

THIN Air Powered Toggle Presses



TOG-L-LOC® (CLINCHING)



PIERCING



RIVETING

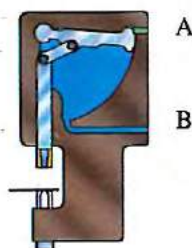
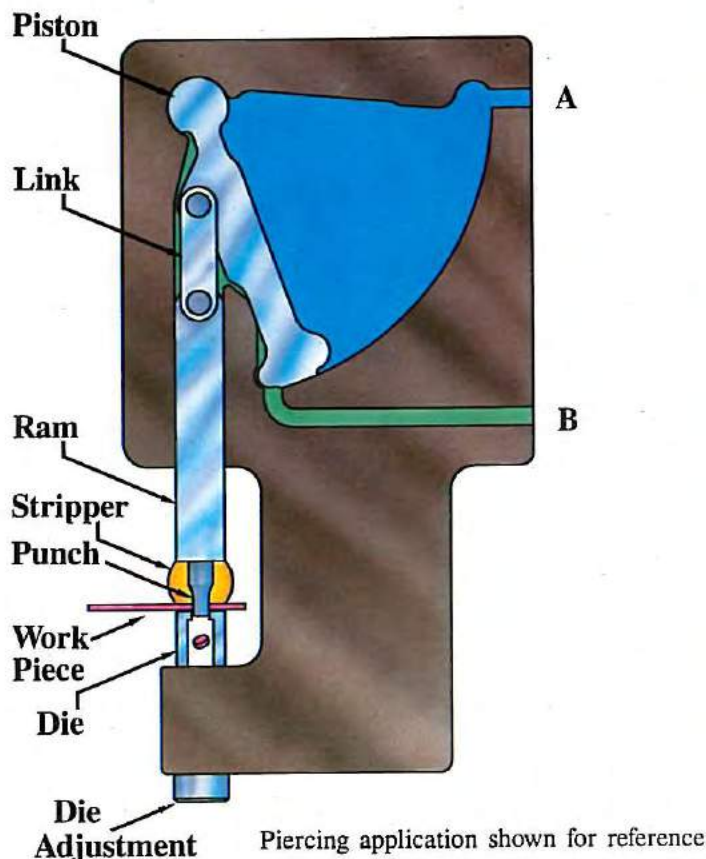


STAMPING

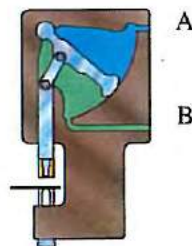


BENDING

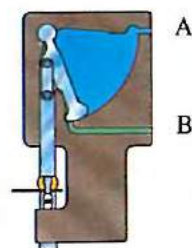
BTM[®]



Air pressure at port "B" holds the piston and ram in the return position.



Air pressure at port "A" swings the piston through an arc, driving the ram and the toggle linkage.



Maximum force is achieved as the linkage "Toggles" or goes to center.

Advantages & Features

BTM's patented "THIN" air powered toggle presses produce high forces using 80 psi (5.5 bars) air pressure! The "THIN" profile allows for close stacking. These extremely simple and rugged presses have only three moving parts. A unique, pivoting, rectangular, piston drives the non rotating ram through a force multiplying toggle linkage. This quick acting mechanism drastically reduces air consumption as compared with conventional pneumatic cylinders doing the same work. BTM press bodies are constructed of light weight, aircraft aluminum, hardcoated to a Rockwell C-70 for excellent wear characteristics.

Patented
THIN
Design



A BTM 1 Ton, Punch & Button Press is only 1.5 inches (38 mm) wide & weighs 15 lbs. (6.8 kg.).

Air consumption of BTM Toggle press compared with conventional pneumatic cylinders.

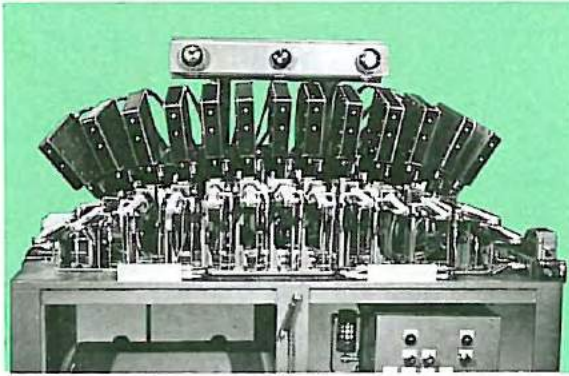
Air Supply	Required Force	Stroke	Device	Air used per complete cycle
80 psi (5.5 bar)	2000 lbs. (8896N)	2.25" (57.15mm)	1 Ton BTM Press	256 in. ³ (652 cm ³)
80 psi (5.5 bar)	2000 lbs. (8896N)	2.25" (57.15mm)	6" dia. (152.4mm) Cylinder	798 in. ³ (2084 cm ³)

The BTM Press uses 68% less air than the cylinder requires in the example. Stroke limiters are available to further reduce air consumption.

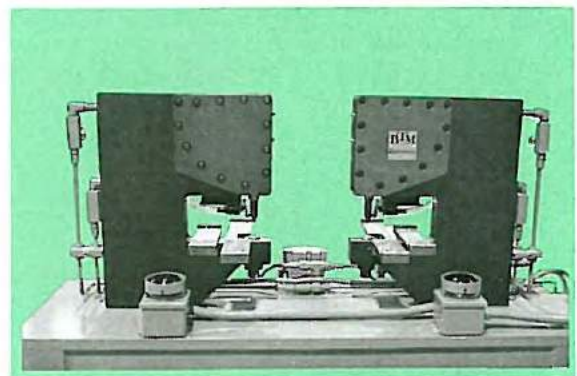


For formula and chart see page 32

Machine Building With THIN Air Powered Toggle Presses **BTM**



BTM Air Toggle Presses may be mounted on close centers for simplified automation and special machine building.



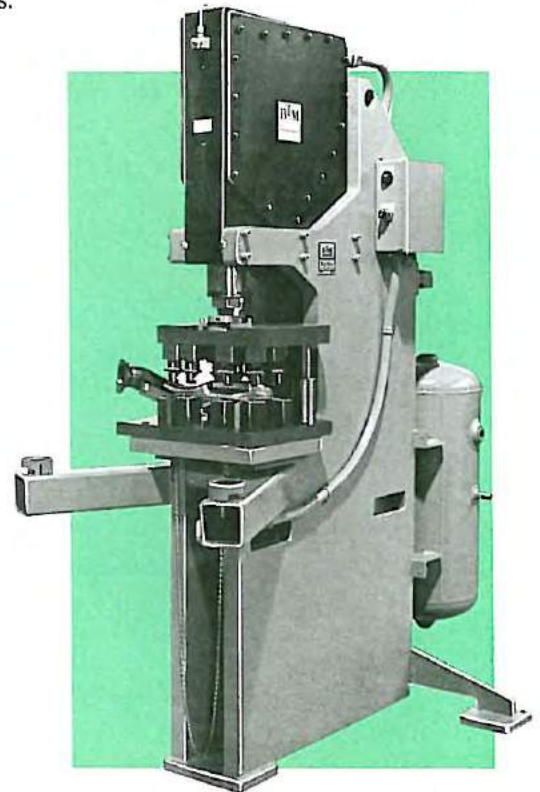
Simple fixtures can be built quickly with BTM presses.

BTM air powered toggle presses can perform all the typical operations of other presses, but within a smaller space and using only a small amount of air. Presses can be quickly tooled and easily mounted in any position.

Self-equalizing models facilitate access over flanges or channels. Bench, floor and tooling models can be equipped with die set tooling to quickly accommodate a multitude of applications.

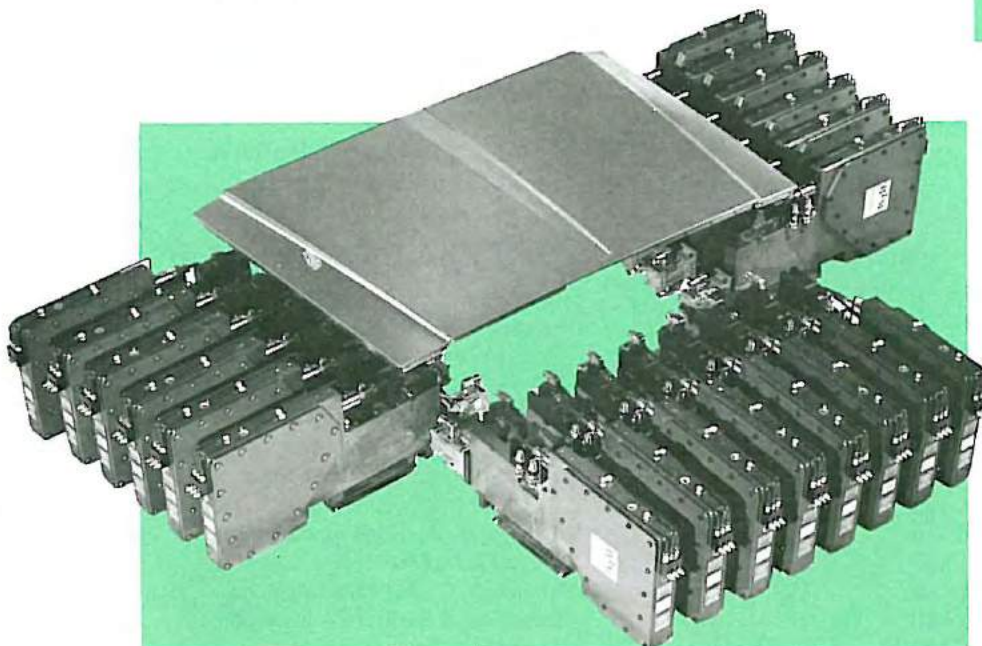
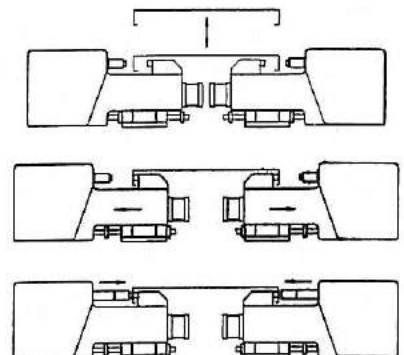
Various options and accessories are available to help you build machines quickly and cost effectively. These include; special rams, modified press bodies, control packages, and stroke limiters for improved cycle time with less air consumption. Special presses for unusual applications may also be developed.

For over 25 years BTM Corporation has offered complete design and build services to help you solve your production problems. Call our sales engineering department and let us help you apply our presses to your next application.



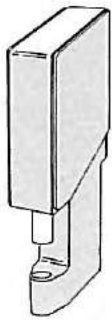
A BTM 20 ton floor press is shown with optional die set tooling and control package.

Self-Equalizing Toggle Presses allow easy load and unload of parts with flanges or channels.

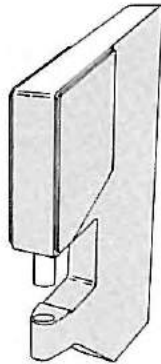


Contents

1 & 2 Ton Presses



PB
(Punch & Button)



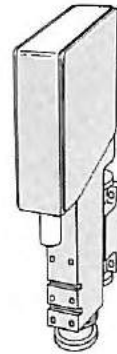
PB6
(Punch & Button)



FM
(Front Mount)

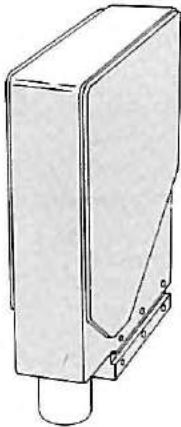


H
(Head)

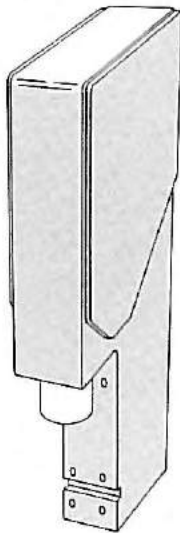


EU & REU
(Equalizing)
(Reverse Equalizing)

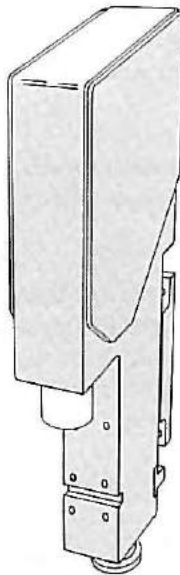
5 & 10 Ton Presses



H
(Head)

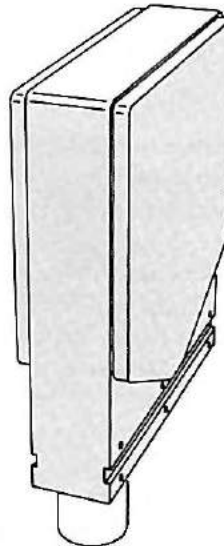


FM
(Front Mount)

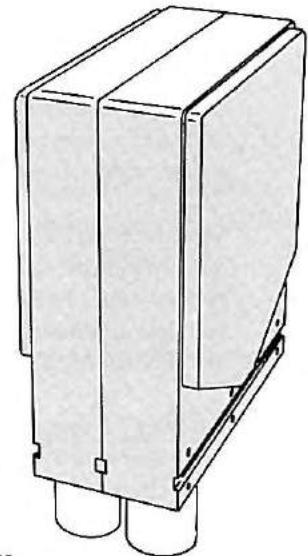


EU & REU
(Equalizing)
(Reverse Equalizing)

20 & 40 Ton Presses



H
(Head)

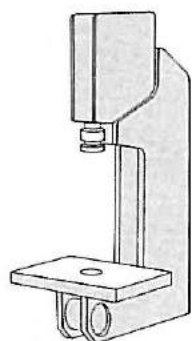


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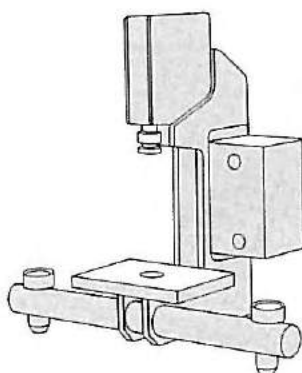
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Contents & Specials

2 Ton

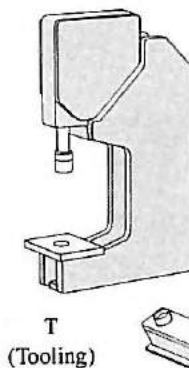


T
(Tooling)

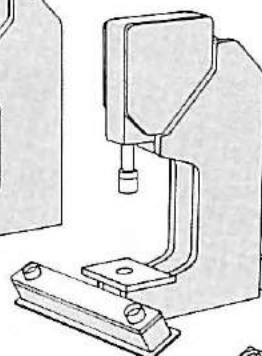


B
(Bench)

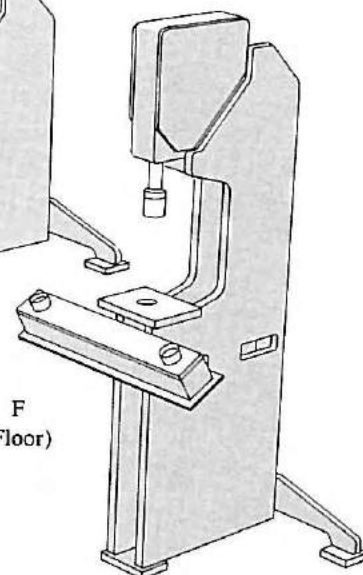
5 & 10 Ton



T
(Tooling)



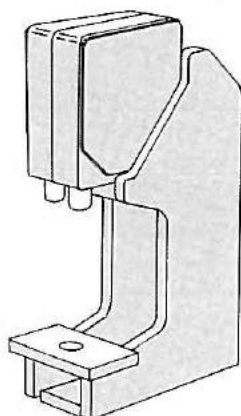
B
(Bench)



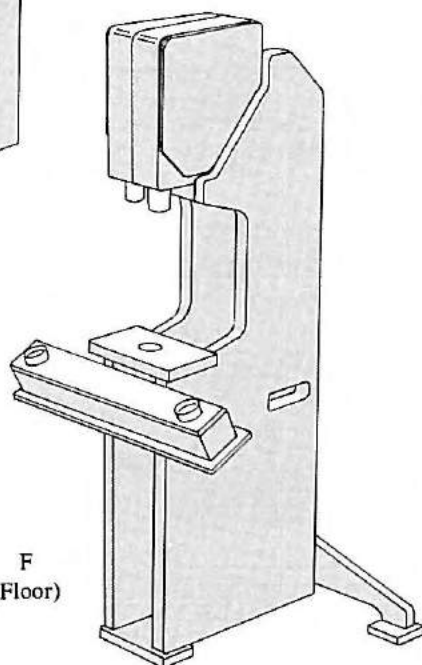
F
(Floor)

20 & 40 Ton

Page

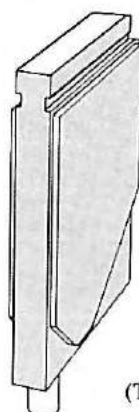


T
(Tooling)

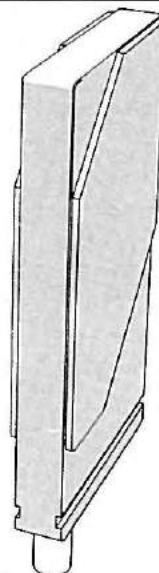


F
(Floor)

Specials



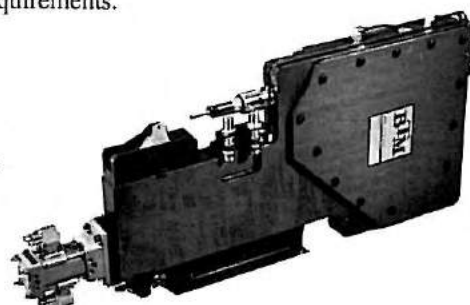
TM
(TopMount)



Long
Stroke
Up to 10"
on 4 & 8
Ton Models

Special presses and modifications to standard presses are available. BTM can also supply completely tooled presses. Contact our Sales Engineering Department for assistance with your special press requirements.

P5 EU
(Equalizing)
Complete with
Tooling



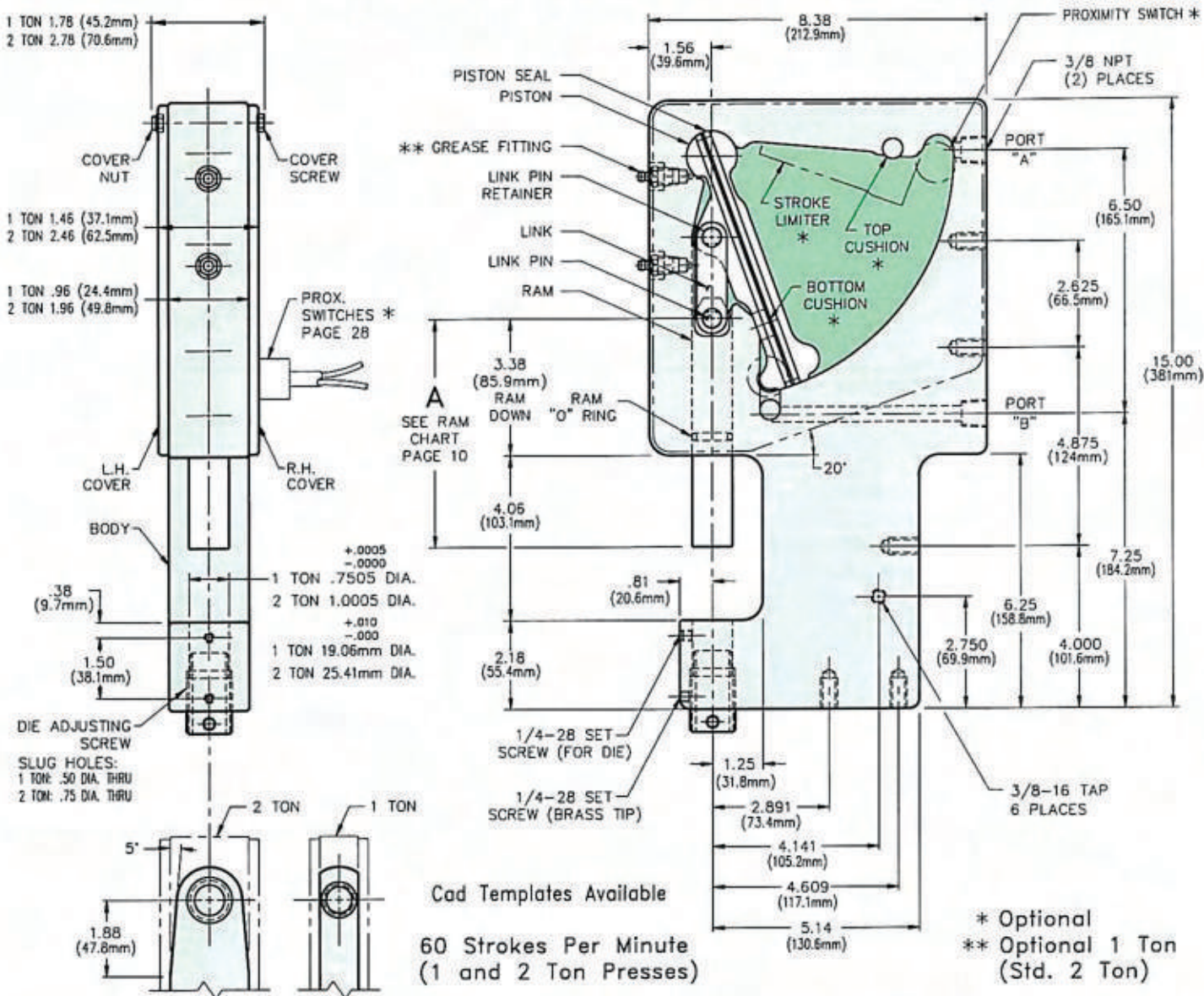
PB Models (Punch and Button)

PIPB x 1.50 (38.1mm) Stroke 001495 - 15 lbs. (6.8 kg)

P2PB x 1.50 (38.1mm) Stroke 001497 - 25 lbs. (11.4 kg)

PIPB x 2.25 (57.2mm) Stroke 001498 - 15 lbs. (6.8 kg)

P2PB x 2.25 (57.2mm) Stroke 001500 - 25 lbs. (11.4 kg)



Components

PIPB

Description	No. Req'd	BTM No.
PIPB x 1.5 Body	1	000079
PIPB x 2.25 Body	1	000080
Piston	1	000115
Piston Seal	2	000056
Link	1	000118
Link Pin	2	000122
Ram - 75 Series	1	See Pg. 10
R.H. Cover	1	000125
L.H. Cover	1	000126
Cover Screw	13	000127
Cover Nut	13	000078
Ram "O" Ring	1	000149
Grease Fitting	2	Optional
Sealant	1	000273
Seal Kit	1	000798
Top Cushion	1	001269
Bottom Cushion	1	000829
Stroke Limiter	1	000826
Die Adj. Screw	1	013677
Brass Set Scr.	1	004687
Die Set Scr.	1	000148

How to Order Presses

Quantity	Model	Stroke	Ram Style	Bottom Cushion	Top Cushion	Proximity Switches	Strippers	Consider Tooling
6	P2PB x 2.25	PT100	BC	TC	EPRL	EPRL	SS-1	TOOLING
		1.5, 2.25 or Special	See Page 10			See Page 28	See Page 11	See Page 11

How to Order Components

Qty.	P2 Link Description	BTM No.
2	P2 Link	000120

* Denotes Options

Note: Use "O" Ring No. 000821 in P2PB & PB6.
Use No. 000150 in P2H & FM.

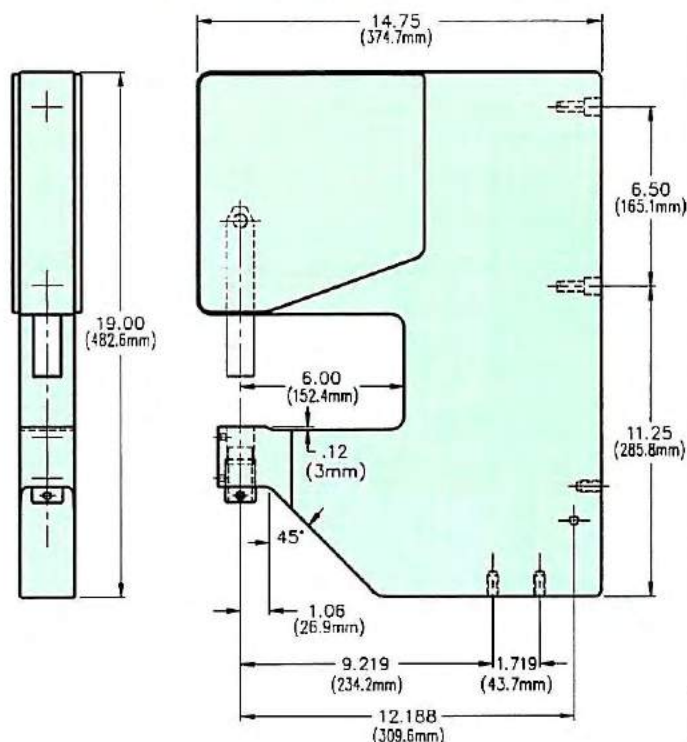
Components

P2PB

Description	No. Req'd	BTM No.
P2PB x 1.5 Body	1	000083
P2PB x 2.25 Body	1	000084
Piston	1	000117
Piston Seal	2	000058
Link	1	000120
Link Pin	2	000124
Link Pin Retainer	2	000121
Ram - 100 Series	1	See Pg. 10
R.H. Cover	1	000125
L.H. Cover	1	000126
Cover Screw	13	000129
Cover Nut	13	000078
Ram "O" Ring	1	See Note
Grease Fitting	2	000050
Sealant	1	000273
Seal Kit	1	000800
Top Cushion	1	001271
Bottom Cushion	1	000591
Stroke Limiter	1	000828
Die Adj. Screw	1	013678
Brass Set Scr.	1	004687
Die Set Scr.	1	000148

PB6 Models (6 Inch Throat)

For components and dimensions not shown, see P1PB and P2PB on page 6.

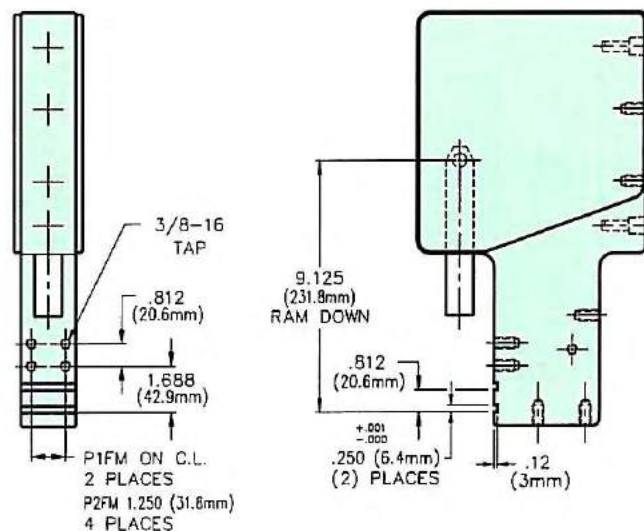


Cad Templates Available

Model	Ass'y. No.	Body No.	Weight
P1PB6 x 1.50 (38.1 mm) Stroke	001501	000085	26.5 lbs. (12 kg.)
P1PB6 x 2.25 (57.2 mm) Stroke	001504	000086	26.5 lbs. (12 kg.)
P2PB6 x 1.50 (38.1 mm) Stroke	001503	000089	48.5 lbs. (22 kg.)
P2PB6 x 2.25 (57.2 mm) Stroke	001506	000090	48.5 lbs. (22 kg.)

FM Models (Front Mount)

For components and dimensions not shown, see P1PB and P2PB on page 6.

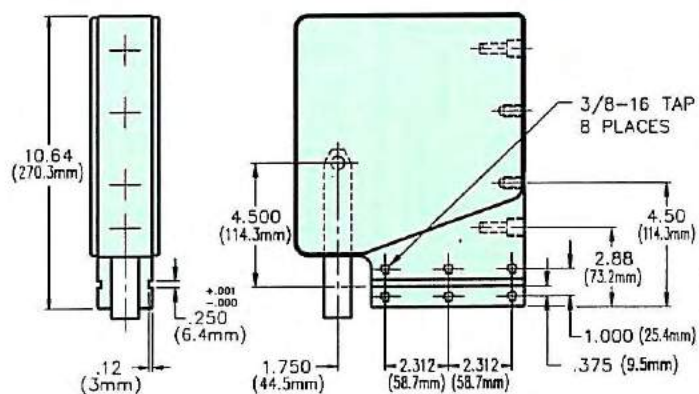


Cad Templates Available

Model	Ass'y. No.	Body No.	Weight
P1FM x 1.50 (38.1mm) Stroke	001507	000948	14 lbs. (6.4 kg.)
P1FM x 2.25 (57.2 mm) Stroke	001510	000951	14 lbs. (6.4 kg.)
P2FM x 1.50 (38.1 mm) Stroke	001509	000950	23 lbs. (10.5 kg.)
P2FM x 2.25 (57.2 mm) Stroke	001512	000953	23 lbs. (10.5 kg.)

H Models (Head)

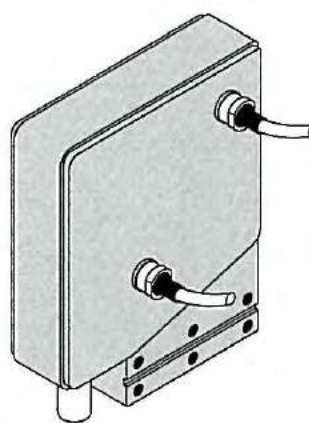
For components and dimensions not shown, see P1PB and P2PB on page 6.



Cad Templates Available

Model	Ass'y. No.	Body No.	Weight
P1H x 1.50 (38.1 mm) Stroke	001519	000103	12.5 lbs. (5.7 kg.)
P1H x 2.25 (57.2 mm) Stroke	001522	000104	12.5 lbs. (5.7 kg.)
P2H x 1.50 (38.1 mm) Stroke	001521	000107	20.0 lbs. (9.1 kg.)
P2H x 2.25 (57.2 mm) Stroke	001524	000108	20.0 lbs. (9.1 kg.)

* Options



Electrical Proximity Sensors
See Page 28

Stroke Limiter
Limits upstroke to suit your requirements
See Page 6

Cushions on up and downstrokes
See Page 6

Presses are available with metric threads

Special, Tooling
Call for quote