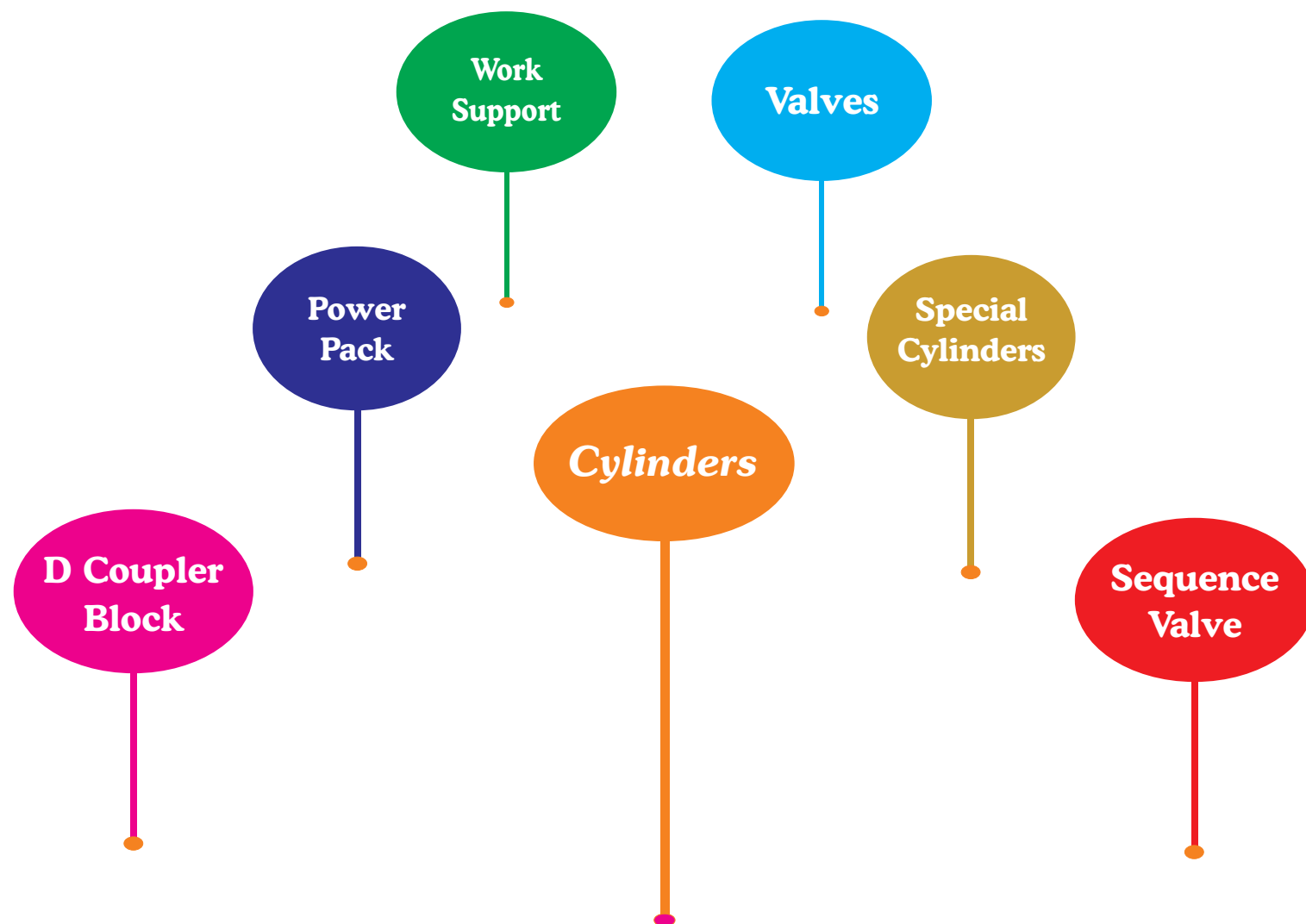


INDEX



✿ <i>Block Cylinder</i>	01-04
✿ <i>Compact Cylinder</i>	05-06
✿ <i>Threaded Body Cylinder</i>	07-08
✿ <i>Threaded Body Cylinder (Manifold Mount)</i>	09-10
✿ <i>Compact Link Clamp Cylinder (Toggle)</i>	11-14
✿ <i>Swing Cylinder (Top Flange Mount)</i>	15-20
✿ <i>Swing Cylinder (Bottom Flange Mount)</i>	21-26
✿ <i>Work Support (Threaded body)</i>	27-28
✿ <i>Work Support (Top Flange Mount)</i>	29-30
✿ <i>Flow Control Valves (Internal & External)</i>	31-32
✿ <i>Sequence Valve</i>	33-34
✿ <i>Tie Rod Cylinder (ISO Std)</i>	35-40
✿ <i>Rotary Joint</i>	41-41
✿ <i>D. Coupler Block</i>	42-42
✿ <i>Ball Lock</i>	43-44
✿ <i>Power Packs</i>	45-48

Block Cylinder

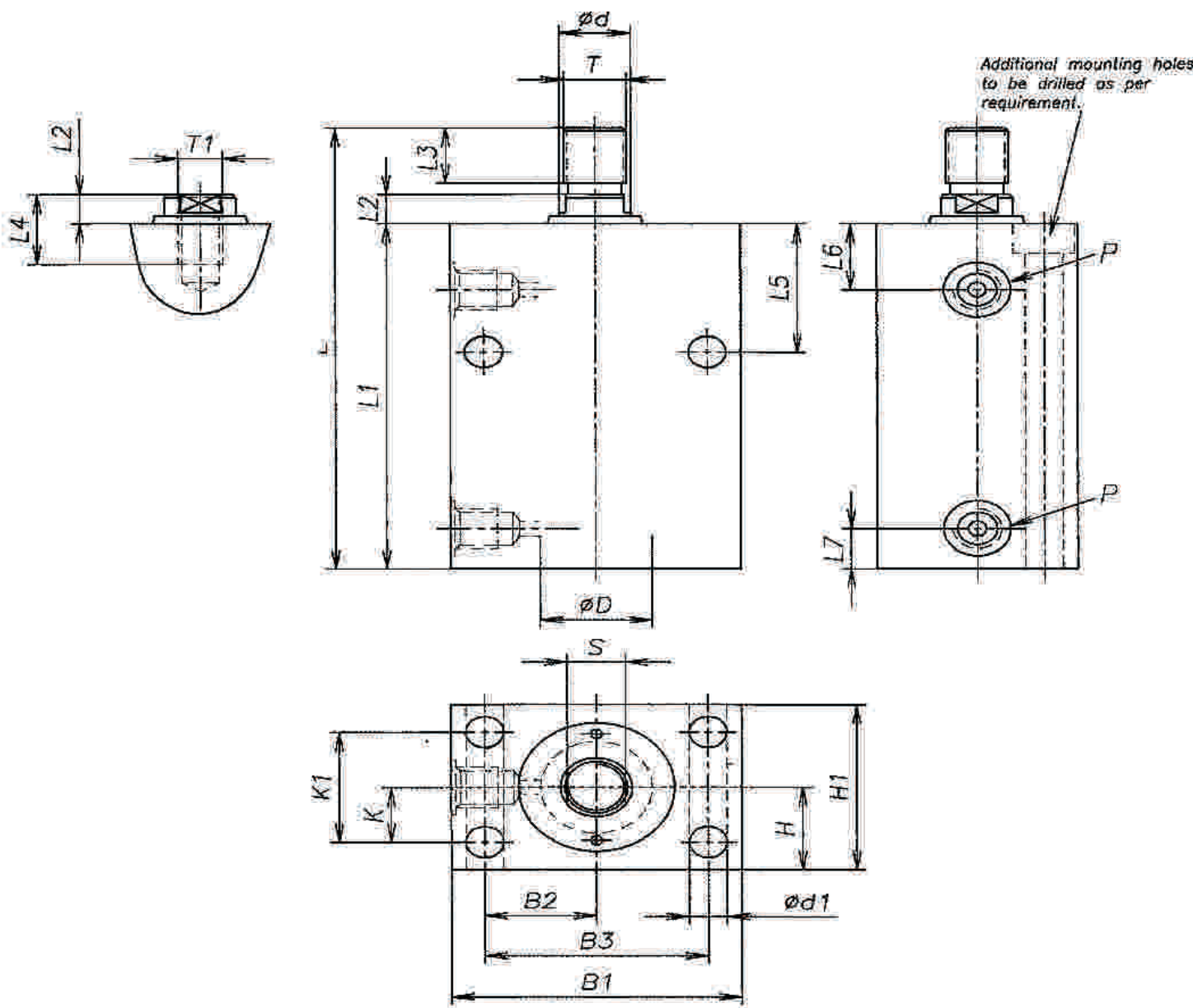
Double Acting, Hydraulic



Features :

- ★ This is a double acting cylinder with universal mounting.
- ★ It is a Chromium plated piston alloy steel body with male & female threaded piston ends.
- ★ It can be used with the stroke range : 10 /16 /25 /50 /75 /100
- ★ It can be used in the range of 1 MPa (minimum operating pressure)
15 MPa (maximum operating pressure)
70 bar N (pushing force)

Outline Dimension :



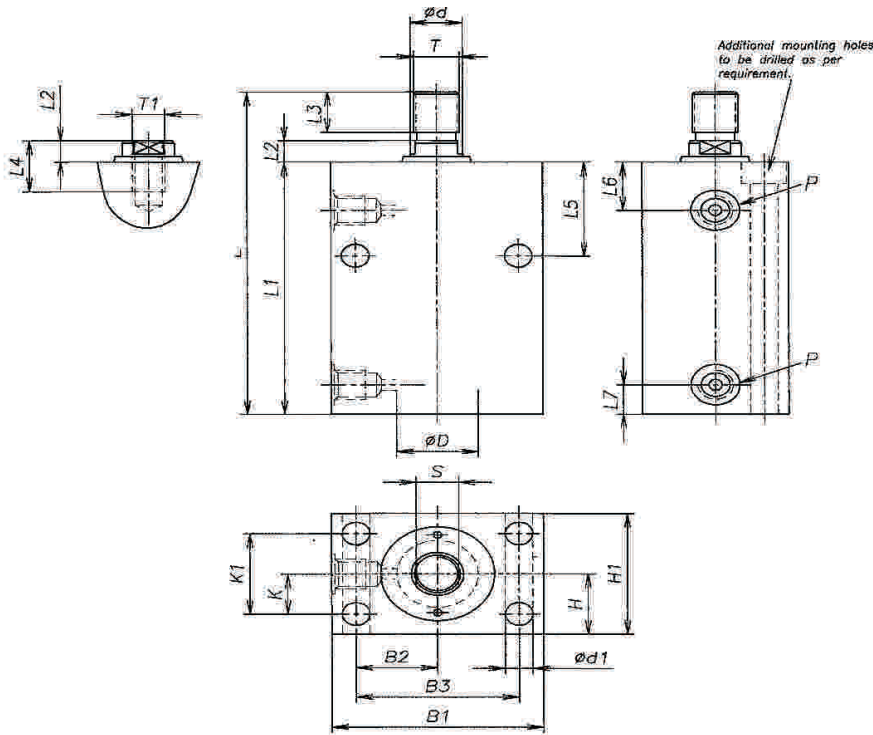
Model - B01C

Dimension Tabal :

MODEL	Male thread	B01C 016M	B01C 025M	B01C 050M	B01C 116M	B01C 125M	B01C 150M	B01C 225M	B01C 250M	B01C 275M	B01C 325M	B01C 350M	B01C 375M	B01C 425M	B01C 450M	B01C 475M	B01C 510M
	Female thread	B01C 016F	B01C 025F	B01C 050F	B01C 116F	B01C 125F	B01C 150F	B01C 225F	B01C 250F	B01C 275F	B01C 325F	B01C 350F	B01C 375F	B01C 425F	B01C 450F	B01C 475F	B01C 510F
Piston ØD	mm	20			25			32			40			50			
Rod Ø d	mm	12			16			20			25			32			
Ø d 1	mm	9			9			11			11			13			
Stroke, S	mm	16	25	50	16	25	50	25	50	75	25	50	75	25	50	75	100
L1	mm	66	75	100	66	75	100	80	105	130	80	105	130	95	120	145	170
L2	mm	8			8			12			12			14			
L3	mm	16			18			22			28			36			
L4	mm	16			19			21			25			25			
L5	mm	35			35			40			40			50			
L6	mm	19			19			22.5			22.5			30.5			
L7	mm	16.5			16.5			17			17			17			
B1	mm	60			65			75			85			100			
B2	mm	22.5			25			27.5			31.5			38			
B3	mm	45			50			55			63			76			
H	mm	20			22.5			27.5			31.5			38			
H1	mm	40			45			55			63			76			
K	mm	12.5			15			17.5			31.5			22.5			
K1	mm	25			30			35			43			45			
P. hyd.port		G1/8"			G1/8"			G1/8"			G1/4"			G1/4"			
A/F	mm	10			13			17			23			26			
T	mm	M10X1.5			M14X1.5			M16X1.5			M20X1.5			M24X1.5			
T1	mm	M6			M10			M12			M16			M20			
Pushing force 70bar	KN	2.20			3.43			5.63			8.79			13.74			
Pulling force 70 bar	KN	1.41			2.03			3.43			5.63			8.12			

Dimension Tabal :

MODEL	Male thread	B01C 001M	B01C 0025M	B01C 0050M
	Female thread	B01C 001F	B01C 0025F	B01C 0050F
Piston ØD	mm	16		
Rod Ø d	mm	10		
Ø d 1	mm	7		
Stroke, S	mm	16	25	50
L1	mm	60	69	94
L2	mm	8		
L3	mm	15		
L4	mm	15		
L5	mm	30		
L6	mm	16		
L7	mm	14		
B1	mm	50		
B2	mm	18		
B3	mm	36		
H	mm	17.5		
H1	mm	35		
K	mm	18		
K1	mm	23		
P. hyd.port		G1/8"		
A/F	mm	8		
T	mm	M8X1.5		
T1	mm	M6		
Pushing force 70bar	KN	2.00		
Pulling force 70 bar	KN	1.00		



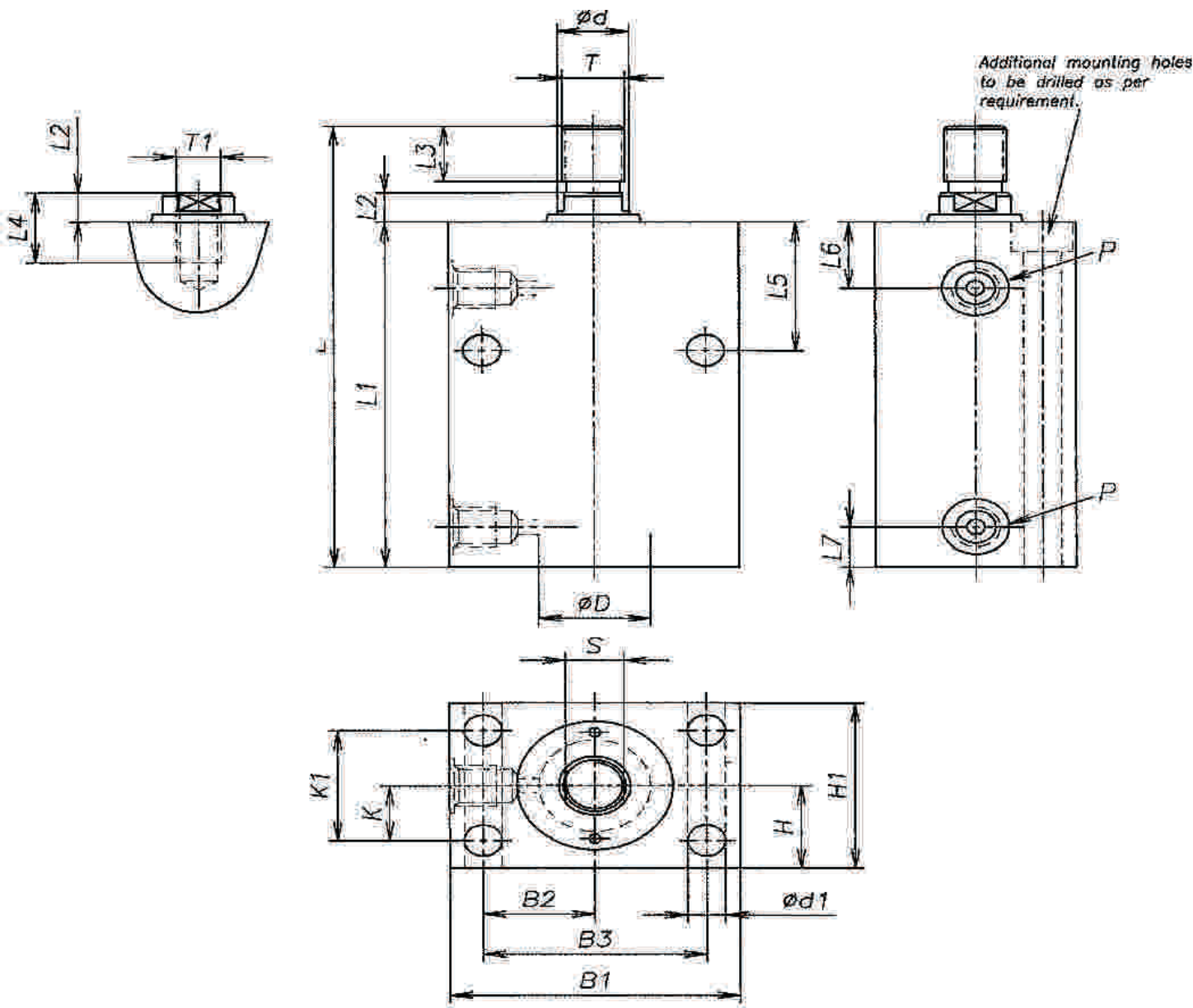
Double Acting, Hydraulic



Features :

- ★ This is a double acting cylinder with universal mounting.
- ★ It is a Chromium plated Piston alloy steel body with male & female threaded piston ends.
- ★ It can be used with the stroke range : 25 /50 /75 /100
- ★ These cylinders can be used for direct clamping as well as positioning & support
- ★ It can be used in the range of 1 MPa (minimum operating pressure)
15 MPa (maximum operating pressure)
70 bar N (pushing force)

Outline Dimension :



Dimension Tabal :

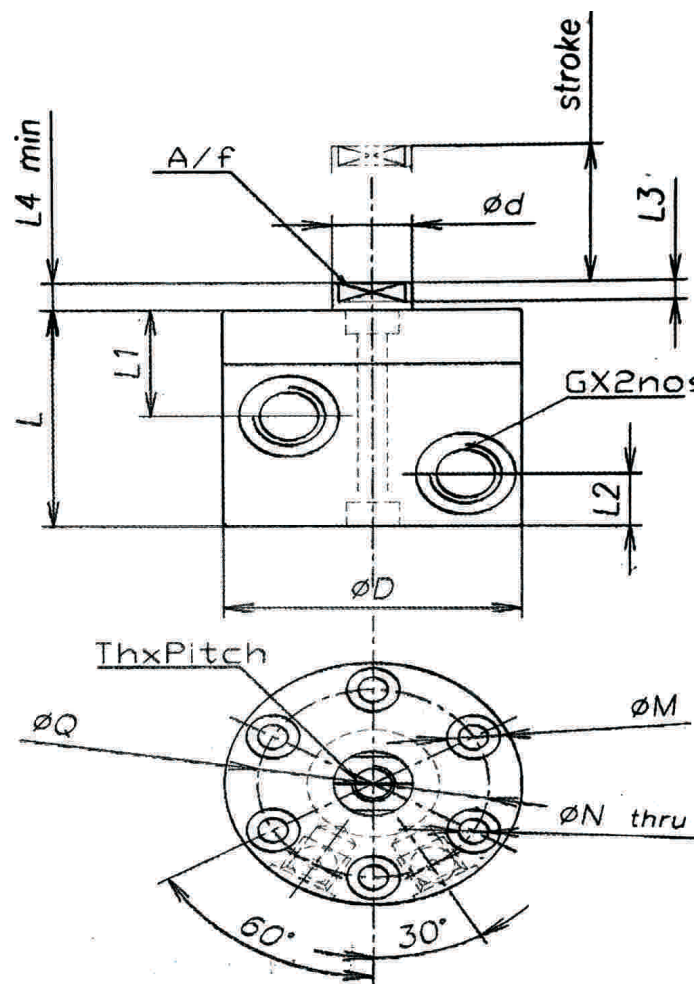
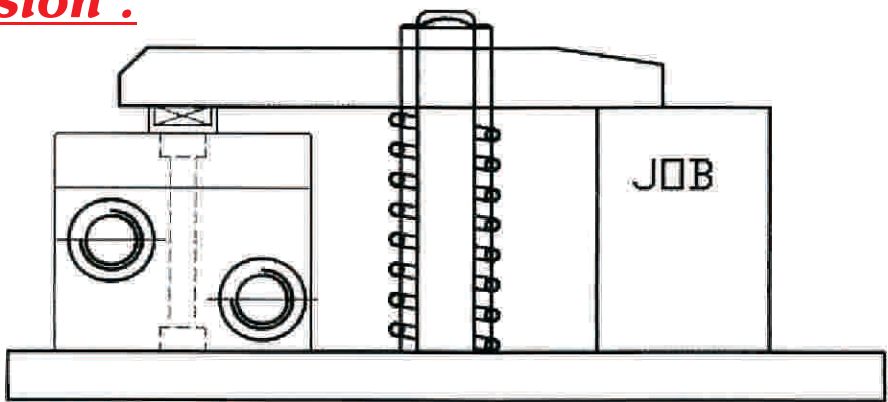
MODEL	Male thread	B01C 625M	B01C 650M	B01C 675M	B01C 610M	B01C 725M	B01C 750M	B01C 775M	B01C 710M	B01C 825M	B01C 850M	B01C 875M	B01C 810M	B01C 925M	B01C 950M	B01C 975M	B01C 910M
	Female thread	B01C 625F	B01C 650F	B01C 675F	B01C 610F	B01C 725F	B01C 750F	B01C 775F	B01C 710F	B01C 825F	B01C 850F	B01C 875F	B01C 810F	B01C 925F	B01C 950F	B01C 975F	B01C 910F
Piston ØD	mm	63				75				80				100			
Rod Ød	mm	40				45				50				60			
Ød1	mm	13				17				22				22			
Stroke,S	mm	25	50	75	100	25	50	75	100	25	50	75	100	25	50	75	100
L1	mm	100	125	150	175	100	125	150	175	105	130	155	180	105	130	155	180
L2	mm	15				15				15				15			
L3	mm	36				36				40				40			
L4	mm	28				28				40				42			
L5	mm	50				50				60				65			
L6	mm	31.5				30				37				37			
L7	mm	20				20				23				23			
B1	mm	125				145				140				160			
B2	mm	50				55				55				65			
B3	mm	100				110				110				130			
H	mm	44				54				60				70			
H1	mm	88				108				120				140			
K	mm	30				30				40				50			
K1	mm	60				60				80				100			
P hyd.port		G1/4"				G3/8"				G1/2"				G1/2"			
A/F	mm	36				41				45				55			
T	mm	M30X1.5				M36X1.5				M40X1.5				M45X1.5			
T1	mm	M24				M30X1.5				M36X1.5				M40X1.5			
Pushing force, 70 bar	mm	21.48				28.50				35.19				54.98			
Pulling force, 70 bar	mm	12.68				17.37				21.44				35.19			



Features :

- ★ This is a manifold mounting cylinder with compact design.
- ★ It is a space saving & easy mounting with male & female threaded piston ends.
- ★ These cylinders are provided with universal mounting.
- ★ These cylinders are threaded directly into manifold, clamping, pushing, pulling, ejection & riverting operations.
- ★ It can be used in the range of 1 MPa (minimum operating pressure)
15 MPa (maximum operating pressure)
70 bar N (pushing force)

Outline Dimension :



Dimension Tabal :

Model	C02C 4525	C02C 6525	C02C 7625	C02C 9525
Pushing force, KN	4.7	12	19	29
Pulling force, kN	3	9	14	22
Threadxpitch	M6X10 deep	M10X18 deep	M12X20 deep	M16X25 deep
L4	6	6	7	6
d	12	16	20	25
D	45	65	76	95
G	1/8"	1/8"	1/8"	1/4"
A/F	10	14	17	22
L1	16.5	16.5	17.5	22.5
L2	12	12	12	12
L3	4	4	4	4
ØN	4.5	6.6	6.6	9
ØMXdeep	8x5.0	11X7.0	11X7.0	14.5X9.0
ØQ (PCD)	35	50	60	75
Stroke	25	25	25	25
L	63	63	67	73
Oil volume pushing, CC	8	20	31	49
Oil volume pulling, CC	5	15	24	37

Threaded Body Cylinder

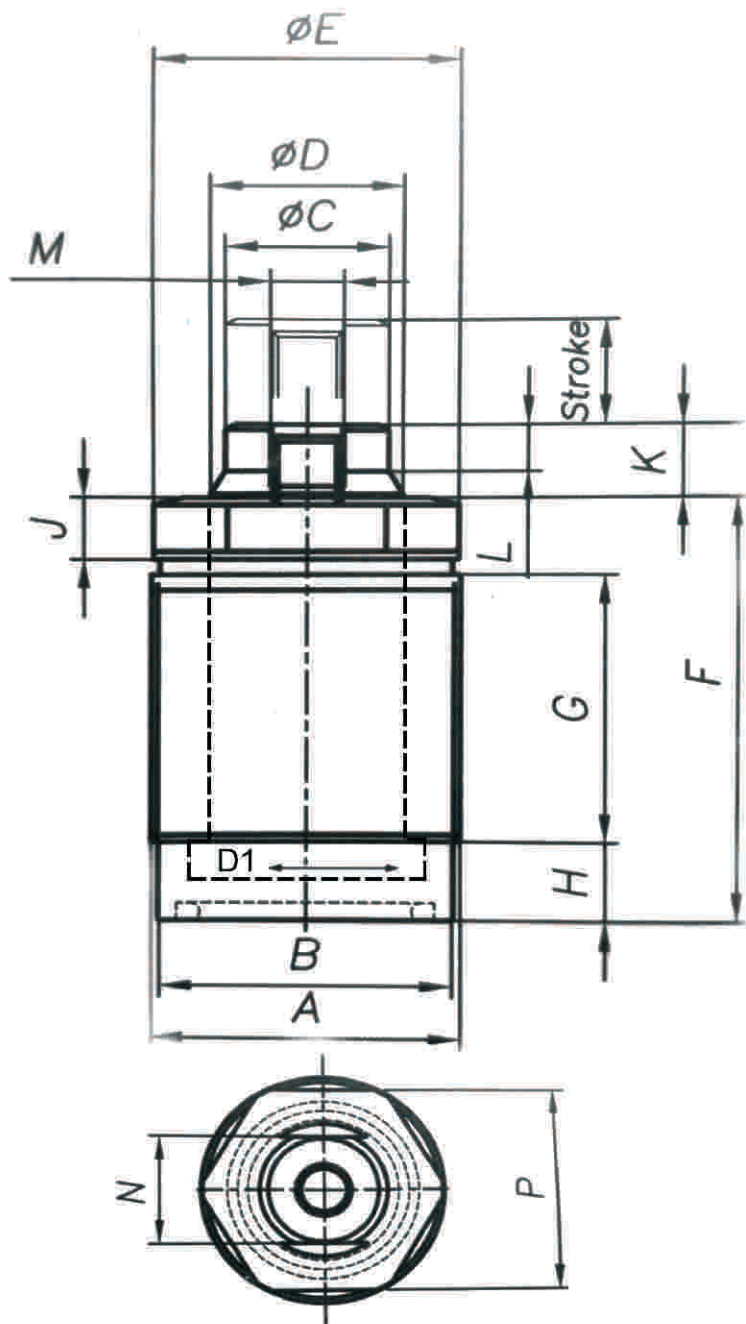
Single Acting, Hydraulic Advance



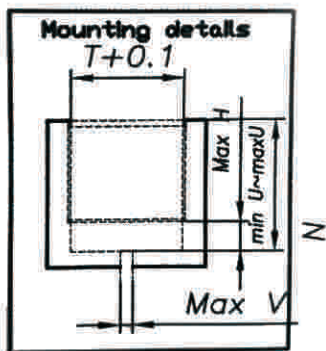
Features :

- ★ It is a manifold mounting spring return type cylinder with compact design.
- ★ It is a space saving mounting with male & female threaded piston ends.
- ★ These cylinders are threaded directly into manifold, pushing, pulling, ejection & reverting operations.
- ★ It can be used for direct clamping as well as positioning & support.
- ★ The range of use 0.5 MPa (minimum operating pressure)
7 MPa (maximum operating pressure)
70 bar N (pushing force)

Outline Dimension :



Mounting Details :



Dimension Tabal :

Size & Mounting Details :

Model	TO3C M160			TO3C M221			TO3C M242			TO3C M303			TO3C M364			TO3C M455			TO3C M556			TO3C M657			TO3C M808		
Stroke Code	S	M	L	S	M	L	S	M	L	S	M	L	S	M	L	S	M	L	S	M	L	S	M	L	S	M	L
A (Nominal size x pitch)	M16x1.5			M22x1.5			M24x1.5			M30x1.5			M36x1.5			M45x1.5			M55x2			M65x2			M80x2		
B	14.3			20.3			22.3			28.3			34.3			43.3			52.6			62.6			77.6		
C	7.5			11.2			13			17			19			28			34.5			42			52		
D	8			12			14			18			22.4			30			35.5			45			55		
D1 Ø	11	11	11	15	15	15	16	16	16	20	20	20	25	25	25	33	33	33	35	35	35	45	45	45	50	50	50
E	16.0			21.2			24.5			30			35.5			45			55			66			80		
F	35	39	45	28	36	49	32.5	40	56.5	35	44	63.5	41.5	62.5	75.5	47	60	82.5	51.5	66.5	89	62	78	112.5	69	87	118
G	18.0	24.0	33.0	13	21	34	17.5	25	41.5	18	27	46.5	23.5	36.5	57.5	23	36	58.5	27	42.5	65	35	51	80.5	42	60	91
H	6			8			8			9			10			12			12			13			13		
J	5			7			7			8			8			12			12			14			14		
K	5.5			7			7			8.5			9.5			12			13			16			19		
L	4			5.5			5.5			7			8			10			11			13			16		
M(Normal size x depth)	M5x8			M6x7			M6x7			M8x10			M8x10			M10x11			M12x12			M16x16			M20x20		
N	7			10			10			14			17			24			30			36			41		
P	14			19			22			27			32			41			50			60					
T	14.5			20.5			22.5			28.5			34.5			43.5			53			63			78		
Min.U	12			14			14			15			16			18			20			25			25		
Max.U	23	29	38	20	28	41	24	32	48	26	35	54	32	45	66	34	47	69	38	53	76	47	63	92	54	72	103
Max.V	3			3			3			6			6			8			8			8			8		

Stroke & Load Details :

Model	TO3C-M160			TO3C-M221			TO3C-M242			TO3C-M303			TO3C-M364			TO3C-M455			TO3C-M556			TO3C-M657			TO3C-M808		
Stroke code	S	M	L	S	M	L	S	M	L	S	M	L	S	M	L	S	M	L	S	M	L	S	M	L	S	M	L
Stroke mm	6	10	16	6	10	16	8	12	20	8	12	20	10	16	25	10	16	25	12	20	32	16	25	40	16	25	40
Cylinder area cm ²	0.95			1.1			1.5			2.5			3.9			7.1			9.9			15.9			23.8		
Cylinder volume cm ³	0.6	0.95	1.5	0.7	1.1	1.8	1.2	1.8	3.1	2.0	3.1	5.1	3.9	6.3	9.9	7.1	11.3	17.7	11.9	19.8	31.7	25.4	39.8	63.6	38.0	59.4	95.0
Release spring force (N)	12.4~24.0			26.0~24.0			33.0~61.0			50.0~99.0			79.0~150			157~319			236~452			353~657			564~1040		
Supply Pressure:(7MPa) (force in kN)	0.665			0.75			1.01			1.66			2.59			4.60			6.44			10.4			15.5		
Calculation formula (kN)	(0.01 P)-0.024			(0.11 3P)-0.041			(0.154P)-0.060			(0.254P)-0.099			(0.394P)-0.150			(0.707P)-0.319			(0.990P)-0.452			(1.59P)-0.657			(2.38P)-1.04		
Max.operating Pressure (MPa)	15																										
Min.operating Pressure (MPa)	0.8																										

Threaded Body Cylinder (Manifold Mount)

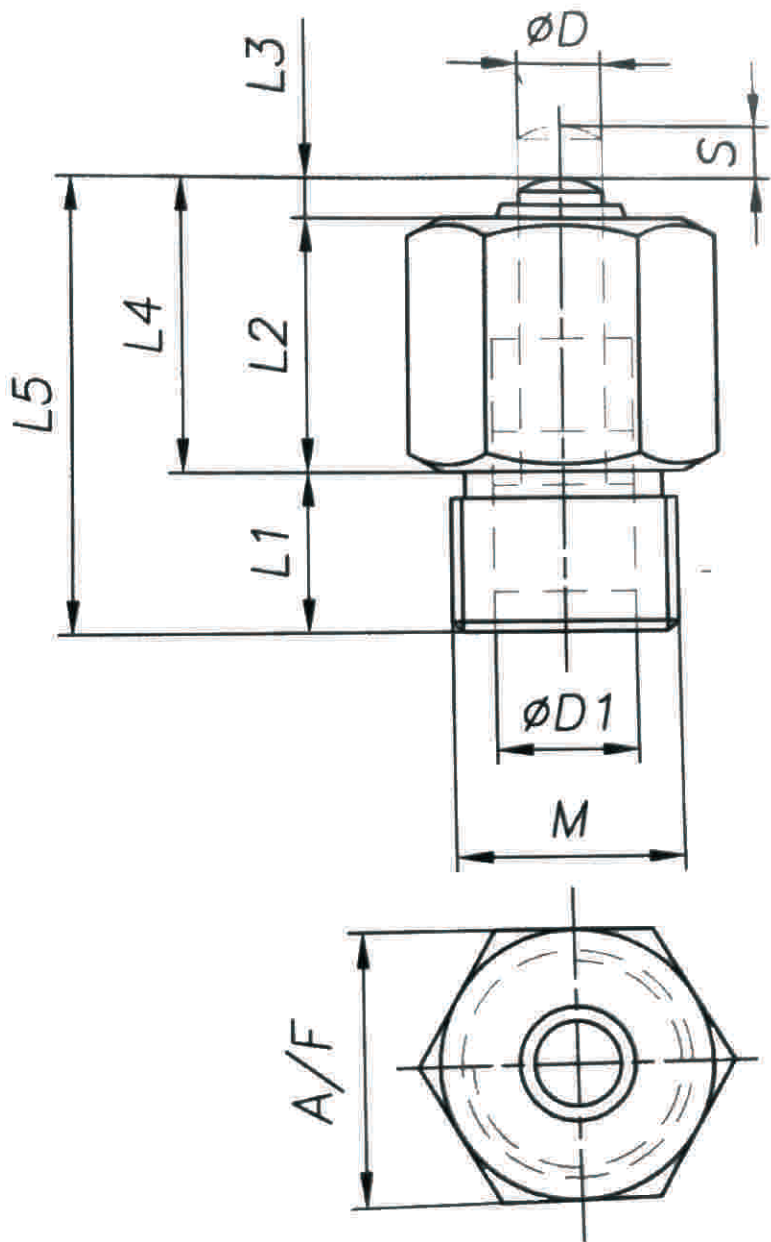
Single, Acting, Hydraulic Advance



Features :

- ★ This is a manifold mounting cylinder with compact design.
- ★ It is a space saving mounting with male & female threaded plunger ends.
- ★ These cylinders are threaded directly into manifold, pushing, pulling, ejection & riverting operations.
- ★ It can be used in the range of 0.5 MPa (minimum operating pressure)
7 MPa (maximum operating pressure)
70 bar N (pushing force)

Outline Dimension :

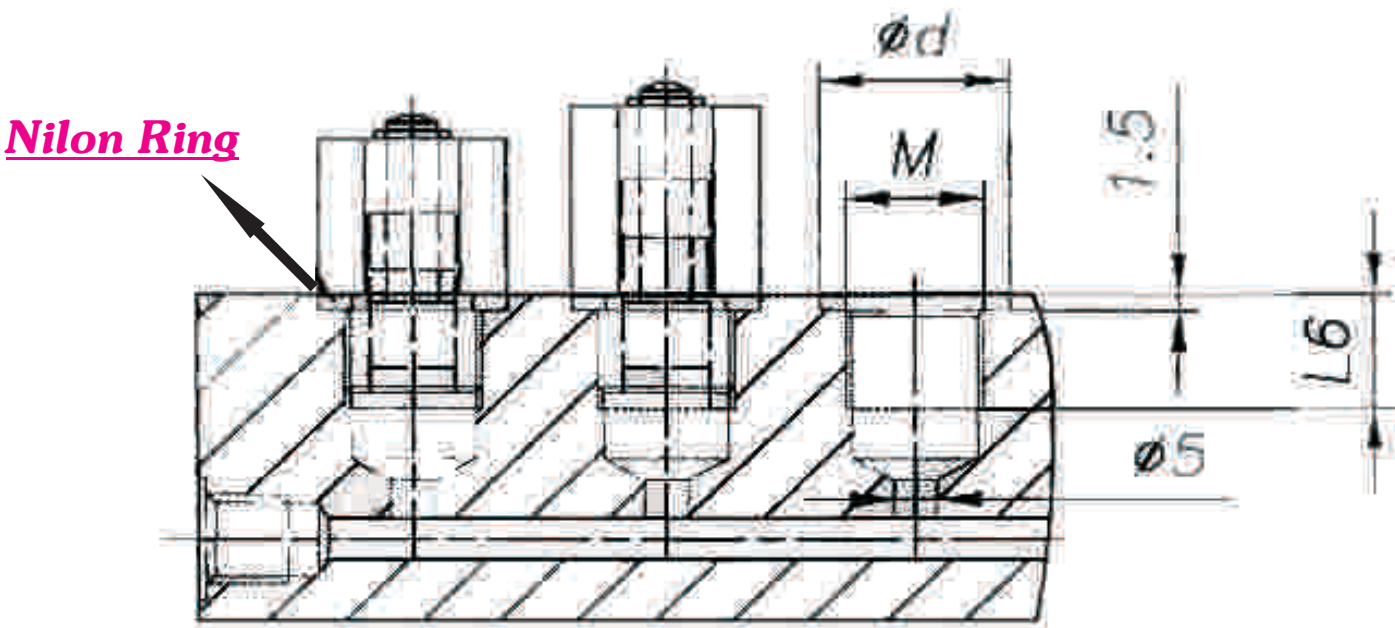


Model - T04C

Dimension Tabal :

MODEL	TO4C-M161	TO4C-M162	TO4C-M201	TO4C-M202	TO4C-M241	TO4C-M242	TO4C-M301	TO4C-M302	TO4C-M361	TO4C-M362
Rod dia, D mm	6		8		10		12		16	
Piston dia, D1 mm	10		12		16		20		25	
Stroke, S mm	4	8	4	8	6	10	8	12	12	16
M mm	M16X1.5		M20X1.5		M24X1.5		M30X1.5		M36X1.5	
L1 mm	12		12		14		18		21	
L2 mm	19	23	19	23	21	25	27	31	33	37
L3 mm	3	3	3	3	3	3	3	3	3	3
L4 mm	22	26	22	26	24	28	30	34	36	40
L5 mm	34	38	34	38	38	42	48	52	57	61
L6 mm	14		14		16		23		23	
A/F mm	19		24		27		36		41	
Ød mm	22		28		32		42		48	

Typical Mounting :



Compact Link Clamp Cylinder

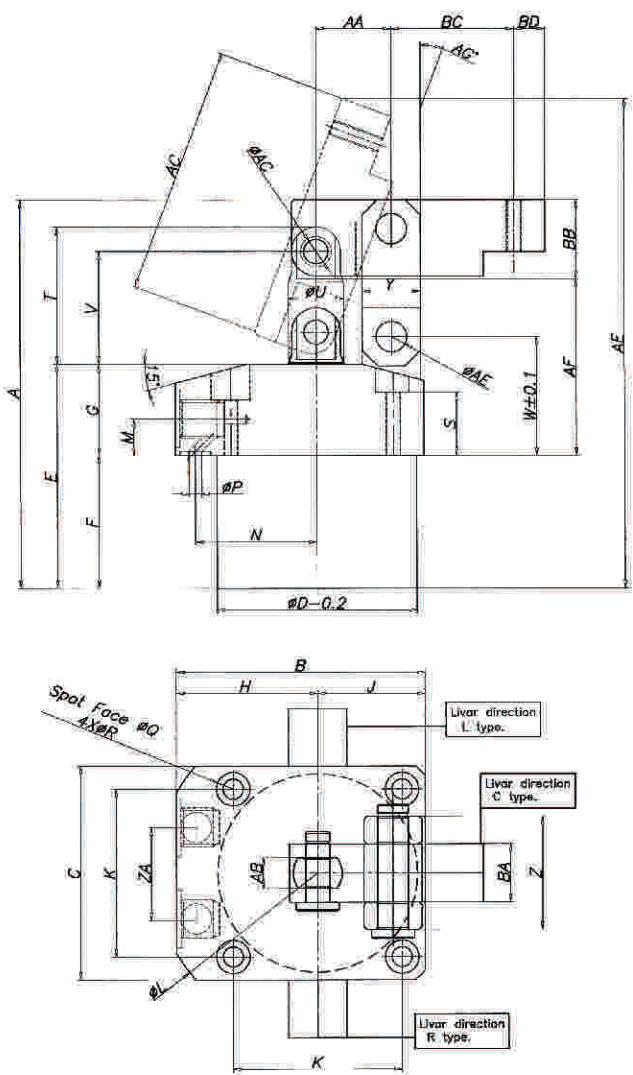
Double, Acting, Hydraulic



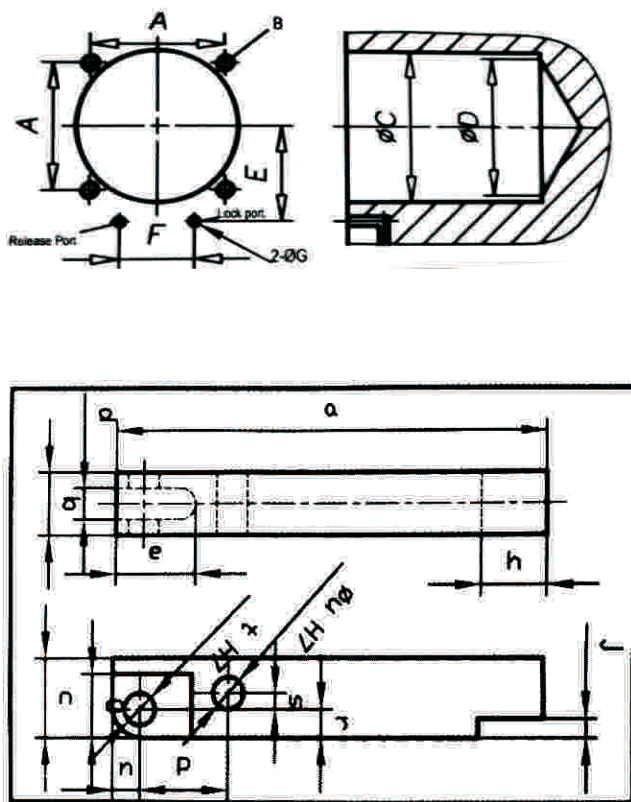
Features :

- ★ This is a double acting cylinder with link clamp.
- ★ It is a Chromium plated piston rod with alloy steel body.
- ★ It is hydraulic & centre port configuration.
- ★ These cylinders can be used for clamping of clock wise (RH) & counter clock wise direction (LH).
- ★ It can be used in the range of 1 MPa (minimum operating pressure) 15 MPa (maximum operating pressure) 70 bar N (pushing force)

Outline Dimension :



Machining For Mounting Details :



Clamp Lever Table (Standard) :

MODEL	RH	0361	0401	0481	0551	0651	0751	0901	01051
LH	0362	0402	0482	0552	0652	0752	0902	01052	
a	70	75	85	90	105	110	150	200	
b ^{0.1}	10	12	12	16	19	22	25	32	
c	13	14	16	20	25	32	38	45	
d	5	6	6	8	10	11	13	16	
e	13	14.5	16	17	22	26	31	36	
g	10	12	13	17	18	22	26	31	
h	10.5	13	13	17	22	25	31	38	
j	3	3	3	4	5	5	6	6	
n	4.5	5.5	6	6	8	10	11	13	
p	14.5	16	18.5	21	24.5	30	36	44	
r	4.5	5.5	6	6	8	10	11	13	
s	2.5	2.5	3.5	6	7.5	9.5	13	16	
t ¹⁷	5	5	6	6	8	10	12	15	
u ¹⁷	5	6	6	8	10	12	15	18	

Model - CL06

Dimension Tabal :

MODEL	C	CL06-0360-C	CL06-0400-C
BORE-DIA		Ø 22	Ø 25
	RH	CL06-0361-R	CL06-0401-R
	LH	CL06-0362-L	CL06-0402-L
A		79	87.5
B		50	54
C		41	45
D		36	40
E		48.5	54
F		29	31
G		25	25
H		29.5	31.5
J		20.5	22.5
K		31.5	34
L		68	73
M		11	11
N		23.5	26
P		3	3
Q		7.5	9.5
R		4.5	5.5
S		18	15
T		27	30.5
U		10	12
V		22.5	25
W		30	30.5
X		20	22
Y		10	12
Z		19	21
ZA		16	18
Hvd.port		G1/8"	G1/8"
AA		14.5	16
AB		5	6
AC		5	6
AD		5	6
AE		AE	AE
AF		43	44.5
AG		19.6°	20.2°
AH		5	6
AJ		AJ	AJ
BA		10	12
BB		12.5	14
BC		BC	BC
BD		BD	BD

Specification Table :

Lock cyl.area (cm ²)	3.8	4.9
Full stroke mm	18.5	20
Locking stroke mm	15.5	17
Extra stroke mm	3	3
Cyl. volume	Lock cm ³	5.9
	Release cm ³	4.7
Max.operating pressure(MPa)	7	
Min.operating pressure(MPa)	0.5	
Design pressure (MPa)	10.5	
Temperature (°C)	0-70	
Weight (kg)	0.72	1.15

Machining Dimension Table For Mounting Clamp :

MODEL	RH	CL06-0361	CL06-0401
	LH	CL06-0362	CL06-0402
A		31.4	34
B		M4	M5
C+0.2		36	40
D		30	35
E		23.5	26
F		16	18
G		2.5	2.5

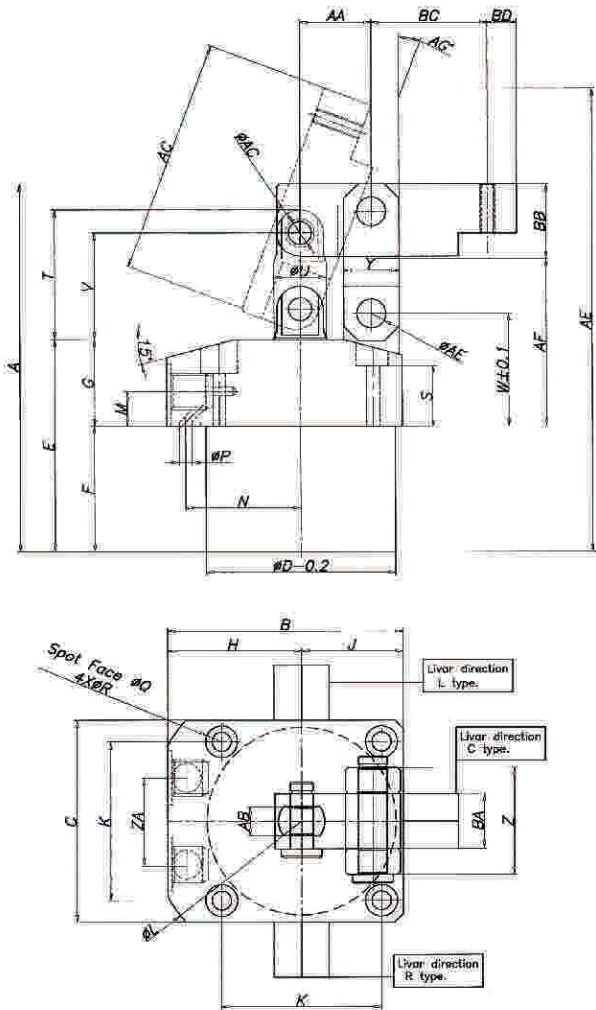
Double Acting, Hydraulic



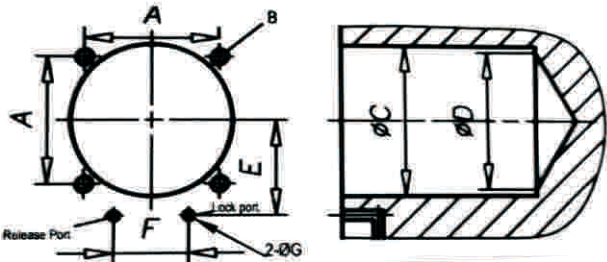
Features :

- ★ This is a double acting cylinder with compact link clamp.
- ★ It is a Chromium plated piston rod with alloy steel body.
- ★ It is hydraulic & centre port configuration.
- ★ These cylinders can be used for clamping of clock wise (RH) & counter clock wise direction (LH).
- ★ It is a integrated hinge mechanism with light weight.
- ★ It can be used in the range of 1 MPa (minimum operating pressure) 15 MPa (maximum operating pressure) 70 bar N (pushing force)

Outline Dimension :



Machining For Mounting Details :



Machining dimension table for mounting clamp :

MODEL	RH	0481	0551	0651	0751	0901	01051
	LH	0482	0552	0652	0752	0902	01052
A		40	47	55	63	75	88
B		M5	M6	M6	M8	M10	M12
C+0.2		48	55	65	75	90	105
D		45	50	60	70	85	100
E		30	33.5	39.5	45	52.5	60
F		22	24	30	32	37	45
G		3	3	3	3	3	4

Dimension Tabal :

MODEL	C	CL06-0480-C	CL06-0550-C	CL06-0650-C	CL06-0750-C	CL06-0900-C	CL06-01050-C
BORE-DIA		Ø 30	Ø 35	Ø 45	Ø 55	Ø 65	Ø 80
	RH	CL06-0481-R	CL06-0551-R	CL06-0651-R	CL06-0751-R	CL06-0901-R	CL06-01051-R
	LH	CL06-0482-L	CL06-0552-L	CL06-0652-L	CL06-0752-L	CL06-0902-L	CL06-01052-L
A		101	112.5	129.5	153	182	211
B		61	69	81	94.5	111	127
C		51	60	70	85	100	120
D		48	55	65	75	90	105
E		62	67	75.5	86	103	117
F		34	39	45.5	49	63	67
G		28	28	30	37	40	50
H		35.5	39	46	52	61	67
J		25.5	30	35	42.5	50	60
K		40	47	55	63	75	88
L		83	88	106	116	136	152
M		11	11	12	12	12	15
N		30	33.5	39.5	45	52.5	60
P		3	3	3	3	3	4
Q		9.5	11	11	14	17.5	20
R		5.5	6.8	6.8	9	11	14
S		17.5	15	15.5	19.5	19	24.5
T		35	37.5	45	55	65.5	77
U		14	16	18	22	28	35.5
V		29	31.5	37	45	52	62
W		34.5	35.5	39	48	52.5	64
X		26	30	35.5	43.5	52.5	64
Y		13	16	19	25	28	32
Z		21	28	37	40	49	64
ZA		22	24	30	32	37	45
Hvd.port		G1/8	G1/8	G1/4	G1/4	G1/4	G3/8
AA		18.5	21	24.5	30	36	44
AB		6	8	10	11	13	16
AC		6	6	8	10	12	15
AD		6	8	10	12	15	18
AE		92.4	101.9	111.4	130.8	146.5	173.6
AF		51	53.5	59	72	81	98
AG		18.9	19.9	20.5	21.4	22.4	23.1
AH		4.3	4.7	4.3	4.5	5	4.1
AJ		61.2	71.7	78.7	90.8	104.6	122.5
BA		12	16	19	22	25	32
BB		16	20	25	32	38	45
BC		23.5	29	32	37.5	41.5	51
BD		6	8	10	11	14	17

Specification Table :

Lock cyl.area cm ²		7.07	9.62	15.9	23.7	33.2	44.2
Full stroke mm		23.5	26	29.5	35	41	49
Locking stroke mm		20.5	23	26.5	32	38	46
Extra stroke mm		3	3	3	3	3	3
Cyl.volume	Lock cm ³	14.5	22.13	42.14	75.85	126.2	203.35
	Release cm ³	11.33	17.5	35.4	63.8	102.6	157.7
Max. pressure MPa		7					
Min. Pressure MPa		0.5					
Design pressure MPa		10.5					
Temperature °C		0-70					
Weight kg		1.5	1.8	2.5	4.2	6.5	10.2

Swing Cylinder

Top Mount, Double Acting, Hydraulic

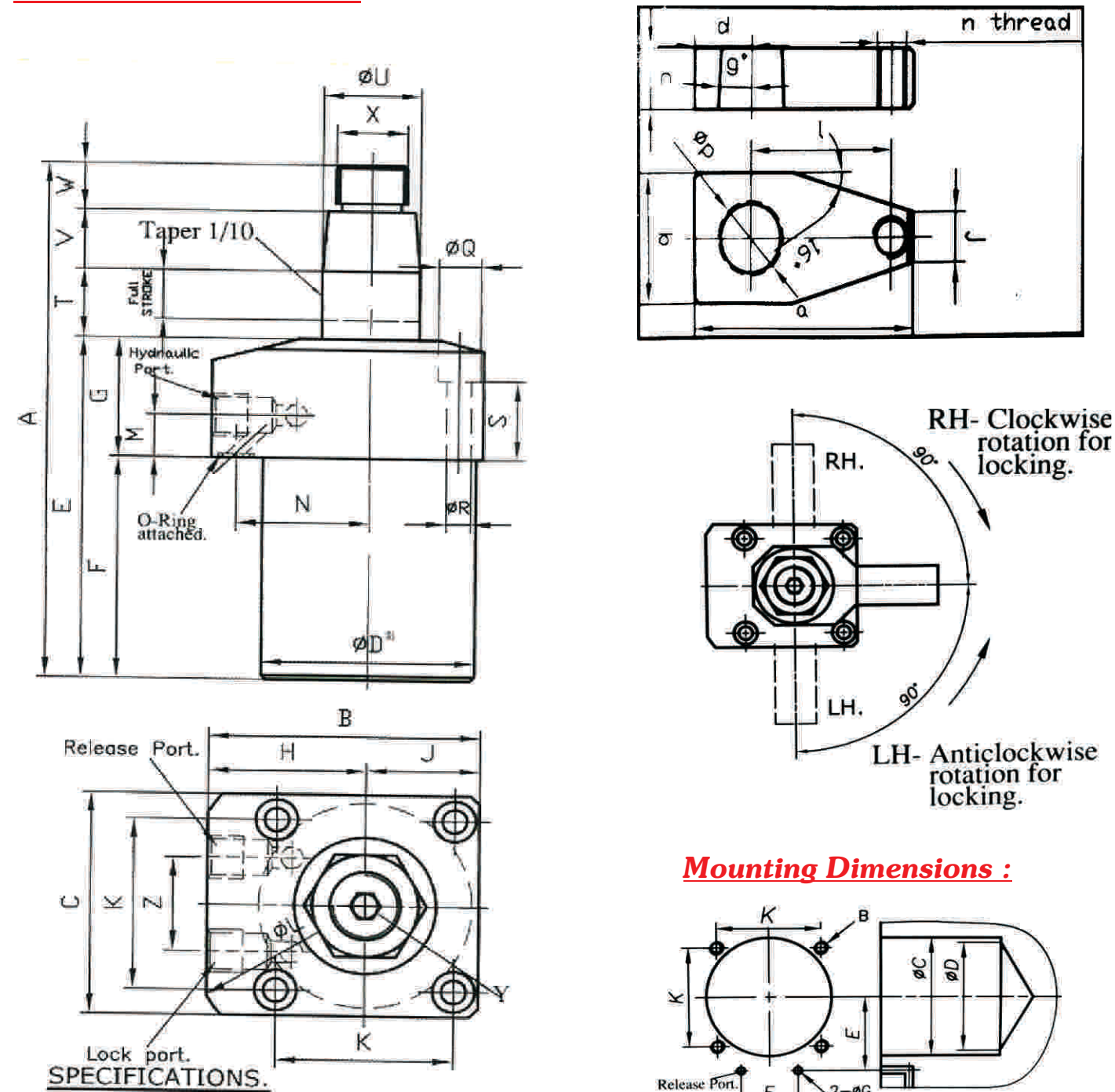


Features :

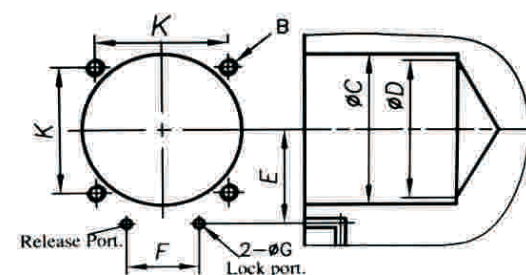
- ★ This is a double acting cylinder with swing clamp.
- ★ It is a Chromium plated piston rod with alloy steel body.
- ★ It can be used with the rotation of 90°.
- ★ These cylinders can be used for clamping of clock wise (RH) & counter clock wise direction (LH).
- ★ It can be used in the range of

1 MPa	(minimum operating pressure)
8 MPa	(maximum operating pressure)
70 bar N	(pushing force)

Outline Dimension :



Mounting Dimensions :



Dimension Tabal :

MODEL	90-RH	SC07-0361-R	SC07-0401-R
BORE-DIA		Ø 22	Ø 25
	90-LH	SC07-0362-L	SC07-0402-L
A		98	114
B		49	54
C		40	45
D	^{-0.1} _{-0.2}	36	40
E		64.5	75
F		39.5	50
G		25	25
H		29	31.5
J		20	22.5
K		31.5	34
ØL		66	73
M		11	11
N		23.5	26
P		3	3
Q		7.5	9.5
R		4.5	5.5
S		18	17
T		14.5	15
U			18
V		09	12
W		7	9
X		M10	M12
Y(Hex xdepth)		5X4	6X5
Z		16	18
Hvd.port		G1/8	G1/8
Taper angle		6°	6

Specification Table :

Lock cyl .area (cm ²)		2.03	2.36
Full stroke(90° rotation) mm		18	18
Swing stroke (90° rotation) mm		8	10
Locking stroke mm		10	8
Cyl. volume	Lock cm ³	2.6	3.07
	Release cm ³	4.9	6.38
Max .operating pressure (MPa)		7	
Min .operating pressure.(MPa)		1.5	
Design pressure (MPa)		10.5	
Temperature (°C)		0-70	
Weight (kg)		0.8	1.0

Machining Dimension Table For Mounting Clamp :

MODEL	RH	SC07-0361	SC07-0401
	LH	SC07-0362	SC07-0402
K		31.5	34
B		M4	M5
C+0.2		36	40
D		31	35
E		23.5	26
F		16	18
G		3	3

Clamp Lever Table (without Sleeve) :

MODEL	RH	0361	0401	0481	0551	0651	0751	0901	01051
	LH	0362	0402	0482	0552	0652	0752	0902	01052
a		50	56.5	65.5	77	91.5	105	127	152
b		26	28	35	38	50	58	75	90
c		11	13	16	22	22	28	34	40
d		13	14	17.5	19	25	29	38	45
g°		3°	3°	3°	3°	3°	5.5°	5.5°	5.5°
l		32	36.5	42	50	56.5	65	75	90
j		10	12	12	17	19	22	27	32
n		M5	M6	M6	M8	M10	M12	M16	M20
Øp		15	18	22	25	30	36	45	55

Model - SC07

Swing Cylinder

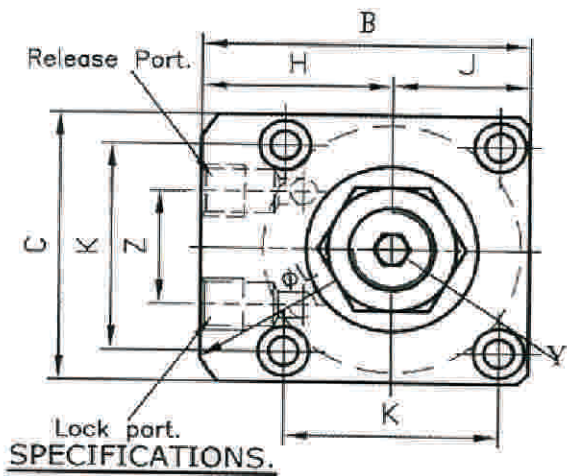
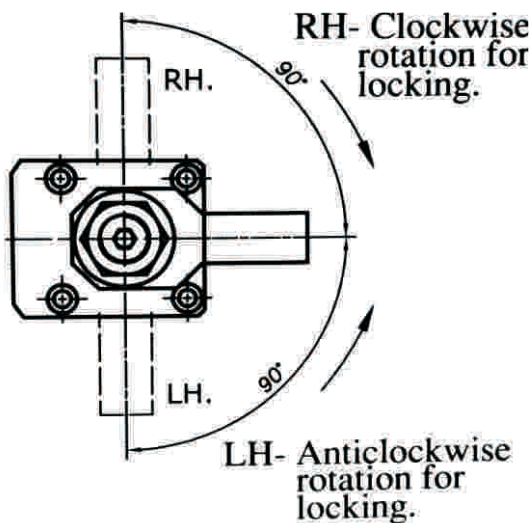
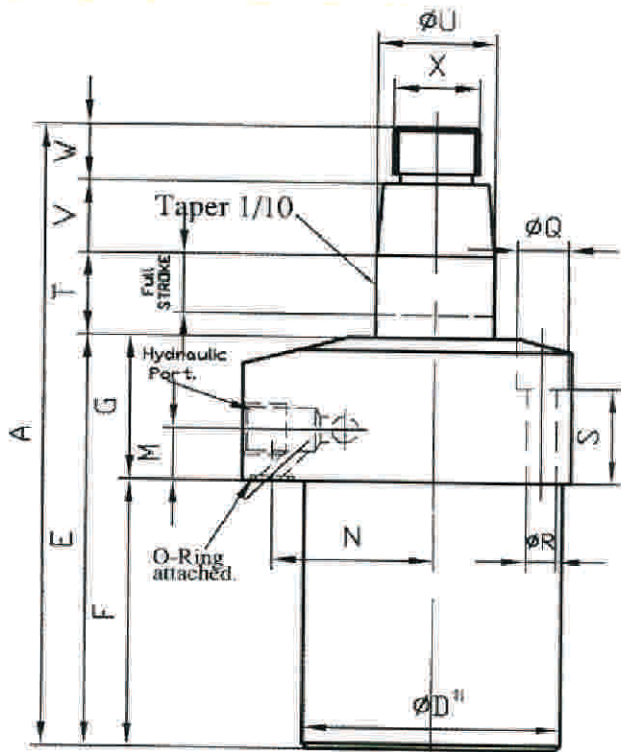
Top Mount, Double Acting, Hydraulic



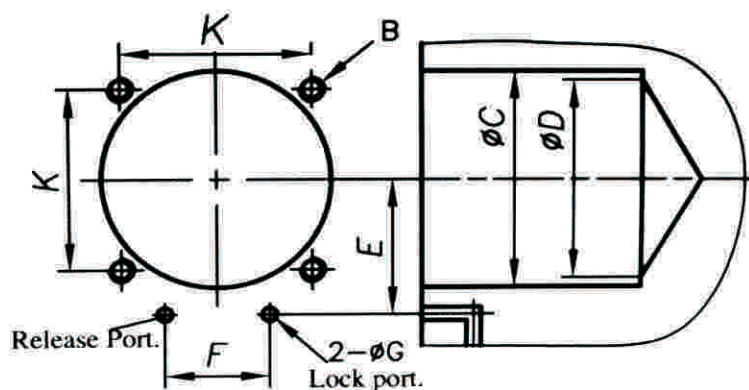
Features :

- ★ This is a double acting cylinder with swing clamp.
- ★ It is a Chromium plated piston rod with alloy steel body.
- ★ It can be used with the rotation of 90°.
- ★ These cylinders can be used for clamping of clock wise (RH) & counter clock wise direction (LH).
- ★ It can be used in the range of 1 MPa (minimum operating pressure) 8 MPa (maximum operating pressure) 70 bar N (pushing force)

Outline Dimension :



Mounting Dimensions :



Model - SC07

Dimension Tabal :

MODEL	90-RH	SC07-0481R	SC07-0551R	SC07-0651R	SC07-0751R	SC07-0901R	SC07-01051R
BORE-DIA		Ø 35	Ø 40	Ø 50	Ø 55	Ø 75	Ø 85
	90-LH	SC07-0482L	SC07-0552L	SC07-0652L	SC07-0752L	SC07-0902L	SC07-01052L
A		126	141.5	150	179	192	253
B		61	69	81	92	107	127
C		52	60	70	80	95	120
D		48	55	65	75	90	105
E		80	87	93	108	114	149
F		52	59	63	71	74	99
G		28	30	30	37	40	50
H		35	39	46	52	59.5	67
J		26	30	35	40	47.5	60
K		40	47	55	63	75	88
ØL		83	88	106	116	136	152
M		11	11	12	12	16	17
N		30	33.5	39.5	45	52.5	60
P		3	3	3	3	3	4
Q		9.5	11	11	14.5	17.5	20
R		5.5	6.6	6.6	9	11	14
S		18.5	17	18	22	22	24.5
T		16	19	20	23.5	25	30.5
U		22	25	30	36	45	55
V		14	20	20	26	32	38
W		12	12	12	14	14	17
X		M16	M16	M20	M30X1.5	M36X1.5	M45X1.5
Y (hex X depth)		6X6	8X6	10X8	10X28	10X10	12X10
Z		22	24	30	32	37	45
Hyd.port		G1/8	G1/8	G1/8	G1/4	G1/4	G1/4
Taper angle		6°	°6	°6	6°	11°	11°

Specification Table :

Lock cyl. Area cm ²	5	8	14	19.7	31.2	40.7
Full stroke mm	20	22	23	29	30	39
Swing stroke (90° rotation) mm	10	12	13	17	18	23
Locking stroke mm	10	10	10	12	12	16
Cyl.volume	Lock cm ³	7	13.2	25.2	42.3	102.6
	Release cm ³	12.5	20.9	37.1	68.7	127.8
Max.pressure MPa	7					
Min.pressure MPa	1.5					
Design pressure , MPa	10.5					
Temperature °C	0-70					
Weight kg	1.3	1.8	2.7	4.2	5.5	9

Machining Dimension Table For Mounting Clamp :

MODEL	RH	0481	0551	0651	0751	0901	01051
	LH	0482	0552	0652	0752	0902	01052
K		40	47	55	63	75	88
B		M5	M6	M6	M8	M10	M12
C+0.2		48	55	65	75	90	105
D		45	50	60	70	85	100
E		30	33.5	39.5	45	52.5	60
F		22	24	30	32	37	45
G		3	3	3	3	3	4

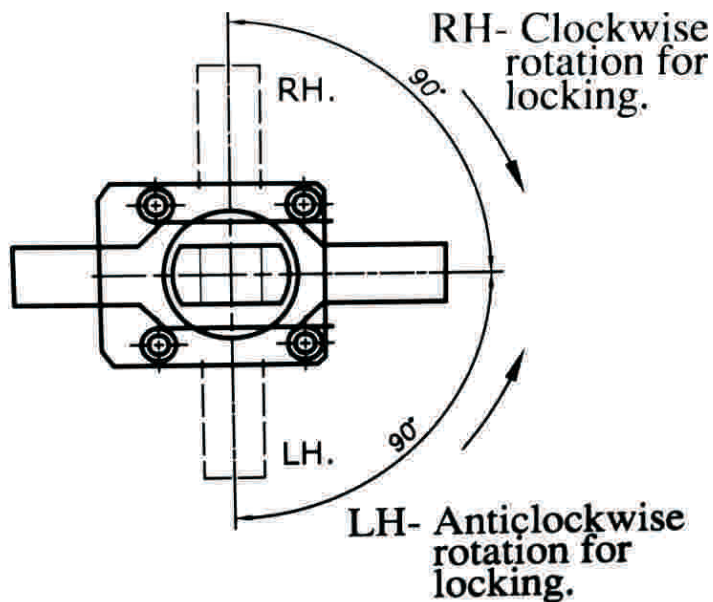
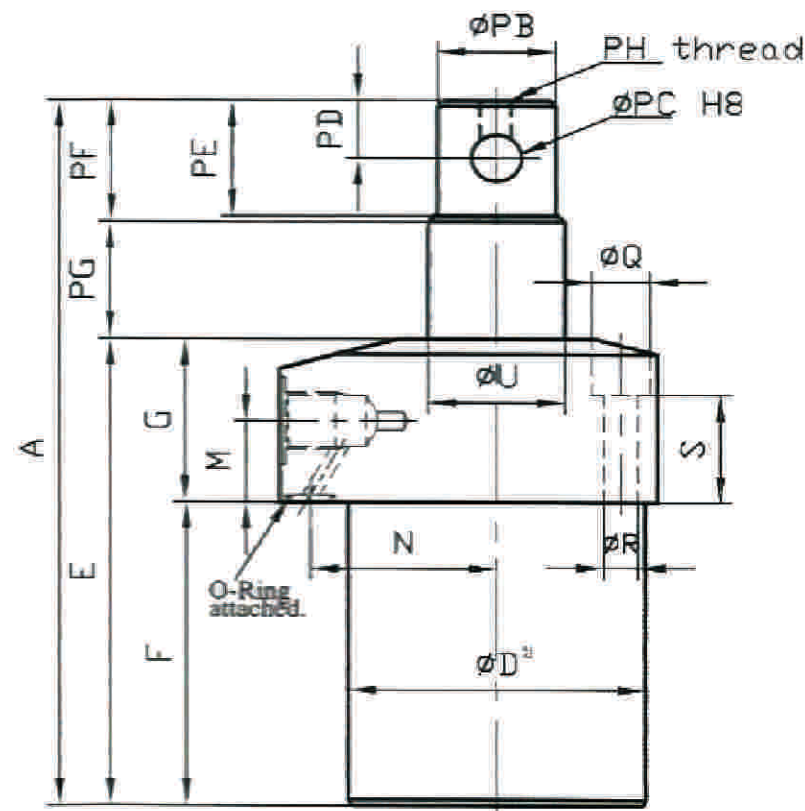
Top Mount, Double Acting (P Type)



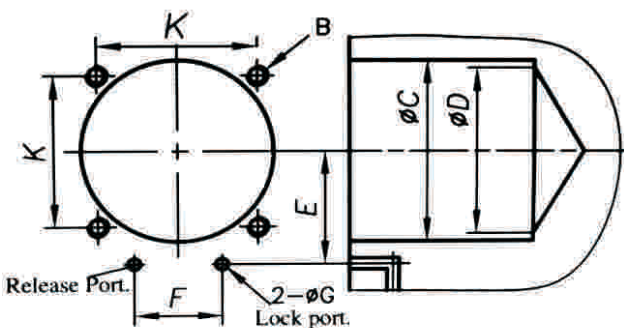
Features :

- ★ This is a double acting cylinder with swing clamp.
- ★ It is a Chromium plated piston rod with alloy steel body.
- ★ It can be used with the rotation of 90°.
- ★ These cylinders can be used for clamping of clock wise (RH) & counter clock wise direction (LH).
- ★ It can be used in the range of 1 MPa (minimum operating pressure)
8 MPa (maximum operating pressure)
70 bar N (pushing force)

Outline Dimension :



Mounting Dimensions :



Dimension Tabal :

MODEL	90° RH	0481-RP	0551-RP	0651-RP	0751-RP	0901-RP	01051-RP
BORE-DIA		Ø 35	Ø 40	Ø 50	Ø 55	Ø 75	Ø 85
MODEL	90RH	0481-RP	0551-RP	0651-RP	0751-RP	0901-RP	01051-RP
	90LH	0482-LP	0552-LP	0652-LP	0752-LP	0902-LP	01052-LP
A		126	141.5	150	179	192	253
B		61	69	81	92	107	127
C		52	60	70	80	95	120
D		48	55	65	75	90	105
E		80	87	93	108	114	149
F		52	59	63	71	74	99
G		28	30	30	37	40	50
H		35	39	46	52	59.5	67
J		26	30	35	40	47.5	60
K		40	47	55	63	75	88
ØL		83	88	106	116	136	152
M		11	11	12	12	16	17
N		30	33.5	39.5	45	52.5	60
P		3	3	3	3	3	4
Q		9.5	11	11	14.5	17.5	20
R		5.5	6.6	6.6	9	11	14
S		18.5	17	18	22	22	24.5
U		22	25	30	36	45	55
PG		16	18.5	20	23.5	25	30.5
PF		25	30.5	32	40	46	55
PE		23.5	29	30.5	38.5	44.5	53.5
PH thread		M4	M5	M6	M6	M8	M8
PD		10	12	15	16.5	20	24
ØPB		20	23	28	34	43	53
ØPC H8		8	10	12	12	16	20
PA		10	12	14	16	22	26
Z		22	24	30	32	37	45
Hvd.port		G1/8	G1/8	G1/4	G1/4	G1/4	G1/4

Specification Table :

Lock cyl.area cm ²	5	8	14	19.7	31.2	40.7
Full stroke mm	20	22	23	29	30	39
Swing stroke (90°rotation) mm	10	12	13	17	18	23
Locking stroke mm	10	10	10	17	12	16
Cyl.volume	Lock cm ³	7	13.2	25.2	42.3	102.6
	Release cm ³	12.5	20.9	37.1	68.7	199.5
Max. pressure MPa	7					
Min. Pressure MPa	1.5					
Design pressure MPa	10.5					
Temperature °C	0-70					
Weight kg	1.3	1.8	2.7	4.2	5.5	9

Machining Dimension Table For Mounting Clamp :

MODEL	90RH	0481-RP	0551-RP	0651-RP	0751-RP	0901-RP	01051-RP
	90LH	0482-LP	0552-LP	0652-LP	0752-LP	0902-LP	01052-LP
K		40	47	55	63	75	88
B		M5	M6	M6	M8	M10	M12
C+0.2		48	55	65	75	90	105
D		45	50	60	70	85	100
E		30	33.5	39.5	45	52.5	60
F		22	24	30	32	37	45
G		3	3	3	3	3	4

Swing Cylinder

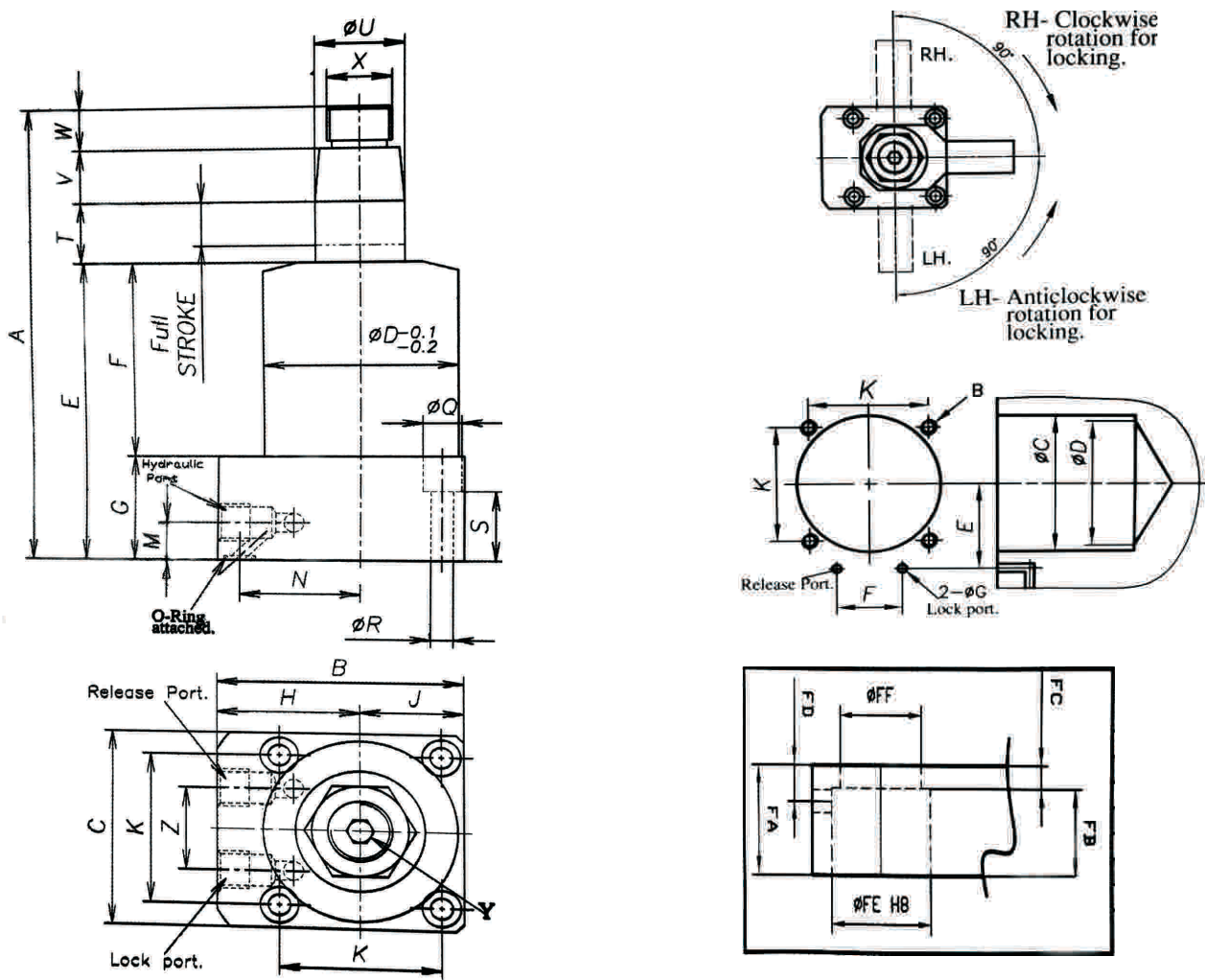
Bottom Mount, Double Acting



Features :

- ★ This is a double acting cylinder with swing clamp.
- ★ It is a Chromium plated piston rod with alloy steel body.
- ★ It can be used with the rotation of 90°.
- ★ These cylinders can be used for clamping of clock wise (RH) & counter clock wise direction (LH).
- ★ It can be used in the range of 1 MPa (minimum operating pressure) 8 MPa (maximum operating pressure) 70 bar N (pushing force)

Outline Dimension :



Clamp lever dimension table (with sleeve) :

MODEL	0361	0401	0481	0551	0651	0751	0901	01051
	0362	0402	0482	0552	0652	0752	0902	01052
FA	12	16	19	25	25	32	38	45
FB	10	12	16	18.5	20.8	26	32	38
FC	2.5	3	4	4	4	5	5	6
FD	4.3	5.3	6.3	6.3	7.5	8.5	9.5	10.5
ØFE	17	20	25	28	34	40	49	60
ØFF	13.9	16.7	20.6	23	28	32.9	41.8	51.2
ØFG	3	4	4	4	6	6	8	8

Model - SC08

Dimension Tabal :

MODEL	90RH	SC08-0361-R	SC08-0401-R
BORE-DIA		Ø 22	Ø 25
	90 RH	SC08-0361-R	SC08-0401-R
	90 LH	SC08-0362-L	SC08-0402-L
A		98	114
B		49	54
C		40	45
D		36	40
E		64.5	75
F		39.5	50
G		25	25
H		29	31.5
J		20	22.5
K		31.5	34
ØL		66	73
M		11	11
N		23.5	26
P		3	3
Q		7.5	9.5
R		4.5	5.5
S		18	17
T		14.5	15
U		16	18
V		9	12
W		7	9
X		M10X1	M12X1.5
Y(Hex x depth)		5x4	6X5
Z		16	18
Hvd. Port		G1/8	G1/8
Taper angle		6°	6°

Specification Table :

Lock cvl. area (cm ²)	2.03	2.36
Full stroke(90° rotation) mm	18	18
Swing stroke (90° rotation) mm	8	10
Locking stroke mm	8	8
Cyl.volume	Lock cm ³	3.07
	Release cm ³	6.38
Max. operating pressure (MPa)	7	
Min. operating pressure, (MPa)	1.5	
Design pressure (MPa)	10.5	
Temperature (°C)	0-70	
Weight (kg)	0.8	1.0

Machining Dimension Table For Mounting Clamp :

MODEL	90RH	SC08-0361-R	SC08-0401-R
	90LH	SC08-0362-L	SC08-0402-L
K		31.5	34
B		M4	M5
C+0.2		36	40
D		31	35
E		23.5	26
F		16	18
G		3	3

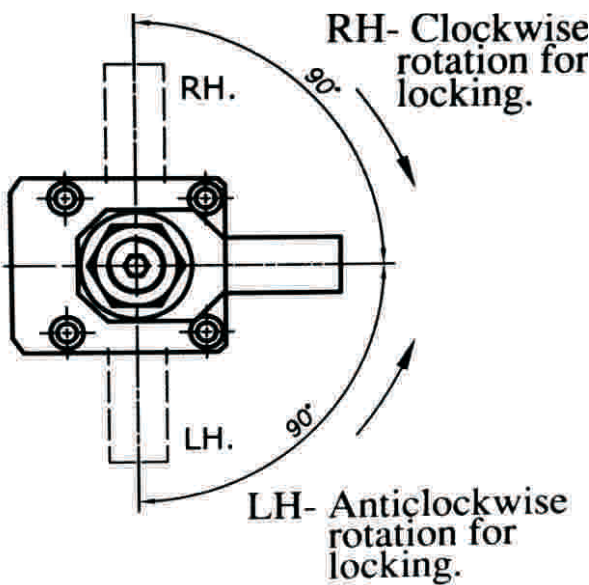
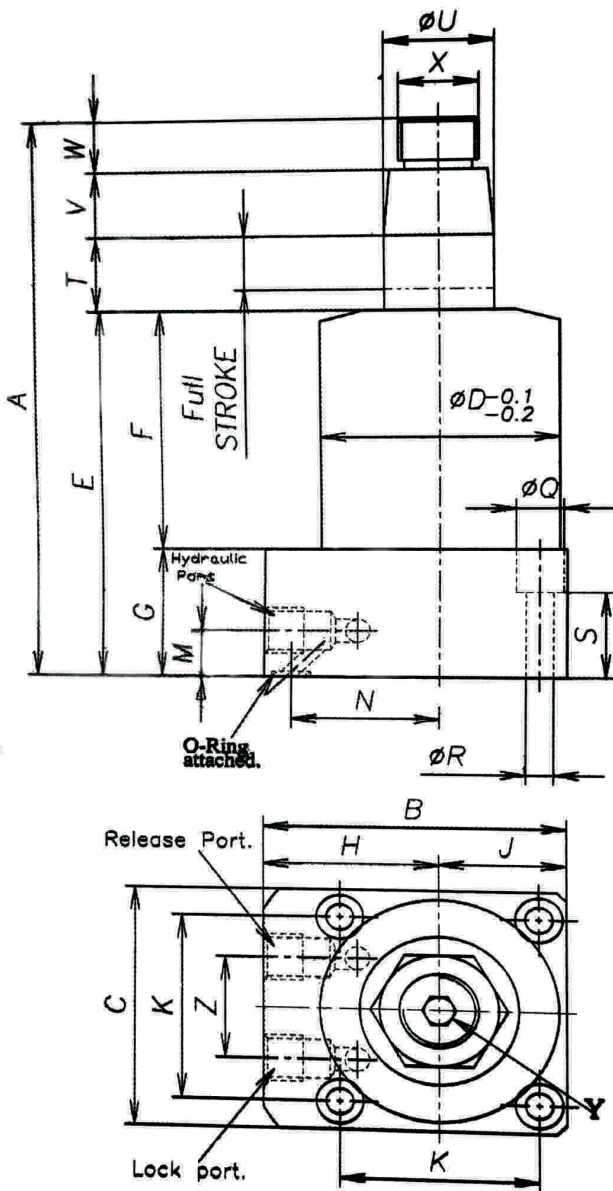
Bottom Mount, Double Acting



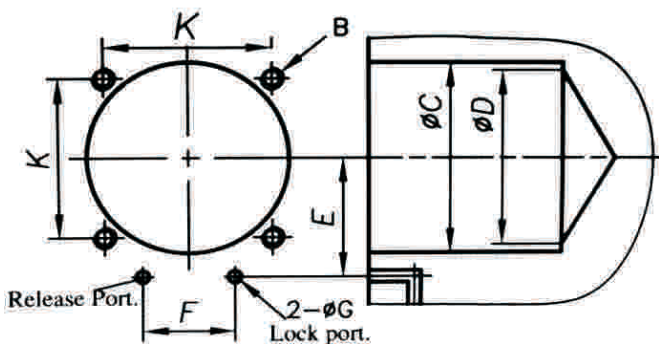
Features :

- ★ This is a double acting cylinder with swing clamp.
- ★ It is a Chromium plated piston rod with alloy steel body.
- ★ It can be used with the rotation of 90°.
- ★ These cylinders can be used for clamping of clock wise (RH) & counter clock wise direction (LH).
- ★ It can be used in the range of 1 MPa (minimum operating pressure)
8 MPa (maximum operating pressure)
70 bar N (pushing force)

Outline Dimension :



Mounting Details :



Dimension Tabal :

MODEL	90RH	0481-R	0551-R	0651-R	0751-R	0901-R	01051-R
BORE-DIA		Ø 35	Ø 40	Ø 50	Ø 55	Ø 75	Ø 85
	90RH	0481-R	0551-R	0651-R	0751-R	0901-R	01051-R
	90LH	0482-L	0552-L	0652-L	0752-L	0902-L	01052-L
A		126	141.5	150	179	192	253
B		61	69	81	92	107	127
C		52	60	70	80	95	120
D		48	55	65	75	90	105
E		80	87	93	108	114	149
F		52	59	63	71	74	99
G		28	30	30	37	40	50
H		35	39	46	52	59.5	67
J		26	30	35	40	47.5	60
K		40	47	55	63	75	88
ØL		83	88	106	116	136	152
M		11	11	12	12	16	17
N		30	33.5	39.5	45	52.5	60
P		3	3	3	3	3	4
Q		9.5	11	11	14.5	17.5	20
R		5.5	6.6	6.6	9	11	14
S		18.5	17	18	22	22	24.5
T		16	19	20	23.5	25	30.5
U		22	25	30	36	45	55
V		14	20	20	26	32	38
W		12	12	12	14	14	17
X		M16	M16	M20	M30X1.5	M36X1.5	M45X1.5
Y (hex X depth)		6X6	8X6	10X8	10X28	10X10	12X10
Z		22	24	30	32	37	45
Hvd.port		G1/8	G1/8	G1/8	G1/4	G1/4	G1/4
Taper angle		6°	°6	°6	6°	11°	11°

Specification Table :

Lock cyl. Area cm ²	5	8	14	19.7	31.2	40.7
Full stroke mm	20	22	23	29	30	39
Swing stroke (90° rotation) mm	10	12	13	17	18	23
Locking stroke mm	10	10	10	12	12	16
Cyl.volume	Lock cm ³	7	13.2	25.2	42.3	102.6
	Release cm ³	12.5	20.9	37.1	68.7	127.8
Max.pressure MPa	7					
Min.pressure MPa	1.5					
Design pressure, MPa	10.5					
Temperature °C	0-70					
Weight kg	1.3	1.8	2.7	4.2	5.5	9

Machining Dimension Table For Mounting Clamp :

MODEL	90RH	0481-R	0551-R	0651-R	0751-R	0901-R	01051-R
	90LH	0482-L	0552-L	0652-L	0752-L	0902-L	01052-L
K		40	47	55	63	75	88
B		M5	M6	M6	M8	M10	M12
C+0.2		48	55	65	75	90	105
D		45	50	60	70	85	100
E		30	33.5	39.5	45	52.5	60
F		22	24	30	32	37	45
G		3	3	3	3	3	4

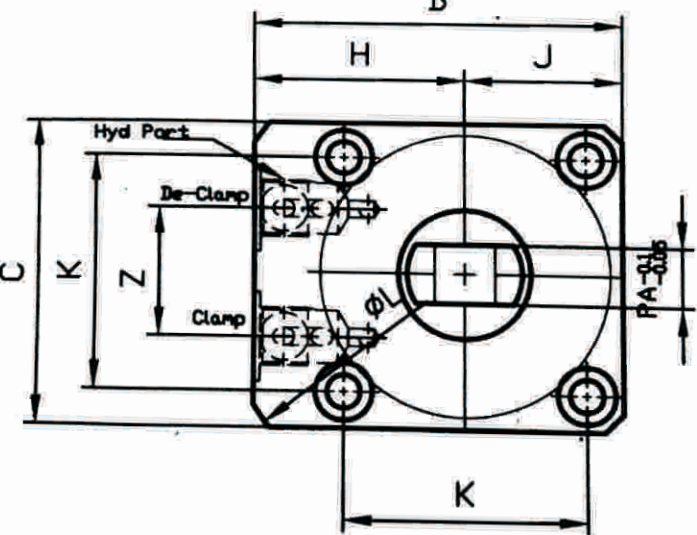
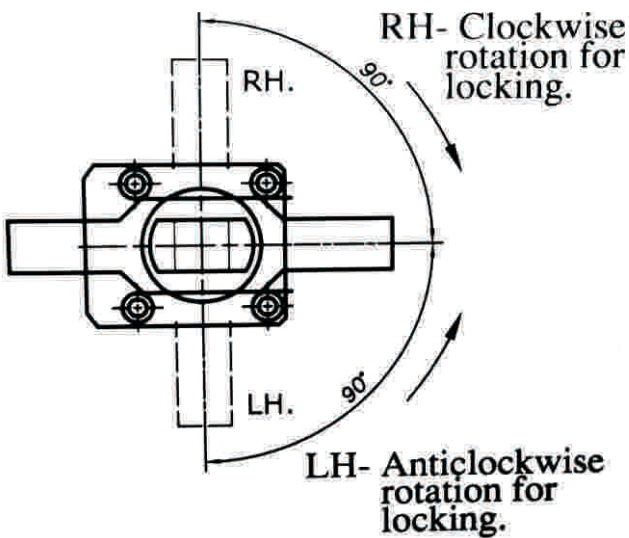
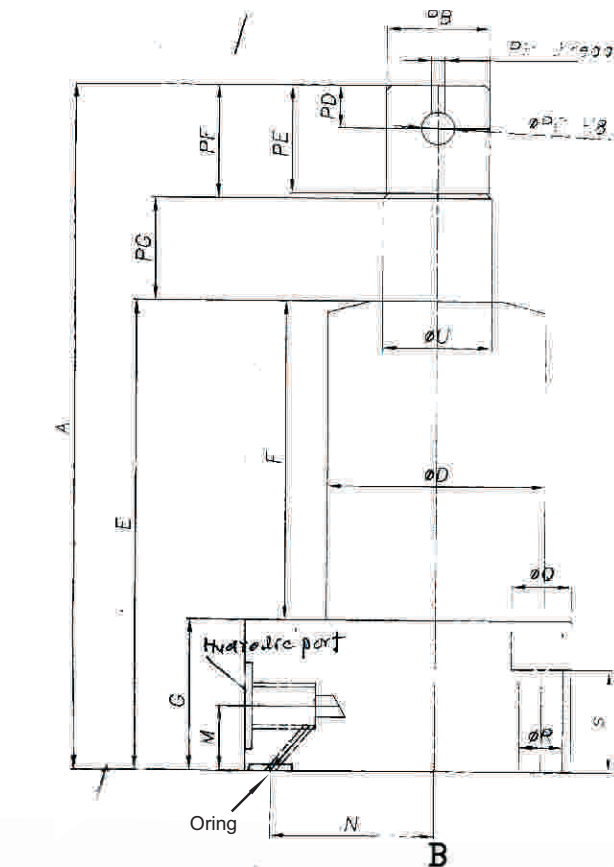
Bottom Mount, Double Acting (P type)



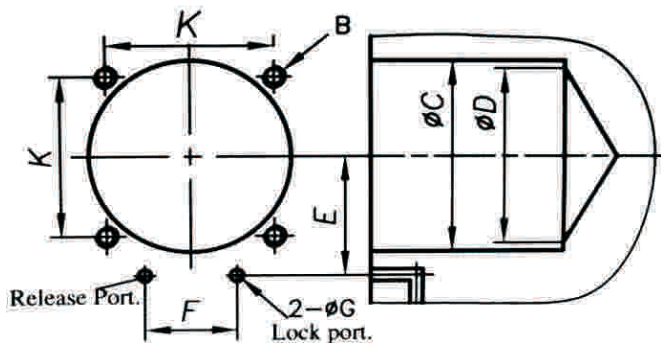
Features :

- ★ This is a double acting cylinder with swing clamp.
- ★ It is a Chromium plated piston rod with alloy steel body.
- ★ It can be used with the rotation of 90°.
- ★ These cylinders can be used for clamping of clock wise (RH) & counter clock wise direction (LH).
- ★ It can be used in the range of 1 MPa (minimum operating pressure)
8 MPa (maximum operating pressure)
70 bar N (pushing force)

Outline Dimension :



Machining For Mounting Details :



Dimension Tabal :

MODEL	90-RH	0481-RP	0551-RP	0651-RP	0751-RP	0901-RP	01051-RP
BORE-DIA		Ø 35	Ø 40	Ø 50	Ø 55	Ø 75	Ø 85
	90-RH	0481-RP	0551-RP	0651-RP	0751-RP	0901-RP	01051-RP
	90-LH	0482-LP	0552-LP	0652-LP	0752-LP	0902-LP	01052-LP
A		126	141.5	150	179	192	253
B		61	69	81	92	107	127
C		52	60	70	80	95	120
D		48	55	65	75	90	105
E		80	87	93	108	114	149
F		52	59	63	71	74	99
G		28	30	30	37	40	50
H		35	39	46	52	59.5	67
J		26	30	35	40	47.5	60
K		40	47	55	63	75	88
ØL		83	88	106	116	136	152
M		11	11	12	12	16	17
N		30	33.5	39.5	45	52.5	60
P		3	3	3	3	3	4
Q		9.5	11	11	14.5	17.5	20
R		5.5	6.6	6.6	9	11	14
S		18.5	17	18	22	22	24.5
U		22	25	30	36	45	55
PG		16	18.5	20	23.5	25	30.5
PF		25	30.5	32	40	46	55
PE		23.5	29	30.5	38.5	44.5	53.5
PH thread		M4	M5	M6	M6	M8	M8
PD		10	12	15	16.5	20	24
ØPB		20	23	28	34	43	53
ØPC H8		8	10	12	12	16	20
PA		10	12	14	16	22	26
Z		22	24	30	32	37	45
Hvd.port		G1/8	G1/8	G1/4	G1/4	G1/4	G1/4

Specification Table :

Lock cyl.area cm ²	5	8	14	19.7	31.2	40.7
Full stroke mm	20	22	23	29	30	39
Swing stroke (90°rotation) mm	10	12	13	17	18	23
Locking stroke mm	10	10	10	12	12	16
Cyl.volume	Lock cm ³	7	13.2	25.2	42.3	102.6
	Release cm ³	12.5	20.9	37.1	68.7	127.8
Max. pressure MPa	7					
Min. Pressure MPa	1.5					
Design pressure MPa	10.5					
Temperature °C	0-70					
Weight kg	1.3	1.8	2.7	4.2	5.5	9

Machining Dimension Table For Mounting Clamp :

MODEL	90-RH	0481-RP	0551-RP	0651-RP	0751-RP	0901-RP	01051-RP
	90-LH	0482-LP	0552-LP	0652-LP	0752-LP	0902-LP	01052-LP
K		40	47	55	63	75	88
B		M5	M6	M6	M8	M10	M12
C+0.2		48	55	65	75	90	105
D		45	50	60	70	85	100
E		30	33.5	39.5	45	52.5	60
F		22	24	30	32	37	45
G		3	3	3	3	3	4

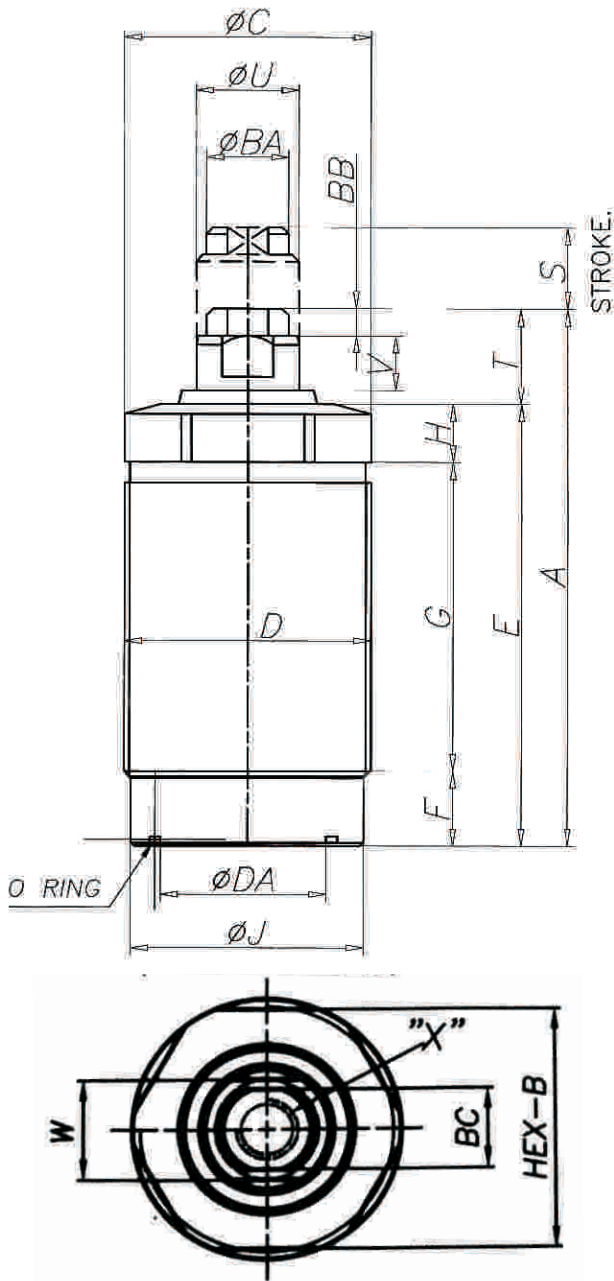
Threaded Body, Single Acting, Hydraulic



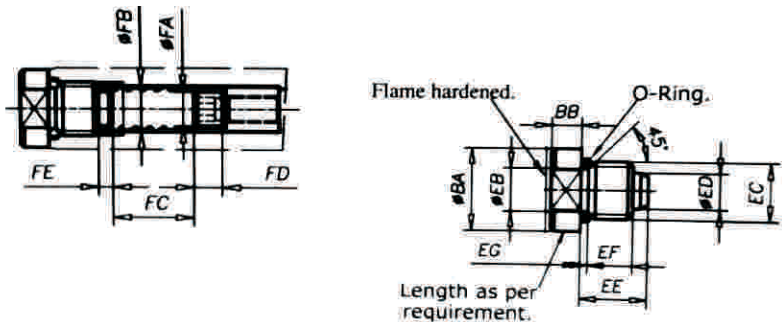
Features :

- ★ This is a threaded body with compact design of single acting.
- ★ It is a wide operating pressure range.
- ★ This work support is a hydraulic advance with manifold mounting & also, spring advance
- ★ It can be used in the range of 7 Mpa
- ★ Maximam operating pressure 70bar Max

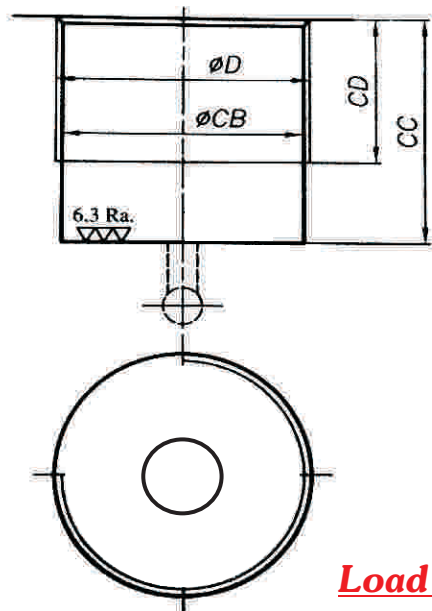
Outline Dimension :



Plunger Spring & Contact Bolt Dimensions :

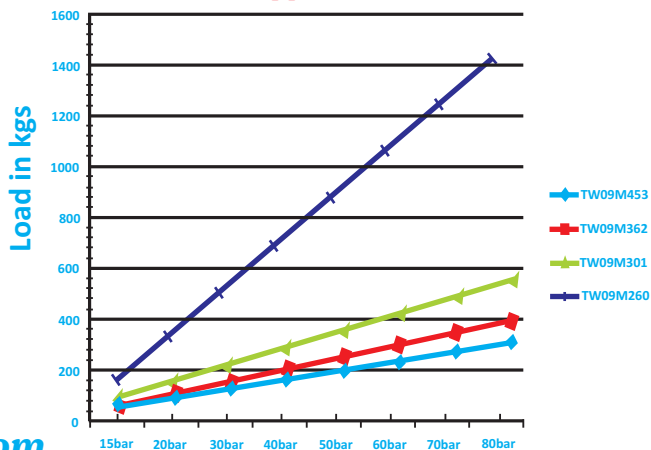


Mounting Dimensions :



Load Graphs :

Support Load vs Pressure :



Dimension Tabal :

MODEL	TW09-M260	TW09-M301	TW09-M362	TW09-M453
Support force 7MPa (KN)	3.00	3.8	4.5	9.5
Support force formula, MPa	0.53XP-0.68	0.67XP-0.91	0.825XP-1.25	1.7XP-2.28
Plunger stroke ,S (mm)	6	8	8	10
Plunger rising force, L (N)	2.8~4.1	3.6~5.7	4.7~7.8	5.8~9.7
Plunger rising force, H (N)	3.8~5.9	4.9~8	6.2~11	7.9~13.6
Cylinder volume (cm ³)	0.60	0.90	1.30	2.00
Min. Pressure	2.0MPa			
Max. Pressure	7.0MPa			
Weight (kg)	0.20	0.25	0.35	0.75
A	66	74	80	80
B	24	27	32	41
ØC	26	30	36	45
D	M26X1.5	M30X1.5	M36X1.5	M45X1.5
E	55	63.5	67.5	68.5
F	7	8	9	10
G	36	42	46	46
H	8	9	8.5	10
ØI	24.6	28.4	34	43
T	9.5	9.5	12.5	11.5
ØU	10	12	15	16
V	5	5	5.5	6
W	8	10	13	14
X	M6	M8	M10	M10
ØBA	9.5	11.5	12.5	12.5
BB	4	4	4	4
BC	8	10	12	13
ØCB	24.5	28.5	34.5	43.5
CC	16~47	17~50	18~48	21~58
CD	CC-7	CC-7	CC-8	CC-8
ØDAXthick	Ø12X2	Ø14X2	Ø14X2	Ø20X2

Pad Dimensions :

ØEB	4.9	6	8.2	10
EC	M6	M8	M10	M10
ØED	2.5	5	5	5.5
EE	9	10	10	10
EF	6	7	8	7
EG	2	2	2	2
O-ring	Ø5X1.5	Ø4X2	Ø8X1.5	Ø8X1.5
ØFA	2.6	5.0	5.8	5.8
ØFB	3.6	6	8.5	8.5
FC	11.5	13	10	12
FD	4	4	8	8
FE	2	2	2	2
FF	18	19	20	20
Mounting torque (Nm)	31.5	50	63	80

Flange Mounting, Single Acting, Hydraulic

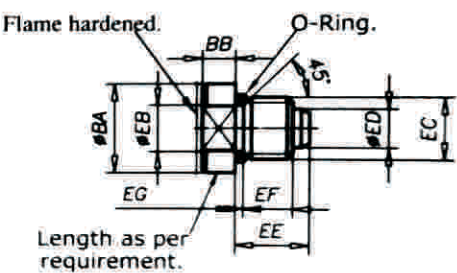
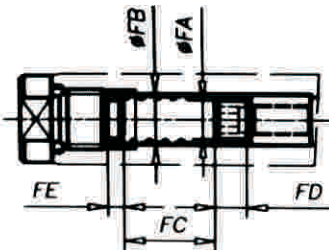
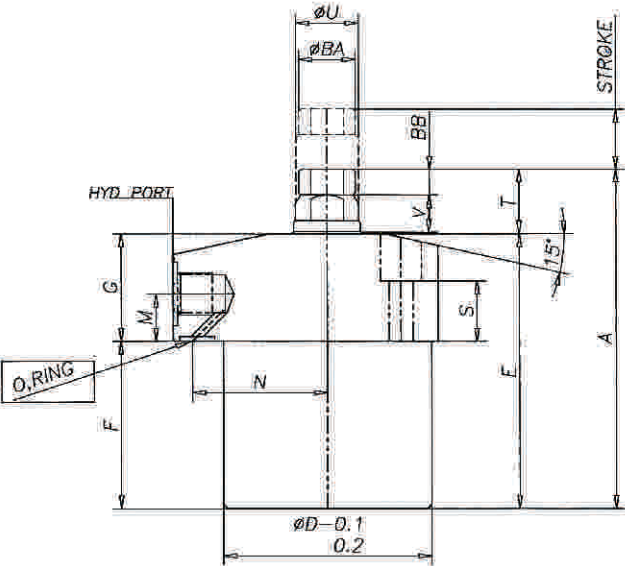


Features :

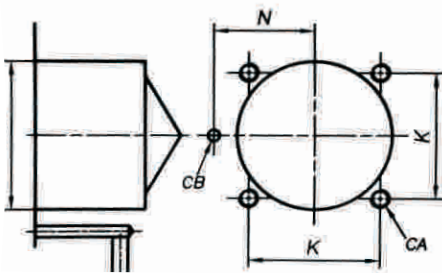
- ★ This is a flange body with compact design of single acting.
- ★ It is a low operating pressure range.
- ★ This work support is a hydraulic advance with flange mounting & With Spring Advance
- ★ It can be used in the range of 7 Mpa
- ★ Maximum operating pressure 70bar Max

Plunger Spring & Contact Bolt Dimensions :

Outline Dimension :

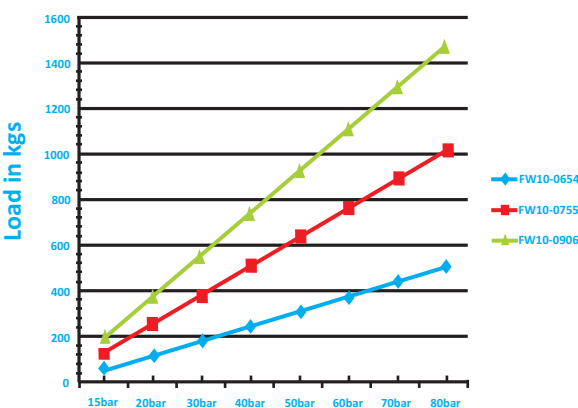
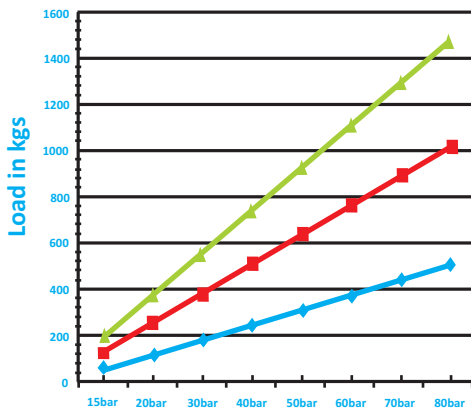


Mounting Dimensions :



Load Graphs :

Support Load vs Pressure :



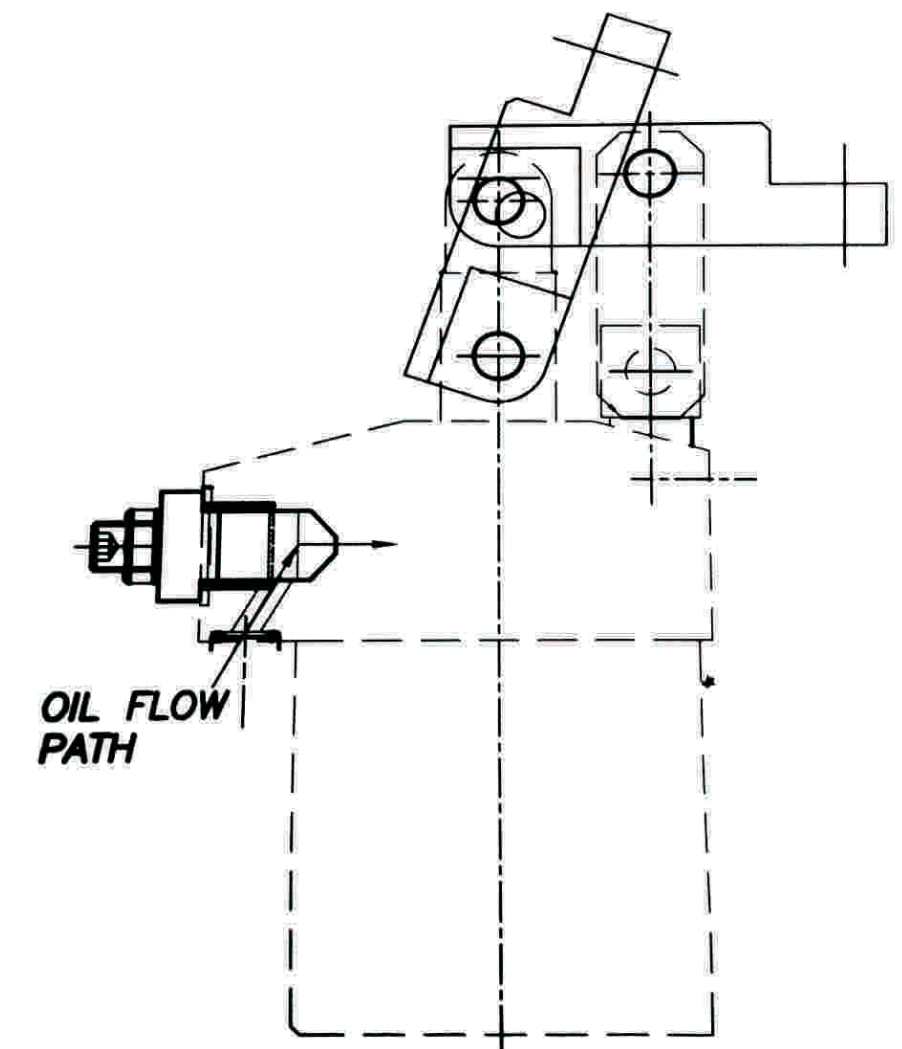
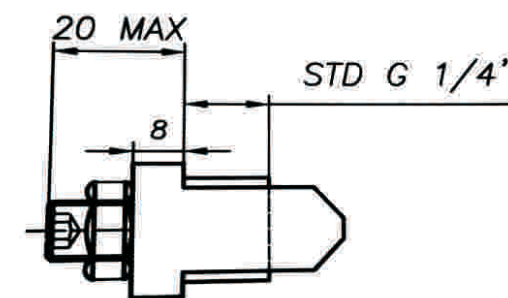
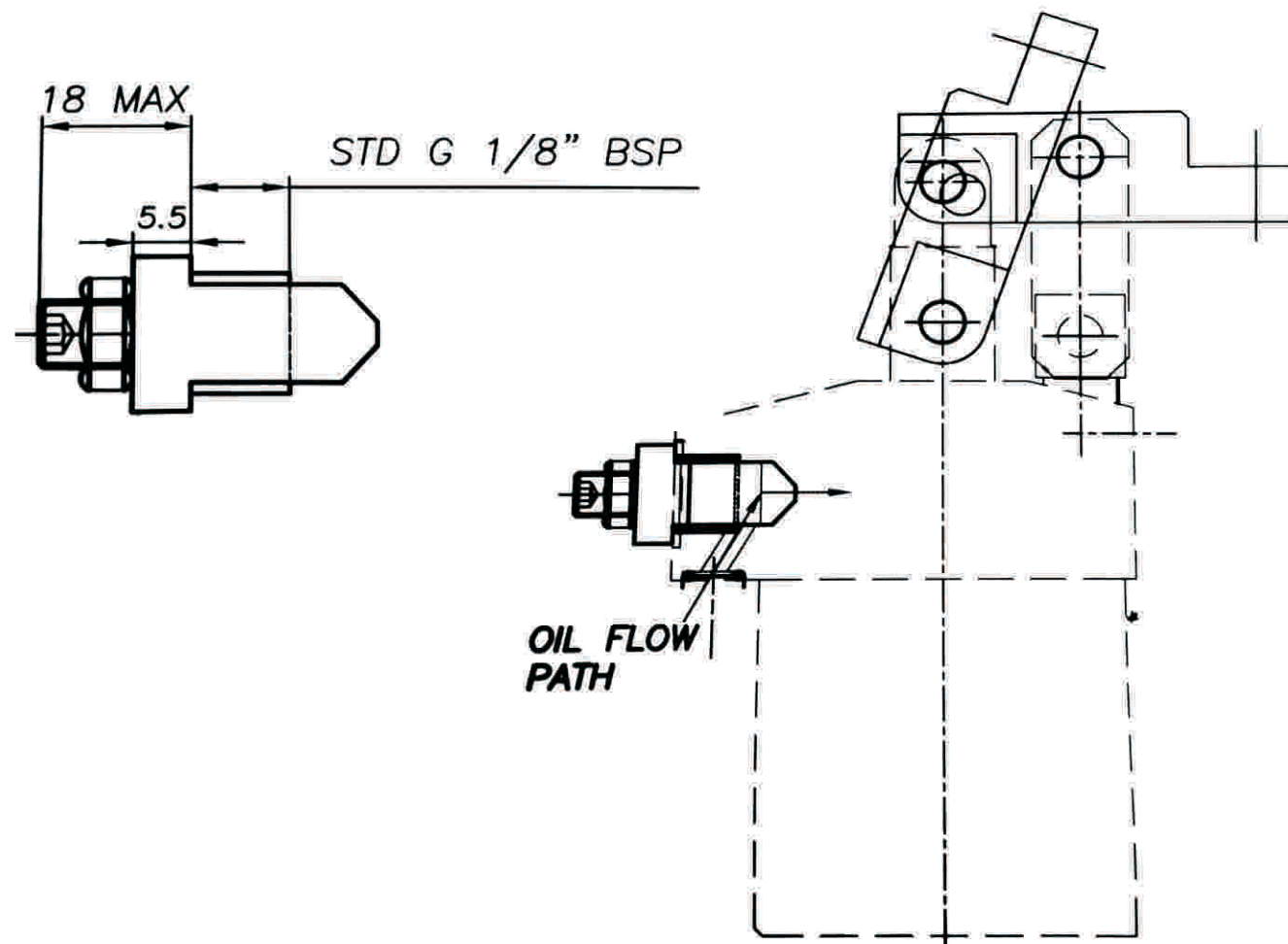
Dimension Tabal :

MODEL	FW10-0401	FW10-0482	FW10-0553	FW10-0654	FW10-0755	FW10-0906
Support force 7MPa (KN)	4.5	9.5	14	21	33	45
Support force formula, MPa (KN)	0.825XP-1.25	1.55XP-1.25	2.36XP-2.28	3.83XP-5.7	5.60XP-6.13	7.5XP-6.87
Plunger stroke,ST (mm)	8	10	12	14	16	20
Cylinder volume (cm ³)	1.2	2.0	3.3	4.8	8.9	13.1
Plunger spring force	L N H N	L N H N	L N H N	L N H N	L N H N	L N H N
Max. Pressure, MPa	7.0					
Min. Pressure, MPa	2.0					
Design. Pressure, MPa	10.5					
Temperature C	0-70					
Weight Kg	0.6	0.8	1.4	2.2	3.6	6
A	76	76	89	104	126	140
B	54	61	69	81	92	107
C	45	51	60	70	80	95
ØD	40	48	55	65	75	90
E	64	64	73	85	107	128
F	39	39	45	56	72	88
G	25	25	28	29	35	40
H	31.5	35.5	39	46	52	59.5
J	22.5	25.5	30	35	40	47.5
K	34	40	47	55	63	75
K1	17	20	23.5	27.5	31.5	37.5
ØL	68	73	83	94	106	126
M	11	11	11	11	13	13
N	26	30	33.5	39.5	45	52.5
Q	9.5	9.5	11	11	14.5	17.5
R	5.5	5.5	6.6	6.6	9	11
S	15	15	17	17	17	18
T	14	12	16	16	19	22
ØU	15	16	20	22	25	32
V	6	6	8	9	9	10
W	13	14	18	19	22	24
X	M10	M10	M12	M12	M16	M16
Hvd.port	G1/8"	G1/8"	G1/8"	G1/8"	G1/4"	G1/4"
O-ring	Ø4X2	Ø4X2	Ø4X2	Ø6X2	Ø6X2	Ø6X2
Contact bolt	ØBA	12.5	12.5	16.5	16.5	21.5
	BB	4	4	6	6	9
	BC	11	11	14	15	20
	ØEB	7.5	7.5	10	10	13.5
	EC	M10	M10	M12	M12	M16
	ØED	5.5	6.5	6	6	9
Mounting dimension	EE	11	10	10	13	16
	EF	2	2	2.5	2	3
	CA	M5	M5	M6	M6	M8
	ØCB	2	2.5	2.5	3	5
	DA	3.5	3.5	3.5	4.5	4.5
	ØDB	14	14	14	18	18
Plunger spring housing dimension	ØFA	5.8	5.8	6.0	6.4	10
	ØFB	8.5	8.5	10.2	10.2	14
	FC	9.5	10	12	21	16
	FD	8	6	6	6	12
	FE	2	2	2	2	2
	FF	19.5	7.5	20	29.5	30



Features :

- ★ This is a alloy steel body type with compact design.
- ★ It can be directly mounted on to individual elements like cylinders or work supports.
- ★ It is hydraulic & internal mounting.
- ★ These valves do not required external speed control.
- ★ It can be individual adjustment & very easy.
- ★ It is available in G1/8, G1/4, sizes. & 10lpm (maximum flow allowed)



Sequence Valve

Model - SV12-EX01

External Port

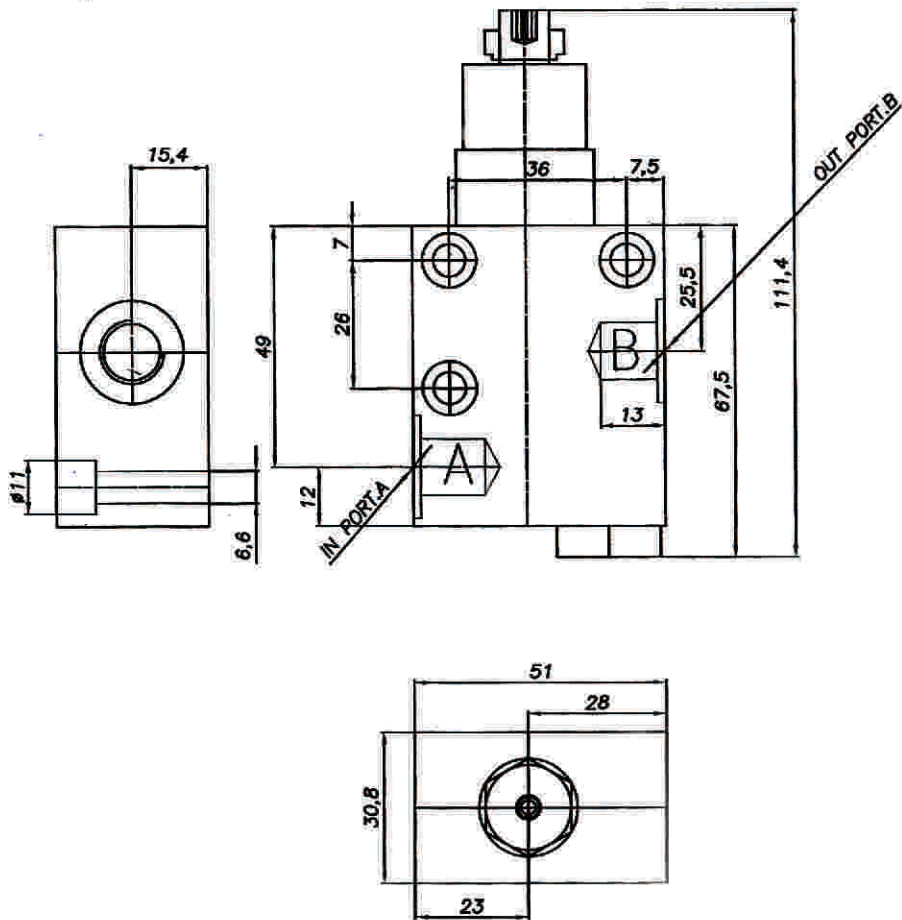


Features :

- ★ This is a cartridge type with compact design.
- ★ It is a G1/4 port with alloy steel body.
- ★ It is hydraulic & space saving mounting.
- ★ These valves can be used for external piping option.
- ★ It can be used in the range of 1 MPa (minimum operating pressure)
10 Mpa (maximum operating pressure)
70 bar N (pushing force)

Applications :

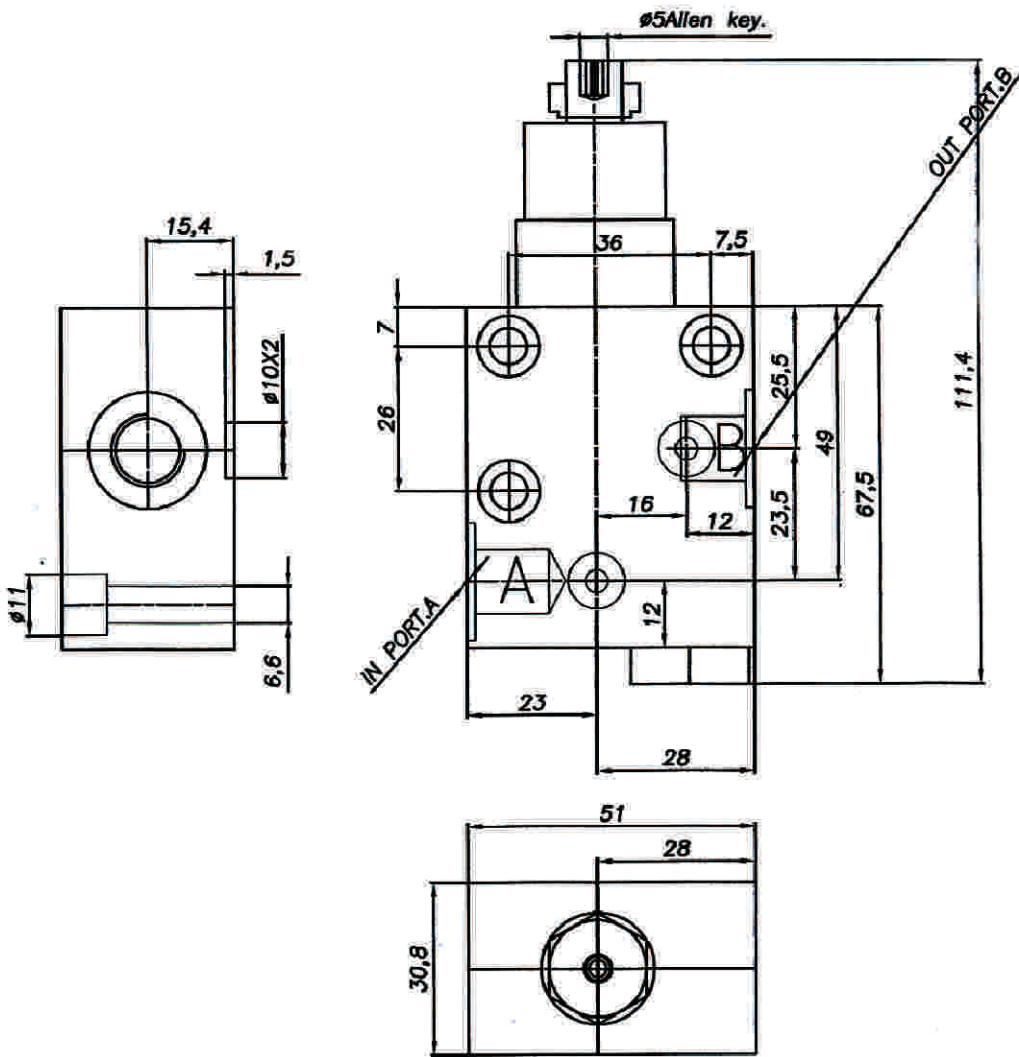
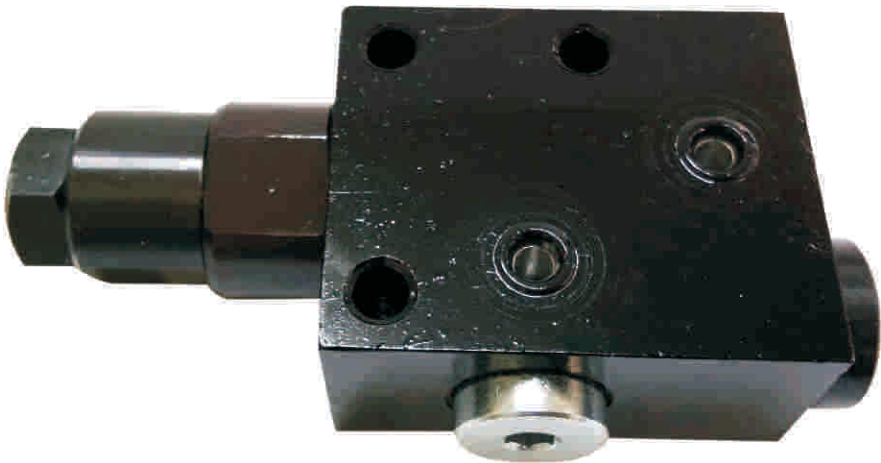
- ★ It is used in circuits to operate multiple actuators in particular pressure dependent sequence.
- ★ Used for positioning and creating delays in actuation.
- ★ Compact design allows for direct mounting on the fixture.



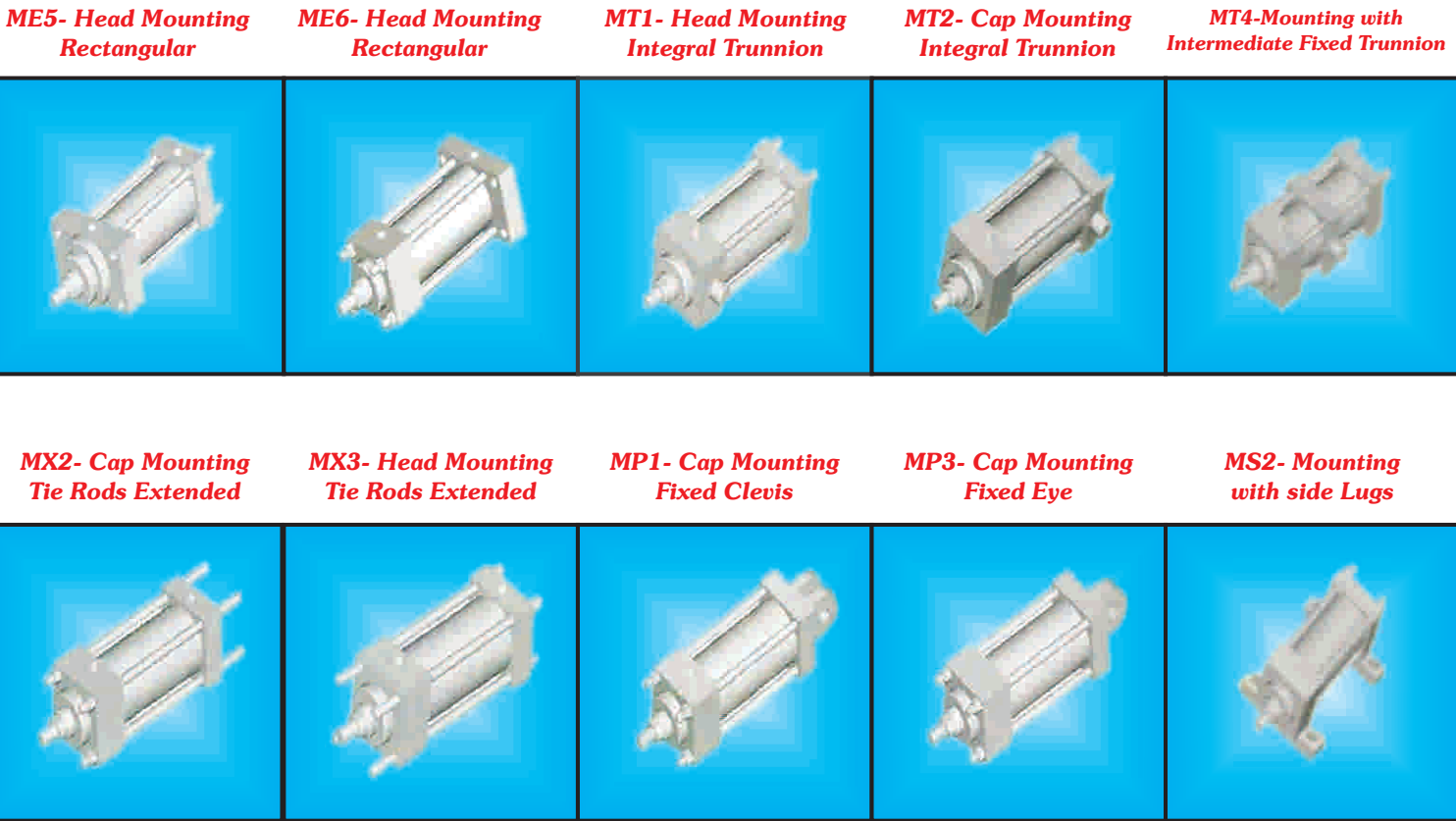
Sequence Valve

Model - SV12-IN02

Internal Port

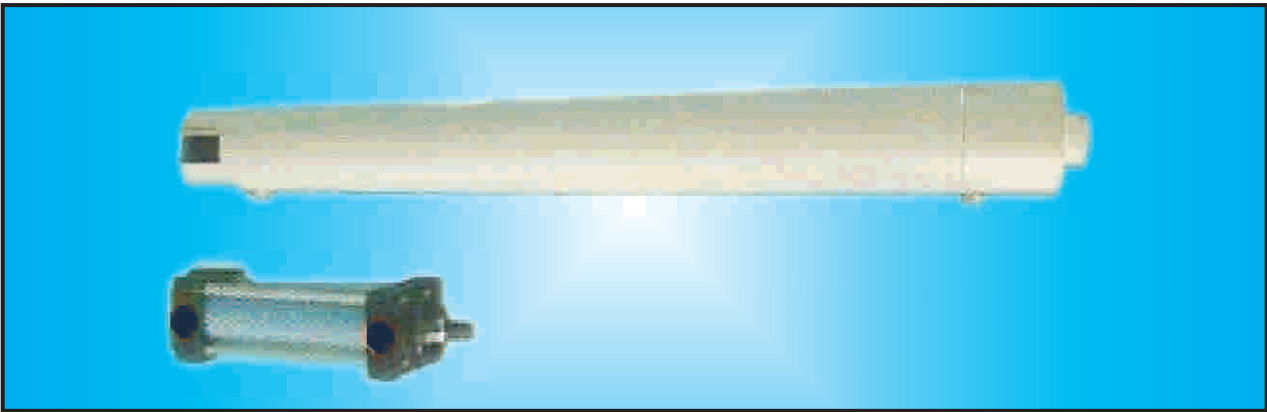


Basic Cylinder

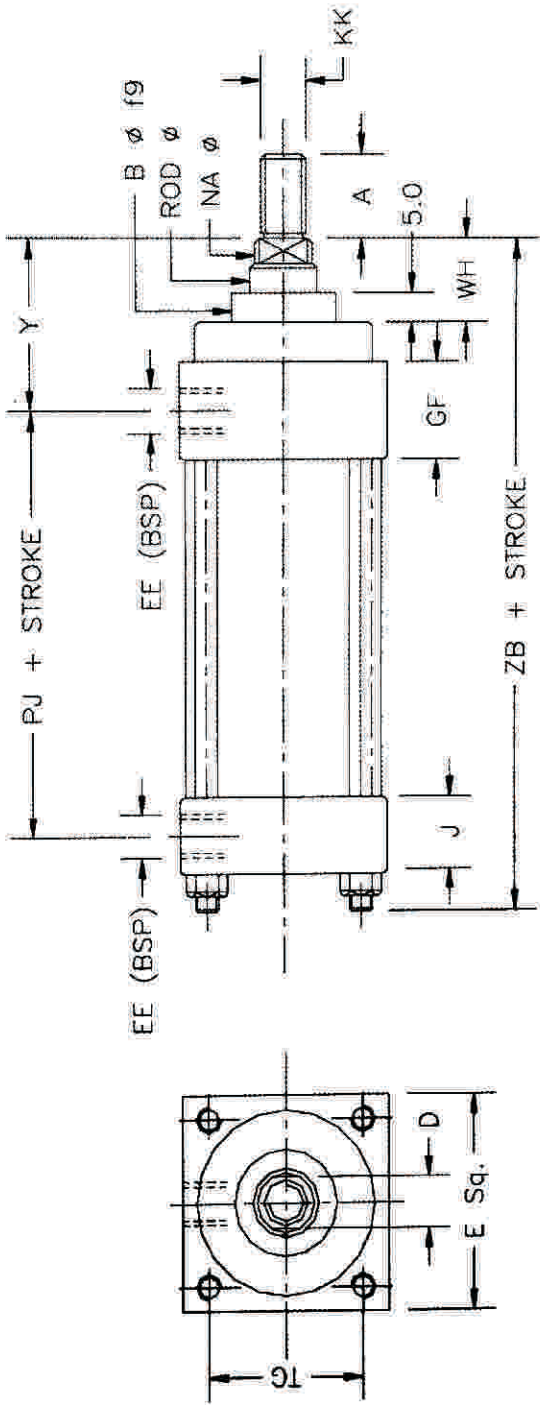


Features :

- ★ This is hydraulic basic cylinder with cushioning from 63 mm bore onwards.
- ★ It is used for bronze filled telfon seals with minimum speed & without stick-slip (5mm/min).
- ★ It can be used in the range of 160 bar (maximum operating pressure)
12 m/min (maximum reciprocating speed)
3-5 bar (break away pressure)
20mm (standard cushioning length)
400mm/min or less(minimum cushioning speed)



Out line Dimension :



Dimension table :

BORE	ROD	A	B	D	E	EE	GF	J	KK	NA	PJ	TG	WH	Y	ZB
25	12	14	24	10	40	1/4"	35	20	M10x1.25	11	53	28.3	15	50	121
40	18	28	30	15	63	3/8"	39	30	M14x1.5 M20x1.5	17	73	41.7	25	62	166
50	22	36	34	18	75	1/2"	40	32	M16x1.5 M27x2	21	74	52.3	25	67	176
63	28	45	42	22	90	1/2"	37	32	M20x1.5 M33x2	26	80	64.3	32	71	185
80	36	56	50	30	115	3/4"	44	38	M27x2 M42x2	34	93	82.7	31	77	212
100	45	70	60	36	130	3/4"	43	38	M33x2 M48x2	43	101	96.9	35	82	225



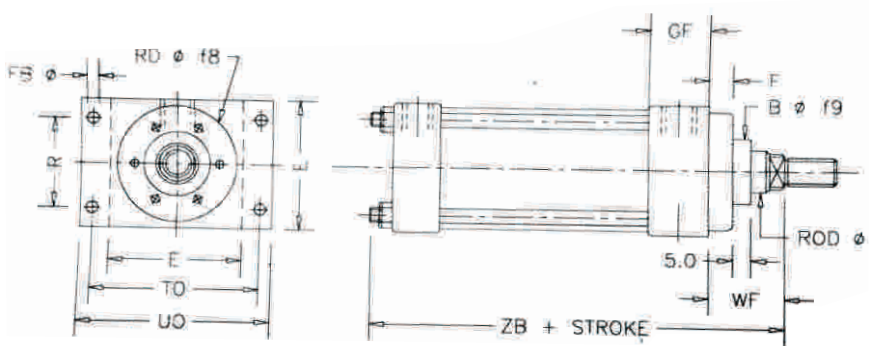
Features :

- ★ This is hydraulic basic cylinder with cushioning from 63 mm bore onwards.
- ★ It is used for bronze filled telfon seals with minimum speed & without stick-slip (5mm/min).
- ★ These are high finish on cylinder tube for long seal life.
- ★ All cylinders confirm to ISO standarads.
- ★ It can be used in the range of 0.5 MPa (minimum operating pressure)
16MPa (maximum operating pressure)
Ø63 (cushioning from high bore)

Applications :

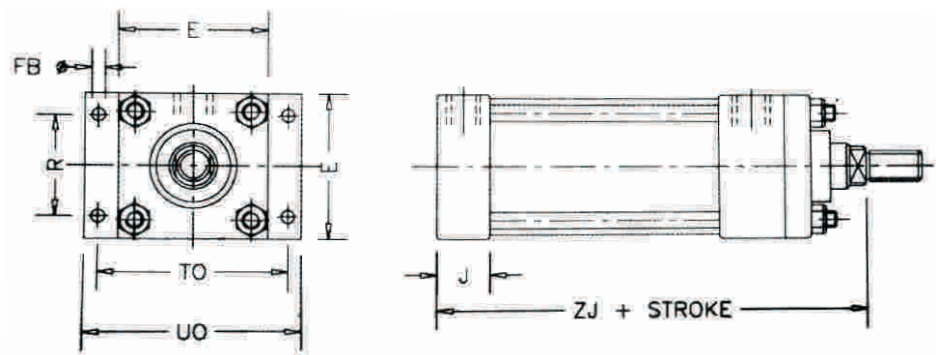
- ★ It is used for clamp work pieces (push or pull method).
- ★ Used for design (direct mounting on th application).
- ★ These are used for various combination of endings & mounting.
- ★ Used for international quality seals with hard chrome plated & ground piston.
- ★ It can clamp a wide range of components (used in assembly auto machine).

ME5 - Head Mounting Rectangular :



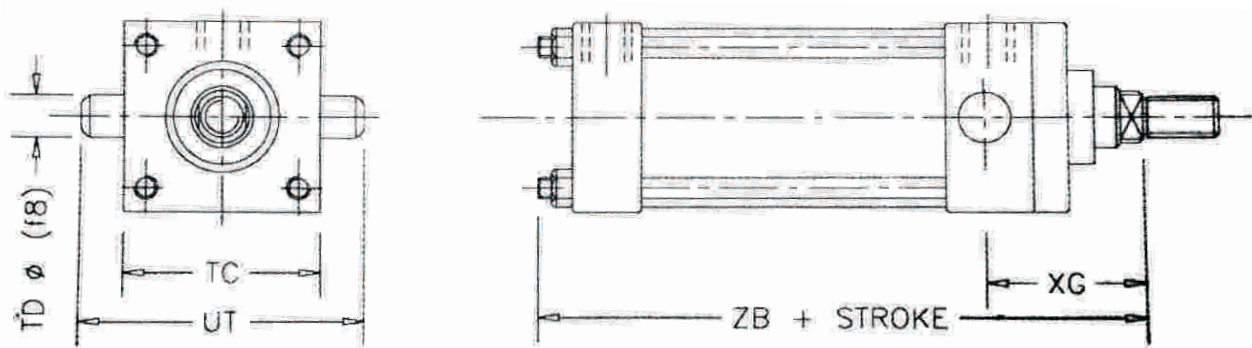
BORE	ROD		F	FB	R	RD		TO	UO	WF
25	12		10	5.5	27	38		51	65	25
40	18	28	10	11	41	62	62	87	110	35
50	22	36	16	14	52	74	74	105	130	41
63	28	45	16	14	65	75	88	117	145	48
80	36	56	20	18	83	82	105	149	180	51
100	45	70	22	18	97	92	125	162	200	57

ME6 - Cap Mounting Rectangular :



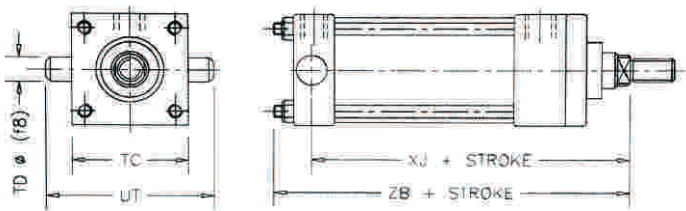
BORE	E	FB	J	R	TO	UO	ZJ
25	40	5.5	20	27	51	65	114
40	63	11	30	41	87	110	153
50	75	14	32	52	105	130	159
63	90	14	32	65	117	145	168
80	115	18	38	83	149	180	190
100	130	18	38	97	162	200	203

MT1 - Head Mounting integral Trunnion :

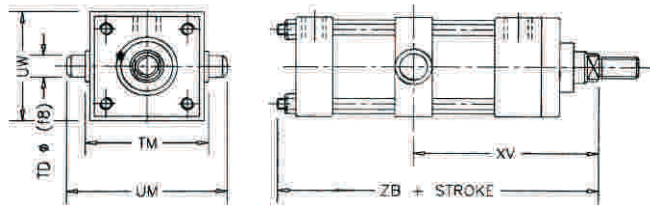


BORE	TC	TD	UT	XG	ZB
25	38	12	58	44	121
40	63	20	95	57	166
50	76	25	116	64	176
63	89	32	139	70	185
80	114	40	178	76	212
100	127	50	207	71	225

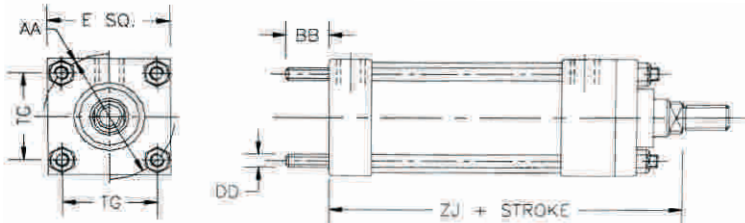
MT2 - Cap Mounting Integral Trunnion



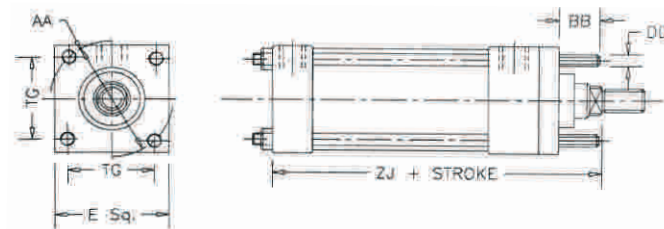
MT4 - Mounting with Intermediate Fixed Trunnion



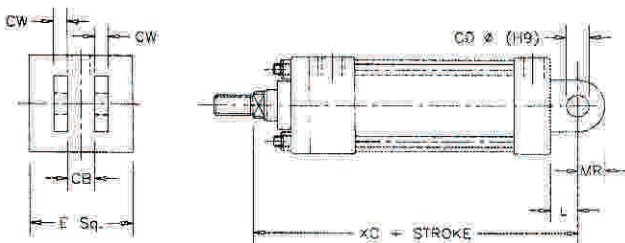
MX2- Cap Mounting Tie Rods Extended



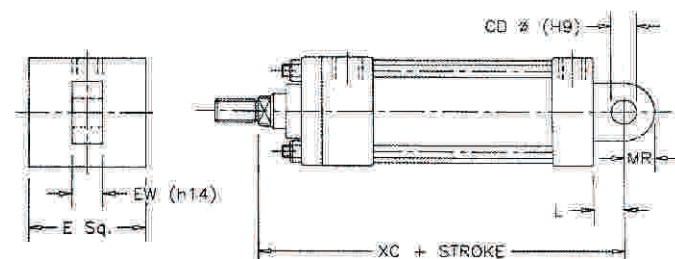
MX3- Head Mounting Tie Rods Extended



MP1- Cap Mounting Fixed Clevis



MP3- Cap Mounting Fixed Eye



Dimension Table :

BORE	TC	TD	UT	XJ	ZB
25	38	12	58	101	121
40	63	20	95	134	166
50	76	25	116	140	176
63	89	32	139	149	185
80	114	40	178	168	212
100	127	50	207	187	225

BORE	TD	TM	UM	UW	XV	ZB
25	12	48	68	63	To be specified	121
40	20	76	108	92		166
50	25	89	129	112		176
63	32	100	150	126		185
80	40	127	191	160		212
100	50	140	220	180		225

BORE	AA	BB	DD	E	TG	ZJ
25	40	19	M 5x0.8	40	28.3	114
40	59	35	M 8x1.0	63	41.7	153
50	74	46	M 12x1.25	75	52.3	159
63	91	46	M 12x1.25	90	64.3	168
80	117	59	M 16x1.5	115	82.7	190
100	137	59	M 16x1.5	130	96.9	203

BORE	AA	BB	DD	E	TG	ZJ
25	40	19	M 5x0.8	40	28.3	114
40	59	35	M 8x1.0	63	41.7	153
50	74	46	M 12x1.25	75	52.3	159
63	91	46	M 12x1.25	90	64.3	168
80	117	59	M 16x1.5	115	82.7	190
100	137	59	M 16x1.5	130	96.9	203

BORE	A	CB	CD	CW	E	L	MR	XC
25	14	12	10	6	40	13	12	127
40	18	28	20	10	63	19	17	172
50	22	36	30	15	75	32	29	191
63	28	45	30	15	90	32	29	200
80	36	56	40	20	115	39	34	229
100	45	63	50	25	130	54	50	257

BORE	A	CD	E	EW	L	MR	XC
25	14	10	40	12	13	12	127
40	18	14	63	20	19	17	172
50	22	20	75	30	32	29	191
63	28	20	90	30	32	29	200
80	36	28	115	40	39	34	229
100	45	36	130	50	54	50	257

Rotary Distributor

Model - RJ14-0201

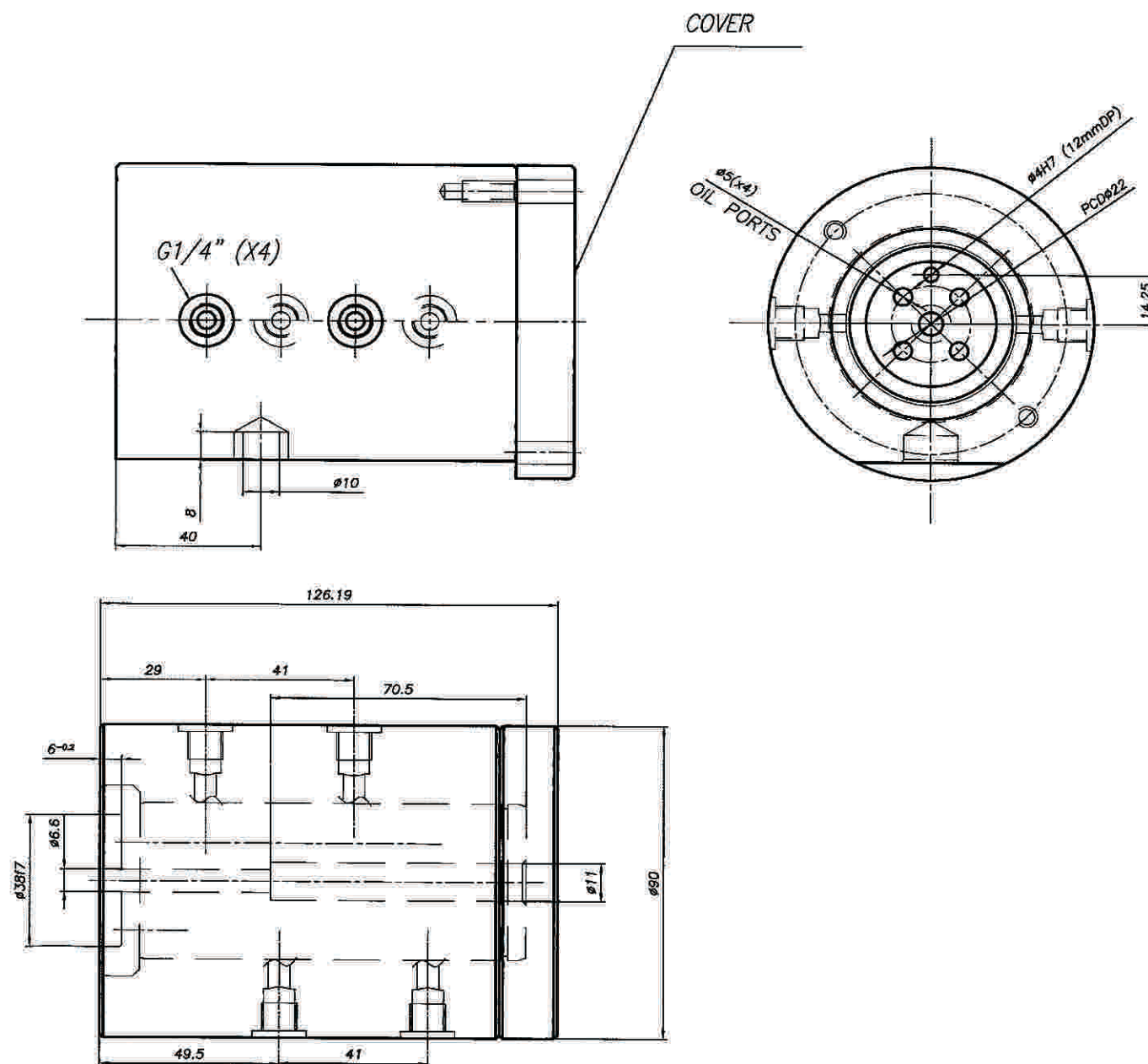


Features :

- ★ This is hydraulic 4 port type with compact design.
- ★ It is a G1/4 port housing with alloy steel body.
- ★ These distributors can be mounted through single screw from back side.
- ★ It can be used in the range of 1-30 MPa (maximum operating pressure)
18lpm (maximum flow allowed)
70 bar N (pushing force)

Applications :

- ★ It is used for clamp & de-clamp oil connections through rotating medium.
- ★ Used for air & oil connections in parallel.
- ★ It can be available in 2 port(min) to 12 port (max) design.



D. Coupler Unit

Model - DC19-0701



Pull Down Cylinder

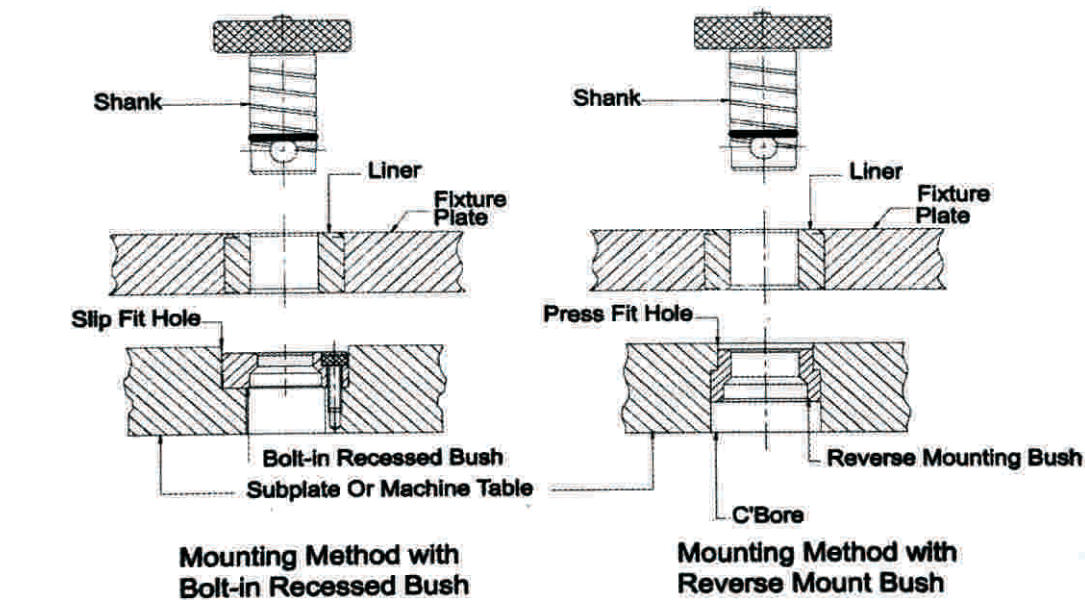
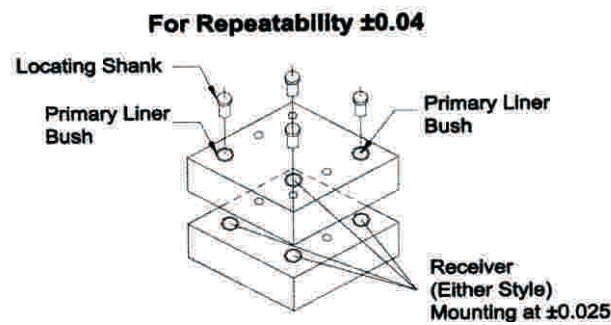
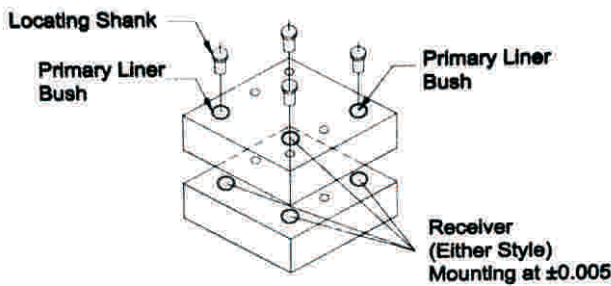
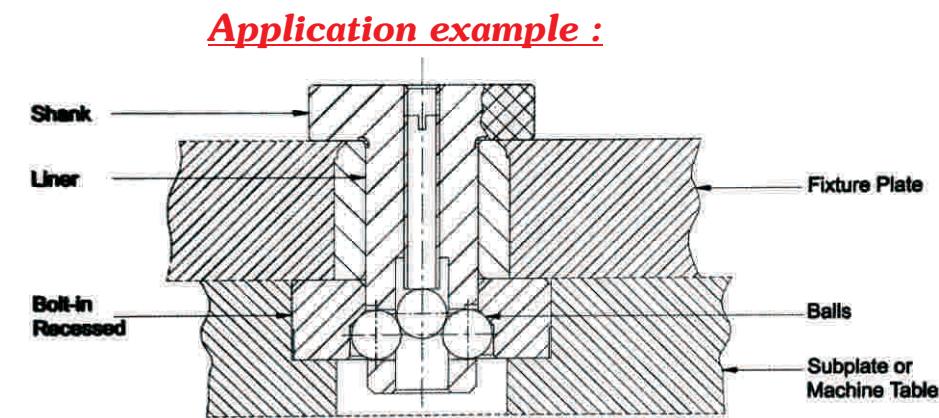
Model - PDSC-1982



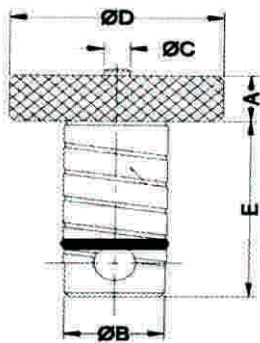
- Features :**
- ★ This is mechanical with shank mounting.
 - ★ It consists of shank (1 no),primary or secondary linear (1 no), receiver bush (1 no).
 - ★ It does the function of location (2 nos precision bushes & shank combination), clamping (taper sheet over expanding steel ball)
 - ★ It can be used for SMED concept.

- Applications :**
- ★ 2 nos ball lock for locations & clamping plate.
 - ★ 2-4 nos ball lock for additional clamping force.
 - ★ Primary linears C.D tolerance to be 0.015mm.
 - ★ Secondary linears C.D tolerance to be 0.05mm.
 - ★ Bore tolerance for bushes.H7.

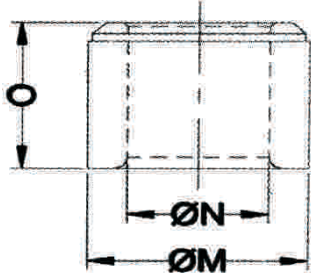
Note :
Do not exceed maximum screw torque
Primary liner I.D. is Nominal +0.005/+0.018
Secondary Liner I.D. is Nominal +0.025/+0.050



Shank :



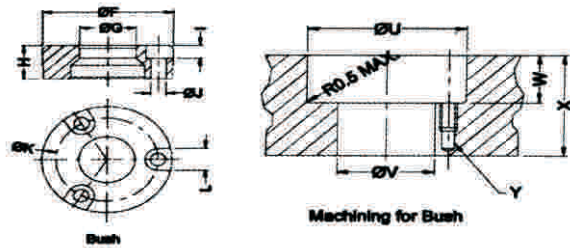
Liner :



Part no.	Description	Max. Working load (Kn)	Max. Screw torque (N-M)	Fixture plate thickness±0.05	A	ØB	ØC	ØD	E
BL15-0401	S-16X20	5.3	1.38	20	8	16	5	32	36.5
BL15-0402	S-20X20	12.7	5.40	20	10	20	5	40	40
BL15-0403	S-25X25	30.4	12.16	25	10	25	5	45	49

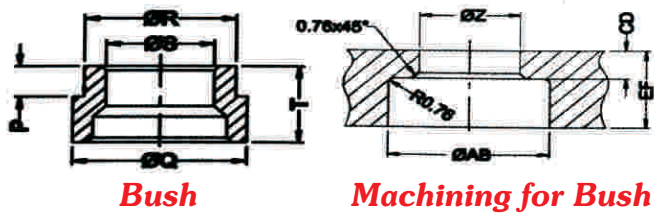
Part no. Primary Liner	Description	Part no. Secondary linear	Description	M	N	O -0.25 -0.50	Hole size for linear	
							Min	Max
BL15-0404	PL 16X20	0404.1	SL16X20	25	16	20	25.016	25.026
BL15-0405	PL 20X20	0405.1	SL20X20	35	20	20	35.018	35.028
BL15-0406	PL25X25	0406.1	SL25X25	35	25	25	35.018	35.028

Bolt-in Recessed Bush :



Part no.	Description	F	G	H	I	J	K	L	Bore -0.00 +0.01 U	Drill Dia V	Depth ±0.025 W	Min. Sub plate thickness s X	Tap Y
BL15-0407	BB 16	37	16	11.5 6	4.5	4.4	29	7.6	37	16.5	11.91	20	M-4
BL15-0408	BB 20	45	20	15.8 2	6	5.4	35	9.5	45	20.5	16.21	20	M-4
BL15-0409	BB 25	55	25	19.9 4	7	6.4	42	11	55	25.5	20.32	25	M-5

Reverse Mounting Bush :



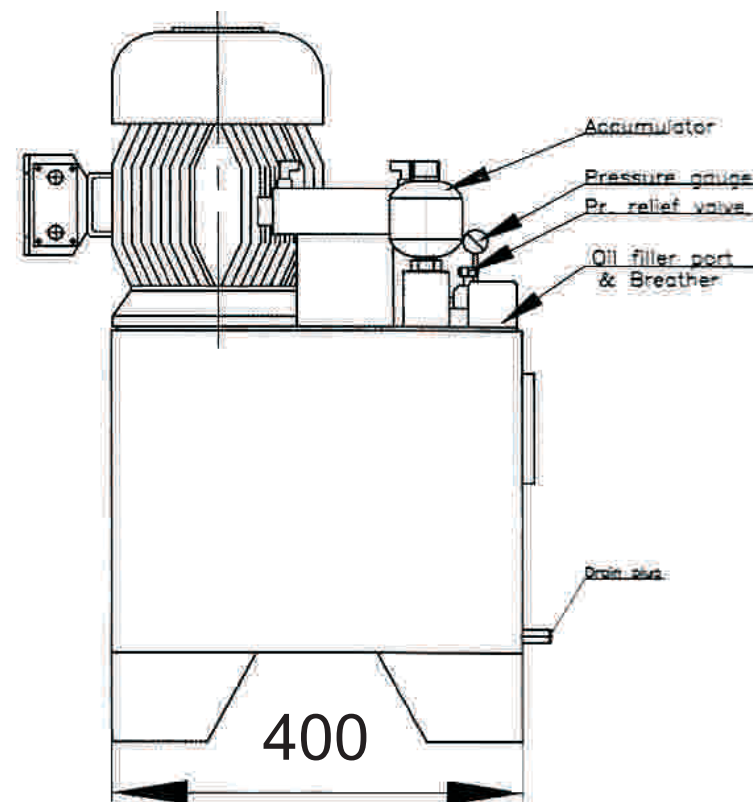
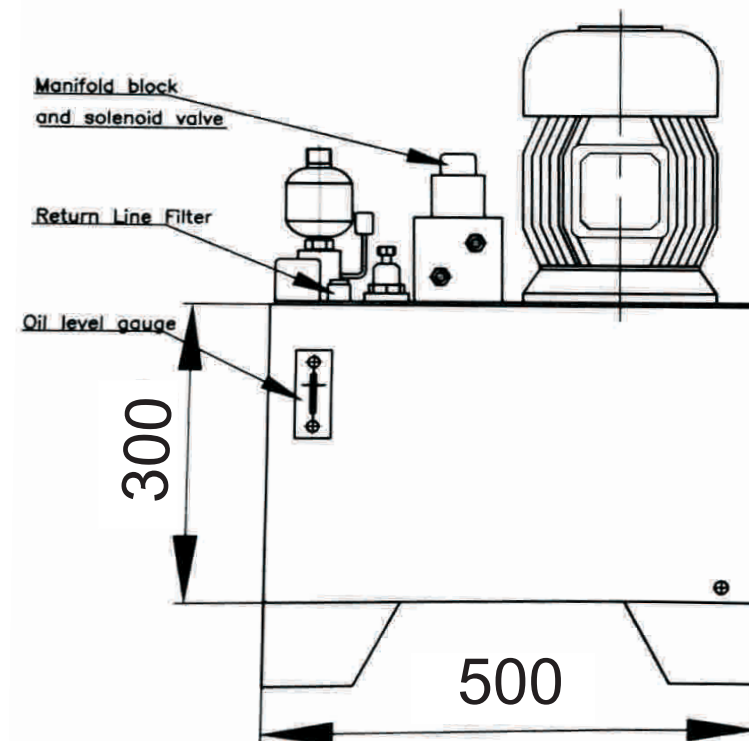
Part no.	Description	P	Q	R	S	T	Bore -0.01 -0.00 Z	Min sub plate thickness EF	Counter bore ABØ	Depth ± 0.025 CD
BL15-0410	B 16	6.81	28.6	22	16	12.1	22	20	29	7.24
BL15-0411	B 20	6.81	32.2	28	20	17.1	28	20	33	8.74
BL15-0412	B 25	10.27	40.2	35	25	21.0	35	25	41	10.54

Features :

- ★ This is optional temperature control with pressure relief valve & return line filter.
- ★ It is oil level indicator with 3 phase AC,50HZ power system.
- ★ It can be customized by electrical panel.
- ★ This is designed as gear pump/vane pump/ radial piston pump with fabricated tank of various capacities & also with 220/400 V.
- ★ It can be used in the range of 1MPa (minimum operating pressure) 20 MPa (maximum operating pressure)

Applications :

- ★ It is used in 10-100L tank capacities.
- ★ Used for manifold design which suits 1-5 valve banks for sequential clamping.
- ★ It can be used as a accumulator in case of power failure.
- ★ It is designed for optimal heat exchange to prevent over heating of oil & elements.
- ★ Its operating range from 5-200 bar.
- ★ **Factor of safety in pump-motor** ratio is high preventing over load & burn out. & used in automation.



Power Packs



- ★ **3D modelling and Design analysis before Prototyping for reduced development cycle.**
- ★ **Specially designed and Made to order cylinders with Specific strokes and sizes on customer request.**
- ★ **Extremely Compact design and space saving mountings !**
- ★ **Hydraulic Testing of all clamping cylinders between 15 to 120 N/m² to assess reliability and performance.**
- ★ **Use of high quality seals ensures long Operating life & Leak Proof, Sustained operation.**
- ★ **Hydraulic units, capable of lifting, rotating, tilting and moving of work pieces.**
- ★ **Pressing devices for riveting**
- ★ **A selective range of Work Supports with a range of mountings to enhance the solutions that can be offered to the customer.**
- ★ **Any type of linear motion or actuation is possible.**
- ★ **Spares & Accessories are standardised and easily available**
- ★ **Highly efficient Applications, Sales & Service teams**

Ordering Method :
Model No - Product Code
B01C - 016M

Cautions for Mounting :

There is no filter provided with this product to prevent foreign materials & contaminants from getting into the hydraulic system & pipes.

Cautions for Use :

1. The product should be operated by persons with the necessary knowle & experience.
2. Do not take the equipment apart or modify it. If the equipment is taken apart or modified the warranty will be void, even within the warranty period.

Warranty :

1. Warranty period.

The product warranty period is for 1.5 years after shipment from our plant or 1 year of use, whichever is shorter.

2. Warranty scope.

Defects or failures caudes by the following are not covered.

1. Proper maintenance & inspections were not performed.
2. The product was used in an imperfect state at the decision of the user.
3. The user did not use or handle the product properly. (including damages caused by a third party)
4. The cause was due to some factor other than our product.
5. The product was modified or repaired by another company or was modified or repaired without our approval or confirmation.
6. The damage or defect was caused by natural disaster or accident through no fault of our own.
7. Parts & replacements necessary due to wear & tear. (rubber, plastic, sealant, ceratin electrical components, etc.)

Special Cylinders

- ☀ All types of special cylinders to be made for clasp
- ☀ All types of rotary to be made for clasp
- ☀ Double ended block cylinders to be made
- ☀ As per customer requirement to be made
- ☀ High Pressure cylinders will be available for Link Clamp Cylinders, Block Cylinders & Swing Cylinders (0 to 350 bar)
- ☀ Full down clamp to be made for as per Customer Requirement
- ☀ Special application cylinder to be made for clasp

We have Various hydraulic Products
Please let us Know your Requirement and
we will make it Happen

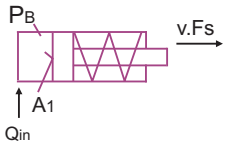


➤ Points to be remember

Formulas & description

where,

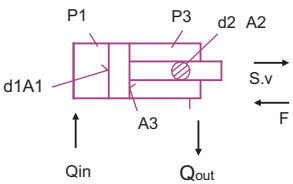
$Q = V / t$
 $V = A \cdot s$
 $F = p \cdot A$
 $P = F / A$
 $Q = A \cdot v$
 $M = V \cdot p / 2\pi$
 $v = s / t$



F : force
p: pressure
A: area
Q: flow
v: speed
V: volume
t: time

Single acting hydraulic cylinder

$V [m/s] = s [m] / 1000 t [s]$
 $A [m^2] = \pi d^2 / 4$
 $F_s [N] = -0.1 \cdot p_B [bar] \cdot A [m^2]$
 $P_B [bar] = -10 F_s [N] / A_1 [m^2]$
 $Q_{in} [lpm] = 0.06 \cdot A [m^2] \cdot v [m/s]$

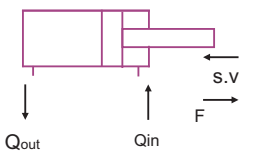


s: travel(stroke)
d:piston diameter
F_s: force
Q_{in}: inflow
P_B: operating pressure
v: piston speed

Double acting hydraulic cylinder

Extending

$A_1 = \pi d_1^2 / 4 = 0.78 d_1^2$
 $A_3 = \pi (d_1^2 - d_2^2) / 4$
 $P_1 \cdot A_1 = P_3 \cdot A_3 - F$
 $P_1 = (P_3 \cdot A_3 - F) / A_1$
 $Q_{in} = A_1 \cdot v$
 $Q_{out} = A_3 \cdot v$
P₃: result back of pressure from pipes & valves for Q_{out}



A₁:piston area
d₁:piston
A₃: rod area
d₂: rod
F: force
P₁: pressure, piston side

simplified

$P_1 [bar] = \frac{P_3 [bar] \cdot A_3 [m^2] - 10 F [N]}{A_1 [m^2]}$
 $F [N] = \frac{-P_1 [bar] \cdot A_1 [m^2] + P_3 [bar] \cdot A_3 [m^2]}{10}$

Retracting

$Q_{out} = A_1 \cdot v$
 $Q_{in} = A_3 \cdot v$
 $P_1 \cdot A_1 = P_3 \cdot A_3 + F$
 $P_3 = (P_1 \cdot A_1 - F) / A_3$
P₁: result back of pressure from pipes & valves for Q_{out}

A₁:piston area
d₁:piston
A₃: rod area
d₂: rod
F: force
P₁: pressure, piston side

simplified

$P_1 [bar] = \frac{P_3 [bar] \cdot A_3 [m^2] - 10 F [N]}{A_1 [m^2]}$
 $F [N] = \frac{P_1 [bar] \cdot A_1 [m^2] - P_3 [bar] \cdot A_3 [m^2]}{10}$

Nominclature	Codings	Unit	Factor	Unit
Pressure	P	1 N/mm ²	10	bar
		1 MPa	10	
		1kgf/cm ²	1	
		1 psi	0.07	
Force	F	1 kg.m/s2	1	N
		1 lbf	4.45	