

# TABLE OF CONTENTS

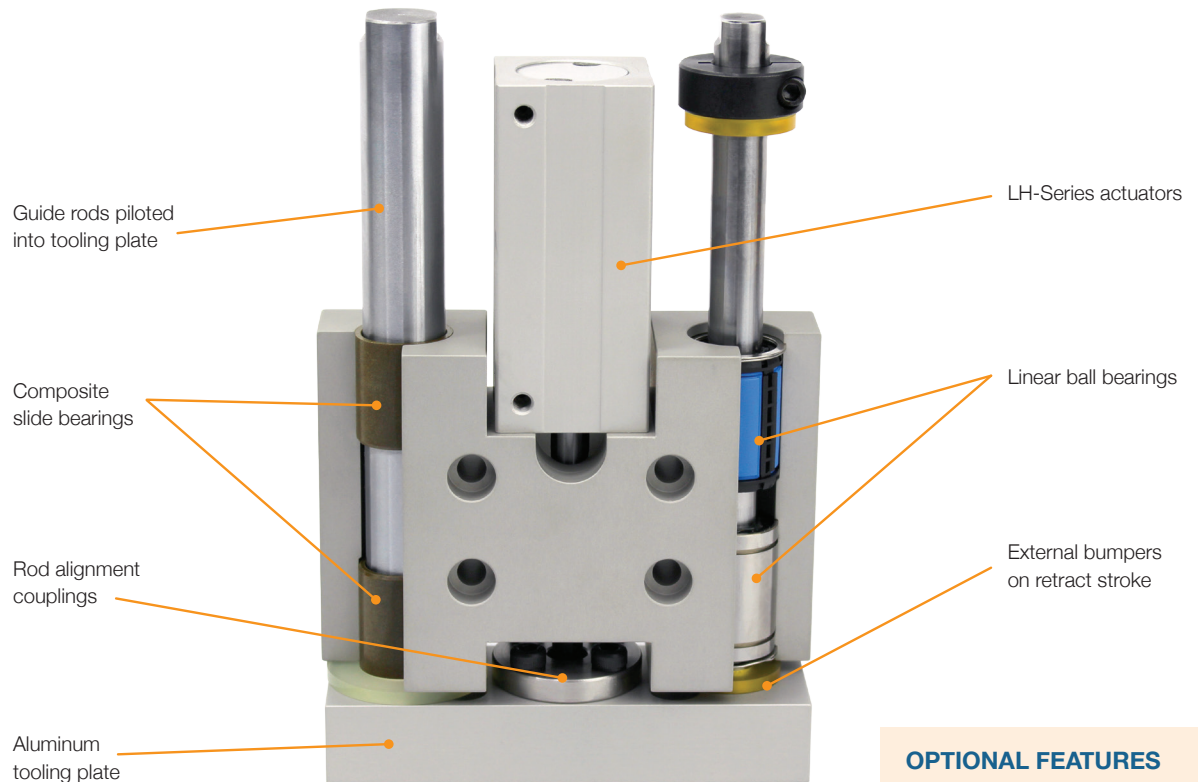
---

HB SERIES	109	Features	113	12mm	Bore
Pneumatic Block	110	How to Order	114	25mm	Bore
Slide Cylinders	111	Engineering Data	115	40mm	Bore
			116	50mm	Bore

---

# HB SERIES

## HEAVY DUTY BEARING BLOCK SLIDES



### OPTIONAL FEATURES

- Magnetic pistons
- External extend stroke bumper
- Adjustable stroke collar

### Common features

Nason's H-Block Series of pneumatic slides are heavy duty units designed for the most demanding applications. Rugged aluminum bearing housings are designed to accept Linear Ball Bearings or Composite Slide Bearings. The Linear Ball Bearings, in conjunction with case hardened 1566 steel guide rods, provide high load capacity, low deflection, and low friction. The Composite Slide Bearings allow for heavy loads, impact, and vibration due to the larger diameter chrome plated 1050 steel guide rods and bearing material.

H-Blocks are powered by Nason's proven heavy duty LH series actuators. The LH cylinders that power the slides are field

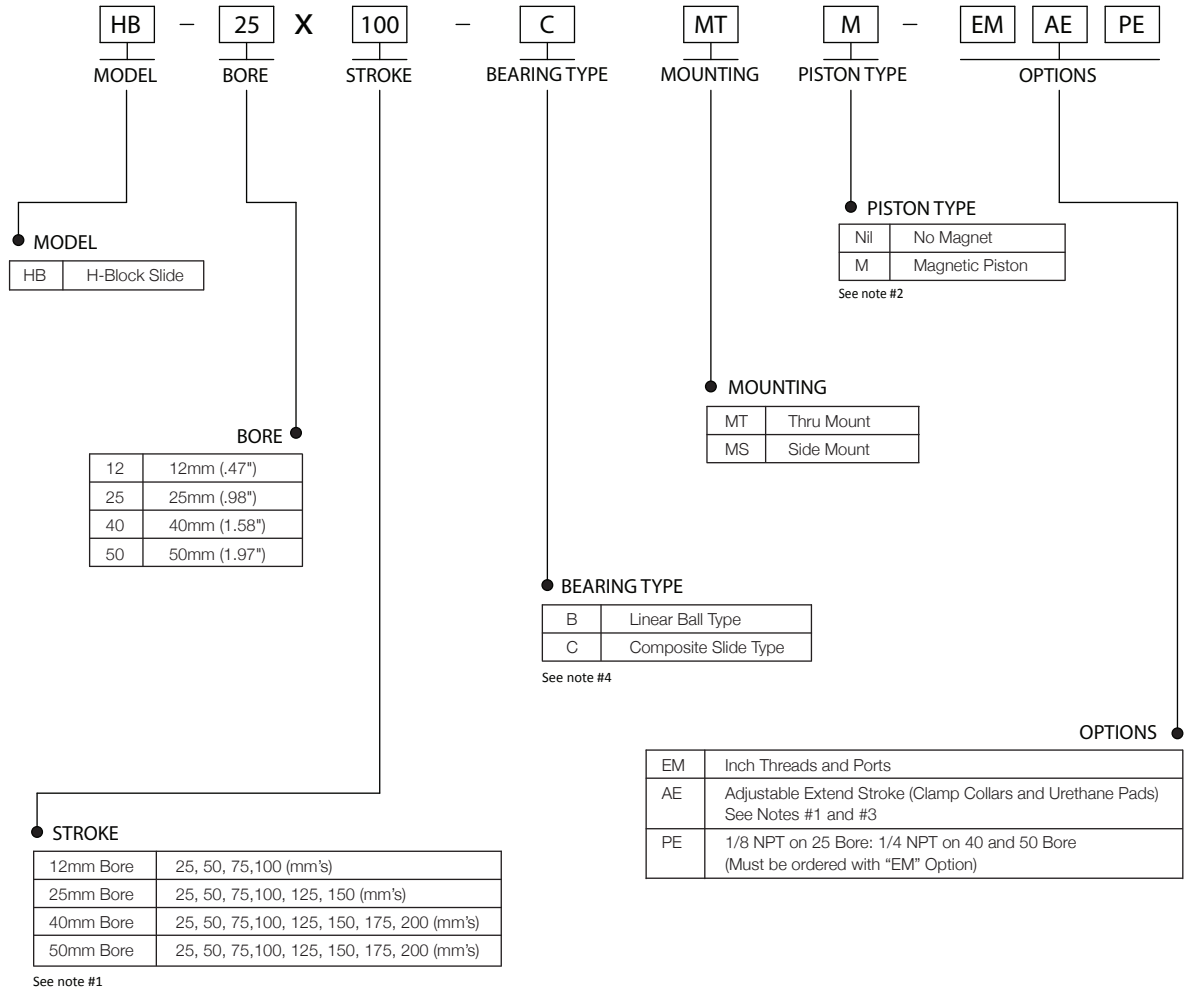
rebuildable. Magnetic pistons for position sensing are offered as options.

All units come with external bumpers on the retract stroke and an internal bumper on the extend stroke for noise reduction. External extend stroke bumpers and adjustable stroke collars are offered as options for intermediate strokes and impact resistance.

Heavy duty, thick aluminum tooling plates provide both thru mounting and tapped hole mounting. Guide rods are piloted into the tooling plates for rigidity and precision. All slides are designed with rod alignment couplings connecting the tooling plate to the cylinder rod to ensure maximum life for the LH cylinder.

## How To Order

Example: H-Block Slide, 25mm Bore X 100mm Stroke, Composite Slide Bearings, Thru Mount, Magnetic Piston and Sensor Mounting Track, Inch Threads, Adjustable Extend Stroke/Urethane Shock Pads Extend, 1/8 NPT Ports.



Note 1 - Drive cylinder is manufactured in 25mm stroke increments. For intermediate strokes, order the next longer standard stroke and the "AE" option to set intermediate stroke.  
 Example: For a 32mm stroke, 25mm bore slide with linear ball bearings and thru mount, order HB-25X50-B-MT-AE and adjust collars for 32mm stroke.  
 Note 2 - Magnetic Piston "M" adds magnet to piston and 1 sensor track on port side. For other track locations, multiple sensor tracks, etc. consult factory.  
 Note 3 - Slides come with Urethane Shock Pads on the retract stroke as standard. For Urethane shock pads on extend stroke, order "AE" option and adjust collars so that shock pads engage.  
 Note 4 - Linear ball bearings should not be used in vibration or impact applications, or applications where dirt, oil, or contamination can occur. For vibration and impact applications, or where contamination may occur, choose the Composite slide type bearings.  
 Note 5 - Contact the factory for shock absorber options.

Action:	Double Acting
Media:	Air - Clean, Dry Or Lubricated
Pre-Lubricated at Factory:	Non-soap elastomer/PTFE thickener
Temp. Range:	-10C to 81C (14F to 178F)
Stroke Tolerance (Std):	+1,0mm/-0 (+0.04"/-0)

### Piston Area Chart

Bore	Piston (Rod Extend)	Piston (Rod Retract)
12	1,13 cm <sup>2</sup> (.18 in <sup>2</sup> )	0,85 cm <sup>2</sup> (.14 in <sup>2</sup> )
25	4,91 cm <sup>2</sup> (.76 in <sup>2</sup> )	4,12 cm <sup>2</sup> (.64 in <sup>2</sup> )
40	12,56 cm <sup>2</sup> (1.95 in <sup>2</sup> )	10,55 cm <sup>2</sup> (1.64 in <sup>2</sup> )
50	19,63 cm <sup>2</sup> (3.04 in <sup>2</sup> )	17,62 cm <sup>2</sup> (2.73 in <sup>2</sup> )

### Cylinder Ratings

Min. Operating Pressure	Max. Operating Pressure	Max. Piston Speed (See note #4)
0.10 MPa (14.5 PSI)	1.0 MPa (150 PSI)	200 mm/s (7.9 in/s)
0.07 MPa (10 PSI)	1.4 MPa (200 PSI)	400 mm/s (15.7 in/s)
0.07 MPa (10 PSI)	1.4 MPa (200 PSI)	400 mm/s (15.7 in/s)
0.07 MPa (10 PSI)	1.4 MPa (200 PSI)	400 mm/s (15.7 in/s)

### Stock Stroke Table

Bore	Standard Stroke Lengths
12	25mm (.98"), 50mm (1.97"), 75mm (2.95"), 100mm (3.94")
25	25mm (.98"), 50mm (1.97"), 75mm (2.95"), 100mm (3.94"), 125mm (4.92"), 150mm (5.91")
40	25mm (.98"), 50mm (1.97"), 75mm (2.95"), 100mm (3.94"), 125mm (4.92"), 150mm (5.91"), 175mm (6.89"), 200mm (7.87")
50	25mm (.98"), 50mm (1.97"), 75mm (2.95"), 100mm (3.94"), 125mm (4.92"), 150mm (5.91"), 175mm (6.89"), 200mm (7.87")

### Cylinder Output Force Formula

Piston Area x Pressure = Output Force
Piston Area(in <sup>2</sup> ) x Pressure(PSI) = lbf (Pounds Force)
Piston Area(cm <sup>2</sup> ) x Pressure(kg/cm <sup>2</sup> ) = kgf (Kilograms Force)
Piston Area(cm <sup>2</sup> ) x Pressure(kg/cm <sup>2</sup> ) x 9.8 = Newtons
Piston Area(cm <sup>2</sup> ) x Pressure(Bar) x 10 = Newtons
Piston Area(cm <sup>2</sup> ) x Pressure(Bar) x 1.02 = kgf (Kilograms Force)

Note 1 - Drive cylinder is manufactured in 25mm stroke increments. For intermediate strokes, order the next longer standard stroke and the "AE" option to set intermediate stroke.

Example: For a 32mm stroke, 25mm bore slide with linear ball bearings and thru mount, order HB-25X50-B-MT-AE and adjust collars for 32mm stroke.

Note 2 - For other temperature requirements, consult factory for a custom option.

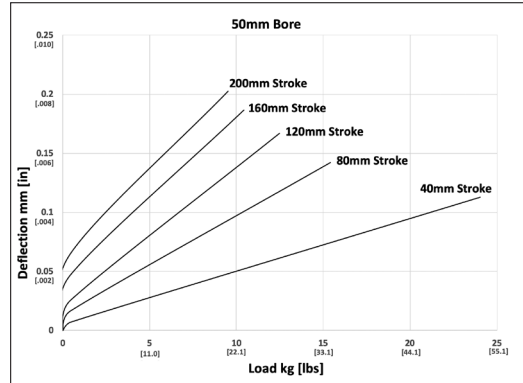
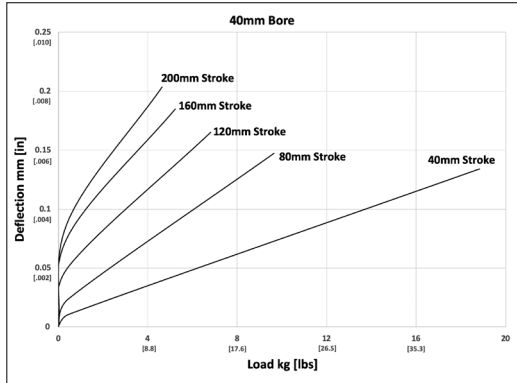
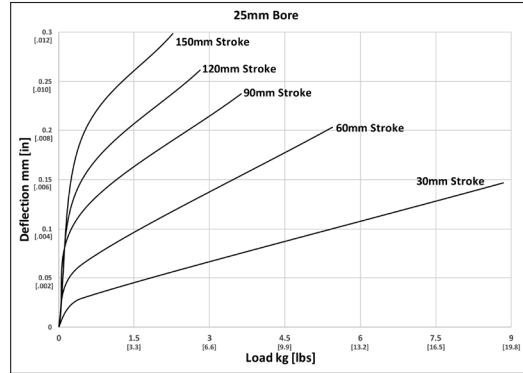
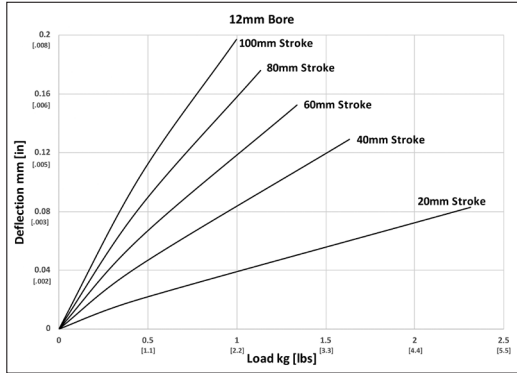
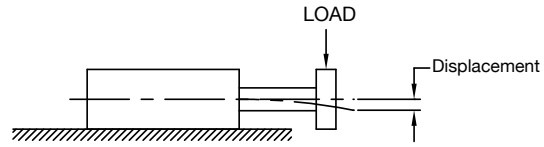
Note 3 - Slides come with Urethane Shock Pads on the retract stroke as standard.

Note 4 - Maximum speeds are with no loads. Speeds may need to be reduced based on loads and applications. Always consider the use of flow controls and/or external shock absorbers to avoid damage to the slide.

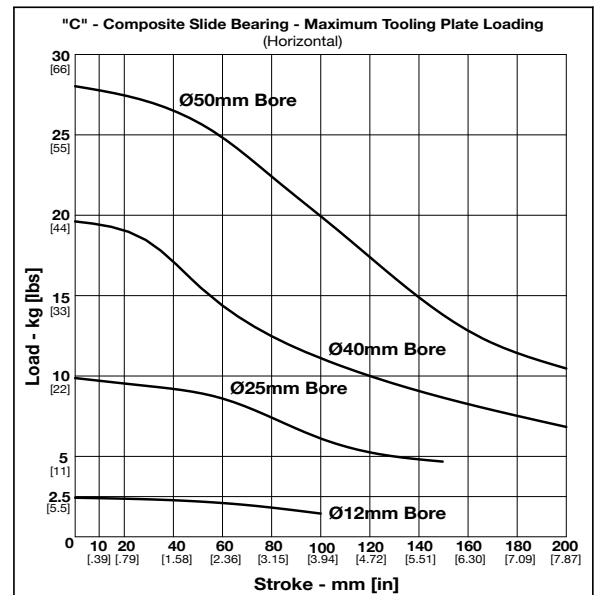
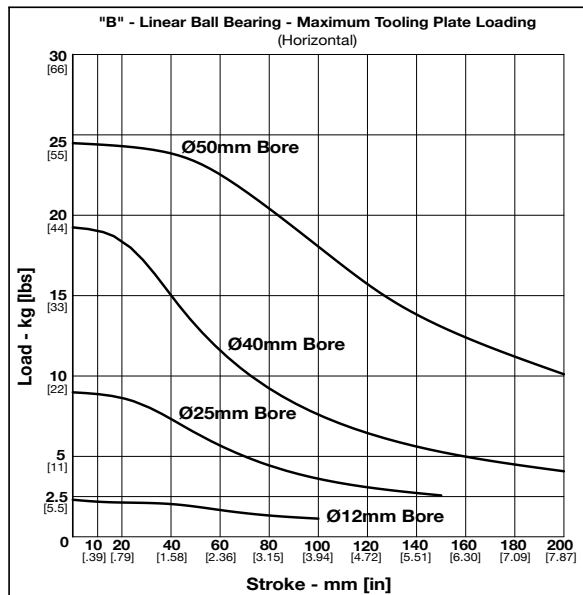
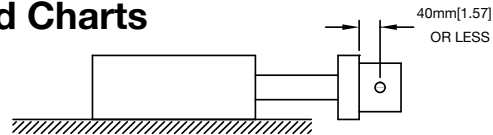
Note 5 - Contact the factory for shock absorber options.

# "B" - Linear Ball Bearing Tooling Plate Displacement

(Reference Values)

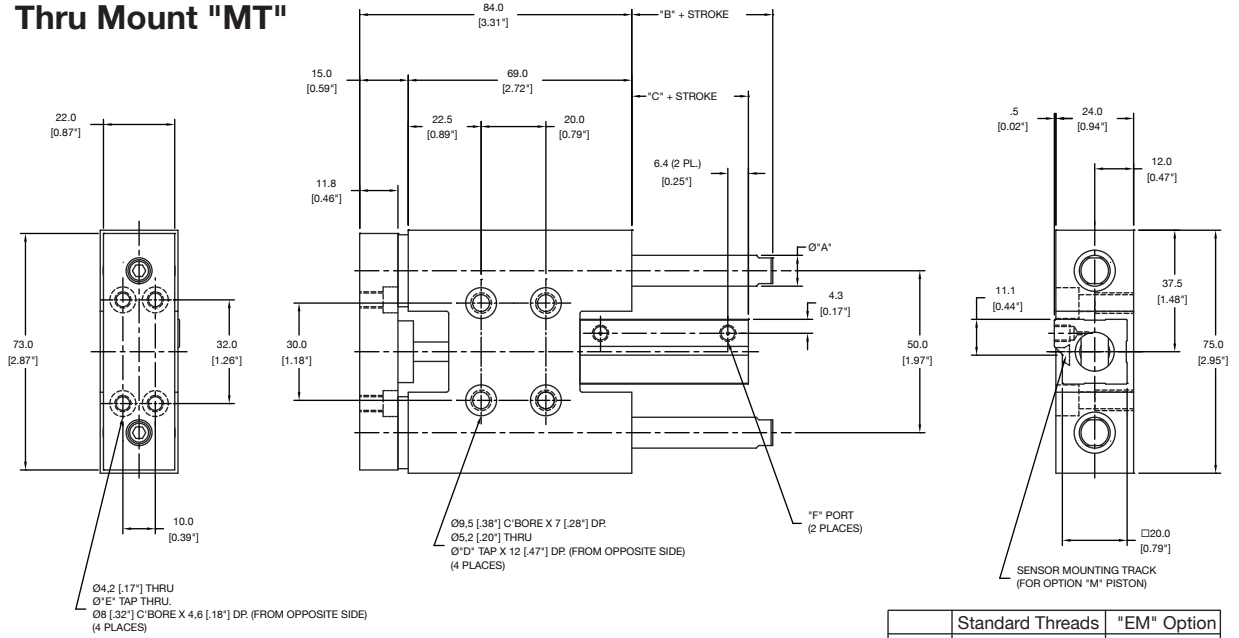


# Horizontal Mounting Load Charts



Note 1 - Flow controls and/or shock absorbers are strongly recommended when approaching maximum values. Consult the factory for shock absorber options.  
 Note 2 - Loads are for 200mm/sec (7.87in/sec) piston speed or less.

## Thru Mount "MT"

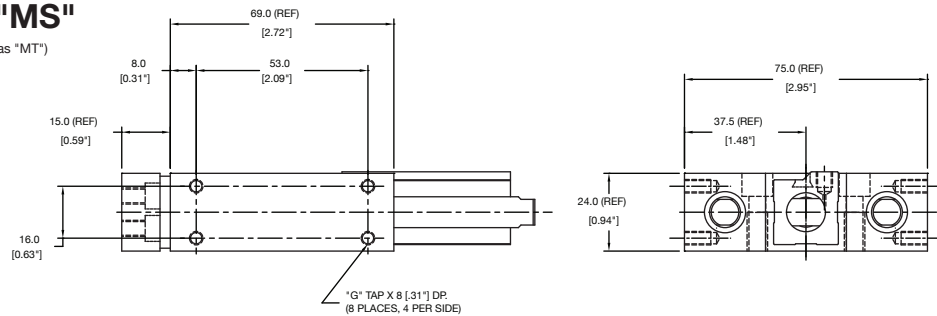


BEARING	"A"	"B"	PISTON	"C"	PISTON	"C"
"B" - BALL TYPE	6,35 (.25")	18,5 (.73")	Non-Mag	11,0 (.43")	Mag	21,0 (.83")
"C" - COMPOSITE TYPE	9,53 (.375")	18,5 (.73")	Non-Mag	11,0 (.43")	Mag	21,0 (.83")

	Standard Threads	"EM" Option
"D"	M6x1	1/4-20
"E"	M5x0,8	#10-32
"F"	M5X0,8	#10-32
"G"	M4x0,7	#8-32

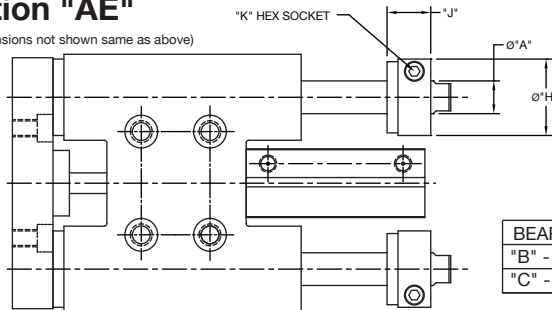
## Side Mount "MS"

(All dimensions not shown same as "MT")

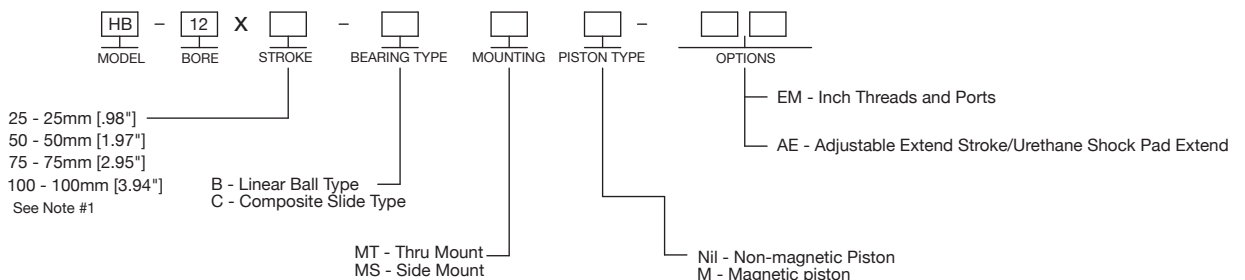


## Option "AE"

(All dimensions not shown same as above)



BEARING	"A"	"H"	"J"	"K"
"B" - BALL TYPE	6,35 (.25")	17,5 (.69")	11,1 (.44")	3/32
"C" - COMPOSITE TYPE	9,53 (.375")	22,2 (.88")	12,7 (.50")	7/64



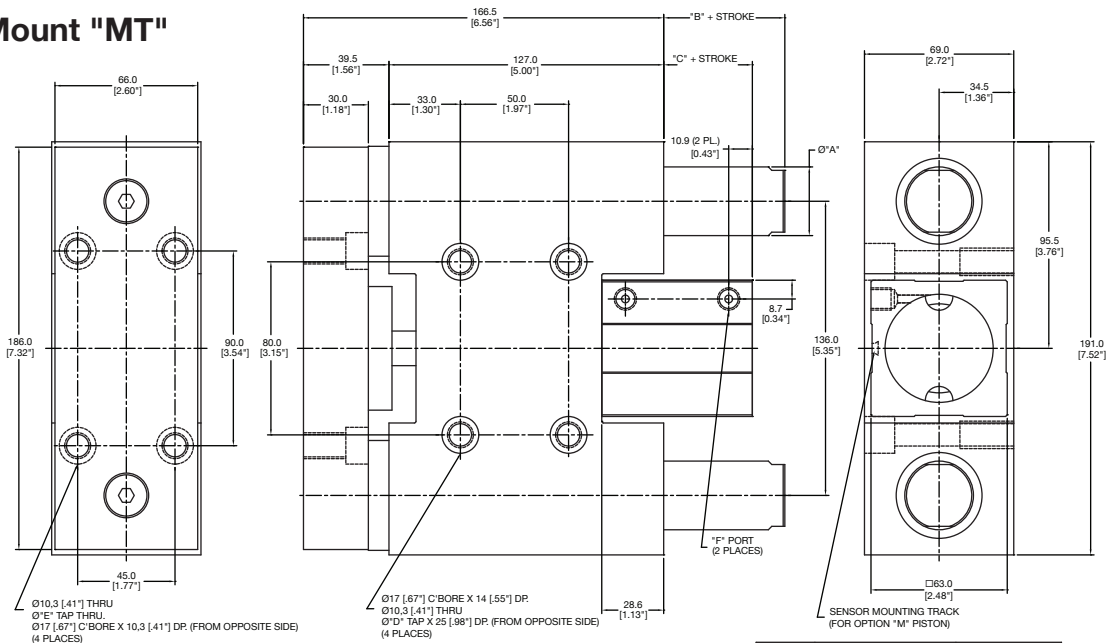
Note 1 - Drive cylinder is manufactured in 25mm stroke increments. For intermediate strokes, order the next longer standard stroke and the "AE" option to set intermediate stroke.  
Note 2 - Contact the factory for shock absorber option.







## Thru Mount "MT"

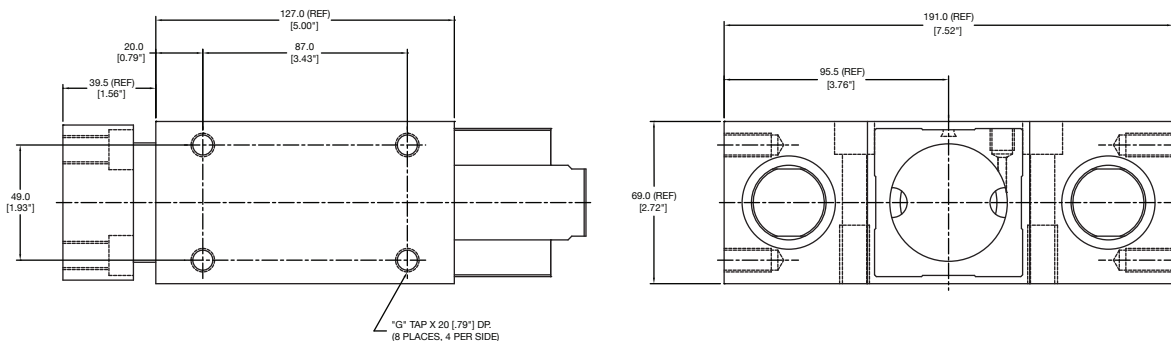


BEARING	"A"	"B"	PISTON	"C"	PISTON	"C"
"B" - BALL TYPE	25,4 (1.0")	31,0 (1.22")	Non-Mag	16,0 (.63")	Mag	21,0 (.83")
"C" - COMPOSITE TYPE	31,75 (1.25")	31,0 (1.22")	Non-Mag	16,0 (.63")	Mag	21,0 (.83")

	Standard Threads	"EM" Option
"D"	M12x1,75	1/2-13
"E"	M12x1,75	1/2-13
"F"	G1/8	1/8 NPT
"G"	M10x1,5	3/8-24

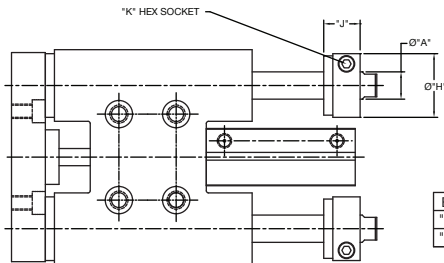
## Side Mount "MS"

(All dimensions not shown same as "MT")



## Option "AE"

(All dimensions not shown same as above)



BEARING	"A"	"H"	"J"	"K"
"B" - BALL TYPE	25,4 (1.0")	44,5 (1.75")	22,2 (.88")	3/16
"C" - COMPOSITE TYPE	31,75 (1.25")	52,4 (2.06")	22,2 (.88")	3/16

