

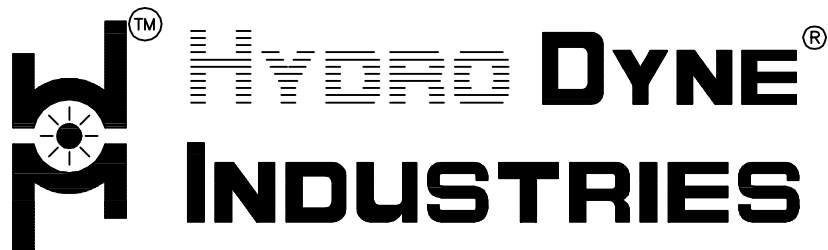
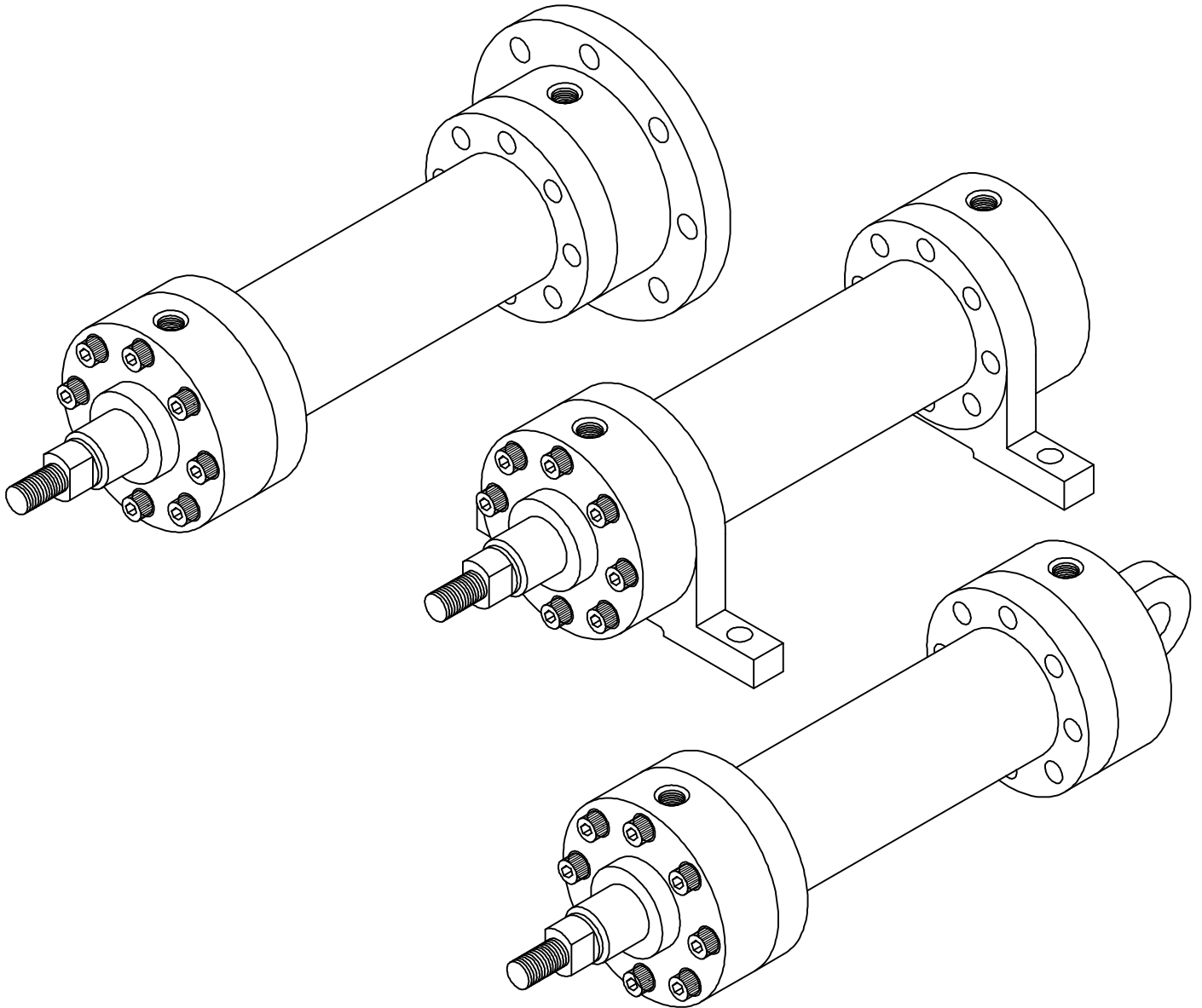
# Hydraulic Cylinders

WCF Series as per ISO-6020/1

Working Pressure upto 160 bars

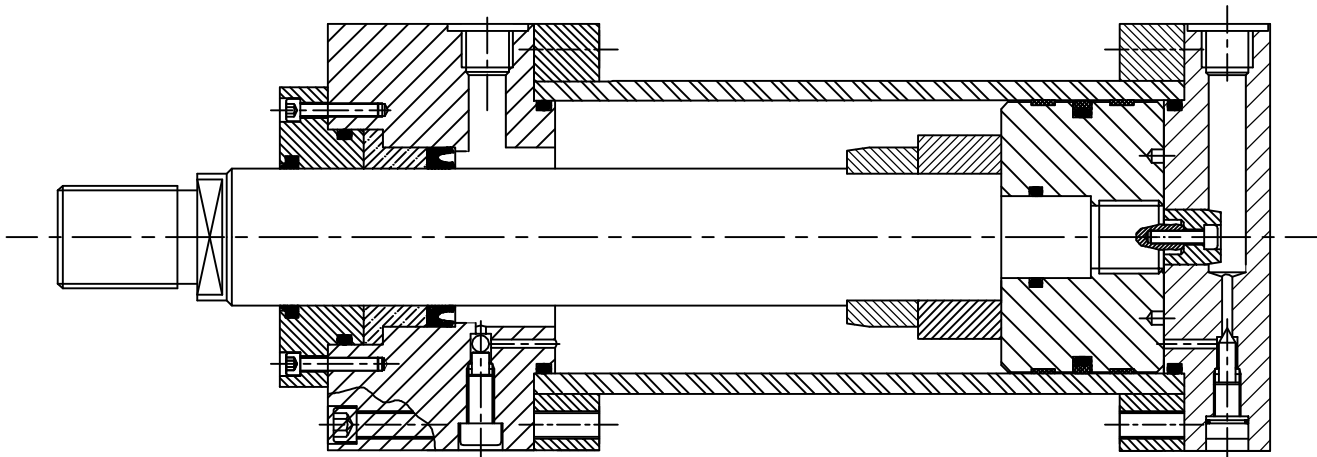


Welded Flange Construction



Total Fluidpower Performance

An ISO 9001:2015 certified co.



Hydrodyne WCF series WELDED FLANGE CYLINDERS are designed for service in steel mills and in other applications where a rugged, dependable cylinders is required. In addition to the standard cylinders featured in this catalogue, WCF cylinders can be designed and manufactured to suit individual customer requirements. Our engineers will be pleased to discuss and advise on unique design to suit specific application.

THE HDI GLAND COVER

Rod Gland Cover can be externally removed without dismantling of the cylinder.

Gland Cover seals consists of :

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.

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 HEAD AND CAP END FLANGE

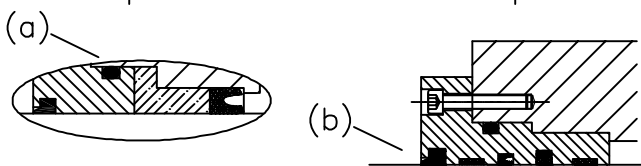
The head and cap end flange is attached to the cylinder body flange with high tensile and hardened bolts/studs.

ROD BEARINNG

Made from gun metal or cast iron for high resistance, the bearing is located inboard of the seal assuring lubrication from within the cylinder. The surface and spread of the long bearing give a reduced bearing stress, increasing both cylinder and seal life.

ROD SEAL

They are located in screw or bolted housing, and comprise a polyurethane 'U' seal which provides efficient retention of pressurised fluid.



CUSHIONING

The needle valve and check valve flush with rod end and cap end. Needle valve provide fine cushioning adjustment and the ball check valve allows fast and full force for the return stroke of the piston.

THE CYLINDER BODY

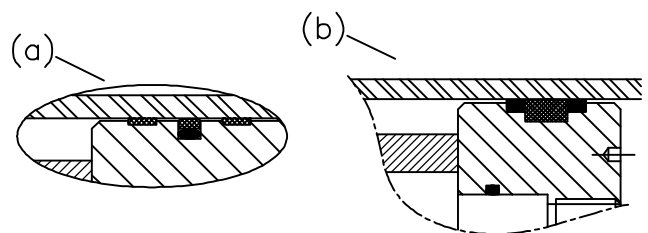
The cylinder body is made from heavy wall seamless pipe, micro honed to a surface finish of 0.5 microns or better. The pipe is welded with flanges at both ends for attaching the rod end and cap end with the cylinder body. The welding is done prior to honing of the pipe bore to avoid distortion in the pipe.

THE HEAD AND CAP END

The head and cap end is machined from cold rolled steel and located into the cylinders body's internal diameter for added strength and alignment. both the head and cap are sealed by 'O' rings which are turn protected by anti-extrusion rings.

THE PISTON AND PISTON SEAL

The piston is of one piece construction manufactured from fine grain cast iron or steel. The use of heavy duty wear rings prevents metal contact with the cylinder bore. The wear ring are made from BFT. The piston seal consists of a bronze filled PTFE outer ring which is preloaded by a rubber inner ring and give extrusion free. The wear ring also protect the piston seals from contaminations.



AIR BLEED

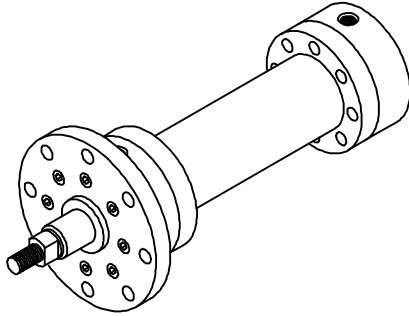
Air bleed screw are provided at both the ends to exhaust the entrapped air to ensure jerk free movements of the piston rod.

WCF SERIES WELDED FLANGE TYPE HYDRAULIC CYLINDER

SPECIFICATIONS

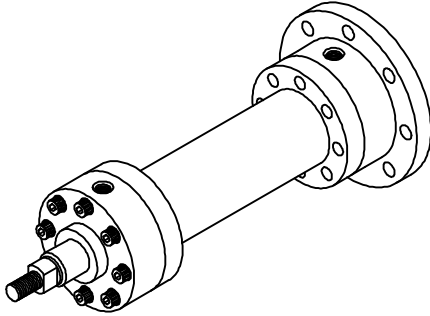
- 1. MAX. OPERATING PRESSURE --> 160 BAR
- 2. TEMPERATURE --> -20°C to +80°C with standard nitrile/polyurethane seals.  
Higher temperature with viton/teflon seals.
- 3. MEDIUM --> Mineral oil  
Cylinders to operate with water based fluids available on request.

Front Flange Mounting  
HDI Model FF



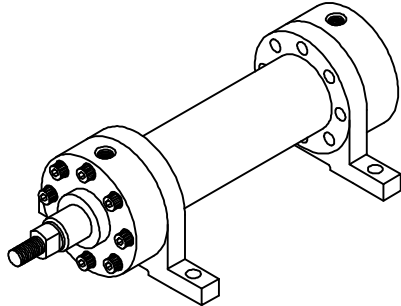
FF

Rear Flange Mounting  
HDI Model FR



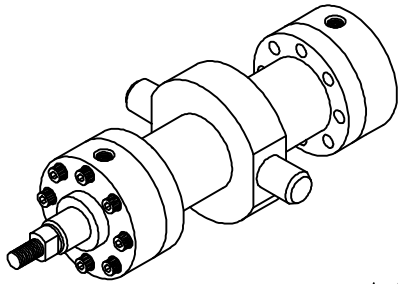
FR

Foot Lug Mounting  
HDI Model LE



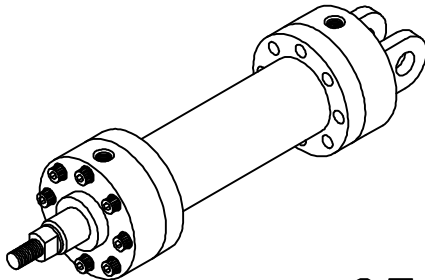
LE

Intermediate Trunnion Mounting  
HDI Model UM



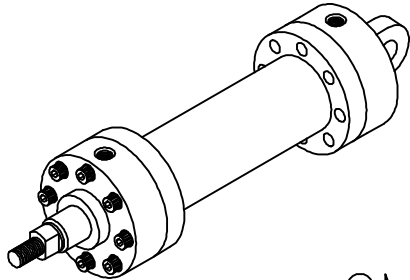
UM

Female Clevis Mounting  
HDI Model CF



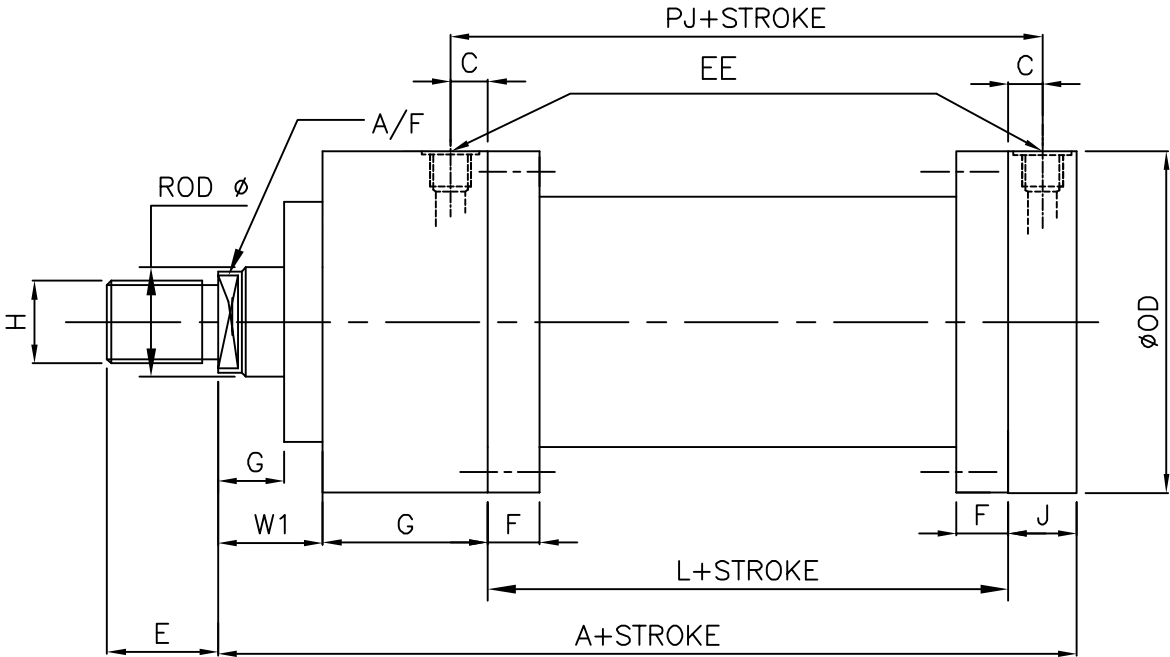
CF

Male Clevis Mounting  
HDI Model CM



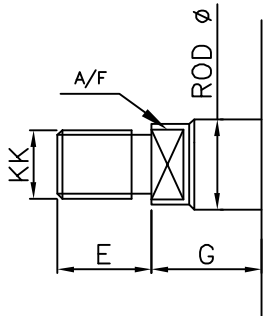
CM

WCF FLANGE GLAND TYPE CYLINDER (WCF)  
 BASIC CYLINDER DIMENSION



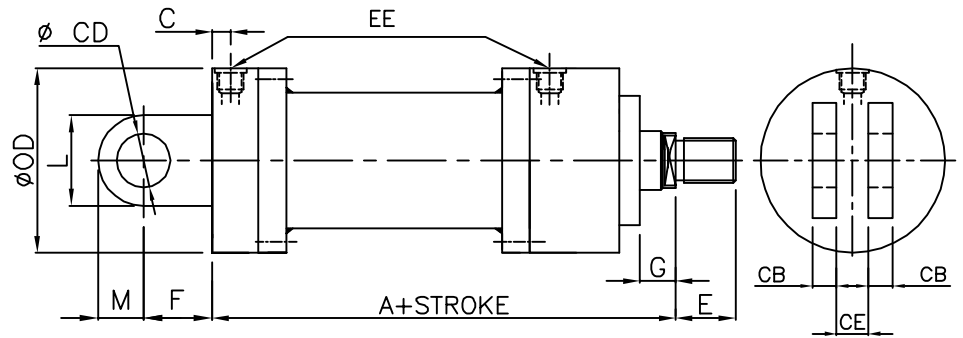
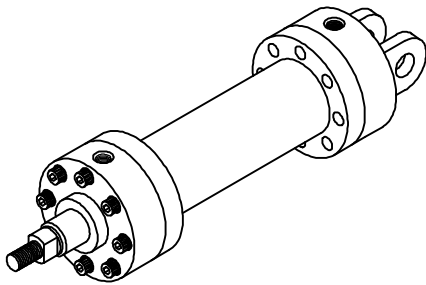
BOREØ	STD	ROD Ø	EE BSP	F	G	J	W	W1	L	A	PJ	ØOD	ØB	A/F	KK	E
40.0	STD 1	18.0	1/2"	18.0	49.5	38.0	13.0	32.0	80.0	190.0	115.0	78.0	50.0	15.0	M14X1.5	18.0
	STD 2	22.0												18.0	M16X1.5	22.0
50.0	STD 1	25.0	1/2"	22.0	60.5	40.0	14.0	38.0	80.0	205.0	121.0	93.0	60.0	20.0	M20X1.5	28.0
	STD 2	28.0												22.0	M20X1.5	28.0
63.0	STD 1	28.0	3/4"	22.0	66.0	50.0	16.0	45.0	80.0	224.0	128.0	108.0	70.0	22.0	M20X1.5	28.0
	STD 2	36.0												30.0	M27X2	36.0
80.0	STD 1	36.0	3/4"	26.0	84.0	52.0	18.0	54.0	84.0	250.0	136.0	133.0	85.0	30.0	M27X2	36.0
	STD 2	45.0												39.0	M33X2	45.0
100.0	STD 1	45.0	1"	28.0	104.0	58.0	20.0	57.0	95.0	289.0	155.0	158.0	106.0	39.0	M33X2	45.0
	STD 2	56.0												48.0	M42X2	56.0
125.0	STD 1	56.0	1"	28.0	112.0	70.0	23.0	60.0	116.0	333.0	186.0	188.0	132.0	48.0	M42X2	56.0
	STD 2	70.0												62.0	M52X2	70.0
160.0	STD 1	70.0	1 1/4"	32.5	125.0	80.0	25.0	66.0	120.0	370.0	201.0	247.0	160.0	62.0	M52X2	70.0
	STD 2	90.0												80.0	M68X3	90.0
200.0	STD 1	90.0	1 1/4"	37.0	150.0	90.0	30.0	75.0	160.0	450.0	256.0	297.0	200.0	80.0	M68X3	90.0
	STD 2	110.0												100.0	M90X3	110.0

Rod End Dimensions

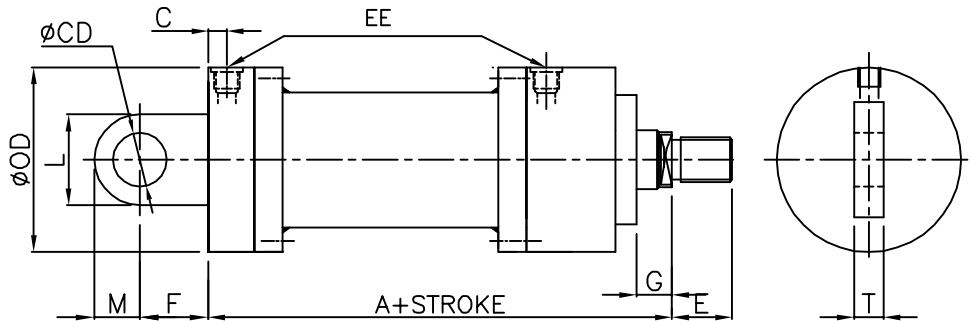
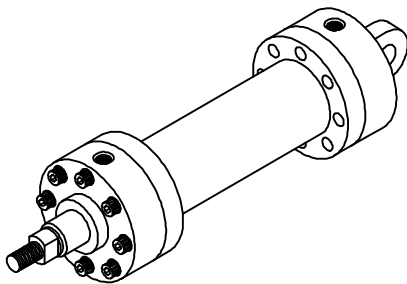


All dimensions are in millimetres unless otherwise stated.

Female Clevis Mounting  
HDI Model CF



Male Clevis Mounting  
HDI Model CM

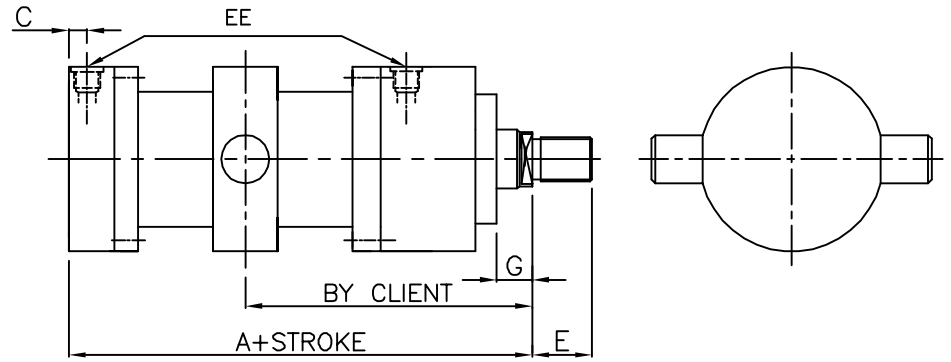
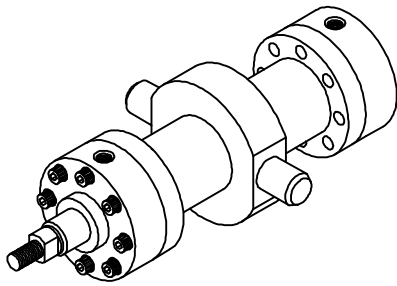


Dimensions—CM & CF

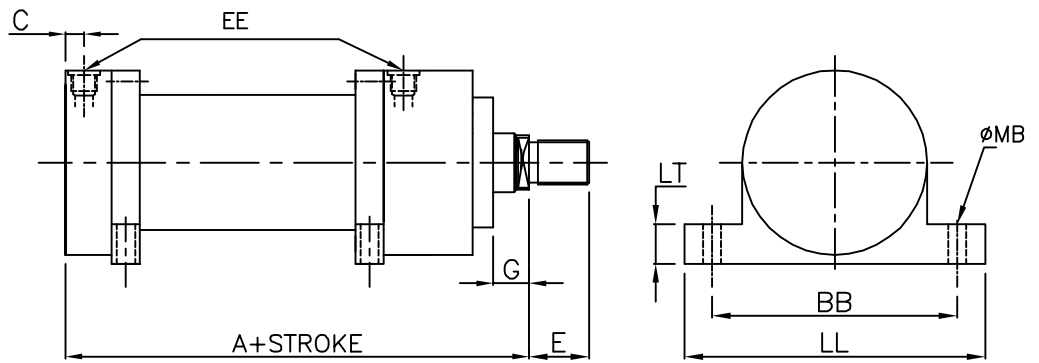
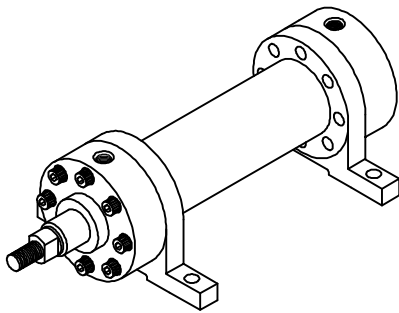
BORE $\phi$	A	B	C	CB	$\phi CD$	CE	D	EE BSP	F	L	M	OD $\phi$	T
40.0	135.0	18.0	19.0	12.0	16.0	21.5	16.0	1/2"	25.0	32.0	16.0	50.0	20.0
50.0	154.0	18.0	23.0	14.0	20.0	26.5	16.0	1/2"	32.0	40.0	20.0	62.0	25.0
63.0	167.8	18.0	23.0	18.0	25.0	33.5	16.0	1/2"	40.0	50.0	25.0	76.0	32.0
80.0	195.8	20.0	25.0	20.0	32.0	42.0	19.0	3/4"	50.0	64.0	32.0	93.0	40.0
100.0	212.8	20.0	32.0	25.0	40.0	52.0	19.0	3/4"	65.0	80.0	40.0	114.0	50.0
125.0	222.8	20.0	32.0	32.0	50.0	65.0	19.0	3/4"	80.0	100.0	50.0	140.0	63.0
160.0	259.8	22.0	37.0	50.0	70.0	84.0	23.5	1"	110.0	140.0	70.0	179.0	80.0
200.0	259.8	22.0	42.0	50.0	70.0	84.0	23.5	1"	110.0	140.0	70.0	179.0	80.0

All dimensions are in millimetres unless otherwise stated.

Intermediate Trunnion Mounting  
HDI Model UM



Foot Lug Mounting  
HDI Model LE

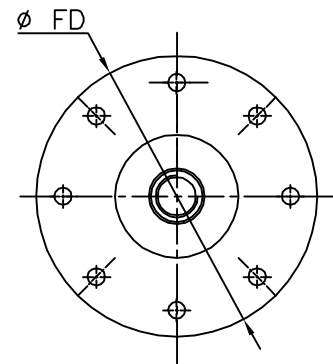
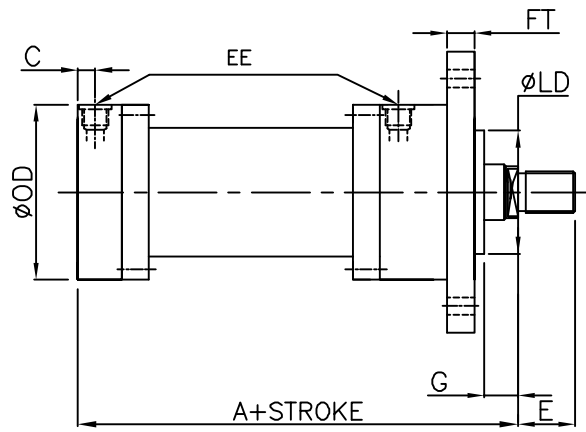
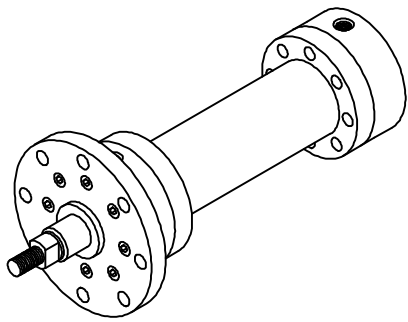


Dimensions—UM & LE

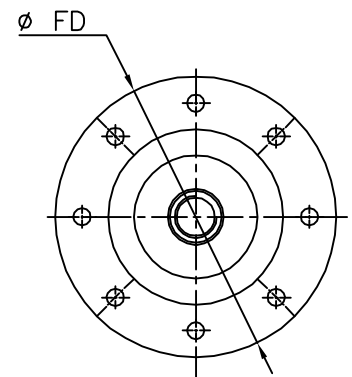
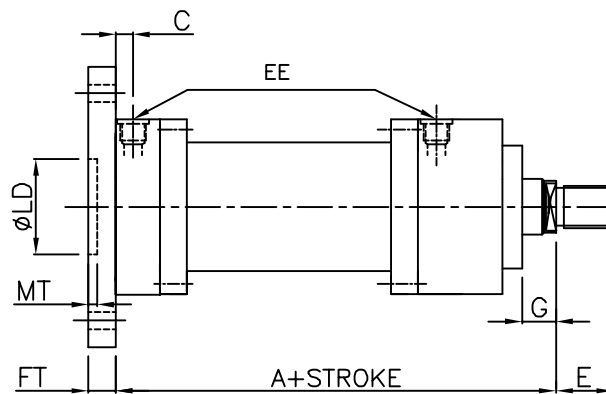
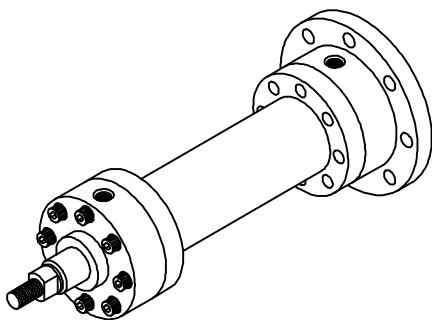
BORE $\phi$	A	B	C	BB	D	EE BSP	G	H	L	LD	LL	$\phi$ LT	MB $\phi$	OD $\phi$	TA	TL	MIN XI
40.0	135.0	18.0	57.0	115.0	16.0	1/2"	25.0	35.0	32.0	16.0	90.0	25.0	9.0	50.0	68.0	12.0	97.0
50.0	154.0	18.0	60.0	130.0	16.0	1/2"	25.0	40.0	40.0	20.0	105.0	30.0	11.0	62.0	82.0	16.0	102.0
63.0	167.8	18.0	68.0	150.0	16.0	1/2"	30.0	48.0	50.0	25.0	120.0	35.0	14.0	76.0	98.0	20.0	113.0
80.0	195.8	20.0	77.0	195.0	19.0	3/4"	40.0	58.0	64.0	32.0	155.0	40.0	18.0	93.0	117.0	25.0	124.0
100.0	212.8	20.0	81.0	230.0	19.0	3/4"	50.0	70.0	80.0	40.0	185.0	50.0	22.0	114.0	140.0	32.0	132.0
125.0	222.8	20.0	88.0	270.0	19.0	3/4"	55.0	85.0	100.0	50.0	220.0	55.0	26.0	140.0	170.0	40.0	144.0
160.0	259.8	22.0	103.0	360.0	23.5	1"	70.0	108.0	140.0	70.0	290.0	70.0	30.0	179.0	225.0	50.0	172.0
160.0	259.8	22.0	103.0	360.0	23.5	1"	70.0	108.0	140.0	70.0	290.0	70.0	30.0	179.0	225.0	50.0	172.0

All dimensions are in millimetres unless otherwise stated.

Front Flange Mounting  
HDI Model FF



Rear Flange Mounting  
HDI Model FR



Dimensions—FF & FR

BORE $\phi$	A	B	C	CB	$\phi CD$	CE	D	EE BSP	F	$\phi LD^{FB}$	M	OD $\phi$	T
40.0	135.0	18.0	19.0	12.0	16.0	21.5	16.0	1/2"	25.0	32.0	16.0	50.0	20.0
50.0	154.0	18.0	23.0	14.0	20.0	26.5	16.0	1/2"	32.0	40.0	20.0	62.0	25.0
63.0	167.8	18.0	23.0	18.0	25.0	33.5	16.0	1/2"	40.0	50.0	25.0	76.0	32.0
80.0	195.8	20.0	25.0	20.0	32.0	42.0	19.0	3/4"	50.0	64.0	32.0	93.0	40.0
100.0	212.8	20.0	32.0	25.0	40.0	52.0	19.0	3/4"	65.0	80.0	40.0	114.0	50.0
125.0	222.8	20.0	32.0	32.0	50.0	65.0	19.0	3/4"	80.0	100.0	50.0	140.0	63.0
160.0	259.8	22.0	37.0	50.0	70.0	84.0	23.5	1"	110.0	140.0	70.0	179.0	80.0
200.0	259.8	22.0	42.0	50.0	70.0	84.0	23.5	1"	110.0	140.0	70.0	179.0	80.0

All dimensions are in millimetres unless otherwise stated.

# MODEL NUMBER

Each HDI Series WCF 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.

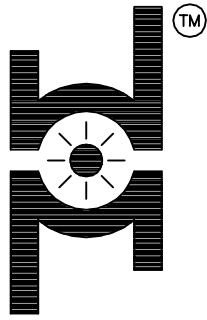
symbols that represents the cylinder features you want, & put them down in sequence indicated by the example below. This example make use all of the 6 diff model number symbols group, although many model numbers will not require all, as in case where cushioning is not required, or where a double rod 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 : 50.0 - * -SR - UM - WCF - 10 - R - C - 32 - S
Specification	Hydrodyne Industries cylinder	—	HDI CYL	
Bore	Specify in mm	—	—	
Cushioned-Cap	Non Cushioned		*	
ROD	Use if single rod cylinder Use if double rod cylinder	4	SR DR	
Mounting Style	Front Flange	5	FF	
	Rear Flange	5	FR	
	Foot Lug	6	LE	
	Intermediate Trunnion	6	UM	
	Male Clevis	7	CM	
	Female Clevis	7	CF	
Series	Used in all WCF Model nos.		WCF	
Piston Rod No.	Number as shown "Rod End Dimensions" STD1: 10 STD2: 20	4	10 20	
Ports	BSP (parallel thread) Flange Ports Metric		R P M	
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<sup>®</sup> 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](mailto:mktg@hydrodyneindustries.com)  
Website : [www.hydrodyneindustries.com](http://www.hydrodyneindustries.com)