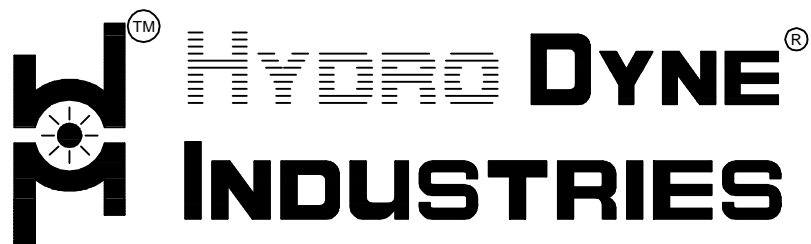
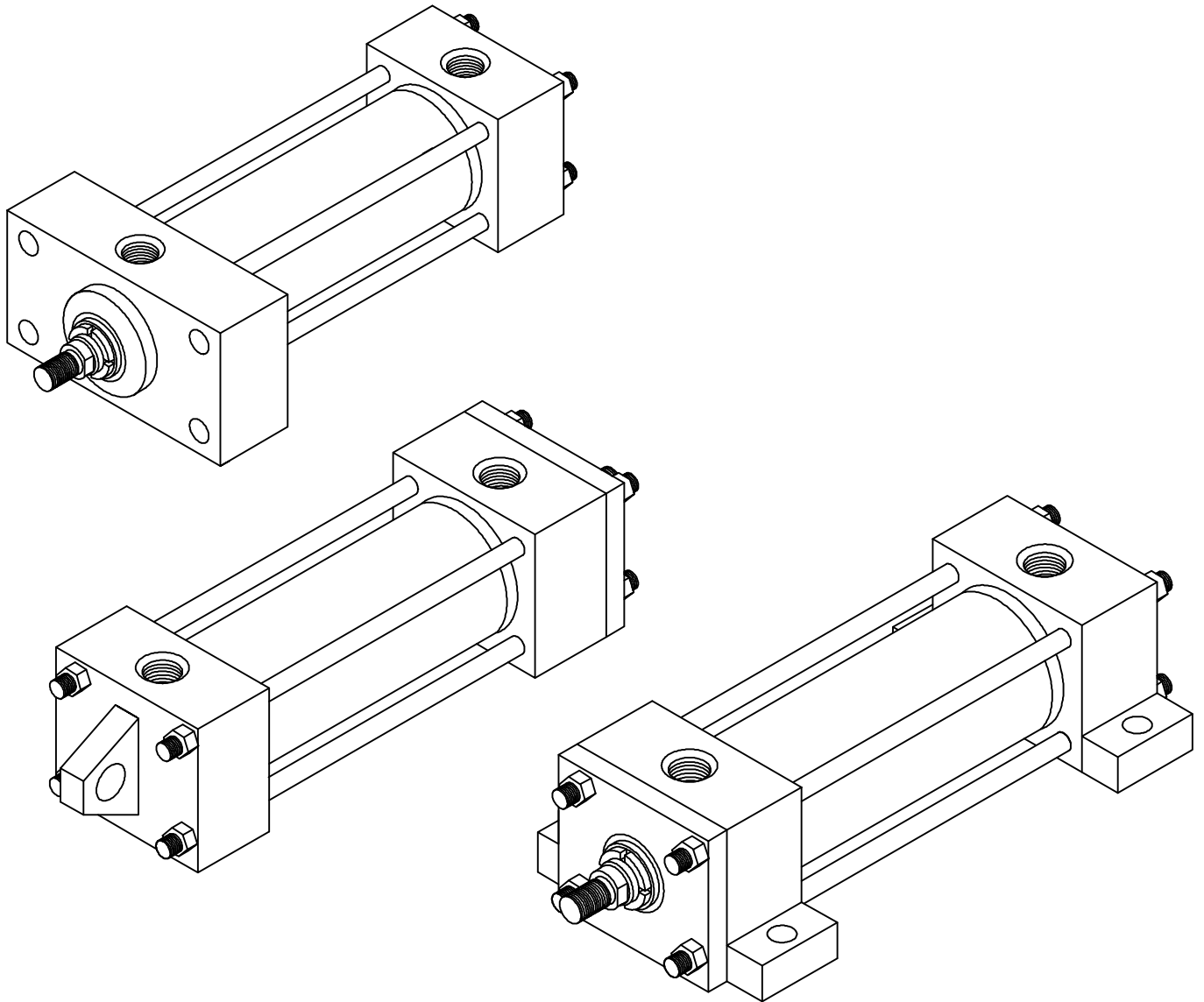




Hydraulic Cylinders Low Pressure TLM Series



Total Fluidpower Performance
An ISO 9001:2015 certified co.

DESIGN FEATURES & MATERIALS

Hydrodyne TL series TIE ROD CYLINDERS are designed for compactness, based on many years of experience in manufacture of LOW PRESSURE HYDRAULIC CYLINDERS & use of BEST GRADE MATERIALS.

The HDI Cartridge Gland

Rod Cartridge Gland 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 seals consist of :

- a) Polyurethane /low friction nitrile seal completely self compensating and self relieving to withstand all pressure variations and mechanical deflections that may occur.
- b) secondary seal - hydro dyne wiper seal performs a double service by wiping clean any oil film adhering to the rod on the advance stroke, and cleaning the dirt off the rod on return stroke

A static 'o'ring seal is used to seal between the gland the head and to serve as a prevailing torque lock .

THE ROD END

The series TL 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 presser compensating static 'o' ring, seals between the head and cylinder body .

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 .

THE TIE RODS

High tensile strength tie rods have rolled /machined threads for strength

THE PISTON

The piston is of one piece construction manufactured from fine grain cast iron or steel ,dependent upon the piston seal requirements. The standard piston seal is a double acting elastomeric seal with anti-extrusion rings .

The wide piston surface considerably reduces bearing loads and wear during mechanical deflection . long thread engagement with the with piston rod provides grater shock absorption ,and the piston is permanently locked with a pin .

THE PISTON ROD

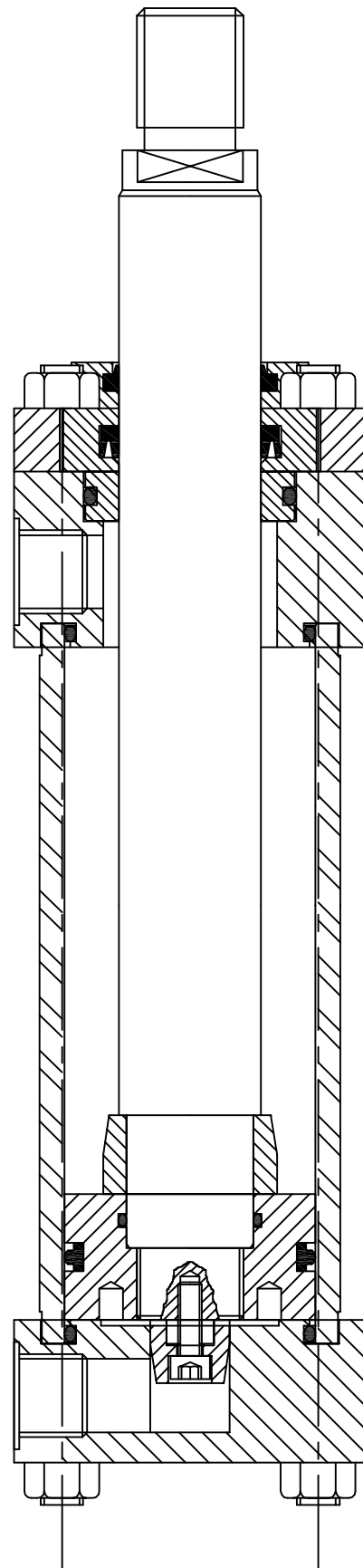
Piston rod are made from high tensile medium carbon steel ground and hard chrome plated to thickness of 25 microns and surface finish to 0.5um or better in special case (with prior acceptance) the rod are induction hardened for long life dent resistance surface .

THE CYLINDER BODY

The cylinder is made from heavy wall steel tubing ,honed to a micro-finish bore . All hydrodyne series TL cylinders are constructed with "align - a -groove "making precision cylinders alignment quick and easy . The groove are a minimum of 5mm wide and machined concentric with the internal diameter of the body and piston rod centerline .

THE SEALS

All dynamic ,elastomeric seals used with series TL cylinders are design to seal with minimum friction under varying pressure .This together with fine finishes on the cylinder bore and piston rod,provide long seal life .





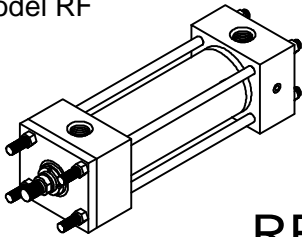
TLM SERIES HYDRAULIC CYLINDER

TLM SERIES HIGH PRESSURE TIE ROD TYPE HYDRAULIC CYLINDER

SPECIFICATIONS

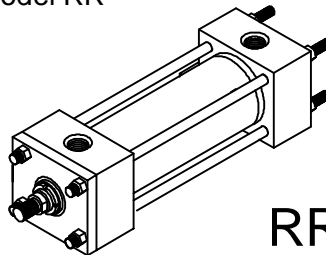
- | | | | |
|----|-------------------------|-----|---|
| 1. | MAX. OPERATING PRESSURE | --- | 50 BAR (standard)
60 BAR (upon request) |
| 2. | TEMPERATURE | --- | -20°C to +80°C with standard nitrile/polyurethane seals.
Higher temperature with viton/teflon seals. |
| 3. | MEDIUM | --- | Mineral oil
Cylinders to operate with water based fluids available on request. |

Front Tie Rod Extension Mounting
HDI Model RF



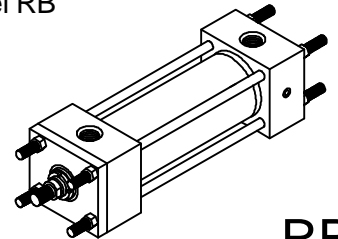
RF

Rear Tie Rod Extension Mounting
HDI Model RR



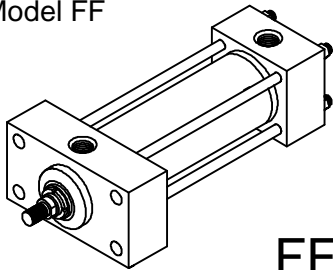
RR

Both Side Tie Rod Extension Mounting
HDI Model RB



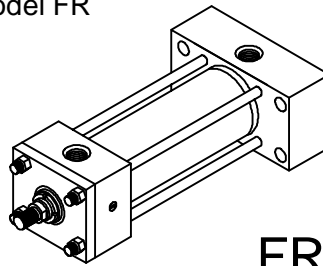
RB

Front Flange Mounting
HDI Model FF



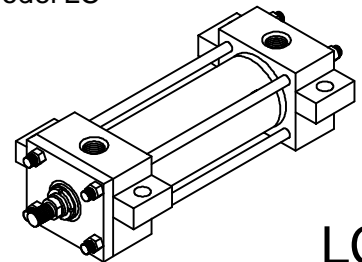
FF

Rear Flange Mounting
HDI Model FR



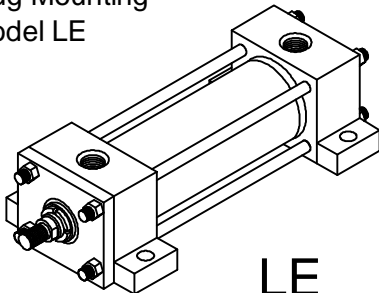
FR

Center Lug Mounting
HDI Model LC



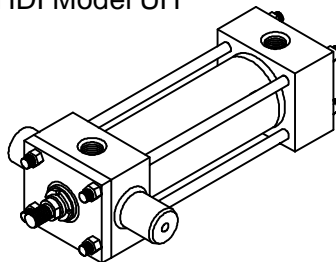
LC

Foot Lug Mounting
HDI Model LE



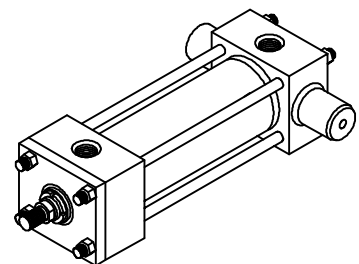
LE

Head Trunnion Mounting
HDI Model UH



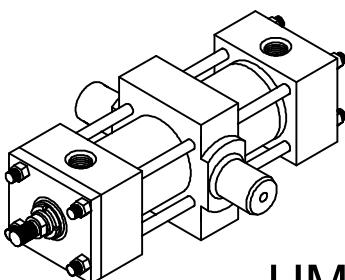
UH

Cap Trunnion Mounting
HDI Model UC



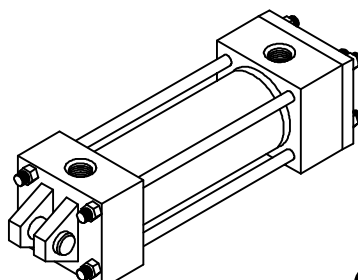
UC

Intermediate Trunnion Mounting
HDI Model UM



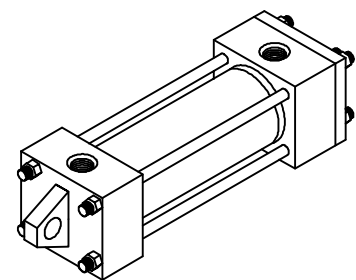
UM

Female Clevis Mounting
HDI Model CF



CF

Male Clevis Mounting
HDI Model CM



CM

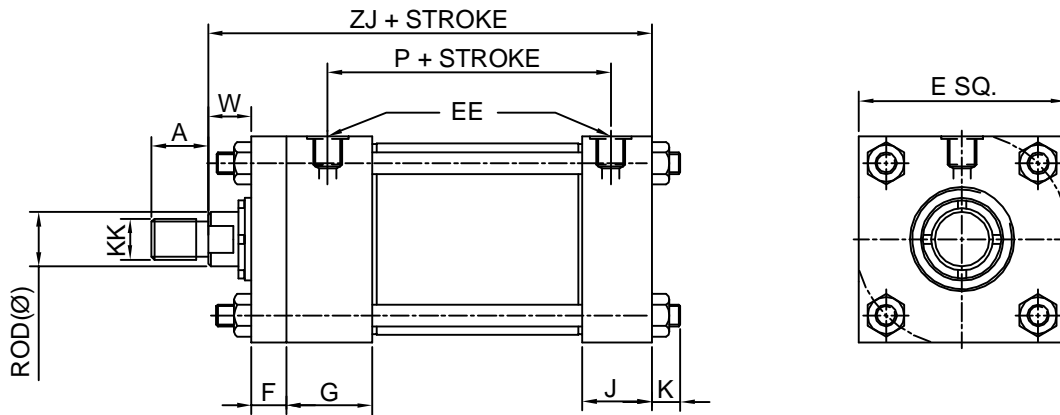




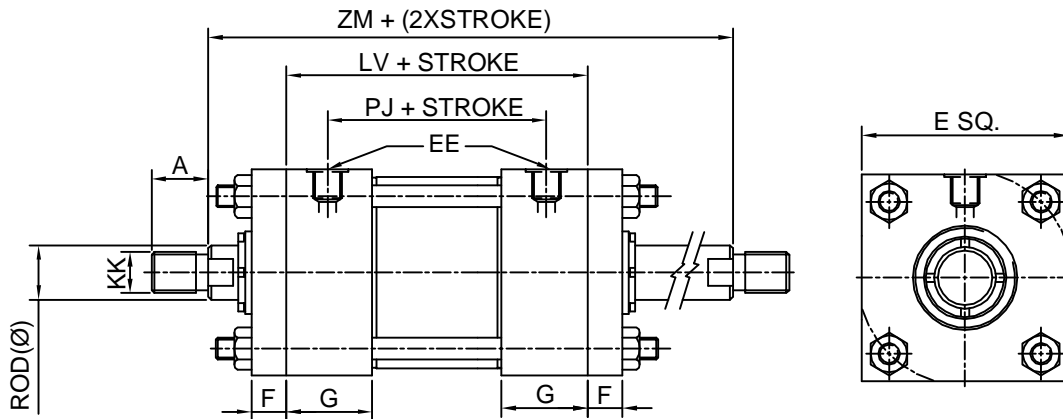
TLM SERIES HYDRAULIC CYLINDER

BASIC CYLINDER TLM SERIES

A. SINGLE ROD CYLINDER



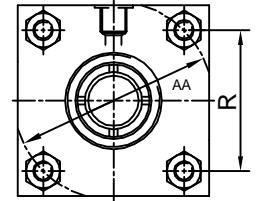
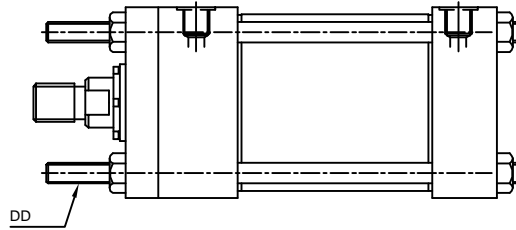
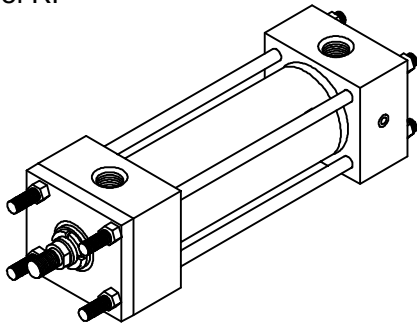
B. DOUBLE ROD CYLINDER



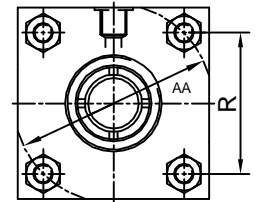
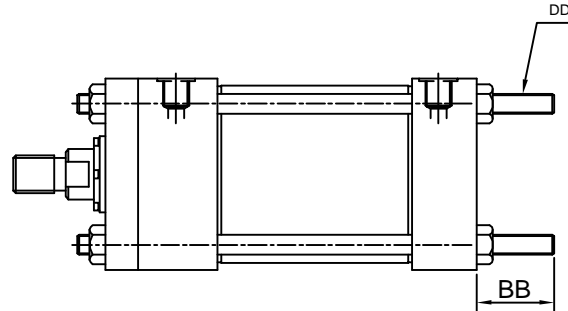
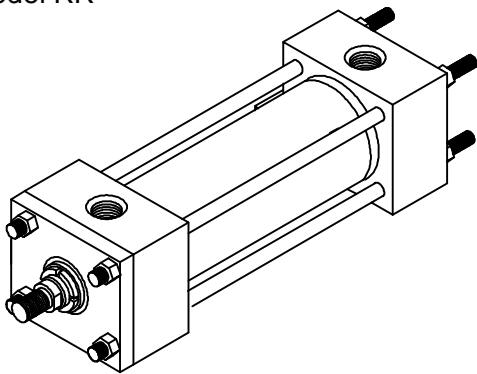
BOREØ	E	EE BSP	F	G	J	ZJ	P	PJ	LV	ZM	RODØ	KK	A/F	W	A	K
40.0	53.0	3/8 "	10.0	37.0	25.0	127.0	59.5	60.0	104.0	174.0	18.0	M14X1.5	15.0	25.0	18.0	6.5
50.0	63.0	3/8 "	10.0	37.0	25.0	127.0	59.5	60.0	104.0	174.0	18.0	M16X1.5	18.0	25.0	22.0	10.0
											28.0	M20X1.5	22.0		28.0	
63.0	76.0	3/8 "	10.0	38.0	26.0	137.0	61.0	61.0	107.0	187.0	28.0	M20X1.5	22.0	32.0	28.0	10.0
											36.0	M27X2.0	30.0		36.0	
											36.0	M27X2.0	30.0		36.0	
80.0	95.0	1/2 "	16.0	45.0	33.0	155.0	67.0	66.0	120.0	216.0	45.0	M33X2.0	39.0	31.0	45.0	13.0
											45.0	M33X2.0	39.0		45.0	
100.0	114.0	1/2 "	16.0	45.0	33.0	159.0	67.0	66.0	120.0	222.0	45.0	M33X2.0	39.0	35.0	45.0	13.0
											56.0	M42X2.0	48.0		56.0	
125.0	140.0	1/2 "	16.0	45.0	33.0	165.0	73.0	72.0	126.0	228.0	56.0	M42X2.0	48.0	35.0	56.0	18.0
											70.0	M48X2.0	62.0		63.0	
160.0	175.0	3/4 "	20.0	51.0	38.0	178.0	79.0	79.0	139.0	243.0	70.0	M48X2.0	62.0	32.0	63.0	22.0
											90.0	M64X3.0	80.0		85.0	



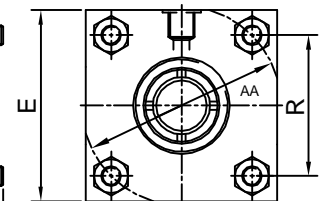
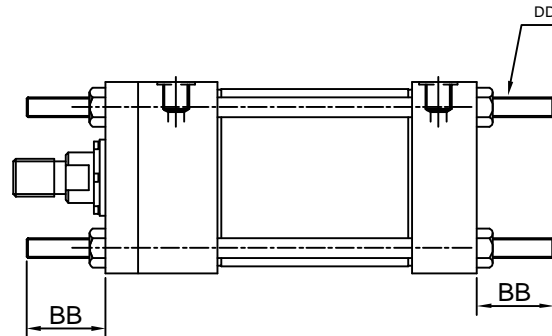
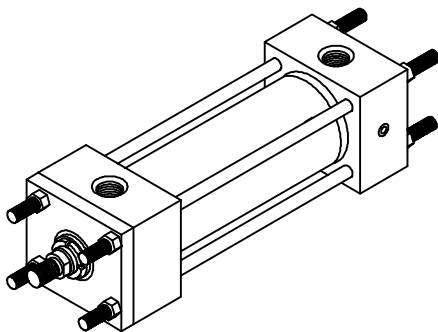
Front Tie Rod Extension Mounting
HDI Model RF



Rear Tie Rod Extension Mounting
HDI Model RR



Both Side Tie Rod Extension Mounting
HDI Model RB

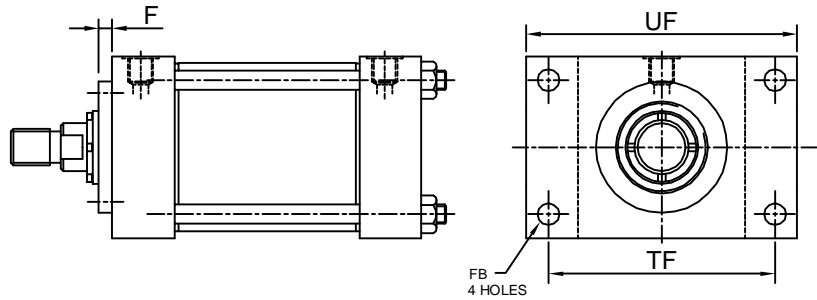
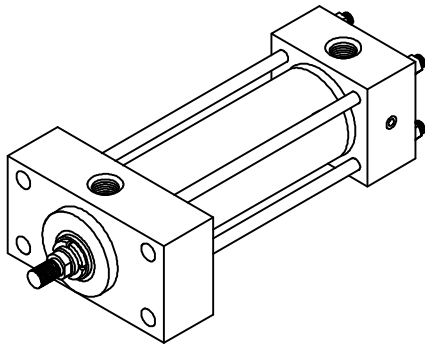


Dimensions - RF,RR & RB

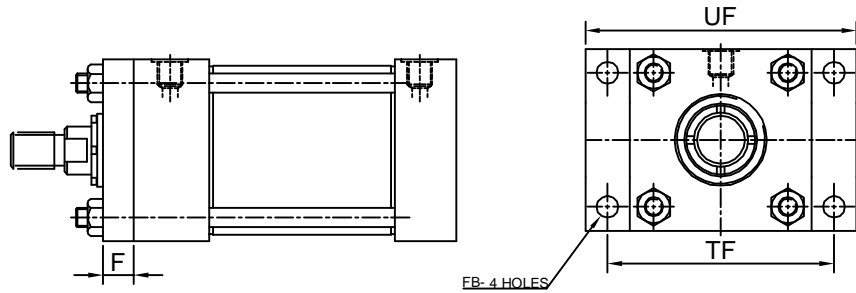
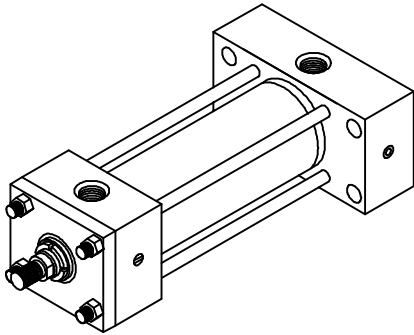
BORE Ø	40.0	50.0	63.0	80.0	100.0	125.0	160.0
R	39.3	49.2	58.3	71.1	88.7	109.2	135.8
AA	55.6	69.5	82.5	100.5	125.4	154.4	192.0
BB	25.0	29.0	29.0	35.0	35.0	46.0	46.0
DD	M6X1	M8X1.25	M8X1.25	M10X1.5	M10X1.5	M12X1.75	M16X2

All dimensions are in millimetres unless otherwise stated.

Head Rectangular Flange
HDI Model FF



Cap Rectangular Flange
HDI Model FR

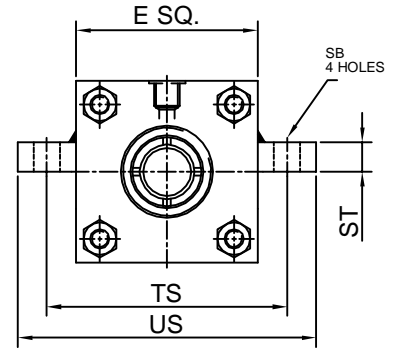
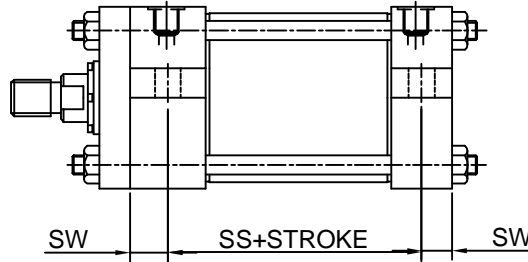
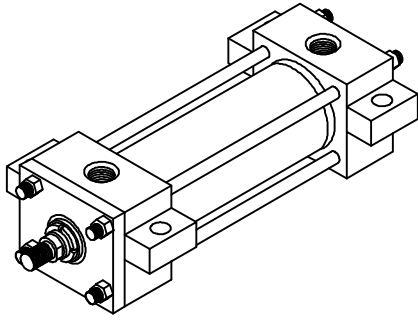


Dimensions - FF & FR

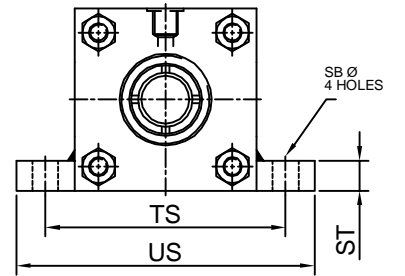
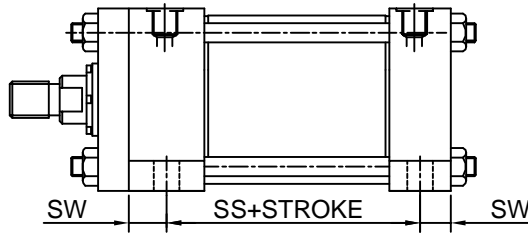
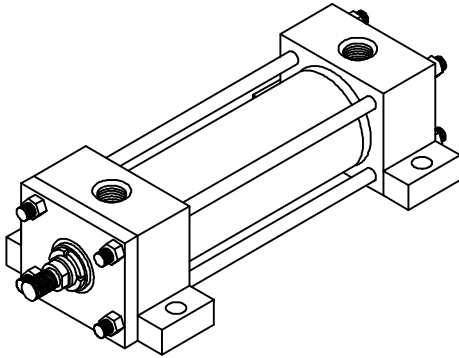
BORE Ø	40.0	50.0	63.0	80.0	100.0	125.0	160.0
UF	86.0	105.0	117.0	140.0	160.0	194.0	219.0
TF	70.0	86.0	98.0	119.0	138.0	168.0	194.0
FB Ø	8.0	10.0	10.0	11.0	11.0	14.0	14.0
F	10.0	10.0	10.0	16.0	16.0	16.0	20.0

All dimensions are in millimetres unless otherwise stated.

Center Lug Mounting
HDI Model LC



Foot Lug Mounting
HDI Model LE

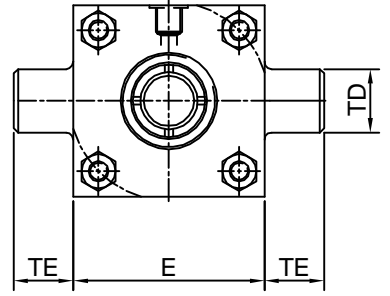
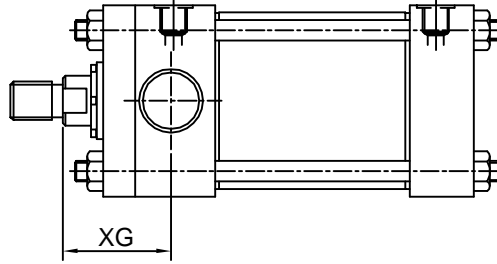
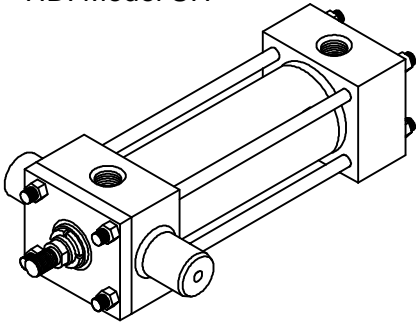


Dimensions - LE & LC

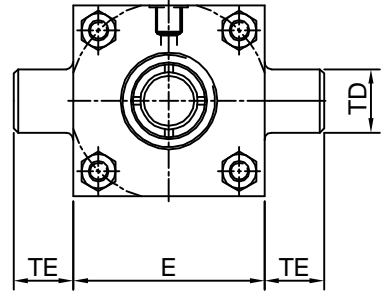
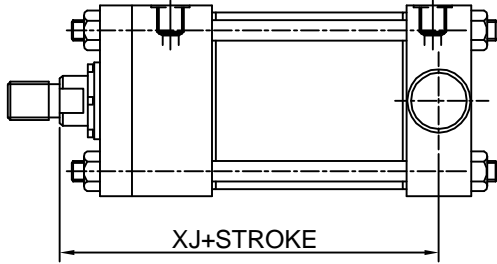
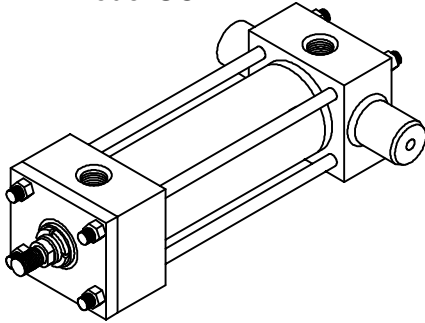
BORE Ø	40.0	50.0	63.0	80.0	100.0	125.0	160.0
ST	12.7	12.7	12.7	19.0	19.0	25.0	25.0
SW	10.0	10.0	10.0	12.7	12.7	18.0	18.0
TS	70.0	83.0	95.0	120.0	140.0	175.0	200.0
US	89.0	102.0	114.0	146.0	165.0	210.0	235.0
SS	72.0	72.0	75.0	82.6	82.6	78.0	90.0
SB Ø	11.0	11.0	11.0	14.0	14.0	21.0	21.0

All dimensions are in millimetres unless otherwise stated.

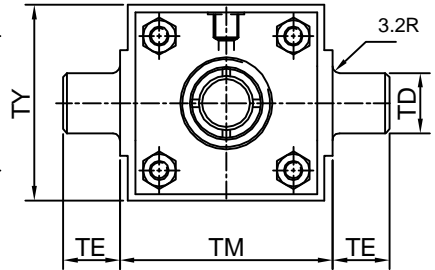
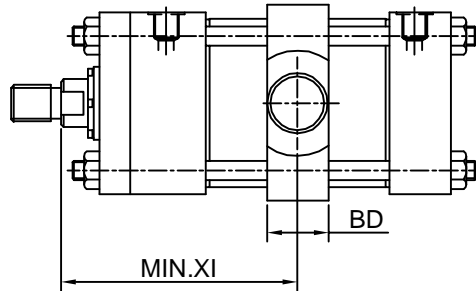
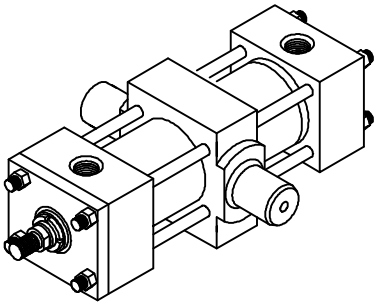
Head Trunnion Mounting
HDI Model UH



Cap Trunnion Mounting
HDI Model UC



Intermediate Trunnion Mounting
HDI Model UM

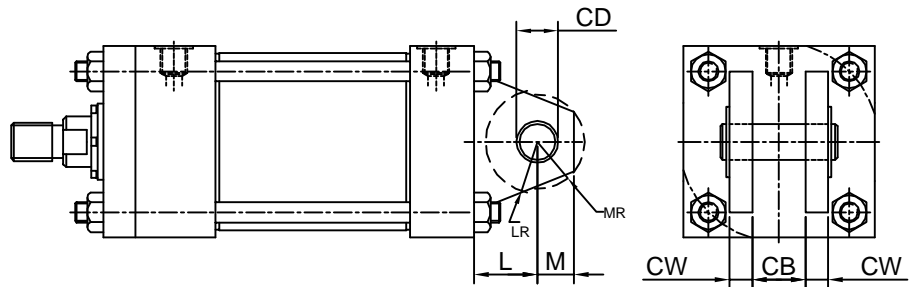
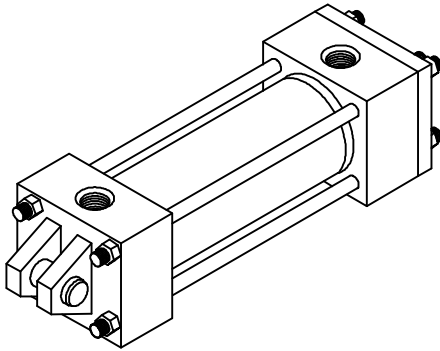


Dimensions - UH,UC & UM

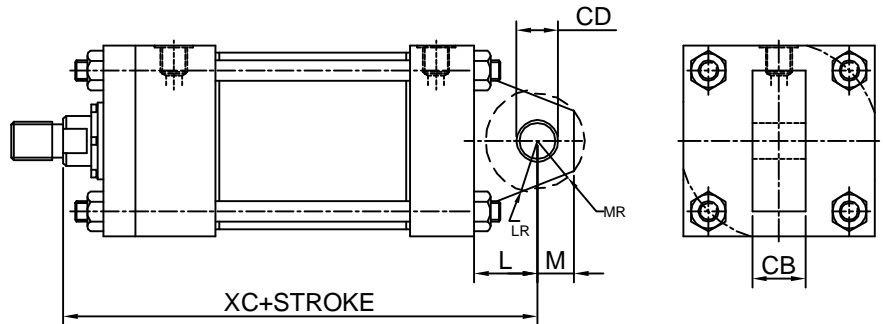
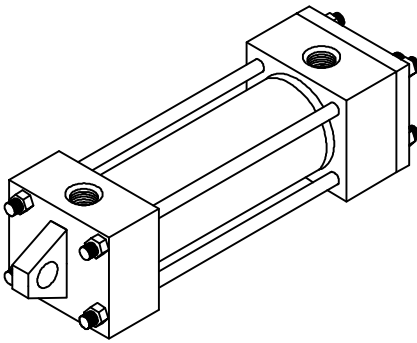
BORE Ø	40.0	50.0	63.0	80.0	100.0	125.0	160.0
TD	25.0	25.0	25.0	25.0	25.0	25.0	35.0
TE	25.0	25.0	25.0	25.0	25.0	25.0	35.0
XG	54.0	54.0	60.0	70.0	73.0	73.0	83.0
XJ	114.5	114.5	122.5	140.5	143.0	149.5	165.0
TM	63.0	76.0	89.0	114.0	133.0	159.0	193.0
TY	63.0	76.0	89.0	108.0	127.0	152.0	178.0
BD	30.0	38.0	50.0	50.0	50.0	50.0	63.0
XI MIN	93.0	97.0	103.0	123.0	125.0	125.0	145.0

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
CD	12.7	12.7	12.7	19.0	19.0	19.0	25.4
CB	19.0	19.0	19.0	32.0	32.0	32.0	38.0
CW	12.7	12.7	12.7	16.0	16.0	16.0	19.0
MR	16.0	16.0	16.0	24.0	24.0	24.0	30.0
L	19.0	19.0	19.0	31.0	31.0	31.0	38.0
M	12.7	12.7	12.7	19.0	19.0	19.0	25.4
XC	146.0	146.0	154.0	187.0	190.0	196.0	222.0

All dimensions are in millimetres unless otherwise stated.

MODEL NUMBER

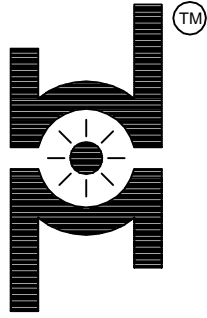
Each HDI Series TLM Cylinder is assigned a model number. Consisting of coded symbols, the model number can be used by customers, sales representatives & factory personnel as a complete & accurate description of the cylinder.

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 - TLM - 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 TLM Model nos.		TLM	
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	





HYDRO DYNE[®] INDUSTRIES

Plot No.11, Sector No.2, Vasai Taluka Indl. Co-op. Estate Ltd.,
Gourai Pada, Vasai Road (E), Maharashtra - 401 208
Tel. :0250-6457480/81/82 , Mob :09325004415
E-mail : mktg@hydrodyneindustries.com
Website :www.hydrodyneindustries.com