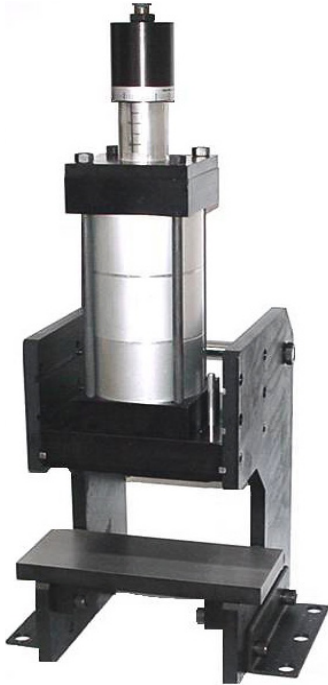


Heavy Duty Bench Top Press

Model: BTP-501

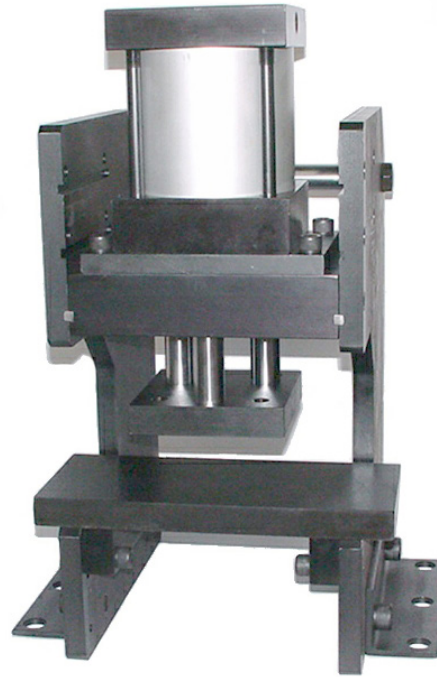
For single piston rod, 5.00"
Bore, MF1 mount cylinders



Heavy Duty Bench Top Press shown with 5.00"
Bore three (3) Stage Multi-Stage Cylinder and
Micro-Adjust precision stroke adjustment

Model: BTP-502

For 'TRA' triple piston rod, 5.00"
Bore, MF1 mount cylinders



Heavy Duty Bench Top Press shown with 5.00"
Bore Single-Stage Triple Rod Cylinder and
Tooling Plate

Features and Benefits

- Heavy duty steel keyed and bolted construction
- Adjustable work heights - Choose from three different built-in height settings (2" increments)
- Open work area - Allows for through feed or side feed of large parts.
- Removable, oversized ground tool plate, dowel pinned to press frame - provides precision location of tool plate to press frame
- Press designed to accept 5.00" Bore NFPA standard cylinders, Multi-Stage cylinders, or optional Triple Rod Cylinders.
- 8.00" Bore specials also available upon request
- Optional External Mounted Non-Rotating Feature
- Strokes from 1.00" to 6.00"
- Easy to Assemble or can be ordered fully assembled
- Finish - All steel parts are Black Oxide Plated, aluminum parts are Anodized
- NRE (non-rotating) option available

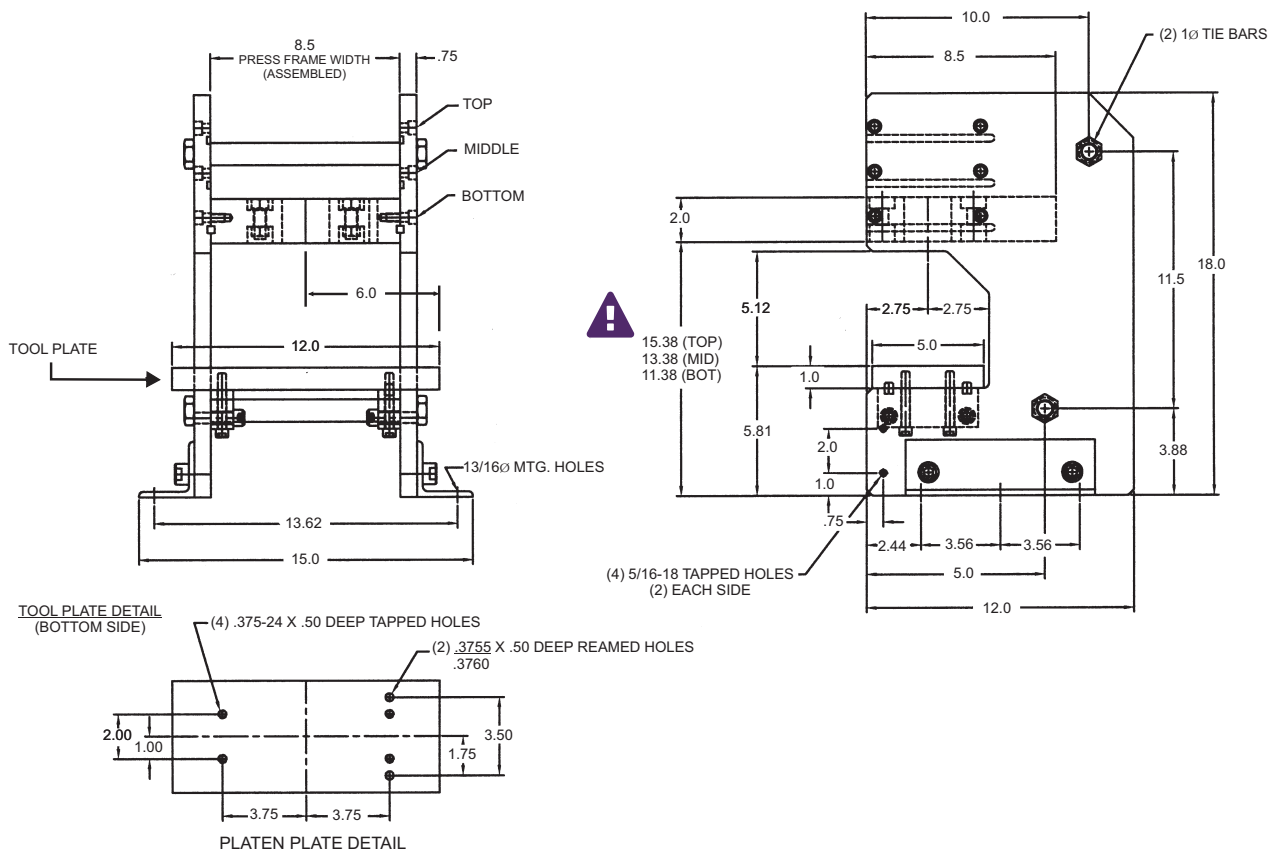
TRD Series Bench Top Presses are ordered using an alphanumeric cluster. An example Bench Top Press part number can be found below.

BTP

501

Series	Model	Options
BTP Bench Top Press Frame	501 5.00" Bore Cylinder Mounting (Single Stage Or Multi-Stage)	A Fully Assembled (Press & Cyl.)
	502 5.00" Bore Triple Rod Cylinder Mounting	NRE Non-Rotating External (Specify Cyl. Stroke & Rod Dia.)
	Order cylinder separately.	U Unassembled Unit

Dimensions



Notes:

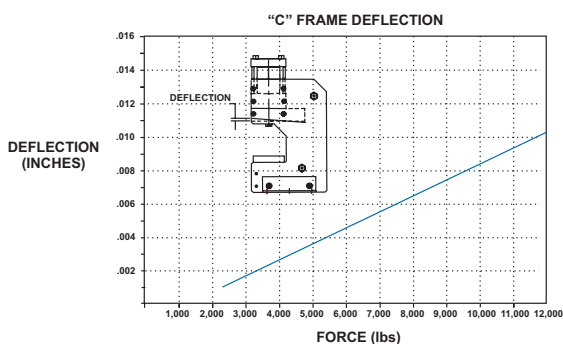
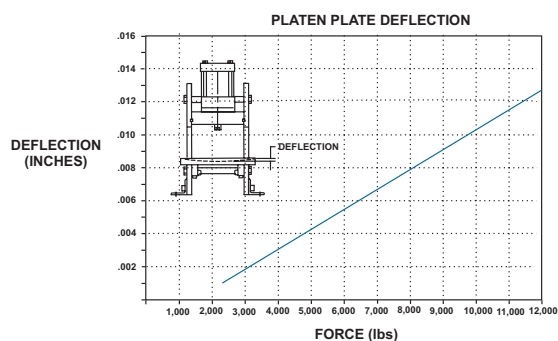
-  Dimension reflects the press top plate mounted in the bottom (lowest) position. Add 2" for mid position and 4" for top position
- Mounting brackets are reversible and can be assembled on inside of press frame to reduce overall width.
- Weight: 120 pounds (press frame only)

Technical Data

Cylinder Selection Force Chart

			Extend Force						
Cylinder	Rod Diameter	Effective Area Extending	60 PSI	70 PSI	80 PSI	90 PSI	100 PSI	110 PSI	125 PSI
Single Stage	1.000	19.635	1178	1374	1570	1767	1963	2160	2454
	1.375	19.635	1178	1374	1570	1767	1963	2160	2454
(2) Stage	1.000	38.485	2309	2693	3078	3463	3848	4233	4810
	1.375	37.785	2267	2644	3022	3400	3778	4156	4723
(3) Stage	1.000	57.334	3440	4013	4586	5160	5733	6306	7166
	1.375	55.935	3356	3915	4474	5034	5593	6153	6992
(4) Stage	1.000	76.184	4571	5332	6094	6856	7618	8380	9523
	1.375	74.085	4445	5186	5927	6667	7408	8149	9260
(5) Stage	1.000	95.034	5702	6652	7602	8553	9503	10453	11879
	1.375	92.235	5533	6456	7379	8301	9223	10145	11529
			Retract Force						
Single Stage (Or Multi-Stage)	1.000	18.85	1131	1319	1508	1696	1885	2073	2356
	1.375	18.15	1089	1270	1452	1633	1815	1996	2268
Triple Rod	1.000	17.279	1036	1209	1382	1555	1728	1900	2160

Press Frame Deflection Charts



Press Frame Cylinder Speed Chart

Notes:

- Cylinder cycle rates can vary depending on air valve sizes, airline diameter and length, type of fitting, and if quick exhaust dump valves are used.
- The Speed Chart represents how fast cylinders can cycle and build pressure at each end of stroke (to simulate work being done.) To maximize cylinder performance, all cycle tests were performed using 5 Cv double solenoid valves, .750" air hose and quick-dump exhaust valves.

Cylinder	Cycles Per Minute
(1) Stage-TA	263
(2) Stage	141
(3) Stage	125
(4) Stage	91
(5) Stage	77

Press Frame Cylinder

Choose from Single Stage, Multi-Stage, Triple-Rod (Non-Rotating with Tool Plate) or Triple-Rod Multi-Stage Press Cylinders. Double rod end styles are available on all models.

- **Single Stage:** Basic single bore, double acting cylinder.
- **Multi-Stage:** Multi-Stage cylinders are double acting and multiply the output force by supplying air to multiple pistons. The MSEP multiplies the force on the extend stroke and uses only one piston on the return stroke, saving air volume and operating costs. The MSEP-MSRP multiplies the force in both directions. Choose from 2 stage (2S), 3 stage (3S), 4 stage (4S), or 5 stage (5S) models.
- **Triple Rod:** A cylinder with three piston rods and a tooling plate as standard features. The 5.00" square tooling plate distributes the cylinder force over a large work area. Standard features also include four (4) .500-20 UNF tapped holes in the tooling plate that can be used to mount customer fixtures or tooling. Triple rod cylinders can be ordered as a single stage or multi-stage (2S, 3S, 4S or 5S) models.

About Rod End Styles

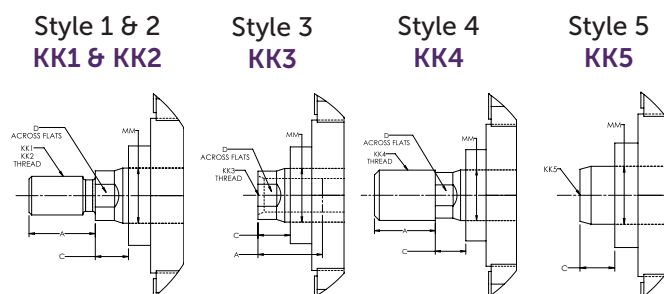
Style 3 (KK3) Female Rod End is STANDARD.

Other NFPA styles can be specified (see chart).

Need a rod end not listed? NO PROBLEM! Each Piston Rod is made-to-order and does not delay shipment. Coarse UNC threads, Metric threads or just plain rod ends are common. Thread lengths are also made-to-order (Specify: "A"=Length).

NEED SOMETHING NOT LISTED? Just send us a sketch. In most cases, quotes are turned around in one day!

Piston Rod End Styles

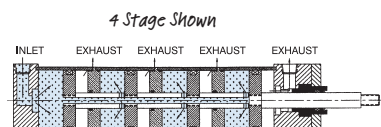


Single Stage or Multi-Stage Rod End Styles & Options										
Rod Diameter (MM)	C	Standard		Optional						
		Style 3 - Female		Style 1 - Male		Style 2 - Male		Style 4 - Male		Style 5 - Blank
		KK3	A	KK1	A	KK2	A	KK4	A	KKS
1.000 Standard	0.875	3/4-16	1.125	3/4-16	1.125	7/8-14	1.125	1-14	1.125	No Thread
1.375 Oversize	0.875	1-14	1.625	1-14	1.625	1 1/4-12	1.625	1 3/8-12	1.625	

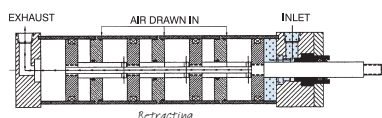
How Multi-Stage Cylinders Work

Model MSEP

Extension-air supplied to multiple pistons



Retraction-air supplied to one piston



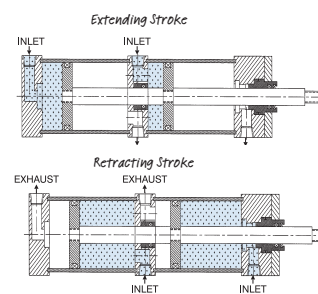
Note: Cap cushion not available on MSEP

Model MSEP/MSRP

Extension AND Retraction-air supplied to multiple pistons
Head and Cap Cushion Available

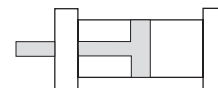
To Order, specify: MSEP/MvSRP as model number

Note: Overall lengths are increased



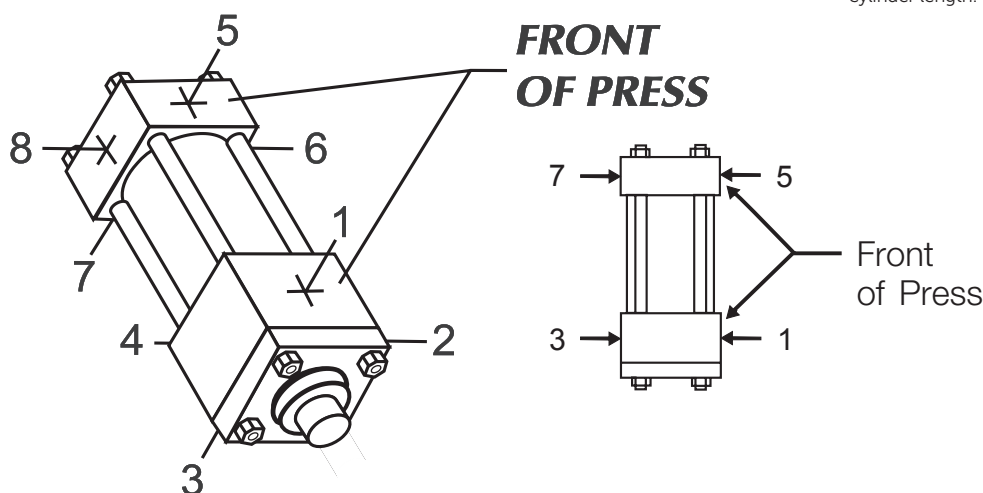
Model MSE/MSR
2 Stage Shown

Single Stage



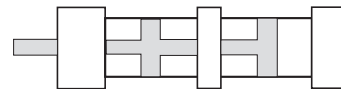
TAP		MX3		5		X		1					
Series		NFPA Mount		Bore		Stroke						Options	
TAP 250 PSI Air						0.5" To 6" Made-To-Order							
Style		Cushions		Rod Style End & Modifications									
(Blank) Single Rod		(Blank) Non-Cushion		(Blank) KK3 Female Rod Thread								AO Air / Oil Piston	
D Double Rod End (Required For "MA" Option)		H Head Cushion Position 1 Standard, Specify For Positions 2, 3 Or 4 (Example = H2)		KK3S Studded Piston Rod (With KK3)								B** .25" Urethane Bumper Both Ends	
		C Cap Cushion Position 5 Standard, Specify For Positions 6, 7 Or 8 (Example = C6)		KK1 Small Male Rod Thread								BH** .25" Urethane Bumper Head Only	
				KK2 Large Male Rod Thread								BC** .25" Urethane Bumper Cap Only	
				KK4 Full Diameter Male Rod Thread								BSPB British Standard Pipe Taper	
				KK5 Blank Rod End								BSPT British Standard Pipe Parallel	
				"A" Extended Piston Rod Thread (Specify)								MPR Magnetic Piston For Switches	
				"C" Extended Piston Rod (Specify)								MA Micro-Adjust	
												MAB With Noise Dampening Bumper Installed	
												MS Metallic Rod Scraper (Brass)	
												OP Optional Port Location (Example: OP=3,7)	
												OS Oversized Rod Diameter (1.375")	
												SAE SAE Ports (specify size)	
												TH 400 PSI Hydraulic, Non-Shock	
												VS FKM® Seals	
												XX Special Variation (Specify)	

PORT & CUSHION POSITIONS



Standard Port Positions @ 3 and 7 (Back Of Press)
Standard Cushion Positions @ 1 and 5 (Front Of Press)
Specify Non-Standard Locations When Ordering

Multi-Stage



MSEP - MX3 - - 5 X 1 - 2S - - -

Series		Style		Bore	Stroke	Stages	Options	
MSEP		(Blank) Single Rod			0.5" To 6"	2S Two	B**	.25" Urethane Bumper Both Ends
MSEP/MSRP		D Double Rod End (Required For "MA" Option)			Made-To-Order	3S Three	BH**	.25" Urethane Bumper Head Only
					*0.125 for MSEP	4S Four	BC**	.25" Urethane Bumper Cap Only
						5S Five	BSPP	British Standard Pipe Taper
							BSPT	British Standard Pipe Parallel
							MPR*	Magnetic Piston For Switches
							MS	Metallic Rod Scraper (Brass)
							OP	Optional Port Location (Example: OP=3,7)
							OS	Oversized Rod Diameter (1.375")
							VS	FKM® Seals
							XX	Special Variation (Specify)
							SAE	SAE Ports (Specify Size)

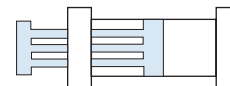
Cushions		Rod Style End & Modifications	
(Blank)	Non-Cushion	(Blank)	Female Rod Thread (KK3)
H	Head Cushion Position 1 Standard, Specify for Positions 2, 3 or 4 (Example = H2)	KK3S	Studded Piston Rod (With KK3)
	Cap Cushion Position 5 Standard, Specify for Positions 6, 7 or 8 (Example = C6)	KK1	Small Male Rod Thread
C		KK2	Large Male Rod Thread
		KK4	Full Diameter Male Rod Thread
		KK5	Blank Rod End
		"A"	Extended Piston Rod Thread (Specify)
		"C"	Extended Piston Rod (Specify)

Micro-Adjust	
MA	Micro-Adjust
MAB	With Noise Dampening Bumper Installed

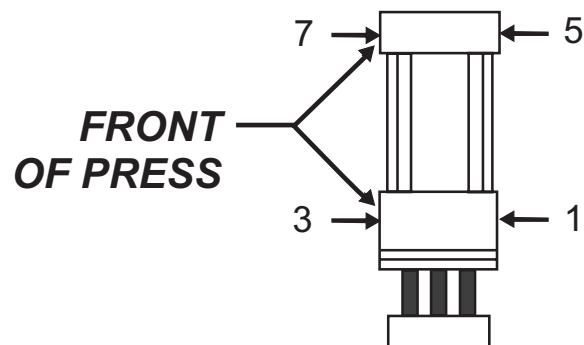
Note: MSEP vent ports are provided in line with cylinder ports as standard.

*MPR add 0.875" to cylinder length
 **Bumpers add .25" per end to cylinder length.

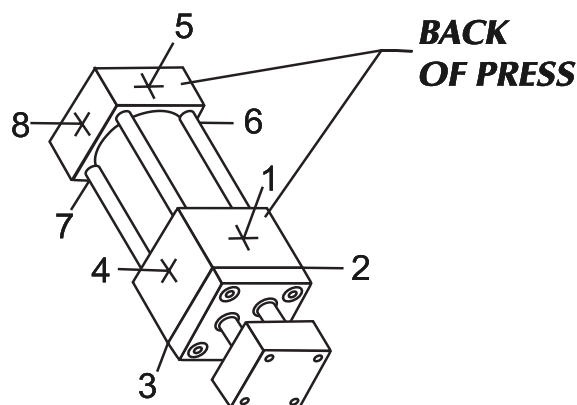
Triple Rod (With Tool Plate)



TRAP - MF1 -		5 X 1 -		2S -			
Series	NFPA Mount	Style	Bore	Stroke	Stages	Cushions	Options
TRAP Single Stage, 250 PSI Air		(Blank) Single Rod		0" To 6" Made-To-Order	(Blank) Single Stage	(Blank) Non-Cushion	.25" Urethane Bumper Both Ends
TRAP-MSE Multi-Stage Extend, 125 PSI Air		D Double Rod End (Single Rod At Cap) (Required For "MA" Option)			2S Two	H Standard Specify For Positions 1 or 4 (Example = H2)	BH** .25" Urethane Bumper Head Only
					3S Three	C Cap Cushion (TRP Only) Position 6 Standard Specify For Positions 5 or 8 (Example = C6)	BC** .25" Urethane Bumper Cap Only
					4S Four		BSPP British Standard Pipe Taper
					5S Five		BSPT British Standard Pipe Parallel
							MPR Magnetic Piston For Switches
							OP Optional Port Location (Example: OP=3,7)
							TH 400 PSI Hydraulic, Non-Shock
							VS FKM® Seals
							XX Special Variation (Specify)
							SAE SAE Ports (Specify Size)



PORT & CUSHION POSITIONS



Standard Port Positions @ 1 and 5 (Back Of Press)
 Standard Cushion Positions @ 2 and 6 (Front Of Press)
 (Note: Ports or cushions not available at positions 3 & 7, front of press)
 TRAP-MSEP vent ports are on back of press in line with cylinder ports as standard.

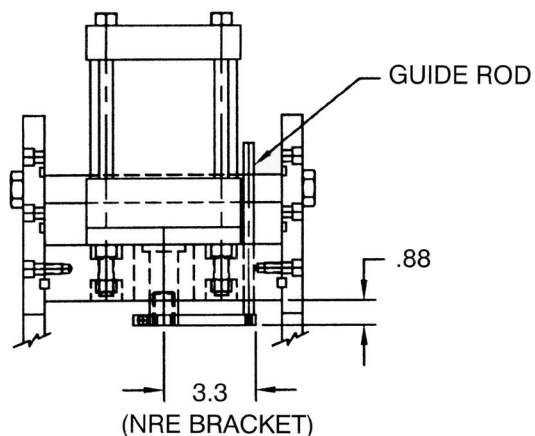
Micro-Adjust	
MA	Micro-Adjust With Noise Dampening Bumper Installed
MAB	

**Bumpers add .25" per end to cylinder length.

Options

NRE External Non-Rotating

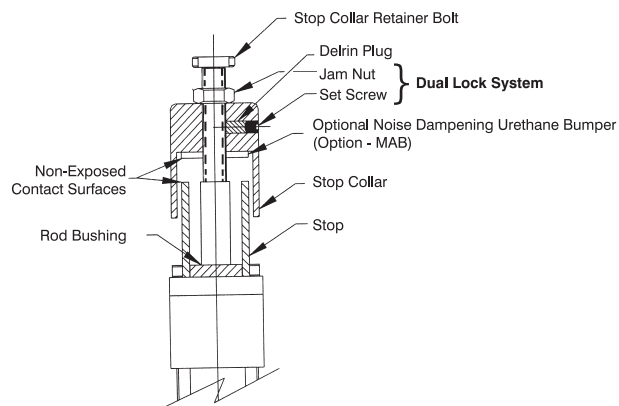
- The External Non-Rotating option prevents the piston rod (and any attached tooling) from rotating as the cylinder cycles.
- Since the “NRE” bracket and guide rod are externally mounted, they can be added or removed for different applications. All press frames are made to accept this add-on option.
- For high torsional load applications, cylinder can be equipped with a twin guide rod internally (“NR” cylinder option).
- Consult factory for details.



MA Micro-Adjust

- Allows precision adjustment of cylinder extend stroke
- Easy to read precision scale (.001" calibration)
- Enclosed, no pinch point design
- Available on all cylinder models with “D” Double Rod End option
- Up to 6" stroke* and adjustment over full range of stroke

*6" stroke on BTP models.



Balluff Transducer

Balluff transducers can provide positive verification on the depth of each cylinder stroke cycle. This is very important for today's quality control system requirements.

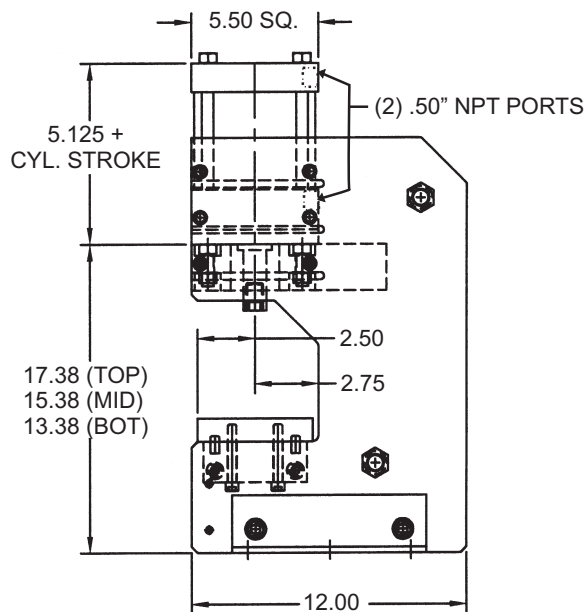
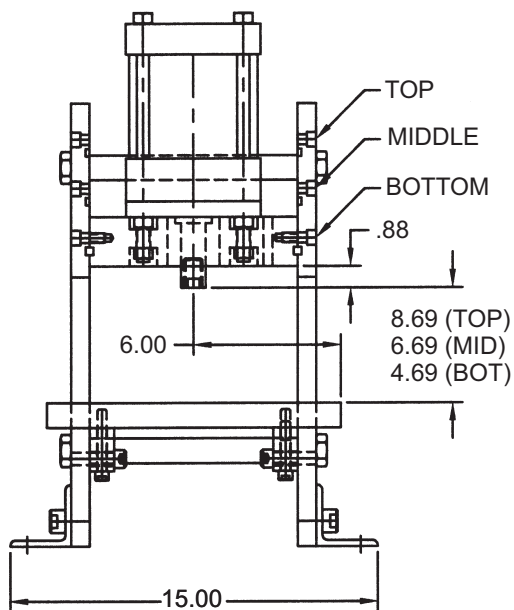
Ideal Applications:

- Pressing bearings into housings and depth control is critical.
- Parts assembly
- Parts positioning for joining operations (i.e. riveting)

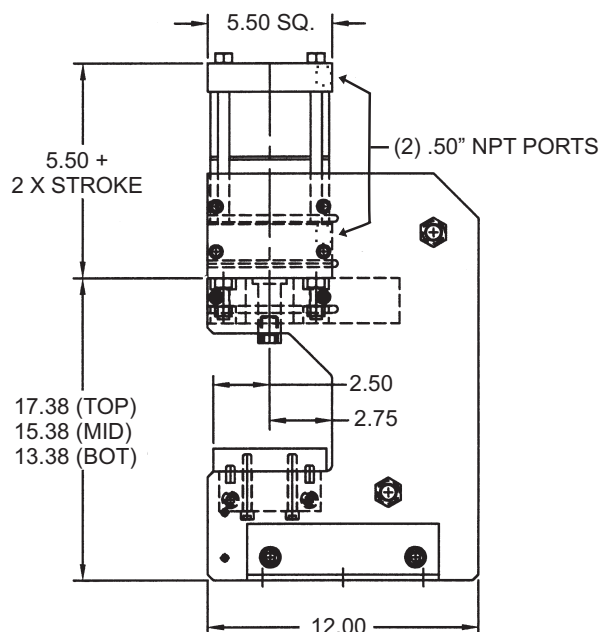
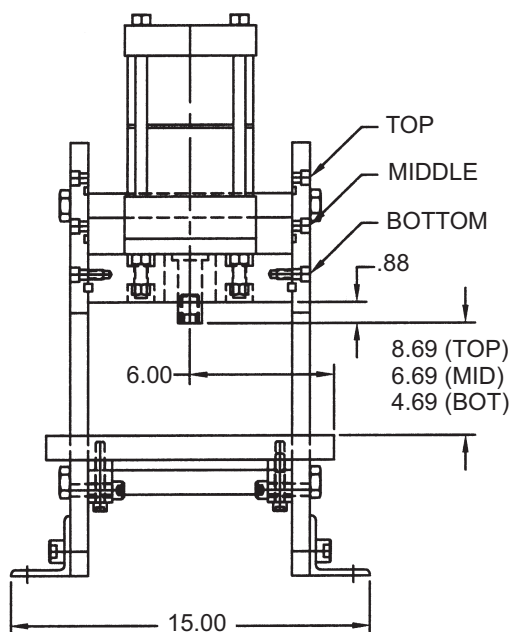


Dimensions

TAP (Single Stage) – Dimensions

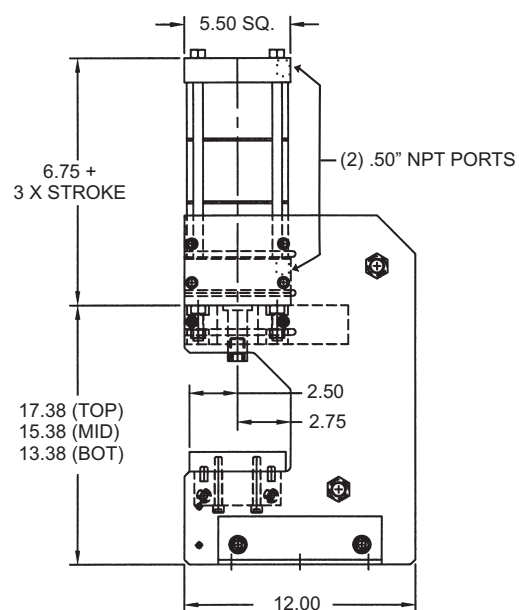
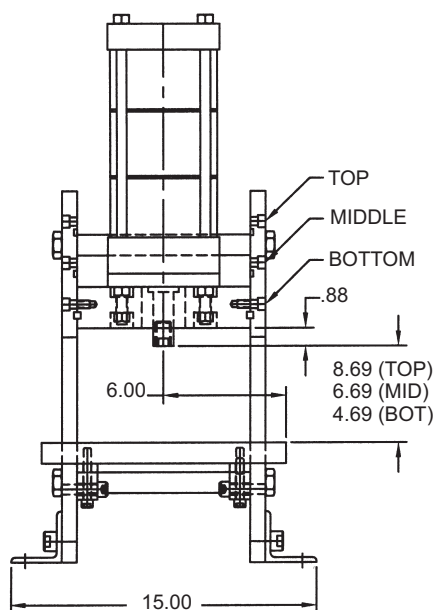


MSEP 2S (2 Stage) – Dimensions

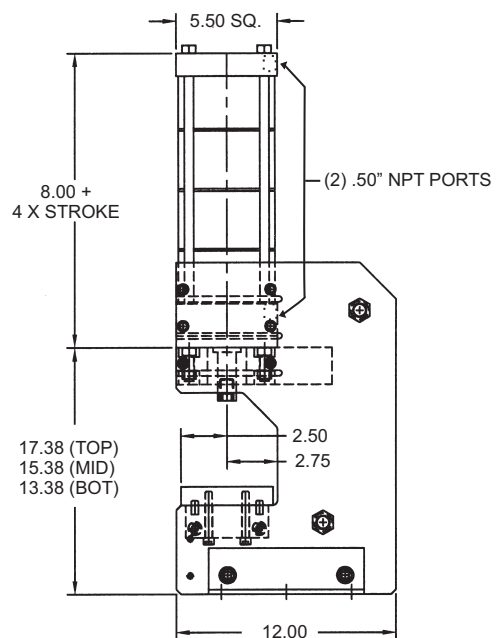
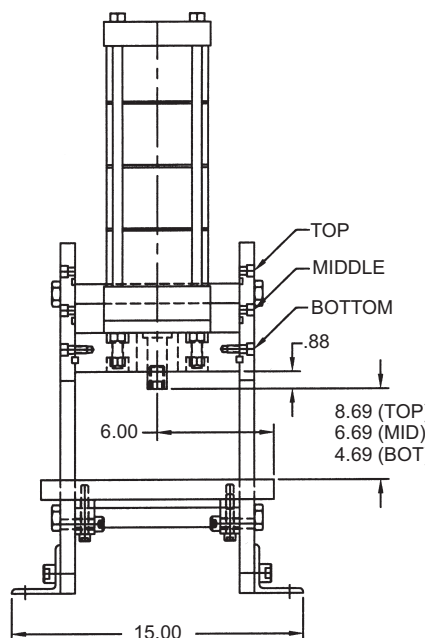


Press Frame Cylinder – Dimensions

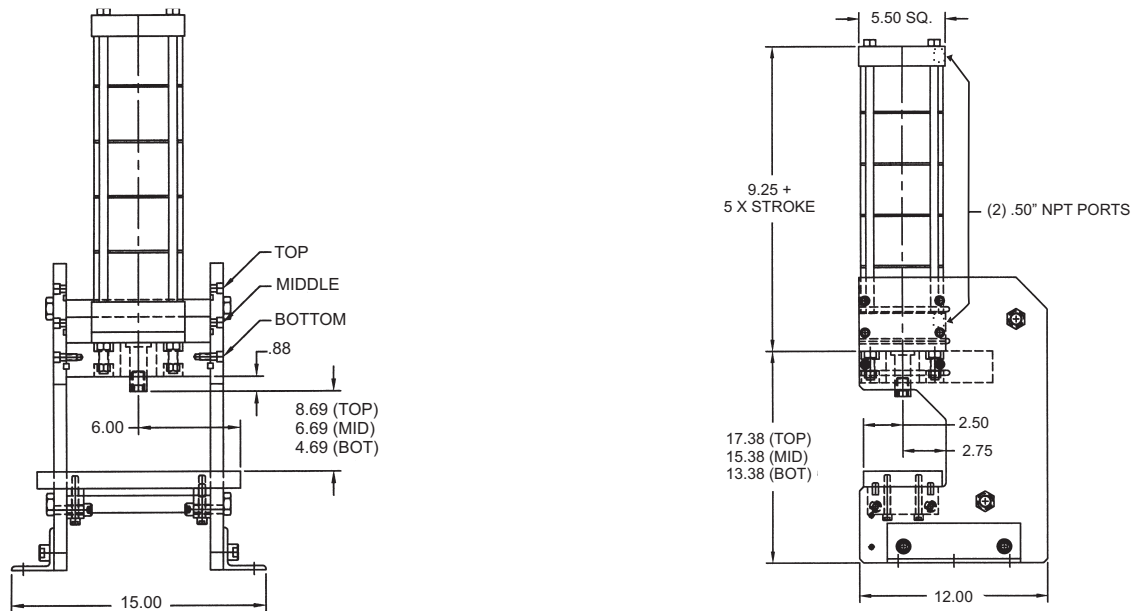
MSEP 3S (3 Stage) – Dimensions



MSEP 4S (4 Stage) – Dimensions



MSEP 5S (5 Stage) – Dimensions



TRP (Triple Rod) – Dimensions

