

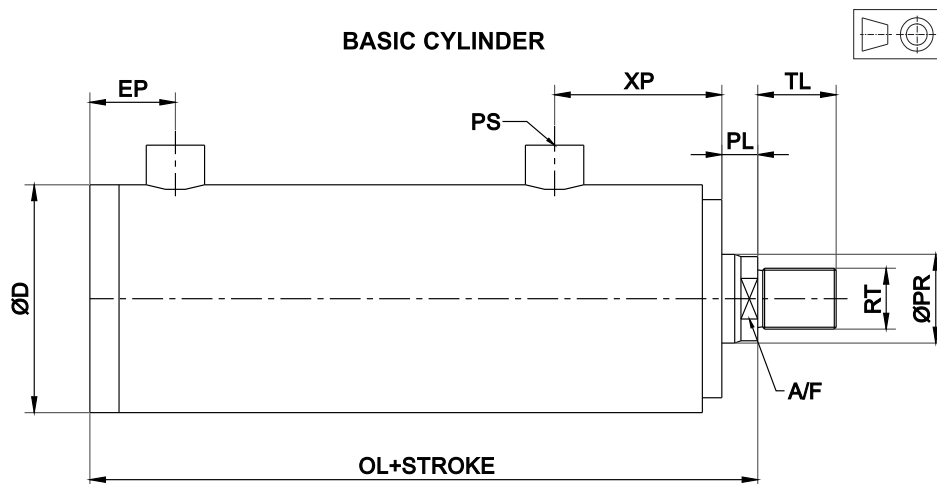


Hydraulic Cylinders - WH21 Series

- Rated Pressure 210 kg/cm²
- Peak Pressure 315 kg/cm²
- Cylinder bore diameters up to 400mm
- Temperature range:- -20°C to 90°C. (optional seals for temp. up to 180°C)



BASIC CYLINDER



SPECIFICATION OF MATERIALS

END COVERS : Precision machined steel

CYLINDER BARREL : Cold drawn seamless steel tube, honed and polished internally to a maximum surface roughness of Ra=0.4 microns

PISTON : Steel, single piece, precisely machined for perfect alignment

PISTON BEARING : Polyester fabric with polyester resin+PTFE for maximum rigidity

PISTON ROD : Medium carbon steel, toughened, ground Hard-chrome plated & polished to a maximum roughness of Ra=0.4 microns

PISTON ROD BEARING : Polyester fabric with polyester resin+PTFE for maximum rigidity

SEALING SYSTEM : We use a wide range of international std sealing systems to suit various applications & temperatures

MOUNTINGS : Accurately machined steel suitable for heavy duty application

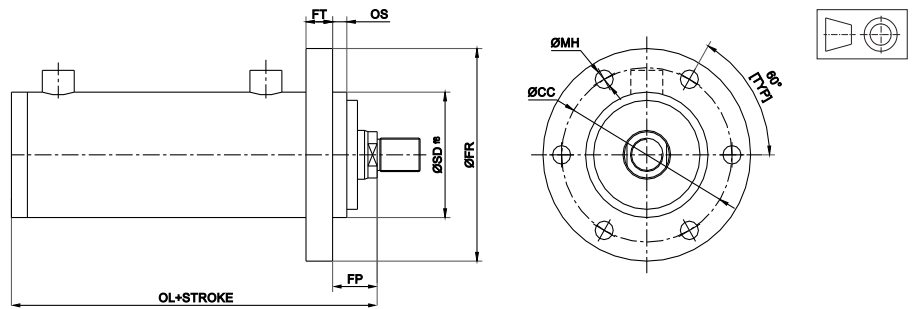
BORE	PR	D	RT	PS	OL	PL	TL	EP	AF	XP
40	20	50	M16X1.5	3/8" BSP	137	20	18	28	16	47
	25		M18X1.5							
50	25	60	M18X1.5	3/8" BSP	150	20	18	28	18	54
	28		M24X2				23		24	
63	28	73	M24X2	3/8" BSP	159	20	23	28	24	57
	36		M24X2						26	
80	45	95	M27X2	1/2" BSP	198	20	30	37	33	73
	50		M30X2						42	
100	50	115	M30X2	1/2" BSP	225	25	30	44	40	86
	70		M56X2				56		56	
125	70	145	M56X2	3/4" BSP	252	25	56	55	56	89
	90		M64X2				64		74	
140	70	160	M56X2	3/4" BSP	279	30	55	62	58	98
	100		M80X2				80		86	
160	80	185	M64X2	3/4" BSP	303	35	60	64	69	117
	100		M80X2				80		86	
180	90	205	M70X2	1" BSP	339	35	70	75	78	122
	125		M110X2				120		110	
200	100	230	M90X2	1" BSP	364	40	80	82	86	135
	140		M105X2				115		125	

Note: cushioning will be fixed at the head end

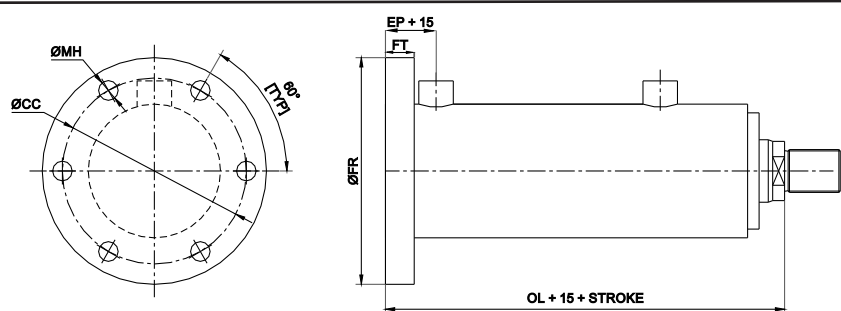
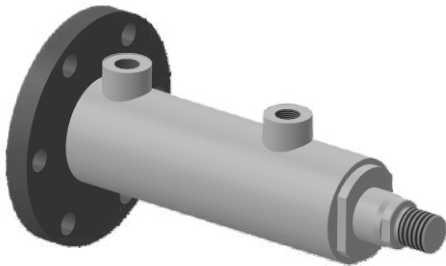
Standard Mountings - WH21 Series



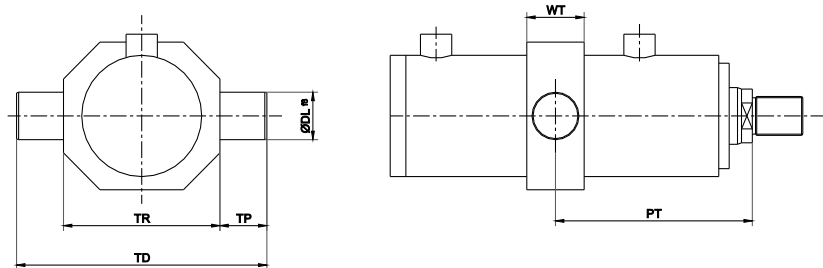
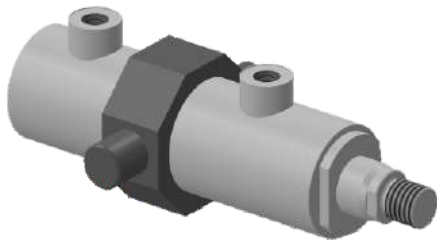
Front Flange (FF)



Rear Flange (RF)



Intermediate Trunnion (IT)



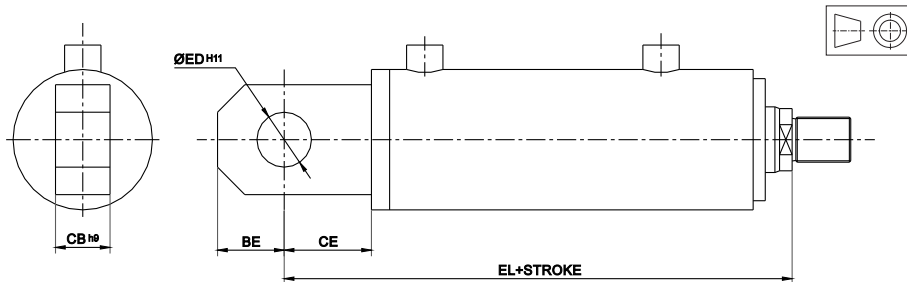
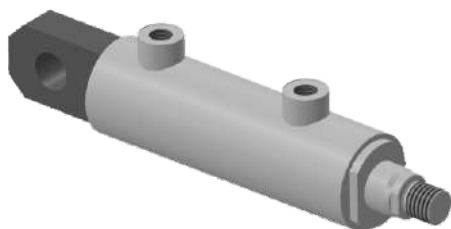
DIMENSIONAL DETAILS

BORE	40	50	63	80	100	125	140	160	180	200
FP	30	34	36	39	43	46	50	57	63	72
FT	12	15	18	20	25	28	35	35	35	40
SD	44	54	67	82	100	135	145	155	190	215
OS	5	8	8	10	10	11	10	12	15	17
FR	110	130	145	170	195	250	280	340	350	380
CC	90	100	115	140	160	210	220	265	290	320
MH	11	13	13	15	17	21	25	32	32	32
WT	30	35	45	50	55	60	65	80	80	100
TD	105	130	165	200	240	285	310	390	400	440
TR	65	80	95	120	150	185	200	260	260	280
TP	20	25	35	40	45	50	55	65	70	80
DL	20	25	35	40	45	50	55	65	70	80
PT	TO BE SPECIFIED BY CUSTOMER									

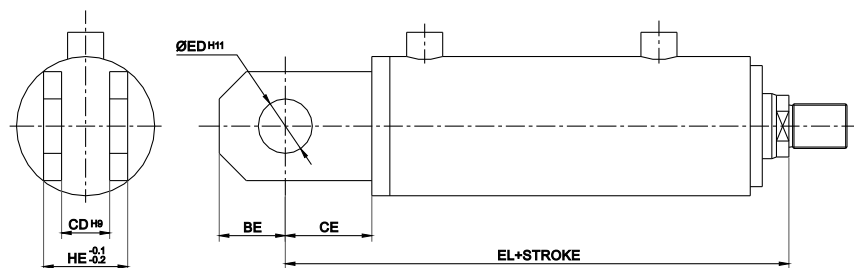
Standard Mountings - WH21 Series



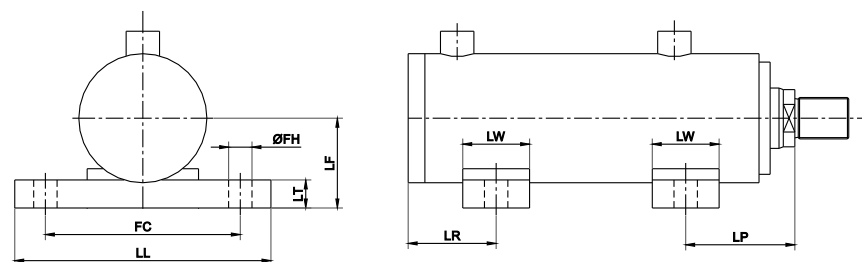
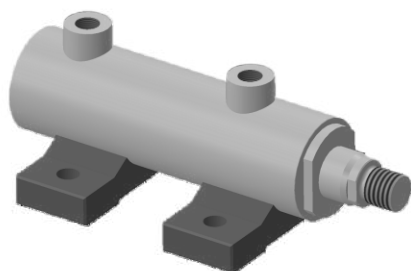
Rear Eye (RE)



Rear Clevis (RC)



Foot Lug (FL)



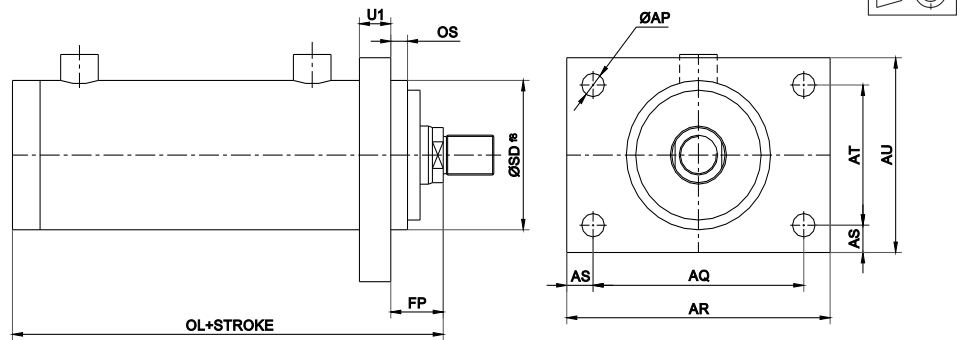
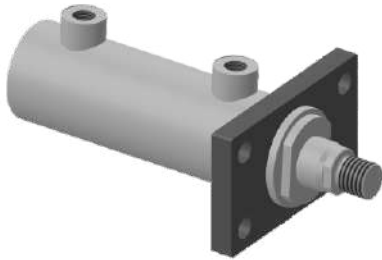
DIMENSIONAL DETAILS

BORE	40	50	63	80	100	125	140	160	180	200
ED	20	25	30	35	45	50	70	80	80	90
BE	27	30	35	42	55	55	80	95	105	115
CB	20	25	32	40	45	50	60	70	80	100
CD	15	20	25	35	40	45	55	70	70	85
CE	34	40	45	55	72	82	95	115	125	135
EL	171	190	204	253	297	334	374	418	463	499
HE	35	40	45	65	70	85	105	120	130	150
LW	40	40	50	50	60	60	70	90	90	90
LP	60	69	76	81	98	101	110	137	143	157
FH	11	11	13	17	21	25	32	32	35	38
FC	80	90	115	140	175	225	240	290	310	340
LL	110	120	150	185	230	285	310	380	390	440
LT	15	15	18	22	25	25	30	40	45	50
LF	35	40	50	60	80	95	105	128	135	160
LR	44	44	55	57	79	83	91	106	110	112

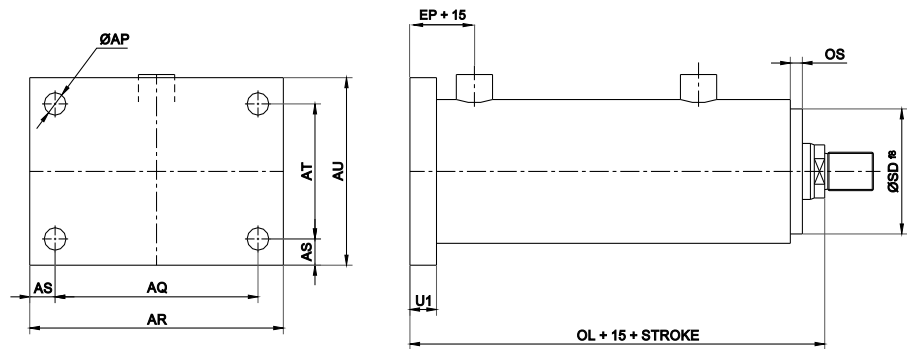
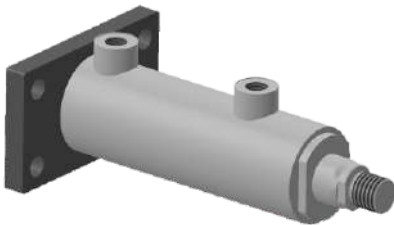
Rectangular Flange Mounting for WH21 Series



Front Flange Rectangular (FFR)



Rear Flange Rectangular (RFR)



BORE	U ₁	ØAP	AQ	AR	AS	AT	AU
40	10	11	87	110	11.5	41	64
50	16	14	105	130	12.5	52	77
63	16	14	120	145	12.5	65	90
80	19	18	136	170	17	86	120
100	22	18	168	210	21	108	150
125	22	23	205	255	25	135	185
160	25	27	258	320	31	178	240
200	25	33	285	365	40	215	295

NOTE: REFER PAGE NO. 2.410/1 FOR UNSPECIFIED DETAILS

Technical Data & Ordering Details for WH21 Series



TECHNICAL DETAILS											
Bore Dia	Rod Dia	Piston Area		Action Force at Pressure in kgf				Piston velocity in m/s at flow= 1 ltr/min		Requisite flow in ltr/min for velocity = 0.1 m/s	
(mm)	(mm)	(cm ²)		100 kg/cm ²		200 kg/cm ²					
		+	-	+	-	+	-	+	-	+	-
40	20	12.6	9.4	1256.0	942	2512	1884	0.0133	0.0177	7.54	5.65
	25		7.7		765		1531		0.0218		4.59
50	25	19.6	14.7	1962.5	1472	3925	2944	0.0085	0.0113	11.78	8.83
	28		13.5		1347		2694		0.0124		8.08
63	28	31.2	25.0	3115.7	2500	6231	5000	0.0053	0.0067	18.69	15.00
	36		21.0		2098		4197		0.0079		12.59
80	45	50.2	34.3	5024.0	3434	10048	6869	0.0033	0.0049	30.14	20.61
	50		30.6		3062		6123		0.0054		18.37
100	50	78.5	58.9	7850.0	5888	15700	11775	0.0021	0.0028	47.10	35.33
	70		40.0		4004		8007		0.0042		24.02
125	70	122.7	84.2	12265.6	8419	24531	16838	0.0014	0.0020	73.59	50.51
	90		59.1		5907		11814		0.0028		35.44
140	70	153.9	115.4	15386.0	11540	30772	23079	0.0011	0.0014	92.32	69.24
	100		75.4		7536		15072		0.0022		45.22
160	80	201.0	150.7	20096.0	15072	40192	30144	0.0008	0.0011	120.58	90.43
	100		122.5		12246		24492		0.0014		73.48
180	90	254.3	190.8	25434.0	19076	50868	38151	0.0007	0.0009	152.60	114.45
	125		131.7		13168		26337		0.0013		79.01
200	100	314.0	235.5	31400.0	23550	62800	47100	0.0005	0.0007	188.40	141.30
	140		160.1		16014		32028		0.0010		96.08

Model Code Indication

W H 2 1 - 1 0 0 / 5 0 0 - F F - 5 0 - N C - (X) - S S 4

Series	Bore sizes	Stroke	Mountings	Piston Rod sizes	Cushioning	Accessories & Special features	Sealing System Code
WH21 Rated Hydraulic Pressure of 210kg/cm ²	Ø40 - 400mm (10 Std. sizes)	To be specified in mm	FF - Front Flange RF - Rear Flange RC - Rear Clevis RE - Rear Eye FL - Foot Lug IT - Intermediate Trunnion	Ø20 - 140mm (12 Std. sizes)	NC - Non Cushioned	PRE - Rod Eye PRF - Rod Fork SA - Single Acting DE - Double Ended	SS4 (Std.) for alternatives contact us.

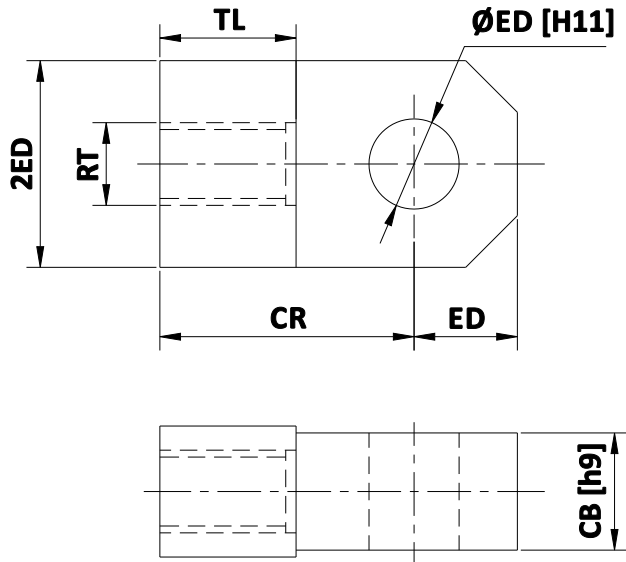
NOTE:- The right of modification for technical improvement is reserved. All dimensions are in mm unless otherwise specified

CUSTOM BUILT CYLINDERS CAN ALSO BE OFFERED ON REQUEST

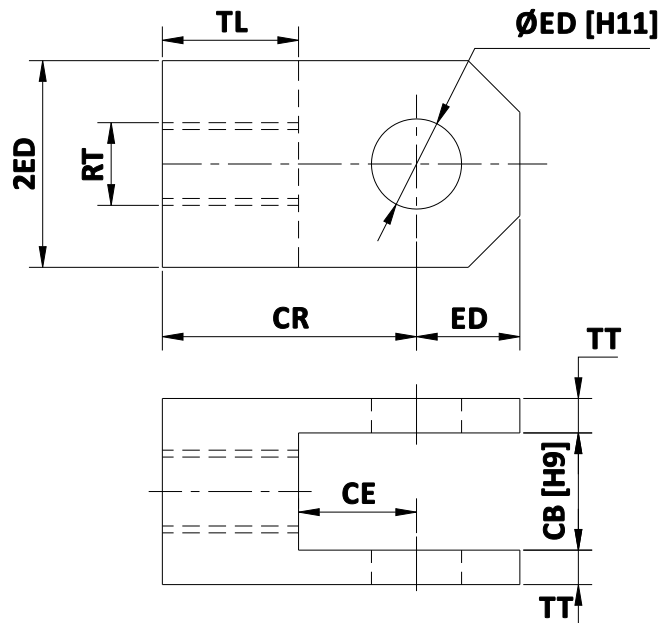
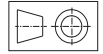
Piston Rod Eye & Piston Rod Fork for WH21 Series



Piston Rod Eye (PRE)



Piston Rod Fork (PRF)



Ordering Code

For Piston Rod Eye :- WH21-PRE-**
where ** - Piston Rod Dia

For Piston Rod Fork :- WH21-PRF-**
where ** - Piston Rod Dia

SPECIFICATION & DIMENSIONAL DETAILS							
ROD DIA	RT	TL	CR	ED	CB	TT	CE
20	M16 x 1.5	20	54	20	20	7.5	34
25	M18 x 1.5	20	60	25	25	10	40
28	M24 x 2	25	70	30	32	12	45
36	M24 x 2	25	80	35	40	16	55
45	M27 x 2	33	105	45	45	18	72
50	M30 x 2	33	115	50	50	20	82
70	M56 x 2	60	155	70	60	24	95
80	M64 x 2	67	182	80	70	28	115
90	M70 x 2	75	200	80	80	32	125
100	M90 x 2	85	220	90	100	40	135