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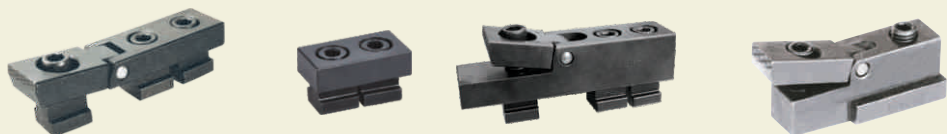
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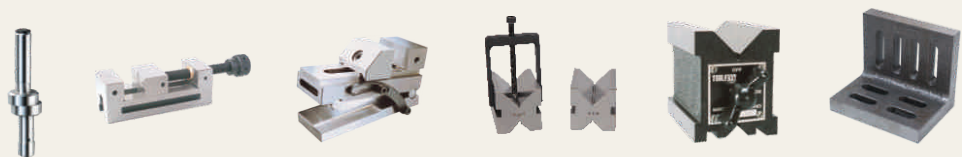
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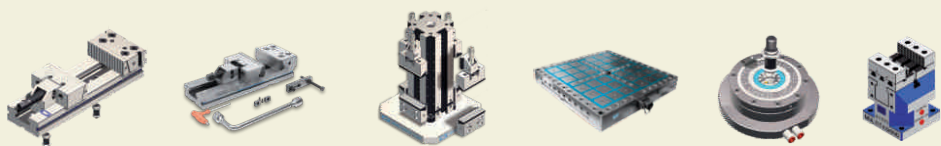


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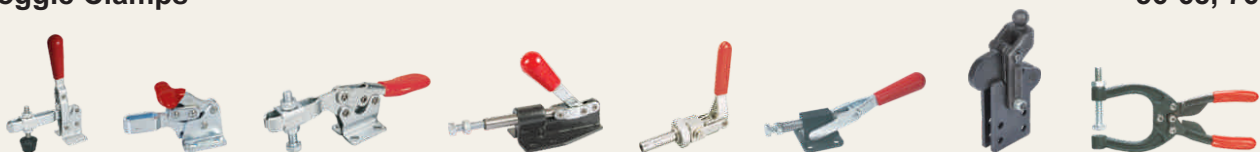
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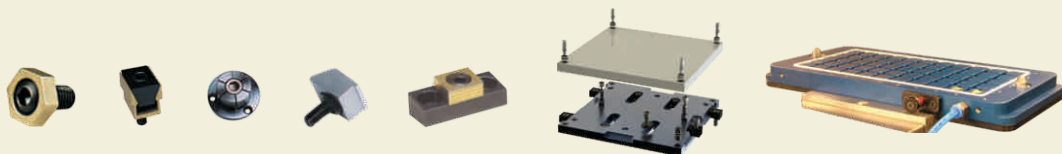
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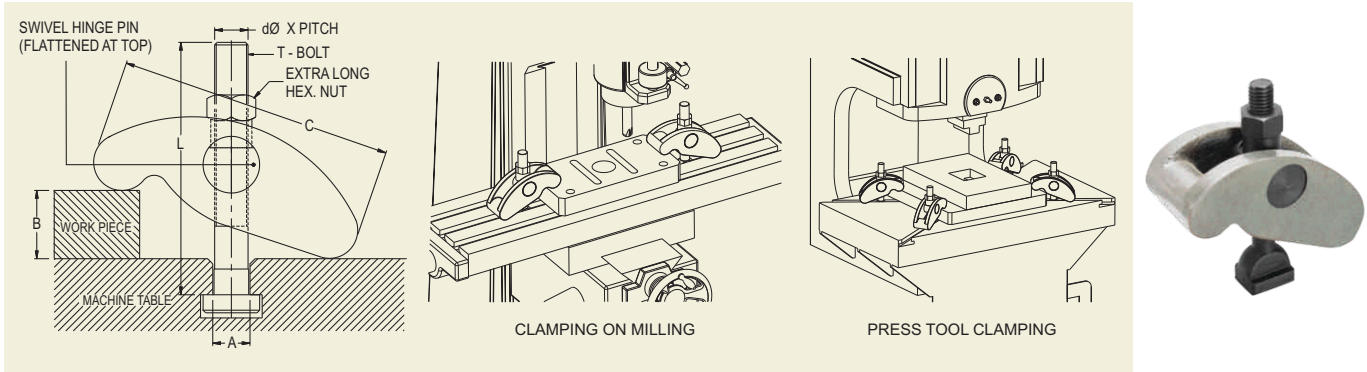
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UNIVERSAL STRAP CLAMP

FOR POWER PRESSES, MILLING, DRILLING, SHAPING, BORING ETC.

'TOOLFAST' Universal Strap Clamp is most suitable for die clamping on power presses and a very useful clamp for job clamping on 'T' slot table of Drilling, Milling, Shaping, Boring and other machine tools. No supports are required at the rear of the clamp since the body of the clamp is self-positioning as the rear part rests on the table and front holds the job. The body positions itself with the help of swivel hinge pin according to the thickness of the workpiece, the T-Bolt remaining in vertical position and the nut is tightened on the flattened portion of swivel hinge pin. Clamp is supplied complete with hardened T-Bolt & special nut.

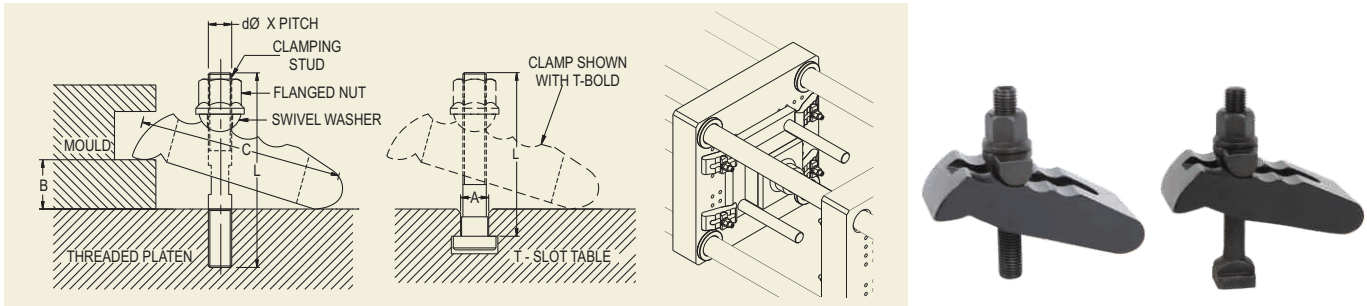


MODEL	T-SLOT SIZE A	dø x PITCH x L	CLAMPING RANGE B	LENGTH OF CLAMP C	BREADTH OF CLAMP	TIGHTENING TORQUE Nm Max.*	CLAMPING FORCE Max.	N. W. Kgs.
USC-12A	12	M12 x 1.75 x 100	0-60	105	42	90	2000 Kgs.	0.84
USC-12B	14	M12 x 1.75 x 100	0-60	105	42	90	2000 Kgs.	0.86
USC-16A	16	M16 x 2.0 x 130	0-80	130	50	210	3200 Kgs.	1.73
USC-16B	18	M16 x 2.0 x 130	0-80	130	50	210	3200 Kgs.	1.74
USC-20A	20	M20 x 2.5 x 150	0-100	160	55	410	5000 Kgs.	2.45
USC-20B	22	M20 x 2.5 x 150	0-100	160	55	410	5000 Kgs.	2.48
USC-24A	24	M24 x 3.0 x 210	0-120	190	65	730	6000 Kgs.	4.39
USC-24B	28	M24 x 3.0 x 210	0-120	190	65	730	6000 Kgs.	4.68

MOULD CLAMP

FOR PLASTIC INJECTION MOULDING & PRESSURE DIE CASTING MACHINES

'TOOLFAST' Mould Clamp is designed specially for low height applications only such as clamping of moulds on plastic injection moulding machines & pressure die casting machines. The compact front portion of the clamp enables it to penetrate into the limited clamping area of the mould and clamp it. The positioning of forged swivel washer on required curved groove enables the operator to set the center distance between the clamping portion and the clamping bolt as per the nearest tapped hole available on platen (where there are no T-slots). No supports are required at the rear of the clamp as the rear portion rests on the platen and front holds the mould. Flanged nut is tightened on the swivel washer which takes care of the positioning of clamp body. These clamps are equally useful on pressure die casting machines, hydraulic presses & power presses where low height clamping is done. Clamps are supplied complete with swivel washer, flanged nut & clamping stud or T-Bolt as shown in tables below.



MOULD CLAMP - WITH CLAMPING STUD

MODEL	dø x PITCH x L	CLAMPING RANGE B	LENGTH OF CLAMP C	BREADTH OF CLAMP	TIGHTENING TORQUE Nm Max.*	CLAMPING FORCE Max.	N. W. Kgs.
MC-12	STUD M-12 x 1.75 x 100	0-35	110	50	90	2000 Kgs.	0.99
MC-16	STUD M-16 x 2.0 x 125	0-40	135	60	210	3200 Kgs.	1.67
MC-20	STUD M-20 x 2.5 x 175	0-50	160	70	410	5000 Kgs.	2.81
MC-24	STUD M-24 x 3.0 x 200	0-60	180	80	730	6000 Kgs.	4.19

MOULD CLAMP - WITH T-BOLT

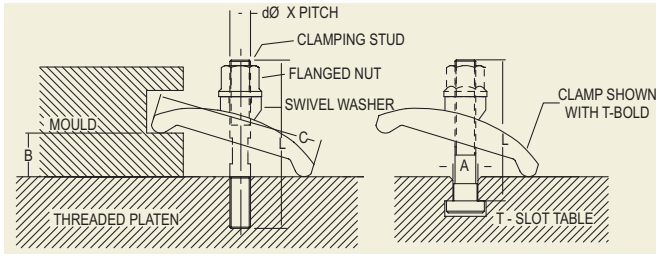
MODEL	dø x PITCH x L	T-SLOT SIZE A	CLAMPING RANGE B	LENGTH OF CLAMP C	BREADTH OF CLAMP	TIGHTENING TORQUE Nm Max.*	CLAMPING FORCE Max.	N. W. Kgs.
MC-12A	T-BOLT M-12 x 1.75 x 100	12	0-35	110	50	90	2000 Kgs.	1.15
MC-12B	T-BOLT M-12 x 1.75 x 100	14	0-35	110	50	90	2000 Kgs.	1.30
MC-16A	T-BOLT M-16 x 2.0 x 130	16	0-40	135	60	210	3200 Kgs.	1.76
MC-16B	T-BOLT M-16 x 2.0 x 130	18	0-40	135	60	210	3200 Kgs.	1.78
MC-20A	T-BOLT M-20 x 2.5 x 150	20	0-50	160	70	410	5000 Kgs.	2.89
MC-20B	T-BOLT M-20 x 2.5 x 150	22	0-50	160	70	410	5000 Kgs.	2.92
MC-24A	T-BOLT M-24 x 3.0 x 210	24	0-60	180	80	730	6000 Kgs.	4.40
MC-24B	T-BOLT M-24 x 3.0 x 210	28	0-60	180	80	730	6000 Kgs.	4.72

* Exceeding the maximum torque damages the clamp parts and warranty expires.

MOULD CLAMP - FORGED

FOR PLASTIC INJECTION MOULDING & PRESSURE DIE CASTING MACHINES

The Popular 'TOOLFAST' mould clamp is now available in forged steel body for extra strength. All models shown below are similar to the MC models on the previous page.



MOULD CLAMP - FORGED - WITH CLAMPING STUD

MODEL	dø x PITCH x L					CLAMPING RANGE B	LENGTH OF CLAMP C	BREADTH OF CLAMP	TIGHTENING TORQUE Nm Max.*	CLAMPING FORCE Max.	N. W. Kgs.
MCF-12	STUD	M-12	x	1.75	x 100	0-35	102	46	90	2000 Kgs.	0.50
MCF-16	STUD	M-16	x	2.0	x 125	0-50	124	58	210	3200 Kgs.	0.98
MCF-20	STUD	M-20	x	2.5	x 175	0-65	156	68	410	5000 Kgs.	2.0
MCF-24	STUD	M-24	x	3.0	x 200	0-75	178	82	730	6000 Kgs.	3.0

MOULD CLAMP - FORGED - WITH T- BOLT

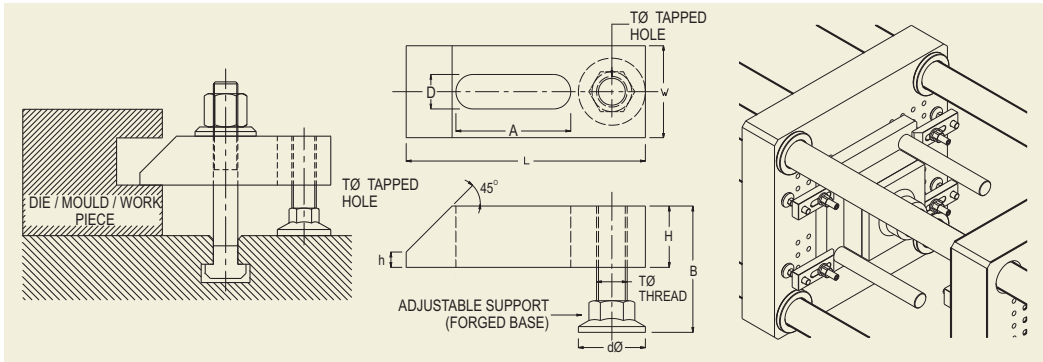
MODEL	dø	x	PITCH	x	L	T-SLOT SIZE A	CLAMPING RANGE B	LENGTH OF CLAMP C	BREADTH OF CLAMP	TIGHTENING TORQUE Nm Max.*	CLAMPING FORCE Max.	N. W. Kgs.
MCF-12A	T-BOLT	M-12	x	1.75	x 100	12	0-35	102	46	90	2000 Kgs.	0.52
MCF-12B	T-BOLT	M-12	x	1.75	x 100	14	0-35	102	46	90	2000 Kgs.	0.54
MCF-16A	T-BOLT	M-16	x	2.0	x 130	16	0-50	124	58	210	3200 Kgs.	1.1
MCF-16B	T-BOLT	M-16	x	2.0	x 130	18	0-50	124	58	210	3200 Kgs.	1.1
MCF-20A	T-BOLT	M-20	x	2.5	x 150	20	0-65	156	68	410	5000 Kgs.	2.0
MCF-20B	T-BOLT	M-20	x	2.5	x 150	22	0-65	156	68	410	5000 Kgs.	2.1
MCF-24A	T-BOLT	M-24	x	3.0	x 210	24	0-75	178	82	730	6000 Kgs.	3.24
MCF-24B	T-BOLT	M-24	x	3.0	x 210	28	0-75	178	82	730	6000 Kgs.	3.34

TAPPED END CLAMP - WITH ADJUSTABLE SUPPORT

FOR PLASTIC INJECTION MOULDING & PRESSURE DIE CASTING MACHINES

'TOOLFAST' Tapped End Clamps are Straps having special threaded adjustable support at the rear which can be adjusted to required height. Most useful clamp for plastic injection moulding or pressure die casting machines where mould / die is clamped in vertical position and these clamps with screwed in adjustable support are convenient to the operator as other loose supports tend to fall down while setting. Hardened adjustable support with large diameter forged base gives rigid clamping support and ensures machine bed safety. Extra thick body of the clamp accommodates more number of threads for rigidity of screwed support.

Supplied with adjustable threaded support only. T-Bolt or Stud with nut, washer etc. to be ordered separately.



MODEL	D SUITABLE FOR BOLT	L	A	W	H	h	TØ TAPPED HOLE	dØ	B Max	N. W. Kgs.
TTUC-12	M-12	110	55	38	18	6	M-12	30	60	0.54
TTUC-16	M-16	125	60	48	24	8	M-16	35	70	0.98
TTUC-20	M-20	160	80	62	30	10	M-20	40	80	2.45
TTUC-24	M-24	200	110	72	38	10	M-24	50	85	3.67

FORGED STRAP CLAMP WITH TAPPED END

Forged, Hardened & Tempered

This clamp is a forged version of above TTUC clamps available only for the most popular size M-16. Most suitable for mould clamping on Plastic Injection Moulding Machine.

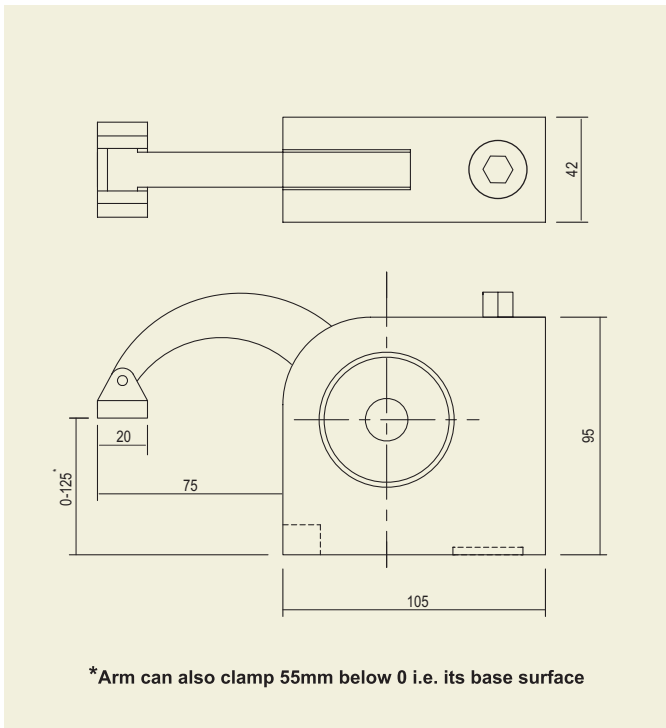
MODEL	SUITABLE FOR BOLT	LENGTH	WIDTH	THICK NESS	SLOT LENGTH	TAPPED END	N. W. Kgs.
TTFC -16	M-16	152	44	22	52	M -16	0.73



Also available as Model TTFC-16S with threaded support TS-16 (M-16 x 70 long).N.W. 0.87 Kgs.

COMPACT MILLING CLAMP

‘TOOLFAST’ compact milling clamp is the most multipurpose, quick and easy to use down-hold milling clamp. It is equally suitable for clamping while all kinds of machining operation on Drilling, Milling, Machining Centre, EDM etc. This clamp does not require any support blocks or any kind of adjustment, clamping is done by simple turning of the removable spanner key.

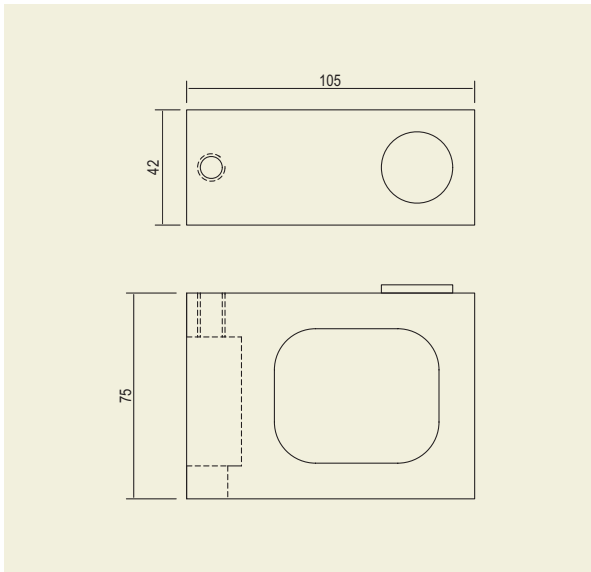


MODEL	CLAMPING HEIGHT RANGE	SUITABLE FOR T-SLOT SIZE	TIGHTENING TORQUE Nm Max.*	CLAMPING FORCE Max.	N. W. Kgs. (Including Spanner)
CMC-12	0-125	12	70	1600 kgs.	2.0
CMC-14	0-125	14	70	1600 kgs.	2.0
CMC-16	0-125	16	70	1600 kgs.	2.0
CMC-18	0-125	18	70	1600 kgs.	2.1

* Required torque can be achieved manually by tightening spanner included with CMC clamp. Applying extra torque by using extension pipe or by hammering damages the clamp parts and warranty expires.

HEIGHT BLOCK FOR CMC CLAMP :

By stacking one Height block over another and a CMC clamp at the top can enable clamping of any height of workpiece. Each height block model HB-CMC-75 increases clamping height range by 75mm.



HB-CMC-75 stacked under CMC clamp to increase height by 75 mm. More height blocks can also be stacked over one another to increase height in multiples of 75mm.



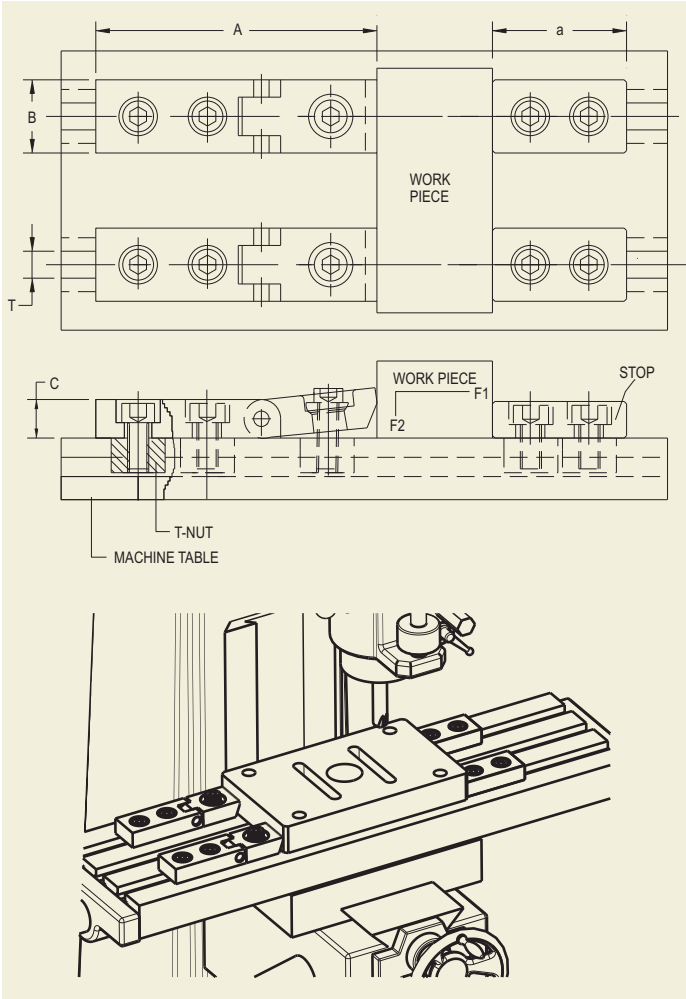
Height Block HB-CMC-75 N.W. 1.53 Kgs.

PINCH CLAMPS AND STOPS

FOR MACHINING CENTER, MILLING, SHAPING, PLANNING, JIG BORING ETC.

Low Height Pinch Clamp

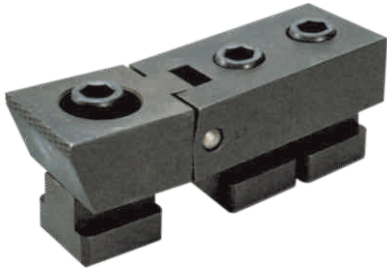
‘TOOLFAST’ Low Height Pinch Clamp is useful for job clamping where complete top surface of the job is to be machined in one setting and hence can be clamped only from side faces. When serrated front portion is pressed against the job by tightening the front bolt, it gives a downward as well as forward clamping force. Body is made of hardened alloy steel. It is most useful on Milling, Shaping, Planning and Jig boring machines. Supplied complete with hardened T-Nuts & Standard Bolts.



MODEL	SUITABLE FOR T-SLOT SIZE T	A	B	C	CLAMPING FORCE Max.		N. W. Kgs.
					F1	F2	
PC-1A	12	105	30	15	1600 Kgs.	60 Kgs.	0.44
PC-1B	14	105	30	15	1600 Kgs.	60 Kgs.	0.49
PC-2	16	130	38	18	2500 Kgs.	100 Kgs.	0.92
PC-3	18	130	38	18	2500 Kgs.	100 Kgs.	1.00
PC-4A	20	175	48	24	4000 Kgs.	250 Kgs.	1.65
PC-4B	22	175	48	24	4000 Kgs.	250 Kgs.	2.30
PC-5A	24	175	48	24	4000 Kgs.	250 Kgs.	2.31
PC-5B	28	175	48	24	4000 Kgs.	250 Kgs.	2.72

Heavy Duty Pinch Clamp

‘TOOLFAST’ Heavy Duty Pinch Clamp is a heavier version of Low Height Pinch Clamp. Basic function is same but this is used for clamping from sides of heavy blocks or thicker plates for facing of top face in one setting. Supplied complete with hardened T-Nuts & Standard Bolts



MODEL	SUITABLE FOR T-SLOT SIZE T	A	B	C	CLAMPING FORCE Max.		N. W. Kgs.
					F1	F2	
HDPC-1A	18	185	62	38	4000 Kgs.	250 Kgs.	3.35
HDPC-1B	20	185	62	38	4000 Kgs.	250 Kgs.	3.39
HDPC-2A	22	185	62	38	4000 Kgs.	250 Kgs.	3.36
HDPC-2B	24	185	62	38	4000 Kgs.	250 Kgs.	3.96
HDPC-3	28	185	62	38	4000 Kgs.	250 Kgs.	4.42

Stop For Pinch Clamps

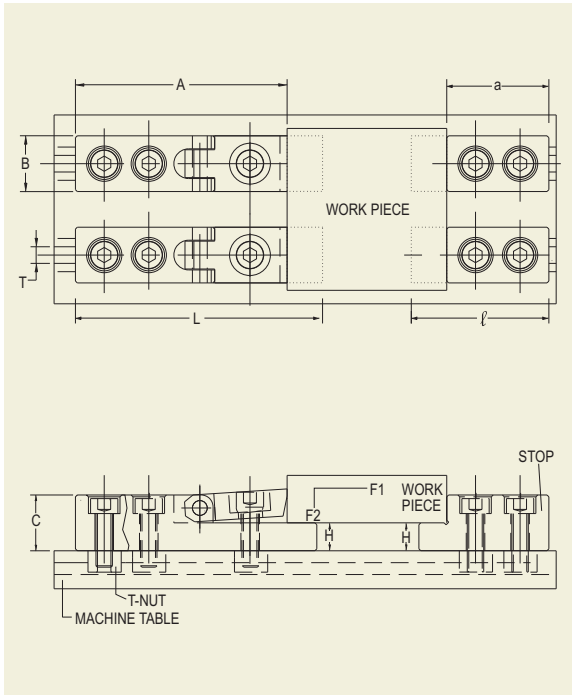
Stop or stopper blocks in different sizes as shown in table below are available to suit all above models of low height pinch clamps (PC Series) and Heavy Duty Pinch Clamps (HDPC Series). These stops are to be mounted on the opposite side of workpiece as shown in drawing above. All faces are ground for precise stopping of workpiece. Available separately in all below sizes.



MODEL	SUITABLE FOR PINCH CLAMP MODEL	SUITABLE FOR T-SLOT SIZE T	TOTAL LENGTH a	BREADTH B	HEIGHT C	N. W. Kgs.
ST-PC-1A	PC-1(a)	12	55	30	15	0.25
ST-PC-1B	PC-1(b)	14	55	30	15	0.27
ST-PC-2	PC-2	16	66	38	18	0.51
ST-PC-3	PC-3	18	66	38	18	0.55
ST-PC-4A	PC-4(a)	20	95	48	24	0.91
ST-PC-4B	PC-4(b)	22	95	48	24	1.26
ST-PC-5A	PC-5(a)	24	95	48	24	1.28
ST-PC-5B	PC-5(b)	28	95	48	24	1.50
ST-HDPC-1A	HDPC-1(a)	18	95	62	38	1.85
ST-HDPC-1B	HDPC-1(b)	20	95	62	38	1.86
ST-HDPC-2A	HDPC-2(a)	22	95	62	38	1.87
ST-HDPC-2B	HDPC-2(b)	24	95	62	38	2.18
ST-HDPC-3	HDPC-3	28	95	62	38	2.44

LOW HEIGHT PINCH CLAMP AND STOP WITH STEP

This is a new version of low height pinch clamp (PC Series) having step to support the workpiece above the machine table for through milling and drilling. Each PCS series clamp comes with a suitable size step (ST-PCS Series) as standard.



MODEL	SUITABLE FOR T-SLOT SIZE T	A	L	B	C	H ± 0.01	CLAMPING FORCE Max.		N. W. Kgs.
							F1	F2	
PCS-1A	12	110	125	30	30	14	1600 Kgs.	60 Kgs.	0.84
PCS-1B	14	110	125	30	30	14	1600 Kgs.	60 Kgs.	0.88
PCS-2	16	140	160	38	38	19	2500 Kgs.	100 Kgs.	1.75
PCS-3	18	140	160	38	38	19	2500 Kgs.	100 Kgs.	1.81

STOP FOR LOW HEIGHT PINCH CLAMP WITH STEP

These are stepped stops to suit clamping with low height pinch clamps with steps (PCS Series shown above). To be mounted on the opposite side of workpiece for stopping and supporting it on the machine table as shown in drawing. All faces are ground for precise stopping and supporting of workpiece. One stop (ST-PCS Series) comes as standard with each of above model PCS Series Clamps.



MODEL*	SUITABLE FOR PCS MODEL	SUITABLE FOR T-SLOT SIZE T	LENGTH a	OVERALL LENGTH l	BREADTH B	HEIGHT C	HEIGHT H ± 0.01	N. W. Kgs.
ST-PCS-1A	PCS-1A	12	55	70	30	30	14	0.49
ST-PCS-1B	PCS-1B	14	55	70	30	30	14	0.53
ST-PCS-2	PCS-2	16	66	86	38	38	19	0.96
ST-PCS-3	PCS-3	18	66	86	38	38	19	1.02

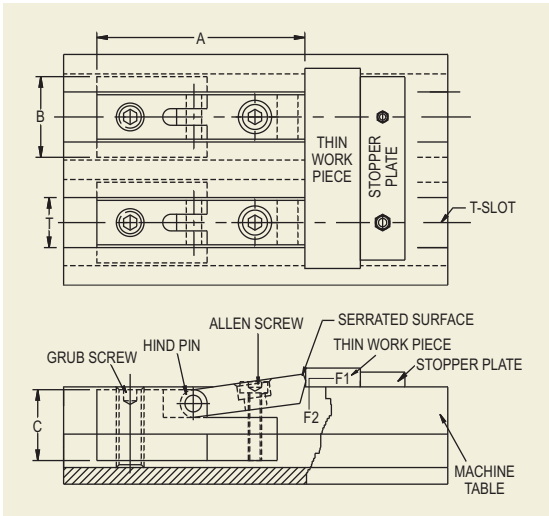
*Are supplied as standard with PCS Series Clamps. To be purchased separately only in case required extra stops.

MINI PINCH CLAMP

FOR MILLING, SHAPING & PLANNING ETC.

'TOOLFAST' Mini Pinch Clamp is useful for clamping of thin plates from side faces. Body made of hardened alloy steel is in the form of a T-Nut which slides easily into the T-slot. When rear screw is tightened, the clamp is held tightly with the T-slot and then by tightening the front bolt, it gives a downward as well as forward clamping force to the job. Only a required small portion of the clamp comes above the surface of T-Slot table, rest of the body of clamp remains under the top surface of the T-Slot table. Hence, it can clamp thinnest plates positively and still remain under the top level of the job. This clamp is most suitable for top facing of thin plates on milling, shaping and planning machines.

Supplied complete with standard front & rear screws.

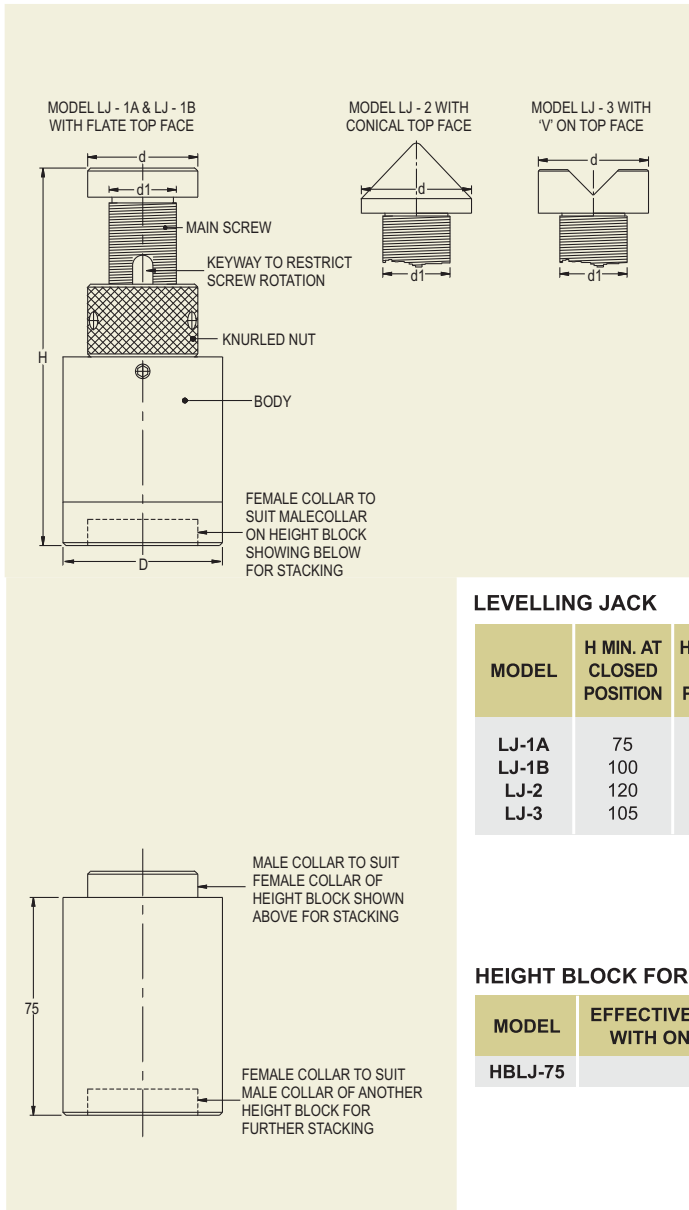


MODEL	SUITABLE FOR T-SLOT SIZE T	A	B	C	CLAMPING FORCE Max.		N. W. Kgs.
					F1	F2	
MPC-1	14	65	22	21	400 Kgs.	20 Kgs.	0.14
MPC-2	16	75	25	23	600 Kgs.	25 Kgs.	0.20
MPC-3	18	75	28	26	600 Kgs.	25 Kgs.	0.26

LEVELLING JACKS & HEIGHT BLOCKS

‘TOOLFAST’ Levelling Jack can be used as an adjustable support block for clamps and as a stopper or levelling block in fixtures or machines, as well as for levelling surface plates or other heavy duty work pieces. **Its unique design does not allow the levelling screw to rotate while adjustment, hence makes it suitable for fine level adjustment.** Also available in conical & V top for other applications such as inspection.

Picture (a) shows levelling jack model LJ-1(b) and picture (c) shows **HEIGHT BLOCK FOR LEVELLING JACK MODEL HBLJ-75** available separately for the purpose of stacking below levelling jack in order to increase its height. Picture (b) shows levelling jack model LJ-1(b) stacked on height block for levelling jack model HBLJ-75 to increase the height range of levelling jack by 75mm. Any required number of height blocks can be stacked one over another to achieve any required height and finally on top, any model of levelling jack can be kept for final height adjustment as shown in picture (b). Bottom female collar of any levelling jack and height block fits with top male collar of the height blocks to enable stacking.



LEVELLING JACK

MODEL	H MIN. AT CLOSED POSITION	H MAX. AT OPEN POSITION	DIA AT BOTTOM D	DIA AT TOP d	DIA OF SCREW d ₁	TYPE OF TOP FACE	MAX. LOAD TONS.	N. W. Kgs.
LJ-1A	75	100	48	38	M-24	FLAT	5.0	0.76
LJ-1B	100	150	48	38	M-24	FLAT	5.0	1.11
LJ-2	120	170	48	38	M-24	CONICAL	5.0	1.13
LJ-3	105	155	48	38	M-24	'V'	5.0	1.11

HEIGHT BLOCK FOR LEVELLING JACK

MODEL	EFFECTIVE HEIGHT INCREASE WITH ONE HEIGHT BLOCK	N. W. Kgs.
HBLJ-75	75	0.77



LEVELLING JACK - HEAVY DUTY

‘TOOLFAST’ Levelling Jack-Heavy Duty is a heavier version of Levelling Jack with a heavy body and Levelling Screw & knurled nut. This jack is specially designed for heavy castings & machines. Available in flat head Levelling Screw only.

MODEL	H MIN. AT CLOSED POSITION	H MAX. AT OPEN POSITION	DIA AT BOTTOM D	DIA AT TOP d	DIA OF SCREW d ₁	TYPE OF TOP FACE	MAX LOAD TONS.	N. W. Kgs.
LJ-HD	160	230	75	50	32Ø	FLAT	8.0	2.82

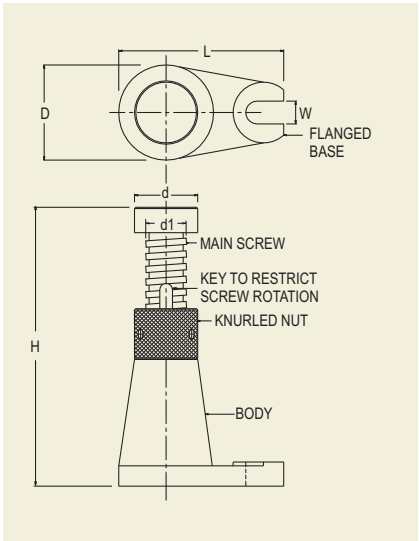
HEIGHT BLOCK FOR LEVELLING JACK - HEAVY DUTY

As in case of Levelling Jacks, Height Block for Levelling Jack-Heavy Duty Model HBLJ-HD-75 is available for stacking with Levelling Jack-Heavy Duty.

MODEL	EFFECTIVE HEIGHT INCREASE WITH ONE HEIGHT BLOCK	N. W. Kgs.
HBLJ-HD-75	75	1.58

LEVELLING JACK - HEAVY DUTY - FLANGE MOUNTING

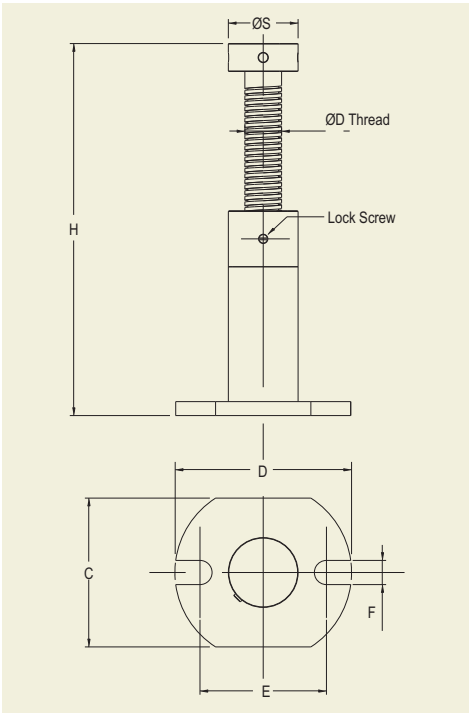
'TOOLFAST' Levelling Jack-Heavy Duty-Flange Mounting is same as LJ-HD but with flanged base for mounting on machine bed for additional rigidity.



MODEL	H MIN. AT CLOSED POSITION	H MAX. AT OPEN POSITION	DIA AT BOTTOM D	L	MOUNTING SLOT WIDTH W	DIA AT TOP d	DIA OF SCREW d	TYPE OF TOP FACE	MAX LOAD TONS.	N. W. Kgs.
LJ-HD-FB	160	230	75	130	18	50	32Ø	FLAT	8.0	3.32

SCREW JACK - HEAVY DUTY

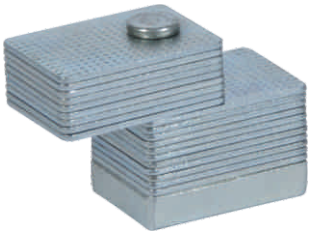
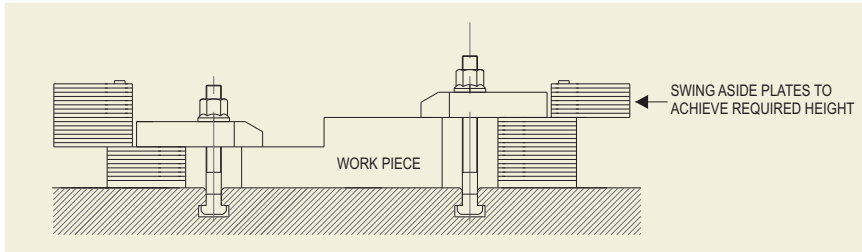
'TOOLFAST' Screw Jack-Heavy Duty is meant for heavy applications and with more height upto 660 mm. In this series of screw jacks the screw rotates while going up or down. Body is rigid, steel fabricated.



MODEL	H		C	D	E	F	ØS	ØD	CAPACITY	NET WEIGHT Kgs.
	Min.	Max.								
SJ-HD-1	250	400	160	190	136	26	75	40	25 Tons	9.4
SJ-HD-2	380	660	160	190	136	26	75	40	25 Tons	11.6

ADJUSTABLE SUPPORT PLATES

'TOOLFAST' Adjustable Support Plates are used as adjustable supports at the rear of the clamp. It comprises of a number of plates each 2mm thick hinged together. Desired height is achieved very easily by swinging aside the required number of plates and using the remaining as support block. Different models of support plates can be stacked on each other to achieve extra height.

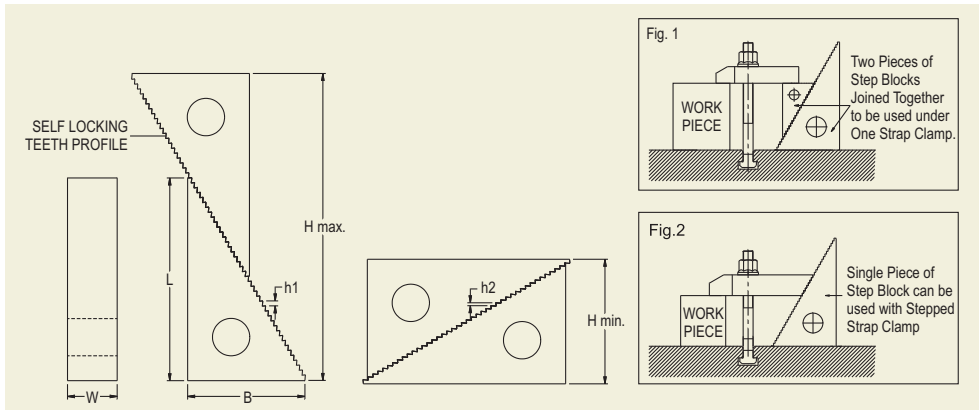


MODEL	HEIGHT ADJUSTMENT MIN.	HEIGHT ADJUSTMENT MAX.	PLATES THICKNESS	PLATE OVERALL SIZE	SIZE OF CLAMP REST AREA	N. W. Kgs.
TASP-250	10	50	2	50 x 35	25 X 35	0.66
TASP-2100	10	100	2	50 x 35	25 X 35	1.33
TASP-2150	10	150	2	50 x 35	25 X 35	1.99
TASP-L-250	10	50	2	60 x 50	35 x 50	1.15
TASP-L-2100	10	100	2	60 x 50	35 x 50	2.30
TASP-L-2150	10	150	2	60 x 50	35 x 50	3.41

STEP BLOCKS Machined Steel, hardened & tempered, Black finish

'TOOLFAST' Step Blocks are used as adjustable supporting Blocks at the rear of the clamp while clamping the workpiece. Different heights can be achieved by using combination of two different sizes of Step Blocks. Available in pairs. (Pair consists of 2 identical Step Blocks)

Combination of two Step Blocks of same or different sizes is kept as support under one Strap Clamp as shown in Fig.1 below. But in case of use of Step Blocks with Stepped Strap Clamp, as shown in Fig.2 below, only one Step Block of suitable size is kept as support under one stepped strap clamp.



STEP BLOCK

MODEL	L	B	W	HEIGHT ADJUSTMENT		HEIGHT OF STEP h ₁	HEIGHT OF STEP h ₂	N. W. Kgs. (Pair)
				H MINIMUM	H MAXIMUM			
TSB-1L	30	18	24	20	44	2.7	1.6	0.11
TSB-2L	66	38	24	40	100	2.7	1.6	0.31
TSB-3L	101	58	24	60	155	2.7	1.6	1.10
TSB-1	30	18	30	20	44	2.7	1.6	0.14
TSB-2	66	38	30	40	100	2.7	1.6	0.39
TSB-3	101	58	30	60	155	2.7	1.6	1.36

STEP BLOCK - HEAVY DUTY

'TOOLFAST' Step Block-Heavy Duty is different than step blocks above in width only. More width enables use on bigger T-slots and also with bigger sizes of stepped strap clamps.

MODEL	L	B	W	HEIGHT ADJUSTMENT		HEIGHT OF STEP h ₁	HEIGHT OF STEP h ₂	N. W. Kgs. (Pair)
				H MINIMUM	H MAXIMUM			
THSB-5	66	38	48	40	100	2.7	1.6	0.95
THSB-6	117	68	48	72	180	2.7	1.6	2.83

THREADED SUPPORT FOR TAPPED END CLAMPS Forged Base, Hardened & Tempered , Black Finish

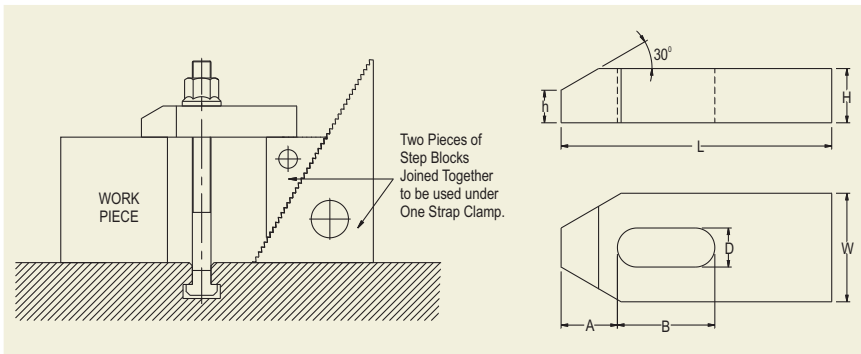
These have large resting base and hexagon at bottom for height adjustment.

MODEL	DIA AT BOTTOM	THREAD SIZE	OVERALL LENGTH	N. W. Kgs.
TS-12	30	M-12 x 1.75 P	60	0.07
TS-16	35	M-16 x 2.0 P	70	0.14
TS-20	40	M-20 x 2.5 P	80	0.23
TS-24	50	M-24 x 3.0 P	85	0.40



STRAP CLAMP Hardened & Tempered, Black Finish

based on IS : 4292



MODEL	D SUITABLE FOR BOLT	L	W	H	A	B	h	N. W. Kgs.
TSC-8-60	M-8	60	24	12	13	22	7	0.09
TSC-10-80	M-10	80	30	15	15	30	9	0.23
TSC-12-100	M-12	100	38	18	21	40	12	0.43
TSC-12-125	M-12	125	38	18	21	50	12	0.56
TSC-14-125	M-14	125	48	24	26	45	15	0.85
TSC-16-125	M-16	125	48	24	26	45	15	0.85
TSC-16-160	M-16	160	48	24	26	65	16	1.11
TSC-20-160	M-20	160	62	30	30	60	18	1.89
TSC-20-200	M-20	200	62	30	30	80	18	2.40
TSC-24-200	M-24	200	72	38	35	80	21	3.39
TSC-24-250	M-24	250	72	38	35	100	21	4.30
TSC-30-250	M-30	250	72	48	45	100	28	5.26

STRAP CLAMP - FORGED BODY Tapped End

The most popular sizes of strap clamps are now made in forged body with additional benefit of tapped end for threaded supports.

MODEL	SUITABLE FOR BOLT	LENGTH	WIDTH	THICKNESS	SLOT LENGTH	TAPPED END	N. W. Kgs.
TSCF-12	M-12	120	44	19	55	M-12	0.55
TSCF-16	M-16	140	50	22	65	M-16	0.86
TSCF-20	M-20	180	62	28	86	M-20	1.61
TSCF-24	M-24	220	76	35	102	M-24	3.28



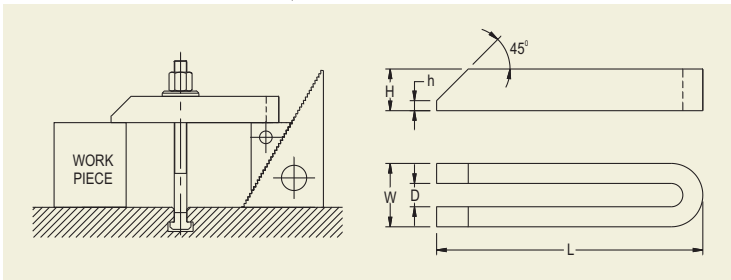
PLAIN CLAMP Hardened & Tempered

These are economy models of strap clamps. Can be used where simple shape of a plain strap can serve the purpose.

MODEL	SUITABLE FOR BOLT	LENGTH	WIDTH	THICKNESS	SLOT LENGTH	N. W. Kgs.
TES - 12	M-12	70	38	11	35	0.20
TES - 16	M-16	90	48	18	45	0.50

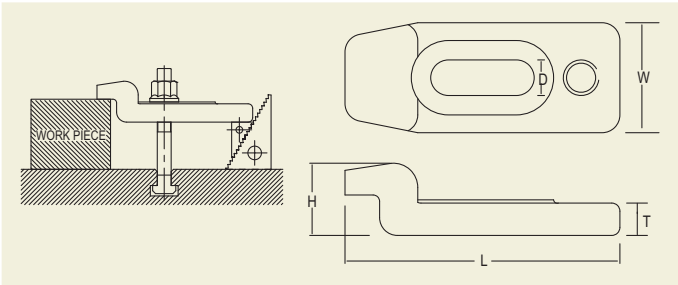


U - CLAMP Hardened & Tempered, Black Finish



MODEL	D SUITABLE FOR BOLT	L	W	H	h	N. W. Kgs.
TUC-12-160	M-12	160	38	24	6	0.68
TUC-16-200	M-16	200	50	30	8	1.44
TUC-20-250	M-20	250	62	38	10	2.72
TUC-24-250	M-24	250	66	38	10	2.72

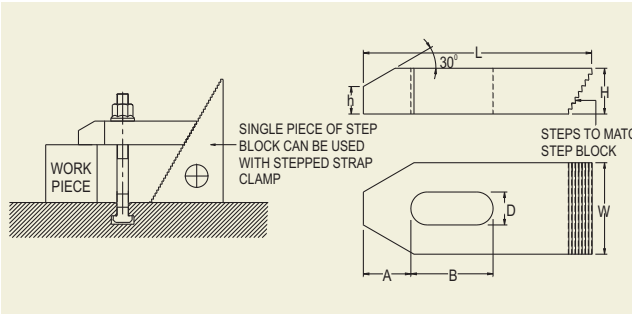
GOOSE NECK CLAMP - FORGED STEEL



MODEL	D SUITABLE FOR BOLT	L	H	W	T	N. W. Kgs.
TGNCF-16	M-16	125	33	50	18	0.65
TGNCF-20	M-20	165	47	68	24	1.44
TGNCF-24	M-24	200	52	76	28	2.34

STEPPED STRAP CLAMP Hardened & Tempered, Black Finish

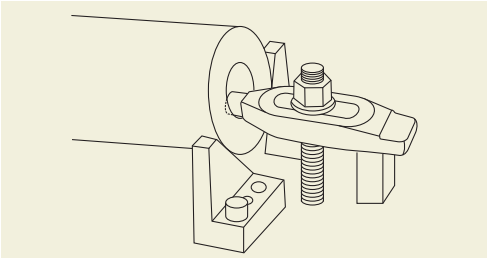
These Strap Clamps have teeth at rear matching to that of Step Blocks for the Step Blocks to be used as supports. Unlike other clamps, single piece of Step Block not a pair can be used as support with Stepped Strap Clamp.



MODEL	D SUITABLE FOR BOLT	L	W	H	A	B	h	N. W. Kgs.
TSSC-10-60	M-10	60	30	15	15	20	9	0.16
TSSC-10-80	M-10	80	30	15	15	30	9	0.22
TSSC-10-120	M-10	120	30	15	15	45	9	0.33
TSSC-12-65	M-12	65	30	15	15	25	9	0.16
TSSC-12-100	M-12	100	38	18	21	35	12	0.42
TSSC-12-125	M-12	125	38	18	21	45	12	0.55
TSSC-16-75	M-16	75	38	18	21	32	12	0.29
TSSC-16-125	M-16	125	48	24	26	45	15	0.75
TSSC-16-160	M-16	160	48	24	26	65	15	1.10
TSSC-20-160	M-20	160	62	30	30	60	18	1.64
TSSC-24-200	M-24	200	72	38	35	80	21	3.21

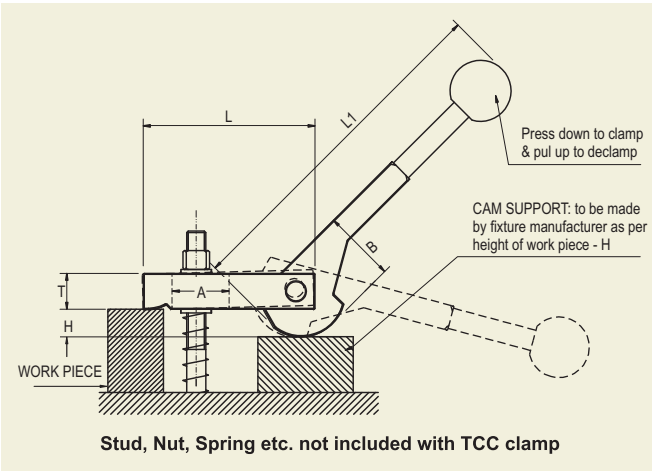
FINGER STRAP CLAMP

Finger clamp is specially designed for holding at curved surfaces or inside holes. Most useful for clamping of heavy blocks while machining where there are no steps for clamping and top surface has to be left clear for machining. In such cases holes are drilled on the side faces and finger clamps can be used for clamping on that holes.



MODEL	SUITABLE FOR BOLT	LENGTH	WIDTH	THICK NESS	SLOT LENGTH	FINGER DIA	N. W. Kgs.
TCF -16	M-16	152	44	22	66	18	0.73

CAM CLAMP - HOLD DOWN TYPE - FOR QUICK CLAMPING ON MACHINING FIXTURES



Stud, Nut, Spring etc. not included with TCC clamp

Most ideal for quick Hold Down Clamping in fixtures. Conventional Strap Clamps in fixtures can be replaced by these quick acting Cam clamps without much effort. These clamps have high clamping force suitable for machining fixtures.

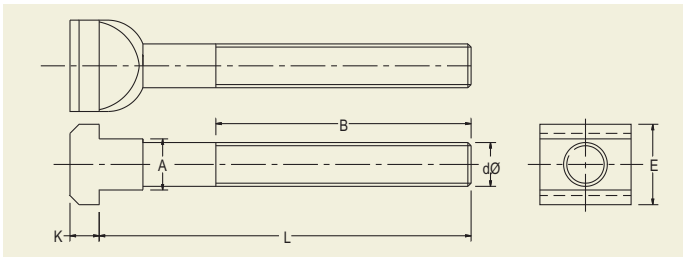


MODEL	SUITABLE FOR CLAMPING BOLT	L	T	WIDTH OF CLAMP	A	B	L1	H	HOLDING CAPACITY	N. W. Kgs.
TCC-10	M10	90	19	30	30	38	180	14	1400 Kgs.	0.56
TCC-12	M12	100	24	38	35	38	180	12	2000 Kgs.	0.86

2D / 3D CAD FILES AVAILABLE

T-BOLT Forged Head, Hardened & Tempered, High Tensile Steel, Black Finish

based on IS:2014

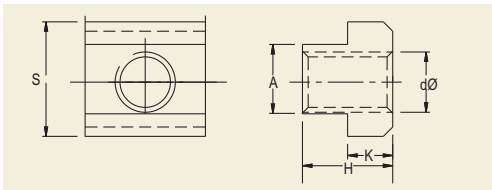


MODEL	A SUITABLE FOR T-SLOT SIZE	E	K	L	dØ THREAD SIZE	B	N. W. Kgs.
TTB-1212-80	12	18	7	80	M12	40	0.08
TTB-1212-100				100		60	0.10
TTB-1212-160				160		100	0.14
TTB-1214-60	14	22	8	60	M12	35	0.09
TTB-1214-80				80		55	0.10
TTB-1214-100				100		65	0.12
TTB-1214-125				125		80	0.14
TTB-1214-160				160		100	0.16
TTB-1214-200				200		125	0.19
TTB-1616-80	16	25	9	80	M16	40	0.17
TTB-1616-130				130		80	0.23
TTB-1616-200				200		125	0.33
TTB-1618-80	18	28	10	80	M16	55	0.19
TTB-1618-100				100		65	0.22
TTB-1618-130				130		80	0.25
TTB-1618-160				160		100	0.29
TTB-1618-200				200		125	0.35
TTB-1618-250				250		155	0.40
TTB-1618-290				290		175	0.47
TTB-2020-110	20	32	12	110	M20	70	0.35
TTB-2020-150				150		95	0.43
TTB-2020-210				210		130	0.55
TTB-2022-110	22	35	14	110	M20	70	0.40
TTB-2022-150				150		95	0.48
TTB-2022-210				210		130	0.60
TTB-2022-285				285		170	0.76
TTB-2424-150	24	40	16	150	M24	95	0.68
TTB-2424-210				210		130	0.87
TTB-2428-110	28	44	18	110	M24	65	0.67
TTB-2428-150				150		95	0.79
TTB-2428-210				210		130	0.96
TTB-2428-250				250		160	1.10
TTB-2428-300				300		190	1.23
TTB-3036-200	36	54	22	200	M30	130	1.52
TTB-3036-250				250		150	1.77
TTB-3036-300				300		190	2.02



T- NUT Hardened & Tempered, Black Finish

based on IS : 2015



MODEL	A SUITABLE FOR T-SLOT SIZE	dØ THREAD SIZE	H	K	S	N. W. Kgs.
TTN-10-8	10	M-8	12	6	15	0.015
TTN-12-10*	12	M-10	14	7	18	0.02
TTN-14-10	14	M-10	16	8	22	0.04
TTN-14-12*	14	M-12	16	8	22	0.035
TTN-16-12	16	M-12	18	9	25	0.055
TTN-16-14*	16	M-14	18	9	25	0.05
TTN-18-12	18	M-12	20	10	28	0.085
TTN-18-16*	18	M-16	20	10	28	0.07

MODEL	A SUITABLE FOR T-SLOT SIZE	dØ THREAD SIZE	H	K	S	N. W. Kgs.
TTN-20-16	20	M-16	24	12	32	0.12
TTN-22-16	22	M-16	28	14	35	0.18
TTN-22-20*	22	M-20	28	14	35	0.15
TTN-24-20	24	M-20	32	16	40	0.24
TTN-28-24	28	M-24	36	18	44	0.33
TTN-36-24	36	M-24	44	22	54	0.64
TTN-36-30	36	M-30	44	22	54	0.55

* marked models are not recommended for heavy duty use because of less wall thickness outside the threading.



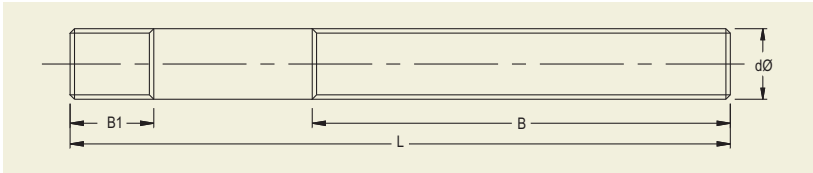
T-Slot size mentioned in these pages is size 'A' of the T-Slot as shown here.

CLAMPING STUD - FOR USE WITH T-NUTS

based on IS : 1862

Hardened & Tempered, High Tensile Steel, Black Finish.

These Studs are meant to be used with T-nuts to be tightened on smaller threaded length B1 shown in figure below and longer threaded length B shown in figure below is to accommodate Clamp / Nut / Washer etc.



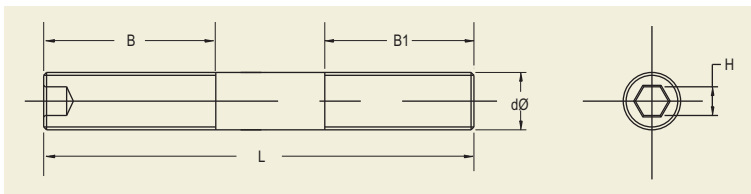
MODEL	dØ THREAD SIZE	L	B1	B	N. W. Kgs
TCS-8-75	M-8	75	11	48	0.025
TCS-8-100		100		63	0.03
TCS-8-150		150		95	0.05
TCS-10-75	M-10	75	13	48	0.04
TCS-10-100		100		63	0.05
TCS-10-125		125		75	0.065
TCS-10-150		150		95	0.075
TCS-10-175		175		110	0.09
TCS-10-200		200		125	0.10
TCS-12-75	M-12	75	15	48	0.055
TCS-12-100		100		63	0.075
TCS-12-125		125		75	0.09
TCS-12-150		150		95	0.11
TCS-12-175		175		110	0.13
TCS-12-200		200		125	0.15
TCS-12-250		250		160	0.19
TCS-12-300		300		190	0.23
TCS-14-100	M-14	100	17	63	0.10
TCS-14-150		150		95	0.15
TCS-14-200		200		125	0.21
TCS-14-250		250		160	0.26
TCS-16-75	M-16	75	19	50	0.10
TCS-16-100		100		63	0.13
TCS-16-125		125		75	0.17
TCS-16-150		150		95	0.20
TCS-16-175		175		110	0.24
TCS-16-200		200		125	0.27
TCS-16-250		250		160	0.34
TCS-16-300		300		190	0.41

MODEL	dØ THREAD SIZE	L	B1	B	N. W. Kgs.
TCS-20-100	M-20	100	27	60	0.21
TCS-20-150		150		95	0.31
TCS-20-200		200		125	0.42
TCS-20-250		250		160	0.53
TCS-20-300		300		190	0.63
TCS-20-400		400		250	0.86
TCS-20-500		500		250	1.11
TCS-24-150	M-24	150	35	95	0.41
TCS-24-200		200		120	0.61
TCS-24-250		250		160	0.76
TCS-24-300		300		190	0.92
TCS-24-400		400		250	1.23
TCS-24-500		500		250	1.58
TCS-30-150	M-30	150	43	95	0.69
TCS-30-200		200		120	0.95
TCS-30-250		250		160	1.18
TCS-30-300		300		190	1.40
TCS-30-400		400		250	1.93
TCS-30-500		500		250	2.47

CLAMPING STUD - FOR USE ON MACHINE BEDS HAVING TAPPED HOLES

Hardened & Tempered, High Tensile Steel, Black Finish.

These Studs having longer threaded length of side B1 shown in figure below which enables use on threaded platens of moulding machines or threaded beds of presses for longer insertion in the tapped holes. These studs also have a **hex key hole at top face for tightening & loosening** with of a hex key.



MODEL	dØ THREAD SIZE	L	B1	B	H	N. W. Kgs.
TCSB-12-100	M-12	100	30	40	6	0.07
TCSB-12-125		125		50		0.09
TCSB-12-150		150		65		0.12
TCSB-12-175		175		80		0.13
TCSB-16-125	M-16	125	40	50	8	0.17
TCSB-16-150		150		65		0.20
TCSB-16-175		175		80		0.23
TCSB-16-200		200		100		0.27
TCSB-18-150	M-18	150	40	65	8	0.30
TCSB-18-175		175		80		0.35
TCSB-18-200		200		100		0.40

MODEL	dØ THREAD SIZE	L	B1	B	H	N. W. Kgs.
TCSB-20-150	M-20	150	50	60	10	0.31
TCSB-20-175		175		70		0.37
TCSB-20-200		200		80		0.43
TCSB-22-150	M-22	150	50	60	10	0.45
TCSB-22-175		175		70		0.53
TCSB-22-200	M-24	200	60	80	12	0.60
TCSB-24-175		175		70		0.52
TCSB-24-200		200		80		0.60
TCSB-24-225		225		90		0.68

EXTRA LONG NUT Hardened & Tempered, Black Finish

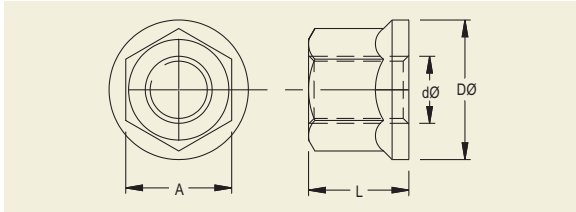
These nuts have longer life as they have more number of threads than ordinary nuts.

MODEL	THREAD SIZE	TOTAL LENGTH	TIGHTENING TORQUE Nm Max. *	N. W. Kgs.
TELN-8	M-8	12	25	0.01
TELN-10	M-10	15	50	0.02
TELN-12	M-12	18	90	0.03
TELN-14	M-14	21	140	0.045
TELN-16	M-16	24	210	0.06
TELN-18	M-18	27	290	0.08
TELN-20	M-20	30	410	0.12
TELN-22	M-22	32	560	0.17
TELN-24	M-24	36	730	0.20
TELN-30	M-30	45	1450	0.41



FLANGED NUT Forged, Hardened & Tempered, Black Finish

These nuts have flanged face for larger face contact with the surface to be tightened on.



MODEL	dØ THREAD SIZE	DØ	A	L	TIGHTENING TORQUE Nm Max. *	N. W. Kgs.
TFN-10	M-10	22	17	15	50	0.02
TFN-12	M-12	25	19	18	90	0.035
TFN-16	M-16	32	24	24	210	0.07
TFN-20	M-20	40	30	30	410	0.14
TFN-24	M-24	47	36	36	730	0.23



* Exceeding maximum torque could damage threads.

EXTENSION NUT Hardened & Tempered, Black Finish

These nuts are used to couple the studs with studs or T- Bolts in order to increase their length.

MODEL	THREAD SIZE	TOTAL LENGTH	N. W. Kgs.
TEN-8	M-8	24	0.02
TEN-10	M-10	30	0.04
TEN-12	M-12	36	0.06
TEN-14	M-14	42	0.09
TEN-16	M-16	48	0.12
TEN-20	M-20	60	0.23
TEN-24	M-24	72	0.41
TEN-30	M-30	90	0.82



PLAIN WASHER Case Hardened, Black Finish

based on IS : 4291

MODEL	SUITABLE FOR BOLT	THICKNESS	OUTSIDE DIA.	N. W. Kgs.
TPW-8	M-8	4	23	0.01
TPW-10	M-10	4	28	0.015
TPW-12	M-12	5	35	0.03
TPW-14	M-14	6	40	0.05
TPW-16	M-16	7	45	0.07
TPW-18	M-18	7	48	0.07
TPW-20	M-20	7	48	0.07
TPW-22	M-22	8	48	0.07
TPW-24	M-24	9	60	0.15
TPW-30	M-30	11	70	0.25



C-WASHER Case Hardened, Ground Faces, Black Finish

based on IS : 4291

Knurled outside diameter for easy gripping while quick insertion or removal.

MODEL	SUITABLE FOR BOLT	THICKNESS	OUTSIDE DIA.	N. W. Kgs.
TCW-10	M-10	9	40	0.07
TCW-12	M-12	9	48	0.11
TCW-14	M-14	11	63	0.20
TCW-16	M-16	11	63	0.20
TCW-20	M-20	11	80	0.36
TCW-24	M-24	12	100	0.59
TCW-30	M-30	14	100	0.64



CLAMPING KIT - 58 PIECE (WITH STEP BLOCKS & STEPPED STRAP CLAMPS)

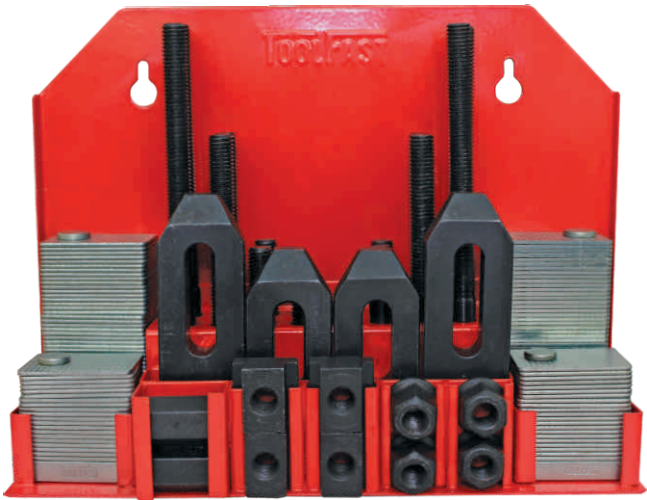
‘TOOLFAST’ Clamping Kit - 58 piece is available in an attractive powder coated metallic rack which can be hanged on machines or a wall or kept on a table. Each kit consists of all important clamping elements required to clamp a variety of work pieces. Following table shows the contents of each model of clamping kit suitable for different T-Slot sizes. All the items of clamping kit are taken from our range of products given in this catalogue.



	MODEL	TCK-58-1210	TCK-58-1410	TCK-58-1412L	TCK-58-1412	TCK-58-1612L	TCK-58-1612	TCK-58-1812	TCK-58-1816	TCK-58-2016	TCK-58-2216
		T-SLOT SIZE 12MM (M-10)	T-SLOT SIZE 14MM (M-10)	T-SLOT SIZE 14MM (M-12)	T-SLOT SIZE 14MM (M-12)	T-SLOT SIZE 16MM (M-12)	T-SLOT SIZE 16MM (M-12)	T-SLOT SIZE 18MM (M-12)	T-SLOT SIZE 18MM (M-16)	T-SLOT SIZE 20MM (M-16)	T-SLOT SIZE 22MM (M-16)
	T-NUTS (6 nos.)	TTN-12-10	TTN-14-10	TTN-14-12	TTN-14-12	TTN-16-12	TTN-16-12	TTN-18-12	TTN-18-16	TTN-20-16	TTN-22-16
	CLAMPING STUDS (4 nos. each size)	TCS-10-75 TCS-10-100 TCS-10-125 TCS-10-150 TCS-10-175 TCS-10-200	TCS-10-75 TCS-10-100 TCS-10-125 TCS-10-150 TCS-10-175 TCS-10-200	TCS-12-75 TCS-12-100 TCS-12-125 TCS-12-150 TCS-12-175 TCS-12-200	TCS-12-75 TCS-12-100 TCS-12-125 TCS-12-150 TCS-12-175 TCS-12-200	TCS-12-75 TCS-12-100 TCS-12-125 TCS-12-150 TCS-12-175 TCS-12-200	TCS-12-75 TCS-12-100 TCS-12-125 TCS-12-150 TCS-12-175 TCS-12-200	TCS-12-75 TCS-12-100 TCS-12-125 TCS-12-150 TCS-12-175 TCS-12-200	TCS-16-75 TCS-16-100 TCS-16-125 TCS-16-150 TCS-16-175 TCS-16-200	TCS-16-75 TCS-16-100 TCS-16-125 TCS-16-150 TCS-16-175 TCS-16-200	TCS-16-75 TCS-16-100 TCS-16-125 TCS-16-150 TCS-16-175 TCS-16-200
	FLANGED NUTS (6 nos.)	TFN-10	TFN-10	TFN-12	TFN-12	TFN-12	TFN-12	TFN-12	TFN-16	TFN-16	TFN-16
	EXTENSION NUTS (4 nos.)	TEN-10	TEN-10	TEN-12	TEN-12	TEN-12	TEN-12	TEN-12	TEN-16	TEN-16	TEN-16
	STEPPED STRAP CLAMPS (2 nos. each size)	TSSC-10-60 TSSC-10-80 TSSC-10-120	TSSC-10-60 TSSC-10-80 TSSC-10-120	TSSC-12-65 TSSC-12-100 TSSC-12-125	TSSC-12-65 TSSC-12-100 TSSC-12-125	TSSC-12-65 TSSC-12-100 TSSC-12-125	TSSC-12-65 TSSC-12-100 TSSC-12-125	TSSC-12-65 TSSC-12-100 TSSC-12-125	TSSC-16-75 TSSC-16-125 TSSC-16-160	TSSC-16-75 TSSC-16-125 TSSC-16-160	TSSC-16-75 TSSC-16-125 TSSC-16-160
	STEP BLOCKS 2 pairs (4 nos. each size)	TSB-1L TSB-2L TSB-3L	TSB-1L TSB-2L TSB-3L	TSB-1L TSB-2L TSB-3L	TSB-1 TSB-2 TSB-3	TSB-1L TSB-2L TSB-3L	TSB-1 TSB-2 TSB-3	TSB-1 TSB-2 TSB-3	TSB-1 TSB-2 TSB-3	TSB-1 TSB-2 TSB-3	TSB-1 TSB-2 TSB-3
	TOTAL NO. OF PIECES	58	58	58	58	58	58	58	58	58	58
	N.W. Kgs.	9	9	12	13	12	13	13	18	18.5	19

CLAMPING KIT - 34 PIECE (WITH ADJUSTABLE SUPPORT PLATES & STRAP CLAMPS)

'TOOLFAST' Clamping Kit - 34 piece is an economical clamping kit housed in an attractive metal rack. Following table shows the contents of each model of clamping kit suitable for different T-Slot sizes. All the items of clamping kit are taken from our range of products given in this catalogue



MODEL	TCK-34-1412 T-SLOT SIZE 14MM (M-12)	TCK-34-1612 T-SLOT SIZE 16MM (M-12)	TCK-34-1812 T-SLOT SIZE 18MM (M-12)
CONTENTS			
T-NUTS	TTN-14-12 - 4 nos.	TTN-16-12 - 4 nos.	TTN-18-12 - 4 nos.
CLAMPING STUDS	TCS-12-75 - 4 nos. TCS-12-100 - 4 nos. TCS-12-150 - 4 nos. TCS-12-200 - 4 nos.	TCS-12-75 - 4 nos. TCS-12-100 - 4 nos. TCS-12-150 - 4 nos. TCS-12-200 - 4 nos.	TCS-12-75 - 4 nos. TCS-12-100 - 4 nos. TCS-12-150 - 4 nos. TCS-12-200 - 4 nos.
FLANGED NUTS	TFN-12 - 4 nos.	TFN-12 - 4 nos.	TFN-12 - 4 nos.
EXTENSION NUTS	TEN-12 - 2 nos.	TEN-12 - 2 nos.	TEN-12 - 2 nos.
STRAP CLAMPS	TSC-12-100 - 2 nos. TSC-12-125 - 2 nos.	TSC-12-100 - 2 nos. TSC-12-125 - 2 nos.	TSC-12-100 - 2 nos. TSC-12-125 - 2 nos.
ADJUSTABLE SUPPORT PLATES	TASP-250 - 2 nos. TASP-2100 - 2 nos.	TASP-250 - 2 nos. TASP-2100 - 2 nos.	TASP-250 - 2 nos. TASP-2100 - 2 nos.
TOTAL NO. OF PIECES	34 PIECES	34 PIECES	34 PIECES
N.W. Kgs.	9.2	9.3	9.4

CMM CLAMPING KIT - 62 PIECE (WITH ALUMINIUM / PLASTIC ELEMENTS) MODEL CMMCK - 62

'TOOLFAST' CMM clamping kit is especially designed for 3D coordinate measuring machine and other inspection and gauging applications. The weight construction of the aluminium clamps and aluminium / plastic elements prevent damage to granite plates and delicate workpieces. M-8* elements with hand-tightening design allows the user to apply a limited hold down force most suitable for inspection clamping. All pieces are suitably housed in an elegant wooden box N.W. 2.0 kgs.



Each Kit Contains :

- 28 nos. **Studs** of M-8 threads made out of suitable aluminium Alloy - 4nos. each of 50mm, 75mm, 100mm, 125mm, 150mm, 175mm and 200 mm length.



- 8nos. of M-8 **Flanged Nuts** made of suitable aluminium alloy designed for hand-tightening without spanner. These nuts can also be used as extension nuts for joining studs.



- 6nos. **Strap Clamps** suitable for M-8 studs made out of suitable aluminium alloy - 2nos. each of 60mm, 100mm and 140mm length.



- 8nos. Aluminium **Screw Jacks**
Closed Height = 38 mm
Max open Height = 56 mm
Top = Flat face having M-8 female thread
Bottom = M-8 screw-in type for thread mounting on the granite plate of CMM.



- 4nos. Aluminium **Top Rest Pads** for Screw Jacks
2nos. with 'V' on top face and 2nos. having conical top face



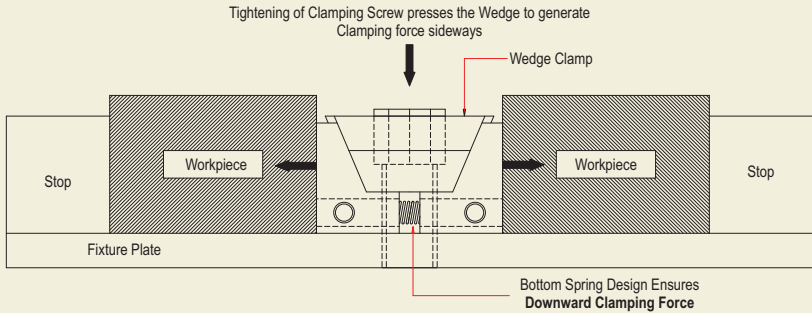
- 8nos. Plastic **Bottom Rest Pads** with M-8 blind hole for use as rest pads at the bottom of screw jacks when screw jacks have to be used directly on the granite surface as shown in picture (a) or for use as rest pads at the bottom of studs when the studs have to be used as threaded supports of strap clamps as shown in picture (b).



* FOR CMM BEDS WITH M-10 OR M-12 THREAD, ADAPTORS ARE AVAILABLE ON REQUEST TO ENABLE USE OF ABOVE CLAMPING KIT.

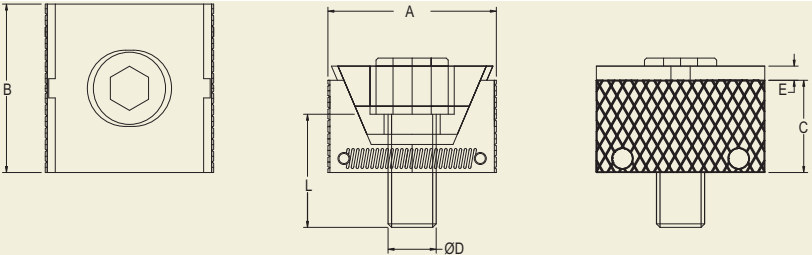
WEDGE CLAMP - RIGID BODY, HARDENED TOOL STEEL, DOWNWARD FORCE

'TOOLFAST' manufactures all models of wedge clamps with new patented design now in India.



- Improved **PATENTED** design with bottom spring ensures downward Clamping force
- Hidden spring eliminates clogging of chips in spring coil

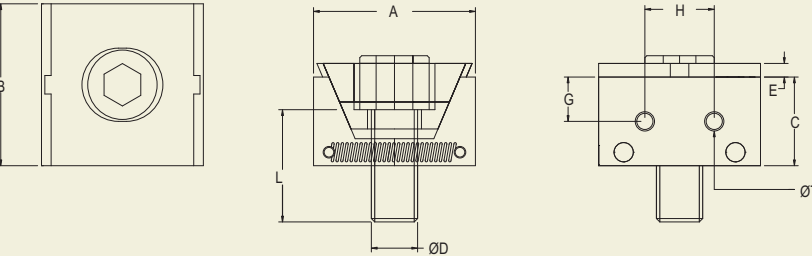
WEDGE CLAMP - TWC Series - Serrated Hardened Jaws



MODEL	A			B	C	ØD X L	E	TIGHTENING TORQUE Nm Max.*	CLAMPING FORCE Max.	N. W. Kgs. (Including Clamping bolt)
	min.	optimum	max.							
TWC-8	27	29 ~ 30	32	31	16	M8 X 20	2	25	1500 Kgs.	0.09
TWC-12	42	45 ~ 46	49	42	23	M12 X 30	3.5	90	3000 Kgs.	0.26
TWC-16	57	61 ~ 63	66	58	30	M16 X 35	4	210	6000 Kgs.	0.66

WEDGE CLAMP - TWC-P Series - Plain Hardened Jaws with Tapped holes

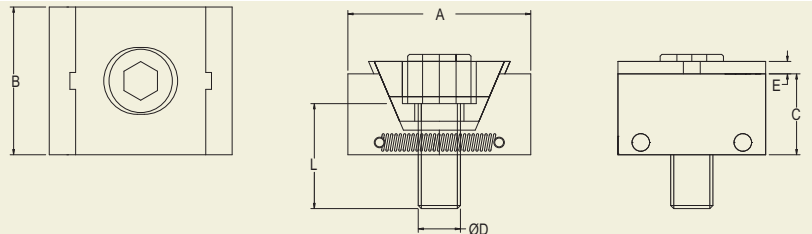
These have plain hardened jaws with added two tapped holes for attaching additional jaw inserts if need be.



MODEL	A			B	C	ØD X L	E	G	H	ØT	TIGHTENING TORQUE Nm Max.*	CLAMPING FORCE Max.	N. W. Kgs. (Including Clamping bolt)
	min.	optimum	max.										
TWC-8P	27	29 ~ 30	32	31	16	M8 X 20	2	7.5	12	M-5	25	1500 Kgs.	0.09
TWC-12P	42	45 ~ 46	49	42	23	M12 X 30	3.5	11.5	18	M-5	90	3000 Kgs.	0.26
TWC-16P	57	61 ~ 63	66	58	30	M16 X 35	4	15	26	M-5	210	6000 Kgs.	0.66

WEDGE CLAMP - TWC-M Series - Machinable Jaws

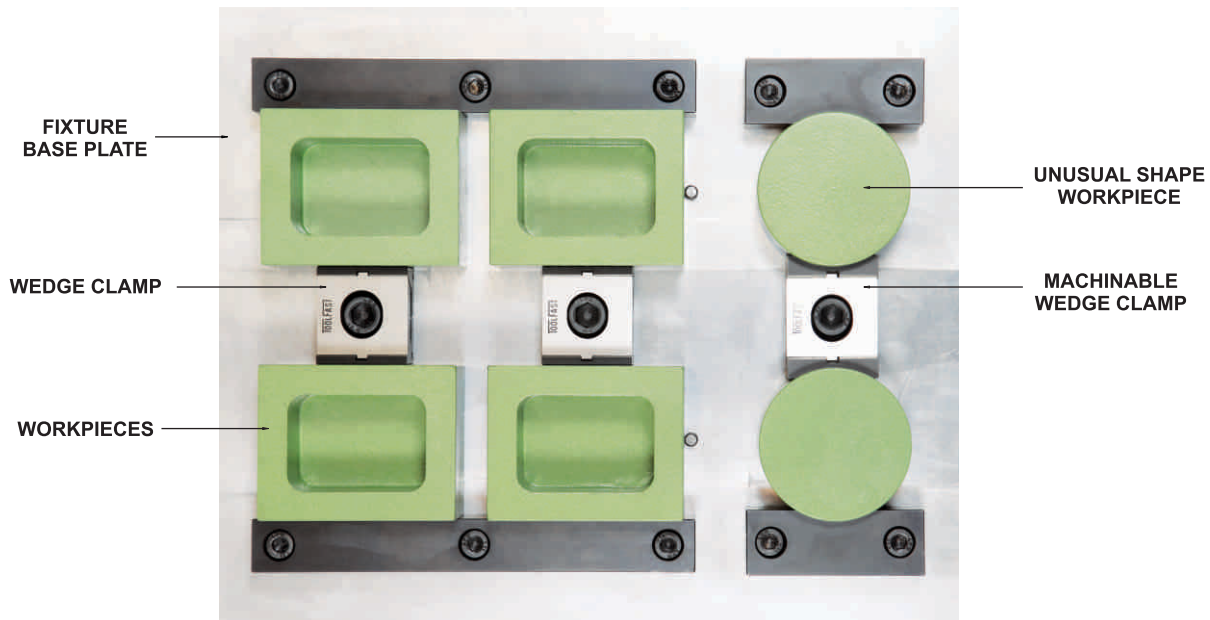
These have extra material on jaws(soft) to machine as per the workpiece shape enabling fixturing of uneven or unusual shape workpieces.



MODEL	A			B	C	ØD X L	E	TIGHTENING TORQUE Nm Max.*	CLAMPING FORCE Max.	N. W. Kgs. (Including Clamping bolt)
	min.	optimum	max.							
TWC-8M	33	35 ~ 36	38	31	16	M8 X 20	2	25	1500 Kgs.	0.12
TWC-12M	52	55 ~ 56	59	42	23	M12 X 30	3.5	90	3000 Kgs.	0.34
TWC-16M	67	71 ~ 73	76	58	30	M16 X 35	4	210	6000 Kgs.	0.86

2D / 3D CAD FILES AVAILABLE ON REQUEST

*Exceeding the maximum Torque damages the clamp parts and warranty expires. Lesser Torque may be applied for achieving proportionate clamping force.

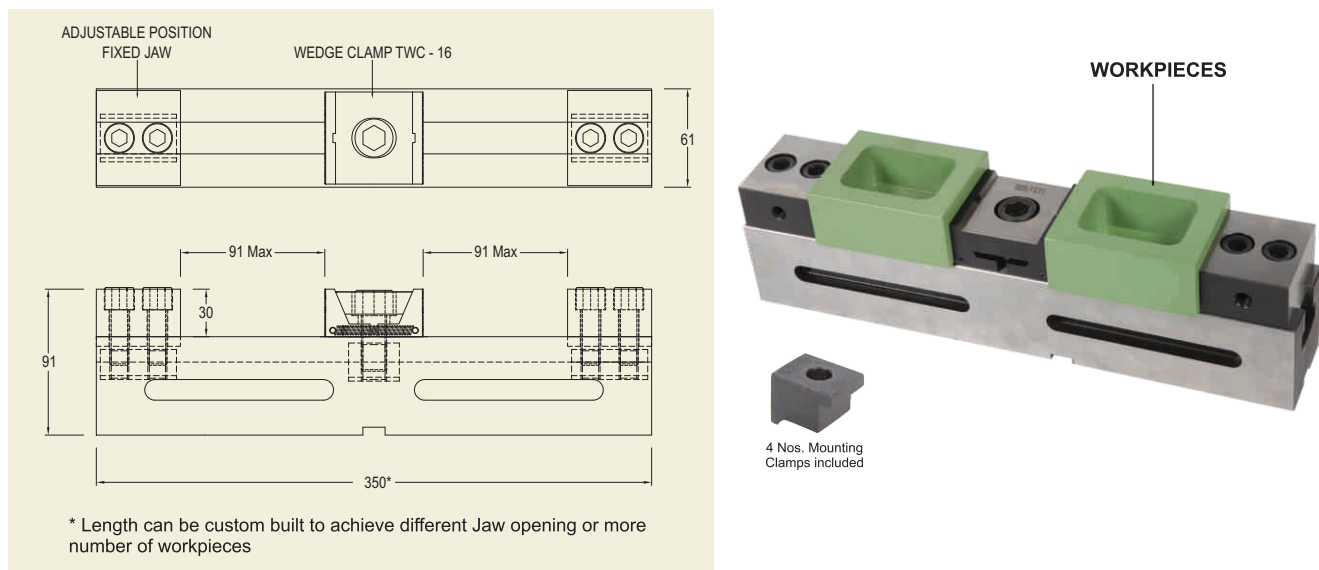
**MULTIPLE WORKPIECE CLAMPING FIXTURES WITH TWC SERIES WEDGE CLAMPS
DESIGNED & MANUFACTURED BY TOOLFAST**

If your workpiece is suitable for clamping with 'TOOLFAST' Wedge clamps, our team can design and manufacture a multiple clamping fixture for you as the one shown in the picture.

Please send in your enquiries with workpiece / machine table specifications of your Machining Center to enable us check suitability of our WEDGE CLAMPS and submit an offer to you.

MULTIPLE CLAMPING VICE WITH TWC-16 WEDGE CLAMPS

TOOLFAST offers a standard 60mm jaw width vice which is capable of clamping multiple workpieces. All parts such as TWC wedge clamp, fixed jaws and the main body are modular and interchangeable.



- Model VTWC-16-60-350 available as standard having overall length 350mm capable of jaw opening 91mm in case of two workpieces.
- This vice can also be supplied in custom built lengths to suit different sizes of workpieces. Send your enquiries to us if you feel that 60mm jaw width vice is suitable for your workpiece. Additional fixed jaws and TWC series clamps can be included in the vice if more than two workpieces to be clamped.
- For uneven or unusual shape workpieces, TWC-M and TWC-P series wedge clamps can also be used in above vice.

WEDM CLAMP

Material SS440, Hardened & Ground

MODEL	OVERALL SIZE	SUITABLE FOR CLAMPING SCREW
TWEC - 1	70 X 23 X 8	M-8
TWEC - 2	70 X 23 X 12	M-8



WEDM EXTENSIONS

Material SS440, Hardened & Ground
Parallelism within ± 0.005 mm

MODEL	OVERALL SIZE
TWEE - 1	120 X 50 X 15
TWEE - 2	120 X 100 X 15



TWEE - 1

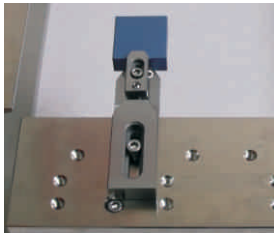


TWEE - 2

WEDM EXTENSION WITH CLAMP

Material SS440, Hardened & Ground
Parallelism within ± 0.005 mm

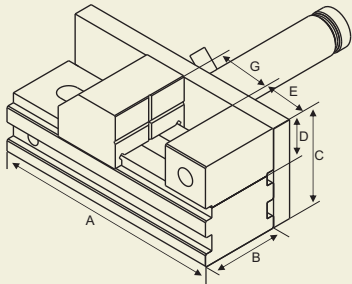
MODEL	OVERALL WIDTH	OVERALL LENGTH
TWEEC - 1	40	140



Application View

EDM ELECTRODE HOLDER

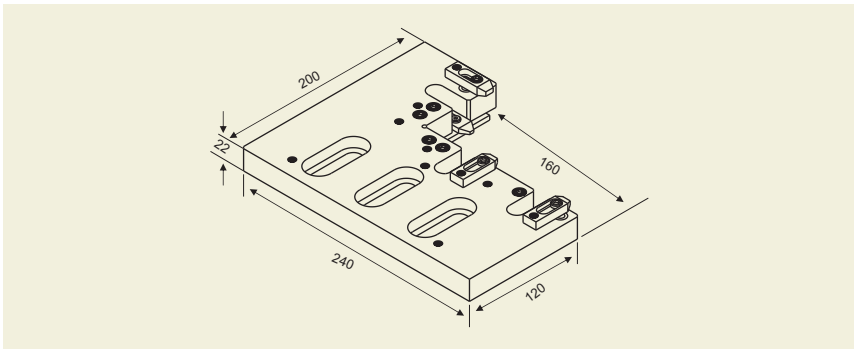
Material SS440, Hardened & Ground
Parallelism and Squareness within ± 0.005 mm



MODEL	A	B	C	D	E	G Max.
EDV - 20	65	25	32	12	20	20
EDV - 45	100	35	35	16	25	45

WEDM ADJUSTABLE FIXTURE Model TWEF-1

Material SS440, Hardened & Ground
Parallelism within ± 0.005 mm



WEDM CORNER FIXTURE

Material SS440, Hardened & Ground
Parallelism within ± 0.005 mm

MODEL	CLAMPING RANGE	OVERALL SIZE
TWCF - 1	0 - 50	100 x 120
TWCF - 2	0 - 100	150 x 170



WEDM RULER

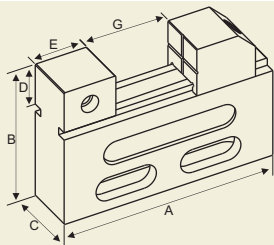
Material SS440, Hardened & Ground
Parallelism within ± 0.005 mm
Mounting hole CD can be customized as per requirement



MODEL	LENGTH	BREADTH	HEIGHT
TWER - 370	370	45	30
TWER - 450	450	60	30
TWER - 550	550	60	30
TWER - 650	650	80	36
TWER - 750	750	80	36
TWER - 950	950	80	40

WEDM VICE - Type A

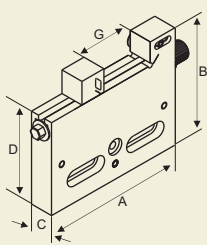
Material SS440, Hardened & Ground
Parallelism and Squareness within ± 0.005 mm



MODEL	A	B	C	D	E	G Max.
WEVA - 50	120	85	28	25	30	50
WEVA - 150	225	100	32	35	30	150

WEDM VICE - Type B

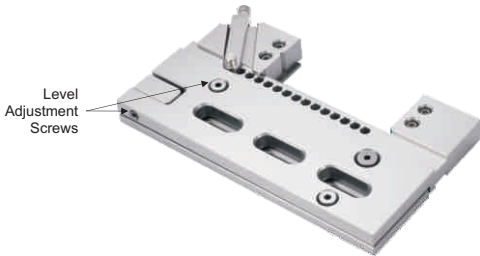
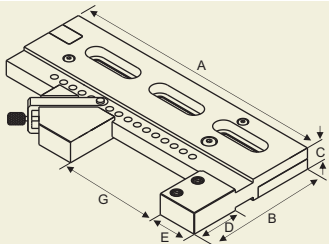
Material SS440, Hardened & Ground
Parallelism and Squareness within ± 0.005 mm



MODEL	A	B	C	D	G Max.
WEVB - 75	127	100	21	72	75
WEVB - 100	152	100	21	72	100

WEDM VICE - 3 Axis Level Adjustable

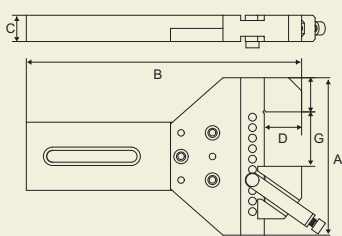
Material SS440, Hardened & Ground
Parallelism and Squareness within ± 0.005 mm



MODEL	A	B	C	D	E	G Max.
WEVB - 160	300	170	24	50	60	160

WEDM VICE WITH EXTENSION

Material SS440, Hardened & Ground
Parallelism and Squareness within ± 0.005 mm



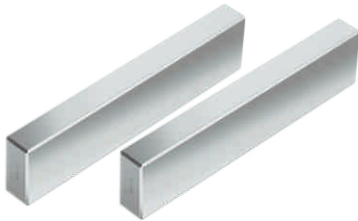
MODEL	A	B	C	D	G Max.
WEVE - 75	140	210	20	28	75
WEVE - 100	165	210	20	28	100

PRECISION STEEL PARALLELS

‘TOOLFAST’ Steel Parallels are used as precision packing supports under jobs or fixtures. Made from tool steel, hardened, tempered & precision ground in matched pairs. Matched pairs are marked with identical serial numbers. All sides are chamfered. Overall sizes are nominal.

- ☐ Hardened & Tempered 52 - 56 HRC.
- ☐ Parallelism within 0.005mm upto 200mm length.
- ☐ Inspection certificate is furnished.

MODEL	SIZE	N.W. Kgs. (Per Pair)
TSP-20	10 x 20 x 150	0.47
TSP-35	15 x 35 x 150	1.24
TSP-45	20 x 45 x 200	2.80
TSP-55	25 x 55 x 250	5.34
TSP-60	30 x 60 x 300	8.50
TSP-75	45 x 75 x 300	15.80
TSP-75-450	45 x 75 x 450	23.70



EDGE FINDER

TOOLFAST’ Edge Finder is used for fast and accurate location of starting point of work pieces with respect to the machine spindle on milling or jig boring machine tables.

Application: Edge finder is used for location of edges, shoulders, grooves etc. of work pieces kept on machine table with respect to the machine spindle. Shank of the Edge Finder is held in the collet or chuck and work table is traversed to cause the rotating tip of the edge finder make contact with the edge of the work piece to be located. Once the rotating tip comes in contact with the work piece, work table is further traversed so that the rotating tip shifts to a concentric position with respect to the shank. Now any movement to "off centre" will cause a distinct 'wobble'. At this point, the distance from the work edge to the centre of machine spindle is equal to half the diameter of the tip of the edge finder. Available in single & double ended tip. In double ended tip, Edge Finder can be held from both ends and both the tips of two different sizes can be used for edge finding.

Shank and tip of the edge finder are coupled together with the help of an internal spring for independent rotation of both. It is hardened and accurately ground all over to ensure repeatability of work location within 0.01 mm.

MODEL	SHANK DIA	TIP DIA	TYPE	N. W. Kgs.
EF-S1	10	10	Edge Finder-single end	0.03
EF-D1	10	5 &10	Edge Finder-double end	0.03
EFR-10	10	10	Edge Finder-disc type	0.06
EFR-104	10	4 & 10	Disc Type - double end	0.06

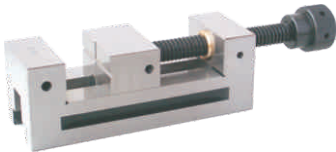


EF-S1 EF-D1 EFR-10 EFR-104

GRINDING VICE - SCREW TYPE

‘TOOLFAST’ Grinding Vice - screw type is a precision machine vice. Body & jaw made of tool steel, hardened, tempered & precision ground.

- ☐Hardened & Tempered to 52 - 56 HRC.
- ☐ All sides Parallelism & Squareness within ± 0.005mm.
- ☐ Inspection certificate is furnished.



MODEL	JAW WIDTH	JAW DEPTH	MAX. JAW OPENING	OVERALL LENGTH	OVERALL HEIGHT	N. W. Kgs.
GV-65	63	32	85	190	65	4.4
GV-75	73	35	100	210	74	6.2
GV-90	88	40	125	250	88	10.0
GV-100	100	45	125	260	95	13.0
GV-125	125	50	158	300	110	20.0
GV-150	150	50	175	315	110	24.5

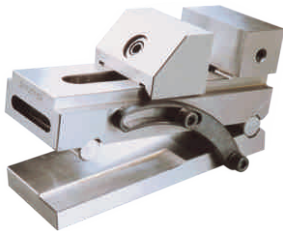
PRECISION SINE VICE

‘TOOLFAST’ Precision Sine Vice is used to obtain precise angles by means of gauge blocks. Apart from its use on milling and grinding machine, this Sine Vice can also be used as a reference for inspection.

- ☐ All Hardened & Tempered to 52 - 56 HRC.
- ☐ All side Parallelism & Squareness within ± 0.005mm.
- ☐ Centre distance of rollers within ± 0.005mm.
- ☐ Inspection certificate is furnished.

Chart for setting sine angles with the help of gauge blocks is provided.

MODEL	JAW WIDTH	JAW DEPTH	MAX. JAW OPENING	OVERALL LENGTH	OVERALL HEIGHT	N. W. Kgs.
PSV-2	50	25	65	140	80	3.2
PSV-3	73	35	100	190	104	7.2
PSV-4	100	45	125	245	134	16.5



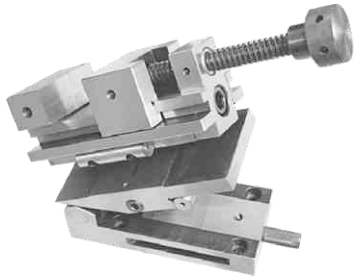
PRECISION COMPOUND SINE VICE - SCREW TYPE

'TOOLFAST' Precision compound Sine Vice has compound sine angle setting on two sine plates. Both the tiltings are controlled by fine screws.

- ☐ All Hardened & Tempered to 52 - 56 HRC.
- ☐ All side Parallelism & Squareness within $\pm 0.005\text{mm}$.
- ☐ Centre distance of rollers within $\pm 0.005\text{mm}$.
- ☐ Inspection certificate is furnished.

Charts for setting both sine angles with the help of gauge blocks is provided.

MODEL	JAW WIDTH	JAW DEPTH	MAX. JAW OPENING	OVERALL LENGTH	OVERALL HEIGHT	N. W. Kgs.
CSGV-3	75	30	76	160	124	9.0

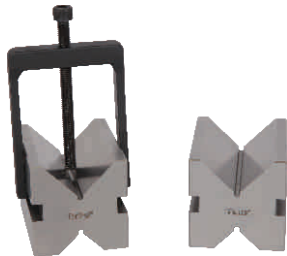


STEEL V-BLOCK

'TOOLFAST' Steel V-Blocks are made of tool steel, hardened, tempered & precision ground on all sides. These are supplied in matched pairs having both sides 'V' with one clamp.

- ☐ Unbreakable Steel Clamp.
- ☐ All Hardened & Tempered 52 - 56 HRC.
- ☐ Parallelism & Squareness of all faces & 'V' within $\pm 0.005\text{mm}$.
- ☐ Inspection certificate is furnished.

MODEL	LENGTH	HEIGHT	WIDTH	HOLDING CAPACITY Ø MAX	N. W. Kgs. (Pair with one clamp)
SVB-50	50	37	37	35	1.1
SVB-80	80	60	60	60	3.8
SVB-100	100	75	75	75	7.6
SVB-125	125	95	95	90	14.3
SVB-150	150	98	98	95	19.0



MAGNETIC V-BLOCK

'TOOLFAST' Magnetic V-Blocks are precision ground V-Blocks with high power magnets. Accurately fitted magnet ensures easy movement of knob. Available in single as well as matched pairs. These V-blocks have main holding 'V' and bottom face fitted with hardened steel plates having hardness 52-56 HRC.

- ☐ Parallelism & Squareness of all faces & 'V' within $\pm 0.005\text{mm}$.
- ☐ Most suitable for inspection and tool room applications.
- ☐ Inspection certificate is furnished.

MODEL	LENGTH	HEIGHT	WIDTH	N. W. Kgs. (Pair)
MVB-4-H	100	95	75	9.0
MVB-6-H	150	95	75	13.5



C. I. ANGLE PLATE - SLOTTED

'TOOLFAST' C. I. Angle Plate-Slotted is made out of high quality seasoned casting having precision ground outside faces & ends. Machined slots for clamping on both faces.

- ☐ Accuracy in parallelism & squareness within $\pm 0.01\text{mm}$ per 200 mm length.
- ☐ Inspection certificate is furnished.

MODEL	SIZE	N. W. Kgs.
APS-110	110 x 85 x 75	2.9
APS-150	150 x 125 x 110	4.7
APS-175	175 x 135 x 110	5.5
APS-200	200 x 150 x 125	8.0
APS-225	225 x 175 x 150	13.0
APS-250	250 x 200 x 150	15.0
APS-300	300 x 225 x 200	25.0

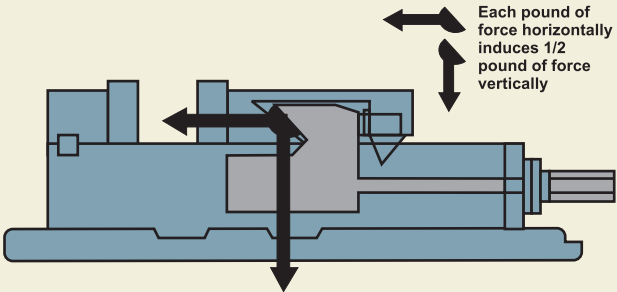
Sizes APS-110 to APS-200 are in open ends type as shown in picture.
 Sizes APS-225 to APS-300 are in webbed ends type .



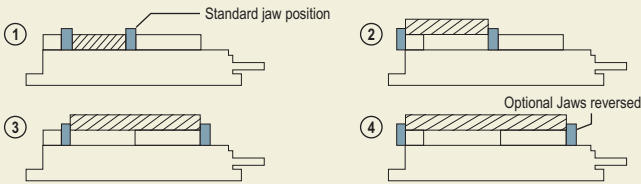
LOCK DOWN JAW MACHINE VICE

FOR MACHINING CENTRE AND MILLING MACHINE

- ❑ Flame hardened bed
- ❑ Accuracy in Parallelism & Squareness within 0.02 mm
- ❑ No work piece tilt after clamping
- ❑ All parts interchangeable and available as spares
- ❑ Tenons and tenon slots provided for effortless truing of vice on machine table



Down thrust "Semi Sphere Segment" mechanism eliminates jaw lift and work piece tilt. No need to hammer the workpiece as in other vices.



Examples ②, ③ and ④ shown above are possible only with optional THICK JAW PLATES.

MODEL	JAW WIDTH	MAX. JAW OPENING WITH STANDARD JAW POSITION	MAX. JAW OPENING WITH JAWS REVERSED	JAW DEPTH	OVERALL LENGTH	OVERALL HEIGHT WITH SWIVAL BASE	OVERALL HEIGHT WITHOUT SWIVAL BASE	TIGHTENING TORQUE Nm Max. *	CLAMPING FORCE Max.	N.W. WITH SWIVAL BASE Kgs.	N.W. WITHOUT SWIVAL BASE Kgs.
MMV-6-HXL	160	190	395	48	430	160	115	580	3500 Kgs.	49	38
MMV-8-H	210	210	480	60	550	190	145	650	4000 Kgs.	80	62

* Required torque can be achieved by tightening handle included with vice. Applying extra torque by using extension pipe or by hammering damages the vice parts and warranty expires.

OPTIONAL ACCESSORIES

SWIVAL BASE:
Available separately for above vices.



OPTIONAL JAWS FOR MMV-6HXL

SERRATED JAW PLATE

Dimensions same as standard plain Jaw but having serrations for extra grip.



V-JAW PLATE



MACHINABLE JAW PLATE

- Extra thick (40mm) for carving part shapes into jaw plate.
- Reversible top to bottom and front to back, (counter bore both sides) for customizing of four different applications.
- Available in **Aluminium** or **Steel**



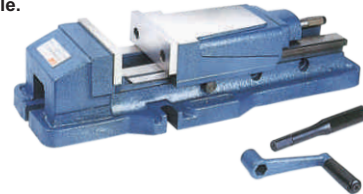
MILLING AND MC ACCESSORIES

HYDRAULIC MACHINE VICE

'GIN' Hydraulic Machine Vice is a suitable hydraulic vice for Milling machine. Can also be used on a machining centre.

- ☐ Operates on handle movement as in mechanical vices.
- ☐ High clamping force can be achieved by effortless handle movement which eliminates hammering on handle.

MODEL	JAW WIDTH	JAW DEPTH	MAX. JAW OPENING
GIN-HVA-100-01	100	36	170
GIN-HVA-125-01	125	46	220
GIN-HVA-150-01	150	51	300
GIN-HVA-200-01	200	62	300



LOCK DOWN JAW HYDRAULIC MACHINE VICE

Lock Down Jaw Design eliminates jaw lift and work piece tilt.

MODEL	JAW WIDTH	JAW DEPTH	MAX. JAW OPENING	OVERALL LENGTH
GPHV-125	130	55	220	570
GPHV-160	160	58	310	625
GPHV-200	200	63	310	725



MC COMPACT HYDRAULIC VICE

Compact version of GPHV model above.

MODEL	JAW WIDTH	JAW DEPTH	MAX. JAW OPENING	OVERALL LENGTH
GCHV-100 V	101	48	125	470
GCHV-130 V	131	55	180	535
GCHV-160 V	161	58	240	625
GCHV-200 V	201	63	280	700



UNIVERSAL 3-WAY ANGLE VICE

MODEL	JAW WIDTH	JAW DEPTH	MAX. JAW OPENING
GIN-VW3	80	30	90
GIN-VW4	106	48	105
GIN-VW5	132	40	140



ELECTRONIC (OPTICAL) EDGE FINDER

'GIN' Electronic edge finder with LED is most convenient to use as the tip of the Touch Probe is brought near the edge of the job, red light powered by enclosed battery glows as the ball probe comes in contact with the edge.

- ☐ Concentricity of ball-probe and shank within 0.005 mm.
- ☐ Repeatability of work location within 0.01mm.
- ☐ Spring loaded Ball-probe to prevent damage of probe.

MODEL	SHANK DIA	BALL DIA	TOTAL LENGTH	TYPE
GIN TSOE 20S	20	10	120	WITH LED ONLY
GIN TSOE 20L	20	10	158	WITH LED ONLY
GIN TSOE 20LB	20	10	158	WITH LED AND BEEPER



Z-AXIS PRESET GAUGE - OPTICAL TYPE Model GIN-ZOP-50

Used for setting tool height 50mm. Its base has a built-in magnet hence can be used vertically as well as horizontally. The red lamp lights up when touched. Height can be micro adjusted by gauge block.



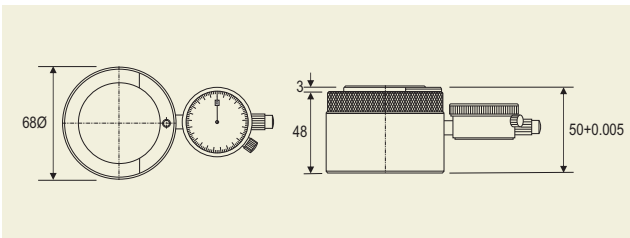
MILLING AND MC ACCESSORIES

Z-AXIS ZERO SETTER - Model Z-50

Z-Axis Zero Setter is used for zero setting of tool height from the machine table on machining centres.
Setting height : 50.00±0.01mm

FEATURES

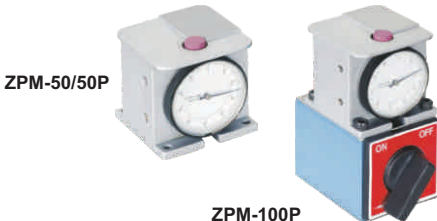
- ❑ Large measuring surface to assure high measuring accuracy.
- ❑ Low Spring force to avoid breakage of small end mill and drill.
- ❑ Easy to calibrate by a ground parallel or gauge block.



Z-AXIS ZERO SETTER - ZPM SERIES - CERAMIC

- ❑ Least measuring diameter of cutting tool : 0.1mm
- ❑ Scratch proof ceramic measuring face

MODEL	BASE TYPE
ZPM-50	Plain
ZPM-50 P	Magnetic
ZPM-100 P	Magnetic ON/OFF

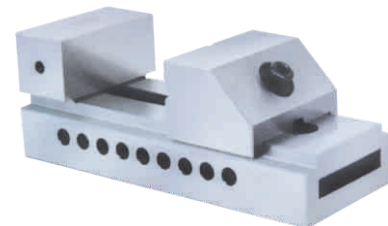


GRINDING ACCESSORIES

TOOL MAKER VICE GIN VB

All hardened and tempered 50-60 HRC having parallelism and squareness within 0.005 mm. It has improved design where the pin is not required to change position for changing jaw opening.

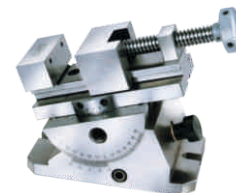
MODEL	OVERALL WIDTH	JAW DEPTH	MAX. JAW OPENING	OVERALL LENGTH
GIN-VB 15	36	20	40	100
GIN-VB 20	50	25	80	150
GIN-VB 25	63	32	90	175
GIN-VB 30	73	35	100	190
GIN-VB 35	88	40	130	235
GIN-VB 40	100	45	130	245
GIN-VB 50	125	50	160	285



PRECISION UNIVERSAL VICE

Model GIN-CHM has horizontal swivel 360° and tilts 45° vertically. Most suitable for precision grinding, milling, EDM etc. having micro adjustment of tilt angle.

MODEL	JAW WIDTH	JAW DEPTH	MAX. JAW OPENING
CHM-80	70	30	80
CHM-125	125	43	150



PRECISION STEEL PARALLELS SET MODEL GIN-P100

'GIN' Precision steel parallels set consists of 8 pairs (16 pieces) of flat steel parallels as per sizes given below and one pair (2 pieces) of thin edged parallels for use where minimum contact area with the job is required.

MODEL GIN-P100 HAVING TOTAL 18 PCS.

SIZES OF FLAT STEEL PARALLELS	PCS.
5X 16X100	2
6X 18X100	2
8X24X100	2
10X30X100	2
12 X 36 X 150	2
14 X 48 X 150	2
18 X 60 X 150	2
22 X 62 X 150	2
15 X 31 X 2.5 X 200 (THIN EDGE TYPE)	2



GRINDING ACCESSORIES

MAGNETIC INDUCTION BLOCKS

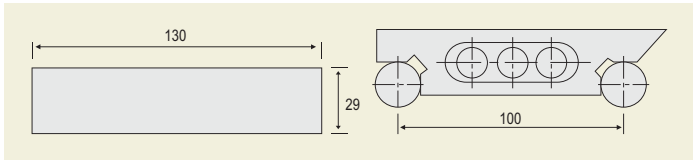
Nonmagnetic GT1 , GT2 can be magnetic after being inducted on any magnetic chuck.

MODEL	A x B x L x Pcs.	TYPE
GIN-GT 1	25 x 50 x 100 x 2 pcs.	Plain
GIN-GT 2	46 x 49 x 58 x 2 pcs.	V-Type



SINE BAR MODEL GIN-S100

Accuracy 0.005mm in parallelism and center distance of rollers.



SINE PLATE WITH MAGNETIC CHUCK

Accuracy 0.005mm in parallelism, squareness and center distance of rollers.

MODEL	MAGNETIC TOP SIZE	OVERALL HEIGHT IN CLOSED POSITION
SP47M	175 x 100	87
SP66M	150 x 150	87
SP510M	250 x 125	87
SP612M	300 x 150	87



COMPOUND SINE PLATE WITH MAGNETIC CHUCK

MODEL	MAGNETIC TOP SIZE	OVERALL HEIGHT IN CLOSED POSITION
CSP47M	175 x 100	122
CSP66M	150 x 150	122
CSP510M	250 x 125	122
CSP612M	300 x 150	122



OTHER GIN PRODUCTS



**PRECISION
KEYLESS DRILL CHUCK**



**NC DRILL CHUCK
- INTEGRATED TYPE**



BT TYPE TAPER WIPER



CERAMIC EDGE FINDER

BORING HEAD SETS AND BORING TOOLS



MODEL GIN-BHC2 (SET) WITH THREE NOS.
INDEXABLE INSERTS TYPE BORING BARS.



MODEL GIN-BHC3 (SET) WITH THREE NOS.
INDEXABLE INSERTS TYPE BORING BARS.



PRECISION BORING TOOLS
WITH INDEXABLE CARBIDE INSERTS



MODEL GIN-BH2084 (SET)



**BORING HEAD
BHC Series**



**BORING HEAD
HIGH PRECISION
FOR SMALL DIAMETER**



**UNIVERSAL BORING AND
FACING MASTER HEAD**



ANGLE SINE DRESSER



**PUNCH FORMER WITH
RADIUS DRESSING ATTACHMENT
MODEL GIN-PFB**



**PUNCH GRINDER
MODEL GIN-PGA**



**PUNCH GRINDER
MODEL GIN-PGAS**



**MOTOR PUNCH GRINDER
MODEL GIN-PGAM**



**RADIUS AND
ANGLE DRESSER
MODEL GIN-RDB**



**RADIUS AND
ANGLE DRESSER
MODEL GIN-RDA**



**RADIUS DRESSER
MODEL GIN-RD40**



**PRECISION
DUPLEX DRESSER**



PUNCH FORMER (BIG)



3 JAWS PUNCH FORMER



ER COLLET PUNCH FORMER



MOTOR PUNCH FORMER

OTHER GIN PRODUCTS



UNIVERSAL WHEEL DRESSER



DIAMOND CBN
FLAT WHEEL TRUER



FLANGES FOR
GRINDING MACHINES



WHEEL BALANCING STAND



PERMANENT
MAGNETIC CHUCK



PERMANENT MAGNETIC
CHUCK (VERTICAL TYPE)



ROTARY PERMANENT
MAGNETIC CHUCK



ELECTRICALLY CONTROLLED
PERMANENT MAGNETIC CHUCK



GAUGE BLOCKS



PIN GAUGE SET



DEMAGNETIZER - HANDY
TYPE & STANDARD TYPE



SUPER THIN CHUCKS
FOR MILLING



SUPER INDEX SPACER



UNIVERSAL TILTING
ROTARY TABLE



CHAMFERING MACHINES



UNIVERSAL CUTTER GRINDER



ADJUSTABLE FIXTURES AND
VICES FOR WIRE EDM



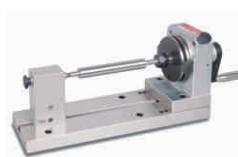
WIRE EDM DIVIDING DEVICE



ELECTRODE VICE



SELF-CENTERING VICE



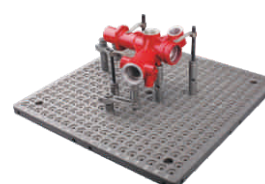
CENTER PUNCH FORMER



THREAD GRINDING SLIDER



PRECISION UNIVERSAL
THIN CHUCK PAEDESTAL



FIXTURES AND ELEMENTS
FOR CMM

OTHER GIN PRODUCTS



3D TASTER



CENTERING INDICATOR



CONCENTRICITY
MEASURING INSTRUMENT



TOOL PRE-SETTER



SMALL DIA FINE
BORING HEAD



LARGE DIA BORING HEAD



MICRO BORING HEAD



QUICK CHANGE
TAPPING CHUCKS



CUTTING-OFF MACHINE



BALL ENDMILL GRINDER

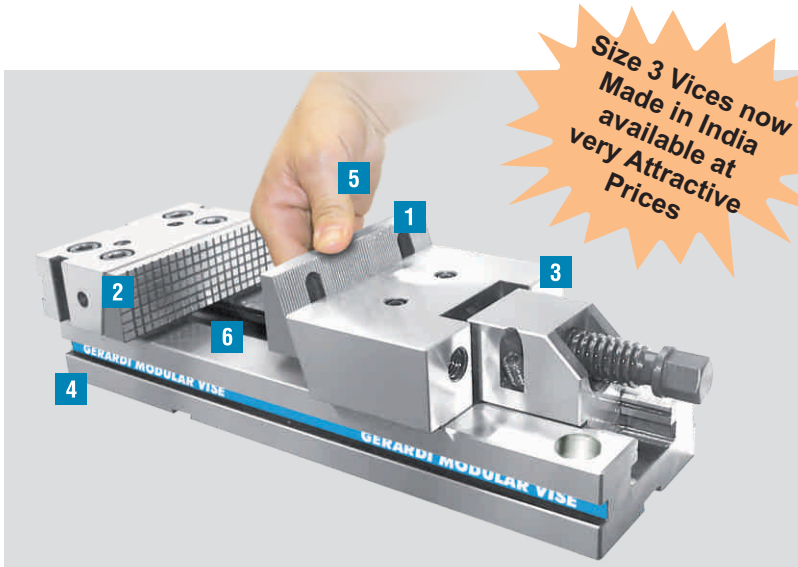


SCREW TAP GRINDER



AIR TAPPING MACHINE

STANDARD FLEX VISES - ART. 1AZ



Size 3 Vices now
Made in India
available at
very Attractive
Prices

Supplied with Gerardi StandardFLEX Machine Vise:

- 1x workstop ART.370
- 1x pair of positioning keys (16mm)
- 1x box wrench ART.375
- 1x T wrench ART.376
- 4x table clamps (6 with XL vise)



Endless Clamping Possibilities!

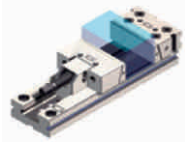
Soft Jaw



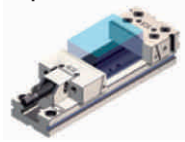
Prismatic



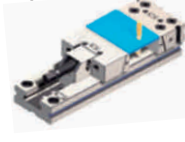
Hard Jaw



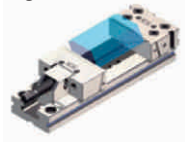
Stop Jaw



Step Jaw



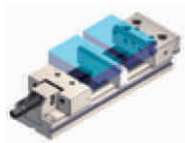
Angle Jaw



Serrated Jaw

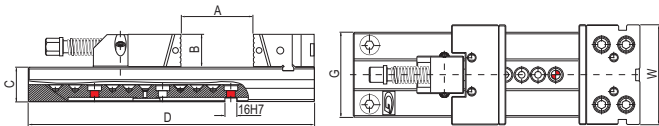
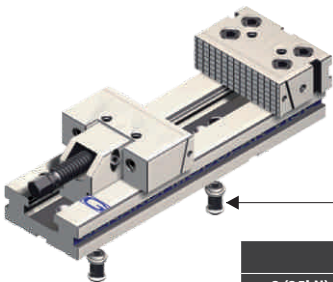


Intermediate Jaw

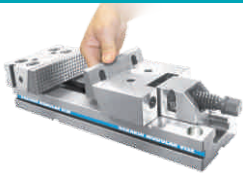


1	MODULAR	The world's largest range of modular accessories means clamping almost ANYTHING is possible with Gerardi's standard jaws.
2	NO WEAR	Made 100% from high quality, case hardened alloyed resistance steel in order to give maximum rigidity, high performance and no wear.
3	QUICK CLAMPING	Sliding movable jaw is pushed close to the work piece then fully tightened with 1/4 turn of the wrench. Also available with Hydraulic, Pneumatic, Manual hydraulic & Electrical hydraulic clamping.
4	HIGHEST ACCURACY +/-0.02mm	Every sliding and working surface is ground. Centesimal tolerances are guaranteed by checking cycles with CNC measuring machine. The perfect alignment with the machine axis is given by longitudinal and cross keyways (16H7)
5	QUICK HAND CHANGE JAWS	ONLY with Gerardi Standard Flex vises is it possible to change the vise jaw plates in under 5 seconds. The special comb design ensures jaw plates slide into place. All working surfaces are ground and hardened as standard on jaw plates.
6	BETTER PULL DOWN ACTION	Increased and better pull down straight action and better protection from chips.

Standard Flex Vises - Art. 1AZ



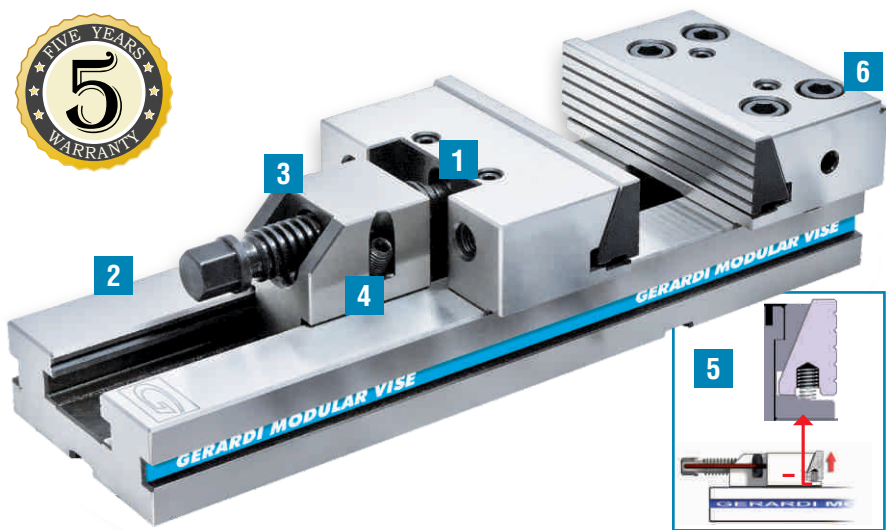
Adaptable to zero point system



	SIZE								
	2 (25kN)	3 (30kN)		4 (30kN)			5 (40kN)		
A	150	200	300	200	300	400	200	300	400
W	121	146		171			196		
B	38	48		58			63		
C	40	50		60			70		
D	345	420	520	455	555	655	495	595	695
G	95	125		145			170		
kg	12,9	25	29	37	42	47	64	69	75
ART. 1AZ ORDER CODES	1.1AZ.2000	1.1A.Z3200	1.1A.Z3300	1.1A.Z4200	1.1A.Z4300	1.1A.Z4400	1.1A.Z5200	1.1A.Z5300	1.1A.Z5400

MADE IN INDIA

STANDARD SERIES VISES - ART. 1



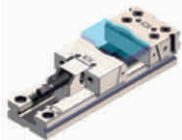
Supplied with Gerardi Standard Series Machine Vise:

- 1x workstop ART.370
- 1x pair of positioning keys (16mm)
- 1x box wrench ART.375
- 1x T wrench ART.376
- 4x table clamps (6 with XL vise)



Endless Clamping Possibilities!

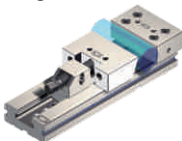
Soft Jaw



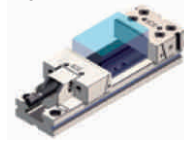
Prismatic With Step



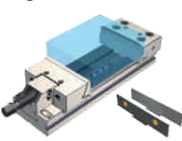
Wedge Jaw



Stop Jaw



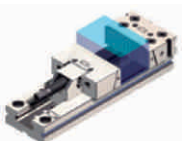
Magenetic Parallel



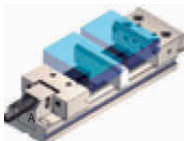
Angle Parallel



Serrated Jaw

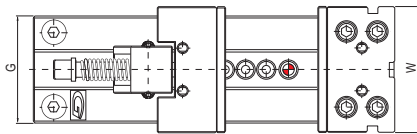
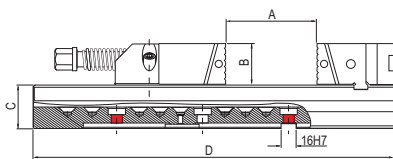
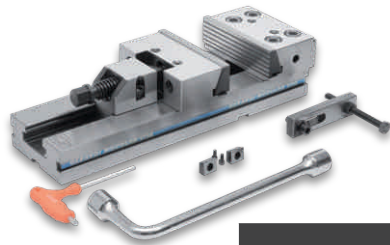


Intermediate Jaw



1	MODULAR	The world's largest range of modular accessories means clamping almost ANYTHING is possible with Gerardi's standard jaws.
2	NO WEAR	Made 100% from high quality, case hardened HRC 60 alloyed resistance steel in order to give maximum rigidity, high performance and no wear. As evidence we give 5 YEARS WARRANTY on all the vises and mechanical components.
3	QUICK CLAMPING	Sliding movable jaw is pushed close to the work piece then fully tightened with 1/4 turn of the wrench. NO WINDING! Also available with Hydraulic, Pneumatic, Manual hydraulic & Electrical hydraulic clamping.
4	HIGHEST ACCURACY +/-0.02mm	Every sliding and working surface is ground. Centesimal tolerances are guaranteed by checking cycles with CNC measuring machine. The perfect alignment with the machine axis is given by longitudinal and cross keyways (16H7)
5	'ON/OFF' PULL DOWN JAWS	ONLY with Gerardi Standard Series vises is it possible to chage from pull down action to non-pull down action. By turning the screw 1/4 turn in the rear of the jaw, the pull-down action can be turned on or off.
6	5mm STEP ON FIXED JAW	The fixed jaw is supplied as standard with a 5mm step on the rear. Reverse the jaw and combine with ART.217 (Prismatic Jaw with Step) for through hole drilling/tapping operations.

Standard Series Vises - Art. 1



	SIZE								
	2 (25kN)	3 (30kN)		4 (30kN)			5 (40kN)		
A	150	200	300	200	300	400	300	400	500
W	125	150		175			200		
B	40	50		60			65		
C	40	50		58			70		
D	345	420	520	455	555	655	595	695	795
G	95	125		145			170		
kg	12.9	25.5	29	37	42	47	69	74	79
ART. 1A ORDER CODES	3.02.10000	3.03.20000	3.03.30000	3.04.20000	3.04.30000	3.04.40000	3.05.30000	3.05.40000	3.05.50000

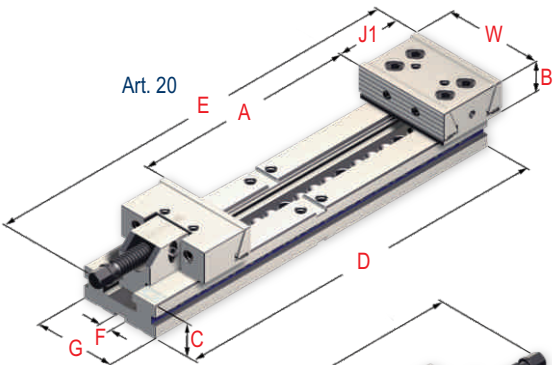
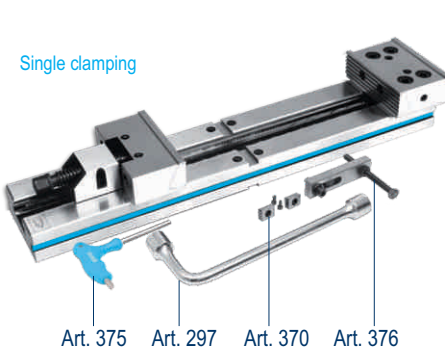
PRECISION MODULAR VISES XL SERIES

XL series EXTRA LARGE MACHINING

Vises with much longer base than standard ones
A range of vises without any opening limit

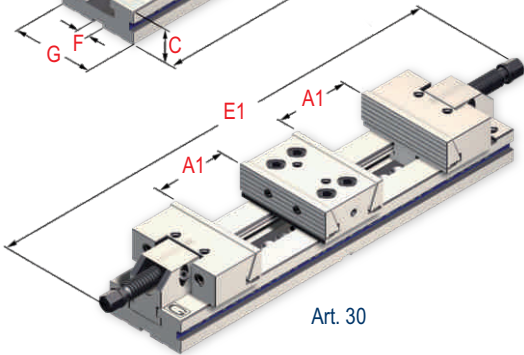
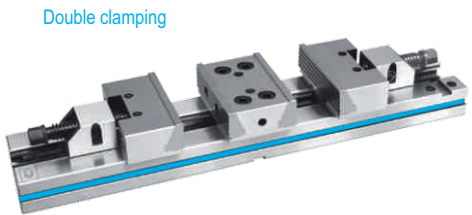
Art. 20

Single opening **XL** vise
with solid movable
guided Jaw



Art. 30

Double opening **XL** vise
with solid movable
guided Jaw

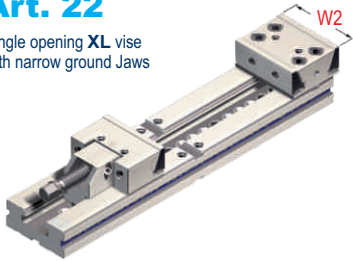


Vise (type) size		1	2	3	4					
Maximum spread	A	290	320	360	460	400	500	600	700	
	A1	2 x 90	2 x 100	2 x 110	2 x 160	2 x 120	2 x 170	2 x 220	2 x 270	
	W	100	125	150		175				
	W1	96	121	146		171				
	W2	75	95	125		145				
	B	30	40	50		60				
	B1	28	38	48		58				
	C	35	40	50		58				
	D	460	520	580	680	666	766	866	966	
	E	510	585	660	760	740	840	940	1040	
	E1	546	640	730	830	786	886	986	1086	
	F	16	16	16		16				
	G	75	95	125		145				
	J1	84,78	84,78	101,78		110,78				
Weight	Art. 20 - Art. 20A	kg 10	17	31	34	46	51	56	61	
Weight	Art. 30 - Art. 30A	kg 14	20,5	38	42	58	63	68	73	

- HIGHEST ACCURACIES $\pm 0,02mm$
- VERSATILITY
- RIGIDITY & SAFETY
- QUICK CLAMPING
- NO WEAR
- MODULARITY
- SPACE SAVING DESIGN & HANDY
- HIGHEST REPOSITIONING ACCURACY (Art. 20A - 30A)
- INCREASED AND BETTER PULL DOWN ACTION AND BETTER PROTECTION FROM CHIPS FOR Art. 20A - 30A
- GREAT SAVINGS IN VISE RESETTIMG TIMES (Art. 20A - 30A)
- VERTICAL GANG OPERATION (Art. 20A - 30A)

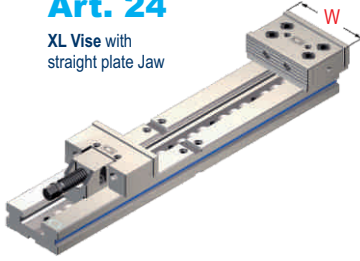
Art. 22

Single opening **XL** vise
with narrow ground Jaws



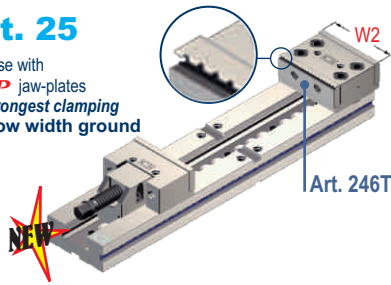
Art. 24

XL Vise with
straight plate Jaw



Art. 25

XL vise with
GRIP jaw-plates
for **strongest clamping**
narrow width ground



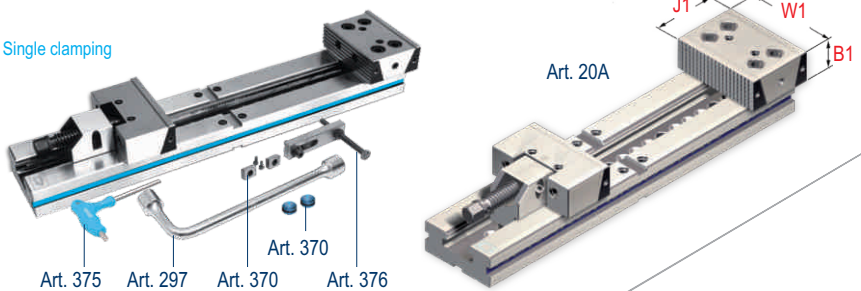
PRECISION MODULAR VISES XL SERIES

XL series EXTRA LARGE MACHINING

Vises with much longer base than standard ones
A range of vises without any opening limit

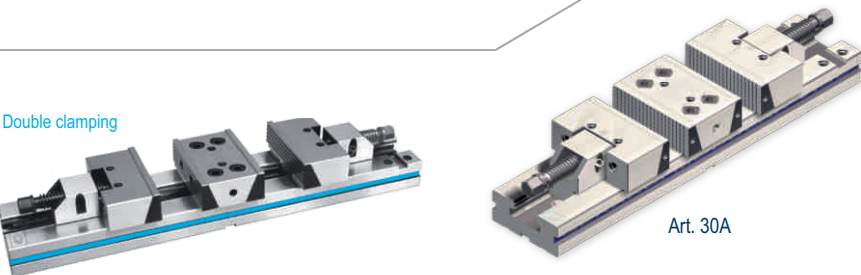
Art. 20A

Single opening XL vise
with quick manual change jaw plates
(Comb System)



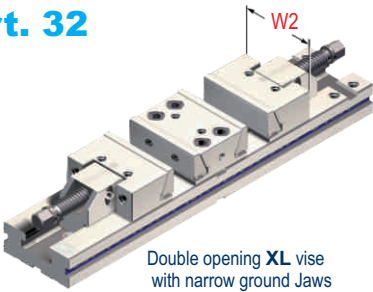
Art. 30A

Double opening XL vise
with quick manual change jaw plates
(Comb System)

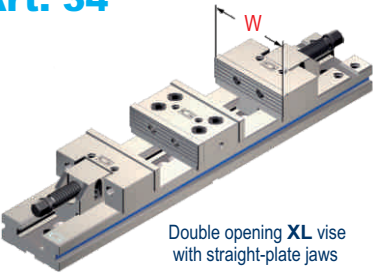


5					6						
500	600	700	800	900	500	600	700	800	900	1000	1100
2 x 150	2 x 200	2 x 250	2 x 300	2 x 350	2 x 160	2 x 210	2 x 260	2 x 310	2 x 360	2 x 410	2 x 460
200					300						
196					296						
170					195						
70					78						
63					78						
70					78						
805	905	1005	1105	1205	900	1000	1100	1200	1300	1400	1500
890	990	1090	1190	1290	995	1095	1195	1295	1395	1495	1595
965	1065	1165	1265	1365	1060	1160	1260	1360	1460	1560	1660
16					16						
170					195						
132,78					146,78						
85	92	99	106	113	127	137	147	157	167	177	187
95	101	107	113	119	154	162	170	178	186	194	212

Art. 32

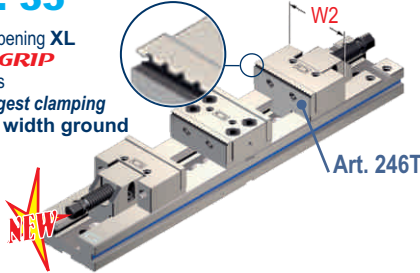


Art. 34



Art. 35

Double opening XL vise with **GRIP** jaw-plates for **strongest clamping** narrow width ground

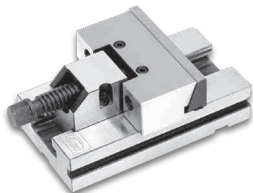


MODULAR ELEMENTS

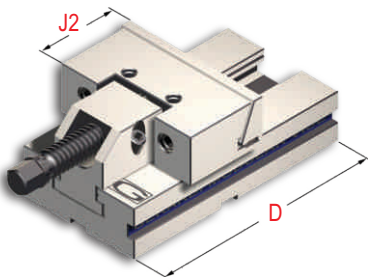
MODULAR ELEMENTS are simply standard vises sections, the movable section and the fixed one, which in this way result completely independent for anextreme versatility

Art. 102

Movable section

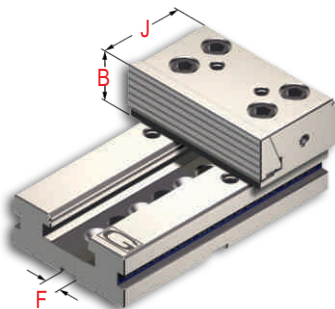
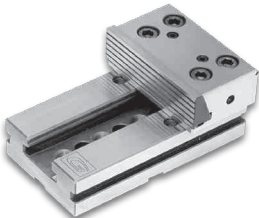


OPTION:
Ground holes Ø 12 o Ø 16
only for jaws with **COMB SYSTEM**



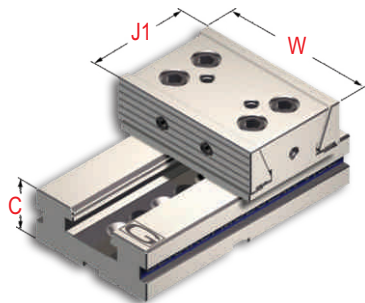
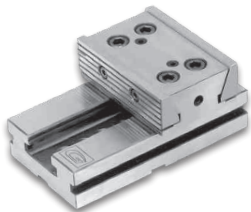
Art. 103

Fixed section



Art. 104

Double fixed section

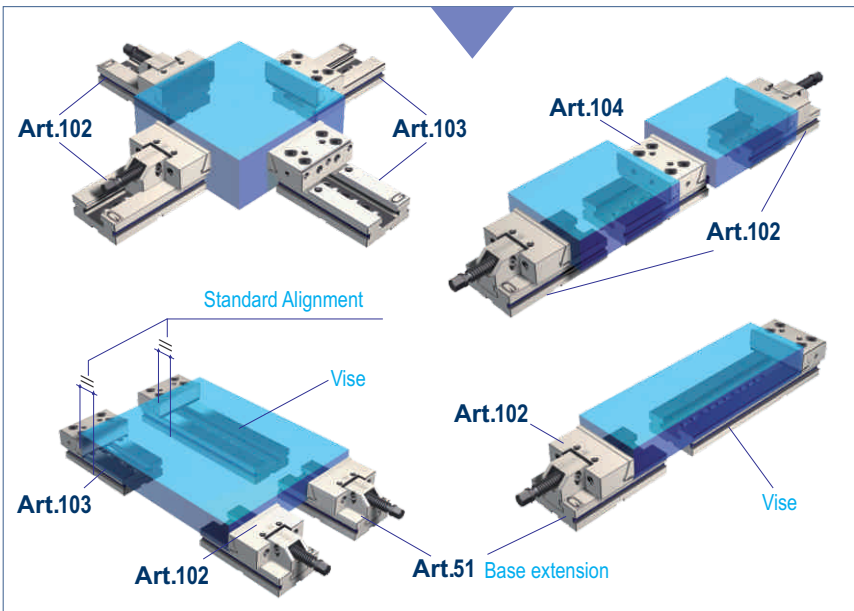


Without accessory equipment

Vise (type) size

mm	1	2	3	4	5	6
W	100	125	150	175	200	300
B	30	40	50	60	65	80
C	35	40	50	58	70	78
D	140	160	230	240	330	350
F	16	16	16	16	16	16
J	77,9	77,9	89,4	96,9	113,4	120,4
J1	84,78	84,78	101,78	110,78	132,78	146,78
J2	50	60	80	90	100	120

Typical arrangements

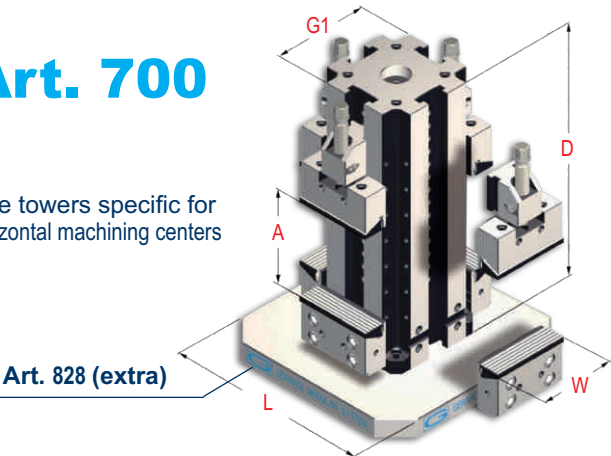


- **HIGHEST ACCURACIES $\pm 0,02\text{mm}$**
- **VERSATILITY**
- **RIGIDITY & SAFETY**
- **QUICK CLAMPING**
- **NO WEAR**
- **MODULARITY**
- **SPACE SAVING DESIGN & HANDY**
- **HIGHEST REPOSITIONING ACCURACY (Art. 20A - 30A)**
- **INCREASED AND BETTER PULL DOWN ACTION AND BETTER PROTECTION FROM CHIPS FOR Art. 20A - 30A**
- **GREAT SAVINGS IN VISE RESETTING TIMES (Art. 20A - 30A)**
- **VERTICAL GANG OPERATION (Art. 20A - 30A)**

WISE TOWERS: Standard Series

Art. 700

Vise towers specific for horizontal machining centers

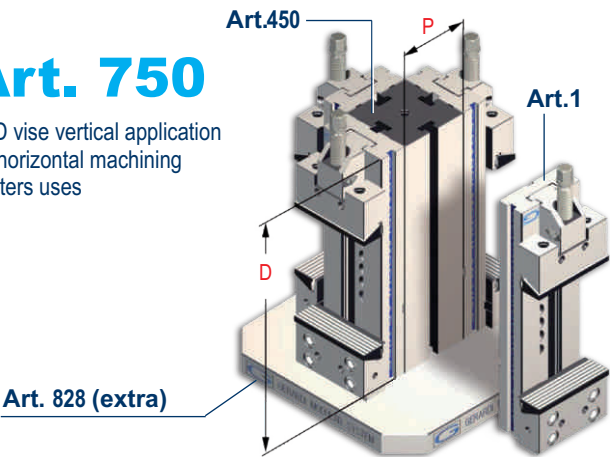


Art. 700

mm	1		2		3			4			
A	80	130	155	205	180	280	380	145	245	345	445
W	120		160		190			230			
D	250	300	350	400	400	500	600	400	500	600	700
G1	100		125		150			175			
L	300		350		400			450			

Art. 750

STD vise vertical application for horizontal machining centers uses



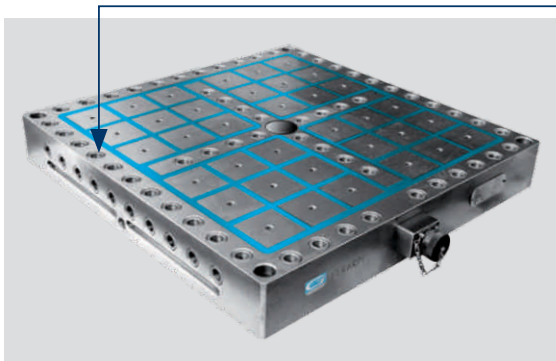
Art. 750 Composed by 1 Art. 450 + 4 Art. 1

mm	1	2	3	4	5	6
D	270	345	420	455	495	635
P	75	95	125	145	170	195

SQUARE POLARITY MAGNETIC CHUCKS

Electro-permanent system for milling

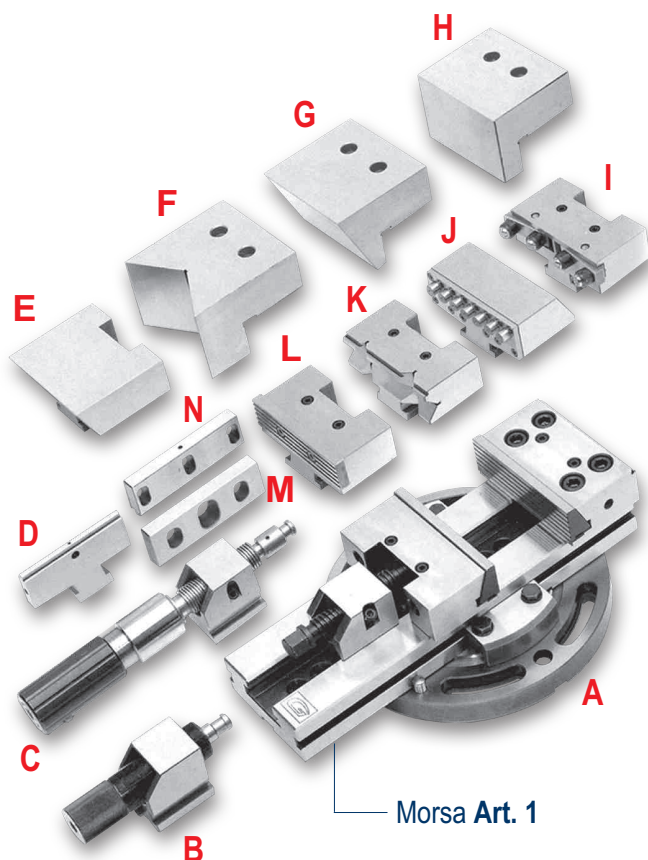
Magnetic chuck with bushings and helicoils



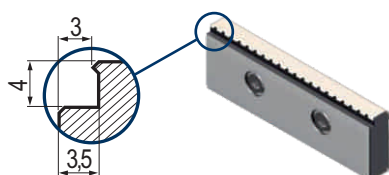
Ten good reasons for choosing the electro permanent system Gerardi

- 1 No energy consumption
- 2 Always safe
- 3 Immediate work loading/unloading piece
- 4 Simple and practical
- 5 Extremely accurate machining
- 6 Perfect clamping
- 7 Totally free working surface
- 8 Flexibility
- 9 Reduction of other costs
- 10 Machine full exploitation

SPARE PARTS AND ACCESSORIES



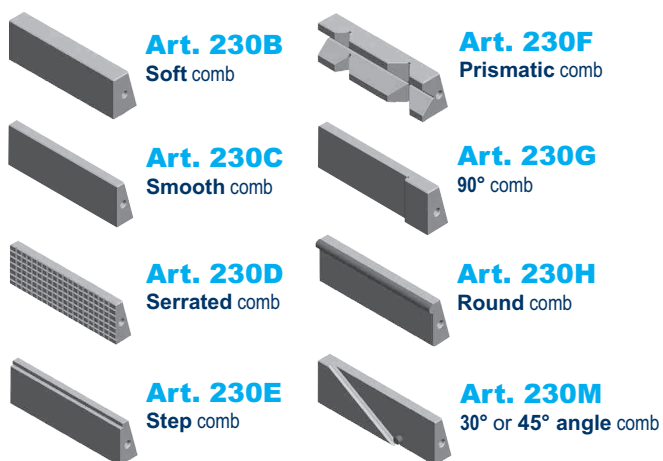
Hardened straight jaw plates **GRIP** for fixed and movable jaw - Art. 140, 143, 146



Art. 246T
Normal width

Art. 247T
Narrow width

ONLY FOR Art. 1A VISES (StandardFLEX quick change jaw plates)



Art. 230B
Soft comb

Art. 230F
Prismatic comb

Art. 230C
Smooth comb

Art. 230G
90° comb

Art. 230D
Serrated comb

Art. 230H
Round comb

Art. 230E
Step comb

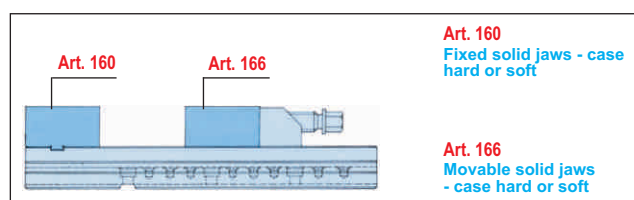
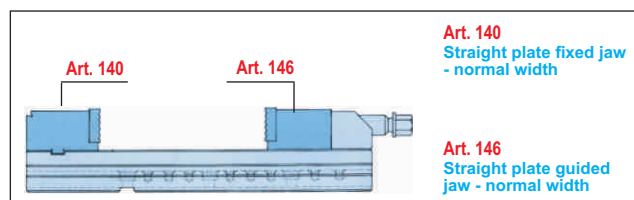
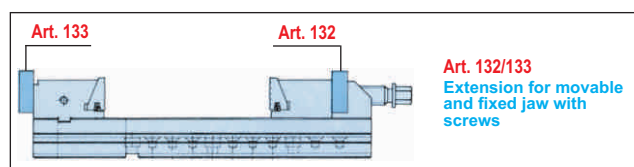
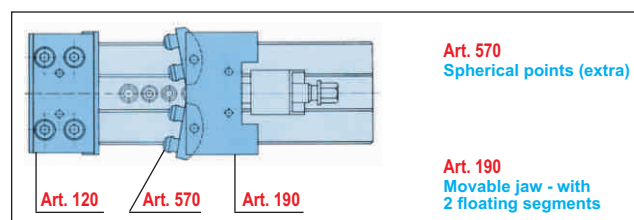
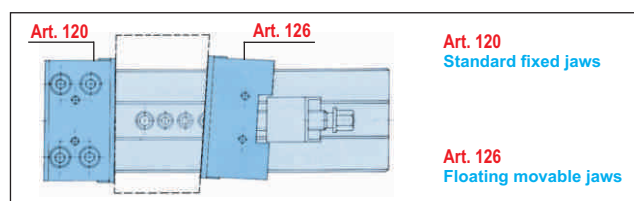
Art. 230M
30° or 45° angle comb



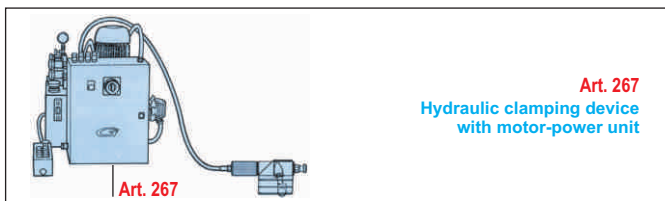
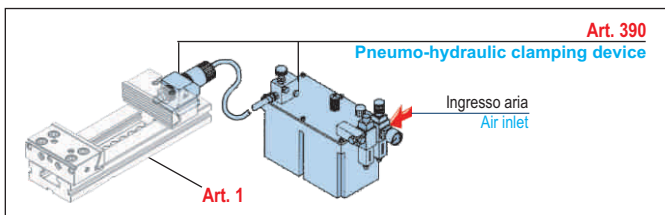
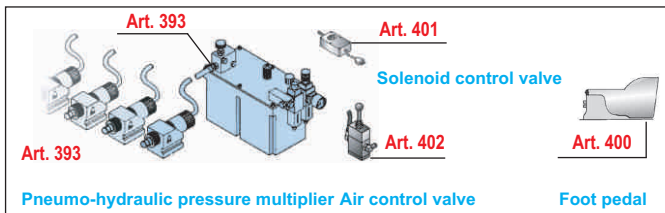
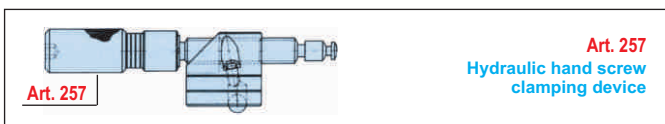
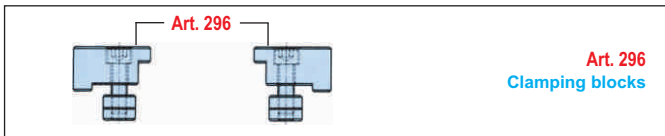
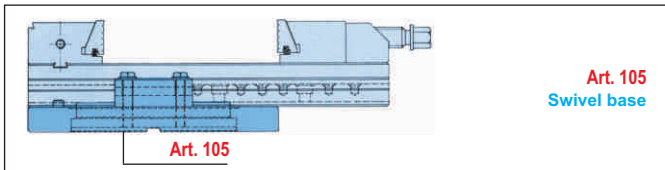
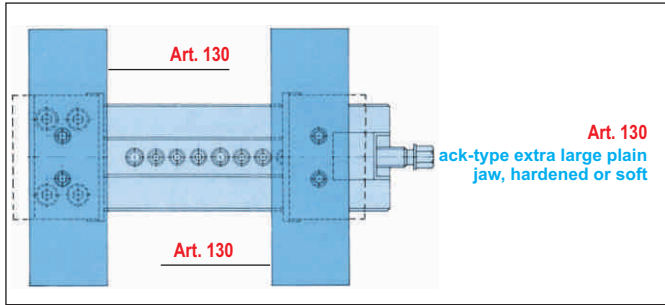
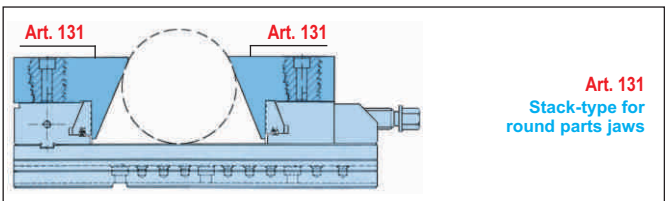
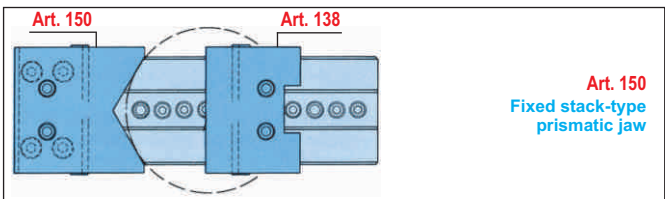
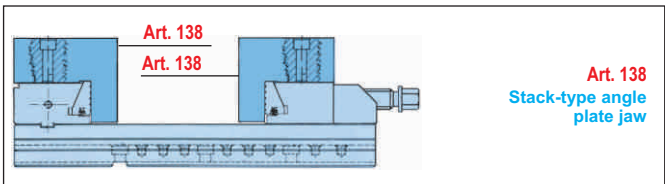
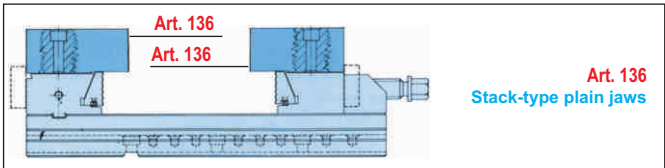
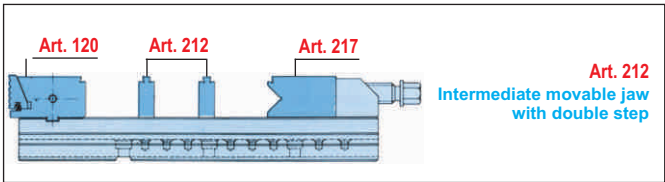
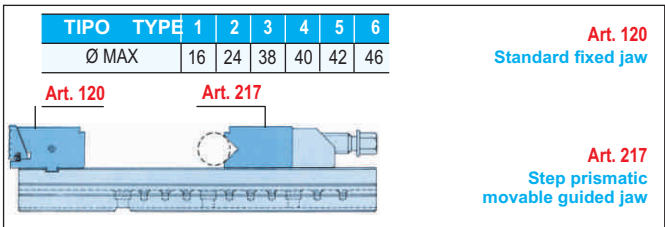
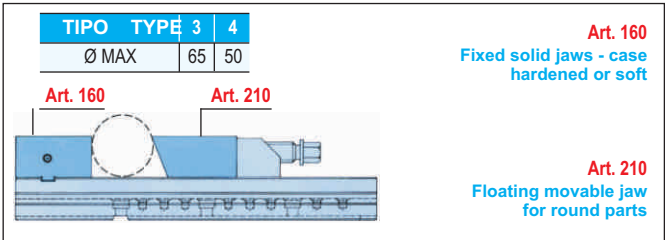
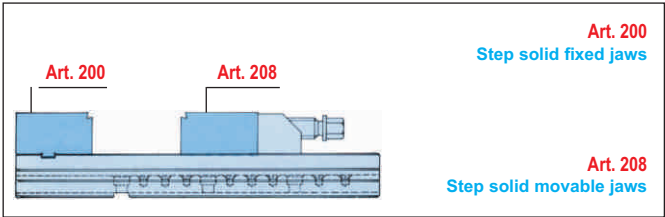
Art. 313
Pair of straight parallels magnetic plates

Art. 313R
Pair of straight parallels magnetic narrow plates

- A.** Swivel base - **ART. 105**
- B.** Blocking support with hydraulic cylinder - **ART. 271**
- C.** Hydraulic hand screw blocking device - **ART. 257**
- D.** Intermediate movable jaw with double step - **ART. 212**
- E.** Floating movable jaw for round parts - **ART. 210**
- F.** Fixed stack type prismatic jaw - **ART. 150**
- G.** Fixed and movable stack-type jaws for round parts - **ART. 131**
- H.** Square stack-type jaws - **ART. 138**
- I.** Movable jaw with 2 floating segments - **ART. 190**
- J.** Floating movable jaw - hydraulic control - **ART. 188**
- K.** Step-prismatic guided movable jaw - **ART. 217**
- L.** Guided movable jaw - straight plate - **ART. 146**
- M/N.** Extension for fixed and movable jaw with screws - **ART. 132/133**



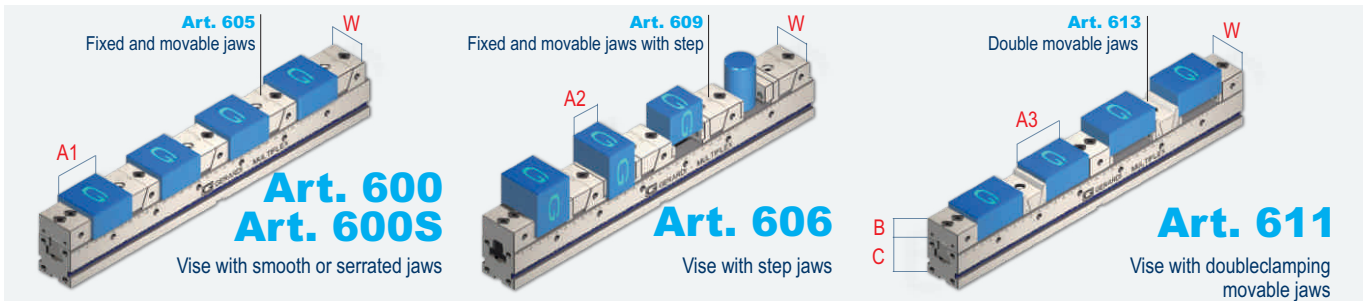
SPARE PARTS AND ACCESSORIES



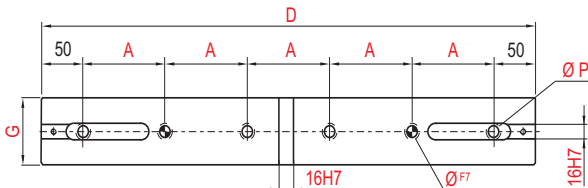
MULTIFLEX VISES AND VISE-TOWER SERIES

MULTIFLEX series THE MOST VERSATILE

For multiple clamping from **1** to **12** workpieces of various sizes



■ EACH VISE IS SUPPLIED FOR 4 WORKPIECES CLAMPING



Typical arrangements



The MULTIFLEX precision modular vises are a totally new concept of modular clamping system able to maximize the machine table capacity and increase its productivity. The comb system is used even between the fixed and movable jaw, it increases and improves the clamping capacity

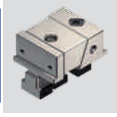
Vise (type) size								Art. 600	Art. 606	Art. 611
mm	B	C ^{+0.02}	D	G	P	W	ØF7	A1 mm	A2 mm	A3 mm
1	32/25	50	300	50	16	49	10	4 x 8	3 x 19	4 x 21
	32/25	50	400	50	16	49	10	4 x 33	4 x 23	4 x 46
	32/25	50	500	50	16	49	10	4 x 58	4 x 48	4 x 71
	32/25	50	600	50	16	49	10	4 x 83	4 x 73	4 x 96
	32/25	50	700	50	16	49	10	4 x 108	4 x 97	4 x 121
2	40	75	400	75	16	74	16	4 x 12	3 x 28	4 x 34
	40	75	500	75	16	74	16	4 x 37	4 x 24	4 x 59
	40	75	600	75	16	74	16	4 x 62	4 x 49	4 x 84
	40	75	700	75	16	74	16	4 x 87	4 x 74	4 x 109
	40	75	800	75	16	74	16	4 x 112	4 x 99	4 x 134
3	60	100	700	100	16	99	16	4 x 59	4 x 44	4 x 77
	60	100	800	100	16	99	16	4 x 84	4 x 69	4 x 102
	60	100	900	100	16	99	16	4 x 109	4 x 94	4 x 127
	60	100	1000	100	16	99	16	4 x 134	4 x 119	4 x 152

Max opening according to number of pieces be clamped

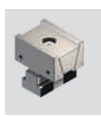
Type	Art. 600/600S n. pcs:											Art. 606 n. pcs:									Art. 611 n. pcs:											
A mm	1	2	3	4	5	6	7	8	9	10	11	1	2	3	4	5	6	7	8	9	1	2	3	4	5	6	7	8	9	10	11	12
1	300	208	75	30	8							193	63	19							174	87	28	21								
	400	308	125	64	33	15	3					293	113	53	23						274	137	62	46	19	16						
	500	408	175	96	58	35	19	8				393	163	86	48	25					374	185	95	71	39	33	15	13	2			
	600	508	225	129	83	55	36	22	12	5		493	213	119	73	45	26	13			474	237	128	96	59	49	30	26	13	12	3	2
	700	608	275	161	108	75	52	36	24	16	8	593	263	152	97	64	42	26	14	5	574	287	162	121	79	66	44	38	24	22	12	11
2	400	275	100	41	12							262	87	28							242	121	45	34	5							
	500	375	150	75	37	15						362	137	62	24	2					342	171	78	59	25	21	3					
	600	475	200	108	62	35	16	3				462	187	95	49	22	3				442	221	112	84	45	38	17	15	1			
	700	575	250	141	87	55	33	17	6			562	237	128	74	42	20	4			542	271	145	109	65	54	31	27	12	11		
3	800	675	300	175	112	75	50	32	18	8		662	287	162	99	62	37	19	5		642	321	178	134	85	71	46	40	23	21	10	9
	700	532	217	112	59	28	7					517	202	97	44	13					470	235	103	77	30	25						
	800	632	267	145	84	48	23	6				617	252	130	69	33	8				570	285	136	102	50	41	12	11				
	900	732	317	178	109	68	39	20	5			717	302	163	94	53	25	5			670	335	169	127	70	57	26	23	3			
	1000	832	367	211	134	88	55	34	18	5		817	352	196	119	73	42	19	3		770	385	202	152	90	73	40	35	14			



Art. 605
Fixed and movable jaws with comb system

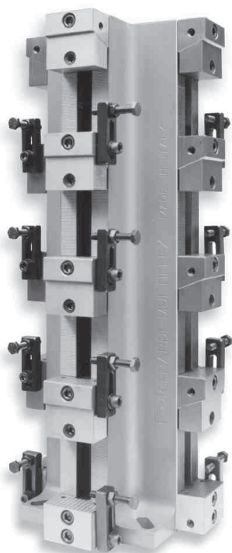


Art. 609
Fixed and movable jaws with step



Art. 613
Double movable jaw

MULTIFLEX VISES AND VISE-TOWER SERIES



Art. 602 / 602S

Vise-tower with smooth or serrated jaws

Art. 602
Art. 602S

Art.	N°
603	1
604	4
605	16

Art. 828 (Extra)



Art. 607

With step jaws

Art.	N°
603	1
608	4
609	16

Art. 828 (Extra)



Art. 612

With double jaws

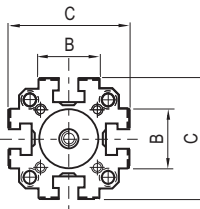
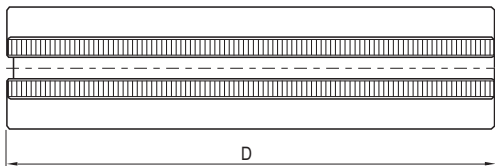
Art.	N°
603	1
604	12
613	8

Art. 828 (Extra)



Art. 603

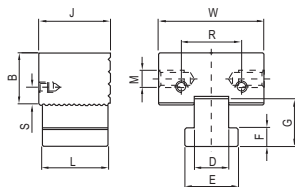
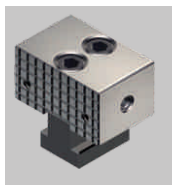
Vise bade body



* Included the solid head plate

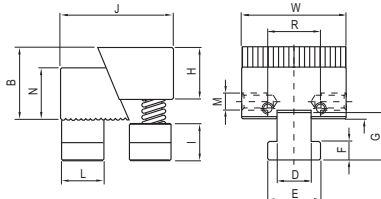
mm	B $\begin{smallmatrix} 0 \\ -0,02 \end{smallmatrix}$	C $\begin{smallmatrix} 0 \\ -0,02 \end{smallmatrix}$	D
Type	50	100	300
50	100	400	
1	50	100	500
50	100	600	
Type	75	150	400
75	150	500	
2	75	150	230 *
75	150	240 *	600
75	150	240 *	700
Type	100	240	700
100	240	800	
3	100	240	900
100	240	1000	

Art. 604 Fixed jaws



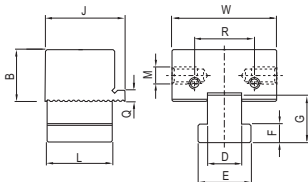
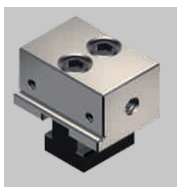
mm		W	B	D	E	F	G	J	L	M	R
Type	1	49	25	14	22	8	21	38	30	M10	30
	2	74	40	22	35	14	33	50	45	M10	50
	3	99	60	30	48	21	46	70	60	M10	50

Art. 605 Fixed and movable jaw with comb system



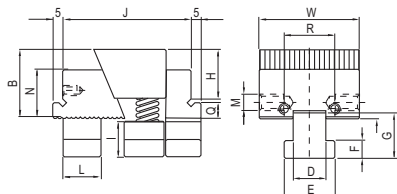
mm	W	B	D	E	F	G	H	I	J	L	M	N	R	
Type	1	49	35 / 25	14	22	8	25	25	18	54 / 58	22	M10	25	30
	2	74	53 / 40	22	35	14	33	34	26	70 / 75	26	M10	40	50
	3	99	60	30	48	21	46	50	42	94,5 / 98,5	35	M10	60	50

Art. 608 Fixed jaw with step



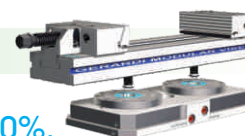
mm		W	B	D	E	F	G	J	L	M	Q	R
Type	1	49	25	14	22	8	21	43	30	M10	5	30
	2	74	40	22	35	14	33	55	45	M10	8	50
	3	99	60	30	48	21	46	70	60	M10	10	50

Art. 609 Fixed and movable jaw comb system with step



	mm	W	B	D	E	F	G	H	I	J	L	M	N	Q	R
Type	1	49	35 / 25	14	22	8	25	25	18	65 / 68	22	M10	25	5	30
	2	74	46 / 40	22	35	14	33	34	26	83 / 88	26	M10	40	8	50
	3	99	60	30	48	21	46	50	42	94,5 / 98,5	35	M10	60	10	50

ZERO POINT GERARDI MODULAR SYSTEM



The new immediate positioning & clamping system. Set up times reduced 90%.
All the components are built completely with high resistance steel and case hardened

ZERO POINT system REPETABILITY $< 5\mu$



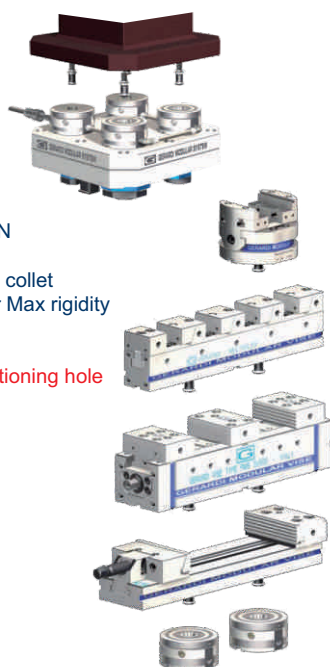
Art. 11A *

HYDRAULIC ZERO POINT

Art. 662

Independent mounting

- Clamping force 25 kN
- Holding force more than 60 kN
- Hydraulic release 200bar
- Positioning shank with elastic collet
- Double pull-stud centering for Max rigidity
- Manually emergency release
- Water drain
- Key ways and calibrated positioning hole
- Weight 4,3 Kg each



* Art. 11A Pull stud included

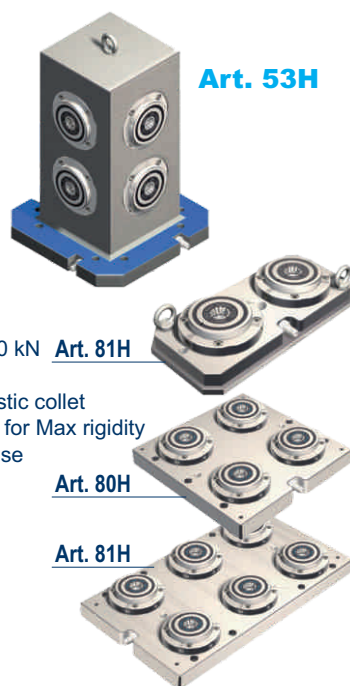


Art. 11A *

Art. 663

Built-in mounting

- Clamping force 25 kN
- Holding force more than 60 kN
- Hydraulic release 200bar
- Positioning shank with elastic collet
- Double pull-stud centering for Max rigidity
- Manually emergency release
- Weight 5,6 Kg each



Art. 80H

Art. 81H



Art. 11A *

PNEUMATIC ZERO POINT

Art. 664

Mounting with flange

- Clamping force 15 kN
- Holding force more than 60 kN
- Pneumatic release 7bar
- Positioning shank with elastic collet
- Double pull-stud centering for Max rigidity
- Air cleaning
- Weight 6 Kg each



* Art. 11A Pull stud included



Art. 11A *

Art. 665

Built-in mounting

- Clamping force 15 kN
- Holding force more than 60 kN
- Pneumatic release 7bar
- Positioning shank with elastic collet
- Double pull-stud centering for Max rigidity
- Air cleaning
- Weight 2,5 Kg each



Art. 81P

Art. 80P

Art. 81P

COMPACT GRIP VISES: SELF CENTERING VISE



IDEAL FOR 5 AXIS MACHINING CENTRES

COMPACT, RIGID & ACCURATE



Art. 650 T.2x120
110 Nm 26 KN

Grip Inserts

TOP JAW INSERTS

5 AXIS MACHINE

ZERO POINT READY



Art.650

Manual Control - Mechanical Clamping



The absolute news for 5 axis machine centres and new multiclamping system are the self-centering Compact Grip vises. Their name identifies the main vise features which are the extreme compactness and easiest handling and the system of inserts which it adopts, so called "GRIP". This system includes a range of jaw inserts assembled on the top of the main jaw with the function of clamping the workpiece through sharp or duly shaped teeth according to the material type and hardness to clamp.

SELF-CENTERING VISE WITH REVERSIBLE JAWS: Ideal For 5 Axis Machining Centres

Vise (type) size

	1	2
	12 kN	22 kN

Art. 650

Type **1x120**

Example 1

Art. 651H

Type **1**

Simple Riser

A	48	88	128
A1		6	
W		50	
B		65	
C		45	
C1		53	
C2		61	
D		80	
E	80	120	160
F		52	
L		12	
L1		M8	
kg	1,8	2,6	3,4

Cod. 7.65.01080 7.65.01120 7.65.01160

Art. 650

Type **2x160**

Example 1

Art. 651H

Type **2**

Simple Riser

Art. 660

Quick change table

Art. 661H

Simple aluminum riser for quick change table

Example 2

Type **1&2**

Pitch: **52mm**

A	150
B	27
C	100
D	156
D1	116
E	190
kg	3

Art. 660 Cod. 9.66.05200

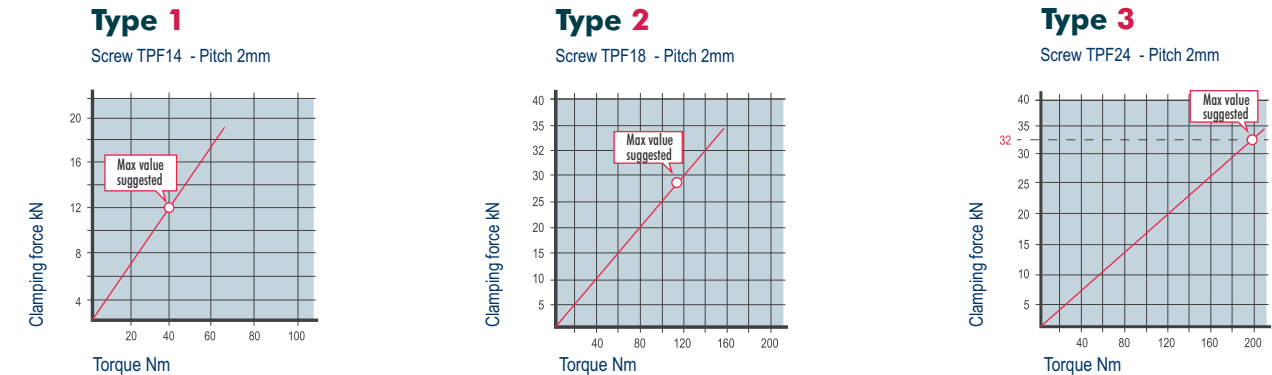
Art. 661H Cod. 9.66.1H100

NEW ADAPTING PLATE !!

It allows to reduce the pull studs distance from **96 mm** to **52 mm**

Art. 660R

Art. 660



CompactGRIP Art.650 T1x80

STANDARD EQUIPMENT

USE SIDE CLAMPS

Type - **1xM10 / 1xM12 / 1xM16**

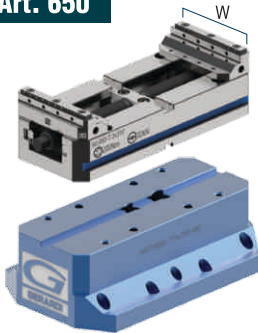
Type 1

SELF-CENTERING VISE WITH REVERSIBLE JAWS: Ideal For 5 Axis Machining Centres

2				
kN	22 kN			
A	96	136	176	216
A1			10	
W			88	
B			65	
C			38	
C1			51	
C2			61	
D			90	
E	120	160	200	240
F			52	
L			12	
L1			M8	
kg	3,6	4,4	5,2	5,8

Cod. 7.65.02120 7.65.02160 7.65.02200 7.65.02240

Art. 650



Type 3x310

Example 1

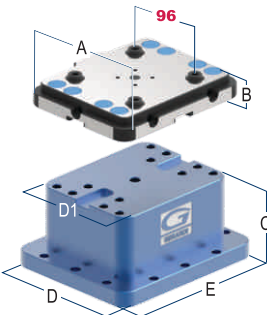
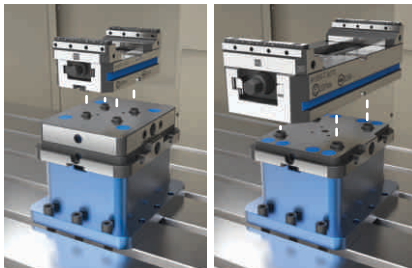
Art. 651H

Type 3

Simple Riser

3				
32 kN				
126	176	226	276	326
		10		
		123		
		89		
		57		
		75		
		85		
		125		
160	210	260	310	360
		96		
		16		
		M10		
9,1	10,9	12,8	14,8	17

7.65.03160 7.65.03210 7.65.03260 7.65.03310 7.65.03360



Art. 660

Quick change table

Art. 661H

Simple aluminum riser for quick change table

Example 2

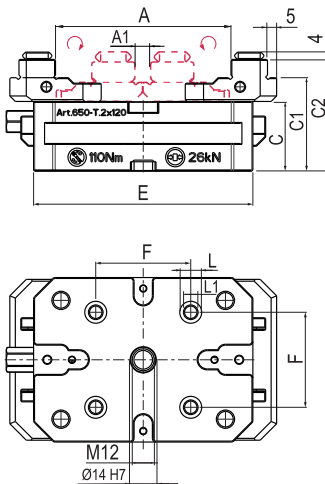
Type 3

Pitch: 96mm

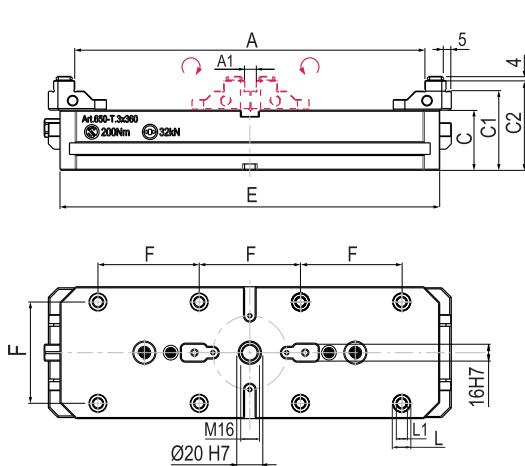
190
27
100
176
136
210
5,2
9.66.09600
6,5
9.66.1H200

Designed for 5 axis machines, CompactGRIP series of vises allow machining operations on the 5 workpieces sides with perfect alignment in a space saving design, extremely high wear resistance, with reduced deflection.

- No Wear HRC 58 ±2
- Quick clamping operation
- Modularity & Versatility
- Rigidity & safety thanks to the solid jaws
- Space saving design & handy
- Highest accuracies ± 0,02 mm
- Direct vise set-up or through vise clamps
- Solid and rigid construction and maximum clamping ratio to the total lenght
- Self-centering vise for clamping parts on outside or inside (by reversing jaw plates)
- Double sided top jaw inserts with full work piece contact on one side and partial on the other
- Front through holes for customized applications (plates, points, etc..)



Type 2



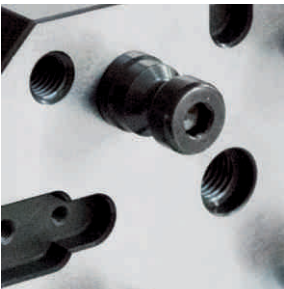
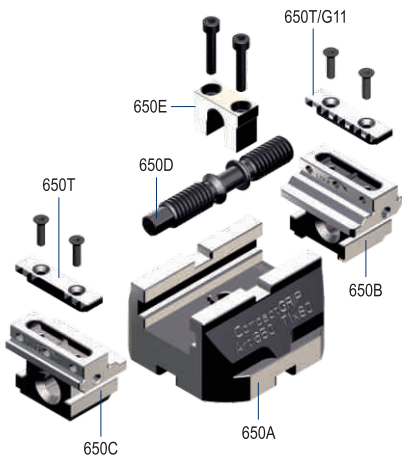
Type 3

WIDE RANGE OF TOP JAW INSERTS FOR VISES Art.650

Double sided top jaw inserts with full work piece contact on one side and partial on the other

Pair of top jaw inserts

<p>Art. 650S SMOOTH + ROUGH Soft material clamping and final machining</p>			
<p>Art. 650R DOVE TAIL Best workpiece clamping</p>			
<p>Art. 650T G01 GRIP (Pitch 1,5mm) For standard workpieces hardness clamping</p>			
<p>Art. 650T GRIP (Pitch 2mm) For hardened workpieces clamping</p>			
<p>Art. 650T G11 GRIP (Pitch 11mm) For soft material clamping</p>			



Compatibility
Max compatibility with the most popular pallet change systems.



Risers
By the Compact risers it's possible machining areas usually hard to reach.



Versatility
Versatility also thanks to the reversible jaws and to the 4 base positions option (90°)

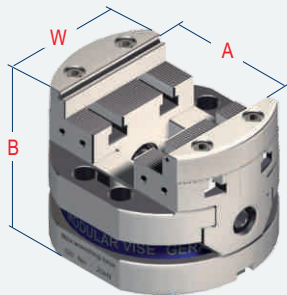


Clamping Power
Much higher clamping power than the existing vises thanks to the clamping screw design

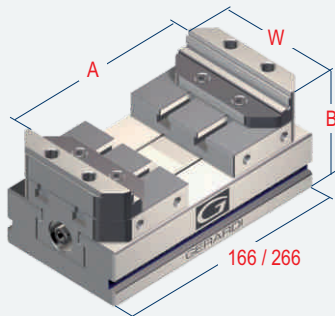
MULTITASKING VISES SERIES

Vises advanced applications on 5 axis machining centres. Self-centering or eccentric
Manual control - Mechanical clamping

Art. 640 type 1 e 2



Art. 640 type 3 x 266

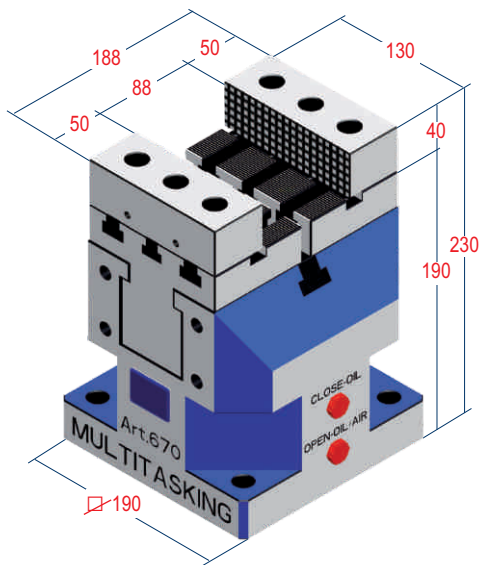


Type	A	W	B
1	74	74	85
2	104	89	115
3 x 166	111	138	113
3 x 266	211		

Art. 640J type 1 e 2

With prismatic jaws for round Ø 30÷ 100

Art. 670



(*) Use only pneumatic tools with adjustable clutch

Art. 670PN

PNEUMATIC

Pneumatic clamping
Pneumatic opening

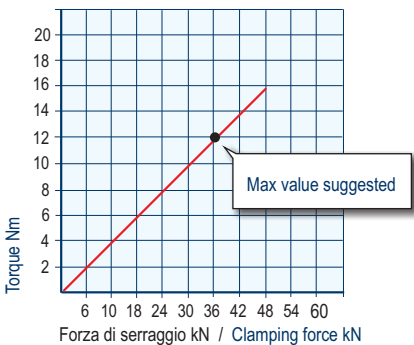
The following diagrams give the clamping force

Art. 670ME

Manual mechanical clamping
Pneumatic screw EXTRA (*)

Manual opening

Clamping force 40 - 50 kN



Art. 670MO

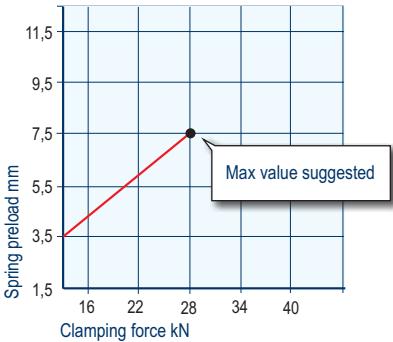
Centralina EXTRA

Power unit EXTRA

Mechanical clamping with spring

Hydraulic opening

Clamping force 20 - 30 kN



Art. 670ID

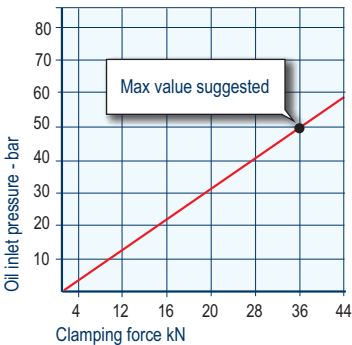
Centralina EXTRA

MECHANICAL-HYDRAULIC
Power unit EXTRA

Hydraulic clamping

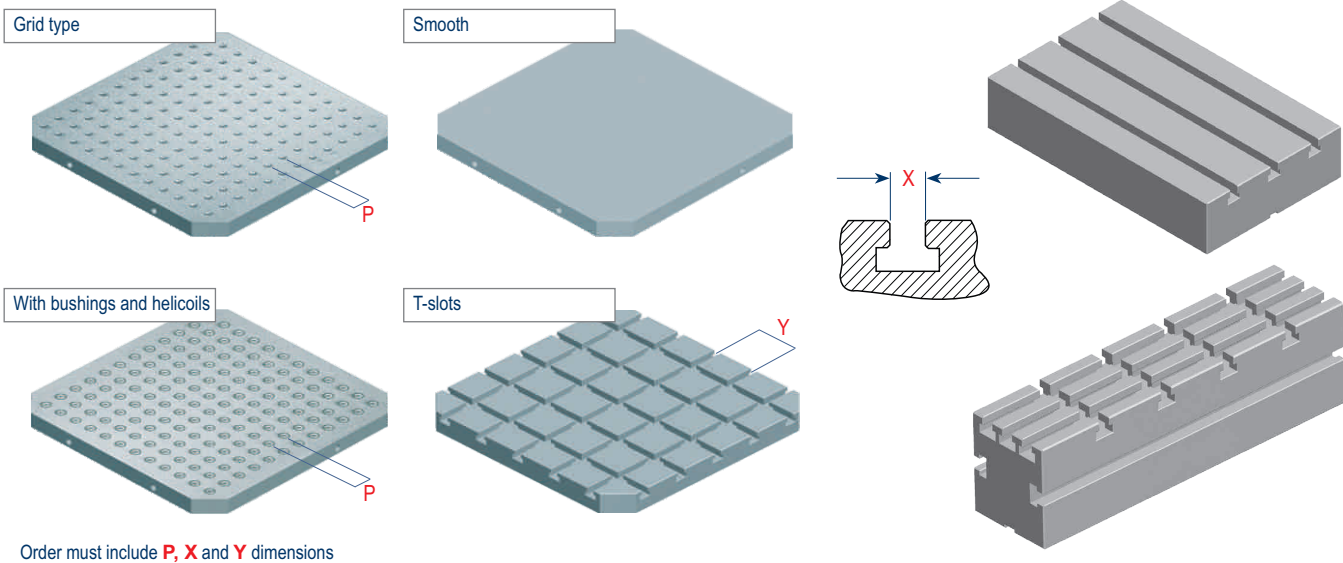
Hydraulic opening

Clamping force 40 - 50 kN



HEAD PLATES, MODULAR PLATES

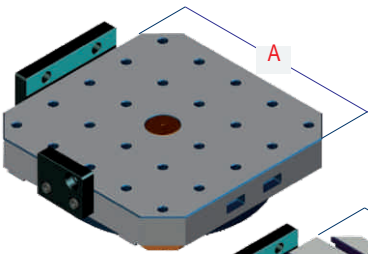
Cast iron or steel, interfaced



COMPLETE PALLET FOR HORIZONTAL MACHINING CENTRES

Art. 85

Grid pallet type with solid threads M16

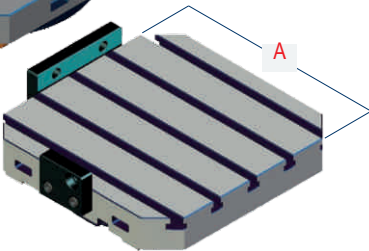


A	400	500	630	800
kg	85	165	270	300

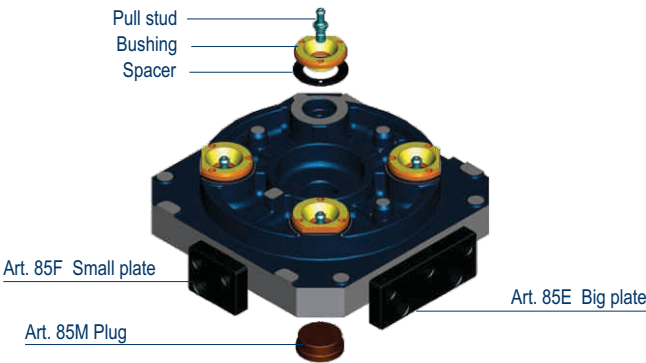
Solid cast iron cast G30 with double stress relieving heat treatment.
Highest accuracy

Art. 86

Pallet with T H7 slot



A	400	500	630	800
kg	82	160	247	275



QUICK CHANGE UNIVERSAL
CLAMPING PALLET SYSTEM
Zero Point assembled on machining centres pallet

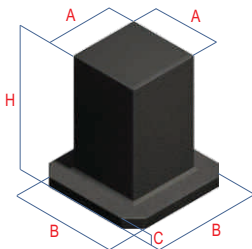


■ All accessories are supplied completely hardened and ground HRC 60

MODULAR TOMBSTONES

CUBES

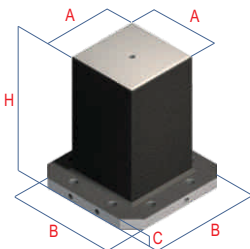
Art. 53A
Rough milled



General tolerance ± 2 mm

Dimensions					
A	B	C	H	kg	
170	260	50	300	66	
210	325	50	310	96	
210	360	50	380	119	
210	510	50	610	217	
260	410	50	460	179	
260	460	50	460	195	
260	410	50	560	207	
260	410	50	670	239	
260	510	50	620	258	
260	510	50	660	270	
260	510	50	760	280	
260	640	50	710	337	
260	510	50	1010	397	
280	410	50	520	210	
310	510	50	610	293	
310	510	50	760	345	
310	510	50	910	397	
340	510	50	670	350	
360	510	50	420	252	
360	510	50	460	268	
360	510	50	560	310	
360	510	50	620	334	
360	510	50	710	372	
360	640	50	710	425	
360	640	50	830	496	
360	510	50	830	470	
360	640	50	960	529	
460	640	50	560	431	
460	640	50	660	486	
510	640	50	870	655	
560	760	50	860	763	
510	810	50	810	704	

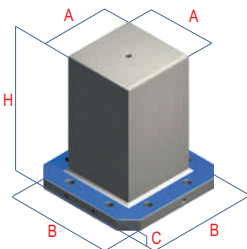
Art. 53B
Base finished



General tolerance ± 2 mm

Dimensions					
A	B	C	H	kg	
170	250	45	290	61	
210	315	45	300	89	
210	350	45	370	112	
210	500	45	600	203	
260	400	45	450	169	
260	450	45	450	183	
260	400	45	550	197	
260	400	45	660	228	
260	500	45	610	244	
260	500	45	650	255	
260	500	45	750	283	
260	630	45	700	316	
260	500	45	1000	354	
280	400	45	510	198	
310	500	45	600	278	
310	500	45	750	330	
310	500	45	900	383	
340	500	45	660	324	
360	500	45	410	236	
360	500	45	450	253	
360	500	45	550	294	
360	500	45	610	319	
360	500	45	700	356	
360	630	45	700	403	
360	630	45	820	453	
360	500	45	820	420	
360	630	45	950	508	
460	630	45	550	409	
460	630	45	650	463	
510	630	45	860	631	
560	750	45	850	732	
510	800	45	800	671	

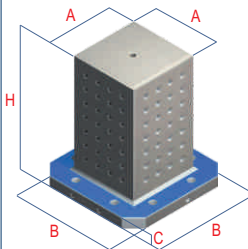
Art. 53C
Completely machined



General tolerance $\pm 0,02$ mm

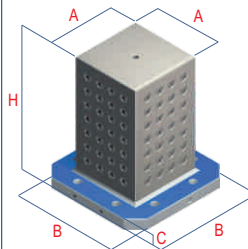
Dimensions					
A	B	C	H	kg	
160	250	40	290	54	
200	315	40	300	79	
200	350	40	370	99	
200	500	40	600	179	
250	400	40	450	150	
250	450	40	450	164	
250	400	40	550	174	
250	400	40	660	201	
250	500	40	610	215	
250	500	40	650	225	
250	500	40	750	250	
250	630	40	700	279	
260	500	45	1000	311	
270	400	40	510	176	
300	500	40	600	247	
300	500	40	750	293	
300	500	40	900	338	
330	500	40	660	288	
350	500	40	410	212	
350	500	40	450	226	
350	500	40	550	263	
350	500	40	610	284	
350	500	40	700	317	
350	630	40	700	359	
350	630	40	820	402	
350	500	40	820	370	
350	630	40	950	450	
450	630	40	550	367	
450	630	40	650	415	
500	630	40	860	565	
550	750	40	850	656	
500	800	40	800	600	

Art. 53E
Grid cube



Art. 53E 40
Art. 53E 50
Same dimensions of Art. 53C

Art. 53F
Grid cube with bushing



Art. 53F 40
Art. 53F 50
Weight: - 5% about of Art. 53C

Specifications

Art. 53A

One integral G30 cast iron casting rough milled with double stress relieving heat treatment.
Wall thickness 43-45mm (10mm stock)

Art. 53B

Rough milled casting with base face machined and hand scraped for direct clamping on European or Japanese standard pallet.

Art. 53C

Cube completely finished with wall thickness roughly 38-40mm

Art. 53E 40 / 50

Cube with calibrated holes and solid threads
Tolerance $\pm 0,02$ mm
■ Grid pitch 40mm = $\varnothing 12 / M10$
■ Grid pitch 50mm = $\varnothing 16 / M12$

Art. 53F 40 / 50

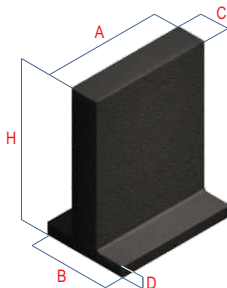
Cube with hardened bushing 100Cr6 and stainless steel helicoils / Tolerance $\pm 0,02$ mm
■ Grid pitch 40mm = $\varnothing 12 / M10$
■ Grid pitch 50mm = $\varnothing 16 / M12$

! For different finishing and materials (aluminium), ask for specific quotation

MODULAR TOMBSTONES

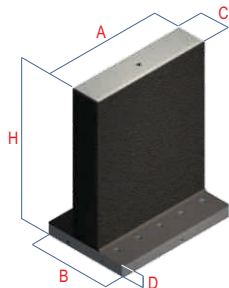
2 SIDES TOMBSTONES

Art. 55A Rough milled



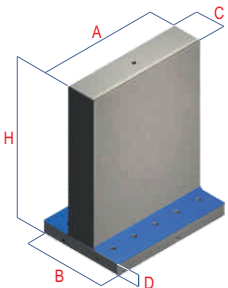
General tolerance ± 2 mm

Art. 55B Base finished



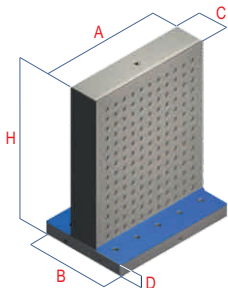
General tolerance ± 2 mm

Art. 55C Completely machined



General tolerance $\pm 0,02$ mm

Art. 55E Grid cube

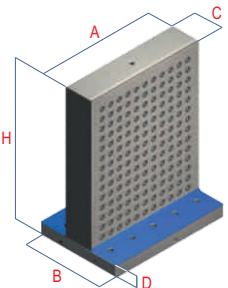


Art. 55E 40

Art. 55E 50

Same dimensions of Art. 55C

Art. 55F Grid cube with bushing



Art. 55F 40

Art. 55F 50

Weight: $\sim 5\%$ about of Art. 55C

Dimensions						
A	B	C	D	H	kg	
170	210	80	55	235	31	
360	260	90	60	425	124	
410	360	110	60	535	221	
410	410	160	60	510	215	
410	410	160	55	670	262	
510	510	160	55	710	350	
510	510	210	60	610	340	
460	360	110	60	535	241	
460	360	110	60	630	283	
560	360	110	70	660	368	
510	360	160	60	660	307	
460	360	160	60	620	289	
460	360	160	60	760	316	
560	360	160	70	680	352	
560	460	160	60	830	430	
640	460	160	60	830	486	
640	460	260	70	910	586	
640	640	210	60	870	579	
640	640	260	60	710	521	
360	460	160	70	660	250	
810	460	160	70	860	649	
810	810	310	60	810	782	

Dimensions						
A	B	C	D	H	kg	
160	200	80	50	225	29	
350	250	90	55	415	114	
400	350	110	55	525	207	
400	400	160	55	500	199	
400	400	160	50	660	244	
500	500	160	50	700	331	
500	500	210	55	600	316	
450	350	110	55	525	227	
450	350	110	55	620	267	
550	350	110	65	650	350	
500	350	160	55	650	289	
450	350	160	55	610	271	
450	350	160	55	750	297	
550	350	160	65	670	332	
550	450	160	55	820	406	
630	450	160	55	820	460	
630	450	260	65	900	551	
630	630	210	55	850	545	
630	630	260	55	700	485	
350	450	160	65	650	232	
800	450	160	65	850	610	
800	800	310	55	800	732	

Dimensions						
A	B	C	D	H	kg	
160	200	70	45	225	24	
350	250	80	50	415	103	
400	350	100	50	525	190	
400	400	150	50	500	193	
400	400	150	45	660	222	
500	500	150	45	700	290	
500	500	200	50	600	287	
450	350	100	50	525	208	
450	350	100	50	620	245	
550	350	100	60	650	321	
500	350	150	50	650	263	
450	350	150	50	610	250	
450	350	150	50	750	271	
550	350	150	60	670	303	
550	450	150	50	820	369	
630	450	150	50	820	418	
630	450	250	60	900	508	
630	630	200	50	850	504	
630	630	250	50	700	447	
350	450	150	60	650	213	
800	450	150	60	850	555	
800	800	300	50	800	674	

Specifications

Art. 55A

One integral G30 cast iron casting rough milled with double stress relieving heat treatment.
Wall thickness 43-45mm (10mm stock)

Art. 55B

Rough milled casting with base face machined and hand scraped for direct clamping on European or Japanese standard pallet.

Art. 55C

2 sides tombstone completely finished with wall thickness roughly 38-40mm

Art. 55E 40 / 50

2 sides tombstone with calibrated holes and solid threads
Tolerance $\pm 0,02$ mm

- Grid pitch 40mm = $\varnothing 12$ / M10
- Grid pitch 50mm = $\varnothing 16$ / M12

Art. 55F 40 / 50

2 sides tombstone with hardened bushing 100Cr6 and stainless steel helicoils / Tolerance $\pm 0,02$ mm

- Grid pitch 40mm = $\varnothing 12$ / M10
- Grid pitch 50mm = $\varnothing 16$ / M12

! For different finishing and materials (aluminium), ask for specific quotation

OTHER GERARDI PRODUCTS

ANGLE HEADS AND SPINDLE SPEEDERS



DRIVEN TOOLS



VDI HOLDER DIN 69880



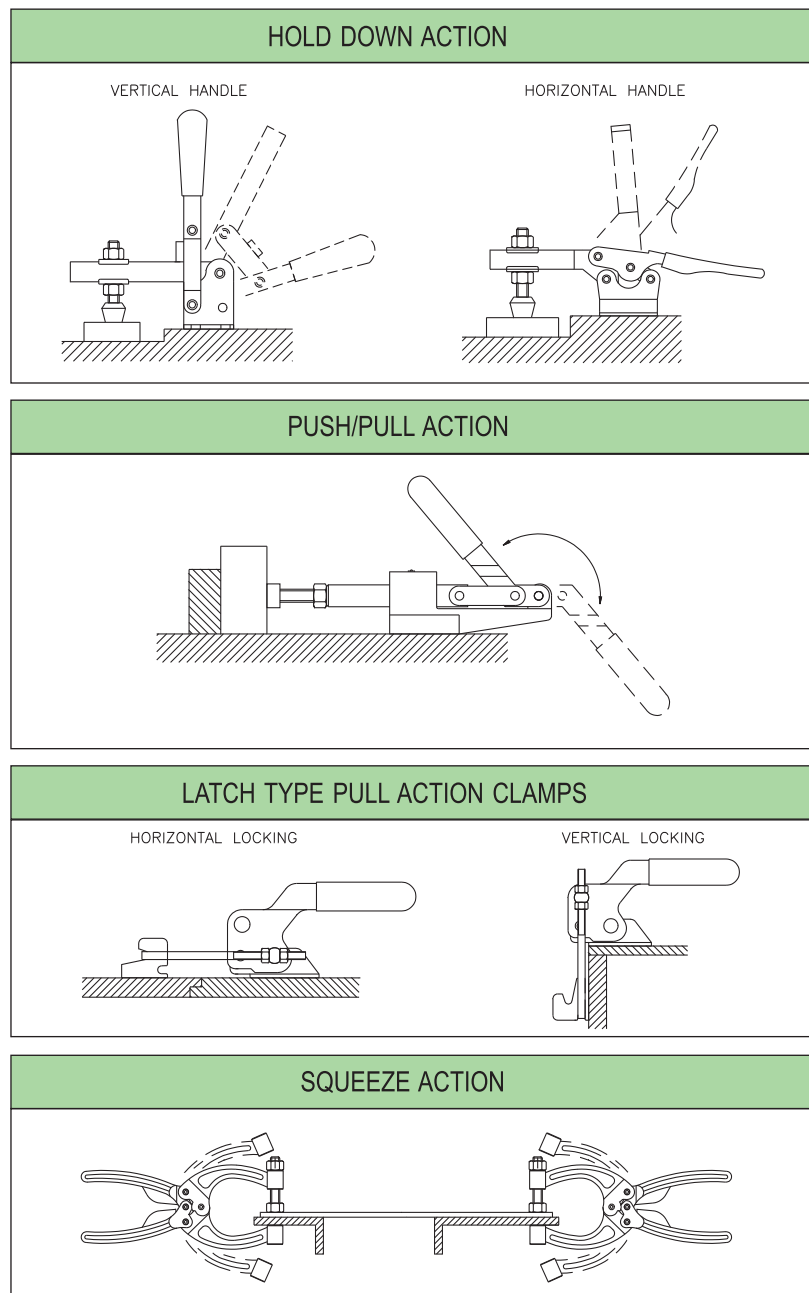
SELF-CENTERING & PLATFORM



TOGGLE CLAMPS

INTRODUCTION

There are four basic types of toggle actions as shown below:



**Stainless Steel
Rivets as
Pivot Pins**

**Rivets Housed
in
Reamed Hole
Bushes**

**Hardened
& Ground
Plungers**

**Red Vinyl
Grip
Handles**

Features of TOOLFAST Toggle Clamps

- Most rivets as pivot pins are of stainless steel for long life of clamps.
- Rivets are housed in reamed hole bushes for accuracy and longer life in most of the models.
- Red Vinyl grip handles for easy identification and operator comfort.
- Pressings from low carbon-cold rolled sheet, zinc plated with blue-brite finish for longer rust prevention.
- Hardened & Ground Plungers & precision machined bearing surfaces in Push/Pull Action Clamps.
- **2D/3D cad files available on request.**

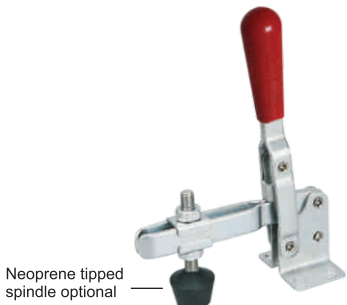
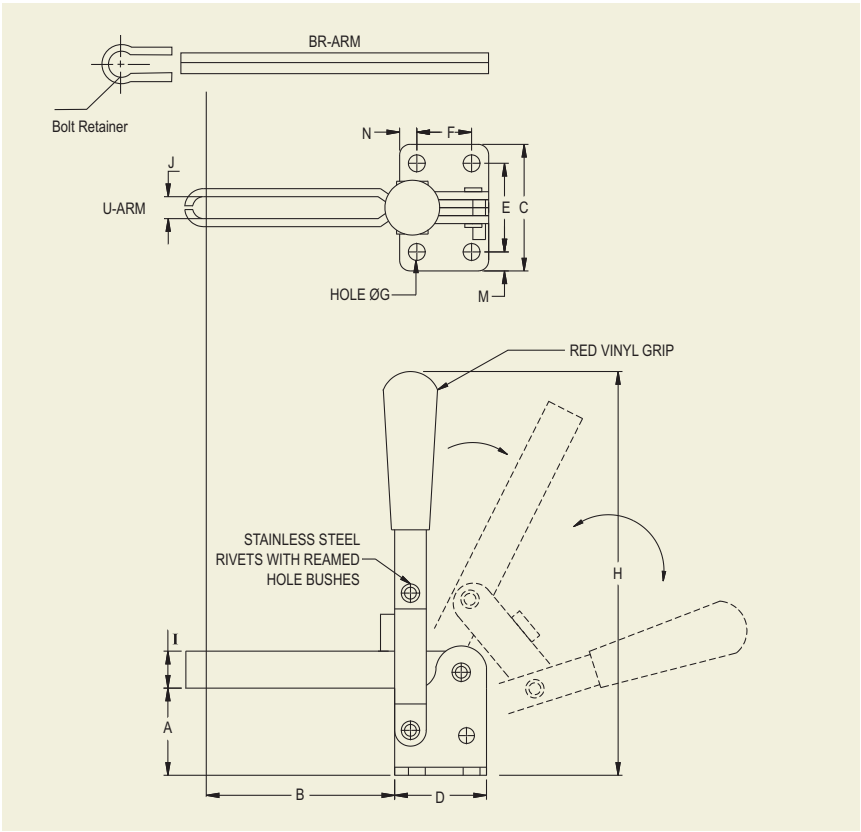
In the following pages of this catalogue different models of above types of toggle clamps manufactured by us to suit different applications are illustrated.

HOLD DOWN TOGGLE CLAMP - VERTICAL HANDLE - FLANGED BASE

These toggle clamps have a flanged base with holes for mounting on the fixture plate. Handle remains in vertical position while clamping. Available in two types of clamping arms as shown below:

U - Arm : This is the most widely used type which permits to locate the clamping spindle anywhere along the length of the arm.

BR - Arm : This type of Arm has Strip Arm onto which the bolt retainer can be welded by the user at any desire angle. Bolt retainer is supplied loose with this model.



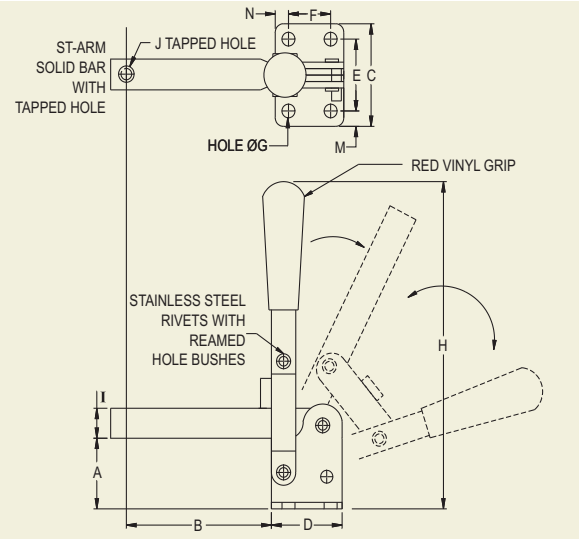
MODEL	ARM TYPE	A	B MAX.	MOUNTING BASE							I	J SUITABLE FOR SPINDLE DIA	H	HOLDING CAPACITY	N. W. Kgs.
				C	D	E	F	M	N	ØG					
VHDT-19-U	U-ARM	19	35	32	26	24	15	4	5.5	4.5Ø	12	M-6	90	70 Kgs.	0.11
VHDT-19-BR	BR-ARM		50												0.11
VHDT-25-U	U-ARM	25	35	40	26	27	13	6.5	6.5	5.5Ø	10	M-6	100	100 Kgs.	0.18
VHDT-25-BR	BR-ARM		50												0.19
VHDT-26-U	U-ARM	25	43	38	30	27	16	5.5	7	5.5Ø	10	M-6	100	100 Kgs.	0.18
VHDT-26-BR	BR-ARM		60												0.19
VHDT-32-U	U-ARM	32	65	43	35	32	19	5.5	8	6.8Ø	16	M-8	145	200 Kgs.	0.34
VHDT-32-BR	BR-ARM		90												0.35
VHDT-36-U	U-ARM	36	65	58	35	38	19	10	8	6.8Ø	16	M-8	150	200 Kgs.	0.35
VHDT-36-BR	BR-ARM		90												0.36
VHDT-45-U	U-ARM	45	95	62	45	44	28	9	8.5	8.5Ø	18	M-10	210	400 Kgs.	0.74
VHDT-45-BR	BR-ARM		120												0.75
VHDT-46-U	U-ARM	46	95	82	45	55	25	13.5	10	8.5Ø	18	M-10	206	400 Kgs.	0.74
VHDT-46-BR	BR-ARM		120												0.75
VHDT-50-U	U-ARM	50	130	72	45	45	25	13.5	10	8.5Ø	18	M-10	210	350 Kgs.	0.79
VHDT-50-BR	BR-ARM		150												0.81
VHDT-60-U	U-ARM	60	120	70	55	53	36.5	8.5	9	8.5Ø	20	M-10	270	500 Kgs.	1.35
VHDT-60-BR	BR-ARM		140												1.37
VHDT-80-U	U-ARM	80	135	95	75	70	50	12.5	12.5	10.5Ø	32	M-16	340	700 Kgs.	2.28
VHDT-80-BR	BR-ARM		155												2.31
VHDT-85-U	U-ARM	85	150	90	76	60	45	15	15.5	8.5Ø	32	M-16	346	700 Kgs.	2.30
VHDT-85-BR	BR-ARM		170												2.34

Standard Accessories provided with Clamp : Standard Hex. Head Clamping Spindle assembly is provided as standard accessory with all above clamps. U-Arm models are provided with 2 nos. U-Flanged Washers also along with clamping spindle assembly and BR-arm models are provided with bolt retainers along with clamping spindle assembly.

Optional Accessories : User can select an optional clamping spindle assembly as per the application from the different types of clamping spindle assemblies shown on one of the following pages and order these separately.

HOLD DOWN TOGGLE CLAMP - VERTICAL HANDLE - SOLID ARM

These toggle clamps have a Solid Arm with a tapped hole at the end. This arm can also be cut to any length and hole can be made at any desired position or a separate clamping assembly can be welded at any desired point as per the application.

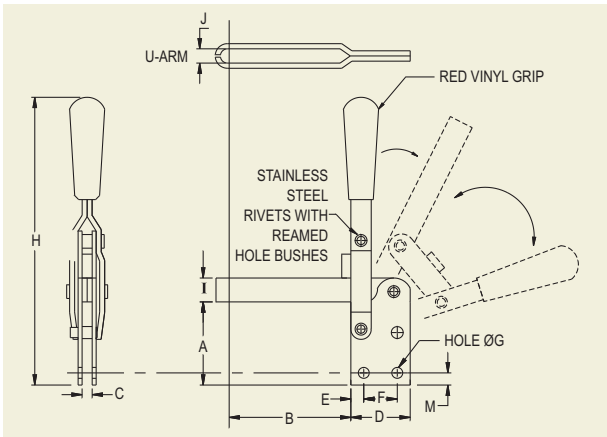


MODEL	ARM TYPE	A	B	MOUNTING BASE							I	J TAPPED HOLE	H	HOLDING CAPACITY	N. W. Kgs.
				C	D	E	F	M	N	ØG					
VHDT-25-ST	ST-ARM	25	35	40	26	27	13	6.5	6.5	5.5Ø	10	M-6	100	150 Kgs.	0.17
VHDT-32-ST	ST-ARM	32	65	43	35	32	19	5.5	8	6.8Ø	16	M-8	145	250 Kgs.	0.41
VHDT-45-ST	ST-ARM	45	95	62	45	44	28	9	8.5	8.5Ø	18	M-10	210	500 Kgs.	0.84
VHDT-60-ST	ST-ARM	60	120	70	55	53	36.5	8.5	9	8.5Ø	20	M-10	270	600 Kgs.	1.60
VHDT-80-ST	ST-ARM	80	135	95	75	70	50	12.5	12.5	10.5Ø	28	M-16	340	800 Kgs.	2.71

Standard Accessories provided with Clamp : Standard Hex. Head Clamping Spindle assembly is provided as standard accessory with all above clamps.

HOLD DOWN TOGGLE CLAMP - VERTICAL HANDLE - BASE STRAIGHT

These toggle clamps are similar to VHDT models but with Base Straight. Straight Base design enables mounting on a vertical surface.

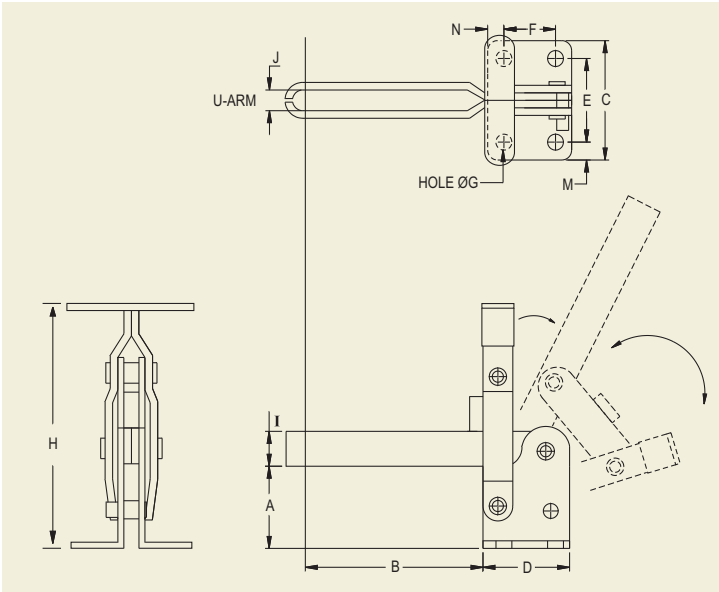


MODEL	ARM TYPE*	A	B MAX.	MOUNTING BASE						I	J SUITABLE FOR SPINDLE DIA	H	HOLDING CAPACITY	N. W. Kgs.
				C	D	E	F	M	ØG					
VHDT-19-U-BS	U-ARM	50	35	4	26	5.5	15	4	4.5Ø	12	M-6	100	70 Kgs.	0.11
VHDT-25-U-BS	U-ARM	40	35	6	26	6.5	13	6.5	5.5Ø	10	M-6	115	100 Kgs.	0.18
VHDT-26-U-BS	U-ARM	36	43	6	30	7	16	5.5	5.5Ø	10	M-6	110	100 Kgs.	0.18
VHDT-32-U-BS	U-ARM	47	65	6	35	8	19	5.5	6.8Ø	16	M-8	160	200 Kgs.	0.34
VHDT-36-U-BS	U-ARM	57	65	6	35	8	19	10	6.8Ø	16	M-8	173	200 Kgs.	0.35
VHDT-45-U-BS	U-ARM	70	95	8	45	8.5	28	9	8.5Ø	18	M-10	235	400 Kgs.	0.74
VHDT-46-U-BS	U-ARM	77	95	8	45	10	25	13.5	8.5Ø	18	M-10	235	400 Kgs.	0.74
VHDT-50-U-BS	U-ARM	76	130	8	45	10	25	13.5	8.5Ø	18	M-10	235	350 Kgs.	0.79
VHDT-60-U-BS	U-ARM	88	120	8	55	9	36.5	8.5	8.5Ø	20	M-10	298	500 Kgs.	1.35
VHDT-80-U-BS	U-ARM	125	135	10	75	12.5	50	12.5	10.5Ø	32	M-16	385	700 Kgs.	2.28
VHDT-85-U-BS	U-ARM	119	150	10	76	15.5	45	15	8.5Ø	32	M-16	380	700 Kgs.	2.31

* All above base straight models are available with BR ARM or ST ARM also on request.

HOLD DOWN TOGGLE CLAMP - T HANDLE - FLANGED BASE

Smaller sizes of VHDT models are also available in T-Handles. These are available in U-arm models only as shown in table below.

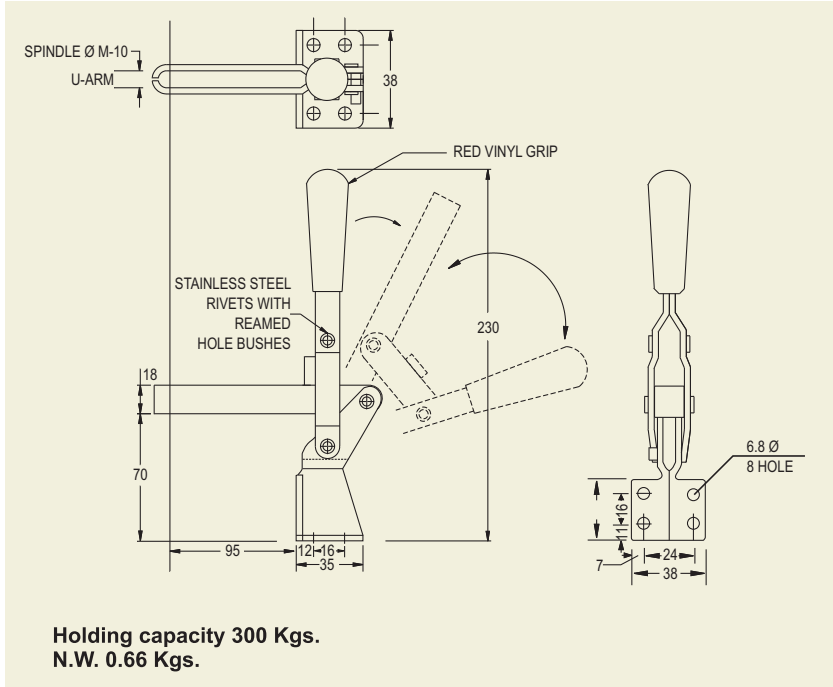


MODEL	ARM TYPE	A	B MAX.	MOUNTING BASE							I	J SUITABLE FOR SPINDLE DIA	H	HOLDING CAPACITY	N. W. Kgs.
				C	D	E	F	M	N	ØG					
VHDT-25-TU	U-ARM	25	35	40	26	27	13	6.5	6.5	5.5Ø	10	M-6	80	100 Kgs.	0.18
VHDT-32-TU	U-ARM	32	65	43	35	32	19	5.5	8	6.8Ø	16	M-8	115	200 Kgs.	0.34

Standard Accessories provided with Clamp : Standard Hex. Head Clamping Spindle assembly complete with U-Flanged washers and lock nuts is provided as standard accessory with above clamps.

HOLD DOWN TOGGLE CLAMP - VERTICAL HANDLE - RIGHT ANGLE BASE - Model RATC-70

This model has vertical handle with a right angled dual mounting base which can be base flange mounted as well as front mounted on side wall of a fixture.

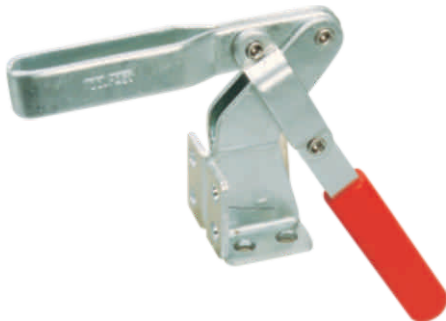
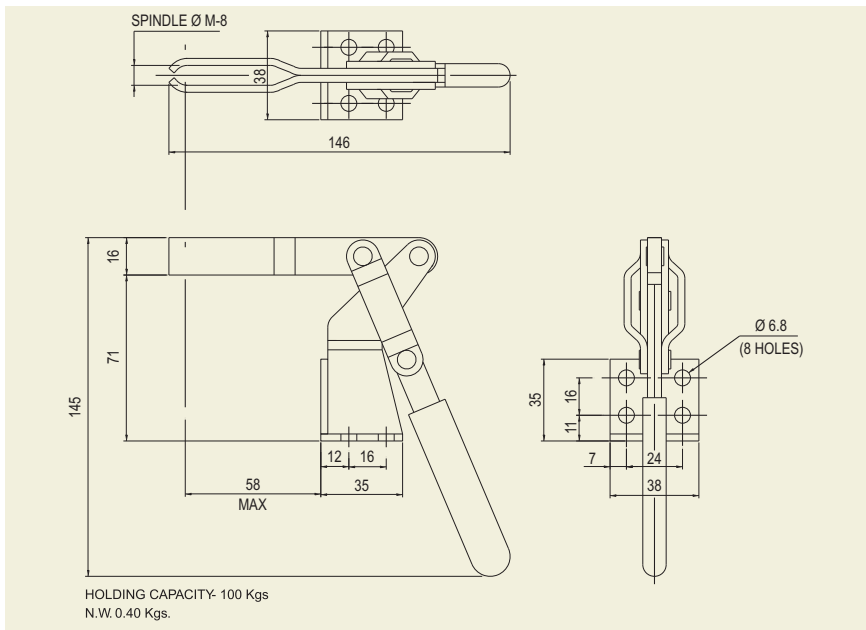


**Holding capacity 300 Kgs.
N.W. 0.66 Kgs.**

Standard Accessories provided with Clamp : Standard Hex. Head Clamping Spindle assembly complete with U-Flanged washers and lock nuts is provided as standard accessory with above clamps.

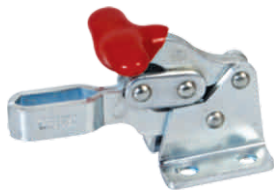
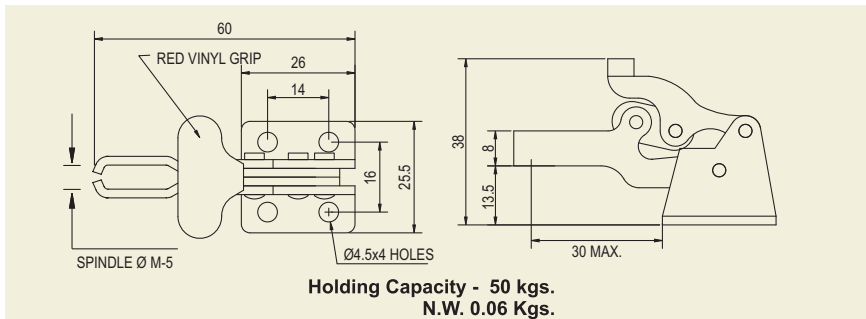
HOLD DOWN TOGGLE CLAMP - DROP HANDLE - Model DTC-70

These are low silhouette clamps with mounting flexibility of front as well as base mounting. Its unique design keeps the arm and handle clear for easy loading and unloading of parts.

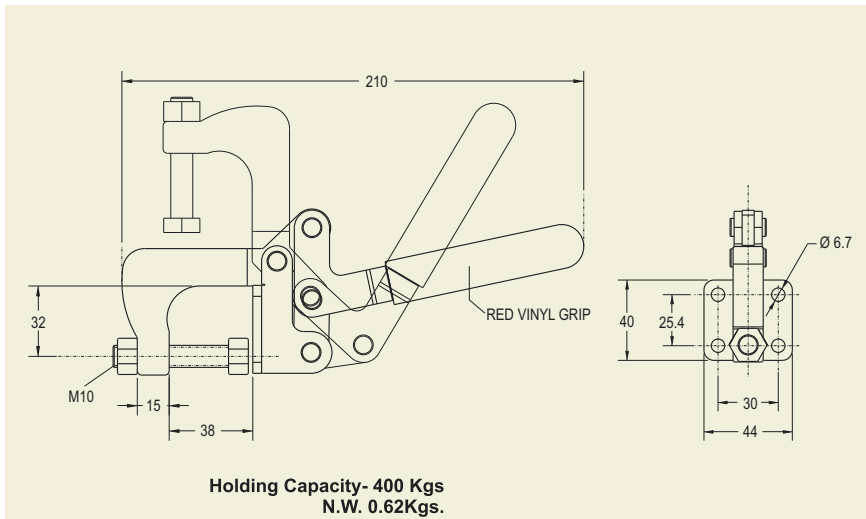


Standard Accessories provided with Clamp : Standard Hex. Head Clamping Spindle assembly complete with U-Flanged washers and lock nuts is provided as standard accessory with above clamps.

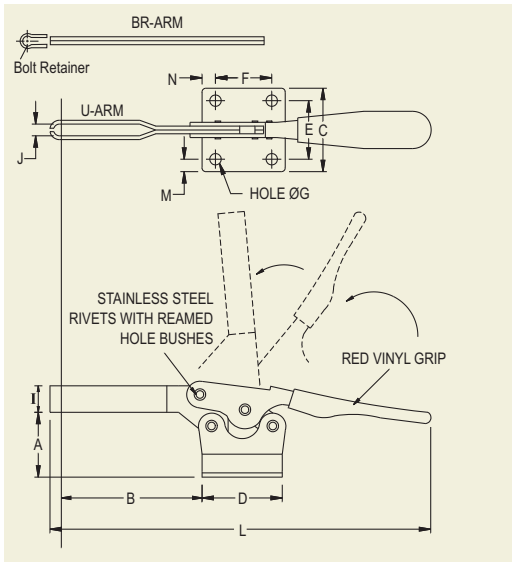
HOLD DOWN TOGGLE CLAMP - FORWARD HANDLE - Model FHTC-13



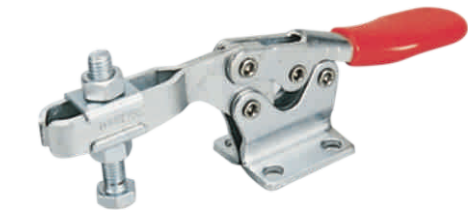
PULL BACK CLAMP - Model PBC-38



HOLD DOWN TOGGLE CLAMP - HORIZONTAL HANDLE - THUMB TYPE



Low height design of these hold down toggle clamps requires less overhead clearance as the handle remains in horizontal position while clamping.



U-ARM MODEL

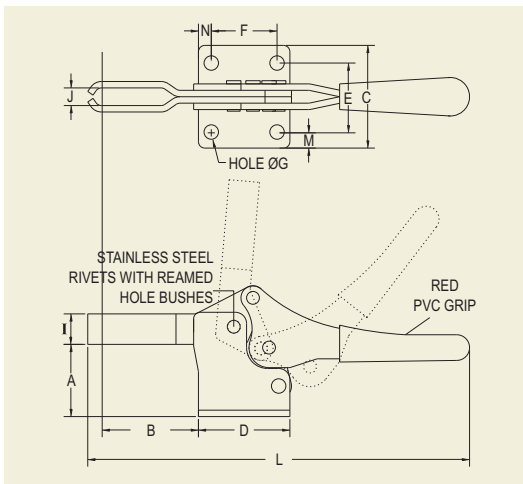


BR-ARM MODEL

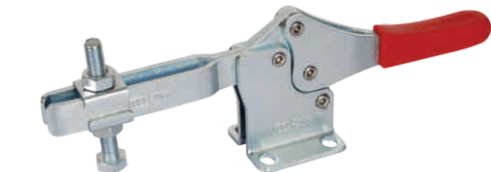
MODEL	ARM TYPE	A	B MAX.	MOUNTING BASE							I	J SUITABLE FOR SPINDLE DIA	L	HOLDING CAPACITY	N. W. Kgs.
				C	D	E	F	M	N	ØG					
HDTC-25	U-ARM	27	59	33	35	21	21	6	7	5.5Ø	12	M-6	150	150 Kgs.	0.15
HDTC-25-BR	BR-ARM		68												0.16
HDTC-27	U-ARM	27	59	33	35	22	24	5.5	5.5	4.5Ø	12	M-6	150	150 Kgs.	0.15
HDTC-27-BR	BR-ARM		70												0.16
HDTC-35	U-ARM	37	63	37	38	23	25	7	6.5	6.8Ø	13	M-8	172	250 Kgs.	0.26
HDTC-35-BR	BR-ARM		75												0.27
HDTC-35-HA (High Arm Model)	U-ARM	54	75	36	38	22.2	22.2	7	8	6.8Ø	13	M-8	172	250 Kgs.	0.30
HDTC-36	U-ARM	36	63	40	44	26	29	7	7.5	6.8Ø	13	M-8	173	250 Kgs.	0.27
HDTC-36-BR	BR-ARM		75												0.28

Standard Accessories provided with Clamp: Standard Hex. Head Clamping Spindle assembly complete with U-Flanged washers and lock nuts is provided as standard accessory with above clamps. Br-arm models are provided with bolt retainers along with clamping spindle assembly.

HOLD DOWN TOGGLE CLAMP - HORIZONTAL HANDLE - LONG TYPE



Low height design of these hold down toggle clamps requires less overhead clearance as the handle remains in horizontal position while clamping. BR Arm models are also available.



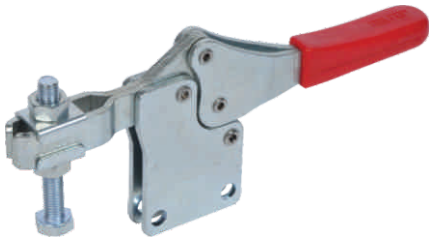
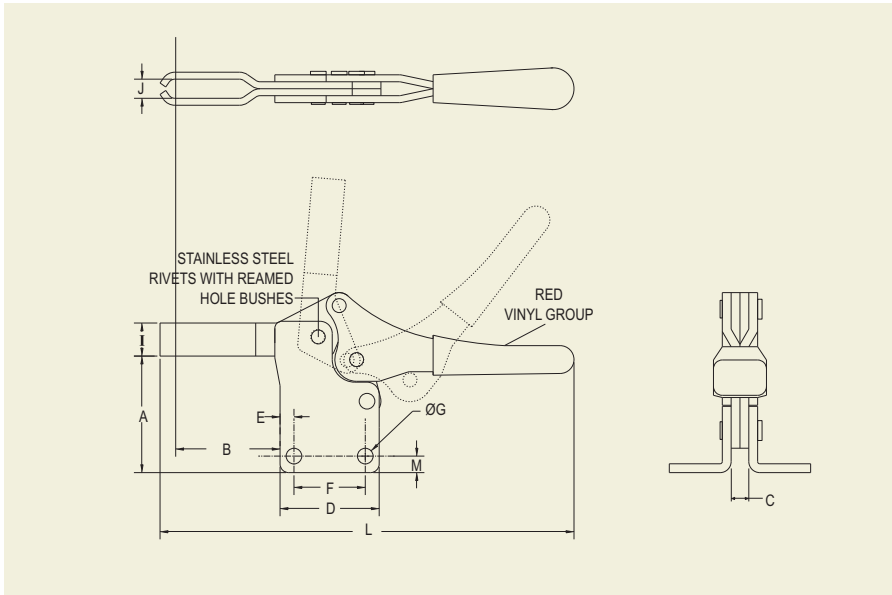
U-ARM MODEL



BR-ARM MODEL

MODEL	ARM TYPE	A	B MAX.	MOUNTING BASE							I	J SUITABLE FOR SPINDLE DIA	L	HOLDING CAPACITY	N. W. Kgs.
				C	D	E	F	M	N	ØG					
HDTC-45	U-ARM	45	60	64	57	44	41	9.5	8	9Ø	19	M-10	238	500 Kgs.	0.74
HDTC-45-BR	BR-ARM		80												0.75
HDTC-46	U-ARM	46	106	55	57	38	40	8.5	8.5	8.3Ø	19	M-10	302	500 Kgs.	0.76
HDTC-46-BR	BR-ARM		120												0.78
HDTC-50	U-ARM	50	105	56	57	37	41	9.5	8	9Ø	19	M-10	285	500 Kgs.	0.80
HDTC-50-BR	BR-ARM		125												0.81
HDTC-57	U-ARM	61	142	62	65	40	45	11	10	8.3Ø	19	M-10	322	500 Kgs.	0.91
HDTC-57-BR	BR-ARM		160												0.93

HOLD DOWN TOGGLE CLAMP - HORIZONTAL HANDLE - BASE STRAIGHT



MODEL	ARM TYPE*	A	B MAX.	MOUNTING BASE						I	J SUITABLE FOR SPINDLE DIA	L	HOLDING CAPACITY	N. W. Kgs.
				C	D	E	F	M	ØG					
HDTC-45-BS	U-ARM	67	60	8	57	8	41	9.5	9	19	M-10	238	500 Kgs.	0.74
HDTC-50-BS	U-ARM	67	105	8	57	8	41	9.5	9	19	M-10	285	500 Kgs.	0.80

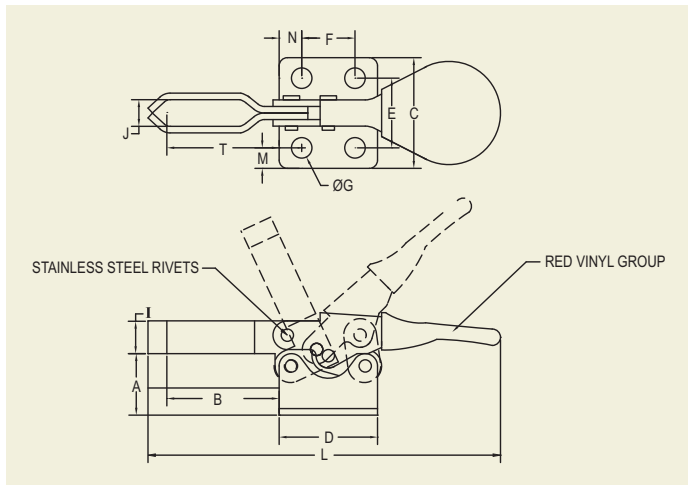
Standard Accessories provided with Clamp : Standard Hex. Head Clamping Spindle assembly is provided as standard accessory with all above clamps. U-Arm models are provided with 2 nos. U-Flanged Washers also along with clamping spindle assembly and BR-arm models are provided with bolt retainers along with clamping spindle assembly.

Optional Accessories : User can select an optional clamping spindle assembly as per the application from the different types of clamping spindle assemblies shown on one of the following pages and order these separately.

* ABOVE BASE STRAIGHT MODELS ARE AVAILABLE WITH BR ARM ALSO ON REQUEST

HOLD DOWN TOGGLE CLAMP - HORIZONTAL HANDLE - MINIATURE SERIES

These two models are miniature versions of horizontal handle clamps useful for light and miniature applications.

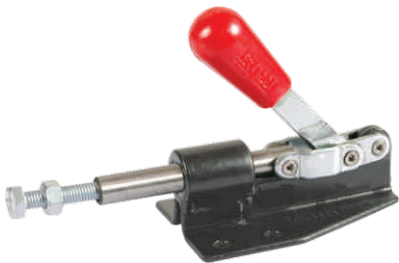
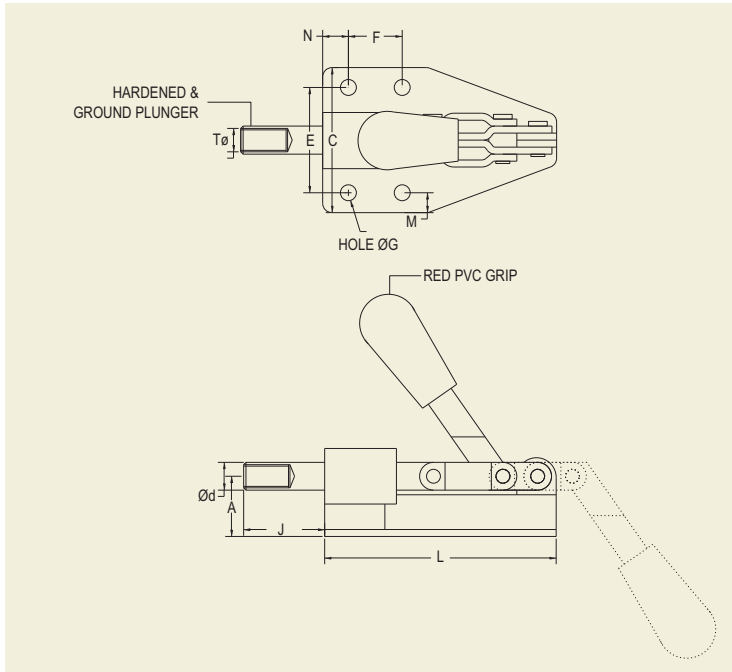


MODEL	ARM * TYPE	A	B MAX.	MOUNTING BASE							I	J SUITABLE FOR SPINDLE DIA	L	HOLDING CAPACITY	N. W. Kgs.
				C	D	E	F	M	N	ØG					
HDTC-8	U-ARM	8	16	24	24	16	14	4	5	Slot 7x4.5	6	M-4	68	25 Kgs.	0.03
HDTC-15	U-ARM	15	27	27	24	17	13	5	5.5	5Ø	8	M-6	86	50 Kgs.	0.055

PUSH / PULL ACTION TOGGLE CLAMP - FRONT BASE - STEEL FABRICATED BODY

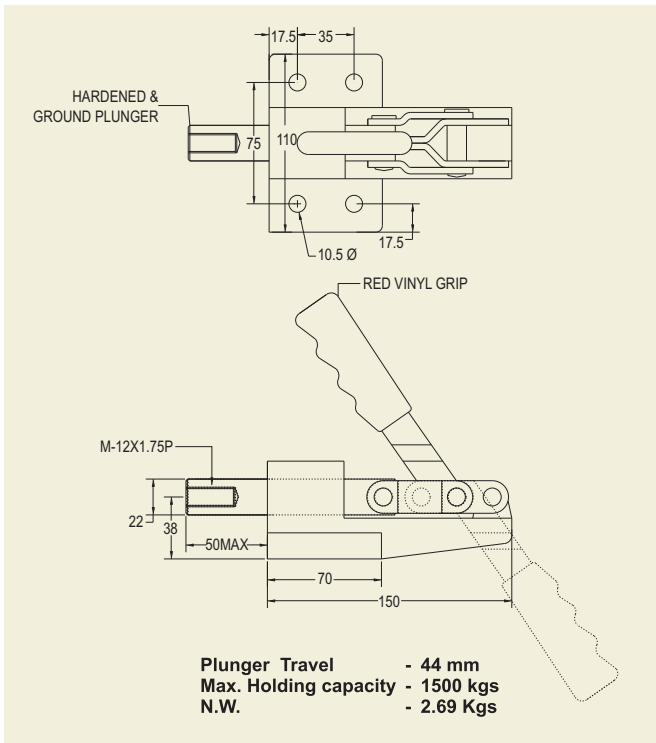
‘TOOLFAST’ Push/Pull Action Toggle Clamps have a straight line action as the plunger moves in straight line forward & backward with easy to operate handle. The plunger moves forward and locks as the handle is moved forward and plunger also locks in retracted position when handle is moved backward. Hence these clamps can be used as push as well as pull action clamps. Hardened & ground plunger moves in precision machined bore.

This model with front base is most popular because of its rigidity due to mounting base just under the load bearing surface of plunger movement.



MODEL	PLUNGER Ø dØ	TØ	A	PLUNGER TRAVEL	MOUNTING BASE						J MAX.	L	HOLDING CAPACITY	N. W. Kgs.
					C	E	F	M	N	ØG				
PATC-9-FB	9Ø	M-5x0.8	15	28	50	36	20	7	8	5Ø	32	80	200 Kgs.	0.18
PATC-12-FB	12Ø	M-8x1.25	26	30	62	45	23	8.5	11	6.8Ø	35	100	600 Kgs.	0.47
PATC-16-FB	16Ø	M-10x1.5	30	36	80	60	28	10	14	8.5Ø	42	125	1000 Kgs.	0.92

PUSH / PULL ACTION TOGGLE CLAMP - FRONT BASE - C.I. BODY - PATC-22-FB



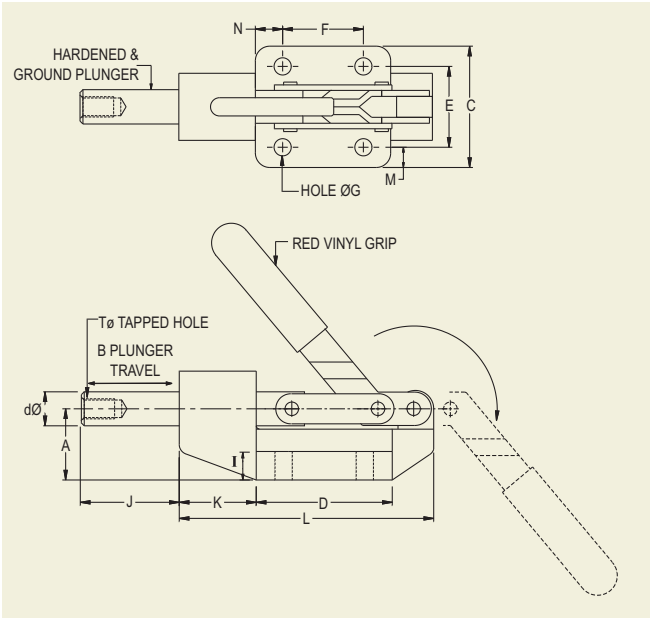
Plunger Travel - 44 mm
Max. Holding capacity - 1500 kgs
N.W. - 2.69 Kgs



Standard Accessories provided with Clamp:
Standard Hex. Head Clamping Spindle assembly is provided as standard accessory.

Optional Accessories:
User can select an optional clamping spindle assembly as per the application from the different types of clamping spindle assemblies shown on one of the following pages and order these separately.

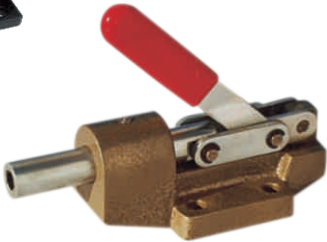
PUSH / PULL ACTION TOGGLE CLAMP - CENTRE BASE



'TOOLFAST' Push/Pull Action Toggle Clamp - Centre Base has its base at the centre and the bigger sizes have more centre height than the front base model to accommodate larger work pieces. Width of the mounting base is also less in this case which makes this type of push action clamp more compact. Other features of this clamp are same as in case of front base model.



PATC-12-CB - STEEL BODY
PATC-16-CB - STEEL BODY



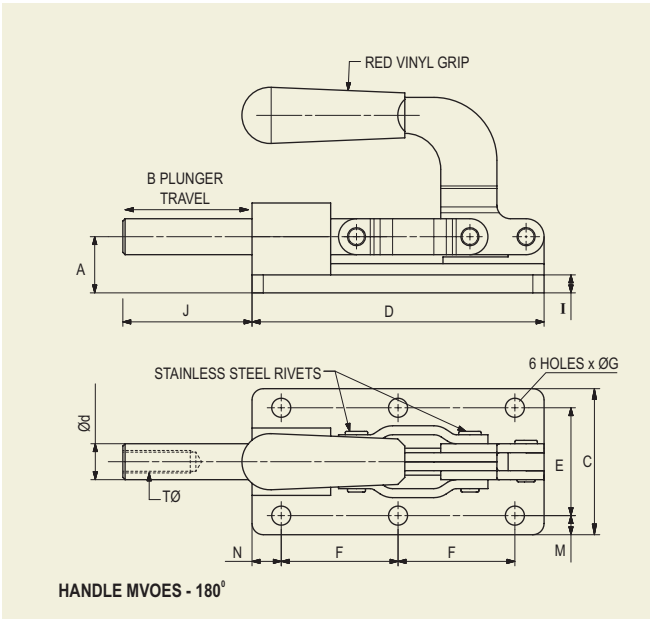
PATC-22-CB - C.I. BODY

MODEL	PLUNGER DIA dØ	TØ	A	PLUNGER TRAVEL B	MOUNTING BASE							I	J MAX.	K	L	HOLDING CAPACITY	BODY	N. W. Kgs.
					C	D	E	F	M	N	ØG							
PATC-12-CB	12Ø	M-8x1.25	26	30	55	55	35	35	10	10	6.8Ø	6	35	28	100	400 Kgs.	STEEL	0.51
PATC-1238-CB	12Ø	M-8x1.25	26	30	55	55	38	38	8.5	8.5	6.8Ø	6	35	28	100	400 Kgs.	STEEL	0.51
PATC-16-CB	16Ø	M-10x1.5	35	36	60	67	40	40	10	13.5	8.5Ø	7	43	38	125	700 Kgs.	STEEL	1.00
PATC-1642-CB	16Ø	M-10x1.5	35	36	60	67	42	42	9	12.5	6.8Ø	7	43	38	125	700 Kgs.	STEEL	1.00
PATC-22-CB	22Ø	M-12x1.75	45	60	75	75	50	50	12.5	12.5	10.5Ø	16	62	46	162	1000 Kgs.	C.I.	2.80

Standard Accessories provided with Clamp : Standard Hex. Head Clamping Spindle assembly is provided as standard accessory.

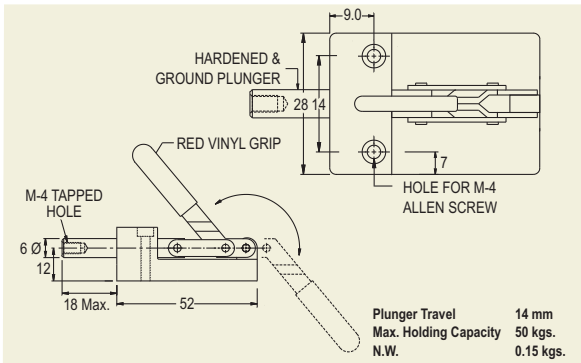
Optional Accessories : User can select an optional clamping spindle assembly as per the application from the different types of clamping spindle assemblies shown on one of the following pages and order these separately.

PUSH / PULL ACTION TOGGLE CLAMP - LONG TRAVEL



MODEL	PLUNGER DIA dØ	TØ	A	PLUNGER TRAVEL B	MOUNTING BASE							I	J MAX.	HOLDING CAPACITY	BODY	N. W. Kgs.
					C	D	E	F	M	N	ØG					
PATC-12-LT	12Ø	M-8	20	40	60	110	45	47	7.5	8	6.5Ø	6	41	600 Kgs.	STEEL	0.74
PATC-16-LT	16Ø	M-10	25	50	65	130	48	52	8.5	13	8.5Ø	8	58	800 Kgs.	STEEL	1.23
PATC-20-LT	20Ø	M-12	30	75	75	185	55	82.5	10	10	8.5Ø	10	92	1200 Kgs.	C.I.	2.81

PUSH / PULL ACTION TOGGLE CLAMP - MINIATURE MODEL - PATC - 6



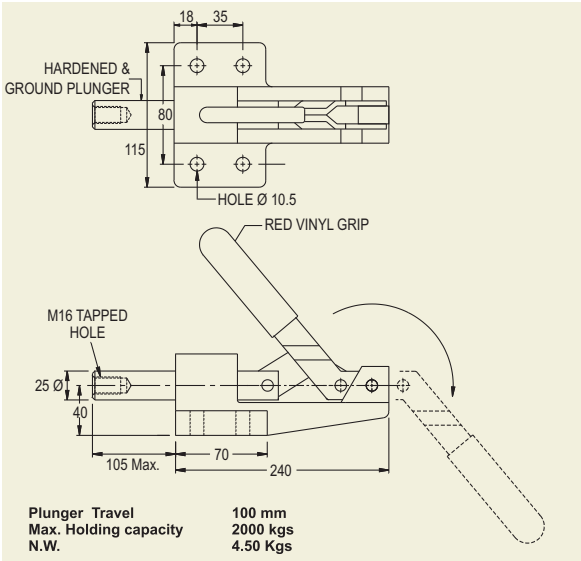
This is a Miniature Model of Push/Pull Action Toggle Clamp useful for light clamping where less space is available.



Standard Accessories provided with Clamp: Standard Hex. Head Clamping Spindle assembly is provided as standard accessory.

PUSH / PULL ACTION TOGGLE CLAMP - HEAVY DUTY - Model PATC-25

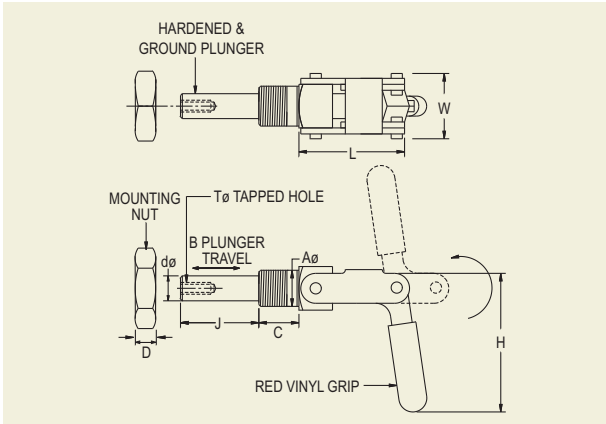
This is a Heavy Duty version of Push/Pull Action Toggle Clamp useful where high clamping force or long plunger travel is required.



Standard Accessories provided with Clamp: Standard Hex. Head Clamping Spindle assembly is provided as standard accessory.

PUSH / PULL ACTION TOGGLE CLAMP - FRONT MOUNTING TYPE

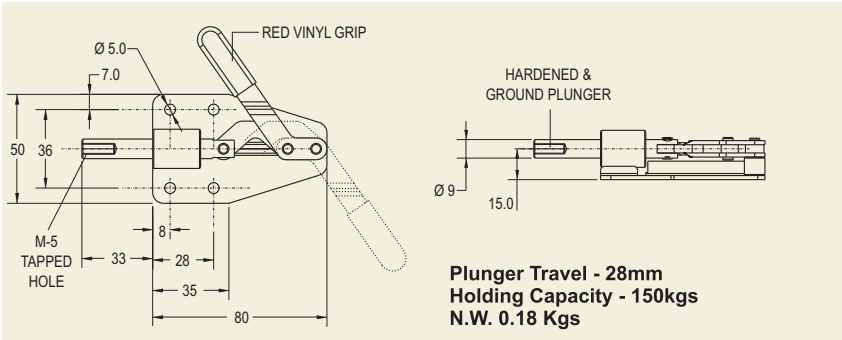
'TOOLFAST' Push/Pull Action Toggle Clamps - Front Mounting Type are simply flush mounted through a panel or plate by a hexagonal lock nut on the work piece side. Can also be mounted directly into a tapped hole without using the nut. Plunger is hardened & ground. These clamps can also be used as push as well as pull action clamps.



MODEL	PLUNGER DIA dØ	TØ TAPPED HOLE	MOUNTING THREAD SIZE AØ	PLUNGER TRAVEL B	C	D	J	L	W	H	HOLDING CAPACITY	N. W. Kgs.
PAFM-9	9	M-5 x 0.8 P	M-16 x 1.5 P	25	11	6	36	35	26	75	50 Kgs.	0.13
PAFM-12	12	M-8 x 1.25 P	M-20 x 1.5 P	36	16	8	41	50	31	103	100 Kgs.	0.32
PAFM-16	16	M-10 x 1.5 P	M-24 x 2.0 P	65	25	10	65	84	43	143	350 kgs.	0.86

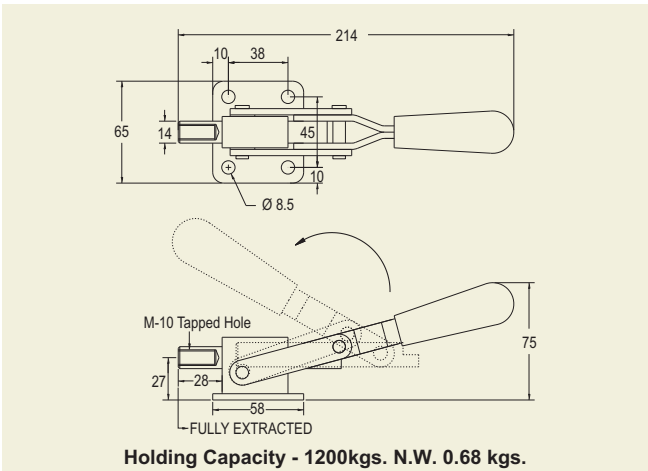
Standard Accessories provided with Clamp : Standard Hex. Head Clamping Spindle assembly is provided as standard accessory.
Optional Accessories : User can select an optional clamping spindle assembly as per the application from the different types of clamping spindle assemblies shown on one of the following pages and order these separately.

PUSH / PULL ACTION TOGGLE CLAMP - SIDE HANDLE-PATC-9-FB-SH



PUSH / PULL ACTION TOGGLE CLAMP - REVERSE HANDLE - MODEL PAR-14

These Push / Pull Action Toggle clamps have reverse handle action as the plunger moves in pushing position when the handle is moved back towards the operator. Hence, these clamps are most suitable for operations where the operator has to keep hand away from the workpiece while locking the clamp.

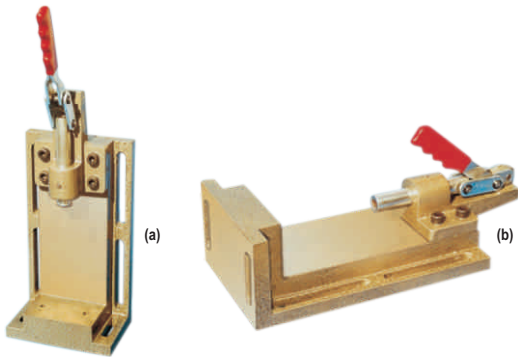
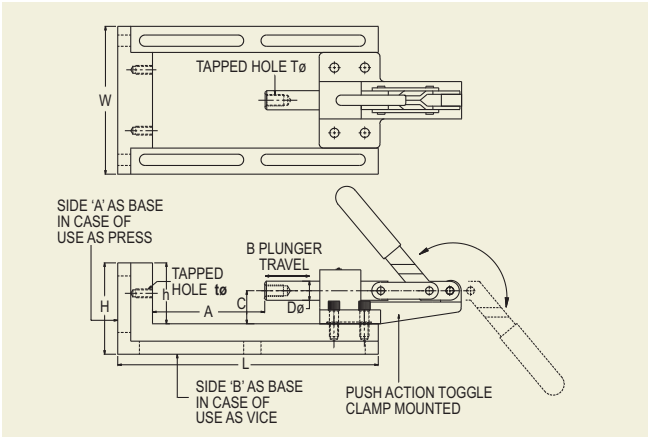


TOGGLE VICE CUM PRESS

'TOOLFAST' Toggle vice cum press is a multifunction quick action vice cum press having a unique design with precision machined body on which Push Action Toggle Clamp of suitable model is mounted to make it a very versatile tool.

Toggle Vice: When side 'B' is used as base, it can be used as a quick action vice as shown in picture (b) or you can make your own drill Jig on it

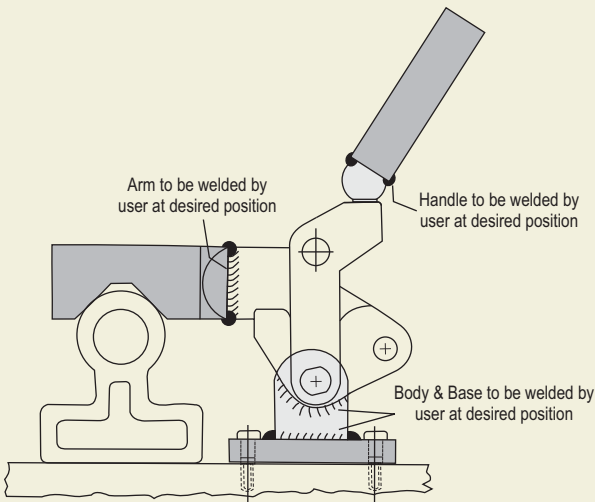
Toggle Press : When side 'A' is used as base, it can be used as a toggle press for light press operations as shown in picture (a)



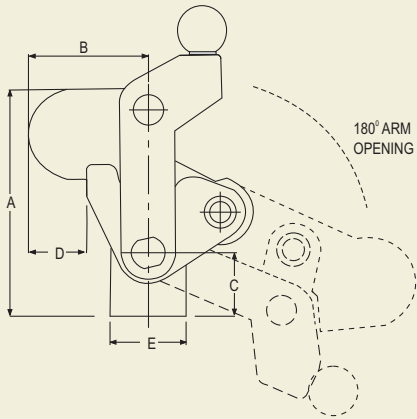
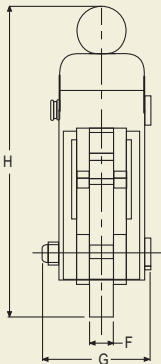
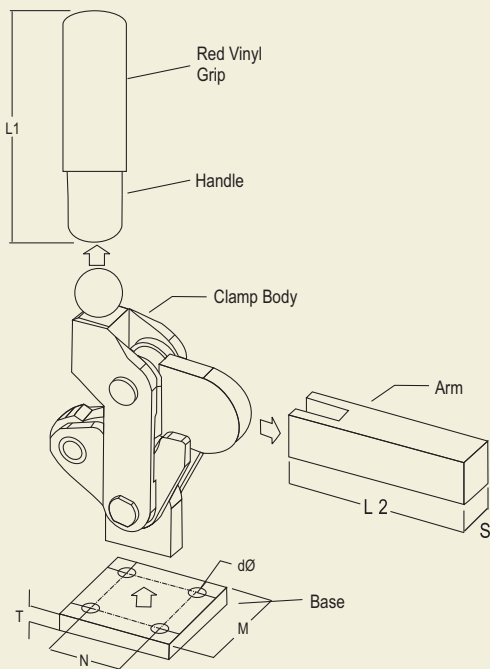
MODEL	A	PLUNGER TRAVEL B	C	DØ	TØ	tø	h	L	W	H	PUSH ACTION TOGGLE CLAMP MOUNTED	CAPACITY	N. W. Kgs.
TVP-12	100	30	26	12Ø	M-8	M-6	50	205	110	70	MODEL PATC-12-FB	600 Kgs.	3.7
TVP-16	120	36	30	16Ø	M-10	M-8	60	250	138	90	MODEL PATC-16-FB	1000 Kgs.	7.6
TVP-22	140	44	38	22Ø	M-12	M-10	70	300	170	105	MODEL PATC-22-FB	1500 Kgs.	15.0

HEAVY DUTY WELDABLE TOGGLE CLAMP - MODULAR DESIGN

These are modular weldable clamps which allow the designer complete flexibility to position the base, clamp arm and handle and weld them in any desired position to suit the application. The base, arm and the pipe handle are supplied alongwith the clamp separately, to be welded by the user before use. The main body is made of accurately machined components having hardened and ground pivot pins and bushes.



Example of Application

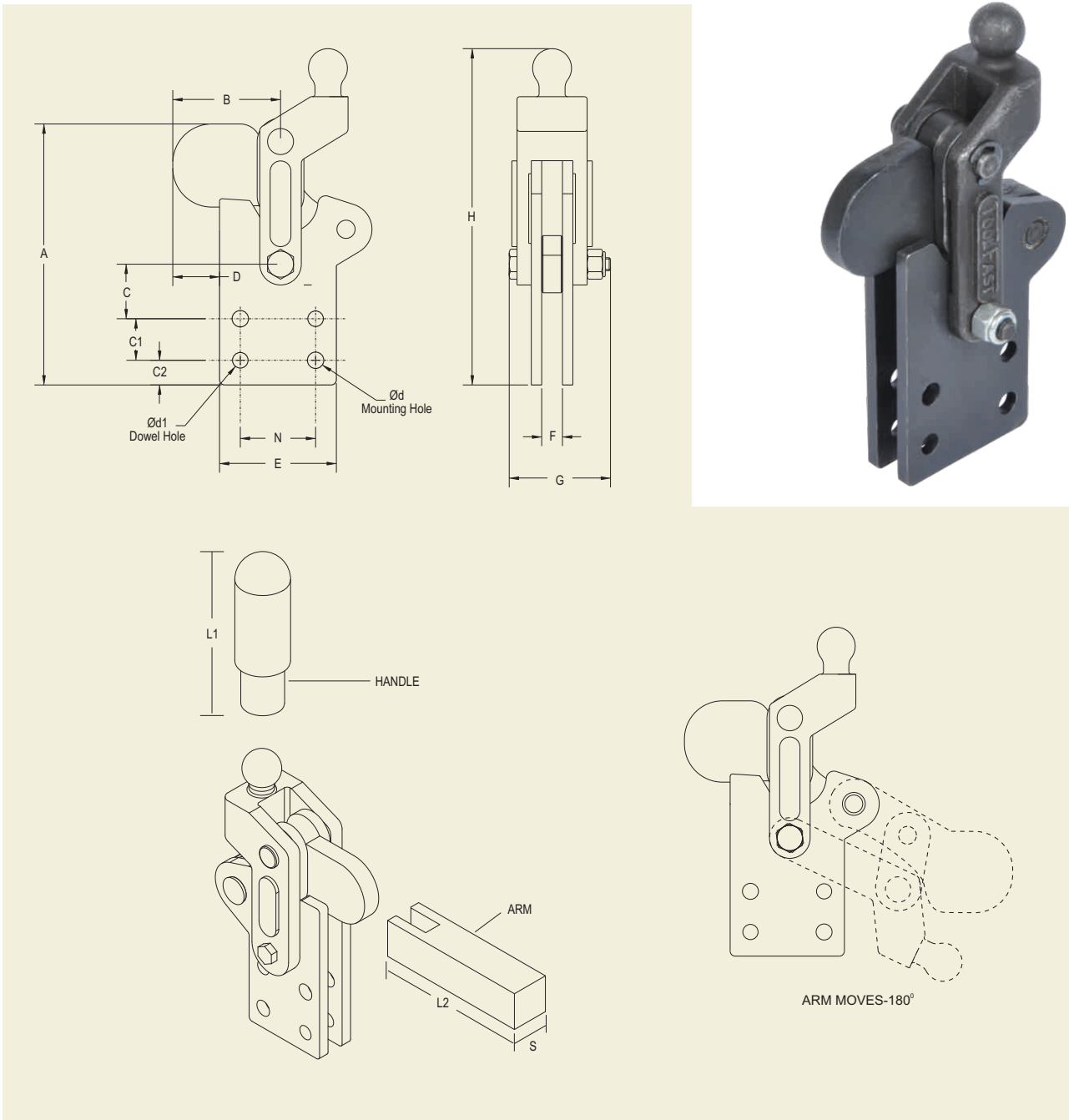


Base, Arm and Handle shown above are standard parts included in supply (loose) along with clamp body

MODEL	A	B	C	D	E	F	G	H	L1	M Sq.	N Sq.	T	dØ	L2	S Sq.	HOLDING CAPACITY	N. W. Kgs.
WTC-200	75	42	21	18	24	8	39	104	82	45	29	6	7	75	20	500 Kgs.	0.81
WTC-300	91	53	26	26	30	10	47	127	90	50	30	8	7	90	22	700 Kgs.	1.38
WTC-500	106	59	32	30	36	12	55	152	114	63	40	9	9	100	25	1100 Kgs.	2.23

HEAVY DUTY WELDABLE TOGGLE CLAMP - MODULAR DESIGN - BASE STRAIGHT

These are straight base version of WTC series. All other features are same. Arm and handle are supplied loose alongwith the clamp which will be welded at desired position before use.



Arm and Handle shown above are standard parts included in supply (loose) along with clamp body.

MODEL	A	B	C	D	E	F	G	H	dØ	d1Ø	C1	C2	N	L1	L2	S Sq.	HOLDING CAPACITY	N. W. Kgs.
WTC-200 BS	101	42	21	18	45	8	39	130	6.3	6	16	9.5	26	82	75	20	500 Kgs.	0.82
WTC-300 BS	122	53	20	26	50	10	47	158	9	8	25	12	30	90	90	22	700 Kgs.	1.40
WTC-500 BS	132	59	23	30	53	12	55	178	9	8	25	10	35	114	100	25	1100 Kgs.	2.24

PULL ACTION CLAMP- LATCH TYPE - HORIZONTAL CUM VERTICAL

Pull Action Clamps are Latch type clamps used for sealing chambers, lids, doors of moulds, drums, containers or other vessels etc. Also suitable for clamping moulds in industries such as resin, fibre glass, chemical & food.

‘TOOLFAST’ Pull Action Clamp has a unique design which enables use of the same clamp as a horizontal pull action clamp as shown in figure (A) as well as a vertical pull action clamp as shown in figure (B) below by using two different holes H1 and H2 for pulling pin P to be located in.

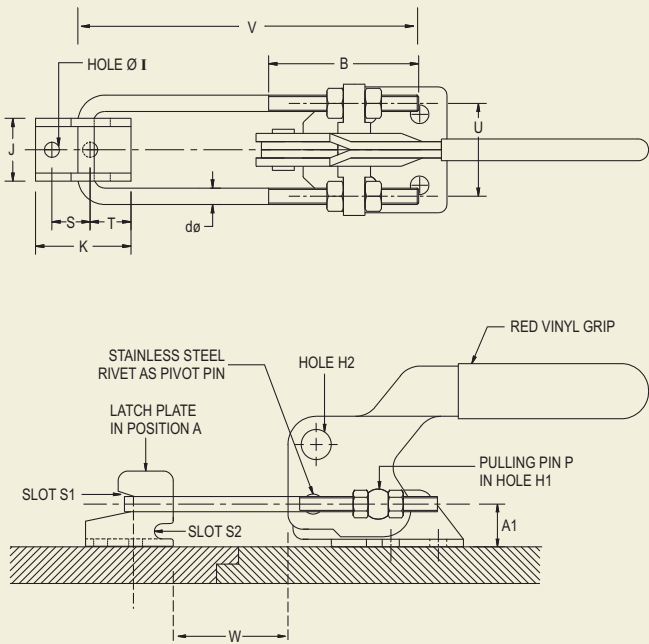
Clamp is supplied complete with U-bolt & Latch Plate.

Same Clamp Can Be Used For Horizontal As well As Vertical Locking



Figure (A): PAC being used as Horizontal Pull Action Clamp

The pulling PIN P alongwith the U-Bolt is assembled using Hole H1 so that the Clamp is used for Horizontal Locking as shown below

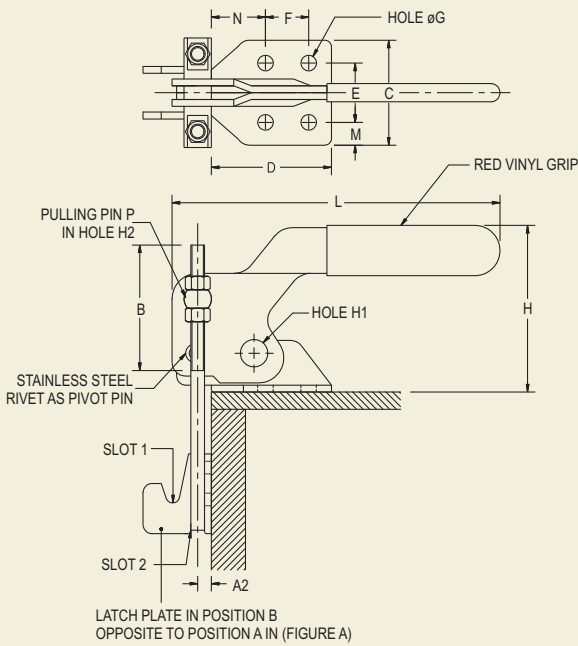


Locking is done when Adjustable U-Bolt is placed around the Slot S1 of Latch Plate in position A and the Handle is pulled down to reach the Lock Position

To ensure that the Clamp Locks positively, it is important that the Base of clamp and the Base of Latch Plate are properly aligned as shown above.

Figure (B): PAC being used as Vertical Pull Action Clamp

The pulling PIN P alongwith the U-Bolt is assembled using Hole H2 so that the Clamp is used for Vertical Locking as shown below.



Locking is done when Adjustable U-Bolt is placed around the Slot S2 of Latch Plate in position B and the Handle is pulled down to reach the Lock Position.

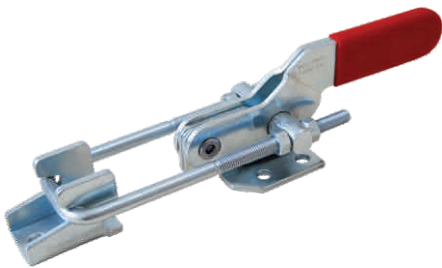
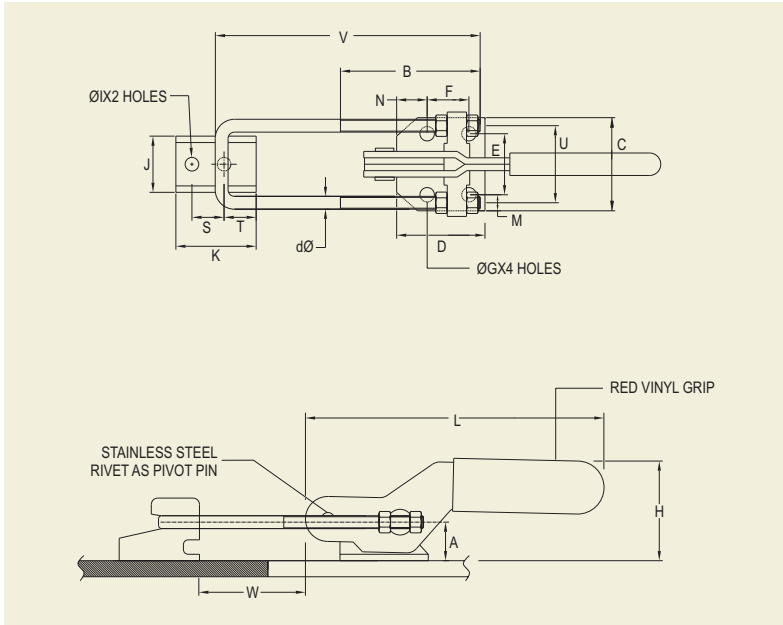
To ensure that the Clamp Locks positively, it is important that the Base of the Latch Plate is aligned with the Front Edge of the Clamp Base in perpendicular position as shown above.

MODEL	A1	A2	dØ	U	V	B THREAD LENGTH	W		MOUNTING BASE OF CLAMP							MOUNTING BASE OF LATCH PLATE					H	L	HOLDING CAPACITY	N. W. Kgs.
							Min.	Max.	C	D	E	F	M	N	GØ	J	K	S	T	IØ				
PAC-4-HV	13	4	4Ø	22	90	52	5	42	32	35	20	15	6	14	5Ø	15	30	12	12	5Ø	53	100	150 Kgs.	0.16
PAC-6-HV	17	6	6Ø	34	128	68	5	55	46	54	26	19	10	19	6.8Ø	23	36	15	15	5.5Ø	75	152	400 Kgs.	0.49
PAC-8-HV	24	8	8Ø	48	165	87	5	67	58	55	38	26	10	20	8.5Ø	35	50	20	20	8.5Ø	96	185	900 Kgs.	1.06

PAC-4-HV and PAC-6-HV are also available in stainless steel as model PAC-4-HV-S.S. and PAC-6-HV-S.S. respectively.

PULL ACTION CLAMP - LATCH TYPE - HORIZONATAL

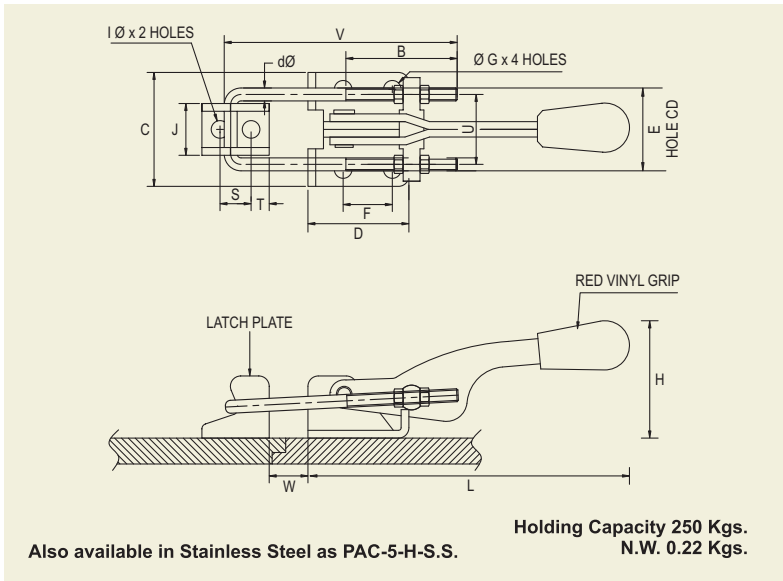
These are newly introduced models having same dimensions of mounting etc. as PAC-HV series given on previous page but with a modified low height handle suitable for only horizontal locking.



MODEL	A	dØ	U	V	B THREAD LENGTH	W		MOUNTING BASE OF CLAMP							MOUNTING BASE OF LATCH PLATE					H	L	HOLDING CAPICITY	N. W. Kgs.
						Min.	Max.	C	D	E	F	M	N	GØ	J	K	S	T	IO				
PAC-4-H	13	4Ø	22	90	52	5	42	32	35	20	15	6	14	5Ø	15	30	12	12	5Ø	29	100	150 Kgs.	0.14
PAC-6-H	17	6Ø	34	128	68	5	55	46	54	26	19	10	19	6.8Ø	23	36	15	15	5.5Ø	50	152	400 Kgs.	0.44
PAC-8-H	24	8Ø	48	165	87	5	66	58	55	38	26	10	20	8.5Ø	35	50	20	20	8.5Ø	61	185	900 Kgs.	0.88

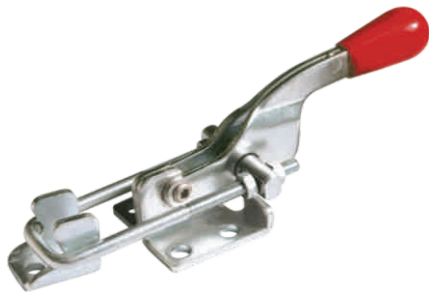
PAC-4-H and PAC-6-H are also available in stainless steel as model PAC-4-H-S.S. and PAC-6-H-S.S. respectively.

HORIZONTAL LATCH CLAMP - MEDIUM DUTY



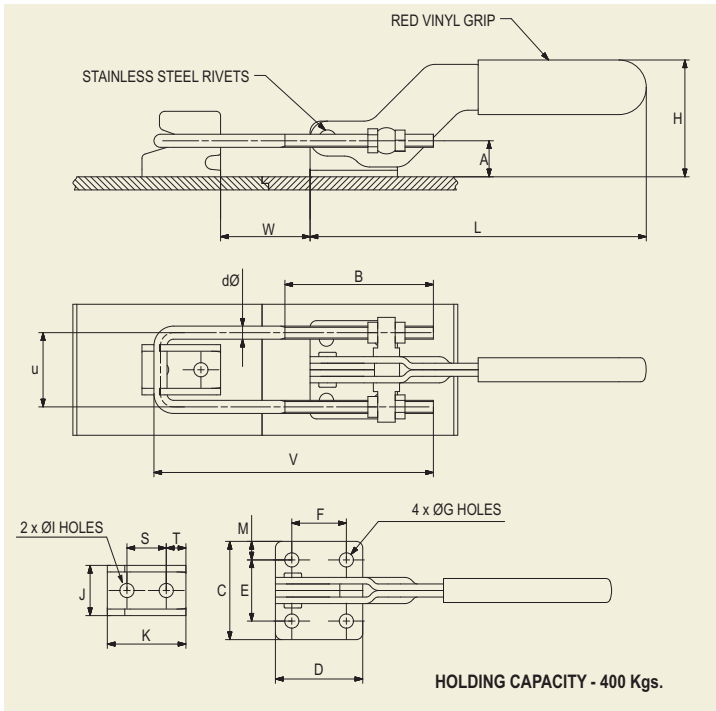
Holding Capacity 250 Kgs.
N.W. 0.22 Kgs.

Also available in Stainless Steel as PAC-5-H-S.S.



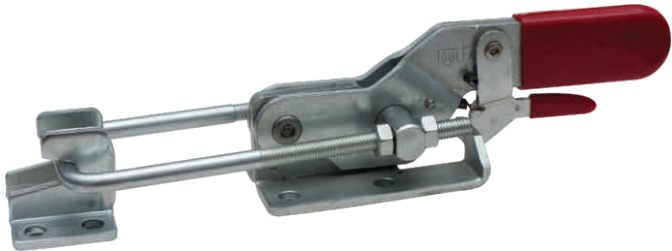
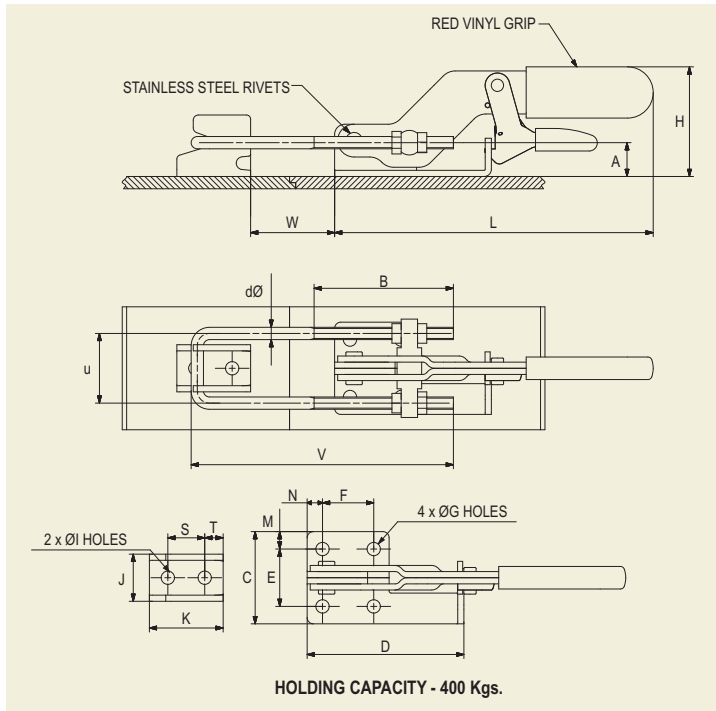
MODEL	dØ	U	V	B THREAD LENGTH	W		MOUNTING BASE OF CLAMP					MOUNTING BASE OF LATCH PLATE				H	L	HOLDING CAPICITY	N. W. Kgs.
					Min.	Max.	C	D	E	F	GØ	J	S	T	IO				
PAC-5-H	5Ø	27	115	68	5	50	44	39	31	19	6.8Ø	20	12	7	6.8Ø	35	100	250 Kgs.	0.22
PAC-520-H	5Ø	27	115	68	5	50	44	39	32	20	6.5Ø	20	11	7.5	6.5Ø	35	100	250 Kgs.	0.22

PULL ACTION CLAMP LATCH TYPE - HORIZONTAL - NEW SERIES



MODEL	A	dØ	U	V	B THREAD LENGTH	W		MOUNTING BASE OF CLAMP							MOUNTING BASE OF LATCH PLATE					H	L	HOLDING CAPACITY	N. W. Kgs.
						Min.	Max.	C	D	E	F	M	N	GØ	J	K	S	T	IØ				
PAC-416-H	15	4Ø	22	88	52	5	42	30	26	20	16	5	5	4.5Ø	15	30	11	9.5	4.5Ø	35	100	100 Kgs.	0.13
PAC-625-H	17	6Ø	34	128	68	5	55	45	40	28	25	8.5	7.5	6.5Ø	23	36	18	9	6.5Ø	54	156	400 Kgs.	0.42
PAC-840-H	26	8Ø	48	165	87	5	66	60	60	40	40	10	10	8.5Ø	60	46	22	8.5	8.5Ø	66	185	900 Kgs.	0.90

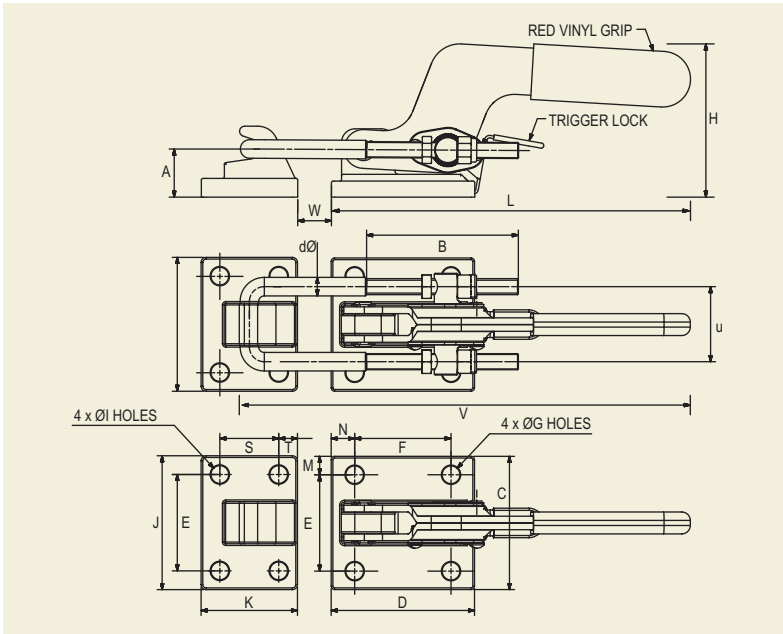
PULL ACTION CLAMP LATCH TYPE - HORIZONTAL WITH TRIGGER LOCK



MODEL	A	dØ	U	V	B THREAD LENGTH	W		MOUNTING BASE OF CLAMP							MOUNTING BASE OF LATCH PLATE					H	L	HOLDING CAPACITY	N. W. Kgs.
						Min.	Max.	C	D	E	F	M	N	GØ	J	K	S	T	IØ				
PAC-625-H-TR	17	6Ø	34	128	68	5	55	45	76	28	25	8.5	7.5	6.5Ø	23	36	18	9	6.5Ø	54	156	400 Kgs.	0.43
PAC-840-H-TR	26	8Ø	48	165	87	5	66	60	94	40	40	10	10	8.5Ø	60	46	22	8.5	8.5Ø	66	185	900 Kgs.	0.92

HORIZONTAL LATCH CLAMP - HEAVY DUTY MODEL PAC-10-H & PAC-10-H-TR with TRIGGER LOCK

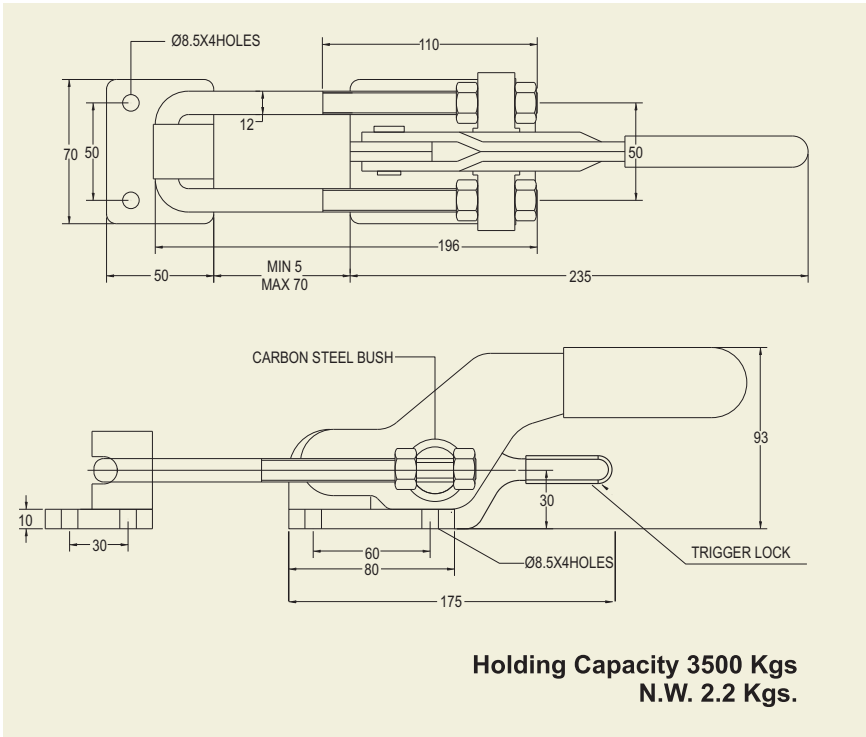
This model is for applications where heavy duty Latch type clamping is required. Clamp base and Latch plate are made of solid steel. Pulling pin is housed in carbon steel bush for extra rigidity. Also available TR model with an added advantage of trigger lock which enables the clamp to remain locked even in conditions of high vibration unless the trigger is pulled.



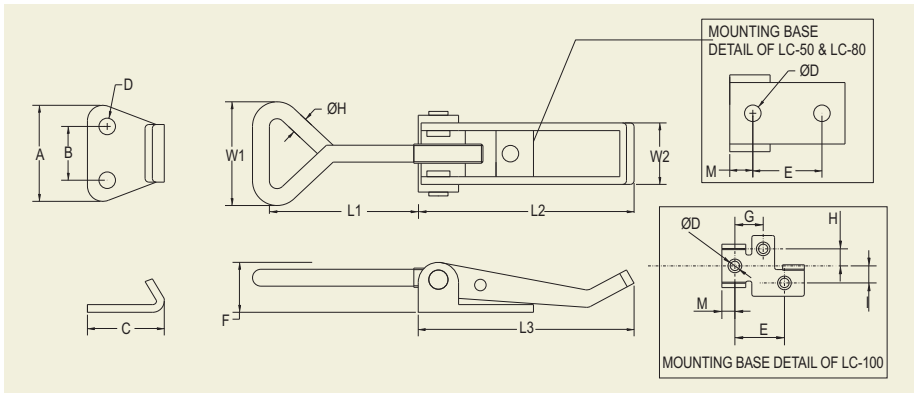
MODEL	A	dØ	U	V	B THREAD LENGTH	W		MOUNTING BASE OF CLAMP							MOUNTING BASE OF LATCH PLATE					H	L	HOLDING CAPACITY	N. W. Kgs.
						Min.	Max.	C	D	E	F	M	N	GØ	J	K	S	T	IØ				
PAC-10-H Without Trigger Lock	28.5	9.5Ø	44.5	144	90	5	25	79	85	57.2	57.2	10.9	13.9	10.5Ø	79	57	35	11	10.5Ø	91	213	2000 Kgs.	1.80
PAC-10-H-TR With Trigger Lock	28.5	9.5Ø	44.5	144	90	5	25	79	85	57.2	57.2	10.9	13.9	10.5Ø	79	57	35	11	10.5Ø	91	213	2000 Kgs.	1.80
PAC-11-H Without Trigger Lock	28.5	11Ø	44.5	144	90	5	45	79	85	57.2	57.2	10.9	13.9	10.5Ø	79	57	35	11	10.5Ø	91	213	3000 Kgs.	2.10
PAC-11-H-TR With Trigger Lock	28.5	11Ø	44.5	144	90	5	45	79	85	57.2	57.2	10.9	13.9	10.5Ø	79	57	35	11	10.5Ø	91	213	3000 Kgs.	2.10

HORIZONTAL LATCH CLAMP - HEAVY DUTY MODEL PAC-12-H & PAC-12-H-TR with TRIGGER LOCK

This model is for applications where heavy duty Latch type clamping is required. Clamp base and Latch plate are made of solid steel. Pulling pin is housed in carbon steel bush for extra rigidity. Also available TR model with an added advantage of trigger lock which enables the clamp to remain locked even in conditions of high vibration unless the trigger is pulled.



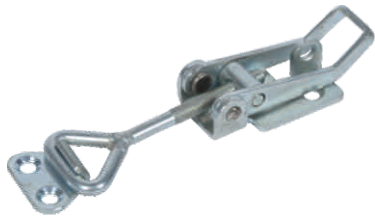
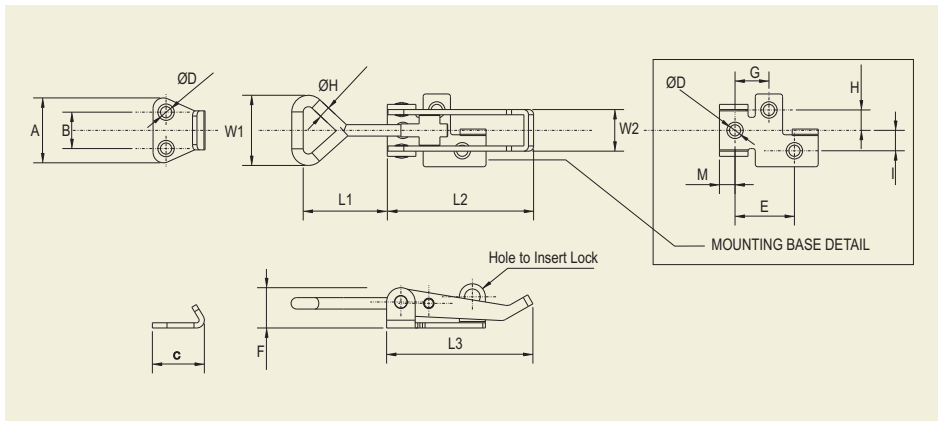
HORIZONTAL LATCH CLAMP - LIGHT DUTY



MODEL	L1	L2	F	W1	W2	A	B	C	ØD	ØH	E	M	G	H	I	HOLDING CAPACITY	N. W. Kgs.
LC-50	18~38	55	14	27	16	25	14	20	4.3	4.4	18	6	-	-	-	70 Kgs.	0.045
LC-80	20~54	67	18	32	20	30	17	22	5.3	5.3	17	14	-	-	-	80 Kgs.	0.09
LC-100	30~60	98	23	48	30	45	22	29	5.3	7.0	36	12	19	11	11	100 Kgs.	0.21

Above models are also available in Stainless Steel as model LC-50-S.S., LC-80-S.S and LC-100-S.S.

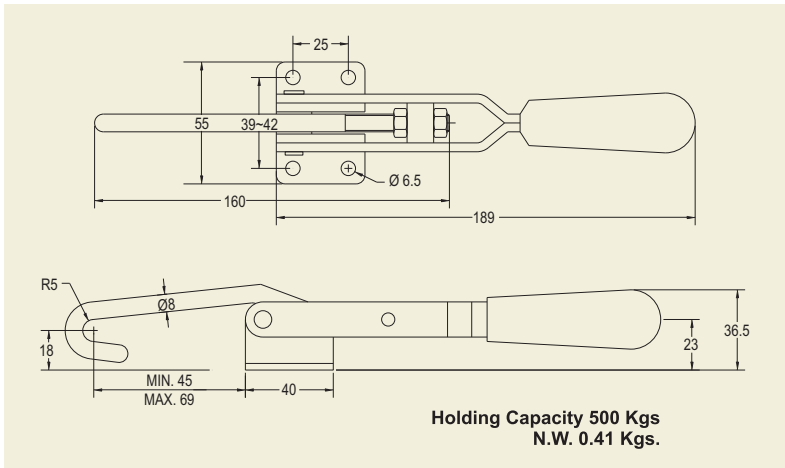
HORIZONTAL LATCH CLAMP - LIGHT DUTY - LOCKABLE TYPE



MODEL	L1	L2	F	W1	W2	A	B	C	ØD	ØH	E	M	G	H	I	HOLDING CAPACITY	N. W. Kgs.
LC-50-L	18~38	55	14	27	16	25	14	20	4.3	4.4	23	6	13	8	8	70 Kgs.	0.05
LC-80-L	20~54	67	18	32	20	30	17	22	5.3	5.3	27	14	10	8	9	80 Kgs.	0.095

Above models are also available in Stainless Steel as model LC-50-L-S.S. and LC-80-L-S.S.

PULL ACTION CLAMP - HOOK TYPE MODEL HPA-8



INTRODUCTION

Toggle Clamps with Pneumatic Operation have a Pneumatic cylinder mounted for operation only, the clamping force exerted comes from the toggle mechanism. Pneumatic operation has following advantages :

- ☐ High speed operation
- ☐ Any number of clamps can be operated simultaneously with the help of a switch.
- ☐ Clamps can be operated in any desired sequence automatically by controlling the cycle electrically.
- ☐ Clamps can be mounted at normally inaccessible position which are not in operator's reach for manual operation.
- ☐ Reed switch mounted pneumatic cylinders can be used if position sensing is required.

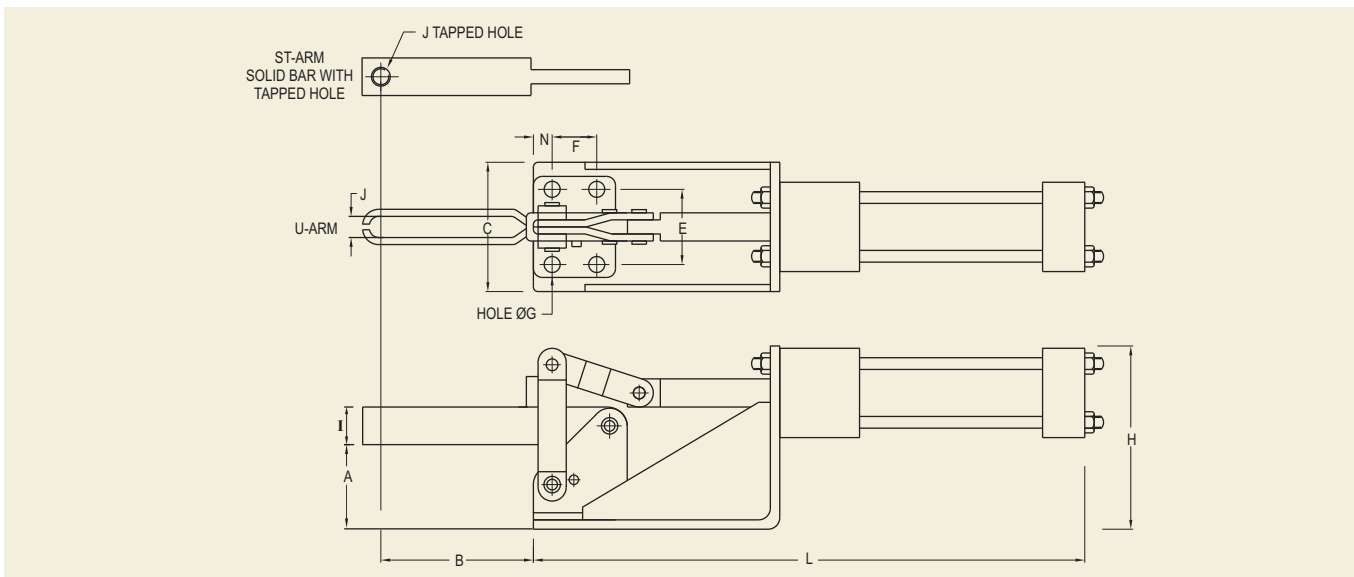
'TOOLFAST' Toggle Clamps with Pneumatic Operation are available in different sizes in both Hold Down Action and Push Action as given below.

HOLD DOWN TOGGLE CLAMP - PNEUMATIC OPERATION

'TOOLFAST' Hold Down Toggle Clamps with Pneumatic Operation are available in following sizes and following two types of arms :

U- Arm :- This is the most widely used type which permits to locate the clamping spindle anywhere along the length of the arm.

ST- Arm :- This is a solid bar with a tapped hole at the end. This arm can also be cut to any required length and hole can be made at any desired position or a separate clamping assembly can be welded at any desired point as per the application.



MODEL	ARM TYPE*	A	B MAX.	MOUNTING BASE					I	J SUITABLE FOR SPINDLE DIA	L	H	HOLDING CAPACITY	N. W. Kgs.
				C	E	F	N	ØG						
POHD-35-U	U-ARM	36	65	60	32	19	8	6.8Ø	16	M-8	276	81	200 Kgs.	1.52
POHD-35-ST	ST-ARM													1.60
POHD-50-U	U-ARM	49	95	75	44	28	8.5	8.5Ø	18	M-10	345	104	400 Kgs.	2.57
POHD-50-ST	ST-ARM													2.67
POHD-85-U	U-ARM	85	135	110	70	50	12.5	10.5Ø	32	M-16	499	167	700 Kgs.	7.40
POHD-85-ST	ST-ARM													7.83

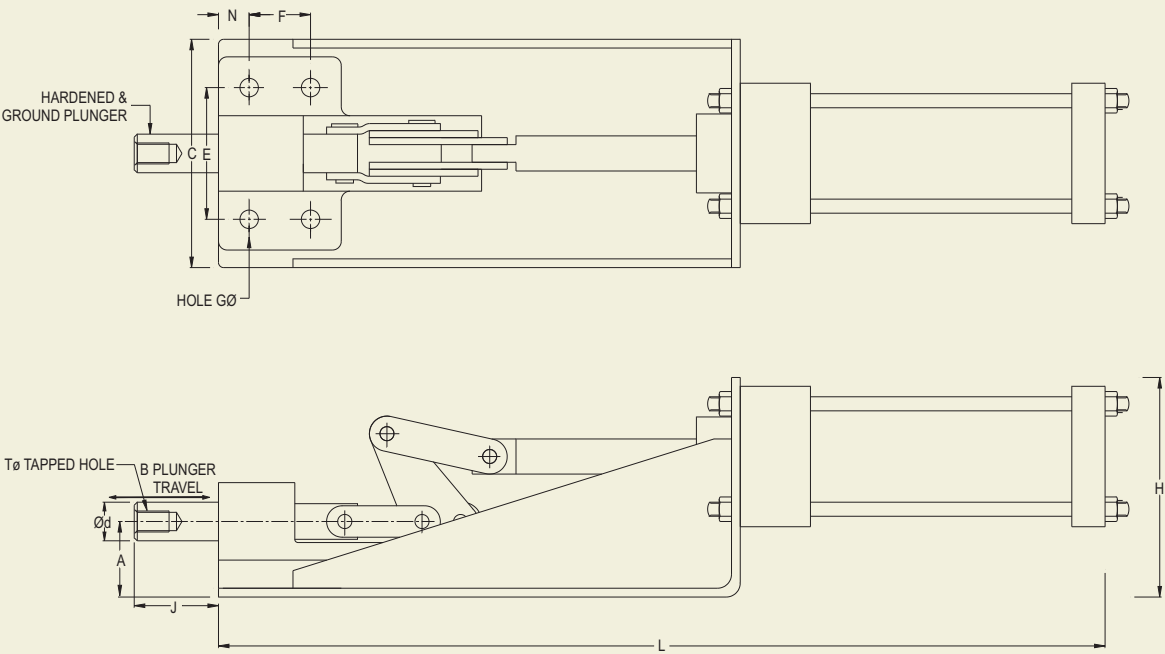
*Above models are also available in BR ARM.

Standard Accessories provided with Clamp : Standard Hex. Head Clamping Spindle assembly is provided as standard accessory with all above clamps. U-Arm models are provided with 2 nos. U-Flanged Washers also along with clamping spindle assembly.

Optional Accessories : User can select an optional clamping spindle assembly as per the application from the different types of clamping spindle assemblies shown on one of the following pages and order these separately.

PUSH ACTION TOGGLE CLAMP - PNEUMATIC OPERATION

'TOOLFAST' Push Action Toggle Clamps with Pneumatic Operation are available in following sizes.



MODEL	PLUNGER Ø dØ	TØ	A	PLUNGER TRAVEL B	MOUNTING BASE					J MAX.	L	H	HOLDING CAPACITY	N. W. Kgs.
					C	E	F	N	ØG					
POPA-12	12Ø	M-8x1.25	30	20	80	45	23	11	6.8Ø	34	400	72	600 Kgs.	2.41
POPA-16	16Ø	M-10x1.5	34	25	95	60	28	14	8.5Ø	40	427	82	1000 Kgs.	3.15
POPA-22	22Ø	M-12x1.75	43	30	130	75	35	17.5	10.5Ø	48	549	121	1500 Kgs	8.30

Standard Accessories provided with Clamp: Standard Hex. Head Clamping Spindle assembly is provided as standard accessory.

Optional Accessories: User can select an optional clamping spindle assembly as per the application from the different types of clamping spindle assemblies shown on one of the following pages and order these separately.

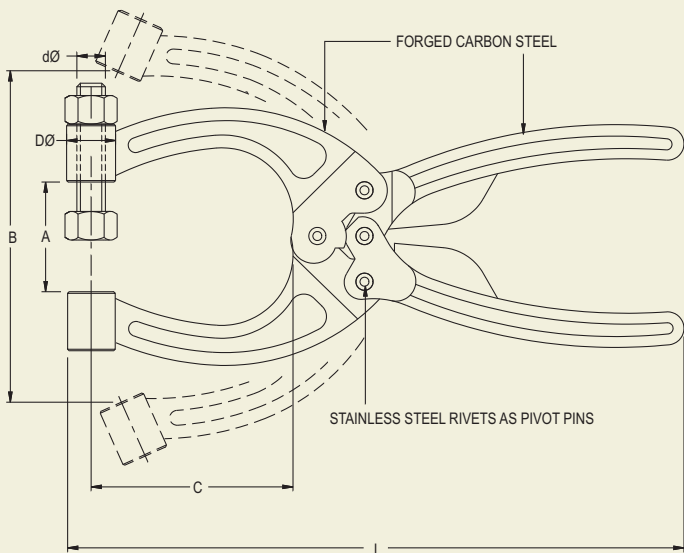
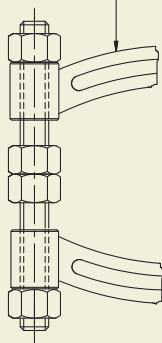
2D / 3D CAD FILES AVAILABLE FOR ALL TOGGLE CLAMP MODELS ON REQUEST

SQUEEZE ACTION TOGGLE CLAMP

‘TOOLFAST’ Squeeze Action Toggle Clamps hold the work piece between two clamping jaws like a plier and lock in that position like a toggle clamp and stay locked until the handles are pulled apart. These clamps are precision machined carbon steel forgings which withstand the heat of welding temperature without distortion. These are available in two different types, one allowing use of single clamping spindle and other allowing use of two clamping spindles.



MODEL SA - 1045 - 2
FOR 2 NOS.
CLAMPING SPINDLES



MODEL	dØ CLAMPING SPINDLE	A	MAX. JAW OPENING B	C	DØ	L	HOLDING CAPACITY	N. W. Kgs.
SA-1045	M10 (1 No.)	45	85	70	19	220	400 Kgs.	0.70
SA-1045-2	M10 (2 Nos)	45	85	70	19	220	400 Kgs.	0.71

Standard Accessories provided with Clamp: Standard Hex. Head Clamping Spindle assembly is provided as standard accessory. 2nos. Spindle assemblies are provided with 2 spindle model.

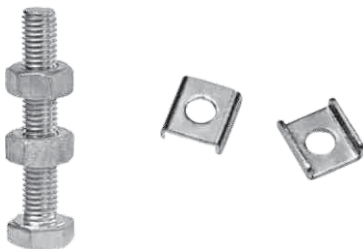
Optional Accessories: User can select an optional clamping spindle assembly as per the application from the different types of clamping spindle assemblies shown on one of the following pages and order these separately.

CLAMPING SPINDLE ASSEMBLIES FOR TOGGLE CLAMPS

STANDARD ACCESSORIES

STANDARD HEX. HEAD SPINDLE ASSEMBLY : Suitable sizes of these spindle assemblies are provided as standard accessory with all toggle clamps.

U-FLANGED WASHERS : Set of U-Flanged Washers is provided as standard accessory with all U models of toggle clamps.



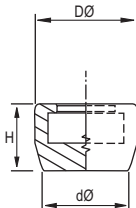
OPTIONAL ACCESSORIES

User can select an optional spindle accessories from following types and if required can order these separately.

RUBBER CAPS FOR STANDARD HEX. HEAD SPINDLE

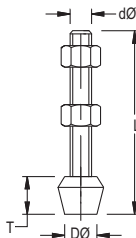
MODEL	DØ	dØ	H
RC-5	12	9	10
RC-6	15	12	10
RC-8	18	15	12
RC-10	23	19	15
RC-12	25	21	17
RC-16	32	27.5	21.5

Most convenient to convert the standard hex head spindle into rubber tip spindle by simply manually inserting the rubber cap onto the spindle hex.



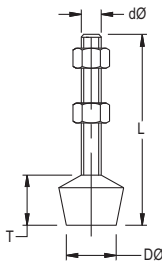
NYLON TIPPED SPINDLE ASSEMBLY

MODEL	THREAD SIZE dØ	L	T	DØ	N. W. Kgs.
NT-5-25	M-5	25	7	7Ø	0.01
NT-6-25	M-6	25	7	7Ø	0.01
NT-6-40	M-6	40	7	7Ø	0.01
NT-8-50	M-8	50	14	11Ø	0.03
NT-8-100	M-8	100	14	11Ø	0.04
NT-10-75	M-10	75	14	11Ø	0.06
NT-12-50	M-12	50	22	19Ø	0.07
NT-16-60	M-16	60	22	19Ø	0.17
NT-16-125	M-16	125	22	19Ø	0.23



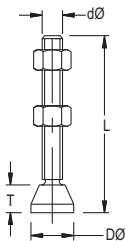
NEOPRENE TIPPED SPINDLE ASSEMBLY

MODEL	THREAD SIZE dØ	L	T	DØ	N. W. Kgs.
NRT-5-45	M-5	45	12	12	0.02
NRT-6-50	M-6	50	15	15	0.02
NRT-8-60	M-8	60	20	20	0.04
NRT-10-90	M-10	90	22	22	0.08



SWIVAL FOOT SPINDLE ASSEMBLY

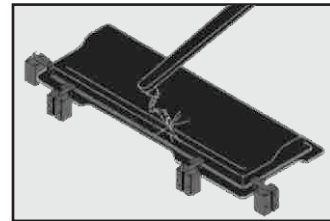
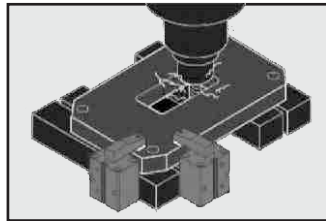
MODEL	THREAD SIZE dØ	L	T	DØ	N. W. Kgs.
SF-8-60	M-8	60	10	16	0.04
SF-10-80	M-10	80	13	20	0.08



PNEUMATIC AND HYDRAULIC WORKHOLDERS

INTRODUCTION

Power clamping whether Pneumatic or Hydraulic is most widely used in the form of **swing clamps**, which allow unobstructed part fixturing and placement. The plunger rod and the attached clamping arm swings in either a clockwise or counter clockwise direction, then travels down an additional distance to clamp down the fixtured part. Upon release of clamping pressure, the clamping arm travels up to unclamp and swings back in the opposite direction to allow for part removal and new part placement.

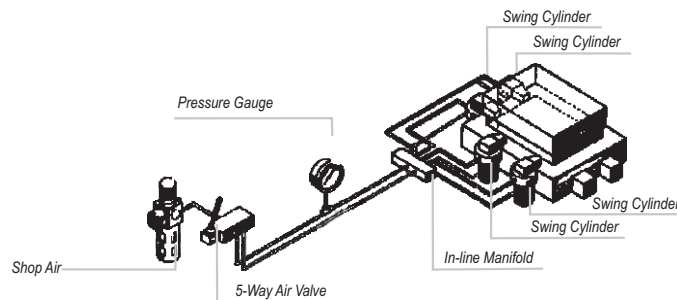


Different types of Pneumatic and Hydraulic Swing Clamps offered by us are illustrated in the following pages of this catalogue.

1. PNEUMATIC SWING CLAMPS are used where low clamping forces are needed such as in drilling, tapping or light machining operations of aluminum components. Also widely used in welding fixtures. These clamps are most economical to use as can be operated on in-house air line.

'TOOLFAST' Pneumatic swing clamps are double acting swing cylinders available in different models, shapes and mountings as illustrated in following pages.

Schematic Diagram of Air Line



2. HYDRAULIC SWING CLAMPS are used where medium to high clamping force is required such as in machining of components on conventional or CNC Machines.

Selection of type of Hydraulic Cylinder

Single Acting spring return Cylinders are chosen when there are few system restrictions and there are not many cylinders (less than 5 cylinders) retracting simultaneously. These are widely used on conventional machines where a hydraulic power unit is not available on the machine. Single Acting, Spring return cylinders can also be used with hydropneumatic Intensifier.

Double Acting Cylinders are normally used with Hydraulic power units or with Air drive hydraulic pump which gives required hydraulic pressure at its outlet by using in-house air at its input. Double acting Cylinders are used when timing sequences are critical. They are advantageous, as they are less sensitive to system back pressures resulting from long tube lengths or numerous cylinders being retracted at the same time. Unclamp cycle can also be controlled in double acting cylinders.

Selection of Cylinder in terms of Clamping force : Suitable size of Cylinder should be selected depending upon the clamping force required to clamp the work piece. For determination of clamping force required, apart from clamping force calculation, the best clue can be had from the bolt size being used in the mechanical clamp of the existing fixture.

'TOOLFAST' Hydraulic Clamps are available in single as well as double acting cylinders in different models, shapes and mountings as illustrated in following pages.

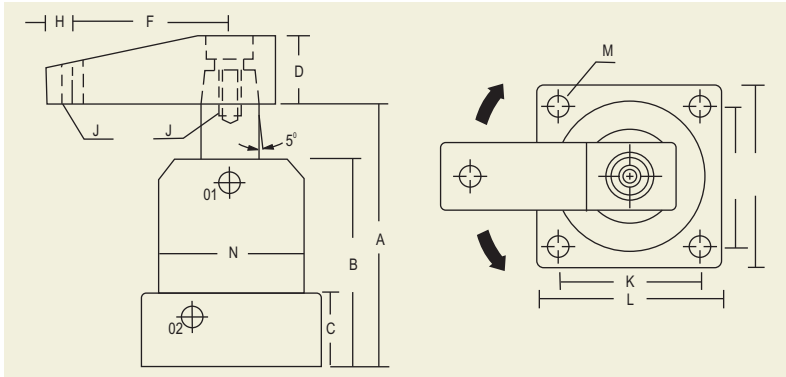
2D / 3D CAD FILES AVAILABLE ON REQUEST

PSF SERIES : PNEUMATIC LOWER FLANGE VERSION SWING CLAMP - DOUBLE ACTING, 4-7 KG/CM² INLET AIR PRESSURE

Widely used for low clamping forces such as in light machining of aluminium parts or in welding fixtures.
Stainless steel piston rod, black aluminium body with wear resistant anodised finish. Flange version has flanged lower face for easy mounting

Features

- ☐ Ideal for use on fixtures for mass production on all types of conventional or CNC Machine tools.
- ☐ Operates on in-house air line.
- ☐ Arm travels vertically straight up and then swings 90 degree for easy job loading / unloading from above.



MODEL	Unclamp Position A	B	C	D	F	H	O1,O2 INLETS	J	K	L	M Ø	N Ø	Piston Rod Ø	Piston Ø	Stroke During Swing	Straight Clamping Stroke	Total Stroke	Clamping Force at 5kg/cm ²	Air Consumption (cc.)		N. W. Kgs.
																			Extend	Retract	
PSF 25 R/L	95.5	66.5	23	16	30	8	M 5	M6x1	30	40	4.5	35	14	25	12	14	26	16kg	12.75	8.76	0.40
PSF 32 R/L	102.5	71	23	19	50	9	1/8 BSP	M8x1.25	44	54	6.5	50	16	32	12	14	26	30kg	20.90	15.67	0.70
PSF 40 R/L	106	75	26	19	50	9	1/8 BSP	M8x1.25	48	58	6.5	55	16	40	12	15	27	50kg	33.91	28.49	0.85
PSF 50 R/L	113	80	26	25	70	10	1/8 BSP	M10x1.5	55	68	8.5	60	20	50	14	15	29	85kg	56.91	47.80	1.30
PSF 63 R/L	119	86	30	25	70	10	1/8 BSP	M10x1.5	64	80	8.5	75	20	63	14	15	29	140kg	90.35	81.25	1.80

R/L Signifies right hand swing / Left hand swing. Please indicate while ordering. Standard swing angle is 90°. Other Swing angles are also available on request.

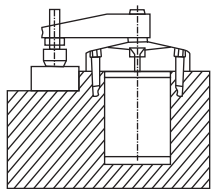
In right hand swing, when seen from above while clamping down, the arm first swings 90 degrees clockwise and then clamps down whereas in left hand swing it rotates 90 degrees counterclockwise and then clamps down.

NPSU SERIES : PNEUMATIC UPPER FLANGE VERSION THREADED BODY SWING CLAMP - DOUBLE ACTING, 4-7KG/CM² INLET AIR PRESSURE

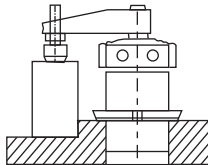
Features

- ☐ Easiest mounting preparation in the swing clamp line.
- ☐ Material Aluminum Alloy Body
- ☐ Swivel Angle 90° ± 2°

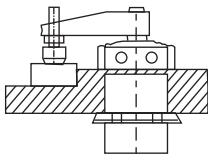
MOUNTING EXAMPLES



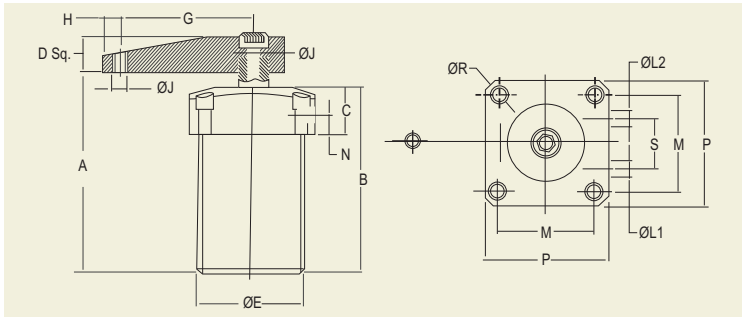
with 4 cap screws from above



with grooved nut from above



with grooved nut from below



MODEL	A Unclamp Position	B	C	D	E*	G	H	J	Inlets L1 & L2	M	N	P	R	S	Bore Dia.	Swing Stroke	Clamping Stroke	Force in Kgs at (5 kg/cm ²)	N. W. Kgs.
NPSU-25-R/L	119	87	25	16	M40 x 1.5	50	6	M6	M5	37	11.5	50	5.5	23	25	13	14	16	0.70
NPSU-32-R/L	135	98	25	19	M50 x 1.5	60	9	M8	G1/8	45	10.5	60	6.5	23	32	16	14	30	0.80
NPSU-40-R/L	135	98	25	19	M55 x 1.5	70	9	M8	G1/8	50	10.5	65	6.5	26	40	15	15	50	0.85
NPSU-50-R/L	143	105	25	25	M65 x 1.5	80	10	M12	G1/8	58	10.5	75	8.5	32	50	17	15	85	1.00
NPSU-63-R/L	144	106	25	25	M80 x 1.5	90	10	M12	G1/8	70	10.5	90	8.5	35	63	15	15	140	1.20

* GROOVED NUT SUPPLIED AS STANDARD.

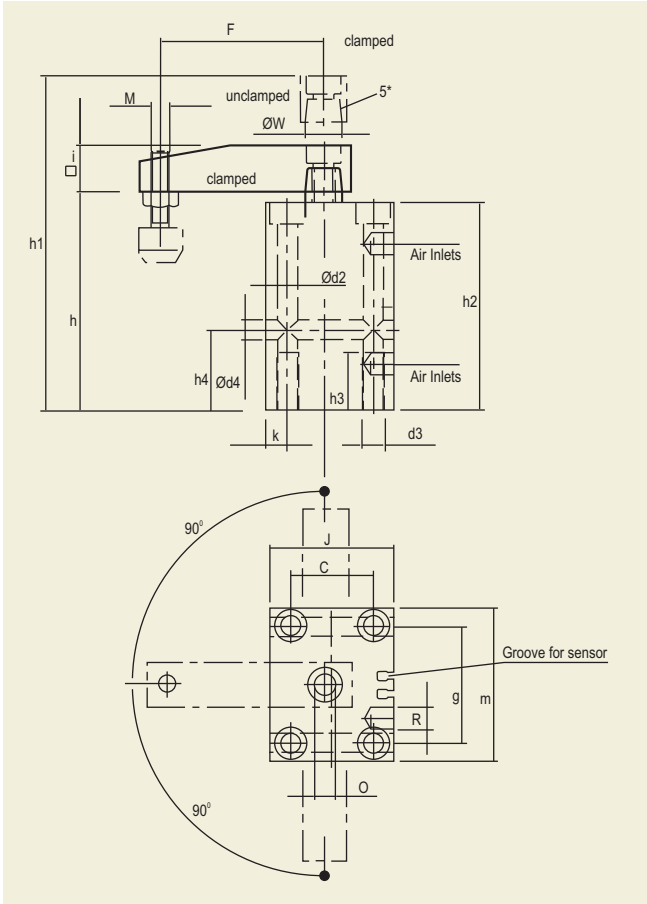
PSB SERIES : PNEUMATIC, SWING CLAMP, BLOCK VERSION - DOUBLE ACTING, 4-7 KG/CM² INLET AIR PRESSURE

Widely used for low clamping forces such as in light machining of aluminium parts or in welding fixtures. Cylinder body is made of light weight aluminium alloy having stainless steel piston rod.

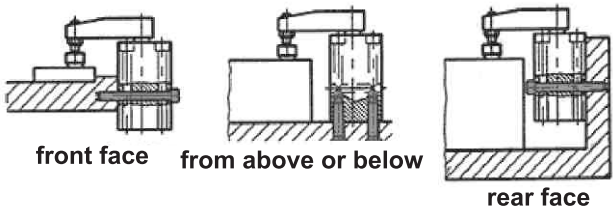
Block version can be mounted directly to side of fixture plate on front or rear faces using through holes or from above with long socket screws or from below using tapped holes in base as shown below. It has magnetic piston to signal end positions. End-position sensors are also available. Details can be given on request.

Features

- ❑ Ideal for use on fixtures for mass production on all types of conventional or CNC Machine tools.
- ❑ Operates on in-house air line.
- ❑ Arm travels vertically straight up and then swings 90 degree for easy job loading / unloading from above.



Examples of Mountings



Model	C	dia. d4	dia. d2	d3	F	g	Clamp Position h	h1	h2	h3	h4	i □
PSB 25 R/L	20	8.5	6.5	M 8	50	40	82	125	78	20	32	16
PSB 32 R/L	30	8.5	6.5	M 8	60	45	95	145	90	20	43	19
PSB 40 R/L	37	8.5	8.5	M 10	70	52	95	145	90	25	40	19
PSB 50 R/L	46	10.5	8.5	M 10	80	66	105	162	100	30	45	25
PSB 63 R/L	60	10.5	10.5	M 12	90	80	105	162	100	30	36	25

Model	k	J	M	m	o	Air Inlets R 2 Nos.	w dia	Piston dia	Stroke During Swing	Straight Clamping Stroke	Total Stroke	Clamping Force at 5kg/cm2	N. W. Kgs
PSB 25 R/L	7.5	35	M 6	55	M 8	M 5	14	25	13	14	27	16 kg	0.70
PSB 32 R/L	7.5	45	M 8	60	M 8	1/8 BSP	16	32	16	14	30	30 kg	0.90
PSB 40 R/L	9	55	M 8	70	M 8	1/8 BSP	16	40	15	15	30	50 kg	1.10
PSB 50 R/L	9.5	65	M12	85	M 10	1/8 BSP	20	50	17	15	32	85 kg	1.20
PSB 63 R/L	10	80	M 12	100	M 10	1/8 BSP	20	63	15	15	30	140 kg	1.40

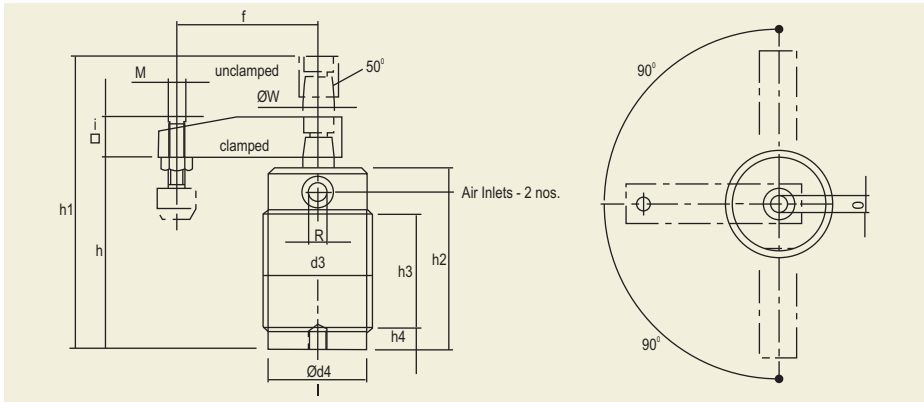
R/L signifies right hand swing / Left hand swing. Please indicate while ordering.
Standard Swing angle is 90°. Other Swing angles are also available on request.

In right hand swing, when seen from above while clamping down, the arm first swings 90 degrees clockwise and then clamps down whereas in left hand swing it rotates 90 degrees counterclockwise and then clamps down.

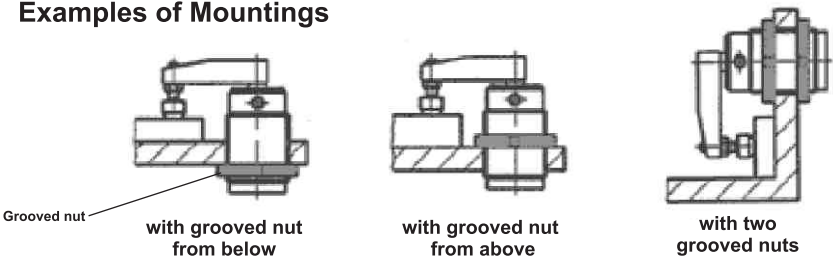
PST SERIES : PNEUMATIC, THREADED VERSION, SWING CLAMP, DOUBLE ACTING, 4-7 KG/CM² INLET AIR PRESSURE

Widely used for low clamping forces such as in light machining of aluminum parts or in welding fixtures.

Screw-in version can be mounted inside a hole provided in the fixture plate by locking the cylinder at desired height with the help of grooved nuts supplied as standard accessory, as shown below. These cylinders are also light weight aluminium cylinders having stainless steel piston rod.



Examples of Mountings



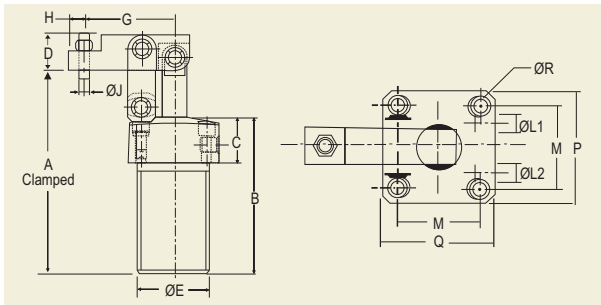
MODEL	d3	dia. d4	f	Clamp Position h	h1	h2	h3	h4	i	M	O	Air Inlets R 2 nos.	dia. w	Piston dia	Stroke During Swing	Straight Clamping Stroke	Total Stroke	Clamping Force at 5kg/cm2	N. W. Kgs
PST 25 R/L	M40x1.5	38	30	74	118	70	35	10	16	M6	M8	M5	14	25	14	14	28	16 kg	0.80
PST 32 R/L	M50x1.5	48	50	83	132	79	40	15	19	M8	M8	1/8 BSP	16	32	16	14	30	30 kg	1.10
PST 40 R/L	M55x1.5	53	50	87	135	83	45	15	19	M8	M8	1/8 BSP	16	40	15	14	29	50 kg	1.25
PST 50 R/L	M65x1.5	62	70	92	145	87	50	15	25	M12	M10	1/8 BSP	20	50	14	14	28	85 kg	1.70
PST 63 R/L	M80x1.5	77	70	97	152	92	56	15	25	M12	M10	1/8 BSP	20	63	15	15	30	140 kg	2.20

R/L signifies right hand swing / Left hand swing. Please indicate while ordering.
Standard Swing angle is 90°. Other Swing angles are also available on request.
2 nos. Grooved nuts are supplied as standard accessory with above clamps

In right hand swing, when seen from above while clamping down, the arm first swings 90 degrees clockwise and then clamps down whereas in left hand swing it rotates 90 degrees counterclockwise and then clamps down.

PLCU SERIES: PNEUMATIC, UPPER FLANGED VERSION, THREADED BODY LEVER CLAMPS, DOUBLE ACTING, 4-7KG/CM² INLET AIR PRESSURE

Unlike swing clamps, in link clamps Arm swings straight up to declamp and down to clamp.

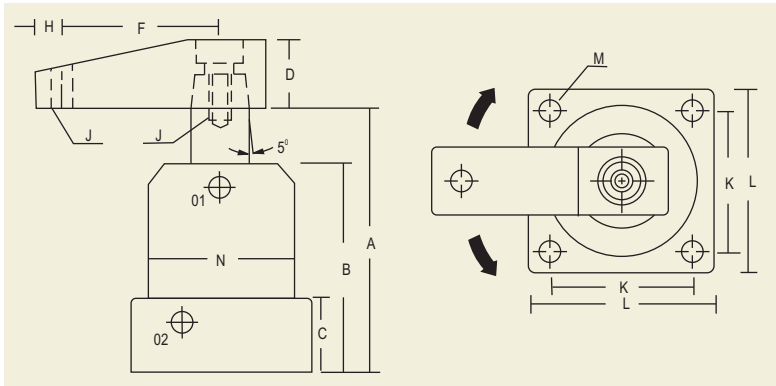


MODEL	A clamped Position	B	C	D	E*	G	H	J	INLETS L1 & L2	M	P	Q	R	Bore Dia.	Stroke	Force in Kgs. at (7 kg/cm ²)	N. W. Kgs.
PLCU-25	111.5	86.5	25	17	M40 x 1.5	41	7	M6x1.0	M5	37	50	60	5.5	25	22	34	0.60
PLCU-32	129.5	97.5	25	20	M50 x 1.5	52	8	M8x1.25	G1/8	45	60	70	6.5	32	28	56	1.00
PLCU-40	132.5	97.5	25	25	M55 x 1.5	56	10	M8x1.25	G1/8	50	65	75	6.5	40	30	88	1.20
PLCU-50	144	104	25	30	M65 x 1.5	63.5	14	M12x1.75	G1/8	58	75	88	8.5	50	30	137	2.00
PLCU-63	149	105	25	30	M80 x 1.5	74	14	M12x1.75	G1/8	70	90	108	8.5	63	30	218	2.70

* GROOVED NUT SUPPLIED AS STANDARD.

HSF SERIES : LOW OIL PRESSURE, HYDRAULIC, FLANGE VERSION SWING CLAMP - DOUBLE ACTING, 20-70 kg/cm² INLET OIL PRESSURE.

These are light duty hydraulic swing clamps for medium clamping force having flanged lower face for easy mounting.



Model	Unclamp Position A	B	C	D	F	H	O1, O2	J	K	L	MØ	NØ	Piston Rod Ø	Piston Ø	Stroke During Swing	Straight Clamping Stroke	Total Stroke	Clamping Force at 25kg/cm2	Max. Oil Flow Rate (cm2/s)	N. W. Kgs.
HSF 25 R/L	100.5	70	23	25	50	10	M5	M10 x 1.5	40	50	6.5	45	18	25	12	14	26	59 kg	4.7	0.80
HSF 32 R/L	111.0	76	25	25	55	10	1/8 BSP	M10 x 1.5	44	55	6.5	50	20	32	14	15	29	125 kg	11.8	1.00
HSF 40 R/L	113.6	80	27	25	55	10	1/8 BSP	M10 x 1.5	48	62	8.5	54	20	40	14	15	29	200 kg	22.6	1.10
HSF 50 R/L	114.5	80	27	25	55	10	1/8 BSP	M10 x 1.5	57	74	8.5	65	20	50	14	15	29	400 kg	39.6	1.40
HSF 63 R/L	118.0	85	32	32	75	12	1/8 BSP	M12 x 1.75	70	88	10.5	80	25	63	14	15	29	600 kg	63.0	2.30

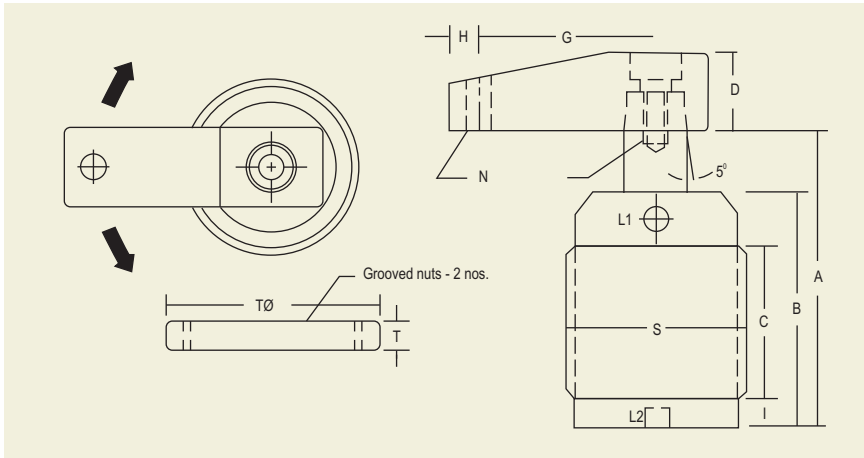
R/L Signifies right hand swing / Left hand swing. Please indicate while ordering. Standard swing angle is 90°. Other Swing angles are also available on request.

In right hand swing, when seen from above while clamping down, the arm first swings 90 degrees clockwise and then clamps down whereas in left hand swing it rotates 90 degrees counterclockwise and then clamps down.

Also available in manifold type mounting.

HST SERIES : LOW OIL PRESSURE, HYDRAULIC, THREADED VERSION SWING CLAMP - DOUBLE ACTING, 20-70 kg/cm² INLET OIL PRESSURE.

These are light duty Hydraulic Swing Clamps for medium clamping force having threading on outside of cylinder as in PST Series.



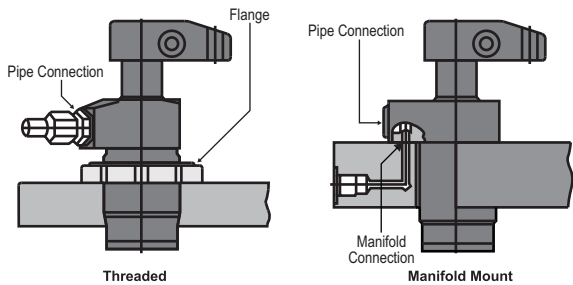
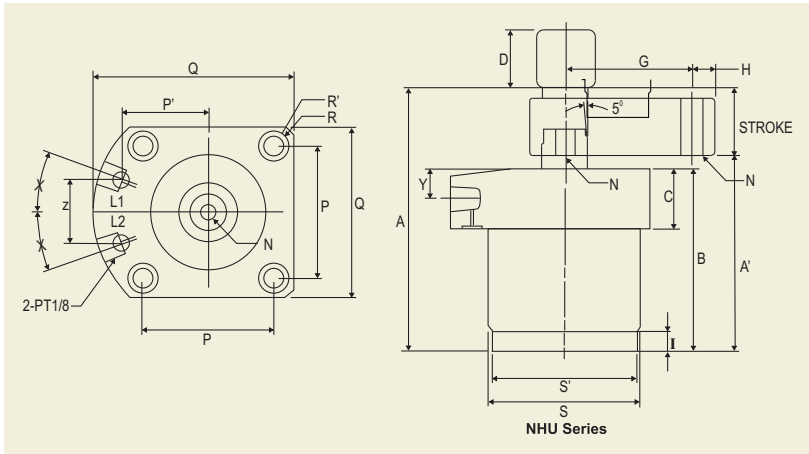
Model	Unclamp Position A	B	C	D	G	H	L1, L2	N	S	T (x 2 pieces)	TØ	Piston Rod Ø	Piston Ø	Stroke During Swing	Straight Clamping Stroke	Total Stroke	Clamping Force at 25kg/cm2	Max. Oil Flow Rate (cm2/s)	N. W. Kgs.
HST 25 R/L	100.5	70	35	25	50	10	M5	M10 x 1.5	M45 x 1.5	10	65	18	25	12	14	26	59 kg	4.7	0.80
HST 32 R/L	111.0	76	45	25	55	10	1/8 BSP	M10 x 1.5	M50 x 1.5	11	70	20	32	14	15	29	125 kg	11.8	1.00
HST 40 R/L	113.6	80	45	25	55	10	1/8 BSP	M10 x 1.5	M55 x 1.5	11	75	20	40	14	15	29	200 kg	22.6	1.25
HST 50 R/L	114.5	80	45	25	55	10	1/8 BSP	M10 x 1.5	M65 x 1.5	12	85	20	50	14	15	29	400 kg	39.6	1.70

R/L Signifies right hand swing / Left hand swing. Please indicate while ordering. Standard swing angle is 90°. Other Swing angles are also available on request.

2 nos. grooved nuts supplied as standard accessory.

In right hand swing, when seen from above while clamping down, the arm first swings 90 degrees clockwise and then clamps down whereas in left hand swing it rotates 90 degrees counterclockwise and then clamps down.

NHU SERIES : LOW OIL PRESSURE, HYDRAULIC, UPPER FLANGE PIPE MOUNTING / MANIFOLD MOUNTING SWING CLAMP - DOUBLE ACTING, 20-70 Kg/cm² INLET OIL PRESSURE



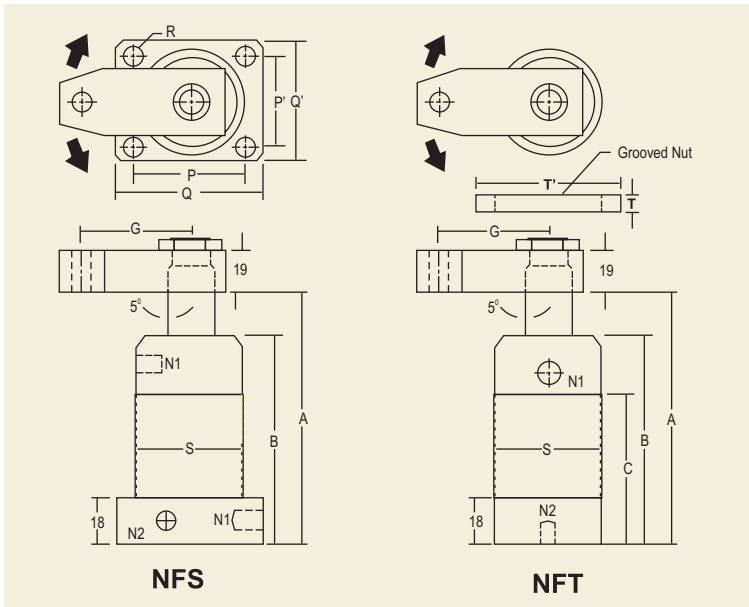
	NHU-32 R/L	NHU-40 R/L	NHU-50 R/L	NHU-63 R/L
Normal Pressure	20-45 kg/cm ²			
Swivel Stroke	14	14	14	14
Clamping Stoke (mm)	15	15	15	15
Bore Diameter Ø (mm)	32	40	50	63
Piston Rod Ø (mm)	20	20	20	25
Clamp Force (25 kg/cm ²)	125kg	200kg	400kg	600kg
A (mm) *unclamp	111	114	114.5	118
A' (mm) *clamp	82	85	85.5	89
B (mm)	76	80	80	85
C (mm)	25	27	27	32
D (mm)	□ 25.4	□ 25.4	□ 25.4	□ 32
G (mm)	55	55	55	75
H (mm)	10	10	10	11
I (mm)	9	9	9	9
L1 (clamp)/ L2 (unclamp)	1/8 PT	1/8 PT	1/8 PT	1/8 PT
Manifold Mounting O-ring	P7	P7	P7	P7
N (mm)	M10 x 1.5	M10 x 1.5	M10 x 1.5	M12 x 1.75
P/P' (mm)	44 / 30	48 / 31.4	57 / 37.6	70 / 46
Q/Q' (mm)	55 / 68.5	62 / 71.5	74 / 87	88 / 105.5
R/R' (mm)	Ø6.5 / Ø11	Ø6.5 / Ø11	Ø8.5 / Ø14	Ø8.5 / Ø14
S (mm)	M50 x 1.5	M55 x 1.5	M65 x 1.5	M80 x 1.5
S' (mm)	49	53	63	77
X	22.5°	22.5°	20°	22.5°
Y (mm)	12.5	14	14	19
Z (mm)	24.9	26	27.4	38
Net Weight Kgs	1.00	1.10	1.30	2.30

R/L Signifies right hand swing / Left hand swing. Please indicate while ordering. Standard swing angle is 90°. Other Swing angles are also available on request.

NFS, NFT SERIES : HIGH OIL PRESSURE, HYDRAULIC SWING CLAMPS, INLET OIL PRESSURE 50-350kg/cm²

These are heavy duty Hydraulic Swing Clamps having cylinder made of medium Carbon steel and are used where high clamping force is required.

Available in different types as given below:
NFS Series : Flange Type
NFT Series : Threaded Version



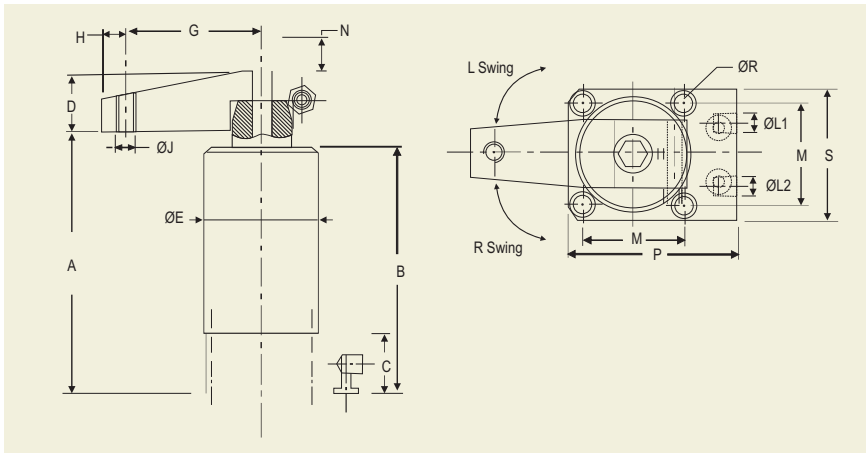
FLANGE TYPE	NFS-25A	NFS-32A	NFS-40A	NFS-25B	NFS-32B	NFS-40B
THREADED TYPE	NFT-25A	NFT-32A	NFT-40A	NFT-25B	NFT-32B	NFT-40B
MAX. OPERATING RESSURE	350kg/cm²					
NORMAL OPERATING PRESSURE	50-210kg/cm²					
CYLINDER OPERATION	SINGLE - ACTING			DOUBLE-ACTING		
STROKE DURING SWING (mm)	12			15		
STRAIGHT CLAMPING STROKE (mm)	11			18		
SWIVEL ANGLE	90°(60°45°0°)±2°					
PISTON-Ø (mm)	25	32	40	25	32	40
PISTON ROD-Ø (mm)	18	22	25	18	22	25
THEORETICAL CLAMPING FORCE at 210kg/cm²	495kg	890kg	1600kg	495kg	890kg	1600kg
A (UNCLAMP POSITION) (mm)	127	127	127	134	134	134
B (mm)	98	97	98	98	97	98
C (mm)	66	70	72	66	70	72
G (mm)	45	50	50	45	50	50
K (mm)	9	10	12	9	10	12
N1 (clamp) (mm)	1/8 BSP	1/8 BSP	1/8 BSP	1/8 BSP	1/8 BSP	1/8 BSP
N2 (unclamp) (mm)				1/8 BSP	1/8 BSP	1/8 BSP
P (mm)	50	54	66	50	54	66
P' (mm)	30	34	40	30	34	40
Q (mm)	64	68	84	64	68	84
Q' (mm)	46	54	64	46	54	64
R (mm)	6.5Ø	8.5Ø	8.5Ø	6.5Ø	8.5Ø	8.5Ø
S (mm)	45x1.5	50x1.5	60x1.5	45x1.5	50x1.5	60x1.5
T (x2 pcs) (mm)	10	11	11	10	11	11
T' (mm)	65Ø	70Ø	80Ø	65Ø	70Ø	80Ø
N.W. Kgs NFS	1.60	1.80	2.80.	1.40	1.70	2.70
NFT	1.80	2.10	3.20	1.80	2.10	3.20

Please indicate while ordering whether required Right Hand Swing or Left Hand Swing (R/L). Standard swing angle is 90°. Other swing angles (60°, 45°, 0°) are also available on request. 2 nos. grooved nuts are supplied as standard accessory with NFT series.

In right hand swing, when seen from above while clamping down, the arm first swings 90 degrees clockwise and then clamps down whereas in left hand swing it rotates 90 degrees counterclockwise and then clamps down.

030 SERIES: HIGH OIL PRESSURE HYDRAULIC, BOTTOM FLANGE VERSION SWING CLAMP, DOUBLE ACTING, INLET OIL PRESSURE 35-350 kg/cm²

- Features**
- Flexible design allows for manifold or threaded port connection in one cylinder body.
 - Material Medium Carbon steel Body
 - Swivel Angle 90° ± 2°

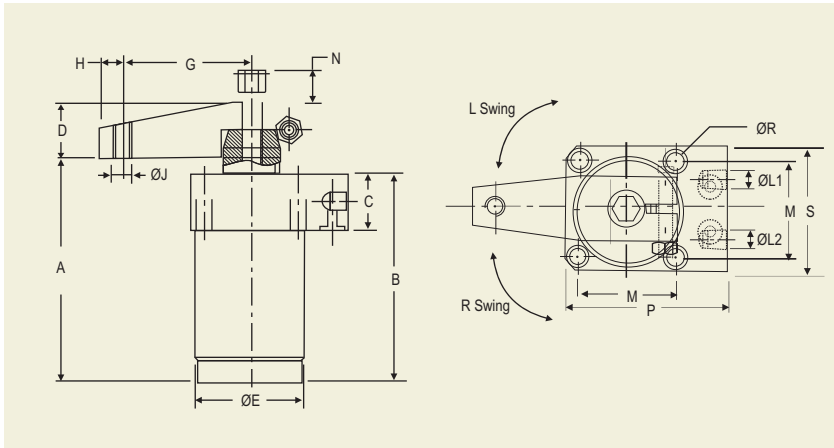


MODEL	A Unclamp Position	B	C	D □	E	G	H	J	INLETS L1 & L2	M	N	P	R	S	Bore Dia.	Swing Stroke	Clamping Stroke	Clamping Force in Kgs (210 kg/cm ²)	N. W. Kgs.
030 - 92 - R/L	126	102	25	25	47.8	45	11	M10	G1/4	42	14.5	70.1	6.9	54	32	10	12	550	2.2
030 - 202 - R/L	143	110	25	30	63.8	55	15	M12	G1/4	55	16	85.1	8.5	70	44	14	14	1100	4.0
030 - 352 - R/L	155	115	25	40	80	68	15	M16	G1/4	70	24	100.1	10.8	89	55	14	16	2100	5.95

ABOVE CLAMPS ALSO AVAILABLE IN SINGLE ACTING CYLINDERS

050 SERIES: HYDRAULIC HIGH OIL PRESSURE, UPPER FLANGE VERSION SWING CLAMP, DOUBLE ACTING, INLET OIL PRESSURE 35-350 kg/cm²

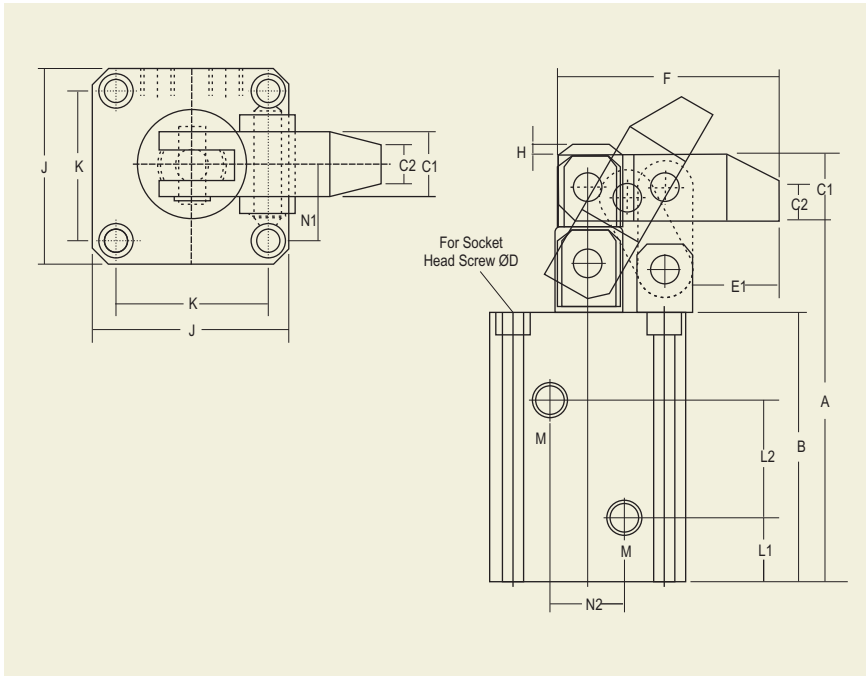
- Features**
- Flexible design allows for manifold or threaded port connection in one cylinder body.
 - Material : Medium Carbon steel Body
 - Swivel Angle : 90° ± 2°



MODEL	A Unclamp Position	B	C	D	E	G	H	J	INLETS L1 & L2	M	N	P	R	S	Bore Dia.	Swing Stroke	Clamping Stroke	Clamping Force in Kgs at(210 kg/cm ²)	N. W. Kgs.
050 - 92 - R/L	118	93.5	25.4	25	47.8	45	11	M10	G1/4	42	14.5	70.1	6.9	54	32	10	12	550	2.2
050 - 202-R/L	135	104.4	25.4	30	63.0	55	15	M12	G1/4	55	16	85.1	8.5	70	44	14	14	1100	4.0
050 - 352-R/L	147	113.8	25.4	40	77.0	68	15	M16	G1/4	70	24	100.1	10.8	89	55	14	16	2100	5.95

ABOVE CLAMPS ALSO AVAILABLE IN SINGLE ACTING CYLINDERS

HLC SERIES : DOUBLE ACTING, 5 - 50 kg/cm² INLET OIL PRESSURE HYDRAULIC LEVER CLAMP



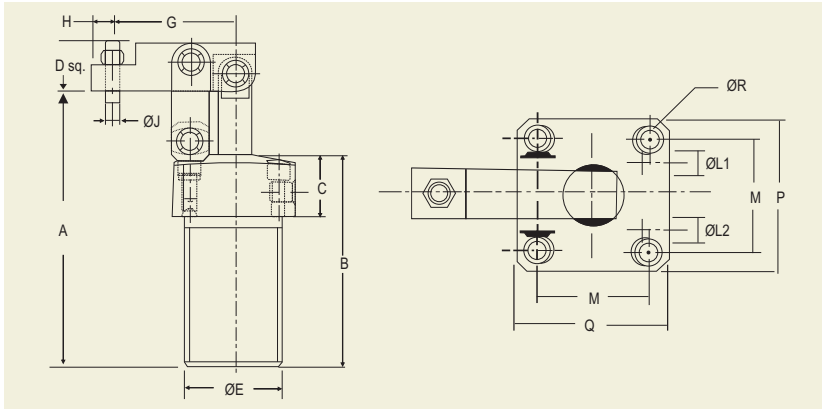
Model	Bore mm	Total Stroke mm	Max. Pressure	Operating Range of Pressure	Clamping Force at 25kg./cm ²	A	B	C1	C2	E1	F	H	J	K	L1	L2	M	N1	N2	DØ	N. W. Kgs.
HLC-25	25	25	70kg./cm ²	5~50kg./cm ²	123Kg.	103	76	19	11	25	64	3	55	42	17	33	1/8PT	20	18	M-6	1.84
HLC-32	32	25			200Kg.	112	85	19	11	25	64	3	57	44	19	38	1/8PT	22	22	M-6	2.11
HLC-40	40	30			315Kg.	122	90	22.2	13	30	77	4	69	52	19	40	1/4PT	26	26	M-8	3.30
HLC-50	50	35			490Kg.	137	100	25.4	15	35.5	90	5	75	58	21.5	45	1/4PT	30	32	M-8	4.33

HLC SERIES ALSO AVAILABLE IN MANIFOLD TYPE MOUNTING

LHC01D SERIES: HYDRAULIC - UPPER FLANGE VERSION, THREADED BODY, DOUBLE ACTING LEVER CLAMP, 20-70 kg/cm² INLET OIL PRESSURE

Features

- Arm swings straight up to declamp and down to clamp.
- Material : S45C Body



MODEL	A clamp Position	B	C	D	E*	G	H	J	Inlets L1 & L2	M	P	Q	R	Bore Dia.	Stroke	Force in Kgs at(25 kg/cm ²)	N. W. Kgs.
LHC01D-25	111.5	86.5	25	17	M40 x 1.5	41	7	M6x1.0	1/8 PT	37	50	60	5.5	25	22	123	1.20
LHC01D-32	129	97	25	20	M50 x 1.5	52	8	M8x1.25	1/8 PT	45	60	70	6.5	32	28	200	1.80
LHC01D-40	132	97	25	25	M55 x 1.5	56	10	M8x1.25	1/8 PT	50	65	75	6.5	40	30	315	2.50
LHC01D-50	144	104	25	30	M65 x 1.5	63.5	14	M12x1.75	1/8 PT	58	75	88	8.5	50	30	490	4.00
LHC01D-63	149	105	25	30	M80 x 1.5	74	14	M12x1.75	1/8 PT	70	90	108	8.5	63	30	780	6.50

* GROOVED NUT SUPPLIED AS STANDARD.
 ALSO AVAILABLE IN SINGLE ACTING CYLINDERS

TC SERIES : THREADED BODY CYLINDER, HYDRAULIC, SINGLE ACTING, SPRING RETURN 20 - 350 kg/cm² INLET OIL PRESSURE

This is a most simple hydraulic cylinder whose force can be directly used within its stroke for clamping as a push clamp or as a hydraulic support at the rear of a strap clamp. The mounting method of this cylinder is shown in the mounting diagram below illustrating suggested dimensions of the cavity to be made in the fixture. Teflon packing is provided for mounting to avoid oil leakage.

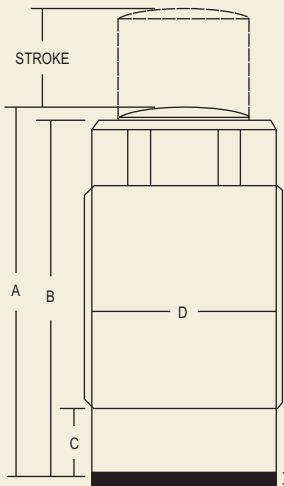


Solid Plunger
A Series



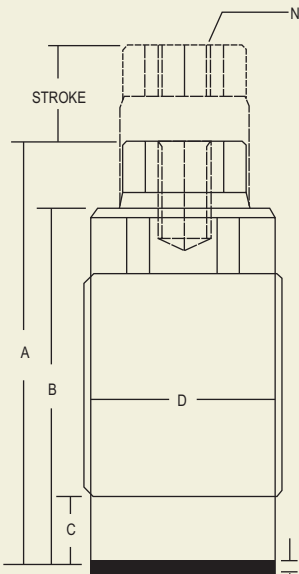
Tapped Plunger
B Series

Solid Plunger

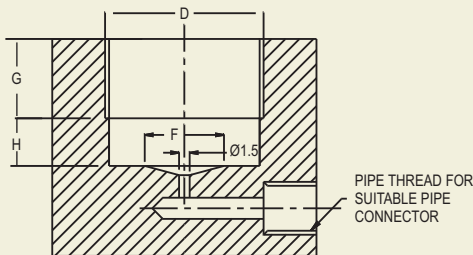


Teflon Packing
1.25 mm thick

Tapped Plunger



Teflon Packing
1.25 mm thick



Suggested Diagram of
cavity to be made in the
fixture for mounting of
threaded body cylinders

MODEL	A	B	C	D	F	G (min)	H (max)	N	Piston dia	Stroke	Force at 200 kg/cm ²	N. W. Kgs
TC 12A	38	36	7	M22x1.5	12	12	6	-	12	10	200kg	0.07
TC 16A	46.5	44.5	8	M26x1.5	16	16	7	-	16	12	400kg	0.14
TC 20A	56	54	8	M30x1.5	20	20	7	-	20	15	620kg	0.22
TC 25A	58	55	11	M38x1.5	25	20	10	-	25	16	980kg	0.37
TC 12B	45	36	7	M22x1.5	12	12	6	M6x1.0	12	10	200kg	0.08
TC 16B	52	44.5	8	M26x1.5	16	16	7	M6x1.0	16	12	400kg	0.15
TC 20B	64.5	54	8	M30x1.5	20	20	7	M8x1.25	20	15	620kg	0.24
TC 25B	67	55	11	M38x1.5	25	20	10	M8x1.25	25	16	980kg	0.40

HYDRAULIC WORK SUPPORT

Hydraulic work support is a hydraulic version of a mechanical screw Jack used as a work support element for positively supporting the workpiece to avoid deformation and minimize distortion and vibration of work piece due to cutting and clamping forces.

The Hydraulic work support automatically adjusts to the contour of the workpiece, and then locks in position. This support then adds rigidity to the fixtured component to avoid machining vibrations. They provide either unrested location points to the clamps or support to larger or thin section area of workpiece.

A Type : Spring advance : The spring is used to control a contact force when the knocking out rod (piston rod) extends to a highest knocking-out position and contacts the workpiece.

B Type : Hydraulic advance : When the knocking out rod is at a lowest position, it is operated by means of oil pressure and is knocked out when being filled with oil and uses a spring to control the contact force with the workpiece.

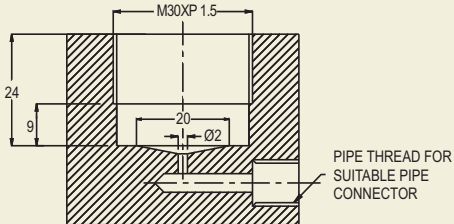
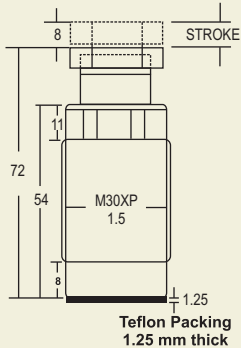
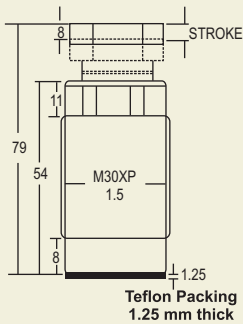
Mounting method of the threaded type Hydraulic Work supports is shown in the mounting diagram below illustrating suggested dimensions of the cavity to be made in the fixture. Teflon packing is provided for mounting to avoid oil leakage.

SP SERIES : Hydraulic Work Support - high inlet oil pressure 100- 350 Kg/cm²



Spring Advance
Threaded Body Type
SP-16A

Hydraulic Advance
Threaded Body Type
SP-16B

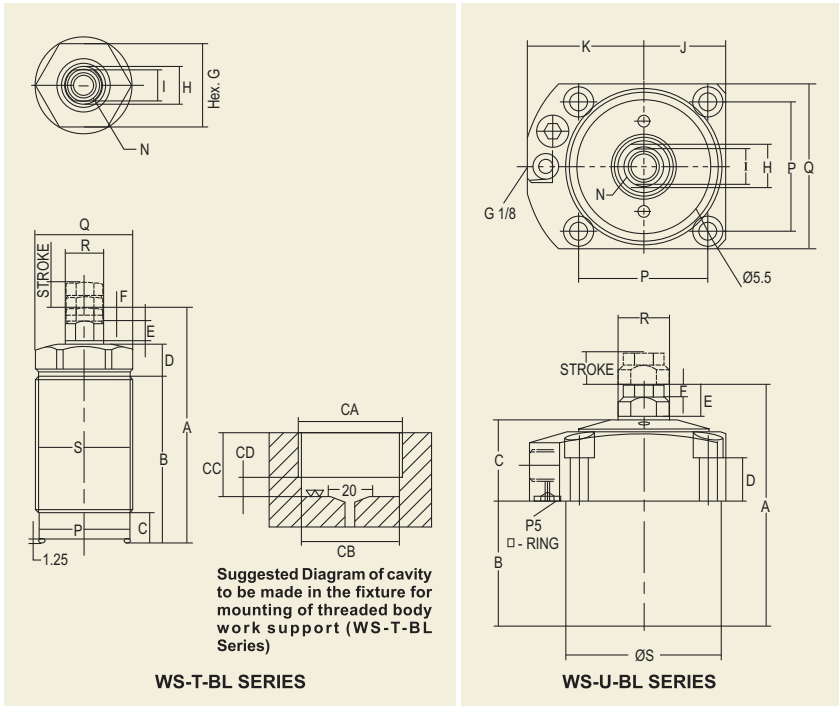


Suggested Diagram of cavity to be
made in the fixture for mounting of
threaded body work support

MODEL	SP-16A / SP-16B
Normal Operating Pressure	100-350kg/cm ²
Cylinder Operation	Single Acting
Piston Diameter (mm)	16
Stroke (mm)	8
Supporting Force at 200 kg/cm ²	210kg
Net Weight Kgs	0.30

WS-BL SERIES : HYDRAULIC WORK SUPPORT - LOW OIL WORKING PRESSURE - 25-70 Kg/cm²

Smaller three sizes are manifold mounting type threaded body and larger sizes are piping type upper flange mounting. All below models are hydraulic advance.

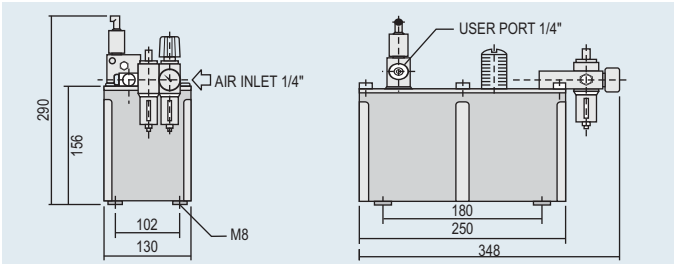


Model	WS-T30BL	WS-T36BL	WS-U40BL	WS-U48BL	WS-U55BL
Supporting Force (70kg/cm ²) kg	300	400	550	720	1100
Stroke	8	8	8	10	12
Max Pressure	105 kg/cm				
Normal Pressure	25-70 kg/cm				
A	73	69	67	75	85
B	51.8	50	31	39	45
C	9.5	8.4	25	25	25
D	10.2	8	14.5	13.5	11.5
E	7	7	10	10	14
F	4	4	4	4	6
G	27	32	-	-	-
H	8	11	11	12	15
I	10.5	10.5	11	11	14
J	-	-	22.5	25.5	30
K	-	-	31.5	31.5	39
N	M6X12D	M8X11D	M10X11D	M10X11D	M12X13D
P	Ø 28.2	Ø 34.2	34	40	47
Q	Ø 30	Ø 36	45	51	60
Ø R	10	13	13	14	18
S	M30X1.5	M36X1.5	Ø 40	Ø 48	Ø 55
CA	M30X1.5	M36X1.5	-	-	-
CB	28.5	34.5	-	-	-
CC	20-50	20-48	-	-	-
CD	9	8	-	-	-
N. W. Kgs.	0.25	0.35	0.6	0.8	1.4

2D / 3D CAD FILES AVAILABLE ON REQUEST FOR ALL MODELS

HYDROPNEUMATIC POWER UNIT

GERARDI Hydropneumatic Power Unit for hydraulic clamping devices and its bi-products is designed to meet all needs regarding the powering of hydraulic cylinders where low flow rates and high pressures are required. It is driven by air at its inlet to produce hydraulic pressure at its outlet. The special design shape of the power unit is such that a high performance system can be implemented taking up very little space. Thanks to the special design principles, the pump section adopted allows the hydropneumatic power unit to be installed in very hostile environments, such as the work area of machine tools, etc. The unique modular hydraulic flow control system allows controlling up to 6 separate users from just one power unit.



SPECIFICATION	
MAX. PERMISSIBLE INLET AIR PRESSURE:	7 bar
RECOMMENDED INLET AIR PRESSURE:	5,5 bar
OIL DELIVERIES: 1.2-1.4-2.2-2.7-4.3	Liters/min
MAX. OIL OUTLET PRESSURE AT 5 BAR AIR INLET PRESSURE:	400 bar
MAX. NO. OF USERS RECOMMENDED:	6

Outlet pressure can be regulated and set to desired pressure.

Art. 393 - Power unit with Manual control, Art. 394 - Power unit with Pneumatic control, Art. 395 - Power unit with Electrical control

The pump in its basic version is supplied complete with teflon tank, fill plug, silencer, quick acting air connector fitting and hydraulic control box. Very suitable for operating Single Acting Swing Clamps.

POINTS TO REMEMBER

- If user wants to change the length of the single arm of a clamping cylinder, it should be noted that the length must be less than 1.2 times the standard length in order to avoid serious slanting of the piston rod. If the length in design needs to be larger than the aforesaid limit value, it is better to use double arms in order to extend the life of the cylinder. Double arms are arms extended equally on the other side of piston rod with a support of same height as the workpiece.
- Workpiece should not be clamped within the swing stroke during the downward movement of the clamping arm, and should be clamped within the vertical stroke only.
- During the loading and unloading of a workpiece, it is necessary to use an air gun to clean the cylinder for removing the iron slag or foreign objects attached thereon in order to prevent the foreign objects from entering the seal to cause oil / air leakage.
- It is necessary to use device having F.R.L. (Filters / Regulators / Lubricators) function in the pneumatic line in order to effectively remove the moisture, lubricate the cylinder and avoid the damage of the swing mechanism due to inertia impact of the clamping arm.
- If the direction of the single arm needs to be changed due to the problem of piping, it should be done with a wrench by holding the clamping arm first, and then unscrewing the screw and knocking the clamping arm upward to change its direction as shown in figure below. One should not apply lateral force to the clamping arm or laterally impact the clamping arm to change its direction in assembled position. This can cause damage of the swing mechanism due to improper force applied on it.

Fitting and removing clamping arm:

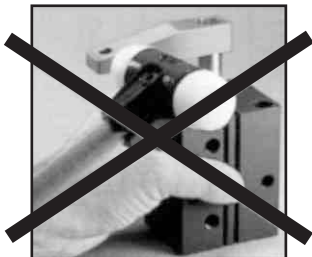
Hold clamping arm with spanner. Tighten/loosen screw.



Knock out clamping arm from piston rod.



Caution! Do not strike sides of clamping arm.



- R/L signifies right hand swing / Left hand swing. Please indicate while ordering. **In right hand swing, when seen from above while clamping down, the arm first swings 90 degrees* clockwise and then clamps down whereas in left hand swing it rotates 90 degrees counterclockwise and then clamps down.**
- *Clamps with swing angle other than 90 degrees are also available. Other swing angles available are 60° and 45°.
- The power source should not exceed the rated maximum pressure and the highest flow value.

FIXTURE CLAMPS

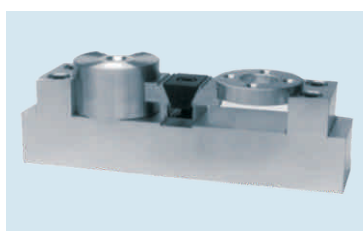
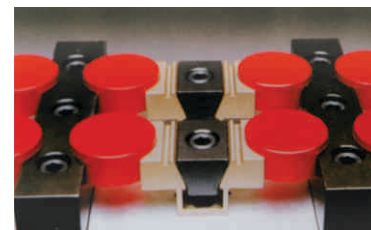
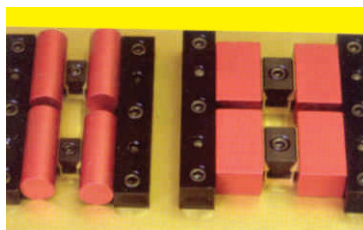
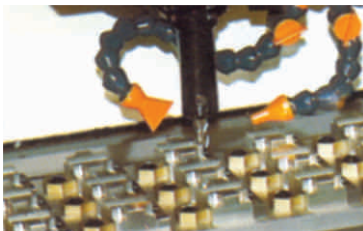
INTRODUCTION TO MITEEBITE WORKHOLDERS

A machining centre makes tool changes in fractions of a second and cuts at unbelievable high speeds but the question is that whether the high efficiency of this machine is being optimally utilized or not. Number of pallets on a machine are important but more important is the extent to which the capacity of each pallet can be utilized, in other words - how many pieces can be clamped and machined at the same time on a pallet.

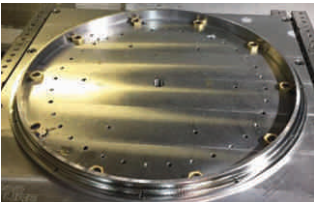
Realizing the need of multiple clamping on fixtures for CNC machining centre TOOLFAST joined hands with MITEE-BITE of U.S.A. to bring complete range of fixture clamps to India. By using Mitee-Bite fixture clamps of different types for different types of workpieces, one can succeed in clamping more number of workpieces in one setup and gaining clear benefits such as decreased downtime resulting in shorter machine stop times and longer actual machine cycles.

In the following pages, Mitee-Bite fixture clamps are illustrated which are now available in India from all TOOLFAST outlets.

EXAMPLES OF MULTIPLE JOB CLAMPING WITH MITEE-BITE CLAMPS

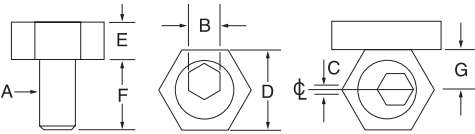


ORIGINAL FIXTURE CLAMPS



The cam action MITEE-BITE Fixture Clamp is made up of two simple components: a hardened steel socket cap screw with an offset head and a brass hexagonal washer.

- Low-profile for quick and easy installation of linear motion guide rails
- Cam action provides fast, strong clamping
- Small size allows more parts per load
- Simple design keeps cost low
- 50218 our most popular LMGR size available in bulk



G* - Location to drill and tap from edge of workpiece.

NOTE: Clockwise rotation is recommended. Locating pin should be on the right of workpiece.

Part Number	A	B	C	D	E	F	G*	Torque (Ft/Lbs)	Holding Force	Clamps Per Pack*	—Replacement— Cam Screw Hex Washer	
Torque (N.m.)												
50204	M4	3	.76	7.93	2.80	9.6	3.80	2.0	910 N	10	50363	10580
50206	M6	4	1.01	15.86	4.75	11.2	7.80	8.5	3,558 N	10	50365	10582
50208	M8	5	1.01	20.61	4.55	15.0	10.15	11.3	3,558 N	12	50367	10584
50210	M10	7	1.27	20.61	6.35	19.0	10.15	28.0	8,895 N	10	50369	10586
50212	M12	8	2.03	25.38	9.52	22.8	12.70	88.0	17,790 N	8	50371	10590
50216	M16	12	2.54	30.13	12.70	28.5	15.00	125.0	26,680 N	4	50373	10592
50218	M8	5	1.01	20.61	4.55	15.0	10.15	11.3	3,558 N	bulk	502181	10584

STAINLESS STEEL (300 Series)

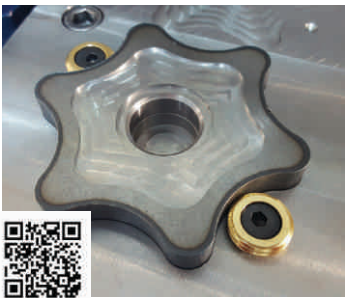
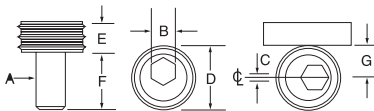
10214	8 - 32	5/64	.030	.312	.110	.350	.150	1.5 Ft. Lbs	205 lbs	4	10362	10581
10203	1/4 - 20	1/8	.040	.625	.190	.470	.308	6.2 Ft. Lbs	800 lbs	4	10364	10583
10213	5/16 - 18	3/16	.040	.812	.250	.460	.400	8.3 Ft. Lbs	800 lbs	4	10368	10585
50214	M4	3mm	.76mm	7.93mm	2.80mm	9.6mm	3.80mm	2.0(N.m.)	910 N	4	50361	10581
50205	M6	4mm	1.01mm	15.86mm	4.75mm	11.2mm	7.80mm	8.50(N.m.)	3,558 N	4	50364	10583
50207	M8	5mm	1.01mm	20.60mm	6.35mm	15.0mm	10.15mm	11.30(N.m.)	3,558 N	4	50366	10585

* - All clamps may be purchased in bulk packages of 50 pcs. or more.

KNIFE EDGE CLAMPS



Our Knife Edge Clamps can be used instead of the original brass hex clamps for clamping rough cut stock, castings and any material that requires a hardened clamping element. Same "G" dimension as Original Fixture Clamps above. Clamps produced in 12L14 steel with a nickel coating.



Part Number	A	B	C	D	E	F	G	Max. Torque	Holding	Number	– Replacement –	
								(Ft/Lbs)	Force	of Clamps	Cam	Screw
								(N.m.)	(N.)			
82584	M10	7M	1.27	20.60	6.35	19.0	10.15	28.00	8900	8	50369	12584
82588	M12	8M	2.03	25.40	9.52	22.8	12.70	88.00	17800	8	50371	12588B
82592	M16	12M	2.54	30.15	12.70	28.5	15.00	135.00	26700	4	50373	12592

Not designed for clamping hardened material at maximum torque.

SERIES-9 CLAMPS



This adjustable low profile, cam action clamp provides clamping of different size workpieces merely by rotating the clamp to one of its other edges. The clamps are .394 (10mm) high and use a 1/2-13 (M12) cam screw. Each of the six clamping surfaces is a different distance from the centerline by .0394 (1mm) as shown in the chart. Therefore, one Series-9 Clamp can hold parts that vary up to .240 (9.4mm) simply by rotating the clamp to a different clamping surface.

- Serrated or smooth edges
- Heat treated and plated
- 4,000 lbs. (17800 N.m.) holding force

TORQUE VALUES AND HOLDING FORCE

Part Numbers	use Screw Size	Max. Torque/ Holding Force	Replacement Cam Screw
95110 - 95145	M12	88 N.m. / 17,800 N.	50371

Part Number	Description	Face Number	Distance from ϵ (metric)
95110	1-6 Smooth	1	12mm
95115	1-6 Serrated	2	13mm
		3	14mm
		4	15mm
		5	16mm
		6	17mm
95120	7-12 Smooth	7	18mm
95125	7-12 Serrated	8	19mm
		9	20mm
		10	21mm
		11	22mm
		12	23mm

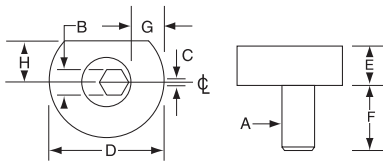
Part Number	Description	Face Number	Distance from ϵ (metric)
90130	13-18 Smooth	13	24mm
90135	13-18 Serrated	14	25mm
		15	26mm
		16	27mm
		17	28mm
		18	29mm
90140	19-24 Smooth	19	30mm
90145	19-24 Serrated	20	31mm
		21	32mm
		22	33mm
		23	34mm
		24	35mm

MACHINABLE FIXTURE CLAMPS



These clamps, with the machinable steel washers, provide more flexibility for holding round or unusual shaped parts. Parts can be held directly to the fixture plate surface or elevated for through drilling. A special screw is provided with each package to hold the washer in the proper place during machining.

The flat edge is the same location as our original fixture clamps. It can be used where a stronger clamping surface is required.



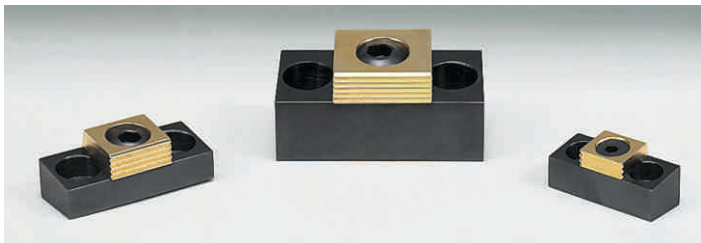
- Low profile
- Made of mild steel for machinability

Part Number	A	B	C	D	E	F	G*	H†	Max. Torque (Ft/Lbs) (N.m.)	Holding Force (Lbs) (N.)	Number of Clamps Per Pack	Replacement Cam Screw	Washer
50506	M6	4M	1.01	24.9	6.4	11.9	6.4	7.8	8.5	3358	4	50365	10604
50510	M10	7M	1.52	31.2	8.9	18.0	7.0	10.2	28.0	8900	4	50369	10606
50512	M12	8M	2.03	37.6	11.4	22.9	7.6	12.7	88.0	17800	4	50371	10612
50516	M16	12M	2.54	43.9	14.0	28.6	8.9	15.0	135.0	26700	4	50373	10610

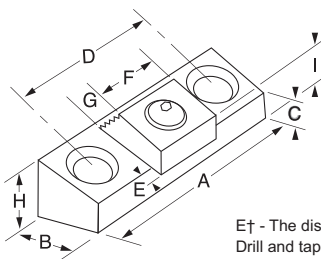
G* - Amount of machinable stock H† - The distance to drill & tap hole from edge of workpiece to use flat face.
Every package includes one machining screw



COMPACT TOE CLAMPS



This cam action fixture clamp provides positive down force while using very little space on a fixture. Workpieces can be clamped in series by using the back surface of a clamp to locate the next workpiece. The hardened steel clamping element has both a smooth surface for machined workpieces and a serrated clamping surface for rougher work. The height of the clamp can be adjusted by milling the slot deeper in the fixture plate.



E† - The distance needed between the front of the clamp base and the workpiece. I* - The distance from the top of the washer to the bottom of the clamp body. Drill and tap the centerline of "B" for mounting holes.

Part Number	A	B	C	D	E†	F	G	H	I*	Total Distance of Movement	Mounting Screws (Included)	Max. Torque (Ft/Lbs)	Holding Force (Lbs)	Replacement Cam Square Washer
54110	43.2	19.0	12.7	25.4	2.3	19.0	6.4	15.75	21.5	1.6	M8x16 LHCS	28.20	8900	50368 21006
54112	54.0	25.4	11.4	33.5	2.8	25.4	9.7	15.75	24.4	2.0	M10x20 LHCS	88.13	17800	50372 51016
54116	75.0	38.1	25.2	50.8	3.3	38.1	12.7	31.75	43.2	2.5	M12x30 SHCS	135.58	26700	50374 21026

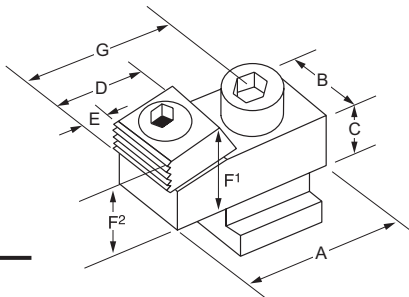
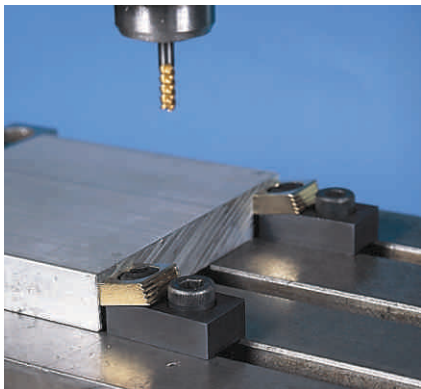
T-SLOT TOE CLAMPS



This clamp is like the Compact Toe Clamp, only it is designed to be used in the T-slots of machine tables. It provides 4,000 lbs. (17800 N) positive down force while maintaining a low profile. The hardened steel clamping element has both a smooth surface for machined workpieces and a serrated clamping surface for rougher work.

A	B	C	D	E	F1	F2	G (Neutral Position)	Max. Torque/ Holding Force
50	28.5	15.7	25.4	9.6	25.4	22.2	37.59	88.00/17800 (N.m./N.)

F1 - The distance from the top of the back of the washer to the bottom of the clamp body. F2 - The distance from the top of the front of the washer to the bottom of the clamp body. Torque mounting bolt to 110 Ft/Lbs (150N.m.).



Part Number	T-slot Size
54000	No T-nut or Mtg. Screw
54014	14
54016	16
54018	18

Replacement	
Cam Screw	Square Washer
50372	51016



T-SLOT AND ADVANT - EDGE CLAMPS

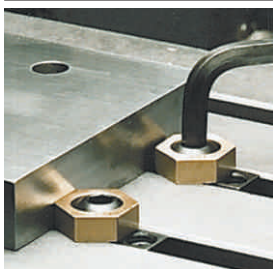
Mitee-Bite T-Slot Kits (Contents: 4 Mitee-Bite T-Nuts, 6 Mitee-Bite Fixture Clamps, 2 Hex Keys)



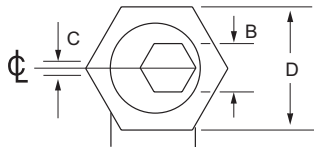
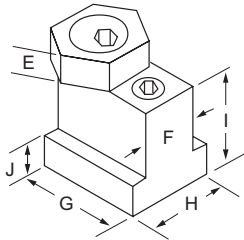
The original MITEE-BITE T-Slot Clamp combines our unique cam action clamping element with a T-nut.



- Locks in machine T-slot for low profile clamping
- Makes fast set-ups possible right on the machine table
- Brass hex follows contour of unusual shaped parts
- Packaged in pairs or complete kits



Part Number	Cam Screw	T-Slot Size										Max. Torque	Holding Force	Replacement		
			B	C	D	E	F	G	H	I	J	(Ft/Lbs)	(Lbs)	Cam Screw	Hex Washer	T-Nut
50642	M6 x 1.00	8mm	5mm	1.01	15.86	4.75	8	23.2	12.7	9.5	4.6	8.55	3,558	50365	10582	50708
50644	M6 x 1.00	10mm	5mm	1.01	15.86	4.75	10	23.2	14.2	14.2	4.3	8.55	3,558	50365	10582	50710
50646	M8 x 1.25	12mm	5mm	1.01	20.62	4.75	12	27.9	15.9	15.9	6.4	11.30	3,355	50367	10584	50712
50648	M10 x 1.50	14mm	7mm	1.52	20.62	6.35	14	30.5	22.4	22.2	8.5	28.00	8,895	50369	10586	50714
50650	M12 x 1.75	16mm	8mm	2.03	25.40	9.53	16	30.9	25.4	22.2	9.2	61.00	13,340	50371	10590	50716
50652	M12 x 1.75	18mm	8mm	2.03	25.40	9.53	18	34.7	28.6	28.6	10.5	61.00	13,340	50371	10590	50718
50654	M16 x 2.00	20mm	12mm	2.54	30.15	12.70	20	39.2	31.8	31.8	12.6	135.00	26,680	50373	10592	50720
50656	M16 x 2.00	22mm	12mm	2.54	30.15	12.70	22	44.3	34.9	41.3	12.5	135.00	26,680	50373	10592	50722

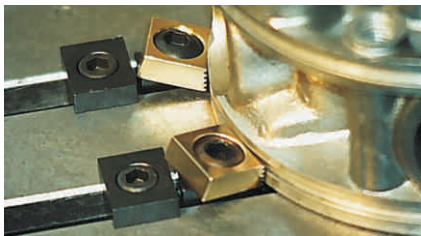


T-Slot Toe Clamps



Part Number	T-Slot Size	Number of Clamps Per Pack	Holding Force (N)
50422	8mm	2	3,558
50424	10mm	2	3,558
50426	12mm	2	3,355
50428	14mm	2	8,895
50430	16mm	2	13,340
50432	18mm	2	13,340
50434	20mm	2	26,680
50436	22mm	2	26,680

Advant - Edge Clamps

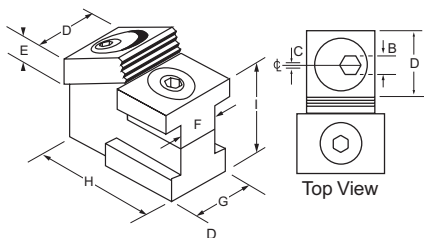


The MITEE-BITE Advant- Edge Clamp provides additional clamping force and improved table grip.

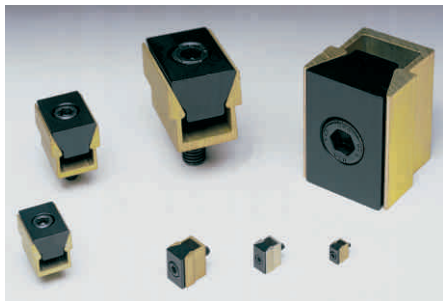
- Tilted clamping element creates a positive downward force and 4,000 lbs. holding force
- Hardened clamping element has both a smooth surface for machined workpieces and a serrated clamping surface for rougher work
- Improved locking mechanism secures clamp to machine table
- Packaged individually (52224) or as kit of two (52424)

Part Number	Cam Screw	T-Slot Size	B	C	D	E	F	G	H	I	Max. Torque/ Holding Force	Replacement
											(Ft Lb/Lbs)	Square Washer
(N.m./N.)												
52224 52424 (kit)	50372	16	8	2	25.4	9.5	16	28.5	48	28	88.00/17800	51016

Torque mounting bolt to 70 Ft/Lbs (150N.m.).

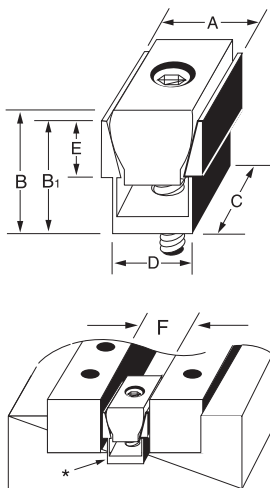
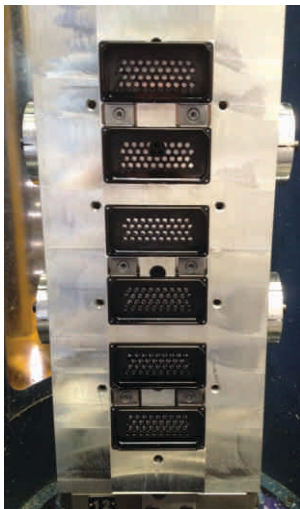


UNIFORCE® CLAMPS



The compact, economical MITEE-BITE Uniforce® Clamp enables you to fixture more parts on the machine table. The specially designed steel wedge spreads the clamping force uniformly on both sides of the 7075-T6 aluminum channel and is one of the best solutions for high density applications.

- Increases production
- Minimizes tool changes
- Holds two parts with equilateral clamping action
- Ideal for clamping flat or round workpieces
- Reduces wasted space
- See Locating Rails on
- Easily mated to hydraulic pull cylinders
- Ideal for pallet changers



Part Number	Model	A	B	B1	C	D*	E	F†	Thread Size	Maximum Spread	Max. Torque (Ft/Lbs) (N.m.)	Holding Force (Lbs) (N.)	Number of Clamps Per Pack	Key Size	–Replacement– Channel	Steel Wedge
80250	250	6.1	6.9	6.40	8.1	5.3	3.6	6.4	M2	6.7	0.70	880	6	1.5	60205	60305
80375	375	9.1	9.7	9.50	11.9	7.9	4.7	9.5	M2.5	10.0	1.50	1,350	6	2	60207	60307
80500	500	12.3	14.5	12.70	15.9	10.4	5.6	12.7	M4	13.2	3.40	2,225	8	3	60210	60310
80750	750	18.6	19.0	19.05	23.8	16.1	9.5	19.0	M6	20.3	13.50	6,675	6	5	60220	60320
81000	1000	24.8	25.9	25.40	31.7	20.8	12.7	25.4	M8	26.9	25.00	11,125	4	6	60230	60330
81500	1500	37.3	38.6	38.10	47.6	30.8	19.0	38.1	M12	39.9	38.40	15,575	2	10	60240	60340
82000	2000	49.7	51.5	50.80	63.5	41.2	25.4	50.8	M16	53.0	74.60	26,700	2	14	60245	60350

D* - A milled slot wider than D dimension will insure clamp remains in line with workpiece. Clamp sides should not come in contact with slot walls during expansion.
F† - The distance needed between workpieces for clamp clearance. Drill and tap mounting hole on the center of F dimension.

LONG LENGTH UNIFORCE® CHANNEL & STEEL WEDGE

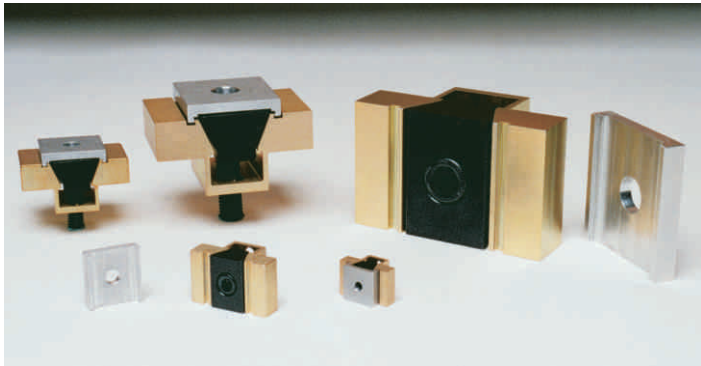


This material is available in 20" (508mm) lengths so clamps can be fabricated in different lengths to suit any requirement. Channel and steel wedge are not drilled or plated.

Part Number	Model
62010	250 Channel
63010	250 Steel Wedge
62020	375 Channel
63020	375 Steel Wedge
62120	500 Channel
63120	500 Steel Wedge
62220	750 Channel
63220	750 Steel Wedge

Part Number	Model
62320	1000 Channel
63320	1000 Steel Wedge
62420	1500 Channel
63420	1500 Steel Wedge
62520	2000 Channel
63520	2000 Steel Wedge

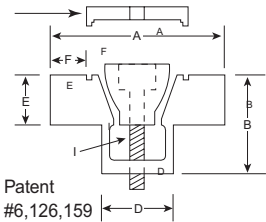
MACHINABLE UNIFORME® CLAMPS



The compact Mitee-Bite Uniforme® clamp is available with extra material on the clamping jaws so it can be machined to conform to the shape of your workpiece - enabling you to fixture unusual applications easily. The specially designed steel wedge spreads the clamping force uniformly on both sides of the 7075-T6 aluminum channel.

The locking plate properly expands the clamp, while making it rigid for machining. Machine to a slip fit of workpiece. Remove locking plate before clamping workpiece.

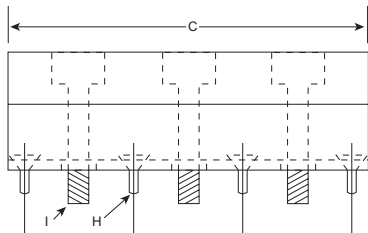
Note: When clamp is used to hold flat stock, use locking plate to machine faces parallel.



—Replacement— Locking Plates	
Model	Part No.
500	60143
750	60145
1000	60155
1500	60165
2000	60185

Model	Part No. with Locking Plate	Part No. Without Locking Plate	A*	B	C	D	E	F†	G	H**	I	Max. Torque (Ft/Lbs) (N.m.)	Holding Force (Lbs) (N.)	—Replacement— Channel	—Replacement— Steel Wedge
500	80050	80055	28.6	12.7	15.7	10.67	6.3	4.6	10.16	M2	M4	3.40	2,225	60140	60310
750	80075	80080	38.1	19.1	23.9	16.05	9.4	6.6	15.87	M4	M6	13.50	6,675	60125	60320
1000	80100	80105	50.8	25.4	31.8	20.83	12.7	9.9	20.62	M4	M8	25.00	11,125	60135	60330
1500	80150	80155	76.2	38.1	47.5	30.86	19.1	15.7	30.48	M5	M12	38.40	15,575	60160	60340
2000	80200	80205	101.6	50.8	63.5	41.28	25.4	20.3	41.28	M6	M16	74.60	26,700	60180	60350

A* - The distance needed between workpieces for clamp clearance, drill and tap mounting holes on the center of "A" dimension.
F† - The amount of machinable stock on jaws. H** - Mounting screws included.



LONG LENGTH MACHINABLE
UNIFORME® CLAMPS

Locking plate is required to machine channel without vibration.
(See chart above)

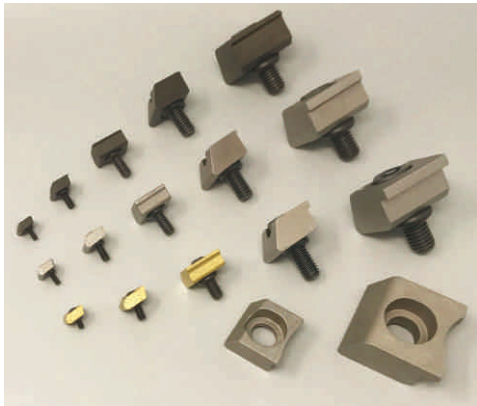


This material is available in 7 1/2" (190mm) lengths. Custom clamps can be fabricated in different lengths to fit specific requirements. Channel and steel wedge are not drilled or plated.

Part Number	Model	A*	B	C	D	E	F†	H	I	Max. Torque (Ft/Lbs)	Holding Force (Lbs)
80051	500 Channel	28.6	12.7	190mm	10.67	6.3	4.6	M2	M4	3.40	2225
80071	750 Channel	38.1	19.1	190mm	16.05	9.4	6.6	M4	M6	14.30	6675
80101	1000 Channel	50.8	25.4	190mm	20.83	12.7	9.9	M4	M8	14.50	8900
80151	1500 Channel	76.2	38.1	190mm	30.86	19.1	15.7	M5	M12	38.40	15575

A - The distance needed between workpieces for clamp clearance, drill and tap mounting holes on the center of "A" dimension.
F† - The amount of machinable stock on jaws.
(3) Drive Screws and (4) Mounting Screws included.

PITBULL® CLAMPS



The revolutionary Pitbull® Clamp remains the lowest profile, highest holding force clamp in the industry today. High vertical and horizontal clamping forces are generated, considering the size of the Pitbull® Clamps. It uses a standard cap screw and an oil resistant O-ring. The Pitbull® Clamp is available in 5 sizes and several styles, a tool steel knife edge for aggressive stock removal, a tool steel blunt edge for general purpose, a brass version to help prevent marring the workpiece and a machinable version

See Locating Rails, Page 40 and TalonGrip™

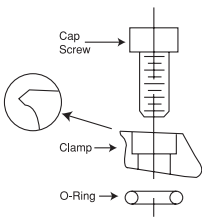
UNIQUE FEATURES:

- Extremely low bite
- Positive down force
- High strength A2 Tool Steel virtually eliminates rip-out
- Simple, sturdy, high quality design and components
- Gain maximum tool access to your work
- Virtually eliminate lost work
- Great option with hydraulic cylinders

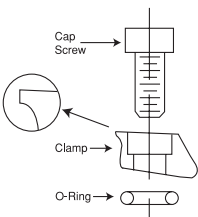


PITBULL® INSTALLATION

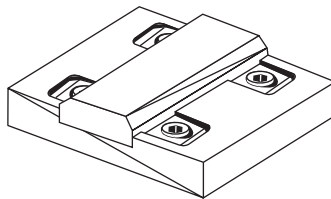
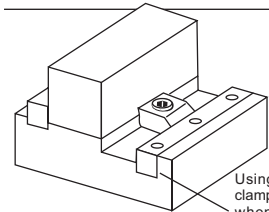
KNIFE EDGE



BLUNT EDGE



FIXTURE EXAMPLES



Using a steel rail behind clamp in aluminum fixtures when applying maximum torque prevents displacing metal at pivot point.

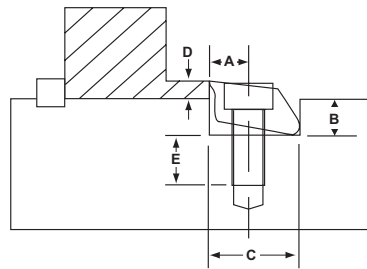
	Replacement O-ring	Screw Size
Pkg of 20	26008	4-40 or M2.5
	26028	8-32 or M4
	26058	1/4-20 or M6
Pkg of 10	26078	3/8-16 or M10
	26083	1/2-13 or M12

Both versions of the tool steel clamps generate the same clamping pressure. However, the Knife Edge clamps bite into the material for more aggressive machining, while the Blunt Edge is less likely to mark the workpiece.

The Knife Edge clamp has a black oxide finish. Both the Knife Edge and Blunt Edge clamps are heat treated 43-45Rc.

Creating Fixtures is Easy... Simply:

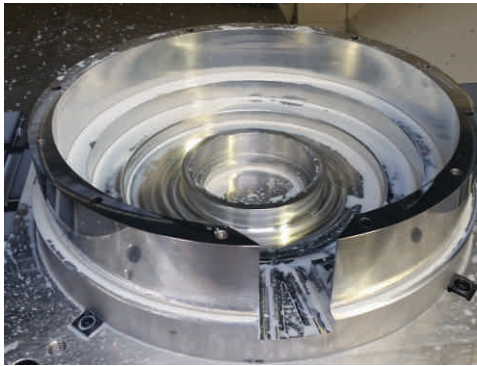
1. Machine a slot for the Pitbull® Clamp
2. Drill and tap a hole for the cap screw
3. Assemble the clamp as shown in diagram below
4. Position clamp as shown in diagram and loosely screw to fixture
5. Insert workpiece and tighten cap screw



Part Number	Description	A	B	C	Clamp Width D*	E	SHCS Screw Size	Max. Torque (Ft/Lbs) (N.m.)	Holding Force (Lbs) (N.)	Total Throw	No. Clamps Per Package
56000	Tool Steel, Knife Edge	3.81	3.55	9.52	1.90	6.60	M2.5	1.8	2800	.190	8
56010	Tool Steel, Blunt Edge	3.81	3.55	9.52	1.90	6.60	M2.5	1.8	2800	.190	8
56015	Brass, Blunt Edge	3.81	3.55	9.52	1.90	5.59	M2.5	.56	875	.190	8
56020	Tool Steel, Knife Edge	5.08	4.75	12.70	2.54	9.90	M4	5.6	6600	.406	8
56030	Tool Steel, Blunt Edge	5.08	4.75	12.70	2.54	9.90	M4	5.6	6600	.406	8
56040	Brass, Blunt Edge	5.08	4.75	12.70	2.54	8.64	M4	2.8	1750	.406	8
56050	Tool Steel, Knife Edge	7.62	7.11	19.05	3.81	14.48	M6	22.5	16000	.610	6
56060	Tool Steel, Blunt Edge	7.62	7.11	19.05	3.81	14.48	M6	22.5	16000	.610	6
56065	Brass, Blunt Edge	7.62	7.11	19.05	3.81	11.18	M6	5.6	4200	.610	6
56070	Tool Steel, Knife Edge	10.16	11.43	25.40	6.35	18.03	M10	40.6	26000	1.270	4
56075	Tool Steel, Blunt Edge	10.16	11.43	25.40	6.35	18.03	M10	40.6	26000	1.270	4
56080	Tool Steel, Knife Edge	15.24	16.26	38.10	9.52	19.56	M12	145.0	50000	1.900	2
56085	Tool Steel, Blunt Edge	15.24	16.26	38.10	9.52	19.56	M12	145.0	50000	1.900	2

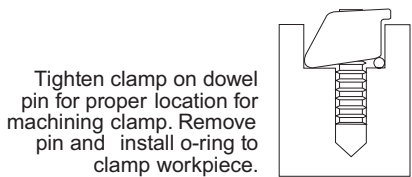
D* - Minimum clamp height *If gripping below recommended height, ensure clamp does not contact slot wall under load.

MACHINABLE PITBULL® CLAMPS

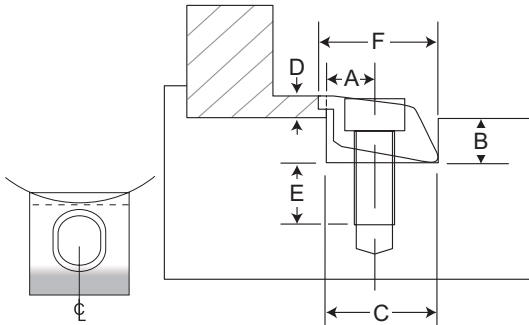


The popular Pitbull® Fixture Clamp is now available in a machinable version. The clamp has positive down force and a very low gripping profile, reducing material cost and number of operations.

The Machinable Pitbull® Clamp is made of A2 tool steel and heat treated to about 43RC for long life, yet still machinable. There is additional material on the clamping face to allow for machining a radius. It is available in two sizes with 6,000 and 12,000 lbs. (26000 and 50000 N) of holding force. A dowel pin is included in each package to locate clamp while machining radius.



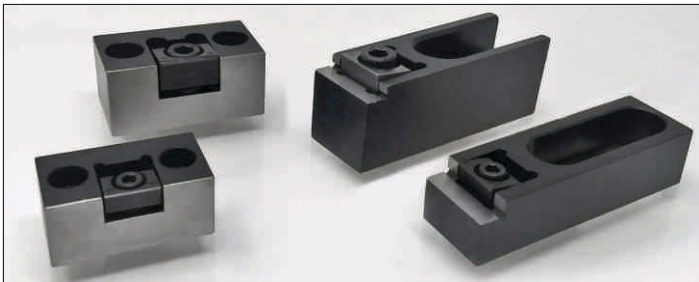
Maximum recommended stock removal from centerline of clamp:
26077 = .060 26088 = .180
(56077 = 1.5mm) (56088 = 4.5mm)



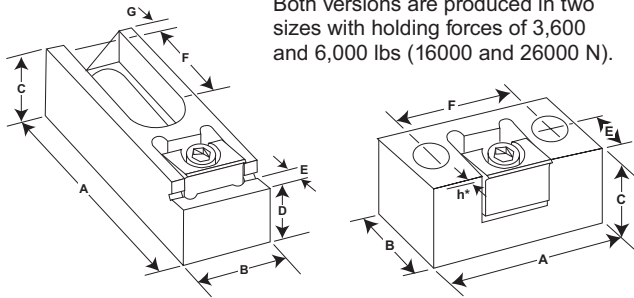
Part Number	Description	A	B	C	D*	E	F	Slot Width	Screw Size	Max. Torque	Total Holding Force	Total Throw	Dowel Pin	Clamps Per Package
56077	Tool Steel, Machinable	10.16	11.43	25.4	6.35	18.0	26.9	25.4	M10	40.6 (N.m.)	26,000 (N.)	1.27	3.18	4
56088	Tool Steel, Machinable	15.24	16.26	38.1	9.52	19.6	42.6	38.1	M12	145.0 (N.m.)	50,000 (N.)	1.90	6.35	2

D* - Minimum clamping height

MODULAR PITBULL® CLAMPS



Both versions are produced in two sizes with holding forces of 3,600 and 6,000 lbs (16000 and 26000 N).



The Pitbull® Fixture Clamp is very well known for it's low profile and positive down force. It is now available as a modular clamp in two styles.

The slotted Modular Pitbull® Clamp with a step offers increased versatility through its unique riser design. This clamp supports the workpiece off the machine table for through milling and drilling. The hardened and ground clamps are designed for use on work cubes, as well as machined tables with tapped holes or T-slot configurations.

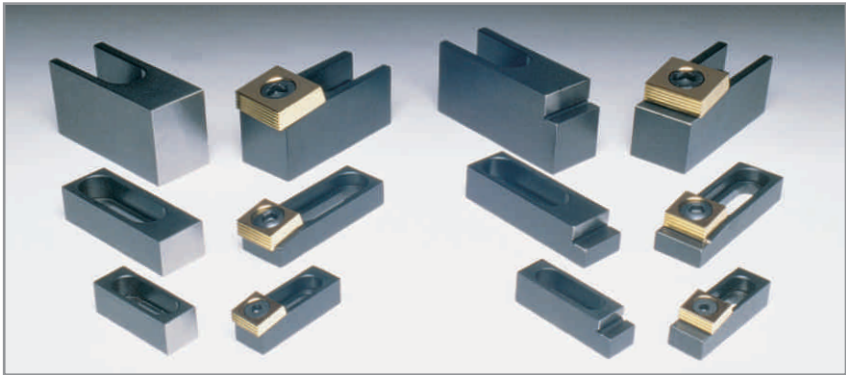
The compact Modular Pitbull® Clamp is ideal for clamping workpieces in series by using the back surface of a clamp to locate the next workpiece. The back of the clamp is ground square to the bottom for precise location of parts. The height of the clamp can be adjusted by the depth of the milled slot used to locate the clamp.

- Part Number -		Description	A	B	C	D +.0000 -.0005	E	F	G	H*	Max. Torque	Holding Force	Mounting Screw	Slot
Knife Edge	Blunt Edge										(N.m.)	(N.)		
56220	56225	Medium/Compact	57.1	31.242	25.1	NA	15.7	38.1	-	.61	22.5	16000	M8	-
56230	56235	Large/Compact	68.6	37.592	31.5	NA	18.8	47.0	-	1.27	40.6	26000	M10	-
56240	56245	Medium/Slotted	103.6	31.700	25.1	18.542	9.1	43.2	12.7	.61	22.5	16000	M12	Closed
56250	56255	Large/Slotted	107.0	38.100	40.9	35.000	9.1	38.6	10.9	1.27	40.6	26000	M16	Closed

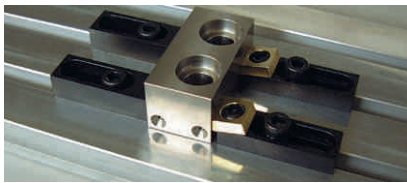
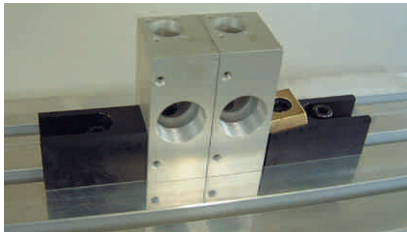
H* - Clamp travel

PATENT NO. 6435496

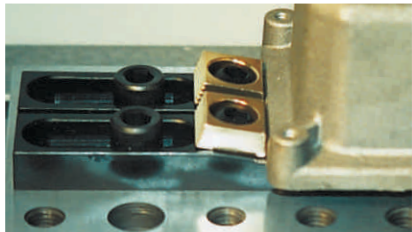
MULTI-FIXTURE CLAMPS AND STOPS



APPLICATIONS WITHOUT STEPS



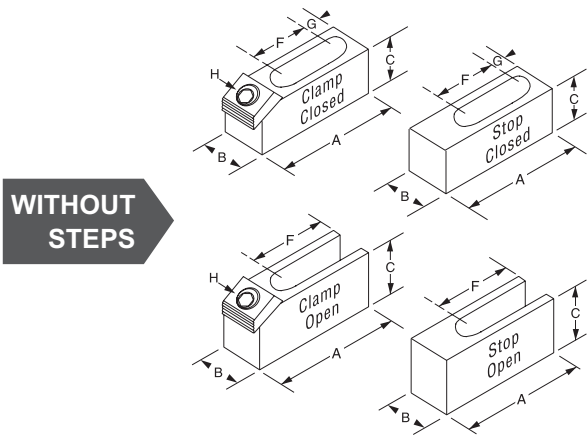
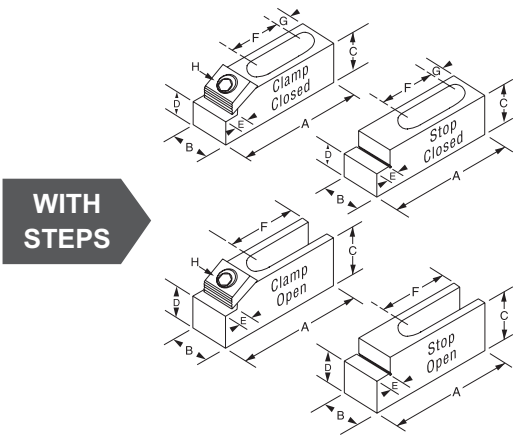
APPLICATIONS WITH STEPS



The Multi-Fixture Clamps, with a step, offer increased versatility through their unique riser clamp design. These clamps support the workpiece off the machine table for through milling and drilling.

The Multi-Fixture Clamps, without a step, grip the workpiece at a higher point for more clamping strength and better stability. The hardened and ground clamps offer quick cam action clamping and are designed for use on work cubes and machine tables with tapped holes or T-slot configurations.

They adjust to unusually shaped parts because the cam action allows the clamping element to always make maximum contact with the workpiece for greater holding force. The tilted clamping element provides positive down force for more accurate machining.



Part Number	Item	A	B	C	D ^{+0.0000 -0.0005} D ^{+0.0000 -0.013mm}	E	F	G	Cam Screw H	Max. Torque (Ft/Lbs) (N.m.)	Holding Force (Lbs) (N.)	Mtg. Screw (not incl)	Slot	Replacement Square Washer
WITH STEPS														
53140	Clamp	63.5	19.1	15.8	11.68	8.0	21.1	13.5	50368	28.00	8900	M8	Closed	21006
23180	Stop	63.5	19.1	19.1	11.68	8.0	28.2	13.5	NA	28.00	8900	M8	Closed	
53150	Clamp	95.3	28.5	15.8	12.19	9.4	42.7	12.7	50372	88.00	17800	M12	Closed	51016
23200	Stop	95.3	28.5	22.1	12.19	9.4	42.7	12.7	NA	88.00	17800	M12	Closed	
53170	Clamp	107.0	38.1	41.2	35.00	9.4	46.2	NA	50373	135.00	26700	M16	Open	21026
23240	Stop	107.0	38.1	50.8	35.00	9.4	46.2	NA	NA	135.00	26700	M16	Open	
WITHOUT STEPS														
53145	Clamp	54.9	19.1	15.8	NA	NA	21.1	13.5	50368	28.00	8900	M8	Closed	21006
23148	Stop	55.9	19.1	19.1	NA	NA	28.2	13.5	NA	28.00	8900	M8	Closed	
53155	Clamp	85.6	28.5	15.8	NA	NA	42.7	12.7	50372	88.00	17800	M12	Closed	51016
23158	Stop	83.5	28.5	22.1	NA	NA	42.7	12.7	NA	88.00	17800	M12	Closed	
53172	Clamp	96.5	38.1	41.2	NA	NA	46.2	NA	50373	135.00	26700	M16	Open	21026
23178	Stop	83.8	38.1	50.8	NA	NA	46.2	NA	NA	135.00	26700	M16	Open	

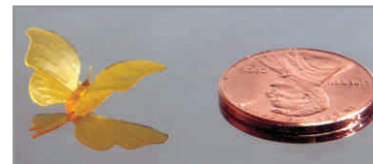
MITT-GRIP™



How to hold a Workpiece when you can't use a Clamp

Mitee-Grip™ is a heat activated wax based compound embedded in precision paper, coated on nylon mesh or in a stick form.

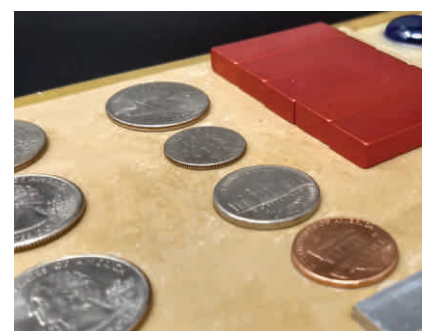
This holding media maintains parallelism on precision parts. It is very useful for thin parts, micro machining, optical and quartz components, and jewelry related items. Approximate holding force 40 PSI.



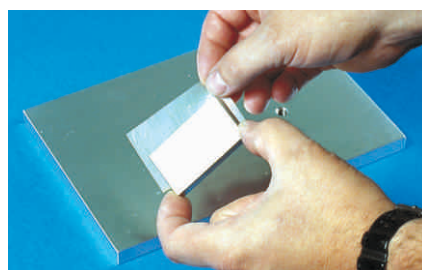
The stick form material can be used in shallow cavities for holding concave and convex pieces. It will also stabilize delicate parts during machining.



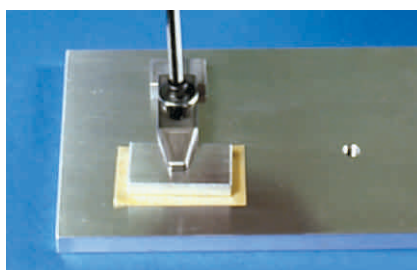
The mesh product captures additional wax material in the web and aides in holding irregular shape parts. Typically additional holding force can be attained with this material.



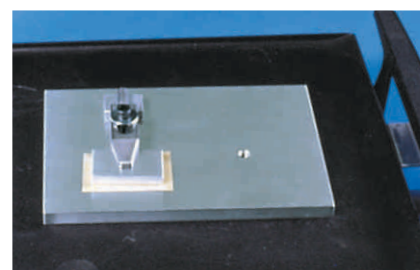
The original paper product is excellent for holding smooth flat parts and maintaining parallelism.



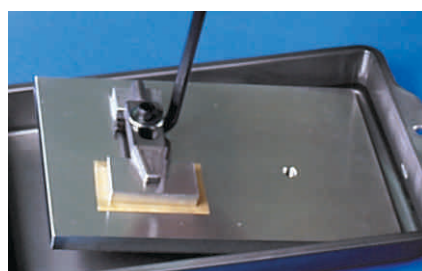
1. Place the Mitee-Grip™ sheet on the subplate leaving a 1/4" (6mm) border on all sides, or melt stick on warm subplate



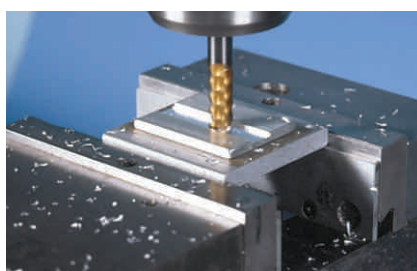
2. In some cases the part should be lightly clamped to prevent movement. NOTE: Over thin workpieces use a top plate for even pressure.



3. 3225°F (107°C) is application temperature and fully liquid, 186°F (85°C) is solid and becoming liquid. Some customers use an oven and record time and temp once determined by experimentation. A hot plate may also be used at higher temps if monitored. Most parts will "float" when the Mitee-Grip™ has liquefied.



4. Use air or water to cool, being careful to prevent water from going between subplate and workpiece while hot.

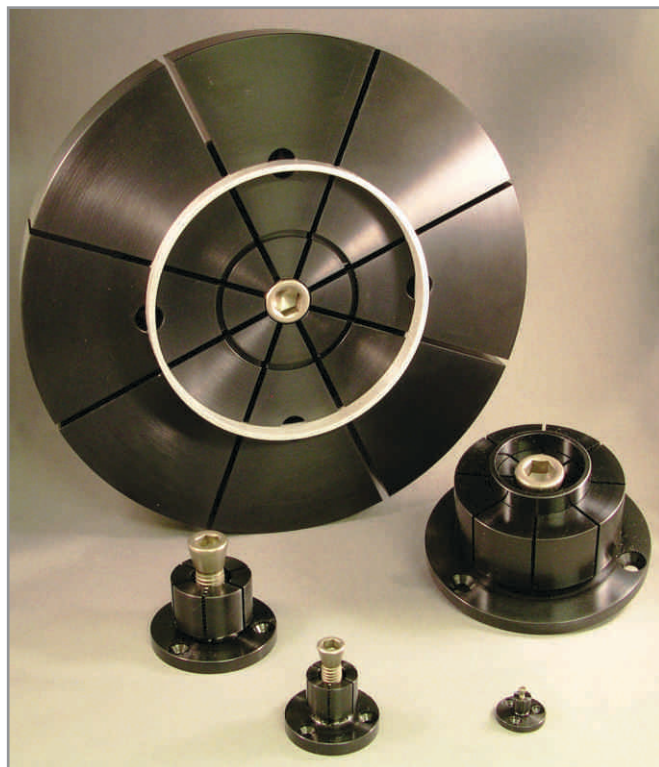


5. Part is ready, use coolant while machining. Reheat to remove. We have found an ultrasonic cleaner is best to remove wax residue or simply wipe part while warm using alcohol based cleaner.



Part No.	Desc.	Size (Metric)
10240	Paper Roll	12"x5' (305x1524)
10245	Paper Roll	12"x25' (305x7620)
10250	Mesh Roll	10"x5' (254x1524)
10252	Mesh Roll	10"x25' (254x7620)
10230	Compound	1 Stick
10235	Compound	3 Sticks

ID XPANSION™ CLAMP



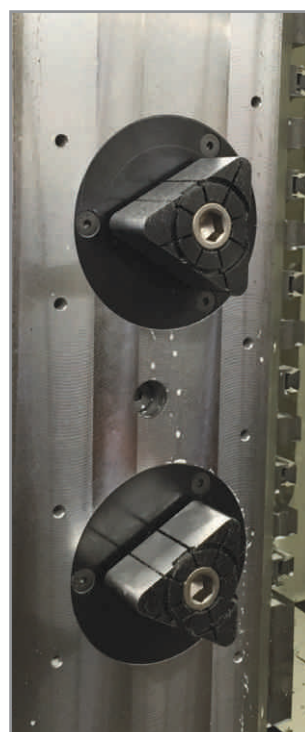
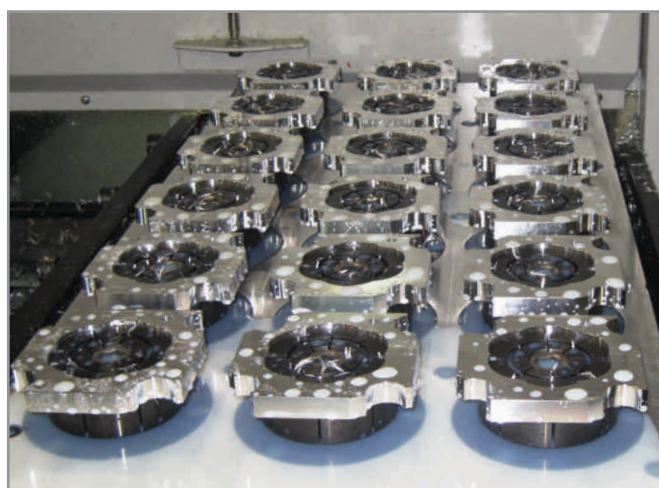
The ID Xpansion™ clamp is the ideal solution to hold parts on an inside diameter for high density machining on vertical or horizontal machining centers. It can also be used as an expanding mandrel on a lathe.

These machinable clamps are produced in 12L14 steel with black oxide coating in 12 sizes and can hold internal diameters from under 3/16 to almost 10 inches (4.1 to 254mm). #10 manufactured using 7075-T6 aluminum.

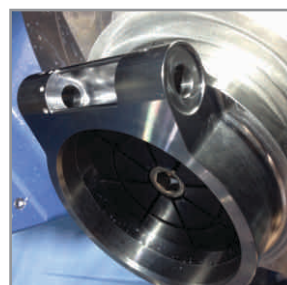
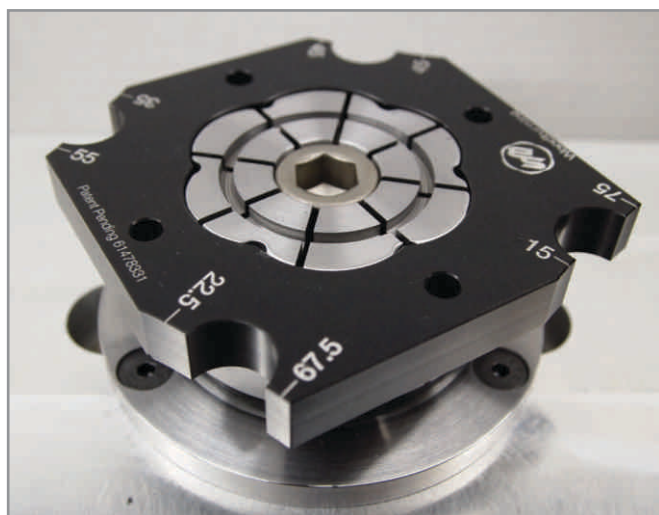
The flange diameter of the clamp is held to a close tolerance for precision locating in a machined pocket on work cubes and fixture plates.

The customer machines the mild steel clamp to match the bore of the part ensuring a proper fit. Often times the clamps can be remachined for different size jobs.

The low profile ID Xpansion™ Clamp can hold several parts in one compact area for secondary operations without any clamping interference. They are quickly tightened with a hex key, torque driver or can be mated to hydraulic pull cylinders for automation.



- Low profile
- Ideal for secondary operations on lathe parts
- Easily machined to size on lathe or mill
- Excellent for palletized setups
- Allows more parts per workcube or fixture plates
- Heat-treated and coated screw for long life
- Clamp body made of mild steel for machinability
- Tighten with hex key or hydraulic pull cylinders
- Longer screws available for hydraulic applications



Hard Milling

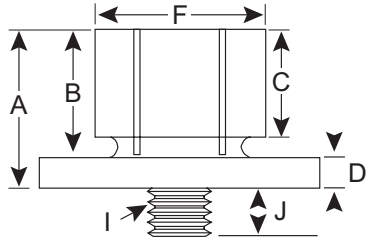
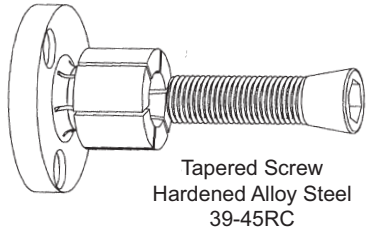


Innovative 4th axis solution

ID XPANSION™ CLAMP MACHINING AND INSTALLATION

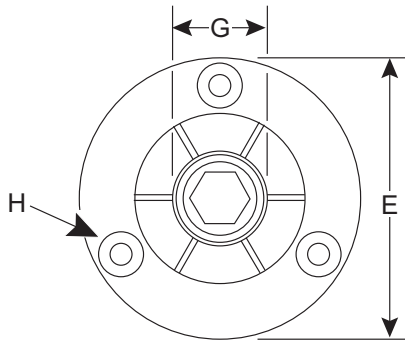
Model #00 - #6 ID Xpansion™ Clamps

- Expand clamp approximately .002 to .003 (.1mm) over relaxed diameter and machine to fit workpiece bore, either on lathe or mill.
- If machining the clamp on a lathe use the nut provided, on the back of the clamp, to tighten the tapered screw. This nut is used only while machining the clamp.
- Machine a pocket in the fixture, for the close tolerance “E” dimension and drill and tap mounting holes per “H” column. Drill and tap a hole from the “I” column in the center of the pocket for the tapered screw.
- A recessed dowel pin may be installed into the flange for additional rigidity if required.
- Custom screws available for blind hole applications.
- Range of expansion .005 to .025 (.13 to .64mm) depending upon size. See MiteeBite.com for individual clamp expansion range.



Model #7 - #10 ID Xpansion™ Clamps

- Locking ring provided to ensure segments remain rigid while machining clamps to size. #10 ID ships with 2 rings.
- Insert ring(s) and tighten drive screw, machine clamp to bore size. Remove ring(s) to clamp workpiece.
- Expand mandrel then machine to size.
- Aggressive material removal is not recommended when machining clamps to size.



Longer tapered screws are available for each ID size.

Part No.	Model No.	A	B	C	D	$\pm .000$ E _{.050}	F	G†	H*	I	J	Max. Torque (N.m.)	Holding Force (N)	Replacement Tapered Screw
38000	#00	10.7	7.6	6.1	3.0	20.00	7.4	4.1	M2 on 13.7 BHC	M2x12	4.1	.70	1113	38001
38050	#0	21.8	16.0	15.0	5.9	29.72	12.4	7.1	M3 on 20.95 BHC	M4x25	7.2	5.00	4228	38002
38100	#1	24.9	19.0	15.0	5.9	31.50	14.2	12.2	M3 on 23.1 BHC	M6x30	11.2	17.00	8455	38010
38150	#2	24.9	19.0	15.0	5.9	37.50	20.0	13.5	M3 on 29.0 BHC	M8x30	13.2	34.00	11125	38020
38200	#3	28.6	22.2	17.5	6.4	50.00	27.0	18.0	M4 on 39.4 BHC	M10x35	16.3	60.00	20025	38032
38250	#4	31.8	25.4	20.6	6.4	56.00	35.3	23.0	M4 on 45.5 BHC	M12x40	20.3	150.00	26255	38042
38300	#5	39.6	31.8	27.0	7.9	69.50	42.0	29.3	M5 on 55.9 BHC	M16x45	21.4	280.00	44500	38052
38350	#6	39.6	31.8	27.0	7.9	75.50	51.5	29.3	M5 on 63.9 BHC	M16x45	21.4	280.00	44500	38052
38400	#7	45.5	37.6	32.3	7.9	107.50	77.7	29.3	M6 on 92.6 BHC	M16x50	19.3	280.00	44500	38072
38450	#8	45.5	37.6	32.3	7.9	132.90	103.0	29.3	M6 on 118.06 BHC	M16x50	19.3	280.00	44500	38072
38500	#9	45.5	37.6	32.3	7.9	132.90	175.0	29.3	M6 on 118.06 BHC	M16x50	19.3	280.00	44500	38072
38550	#10**	45.5	37.6	32.3	7.9	152.40	250.2	29.3	M6 on 133.35 BHC	M16x50	19.3	170.00	26000	38072

G† - Minimum diameter the “F” dimension can be machined or turned down to.

H* - (3) Mounting Screws included - (4) for model numbers #9 and #10.

**Model #10 Made from 7075-T6 aluminum.

SIDE-LOC XPANSION CLAMP

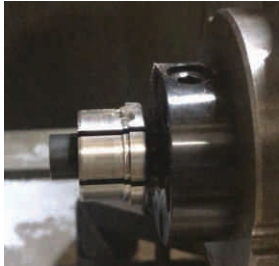
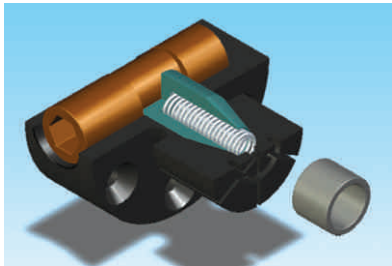


The Side-Loc Xpansion Clamp is actuated from the side, making it perfect for blind hole applications.

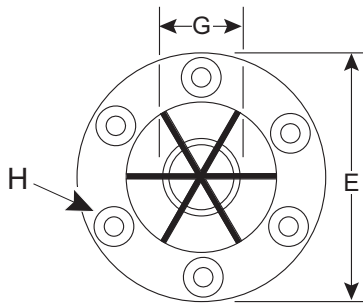
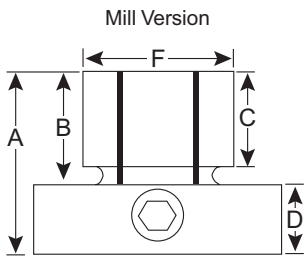
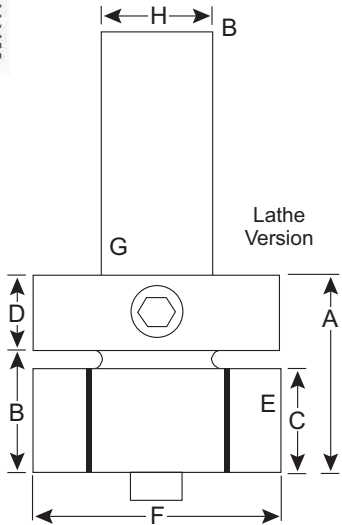
It's produced for both mill and lathe applications. The cam shaft and plunger expands the clamp from the side. Same mounting dimensions as our original ID clamp.



The Side-Loc Xpansion Clamp is actuated by turning a socket head cam shaft on the side, which moves a tapered plunger to expand the clamp. The locking ring provides an accurate preset diameter and rigidity for machining. Maximum torque on locking ring 10 ft. lbs. (13 N.m.). Like our original ID Xpansion™ clamps, the Side-Loc Xpansion Clamp has the dead length feature which is critical for close tolerance dimensions.



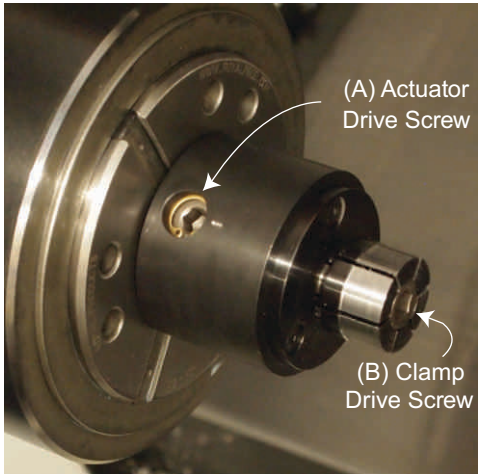
The Side-Loc Xpansion Clamp is designed in two styles: one for milling operations and one for lathe applications. One size is available for each model. The mill Side-Loc Xpansion Clamp can be machined from 1.120 to .710 (28.4 to 18mm) and the lathe version from 2.09 to .710 (53 to 18mm). The lathe version has a 1" (25mm) straight shank.



Part Number No.	Model	A	B	C	D	E ^{+0.000 -0.050}	F	G†	H*	Hex Key	Max, Torque (Ft/Lbs) (N.m.)	Holding Force (Lbs) (N.)	—Replacement—		
													Cam Shaft (M12x30MM)	Spring	Ring
38210	Mill #3	41.3	22.2	17.5	19.0	50.0	28.7	17.8	M4 on 39.4 BHC	M6	66**	20000	389001	31207	31202
38370	Lathe #6	44.4	25.4	21.3	19.0	N/A	53.3	17.8	25	M6	66**	20000	389001	31207	31202

G† - Minimum diameter the "F" dimension can be machined down to. H* - (6) mounting screws included. ** - If high cycles, run max. torque 40 Ft/Lbs or 62 N.m.

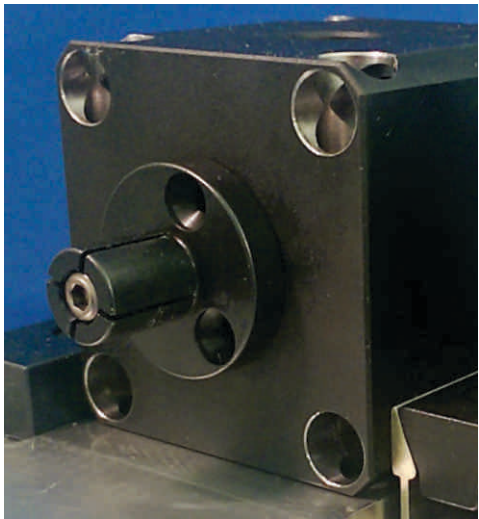
MANUAL ACTUATORS FOR MILLS AND LATHES



The Actuators are specifically designed for gripping the ID of blind holes but may also be incorporated in many applications that require a straight draw actuated 90 degrees from the drive screw. The Actuators are capable of gripping on bores ranging from .16" (4.1mm) to 1.39" (35.3mm) using our standard ID clamps, Models #00 through #4 (flange on #4 may require modification when mounting to Mill Actuator).

The Mill block can be mounted in several ways including on a fixture plate, for high density workholding applications, or gripped in a vise. The same bolt hole configuration can be used for both the vertical and horizontal planes.

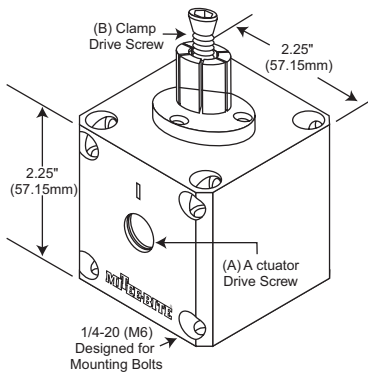
Both styles of Actuators come completely assembled with the heat-treated cylinders tapped for the following clamp drive screws: M2, M4, M6, M8, M10 and M12.



SPECIFICATIONS:

- Manual Actuators will produce over 4,000 lbs. of pull-force with 45 ft. lbs. of torque. Do not exceed 5 ft/lbs with the M2 or 20 ft/lbs with the M4.
- Customer will mount clamps onto the Actuator according to clamp instructions. Actuators may be used with clamps other than ID Xpansion™ Clamps.
- The Mill version has 8 mounting holes with 1.75" (44.45mm) spacing for 1/4-20 (or M6) mounting bolts.
- The "top" access hole for the clamp drive screw is approximately .315" (8mm) for the M2 through M8 and .484" (12.3mm) for the M10 and M12.
- Cylinder travel is .040" (1.016mm)
- Threaded cylinders may be interchanged with our other cylinder sizes by first removing the retaining ring and the actuator drive screw and then tapping out the cylinder. This may require the use of a rubber mallet and punch.
- Threaded cylinders are heat treated to 54 RC, and have a diameter of 5/8" (15.875mm).
- Both the Mill and Lathe versions are made of 12L14 with a black oxide finish.

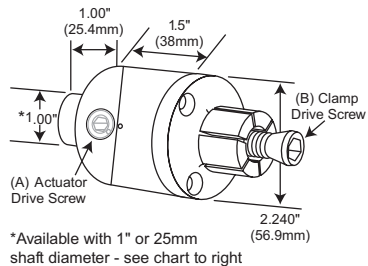
MILL VERSION



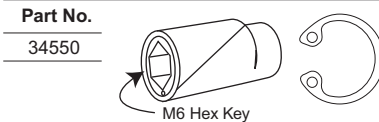
OPERATION AND USE:

- Align Indicator mark on actuating screw (A) (apex of cam) with the alignment mark on actuator housing.
 - Lightly tighten clamp drive screw (B).
 - Tighten actuator drive screw (A) expanding ID clamp .002 - .005" (.050 - .13mm).
 - Machine clamp to size of your bore.
 - Loosen actuator drive screw (A) aligning marks once again.
 - Loosen clamp drive screw (B) approximately 1/8 turn.
- Ready for use, load parts and tighten actuator screw. Do not exceed 45 ft/lbs of torque. Care should be taken not to over-tighten with the smaller diameter screws (M2, M4).

LATHE VERSION



ACTUATOR DRIVE SCREW WITH RETAINING SNAP RING



REPLACEMENT THREADED CYLINDER

Part Number	Thread Size	
34002	M2	
34004	M4	
34006	M6	
34008	M8	
34010	M10	
34012	M12	

Part Number			
Mill	Lathe 1" Shaft	Lathe w/25mm Shaft	Cylinder Thread
34502	34602	38602	M2
34504	34604	38604	M4
34506	34606	38606	M6
34508	34608	38608	M8
34510	34610	38610	M10
34512	34612	38612	M12

Mounting Screws not included.

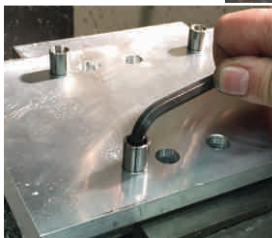
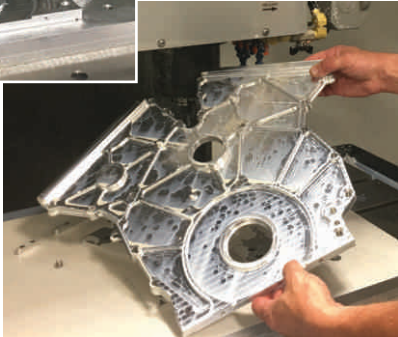
MODULAR XYZ XPANSION™ PINS



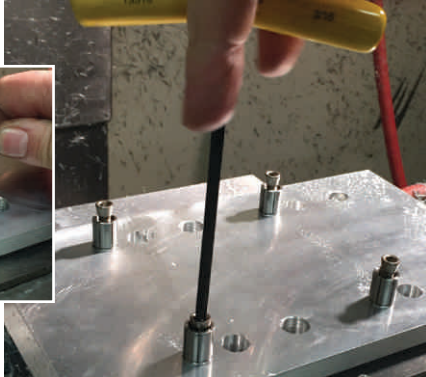
**PRESS FIT
NOW AVAILABLE
IN 12L14**



Mitee -Bite Products releases the new Modular XYZ Xpansion™ Pins for Tombstone, Grid Plate and Fixture Plate applications. The unique, patent pending design provides accurate location, repeatability and high holding forces for securing parts on the inside diameter. The XYZ Pin provides “out of the way workholding” and accessibility to all work surfaces with absolutely no external clamping interference. The Threaded Pin is available in standard sizes of 1/2, 5/8, M12 and M16 for tombstones and grid plates. The Press Fit Pins are available in 1/4, 3/8, 1/2, 5/8, M6, M10, M12 and M16 diameters for custom applications. Both styles of the pins are manufactured from “heat treatable” 17-4PH stainless steel. The Press Fit Pins are now also available in 12L14 mild steel. The Pins expand up to 0.030" (0.7mm) and the diameter can be machined for specific applications. The top of the Pins have a slight taper creating maximum line contact in bore and provides clearance during load/unload. Designed for quick set-ups on secondary operations, material coming off prep stations, water-jets or even applications outside of your machining centers



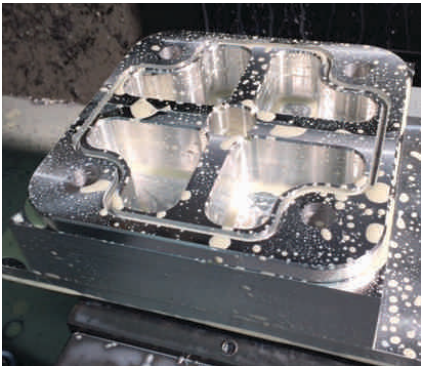
Install pin body



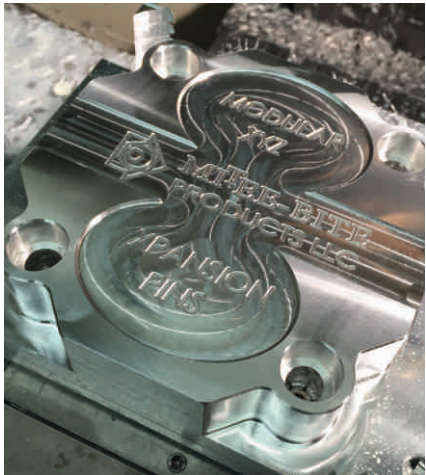
Install tapered drive screw



Raw stock on pins



Op 1



Op 2 including c'bore on same fixture

Continuous Improvement Programs = Innovation!

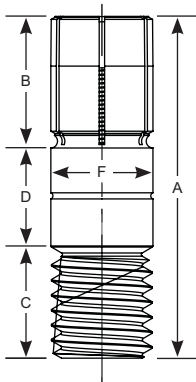
MODULAR XYZ XPANSION™ PINS

THREADED PINS in 17 - 4PH



Threaded XYZ Pins incorporate an internal rotary broached hex for simple installation and removal from a tombstone, grid plate or fixture plate. Threaded Pins may be installed in a drilled and reamed hole for precise location or set in a hardened drill bushing for additional strength and wear resistance

To install a Threaded XYZ Pin in a precision bore, drill/tap accordingly and ream the hole over the nominal diameter minimum of +0.0001 to +0.0005". (+.003 to +0.013mm)



Part Number	External Thread	A	B	C	D	F (+/-) .000/.001 (.000/.025mm)	G*	Replacement Tapered Screw	Tapered Screw Thread x Length
38850	M12-1.75	40mm	15mm	13mm	12.00mm	12.00mm	10.5mm	38010	M6-1 x 30mm
38860	M16 -2	45mm	16mm	13mm	16.00mm	16.00mm	12mm	38020	M8-1.25 x 30mm

*G minimum diameter pin can be machined or turned down to Tapered screw included with pin.

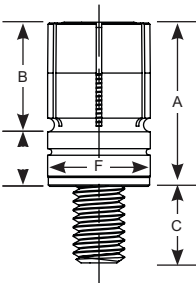
**Torque of Pin body needs to exceed torque of Tapered screw

PRESS FIT PINS All sizes available in both 17-4PH and 12L14



Pins are intended for press fit or close tolerance removable slide fit applications. Install in a precision bore or a bushing with the center threaded for the Tapered screw. If precise location is not necessary, pin can be used on top of fixture plate. An accessory kit is available to make Installation and Removal (I/R) of the XYZ Pins quick and easy.

Note: If recessing pin into fixture beyond slits be sure to provide clearance for expanding segments.



17-4PH Part Number	12L14 Part Number	Description	A	B	C	D	F (+/-) .000/.001" (.000/.025mm)	G*	Replacement Tapered Screw	Tapered Screw Thread x Length	Installation/ Removal (I/R) Kit**
38730	38630	Press Fit 6 mm	13mm	7mm	7.3mm	5.8mm	6.00mm	5.5mm	38731S	M3-0.5 x 16mm	38720
38740	38640	Press Fit 10 mm	19mm	12.7mm	8.4mm	6.35mm	10.00mm	7.5mm	38002S	M4-0.7 x 22mm	38721
38750	38650	Press Fit 12 mm	19mm	12.7mm	11.1mm	6.35mm	12.00mm	10.5mm	38010S	M6-1 x 22mm	38722
38760	38660	Press Fit 16 mm	19mm	12.7mm	13mm	6.35mm	16.00mm	12mm	38020S	M8-1.25 x 22mm	38723

*G minimum diameter pin can be machined or turned down to Tapered screw included with pin.

**Kit includes screws (2) SHCS

SPECIFIC FEATURES / INSTALLATION

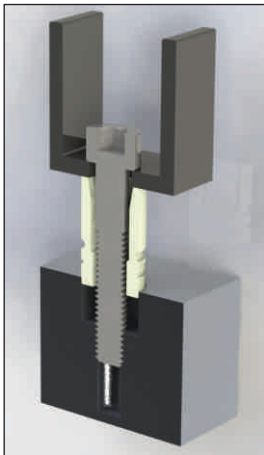


FIGURE 1

PRESS FIT INSTALLATION:

Place Pin in prepared bore, place I/R Tool over pin as shown in figure 1. Using the smaller socket head cap screw (SHCS) provided, thread into fixture to evenly draw down pin. Remove SHCS and replace with Tapered screw when ready to use.

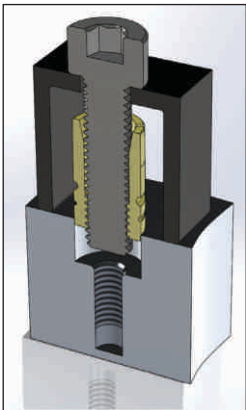


FIGURE 2

PRESS FIT REMOVAL:

Place the I/R Tool over the clamp as shown in figure 2, thread the larger SHCS into the "internal threads" of the Pin and tighten the screw to extract the Pin.

Note: It is recommended to fit Pin with a drill bushing when the Pin must be frequently removed. Or drill and ream the bore hole over the nominal diameter minimum of +0.0001 to +0.0005" (+0.003 to +0.013mm)

LOC-DOWN® SYSTEM

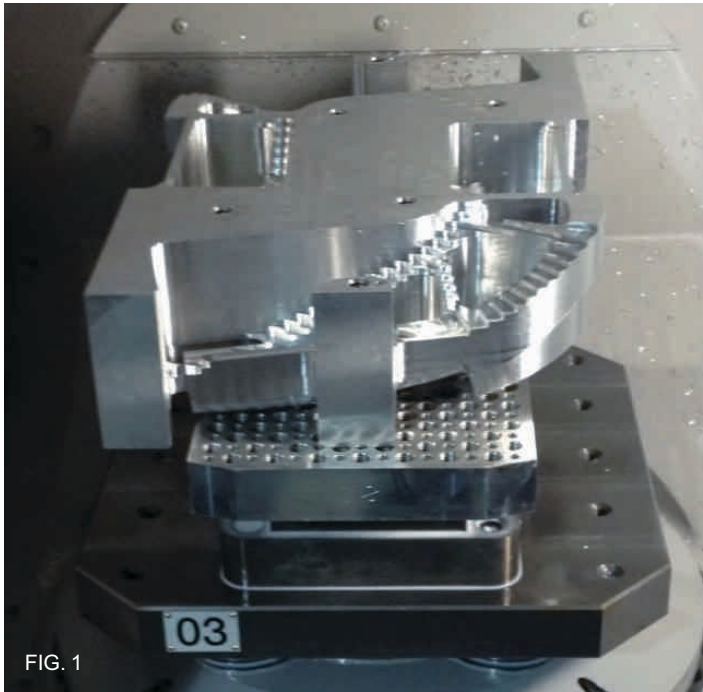


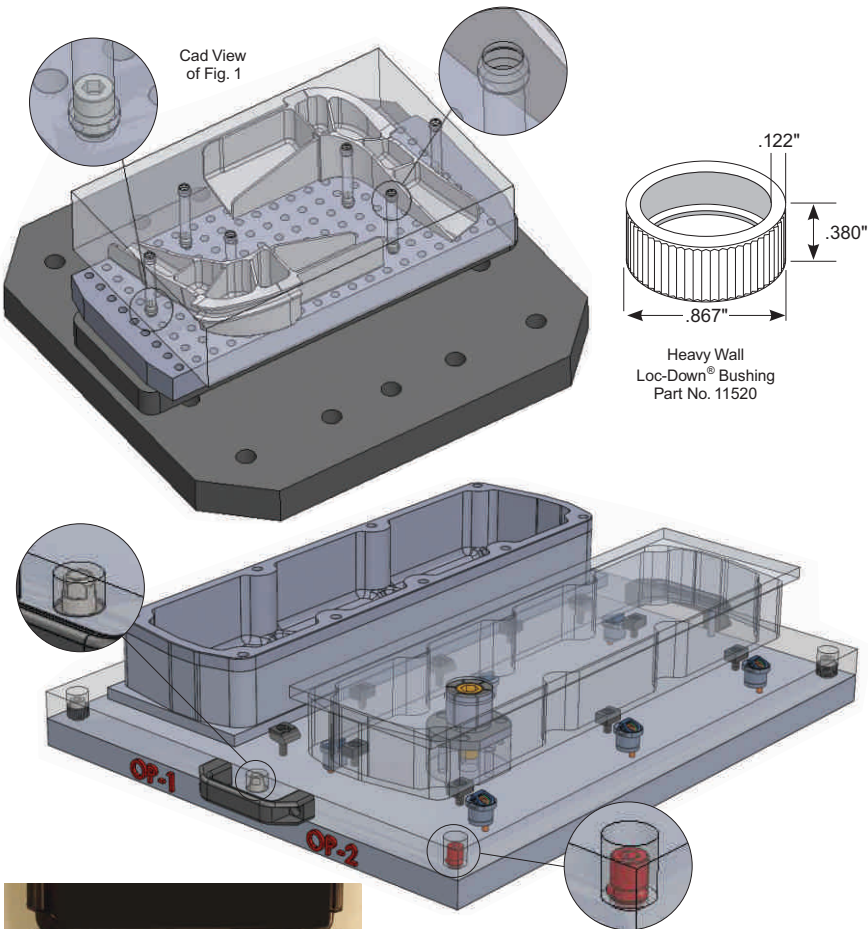
FIG. 1

The Mitee-Bite Loc-Down® System was designed to be a programmer's and operator's dream for quickly and easily securing small to large aerospace parts. Its compact design allows for tighter pattern on grid plates compared to other options in the marketplace saving material cost on expensive aerospace alloys.

The Loc-Down® generates high holding force and provides low profile "out of the way" clamping allowing programmers to be very creative. Permits aggressive machining without tooling interference or applying forces that would influence part, intended to streamline production for the Aerospace Industry.

"We would have had to repair Brand-X 3 times in the past year and a half...and to date never had a problem with our Loc-Downs, we use these on 70% of our application." **BUFFCO ENGINEERING**

- Ideal for grid plates, tombstones and custom applications
- 100% Heat Treated Stainless Steel



Loc-Down®
1/2-13 - Part No. 11500
M12-1.75 - Part No. 11612

Loc-Down®
Custom Carbide Cutter
Part No. 11530

Part Number	Description	Size†
11500	Loc-Down®	1/2-13
11550	Loc-Down® Quick Change Kit*	1/2-13
11612	Loc-Down®	M12
11650	Loc-Down® Quick Change Kit*	M12
11530	Carbide Cutter	
11535	Loc-Down® Insertion Tool	
11520	Loc-Down® Bushing	

Maximum Torque 15 Ft/Lbs (20 N.m.)
† - NEW Loc-Down® sizes available soon!



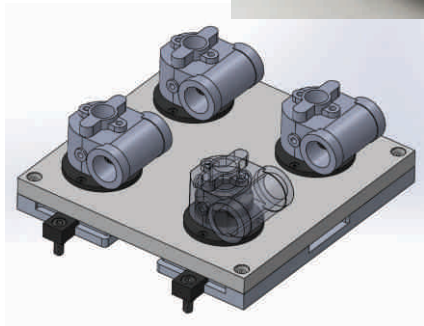
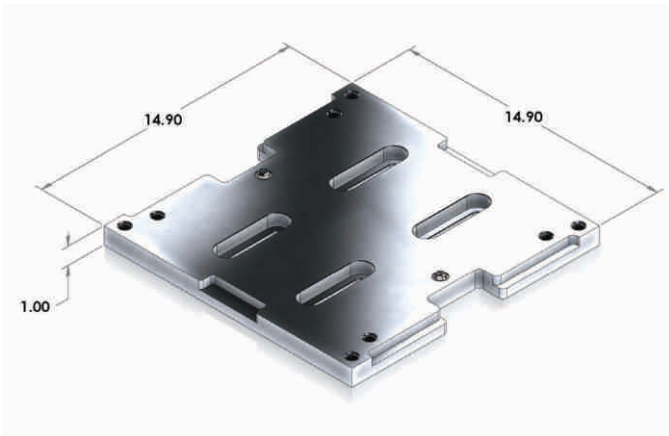
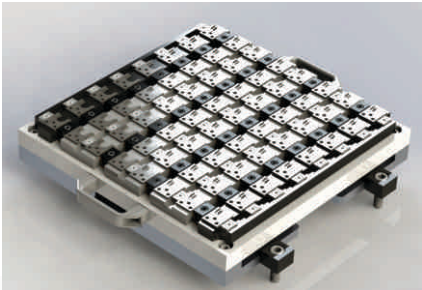
We have combined our Loc-Down®, custom Bushings and Locating Pins and Liners in a convenient kit (Part No.'s 11550 and 11650) that delivers a low-cost high precision quick change pallet system with a repeatability of .0004"/0.01mm or better

QUICK CHANGE RECEIVER AND BLANK PALLET

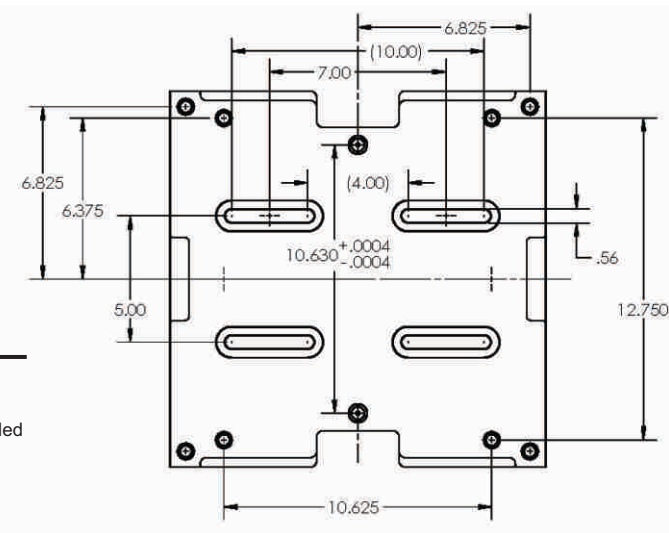


MITEE-BITE announces the addition of a cost effective simple Quick Change Receiver System allowing for the rapid change out and precise location of small fixture pallets. The Mitee-Bite Quick Change Receiver is designed to accept any of our current pallets as well as the blank pallet shown. The receiver mounts on t-slot tables, tombstones, sub-plates and our Aluminum T-Slot Grid Plates. Special washers and mounting clamps are provided with the system.

- All hardware recessed allowing the receiver to be skim cut to perfectly match the table.
- Receiver furnished with diamond and taper pins and hardened liner bushings, threaded steel inserts, special washers and mounting clamps.
- Blank pallet is fastened to the receiver with our Loc-Down® System, two turns of the Loc-Down® releases the pallet. 100 lbs. of force for every foot pound of torque.
- The Loc-Down® is not removed from the receiver – lost cumbersome fasteners are a thing of the past.
- No protruding fastener above the surface of the pallet to interfere with tooling.
- High precision for a LOW COST solution!

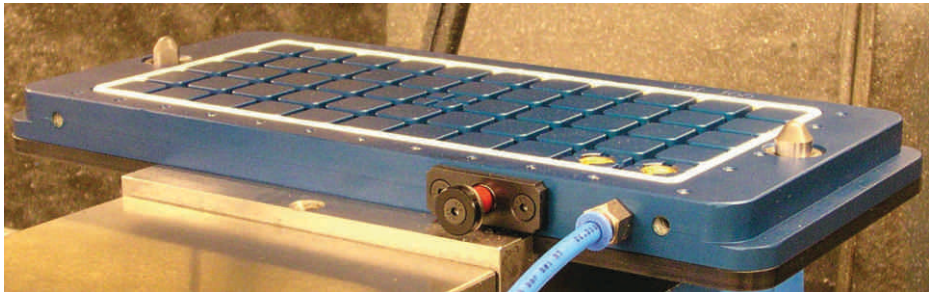


See the
Q.C. Receiver
in action!

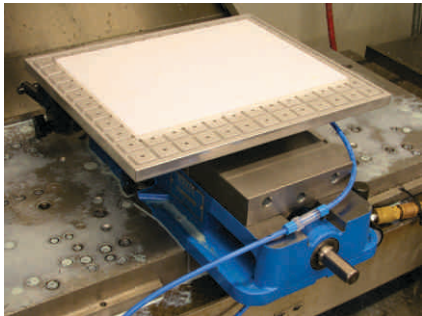


Part No.	Description
46500	Quick Change Receiver with (4) 1/2-13 Loc-Downs® and Hardware
46600	Quick Change Receiver with (4) M12x1.75 Loc-Downs® and Hardware
46525	Quick Change 1" Blank Pallet with Liner and Loc-Downs® Bushings Installed
11500	Loc-Downs® (1/2-13)
11612	Loc-Downs® (M12x1.75)
11520	Heavy Wall Loc-Downs® Bushing
45070	Liner Bushings (2/pk)

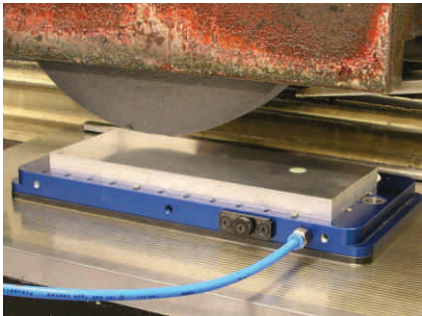
VACMAGIC® VM100



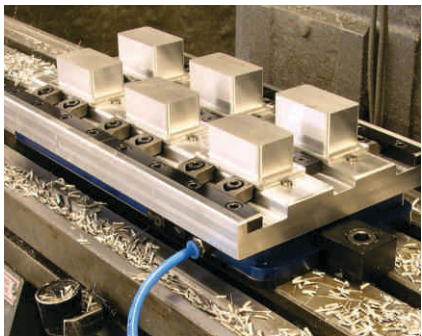
VM100 Base Unit (45375) in Vise



VM100 Base Unit (45375) with
VM300 Vacuum Pallet (45150)



VM100 Base Unit (45375) on
a Magnetic Chuck

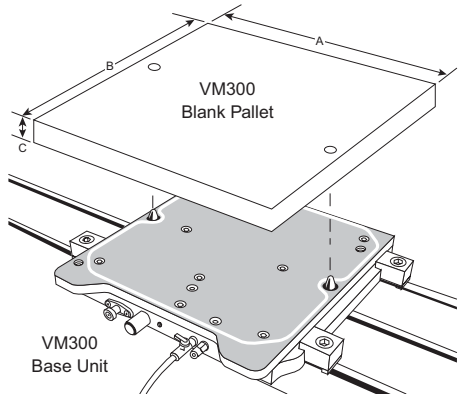
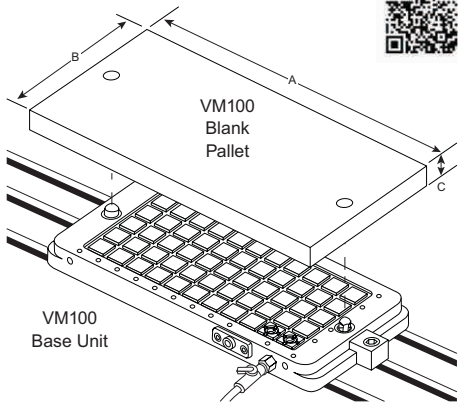


VM100 Base Unit (45375) with a
Production Pallet
(VM100 Blank Pallet - 45325)

*The Simplest and
Most Versatile Vacuum
System on the Market*

The VM100 was primarily designed for grinding non-ferrous material on a magnetic chuck. During the early stages of R & D it was discovered the VM100 could be much more. Clamp the VM100 in vise to reduce set-up time, use as a pallet changer or mount to a grid plate or T-slot table. The VM100 uses the same patented method as the VM300 to produce a vacuum strong enough for industrial applications but still operates on 70-100 PSI shop air! No need for vacuum pumps and coolant traps. We include everything necessary to get your VM100 running within minutes of opening the box.

- Make your own vacuum fixtures - we can help with the design and produce the fixture for your custom application
- Will accept both blank pallets, the standard 45130 and the larger 45135, as well as the standard vacuum pallet, increasing your vacuum platform to over 14"x12" (360mmx315mm).
- Remove 12mm pins when grinding/machining thin material, use set screws to locate and aid in holding force



Part Number	Description	A - Length Inch (Metric)	B - Width Inch (Metric)	C - Height Inch (Metric)
VM100				
45325	Blank Pallet	12.5 (318mm)	5.875 (150mm)	1.0 (25mm)
45375	Base Unit with all hardware	12.375 (315mm)	5.5 (140mm)	1.0 (25mm)
45300	VM100 Kit <i>Includes: base unit, 2 blank pallets</i>			
VM300				
45130	Blank Pallet	14.3 (360mm)	12.4 (315mm)	.75 (19mm)
45135	1 thick Blank Pallet	14.93 (379mm)	14.93 (379mm)	1.0 (25mm)
45150	VM300 Vacuum Pallet	14.3 (360mm)	12.4 (315mm)	.625 (16mm)
45160	VM300 Large Vacuum Pallet	33.625 (859mm)	14.5 (368mm)	.625 (16mm)
45175	Base Unit (Receiver) <i>Includes: all hardware</i>	12.75 (323mm)	13.0 (330mm)	1.375 (35mm)
45101	VM300 Kit <i>Includes: base unit, 2 blank pallets, 1 vacuum pallet</i>			

GASKET MATERIAL (for VM300 & VM100) See our website, MiteeBite.com, for installation tips

	Part No.	Description	(Inch) Diameter†
Black - Excellent for long cycles and aggressive coolants.	BLACK 45111	by the foot	.170"
	45115	by the foot	.070
	451181	by the foot	.125
	45119	by the foot	.188
White - Excellent for small parts, water based coolants or running dry.	WHITE 45114	by the foot	.170"
	45116	by the foot	.070
	45117	by the foot	.125

*Replacement size for base units and vacuum pallets. Other sizes listed for custom made pallets.
†Tolerance on all gasket diameter is +/- 10%.

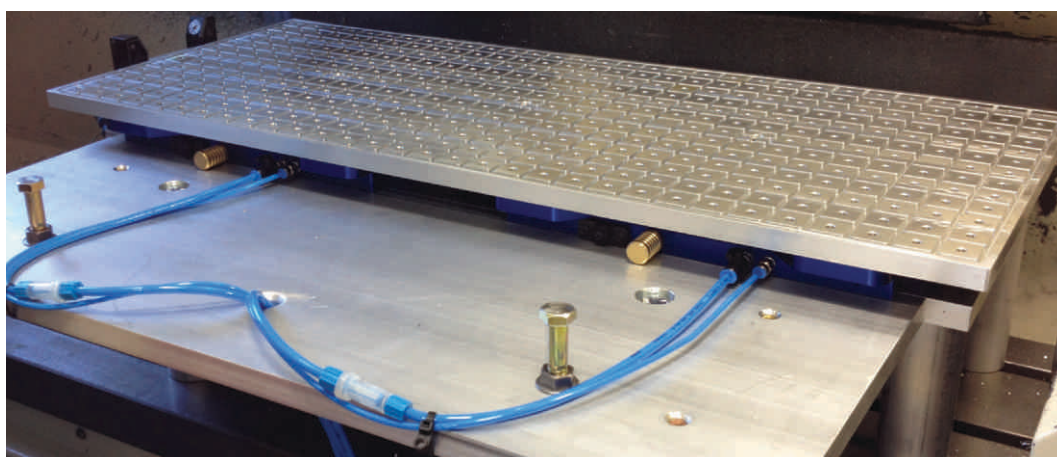
VACMAGIC® VM300



The All-in-One Pallet Changer and Vacuum Chuck System

In a relatively short amount of time the VM300 has established itself as the vacuum system to which all others are measured. Capabilities include traditional vacuum applications using our standard grid plate and custom vacuum applications (ie: machining blank pallet to suit specific part geometry) and the ability to perform as a rock solid pallet changer. Contact us to schedule an in-house demonstration with one of our highly qualified Manufacturing Representatives.

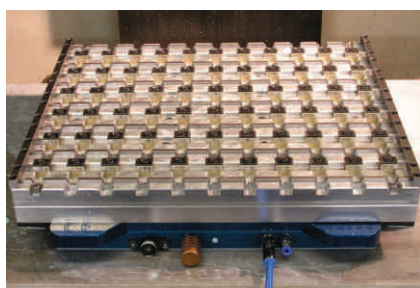
Our Small Investment = Huge Profits!



Two VM300 Base Units (45175) and large Vacuum Pallet (45160), bolts supporting oversized workpiece.

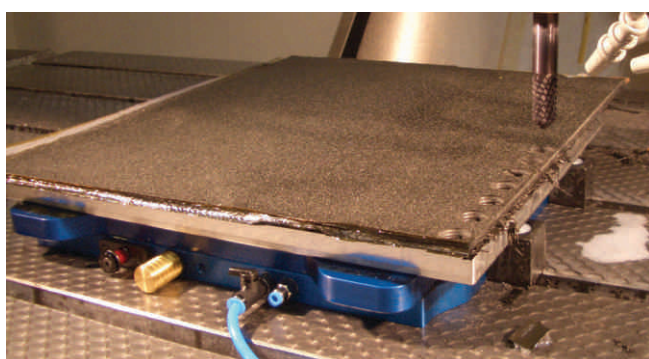


Best Workholding Product at MACH Exhibition 2006

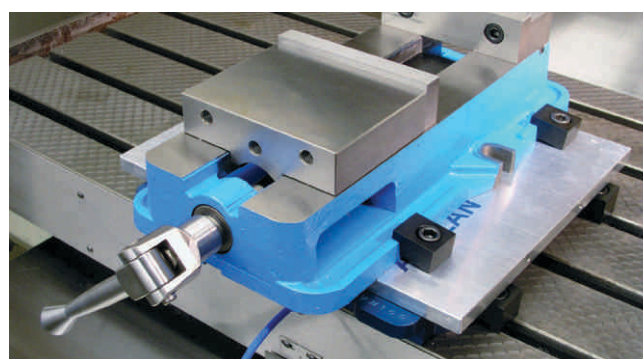


VM300 Base Unit (45175) with a Production Pallet (VM300 Blank Pallet - 45130)

- Simple design keeps cost low
- Productivity maximized - load pallets while machining
- Quick-change - swap pallets in 30 seconds or less with precise repeatability
- Easy to install and set-up
- Vacuum pallets with M6 threaded holes and textured finish to increase friction
- Reliable and easy to use - virtually maintenance free
- Flexible pallet design - limited only by your imagination!
- No pumps - uses standard shop air
- Purchase includes a pack of our original Fixture Clamps and Sliding Stops
- If additional vacuum chambers are needed, drill tap through with M8 thread and plug when not required.

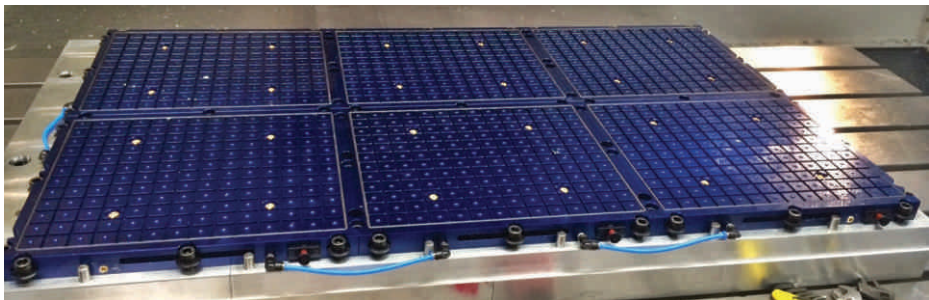


Custom application with graphite.



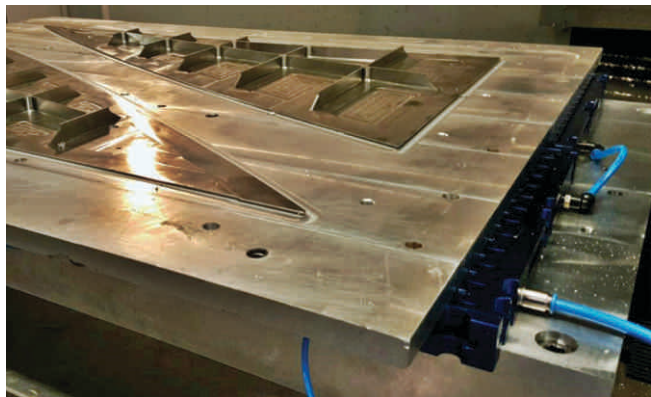
Never indicate your vise again!

MULTI-POWER VAC



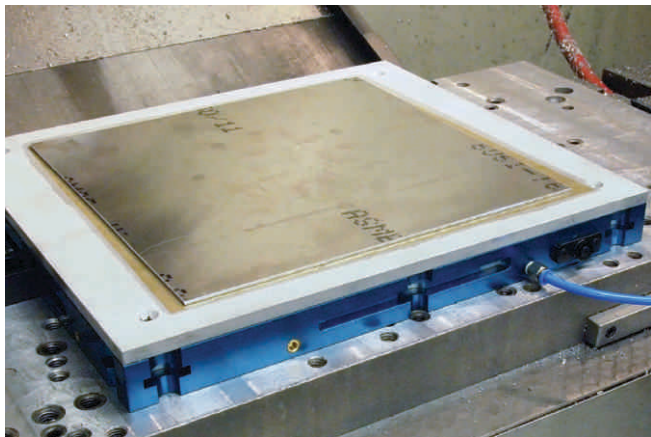
Designed to be easily linked together creating larger platforms

Mitee-Bite is proud to introduce possibly the most universal multifunctional vacuum system in today's market. This system has several unique features to meet your vacuum workholding needs.

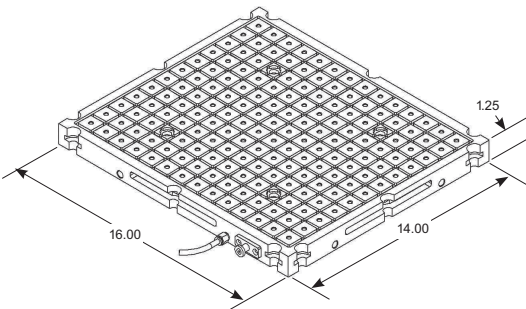
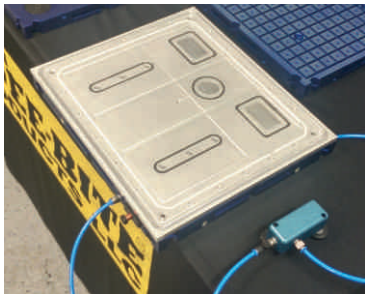


Multiple MPV's shown with large vacuum pallet.

- Can be powered with our Vacuum Generator (Shop Air) or Vacuum Pumps
- 14"x 16" with textured surface creating additional holding force through friction
- 4 Vacuum ports allowing user to hold 1-4 small parts or 1 large part (ports can be plugged)
- Grid plate tapped with M6 threads allowing multiple workholding solutions
- 6 oversized steel washers machined below the bottom surface allows unit to be used for grinding operations on a magnetic chuck
- Multiple Vacuum Generators can be used on each pallet if additional CFM is desired
- Multiple pallets can operate from (1) vacuum generator
- Coolant Trap may be necessary when using external vacuum source (Trap sold separately)



Application using Mitee-Grip™ with sacrificial top plate

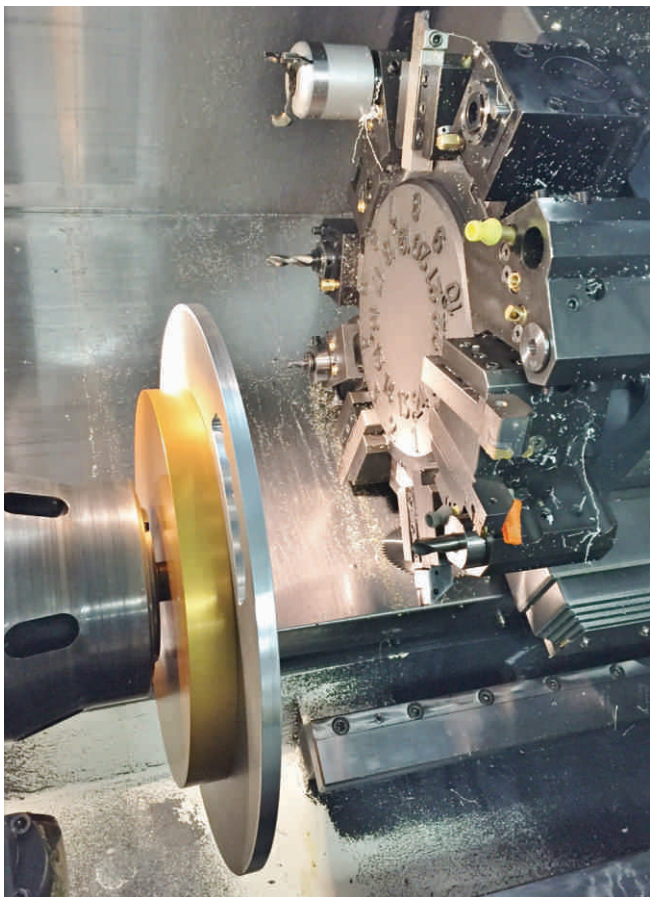


Part No.	Description
46000	1 Multi-Power Vac pallet with Vac Generator including all accessories
46100	Vac Generator with regulator/tubing/brass filter and push to connect fitting
46200	1 Multi-Power Vac pallet without Vac Generator including mounting hardware and tubing
46250	Sacrificial Top Plate with mounting screws
46050	Coolant Trap with hose and fittings

ROTARY VACUUM CHUCK

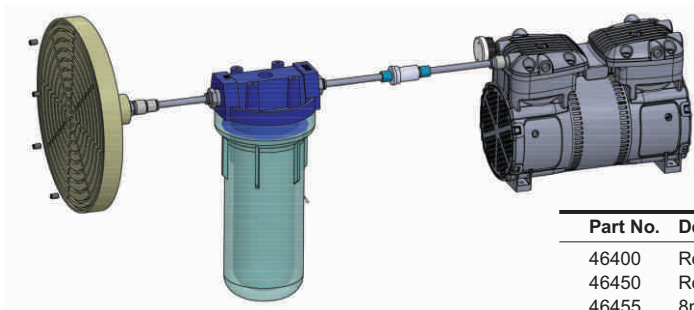
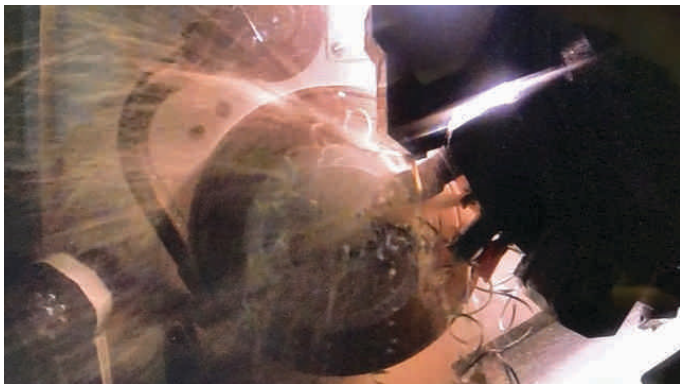


Yes, *it's true!* A vacuum system for your lathe or rotary table which provides an option for those applications that cannot be held by traditional methods. Although initially designed for thin materials and composites, we discovered we could machine more aggressively than anticipated with use of our newly designed vacuum grippers. These grippers will leave indentation on backside of workpiece, however increase the lateral load in some cases by more than 400%! Grippers can be raised/lowered/relocated as needed in the 32 M6 threaded holes on the face to include the ability to easily change the size of vacuum chamber by removing/reinstalling the gasket material from one of the 9 grooves. Always selecting the largest diameter possible for your application.



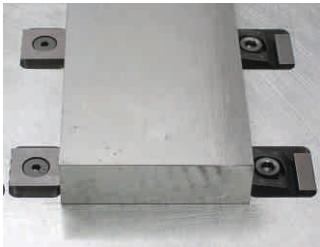
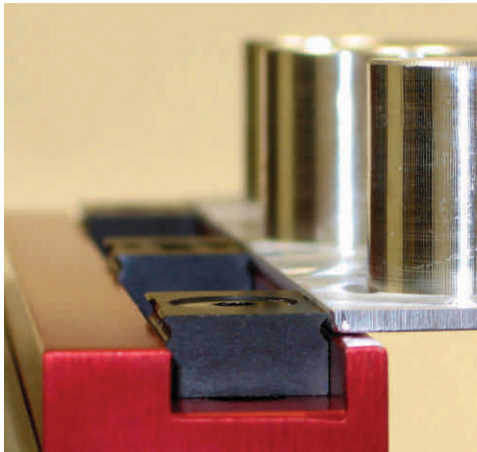
Manufactured from a solid billet ensures concentricity between the shaft and vacuum chambers, increased rigidity and the extra material needed if custom modification is required. For example: reducing the size of face plate or shaft diameter as well as machining mirror image of workpiece into faceplate for custom applications.

Rotary push to connect fitting designed for 1,100 RPM, however general machining practices and common sense must be considered when using this product. Recommended for light duty machining application - please contact us with any questions. Fittings are for 5/16 or 8mm tubing. If using on lathe, steel tubing is necessary with a coolant trap placed between vacuum pump and vacuum chuck. Flex tubing may be used on rotary table although steel tubing is always the preferred method.

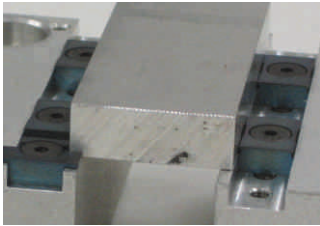


Part No.	Description	Diameter	Thickness
46400	Rotary Vacuum Plate with M6 tapped holes	9.85"	1.0"
46450	Rotary Sacrificial Plate	9.85"	0.375"
46455	8mm Rotary fitting		
45155	M6 Vacuum Grippers (2/pk)		
45111	Vacuum Gasket (black) sold by foot	.170"	
46401	Rotary Vacuum Kit (includes Vacuum Plate, Rotary Fitting, 4 Vacuum Grippers, Tubing and Gasket)		

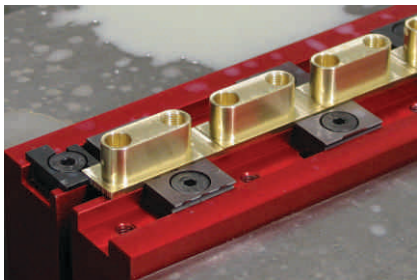
TALONGRIP® VISE JAWS



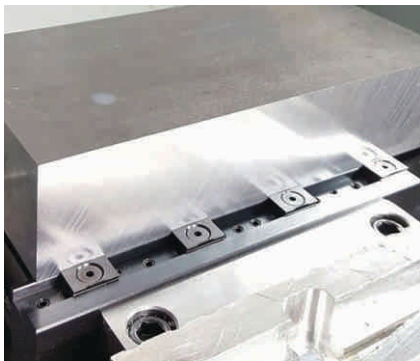
Fixture application with
Pitbull® Clamps



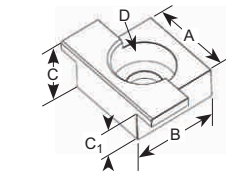
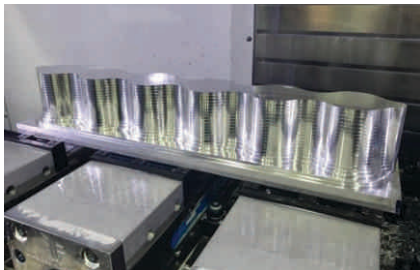
Soft jaws



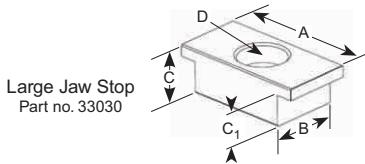
Multiple parts



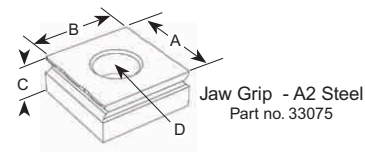
Large Part



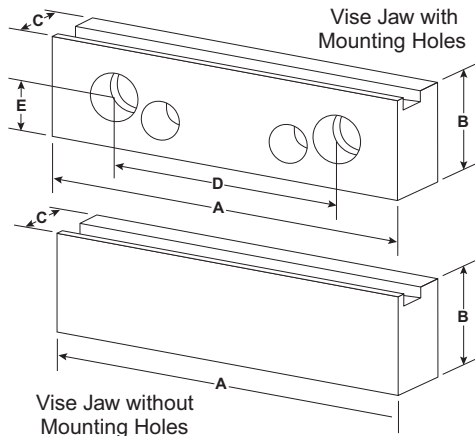
T-Style Stop
Part no. 33020



Large Jaw Stop
Part no. 33030



Jaw Grip - A2 Steel
Part no. 33075



GRIPS & STOPS

Part No.	Description	A	B	C	C ₁	D	Recommended Gripping Height	No. Per Pack
33050	Extra Grips	19.05	12.7	6.35	-	M5	1.5mm-1.9mm	2
33020	Extra Stop	19.05	12.7	6.35	4.95	M5	-	1
33030	Extra Stop	19.05	12.7	7.92	5.72	M5	-	1
33075	Fixture Grips	19.05	19.05	7.92	-	M5	1.5mm-3.0mm	2
33100	Fixture Grips	19.05	25.4	7.92	-	M5	1.5mm-3.0mm	2
33150	Fixture Grip	25.4	25.4	12.7	-	M8	1.5mm-5.6mm	1

STEEL VISE SET (Set includes 4 TalonGrips™, 1 stop with M5 screws)

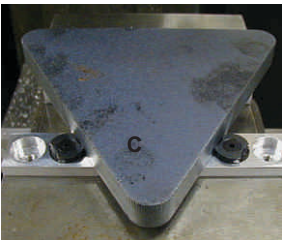
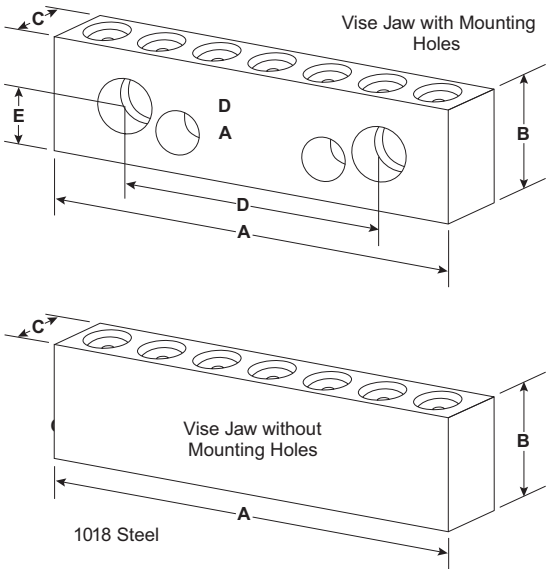
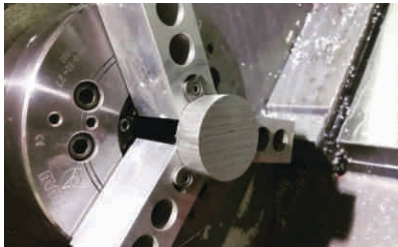
Part Number	Vise (metric)	A (metric)	B (metric)	C (metric)	D (metric)	E (metric)	-----Replacement----- Grips	Stops
WITH MOUNTING HOLES								
32044	4" (100mm)	4.0 (100)	1.48 (37.59)	1.0 (25.4)	2.5 (63.5)	.688 (17.47)	33050 (2/pk)	33020 (1 ea.)
32066	4"/6" (100mm/150mm)	6.0 (150)	1.73 (43.94)	1.0 (25.4)	2.5/3.88 (63.5/98.55)	.688/.94 (17.47/23.87)	33050 (2/pk)	33020 (1 ea.)
32068	6" (150mm)	8.0 (200)	1.73 (43.94)	1.0 (25.4)	3.88 (98.55)	.94 (23.87)	33050 (2/pk)	33020 (1 ea.)
32088	6"/8" (150mm/200mm)	8.0 (200)	2.45 (62.23)	1.25 (31.75)	3.87/4.75 (98.3/120.65)	.94/1.218 (23.88/30.94)	33075 (2/pk)	33030 (1 ea.)
WITHOUT MOUNTING HOLES								
33044	-	4.0 (100)	1.48 (37.59)	1.0 (25.4)	-	-	33050 (2/pk)	33020 (1 ea.)
33066	-	6.0 (150)	1.73 (43.94)	1.0 (25.4)	-	-	33050 (2/pk)	33020 (1 ea.)
33068	-	8.0 (200)	1.73 (43.94)	1.0 (25.4)	-	-	33050 (2/pk)	33020 (1 ea.)

VERSAGRIP® VISE JAWS



VersaGrip™, as the name implies, offers the versatility of clamping standard vise work as well as providing a solution for difficult applications that would normally require fixturing or machining softjaws. By simply replacing your current jaws with the VersaGrip™ system you can securely hold odd shaped parts while machining at speeds and feeds you never thought possible.

This system can accommodate a wide range of part sizes as well as holding multiple parts in a single cycle. The hardened (51-53 RC) VersaGrip™ has penetrating teeth designed to bite into your workpiece preventing lateral and horizontal movement. These grips will hold flame cut parts, castings, even parts with a negative draft!



Odd shaped parts



Tombstone application

TALONGRIP & VERSAGRIP 6" COMBO KIT

33006	6" Combo Kit
Contents of Kit	
32066	Talongrip™ Vise Jaw Set
32166	Versagrip™ Vise Jaw Set

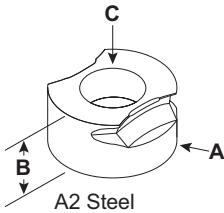
NOTE: All jaws designed to fit on a 4" or 6" vise.

STEEL VISE JAW SET (Set includes 4 VersaGrip™ with M5 Screws)

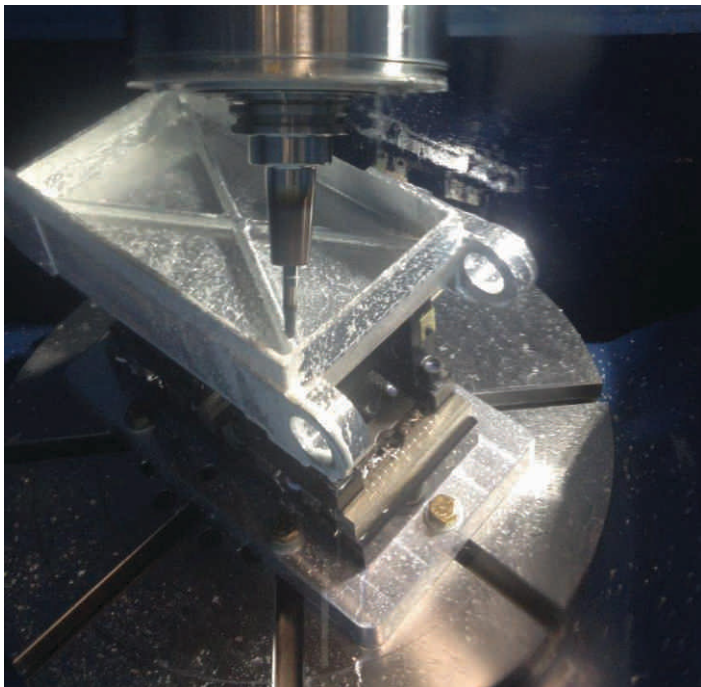
Part Number	Vise (metric)	A (metric)	B (metric)	C (metric)	D (metric)	E (metric)	Holes
WITH MOUNTING HOLES							
32166	4"/6" (100mm/150mm)	6.00 (150)	1.88 (47.75)	1.0 (25.4)	2.5/3.88 (63.5/98.55)	.688/.94 (17.47/23.87)	7
32168	6" (150mm)	8.00 (200)	1.88 (47.75)	1.0 (25.4)	3.88 (98.55)	.94 (23.87)	9
WITHOUT MOUNTING HOLES							
33166	-	6.00 (150)	1.88 (47.75)	1.0 (25.4)			
33168	-	8.00 (200)	1.88 (47.75)	1.0 (25.4)			

VERSAGRIP™

Part No.	A	B	C	Recommended Gripping Height	No. of Grips Per Pack
32175	19.05	9.52	M5	1.55mm-3.5mm	2

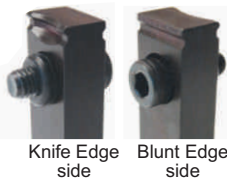
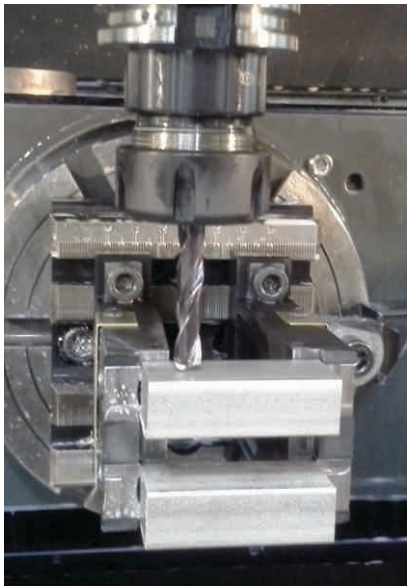
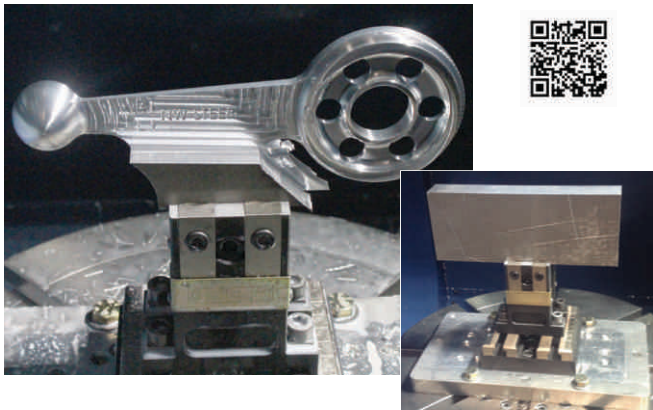


LOC-JAW® SYSTEM



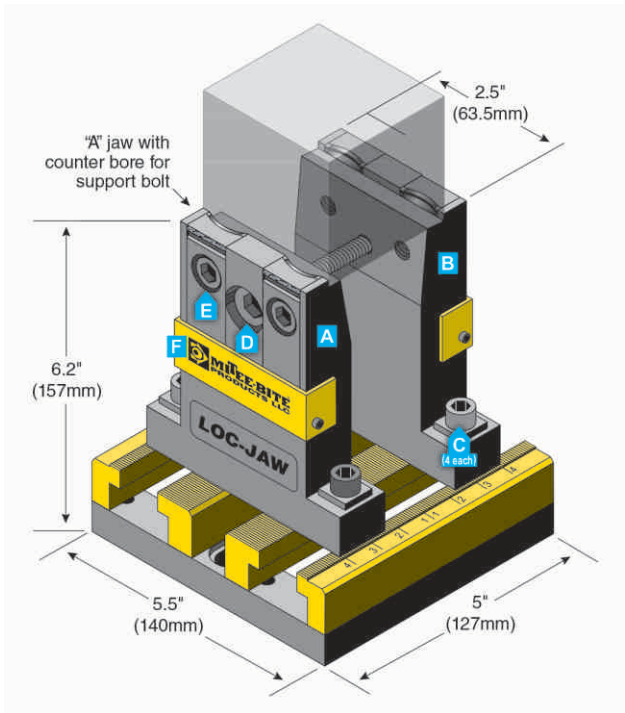
The Loc-Jaw® system was conceived to simplify, and allow greater tooling access and more versatility securing your parts when 4th and 5th axis machining. Designed to hold raw stock without a pre-op using the carrier method. New Combo Edge Grippers incorporate both Knife and Blunt-Edges in one grip.

- Unique design allows access to bottom of workpiece
- Ability to hold parts from .500" to 4.00" or up to 1 Meter with optional extension kit
- 6,000+ lbs of holding force gripping on only .125" of material
- Knife Edge side of grippers designed to penetrate into material up to .060" deep. Blunt-edge side of grippers with our Tungsten Carbide coating are recommended for high speed machining on hard alloys. All grippers heat treated A2.
- Centering Disk included for Loc-Jaw® base
- Set of locating pins included.



Torque (Ft/lbs)	Holding Force (lbs)
10	2,000
15	3,000
20	4,000
25	5,000
30	6,000

*Max torque of 25 ft. lbs. using Knife Edge grippers on material > 40Rc due to point contact.



Part Number	Description
14500	Loc-Jaw® System Ships fully assembled with all tools required
14525	Loc-Jaw® Extension Kit Includes base plate with rails, threaded rod 1 meter long and locking nut with spacer

REPLACEMENT PARTS

Part Number	Description
14501	Loc-Jaw® Support Bolt #1 (M10 x 45mm)
14502	Loc-Jaw® Support Bolt #2 (M10 x 65mm)
14503	Loc-Jaw® Support Bolt #3 (M10 x 90mm)
14504	Loc-Jaw® Support Bolt #4 (M10 x110mm)
14508	Loc-Jaw® Combo-Edge Grippers - 1 side knife edge, 1 side blunt edge with Tungsten Carbide coating (2 per pack)
14518	Loc-Jaw® Jaw Set - includes 2 Jaws, 4 Combo-Edge Grippers & Screws
14520	Loc-Jaw® Rail Set - includes 4 Rails, Screws, Dowel Pin

TALL VISE JAWS/TOWERS



These Vise Jaws/ Towers are designed to mount directly to your 4 or 6 inch vise elevating your workpiece into the 5 axis envelope. You already have the platform therefore this becomes a very simple and low cost solution. This is the only system on the market where you can loosen the vise and double the holding force!

The Towers are exceptionally versatile due to the incorporation of our TalonGrip™ and VersaGrip™ Grippers and Pitbull® clamps. Secure round or square stock easily by using a vise or by mounting towers directly to your t-slot or grid table. Low profile gripping saves material cost and no workpiece preparation saves machine and labor cost.



WISE APPLICATION

- Mount jaws to either 4 or 6 inch vise with MITEEBITE.COM facing outboard keeping mounting bolts loose.
- Determine which grippers will be used, install and tighten grippers hand tight. If VersaGrips™ are being used to grip round stock, place in outboard bores. Do not tighten screws at this point. Tighten vise lightly onto workpiece allowing jaws to center themselves, adjust VersaGrips™ and tighten gripper screws and mounting bolts for both jaws.
- Loosen vise jaw for load/unload clearance of workpiece. Install support/pivot bolt.
- Setup is complete. Tighten support bolt allowing grippers to penetrate .010-.060" on material < 40Rc.
- For additional holding force, loosen vise handle which will eliminate any jaw lift that may have occurred and depending on amount of torque can increase pressure to over 9,000 lbs.

T-SLOT & GRID TABLE APPLICATION

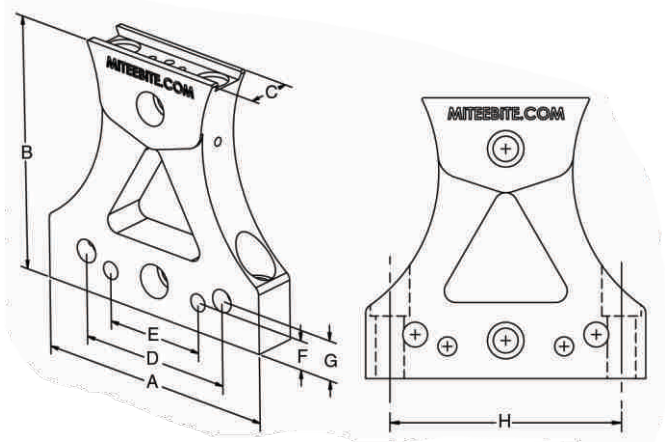
- Using vertical counter bores on outboard edges of jaws, install mounting bolts into t-nuts or grid plate and adjust accordingly. Do not tighten at this time.
- Select appropriate support bolts and install in upper horizontal counter bore and thread into opposite tower.
- Select grippers based on configuration suggestions below.
- Place workpiece between jaws and lightly tighten upper support bolt until all grippers contact workpiece. Tighten vertical mounting bolts.
- Loosen upper support bolt 1 full turn or until adequate workpiece clearance is obtained.
- Upper support bolt is now the “drive bolt” for securing and releasing workpiece.
- Any size t-nuts can be utilized. We provide 16mm t-nuts (mostpopular size) which also fits 5/8 t-slots.

T-SLOT & GRID TABLE APPLICATION

- Adjust so all “points” make contact simultaneously. If small diameter workpiece, two parts may be held at one time.
- Maximum of 8 TalonGrips™ can be used, 4 in each jaw for maximum line contact.
- If down force is necessary or additional holding force use 2 Pitbull® clamps. One in the center of each jaw and one TalonGrip™ on each side of Pitbull® clamps. Tighten jaws into grippers then tighten each Pitbull® clamp.

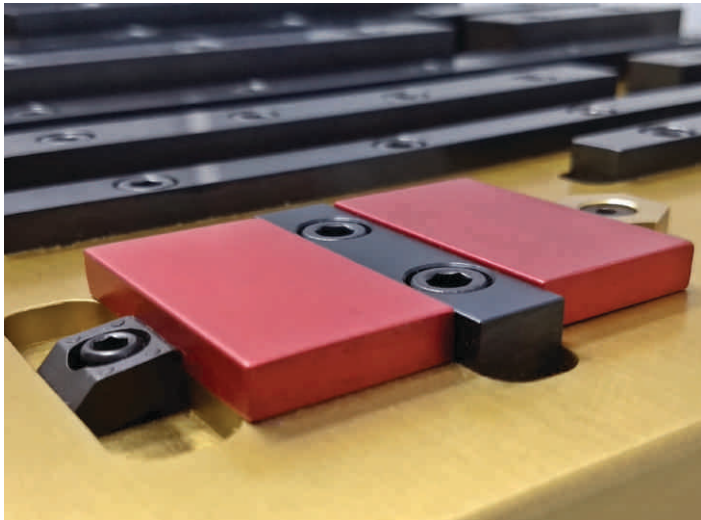
COMBO KIT CONTENTS:

2 Jaws	2 M12 x 200mm support bolts
4 Talongrip™ ¾" grippers with M5 screws	2 M12 x 100mm support bolts
4 Versagrip™ grippers with M5 screws	2 M12 x 65mm support bolts
1 Talongrip™ ¾" stop with M5 screw	4 M12 x 55mm mounting bolts
2 Pitbull® blunt edge clamps with M6 screws	4 M12 x 16mm T-nuts

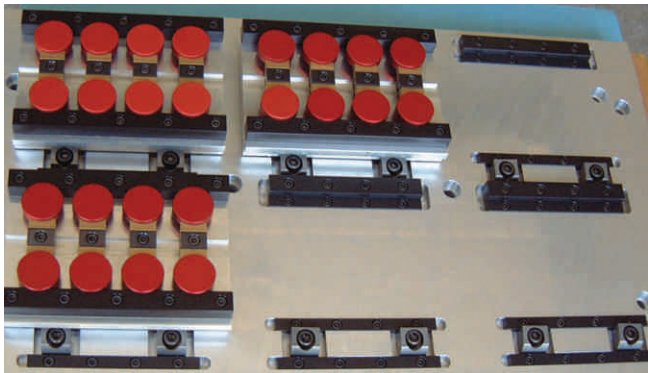


Part No.	Description	Vise size	Mtg. Bolts	A	B	C	D	E	F	G	H
32266	150mm Jaw Set	100mm/150mm	M12X55mm SHCS	150.00mm	150.00mm	26.92mm	98.55mm	63.50mm	17.53mm	23.88mm	125.98mm

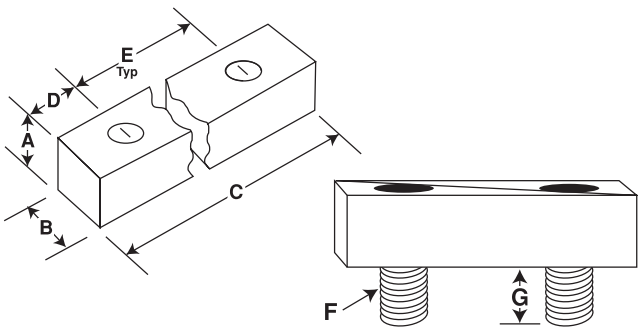
LOCATING RAILS FOR JIGS AND FIXTURES



Locating rails are made of low carbon steel and are precision ground square. They are available in a number of sizes and lengths to suit most applications.



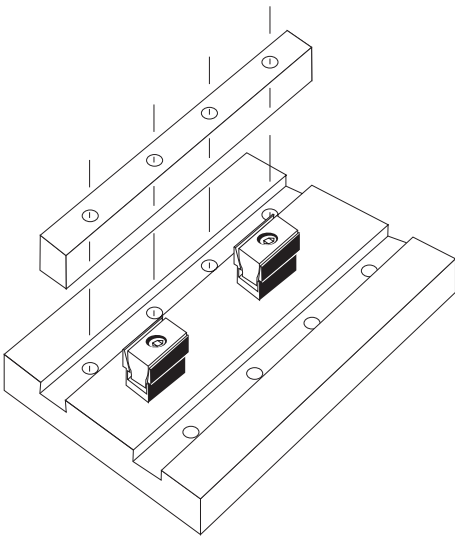
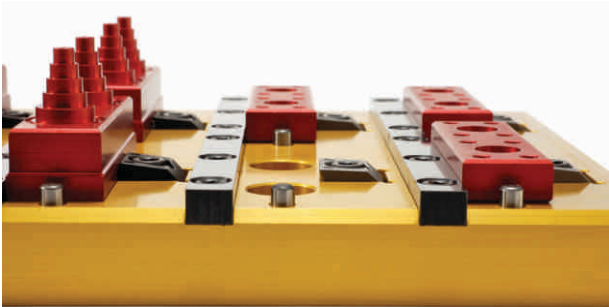
Locating rails used with Machinable Uniforce® and Pitbull® Clamps



Is it taking too long to make a fixture to increase production?

Mitee-Bite Products makes fixture building easier and quicker with the addition of ready made locating rails.

Rails are made of low carbon steel, then ground square. They are easily machined when used with our machinable clamps. Tungsten Carbide coating can be added to increase holding force.



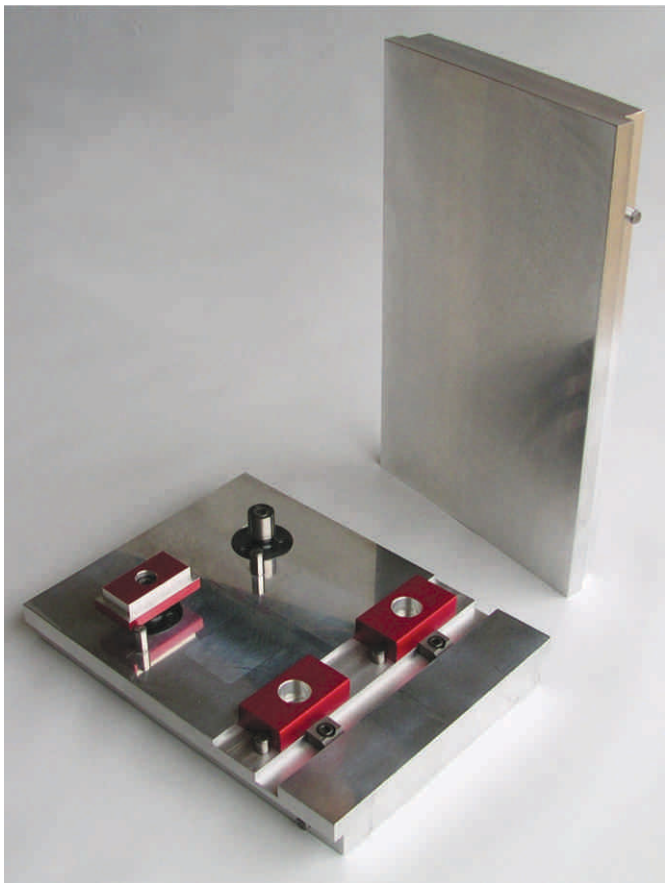
Part Number	A	+0.000 B-.013	C	D	E	F	G	No. Holes
83200	12	15	50	15	20	M6	11mm	2
83210	12	15	100	20	30	M6	11mm	3
83220	12	15	150	30	30	M6	11mm	4
83240	12	15	250	25	50	M6	11mm	5
83260	18	24	75	20	35	M10	18mm	2
83280	18	24	150	30	30	M10	18mm	4
83300	18	24	250	25	50	M10	18mm	5

Mounting Screws included.

LOCATING RAIL INSTALLATION:

1. Mill a slot to locate the rail.
Depth of the slot will determine rail height.
2. Drill and tap the required holes to mount the rail.
3. For better rigidity, the rail should be pinned to the fixture plate with dowel pins.
4. If rails are to be machined to hold round pieces, the clamps should be mounted and both rail and clamp machined at the same time

WISE PALLET



- Now you can run fixture jobs without removing your vises.
- Vise Pallets are designed to fit in all 6 inch (150mm) vises and measure approximately 6x8 and 6x10 inches (150x203mm and 150x254mm).
- Ideal for multiple small parts using one of several Mitee-Bite low profile edge clamps.
- The Vise Pallets are qualified in 2 places so they can rest on parallels or on the top of the jaws.

HOW TO USE

The Mitee-Bite Vise Pallet has a locating pin that makes contact with the left side of the solid jaw for repeat location of pallet. Simply slide pallet to the right of the vise and clamp in place. Pallets can be machined and tapped as required.



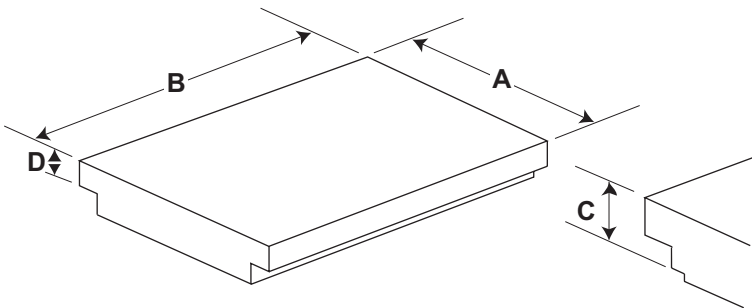
Vise Pallet with ID Xpansion™ Clamps



Fixtured with Mitee-Bitee Uniforce® Clamps and locating rails

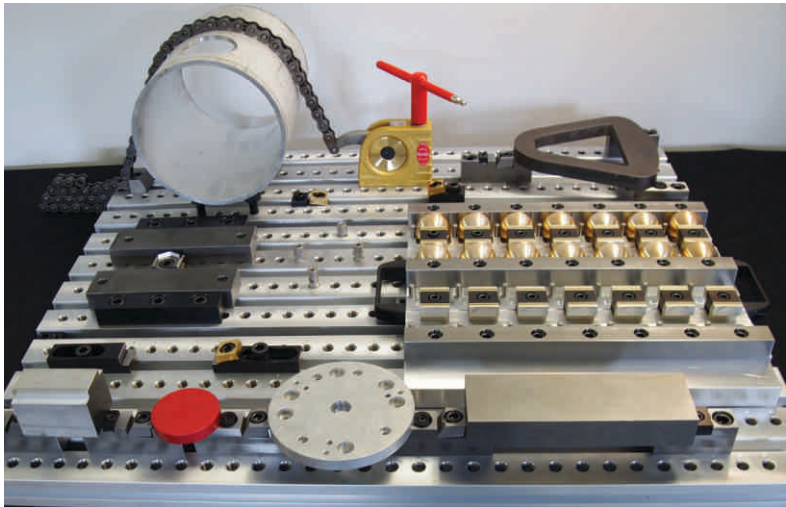


Fixtured with Mitee-Bitee Machinable Uniforce® Clamps



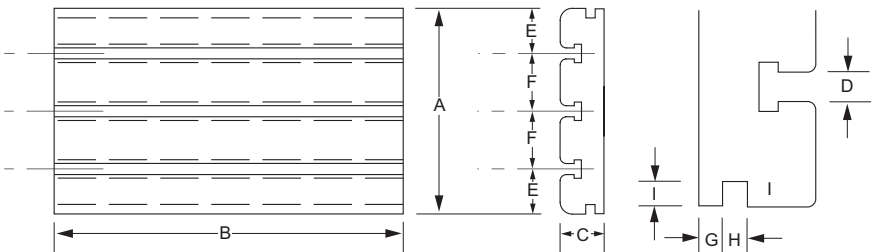
Part Number	A (metric)	B (metric)	C (metric)	D (metric)
24100	6.00 (150)	8.00 (203)	.95 (24.4)	.44 (11.2)
24120	6.00 (150)	10.00 (254)	.95 (24.4)	.44 (11.2)

ALUMINUM T-SLOT PLATES



- Standard T-slot plates can be ordered in custom lengths up to 66" (1676mm), not machined
- Standard sizes are premachined to .005 (.13mm) flatness and parallelism per foot (300mm)

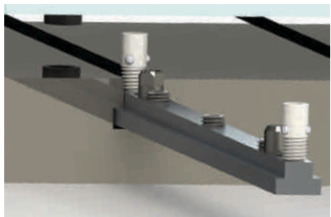
Our standard T-Slot Plates provide a low cost solution to transform your grid plates, cmm's and even drill presses into a more universal platform. All of our modular clamping systems that use 5/8 and 16mm t-nuts can be easily used on this platform, from the basic and still popular clamps that started Mitee-Bite 30 years ago to some of the strongest clamps in the industry including unique solutions using chain clamps and vacuum workholding. Our T-Nut Rail below is drilled and tapped for some of our quick change systems and also has precision 12mm bores for our diamond and taper pins, so now you have the possibilities of using this as a quick change platform. Take a look at our social media network when considering new methods, these guys and gals showcase true talent and creativity.



STANDARD T-SLOT PLATE without Mounting Holes

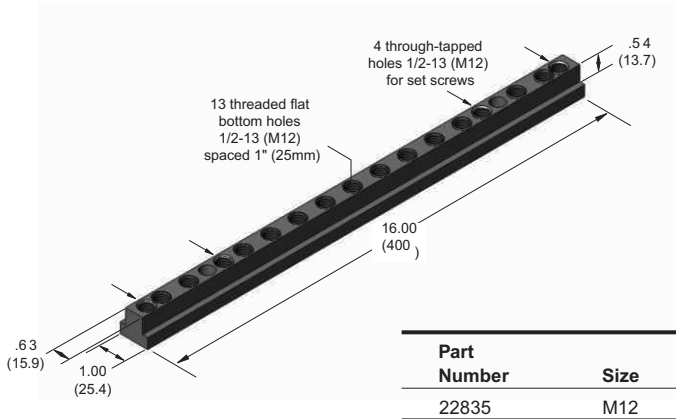
Part Number	A x B x C (metric)	T-slots	D (metric)	E (metric)	F (metric)	G (metric)	H (metric)	I (metric)	Lbs. (KG)
22913	9.0 x 13.0 x 1.48 (228 x 330 x 38)	3	5/8 (16)	2.00 (50.8)	2.50 (63.5)	.49 (12.7)	.50 (12.7)	.50 (12.7)	13.3 (6.1)
22918	9.0 x 18.0 x 1.48 (228 x 457 x 38)	3	5/8 (16)	2.00 (50.8)	2.50 (63.5)	.49 (12.7)	.50 (12.7)	.50 (12.7)	18.5 (8.5)
22924	9.0 x 24.0 x 1.48 (228 x 610 x 38)	3	5/8 (16)	2.00 (50.8)	2.50 (63.5)	.49 (12.7)	.50 (12.7)	.50 (12.7)	24.8 (11.3)

T-NUT RAIL

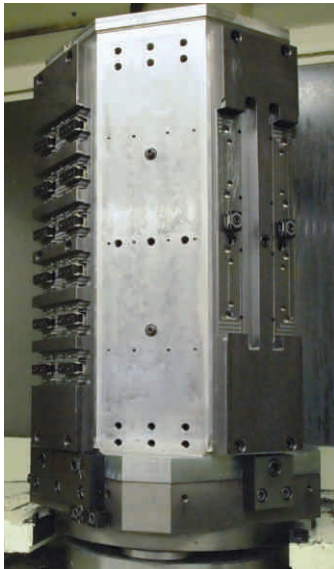


Using this T-Nut Rail with our Aluminum T-Slot Plates provides more mounting configurations with our standard clamps as well as serving as a simple pallet changer when the

Locating Pins are installed. Center-line dimensions for pins are the same as all our blank pallets used with our Vacmagic® product line, will also locate our VM300 and Multi-Power Vac which have liners installed in the bottom of units again with same center-line dimensions. 4 set-screws lock rail and place, depth of threaded holes set for Loc-Downs®.



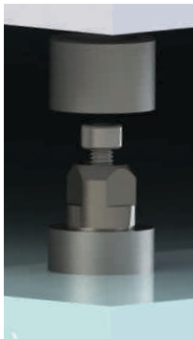
LOCATING PINS AND LINERS



Use our Diamond and Tapered pins to standardize your shop with a universal pattern, allowing fixtures to be quickly mounted to any machining center.

Part Number	Description
51000	Set of pins with M4 screws
52000	Set of pins with 8-32 screws
45070	Liners (2/pk)

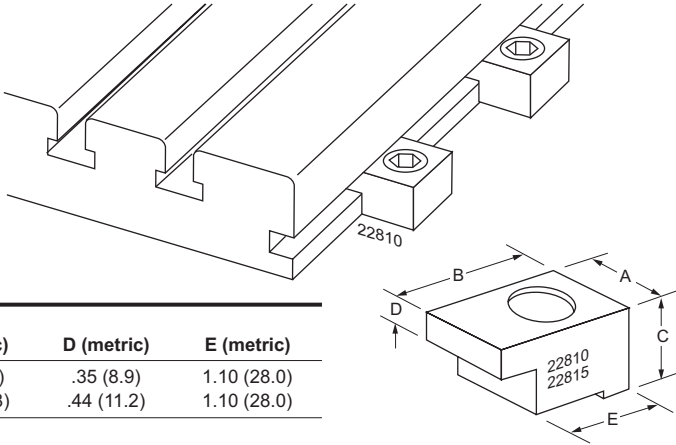
- Designed with simplicity in mind - easy to install and remove
- Available with Inch or Metric hardware
- Use with Loc-Downs® for low cost quick change system
- Cylindrically ground
- Heat treated 8620



MOUNTING CLAMPS



Mounting clamps are designed for securing MITEE-BITE Aluminum Sub Plates, Vacmagic® and many types of machine vises.

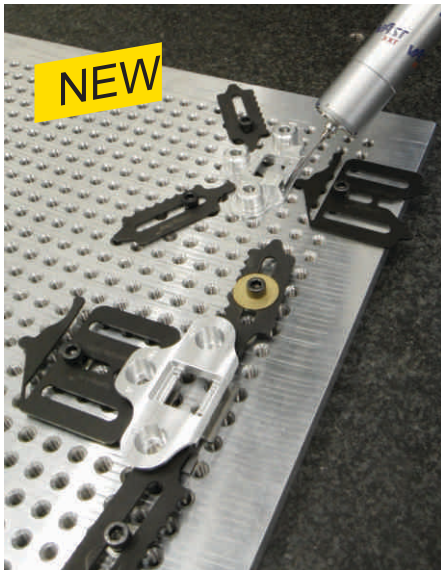


Part Number	Screw Size (metric)	A (metric)	B (metric)	C (metric)	D (metric)	E (metric)
22810 [*]	1/2 (M12)	1.25 (31.8)	1.50 (38.1)	.87 (22.1)	.35 (8.9)	1.10 (28.0)
22815 ^{**}	1/2 (M12)	1.25 (31.8)	1.50 (38.1)	1.25 (31.8)	.44 (11.2)	1.10 (28.0)

^{*}For Vacmagic® VM100

^{**}For Vacmagic® VM300

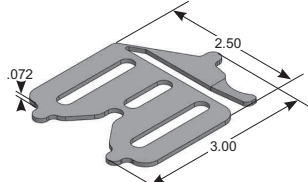
SPRING LOC™ AND SLIDING STOP™



The Spring-Loc™ is an extremely low profile (.072") adjustable clamp capable of producing approximately 10 lbs. of clamping pressure depending on how much the flex arm is compressed in the locked position. The center slot allows 360° positioning. The back end of the Spring-Loc™ is "V" shaped allowing customers to run parts in series for engraving, laser etching and provides a simple and quick method for locating and holding parts for CMM and Vision Systems.

The Sliding Stop™ was primarily designed to assist in vacuum workholding applications allowing customers to run at higher feeds and speeds. We incorporated a scallop on the edge of the Stop which aids in better viewing with CMM and Vision Systems.

Part No.	Description	Screw	Sold
42000	Spring-Loc™ Kit (Includes 4 Clamps & Stops)	1/4-20	Kit
42100	Spring-Loc™ Clamp	1/4-20	2/pk
42200	Sliding-Stop™ (1"x3", .0734)	1/4-20	4/pk
44000	Spring-Loc™ Kit (Includes 4 Clamps & Stops)	M6	Kit
44100	Spring-Loc™ Clamp	M6	2/pk
44200	Sliding-Stop™ (1"x3", .0734)	M6	4/pk

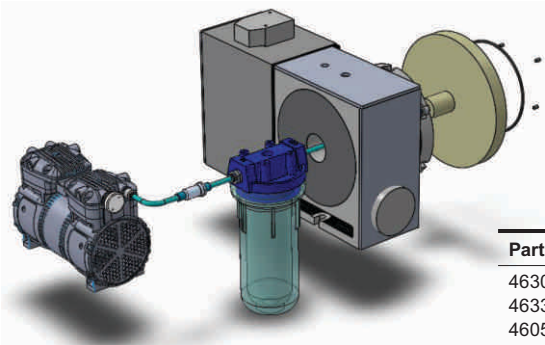


VACUUM PUMP



We now offer an Electric Vacuum Pump/Air Compressor option for use with all of our vacuum systems or your current system. This unit is compact, quiet and guaranteed to run continuously for 1 year!

The Pump produces a high evacuation rate of 5 cfm which is recommended for larger parts or difficult gasket sealing situations as the pump can compensate for gasket leakage much better. At dead head the vacuum pump develops approximately 12-13 psi of vacuum holding force. Mitee-Bite recommends using our Coolant Trap between fixture and pumps, so that any liquid that bypasses the gasket can be captured so not to affect vacuum performance.



The Pump is available operating on 115 volt or 230 volt and includes our coolant trap, air filter, non-skid feet & 10' power cord with on/off switch. The 230 volt cord will have flying leads* due to the wide variety of plugs.

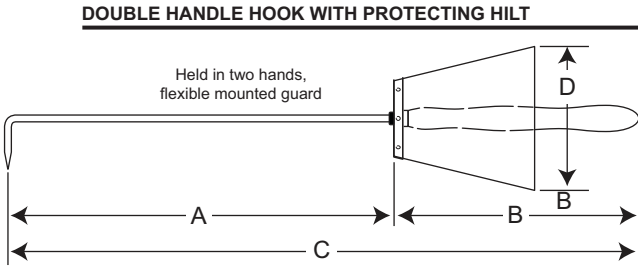
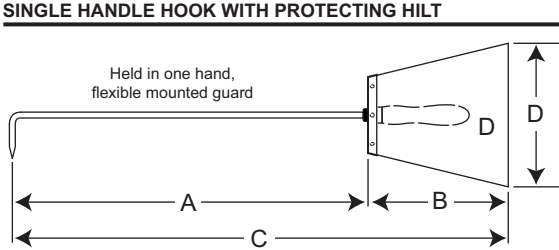
*No plug on end of cord.

Part No.	Description
46300	Vacuum Pump/Air compressor wired 115 volt Coolant Trap, fittings, hoses & hardware included
46330	Vacuum Pump/Air compressor wired 230 volt Coolant Trap, fittings, hoses & hardware included
46050	Coolant Trap with hose and fittings

CHIP HOOKS



The chip hook is an essential safety tool for all shops. These galvanized steel hooks are fitted with a protective polyethylene hilt and wooden handles to ensure a firm grip. Available in several lengths and single or double handles.

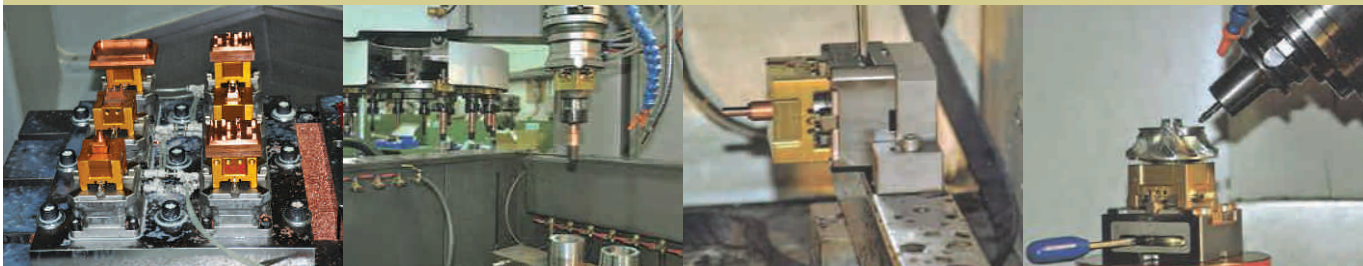


SAFETY! A work related accident can happen very easily. Always use a chip hook to clear away annoying chips and empty the chip trays on your machines.

Part Number	Description	A (metric)	B (metric)	C (metric)	D (metric)
SINGLE HANDLE					
12060	Chip hook, single handle	15.75 (400)	7.0 (180)	22.5 (570)	7.0 (180)
12070	Chip hook, single handle	20.0 (500)	7.0 (180)	26.0 (670)	7.0 (180)
DOUBLE HANDLE					
12080	Chip hook, double handle	20.0 (500)	13.0 (320)	32.0 (820)	7.0 (180)
12090	Chip hook, double handle	31.5 (800)	13.0 (320)	44.0 (1120)	7.0 (180)
12100	Chip hook, double handle	39.0 (1000)	13.0 (320)	52.0 (1320)	7.0 (180)

CHUCKS FOR PRODUCTION MACHINING, EDM AND WIRECUT EDM

FOR TOOL / DIE MAKING AND PRODUCTION



2µm REPEAT POSITIONING ACCURACY

• WORKPIECE • FIXTURING • MAKING ELECTRODES • EDM SINKING • WIRECUT EDMING • MEASURING

MANUAL CHUCKS



HM 80E
CHUCK FOR MILLING



HL- 110E
CHUCK FOR LATHE & MILLING



HW- 128E
CHUCK FOR WIRECUT EDM & MILLING



HE- 65E
CHUCK FOR EDM

QUICK MANUAL CHUCKS



QL-110E
CHUCK FOR LATHE & MILLING



QW-128E
CHUCK FOR WIRECUT & MILLING



QE-84E
CHUCK FOR EDM & MILLING

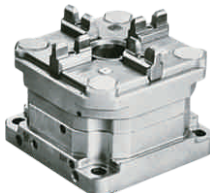


QE-88E
CHUCK FOR EDM & MILLING

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