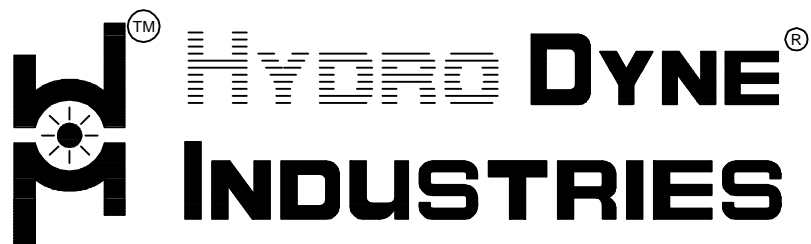
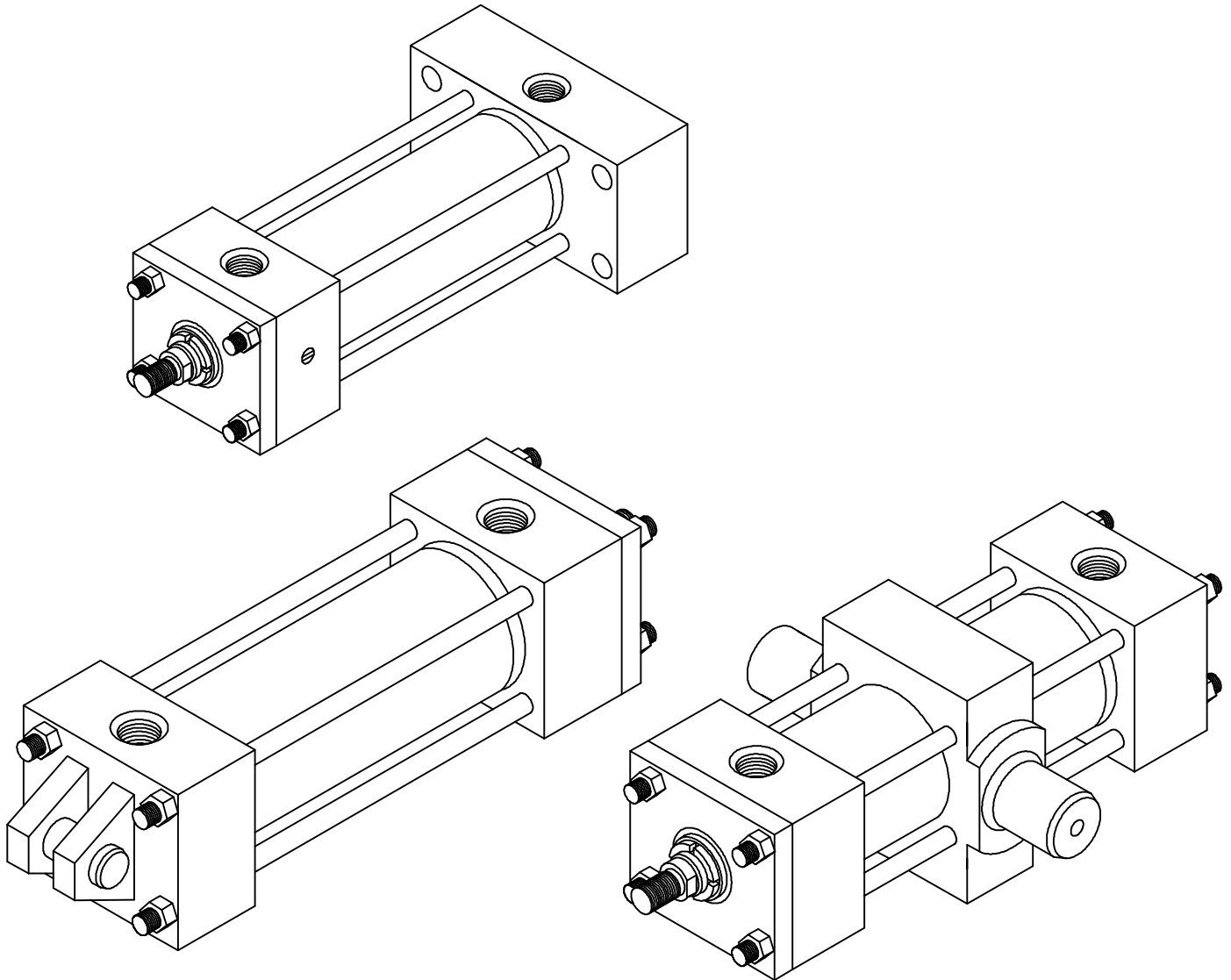


Hydraulic Cylinders

THM Series as per ISO-6020/2
Working Pressure upto 180 bars

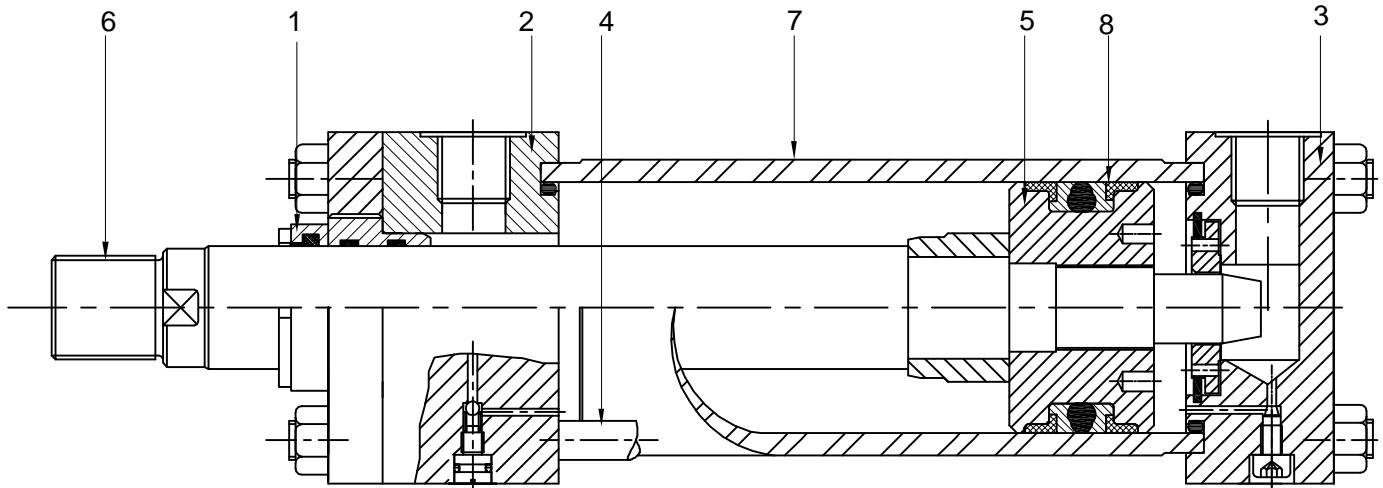


Tie-Rod Construction



Total Fluidpower Performance

An ISO 9001:2015 certified co.



Hydrodyne THM series TIE ROD CYLINDERS are designed for rugged industrial applications conforming to ISO , backed by many years of experience in manufacturing high pressure hydraulic cylinders using best quality materials.

1.The HDI rod gland cartridge

Rod gland cartridge can be externally removed without disassembly of the cylinder.Its long bearing surface is inboard of the seal assuring positive lubrication from within the cylinder.Leak proof cartridge gland seal consists of :

- a)Polyurethane double lip seal completely self compensating and self relieving to withstand all pressure variations and mechanical deflections that may occur.
 - b)Hydrodyne standard wiper seal is made of either hard nitrile or ultrathane material and is fitted in the precisely machined groove to perform the function of wiping the rod clean during its return stroke. In case of use of optionally available low friction step seals in the gland cartidge,the wiper seal is designed to perform the additional function of wiping the rod clean of adhering oil film during its advance stroke and pushing the oil back to rod end side of the cylinder during the retractive stroke.
- A static 'o'ring seal is used to seal between the gland & the head and to serve as a prevailing torque lock for the gland cartridge.

2.The Rod End

The series THM steel rod end is through bored and grooved to provide concentricity to common centerline for mating parts .The bottom of this tube locating groove is truly square to the common centerline, thus ensuring precisely square mounting . Ports are positioned to provide unobstructed flow without interference from the gland. The rod end design allows a long space for the cushion sleeve .Flush and interchangeable cushion check and adjusting needle valves are provided on cushioned models. A pressure compensating static 'o' ring, seals between the head and cylinder body .

3.The Cap End

Like the rod end ,the steel cap end is bored and grooved to provide concentricity for mating parts , and cylinder body groove is truly square with the cylinder centerline .

4.The Tie Rods

Tie rods of high tensile strength have rolled /machined threads for adequate strength

5.The Piston

The piston is of one piece construction manufactured from carbon steel/fine grain cast iron ,depending upon the piston seal requirements. The wide piston surface with adequately designed wear rings considerably reduces bearing loads and wear during mechanical deflection.Long thread engagement with the piston rod provides greater shock absorption,and the piston is permanently locked with a pin.

6.The Piston Rod

Piston rod is made from high tensile medium ,carbon steel ground and hard chrome plated to thickness of upto 25 microns and surface finish of 0.5um or better and in special cases (with prior acceptance) the rod is induction hardened for long life dent resistant surface.

7.The Cylinder Body

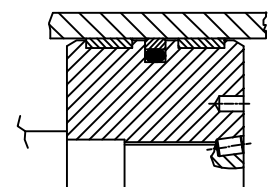
The cylinder is made from heavy wall steel tubing ,honed to a micro-finish bore . All hydrodyne series THM cylinders are constructed with "align - a -groove "making precision cylinders alignment quick and easy . the grooves are wide and machined concentric with the internal diameter of the body and piston rod centerline .

8.The Piston Seals

Standard piston seal is a double acting elastomeric seal with both side antiextrusion cum wear rings of reinforced plastic material suitable for working pressure of more than 250 bars. Optionally piston seal for low friction and high speed made of bronze filled teflon with nitrile or viton energisers and seprate two wear rings of teflon/reinforced plastic are available.

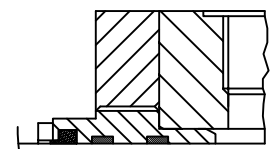
Low Friction Pistons

employ a glydring,and may be used for piston speeds up to 1 m/s. They are not suitable for supporting loads in a fixed position. These types of pistons comprises of bronze filled teflon ring with 'o' ring and two composite material wear rings.



Low Friction Gland Seals

comprises two low friction PTFE step seals and a coventional double lip wiper seal.





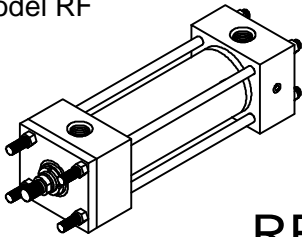
THM SERIES HYDRAULIC CYLINDER

THM SERIES HIGH PRESSURE TIE ROD TYPE HYDRAULIC CYLINDER

SPECIFICATIONS

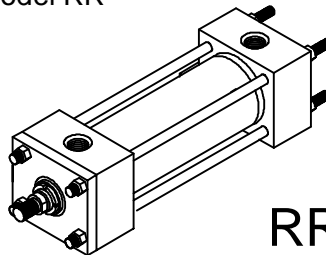
- | | | | |
|----|-------------------------|-----|---|
| 1. | MAX. OPERATING PRESSURE | --- | 160 BAR (standard)
210 BAR (upon request) |
| 2. | TEMPERATURE | --- | -20°C to +80°C with standard nitrile/polyurethane seals.
Higher temperature with viton/teflon seals. |
| 3. | MEDIUM | --- | Mineral oil
Cylinders to operate with water based fluids available on request. |

Front Tie Rod Extension Mounting
HDI Model RF



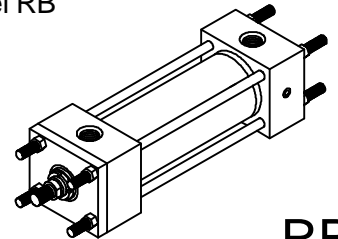
RF

Rear Tie Rod Extension Mounting
HDI Model RR



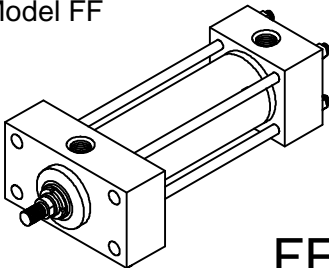
RR

Both Side Tie Rod Extension Mounting
HDI Model RB



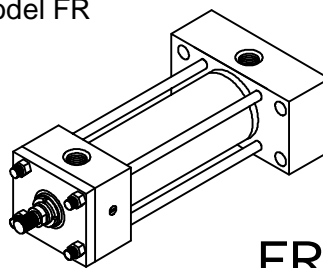
RB

Front Flange Mounting
HDI Model FF



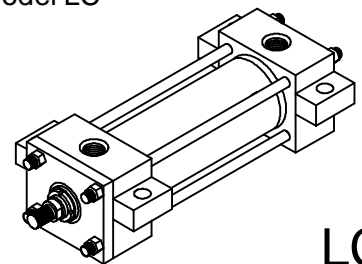
FF

Rear Flange Mounting
HDI Model FR



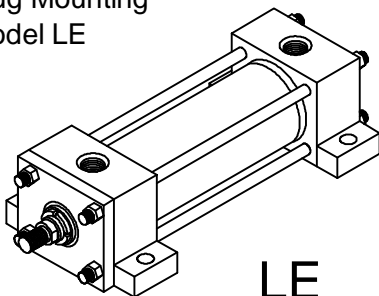
FR

Center Lug Mounting
HDI Model LC



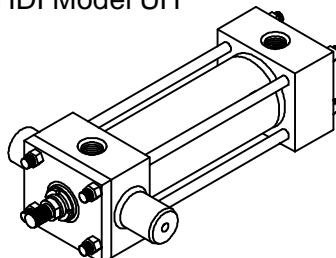
LC

Foot Lug Mounting
HDI Model LE



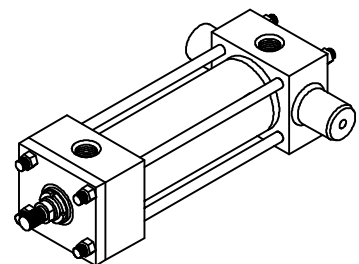
LE

Head Trunnion Mounting
HDI Model UH



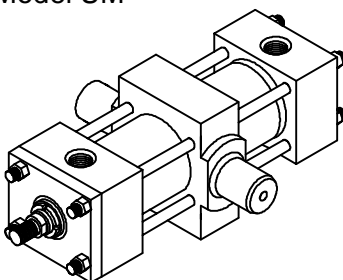
UH

Cap Trunnion Mounting
HDI Model UC



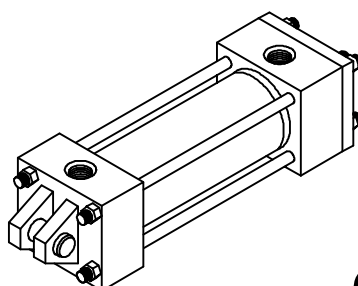
UC

Intermediate Trunnion Mounting
HDI Model UM



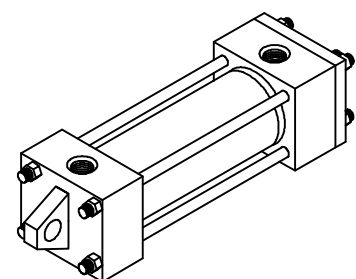
UM

Female Clevis Mounting
HDI Model CF



CF

Male Clevis Mounting
HDI Model CM



CM

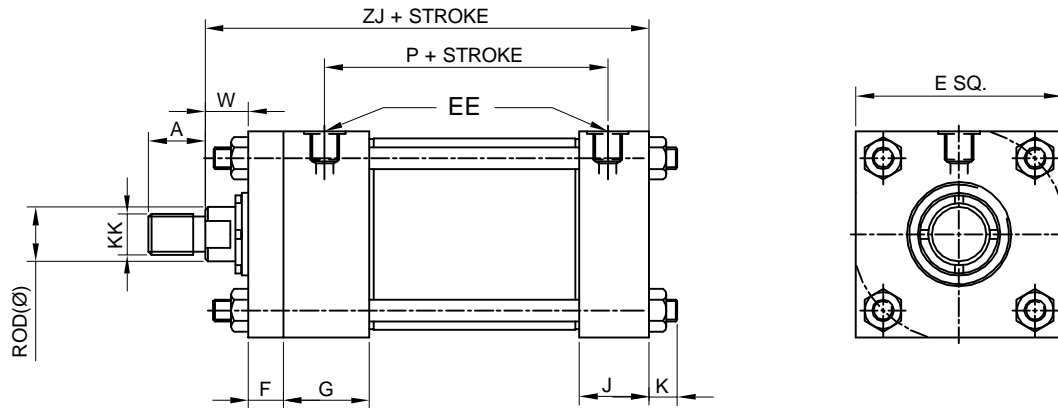




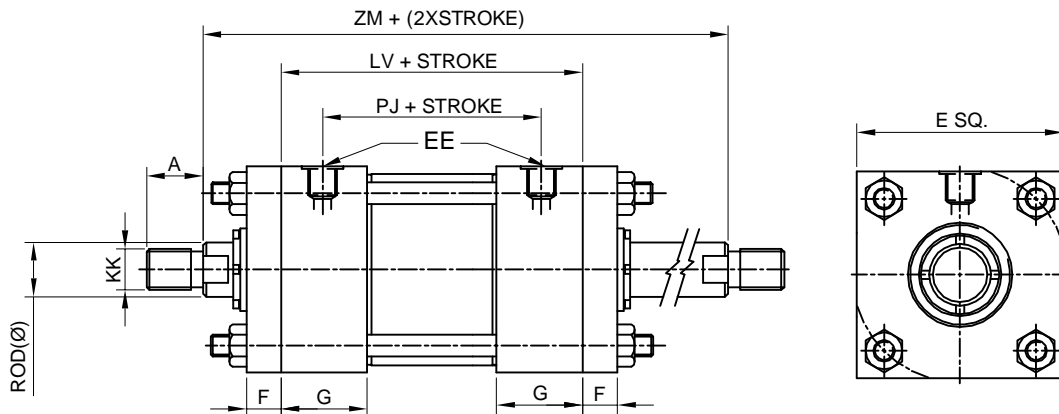
THM SERIES HYDRAULIC CYLINDER

-: BASIC CYLINDER THM SERIES :-

A. SINGLE ROD CYLINDER



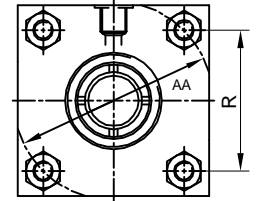
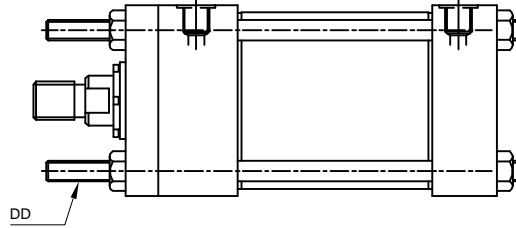
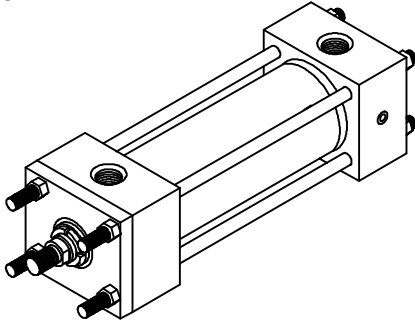
B. DOUBLE ROD CYLINDER



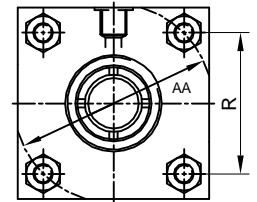
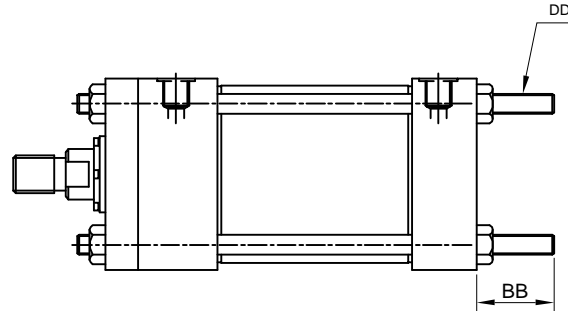
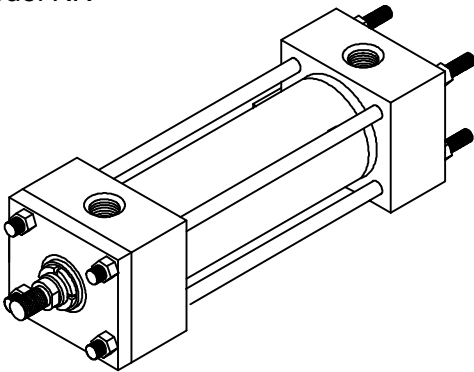
BOREØ	E	EE BSP	F	G	J	ZJ	P	PJ	LV	ZM	RODØ	KK	A/F	W	A	K
40.0	63.0	3/8 "	10.0	45.0	38.0	153.0	73.0	73.0	125.0	195.0	18.0	M14X1.5	15.0	25.0	18.0	6.5
											28.0	M20X1.5	22.0			
50.0	75.0	1/2 "	16.0	45.0	38.0	159.0	74.0	74.0	125.0	207.0	22.0	M16X1.5	18.0	25.0	22.0	10.0
											36.0	M27X2.0	30.0			
63.0	90.0	1/2 "	16.0	45.0	38.0	168.0	80.0	80.0	127.0	223.0	28.0	M20X1.5	22.0	32.0	28.0	10.0
											45.0	M33X2.0	39.0			
80.0	115.0	3/4 "	20.0	50.0	45.0	190.0	93.0	93.0	144.0	246.0	36.0	M27X2.0	30.0	31.0	36.0	13.0
											56.0	M42X2.0	48.0			
100.0	130.0	3/4 "	22.0	50.0	45.0	203.0	101.0	101.0	151.0	265.0	45.0	M33X2.0	39.0	35.0	45.0	13.0
											70.0	M48X2.0	62.0			
125.0	165.0	1 "	22.0	58.0	58.0	232.0	117.0	117.0	175.0	289.0	56.0	M42X2.0	48.0	35.0	56.0	18.0
											90.0	M64X3.0	80.0			
160.0	205.0	1 "	25.0	58.0	58.0	245.0	130.0	130.0	188.0	302.0	70.0	M48X2.0	62.0	32.0	63.0	22.0
											110.0	M80X3.0	100.0			
200.0	245.0	1 1/4 "	25.0	76.0	76.0	299.0	165.0	160.0	242.0	356.0	90.0	M64X3.0	80.0	32.0	85.0	24.0
											140.0	M100X3.0	128.0			



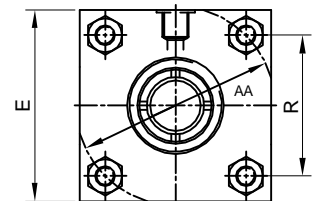
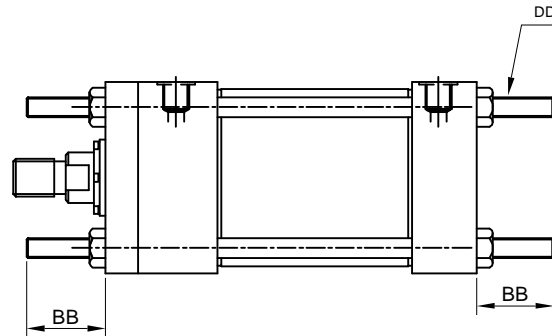
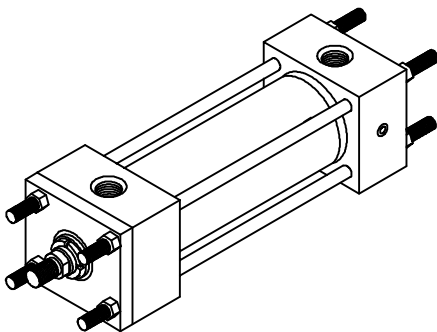
Front Tie Rod Extension Mounting
HDI Model RF



Rear Tie Rod Extension Mounting
HDI Model RR



Both Side Tie Rod Extension Mounting
HDI Model RB

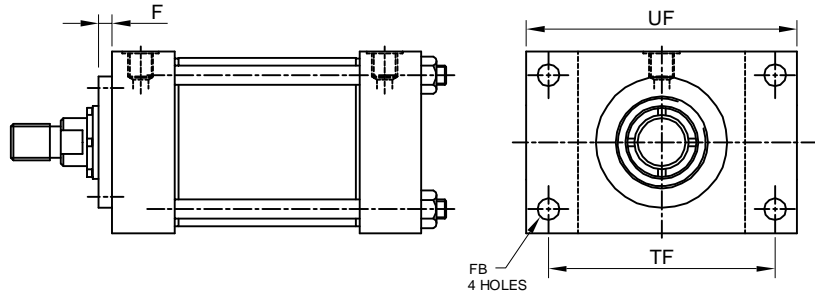
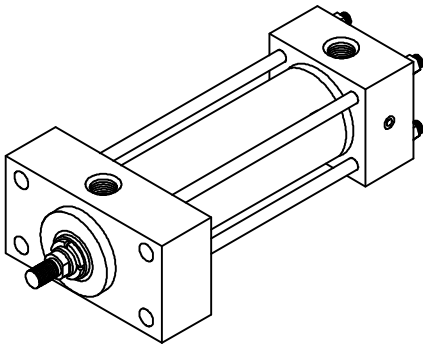


Dimensions - RF,RR & RB

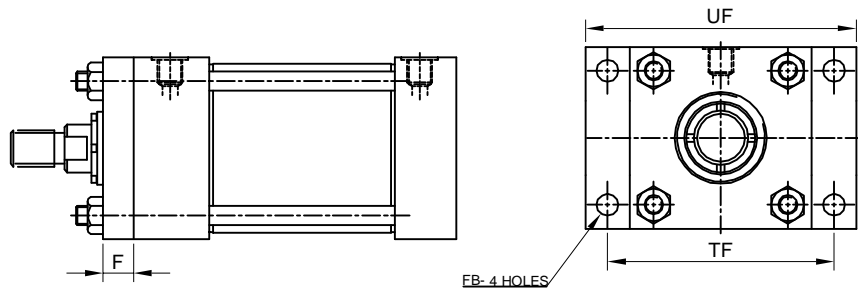
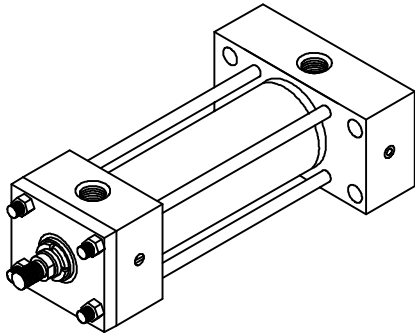
BORE Ø	40.0	50.0	63.0	80.0	100.0	125.0	160.0	200.0
R	41.7	52.3	64.3	82.7	96.9	125.9	154.9	190.2
AA	59.0	74.0	91.0	117.0	137.0	178.0	219.0	269.0
BB	35.0	46.0	46.0	59.0	59.0	81.0	92.0	115.0
DD	M8X1	M12X1.25	M12X1.25	M16X1.5	M16X1.5	M22X1.5	M27X2	M30X2

All dimensions are in millimetres unless otherwise stated.

Head Rectangular Flange
HDI Model FF



Cap Rectangular Flange
HDI Model FR

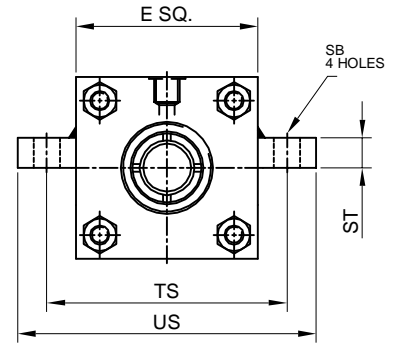
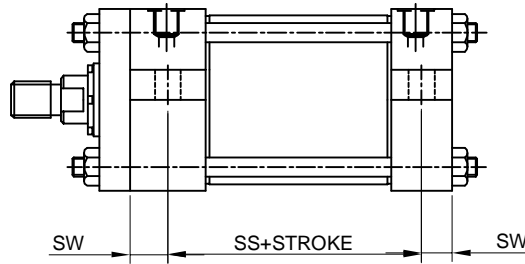
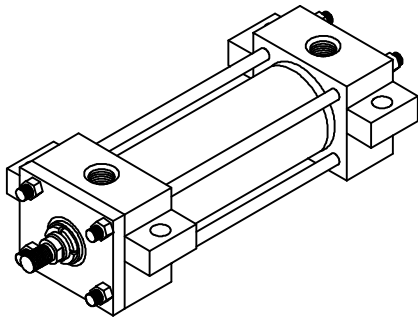


Dimensions - FF & FR

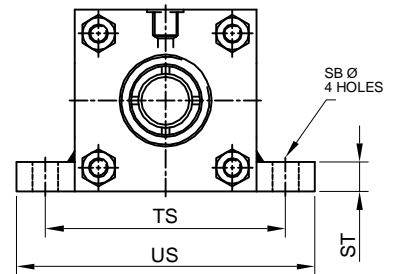
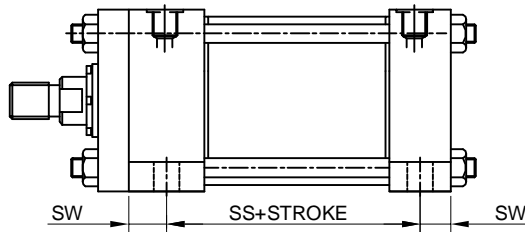
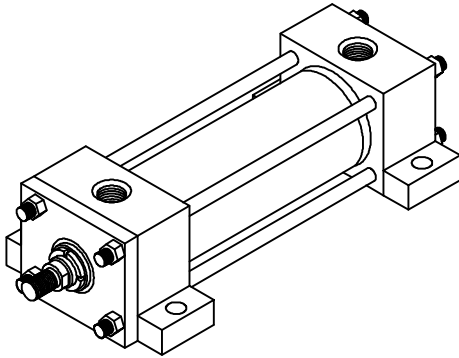
BORE Ø	40.0	50.0	63.0	80.0	100.0	125.0	160.0	200.0
UF	110.0	130.0	145.0	180.0	200.0	250.0	300.0	360.0
TF	87.0	105.0	117.0	149.0	162.0	208.0	253.0	300.0
FB Ø	11.0	14.0	14.0	18.0	18.0	22.0	26.0	33.0
F	10.0	16.0	16.0	20.0	22.0	22.0	25.0	25.0

All dimensions are in millimetres unless otherwise stated.

Center Lug Mounting
HDI Model LC



Foot Lug Mounting
HDI Model LE

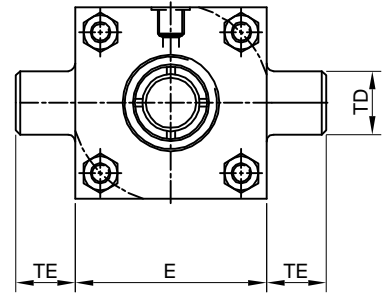
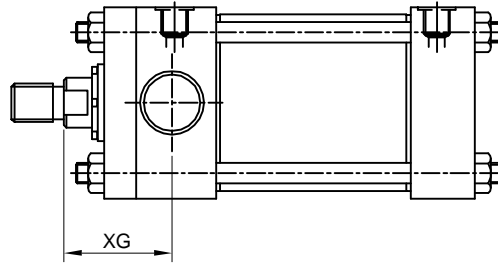
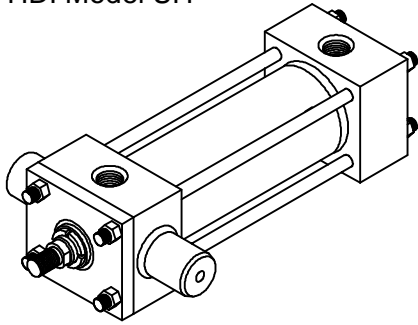


Dimensions - LE & LC

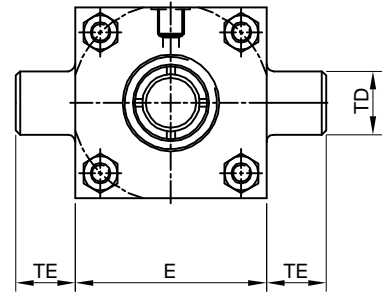
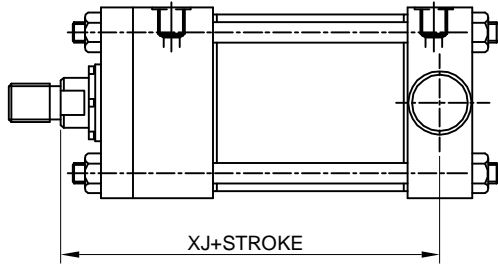
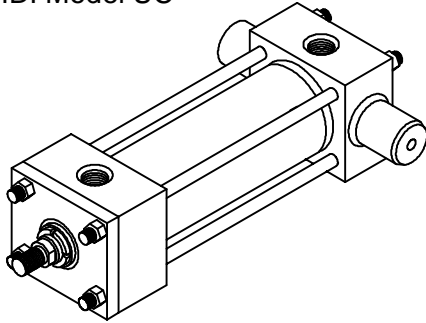
BORE Ø	40.0	50.0	63.0	80.0	100.0	125.0	160.0	200.0
ST	12.5	19.0	26.0	26.0	32.0	32.0	38.0	44.0
SW	10.0	13.0	17.0	17.0	22.0	22.0	29.0	35.0
TS	83.0	102.0	124.0	149.0	172.0	210.0	260.0	311.0
US	103.0	127.0	161.0	186.0	216.0	254.0	318.0	381.0
SS	98.0	92.0	86.0	105.0	102.0	131.0	130.0	172.0
SB Ø	11.0	14.0	18.0	18.0	26.0	26.0	33.0	39.0

All dimensions are in millimetres unless otherwise stated.

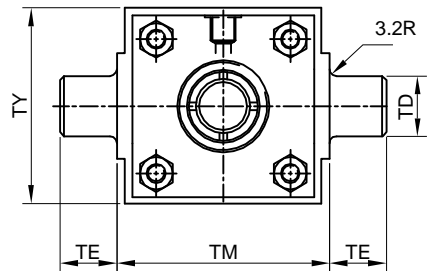
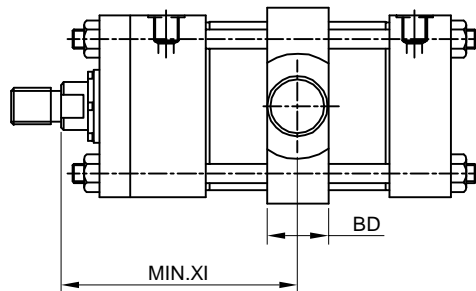
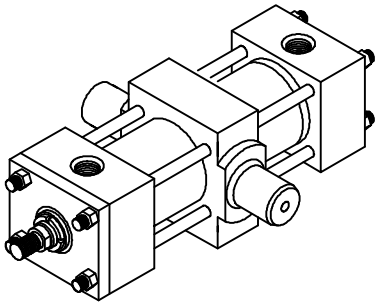
Head Trunnion Mounting
HDI Model UH



Cap Trunnion Mounting
HDI Model UC



Intermediate Trunnion Mounting
HDI Model UM

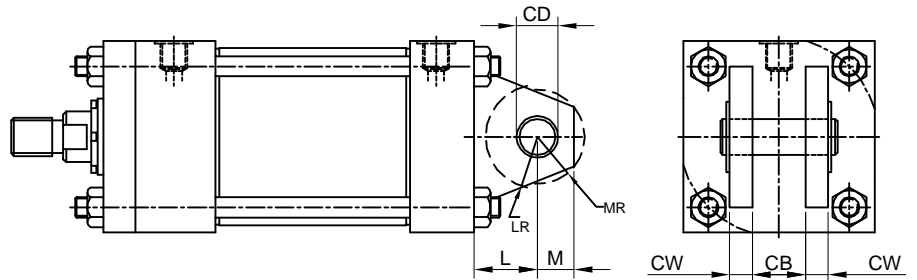
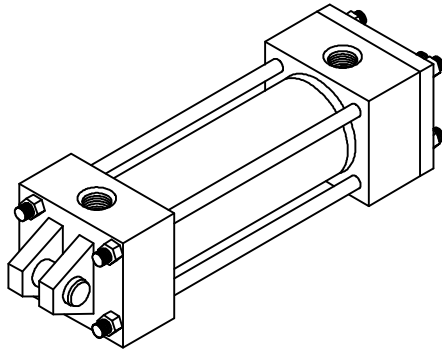


Dimensions - UH,UC & UM

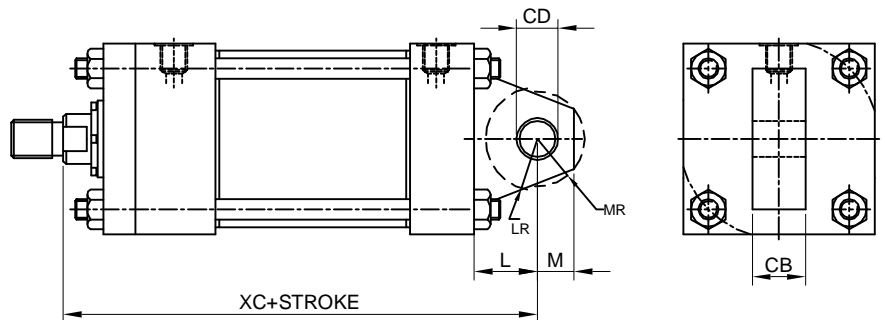
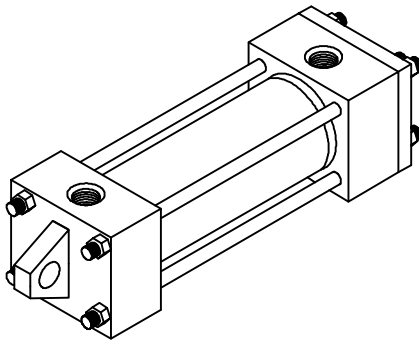
BORE Ø	40.0	50.0	63.0	80.0	100.0	125.0	160.0	200.0
TD	20.0	25.0	32.0	40.0	50.0	63.0	80.0	100.0
TE	16.0	20.0	25.0	32.0	40.0	50.0	63.0	80.0
XG	57.0	64.0	70.0	76.0	71.0	75.0	75.0	85.0
XJ	134.0	140.0	149.0	168.0	187.0	209.0	230.0	276.0
TM	76.0	89.0	100.0	127.0	140.0	178.0	215.0	279.0
TY	76.0	89.0	95.0	127.0	140.0	178.0	216.0	280.0
BD	30.0	40.0	40.0	50.0	60.0	73.0	90.0	110.0
XI MIN	97.0	107.0	114.0	127.0	138.0	153.0	161.0	190.0

All dimensions are in millimetres unless otherwise stated.

Female Clevis Mounting
HDI Model CF



Male Clevis Mounting
HDI Model CM



Dimensions - CM & CF

BORE Ø	40.0	50.0	63.0	80.0	100.0	125.0	160.0	200.0
CD	14.0	20.0	20.0	28.0	36.0	45.0	56.0	70.0
CB	20.0	30.0	30.0	40.0	50.0	60.0	70.0	80.0
CW	10.0	15.0	15.0	20.0	25.0	30.0	35.0	40.0
MR	16.0	25.0	25.0	34.0	44.0	53.0	59.0	70.0
L	19.0	32.0	32.0	39.0	54.0	57.0	63.0	82.0
M	14.0	20.0	20.0	28.0	36.0	45.0	59.0	70.0
XC	172.0	191.0	200.0	229.0	257.0	289.0	308.0	381.0

All dimensions are in millimetres unless otherwise stated.

MODEL NUMBER

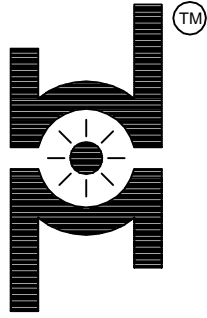
Each HDI Series THM Cylinder is assigned a model number. Consisting of coded symbols, the model number can be used by customers, sales representatives & factory personnel as a complete & accurate description of the cylinder.

symbols that represents the cylinder features you wants, & put them down in sequence indicated by the example below. This example make use all of the 12 diff. model number symbols group, although many model numbers will not require all, as in case where cushioning is not required, or where a double rod cylinder is not required, or where there are no special modifications, etc.

To develop a model number for a HDI cylinder, select those

Feature	Description	Page	Symbol	Example
				HDI CYL : 38.1 - C - DR - UM - THM - 10 - R - C - 32 - S
Specification	Hydrodyne Industries cylinder	—	HDI CYL	
Bore	Specify in mm	—	—	
Cushioned-Head	Used only if cushioned required		C	
ROD	Use if double rod cylinder	4	DR	
Mounting Style	Front Tie Rods Extended	5	RF	
	Rear Tie Rods Extended	5	RR	
	Both End Tie Rod Extended	6	RB	
	Front Flange	6	FF	
	Rear Flange	7	FR	
	Foot Lug	7	LE	
	Centre lug	7	LC	
	Head End Trunnion	8	UH	
	Cap End Trunnion	8	UC	
	Intermediate Trunnion	8	UM	
	Male Clevis	9	CM	
	Female Clevis	9	CF	
Series	Used in all THM Model nos.		THM	
Piston Rod No .	Number as shown	4	10	
	"Rod End Dimensions" STD1: 10 STD2: 20		20	
Ports	BSP (parallel thread)		R	
Cushion - Cap	Used only if cushion required		C	
Stroke	Specify in mm		—	
Special Features	*Air Bleeds *Over Size Ports *Rod End Bellows *Special Seals *Stop Tube *Stroke Adjuster *Tie Rod Supports *Rod end accesories		S	





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