	I	L	N	S	T	Y	Piston Dia.	Bore Dia.	Swing Stroke	Clamping Stroke	Force in Kgs (25 kg/cm <sup>2</sup> )
HST-25-R/L	100	70	35	25	50	10	9	1/8 PT	M10 x 1.5	M45 x 1.5	65	10	18	25	12	14	59
HST-32-R/L	111	76	45	25	55	10	9	1/8 PT	M10 x 1.5	M50 x 1.5	70	11	20	32	14	15	125
HST-40-R/L	113.6	80	45	25	55	10	9	1/8 PT	M10 x 1.5	M55 x 1.5	75	11	20	40	14	15	200
HST-50-R/L	114.5	80	45	25	55	10	9	1/8 PT	M10 x 1.5	M65 x 1.5	85	12	20	50	14	15	400

### Hydraulic Swing Clamp - HSF Series Lower Flange Version

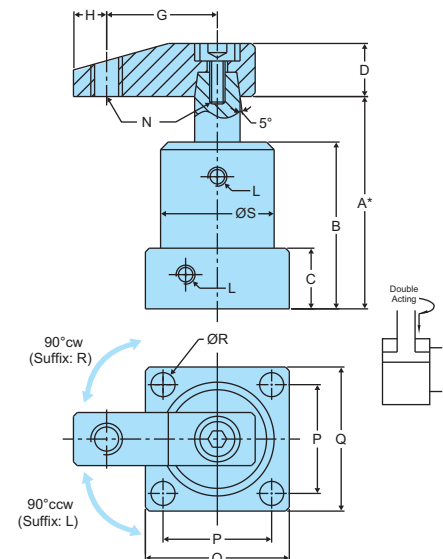
- No Fixture hole required
- Cylinder can be bolted directly to the fixture
- Flexible design allows for manifold or threaded port connection
- Easiest mounting preparation in the swing clamp line
- Square flange design enables clamping at all four sides of the clamp
- Allows extra large parts to be clamped



Force 59 - 600 kgs.

Stroke 26 - 29 mm

Pressure 20 - 70 kg/cm<sup>2</sup>



Model No.	A Unclamp	B	C	D Sq.	G	H	L	N	P	Q	R	S	Piston Dia.	Bore Dia.	Swing Stroke	Clamping Stroke	Force in kgs (25 kg/cm <sup>2</sup> )
HSF-25-R/L	100	70	23	25	50	10	1/8 PT	M10 x 1.5	40	50	6.5	45	18	25	12	14	59
HSF-32-R/L	111	76	25	25	55	10	1/8 PT	M10 x 1.5	44	55	6.5	50	20	32	14	15	125
HSF-40-R/L	113.6	80	27	25	55	10	1/8 PT	M10 x 1.5	48	62	8.5	54	20	40	14	15	200
HSF-50-R/L	114.5	80	27	25	55	10	1/8 PT	M10 x 1.5	57	74	8.5	65	20	50	14	15	400
HSF-63-R/L	118	85	32	32	75	11	1/8 PT	M12 x 1.75	70	88	10	80	25	63	14	15	600



HOME

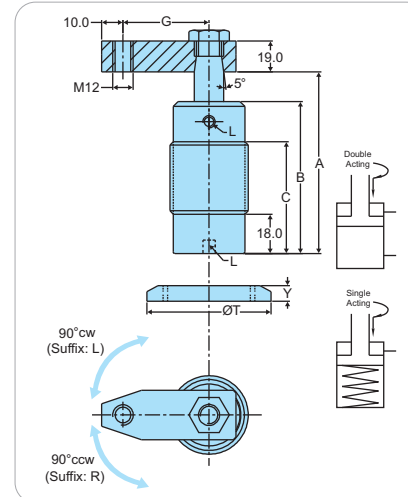
## Hydraulic Swing Clamps

### Hydraulic Swing Clamp - NFT Series Threaded Body Model



- Body Thread for precise cylinder height positioning
- Threaded port connection
- Easy installation and removal
- Greatest flexibility in fixture design
- Available with two Flange Nuts

Force	495 - 1600 kgs.
Stroke	23 - 33 mm
Pressure	50 - 210 kg/cm <sup>2</sup>
Max. Pressure	350 kg/cm <sup>2</sup>



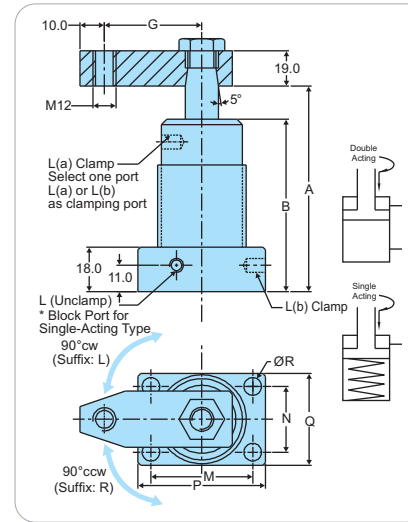
Model No.	A Unclamp	B	C	G	L	T	Y	S	Piston Dia.	Bore Dia.	Swing Stroke	Clamping Stroke	Force in Kgs (210 kg/cm <sup>2</sup> )
<b>Single Acting</b>													
NFT-25-A-R/L	131	102	66	45	1/8 PT	65	10	M45 x 1.5	18	25	12	11	495
NFT-32-A-R/L	127	97	70	50	1/8 PT	70	11	M50 x 1.5	22	32	12	11	890
NFT-40-A-R/L	127	98	72	50	1/8 PT	80	11	M60 x 1.5	25	40	12	11	1600
<b>Double Acting</b>													
NFT-25-B-R/L	137	98	66	45	1/8 PT	65	10	M45 x 1.5	18	25	15	18	495
NFT-32-B-R/L	133	97	70	50	1/8 PT	70	11	M50 x 1.5	22	32	15	18	890
NFT-40-B-R/L	134	98	72	50	1/8 PT	80	11	M60 x 1.5	25	40	15	18	1600

### Hydraulic Swing Clamp - NFS Series Lower Flange Version

- No Fixture hole required
- Cylinder can be bolted directly to the fixture
- Flexible design allows for manifold or threaded port connection
- Easiest mounting preparation in the swing clamp line
- Square flange design enables clamping at all four sides of the clamp
- Allows extra large parts to be clamped



Force	495 - 1600 kgs.
Stroke	23 - 33 mm
Pressure	50 - 210 kg/cm <sup>2</sup>
Max. Pressure	350 kg/cm <sup>2</sup>



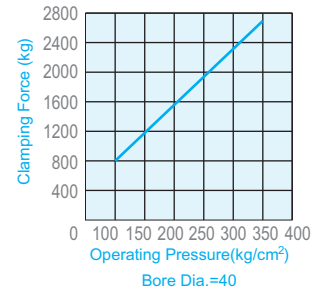
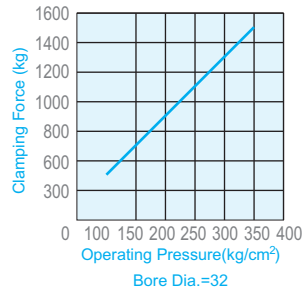
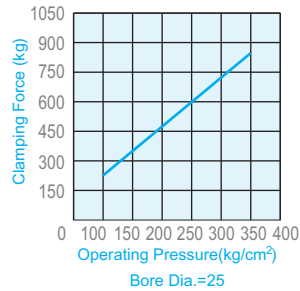
Model No.	A Unclamp	B	G	L	M	N	P	Q	R	S	Piston Dia.	Bore Dia.	Swing Stroke	Clamping Stroke	Force in Kgs (210 kg/cm <sup>2</sup> )
<b>Single Acting</b>															
NFS-25-A-R/L	131	102	45	1/8 PT	50	30	64	46	6.5	M45 x 1.5	18	25	12	11	495
NFS-32-A-R/L	127	97	50	1/8 PT	54	34	68	54	8.5	M50 x 1.5	22	32	12	11	890
NFS-40-A-R/L	127	98	50	1/8 PT	66	40	84	64	8.5	M60 x 1.5	25	40	12	11	1600
<b>Double Acting</b>															
NFS-25-B-R/L	137	98	45	1/8 PT	50	30	64	46	6.5	M45 x 1.5	18	25	15	18	495
NFS-32-B-R/L	133	97	50	1/8 PT	54	34	68	54	8.5	M50 x 1.5	22	32	15	18	890
NFS-40-B-R/L	134	102	50	1/8 PT	66	40	84	64	8.5	M60 x 1.5	25	40	15	18	1600



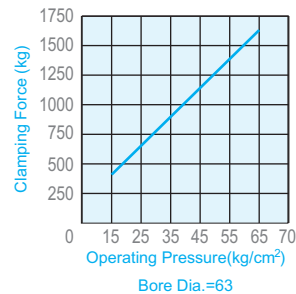
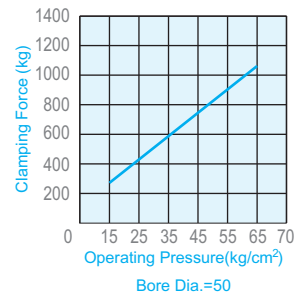
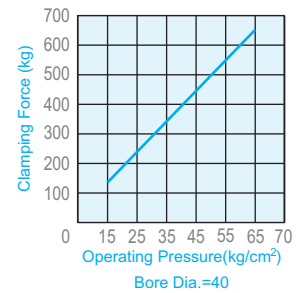
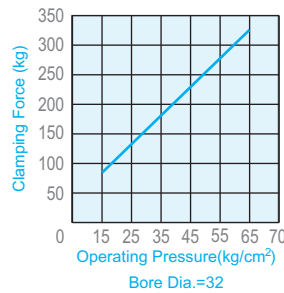
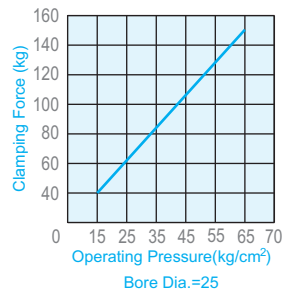
## Working Data for Swing Clamps

(Effective clamping force in dependence of operating pressure)

### NFT Series & NFS Series



### HST Series & HSF Series



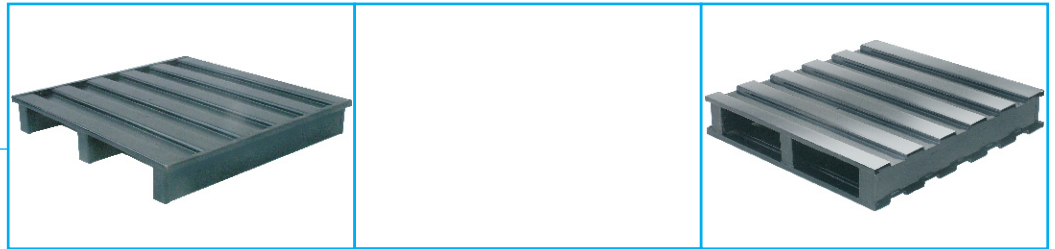
**Note:** All the clamping forces mentioned in the catalogue are for the specified arm distance.



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# Comprehensive Stacking Solutions

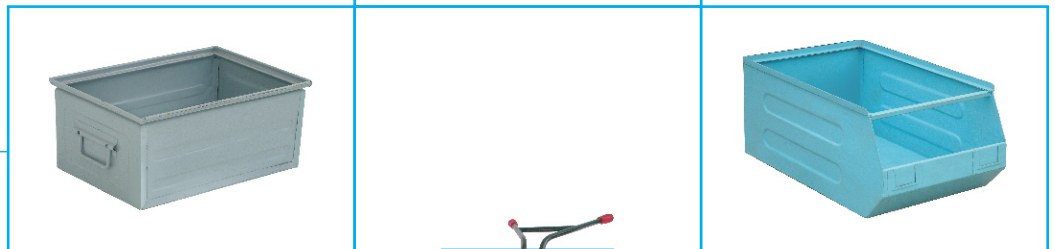
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