Ø1½" - Ø4" Medium Bore Air Cylinders

- Sizes available 1 ½", 2", 2¼", 2½, 3" and 4" bore diameter.
- Suitable for a wide range of applications.
- Available in all types of mountings and attachments.
- Single acting, Double, Magnetic, Double Ended, Tandem, Telescopic.
- Max stroke lengths upto 2000 mm.

Part List

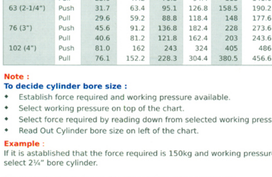
No.	Description	Qty.
01	Front cover	1
02	Rear cover	1
03	Tube	1
04	'O' ring for cover	2
05	Wear ring	1
06	'U' cup seal for piston	2
07	Piston	2
08	'O' ring for piston	1
09	Tie rod nut	8
10	Tie rod	4
11	'U' cup for piston rod seal	1
12	Bush bearing	1
13	Wiper Seal	1
14	Piston rod	1
15	'O' ring for bleed screw	2
16	Bleed Screw	2
17	Lock nut	2
18	Cap	2
19	Cushioning Seal	2
20	Sleeve	2
21	'O' ring for Sleeve	2
22	Check Screw	2
23	'O' ring for check screw	2
24	Piston rod nut	1
25	Spring	2
26	Ball	2

Seal kit cosists of items 4,6,8,11,13,15, 19, 21 & 23

Technical Characteristics :

- Media : Air
- Mountings & Accessories
- Seals : Nitrile, Viton on request
- Temperature : 0°c to 80°c (for Nitrile Seals)
- Piston : Up to 4" Aluminium & from 5" to 14" cast iron.
- Pressure : 0.5 to 10.2 kg/cm², high pressure on request.
- Piston rod : En-8 (ground & Hard Chrome Plated), SS304 on request
- End Covers : Up to 4" Aluminium die Casted & powder coated. From 5" to 14" close grain cast iron & powder coated.
- Cylinder Barrel : Up to 4" Dia. Brass, Aluminium, MS (Honed & Hard Chrome Plated) From 5" dia. To 14" dia. MS (Honed & Hard Chrome Plated) Powder Coated on request.

Double Acting Small Bore Cylinder Tie Rod Construction



*Dimensional Details

Bore Size	A mm	B mm	C.Sq. mm	D.Sq. mm	E mm	F mm	H BSP	K-BSF	*KMetric Alternate	ØL	ØM	N-BSF	Ød	P
38 (1-1./2")	125	21	51	37	48	35	1/4"	1/2" - 16	M12 x 1.5P	5/8"	30	1/4" - 26	35	10
51 (2")	125	21	63	45	48	35	1/4"	1/2" - 16	M12 x 1.5P	5/8"	30	1/4" - 26	35	10
57 (2-1/4")	125	21	70	53	48	35	1/4"	1/2" - 16	M12 x 1.5P	5/8"	30	5/16"-26	45	10
63 (2-1/2")	125	21	76	57	48	35	1/4"	1/2" - 16	M12 x 1.5P	5/8"	30	5/16"-26	45	10
63 (2-1/2"(1")	151	31	76	57	61	43	1/4"	3/4" - 12	M20 x 1.5P	1"	42	5/16"-26	50	10
76 (3")	152	31	89	67	61	43	3/8"	3/4" - 12	M20 x 1.5P	1"	42	3/8"-20	60	10
102 (4")	154	31	112	86	61	43	3/8"	3/4" - 12	M20 x 1.5P	1"	42	3/8"-20	60	10

- We Offer BSF threading on piston rod as a standard but metric threads can be provided with prior information on purchase order.
- Heavy duty cylinders in Ø102 mm (4") with 32 mm piston rod are also offered.

Piston Thrust Chart (Theoretical)

Bore Size		Air Pressure (BAR) 1	2	3	4	5	6	7	8	9	10	Free Air Consumption Litters / 25 mm stroke
		Thrust Available (KGF)										
38 (1-1/2")	Push	11.4	22.8	34.2	45.6	57	68.4	79.8	91.2	102.6	114	0.22
	Pull	9.4	18.8	28.2	37.6	47	56.4	65.8	75.2	84.6	94	0.184
50.8 (2")	Push	19.62	39.24	58.86	78.48	98.1	117.72	137.34	156.96	176.58	196.2	0.205
	Pull	17.27	34.54	51.81	69.08	86.35	103.62	120.89	138.16	155.43	172.7	0.310
57 (2-1/4")	Push	25.6	51.2	76.8	102.4	128	153.6	179.2	204.8	230.4	256	0.504
	Pull	23.6	47.2	70.8	94.4	118	141.6	165.2	188.8	212.4	236	0.465
63 (2-1/4")	Push	31.7	63.4	95.1	126.8	158.5	190.2	221.9	253.6	285.3	317	0.625
	Pull	29.6	59.2	88.8	118.4	148	177.6	207.2	236.0	266.4	296	0.568
76 (3")	Push	45.6	91.2	136.8	182.4	228	273.6	319.2	364.8	410.4	456	0.9013
	Pull	40.6	81.2	121.8	162.4	203	243.6	284.2	324.8	365.4	406	0.808
102 (4")	Push	81.0	162	243	324	405	486	567	648	729	810	1.60
	Pull	76.1	152.2	228.3	304.4	380.5	456.6	532.7	608.8	684.9	761	1.53

Note :

To decide cylinder bore size :

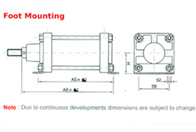
- Establish force required and working pressure available.
- Select working pressure on top of the chart.
- Select force required by reading down from selected working pressure.
- Read Out Cylinder bore size on left of the chart.

Example :

If it is astablished that the force required is 150kg and working pressure available is 7 bar, above chart will lead you to select 2¼" bore cylinder.

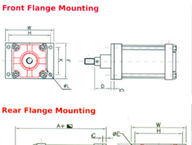
Note : Due to continuous developments dimensions are subject to change without notice.

Rear Pivot Mounting



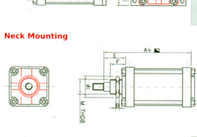
Bore Size	MTG. Part No.	A	B	H	K	ØL	R
38 (1-1/2")	15 RP	150	12.7	54	32	12.7	16
50.8 (2")	20 RP	150	12.7	63	41	12.7	16
57 (2-1/4")	22 RP	150	12.7	73	45	12.7	16
63 (2-1/2")	25 RP	150	12.7	76	51	12.7	16
63 (2-1/2" (1")	25 RP	176	19	76	51	16	16
76 (3")	30 RP	176	19	92	57	19	22
102 (4")	40 RP	176	19	114	76	19	22

Front Pivot Mounting



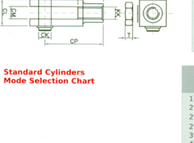
Cylinder Bore	MTG. Part No.	A mm	B mm	H mm	K mm	ØL mm	R mm	AS mm
38 (1-1/2")	15 FP	54	12.7	54	32	12.7	16	104
50.8 (2")	20FP	54	12.7	63	41	12.7	16	104
57 (2-1/4")	22FP	73	12.7	73	45	12.7	16	104
63 (2-1/2")	25FP	83	12.7	82	51	12.7	16	104
63 (2-1 / 2" (1")	25FP	83	16	75	45	19	22	122
76 (3")	30FP	92	19	92	57	19	22	122
102 (4")	40FP	114	19	115	76	19	22	122

Single Pivot Mounting



Cylinder Bore	MTG. Part No.	A mm	B mm	K mm	ØL mm	R mm
38 (1-1/2")	15 SP	156	12.7	19	12.7	16
50.8 (2")	20 SP	156	12.7	19	12.7	16
57 (2-1/4")	22 SP	156	12.7	19	12.7	16
63 (2-1/2")	25 SP	156	12.7	19	12.7	16
63 (2-1 / 2" (1")	25 SP	156	16	19	12.7	16
76 (3")	30 SP	196	19	25.4	19.1	22
102 (4")	40 SP	198	19	31.8	19.1	22

Centre Trunnion Mounting



Cylinder Bore	MTG. Part No.	A mm	B mm	H mm	L mm
38 (1-1/2")	15 CT	87	19	25.4	60.4
50.8 (2")	20 CT	87	19	25.4	85.7
57 (2-1/4")	22 CT	87	19	25.4	85.7
63 (2-1/2")	25 CT	87	22	29.5	89.4
63 (2-1 / 2" (1")	25 CT	106	22	29.5	89.4
76 (3")	30 CT	106	25.4	29.5	103
102 (4")	40 CT	106	25.4	31.8	149.5

Foot Mounting

Cylinder Bore	MTG. Part No.	ØD mm	H mm	AS mm	AX mm	TR mm
38 (1-1/2")	15 FM	7	31	121	146	37
50.8 (2")	20 FM	7	36	121	146	37
57 (2-1/4")	22 FM	9	40	127	149	52
63 (2-1/2")	25 FM	9	42	127	149	57
63 (2-1 / 2" (1")	25 FM	9	42	127	149	57
76 (3")	30 FM	10	48	145	161	67
102 (4")	40 FM	10	57	147	181	86

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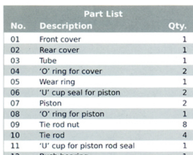
Front Flange Mounting

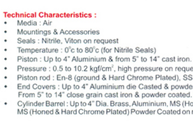


Cylinder Bore	MTG. Part No.	C mm	D mm	F mm	H mm	K mm	ØL mm	W mm
38 (1-1/2")	15 FF	10	39	51	67	37	7	83
50.8 (2")	20FF	10	39	63	86	46	7	108
57 (2-1/4")	22FF	10	39	70	89	52	8	108
63 (2-1/2")	25FF	10	39	76	95	57	8	114
63 (2-1 / 2" (1")	25FF	10	51	76	95	57	8	114
76 (3")	30FF	13	49	89	111	67	10	134
102 (4")	40FF	13	49	111	133	86	10	153

Rear Flange Mounting

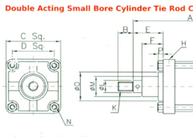
Cylinder Bore	MTG. Part No.	A mm	C mm	ØE mm	F mm	H mm	K mm	W mm
38 (1-1/2")	15 RF	134	10	7	51	67	37	83
50.8 (2")	20 RF	134	10	7	63	86	45	108
57 (2-1/4")	22 RF	134	10	8	70	89	52	108
63 (2-1/2")	25 RF	134	10	8	76	95	57	114
63 (2-1 / 2" (1")	25 RF	164	10	8	76	95	57	114
76 (3")	30 RF	164	13	10	89	111	67	134
102 (4")	40 RF	166	13	10	111	133	86	153

Neck Mounting



Cylinder Bore	MTG. Part No.	A MM	E MM	F MM	B MM	M BSP
38 (1-1/2")	15NM	125	48	25	38	6 3/8" 14
50.8 (2")	20NM	125	48	25	38	6 3/8" 14
57 (2-1/4")	22NM	125	48	25	38	6 3/8" 14
63 (2-1/2")	25NM	125	48	25	38	6 3/8" 14
63 (2-1 / 2" (1")	25NM	151	61	32	51	10 1-1/4
76 (3")	30NM	151	61	32	51	10 1-1/4
102 (4")	40NM	151	61	32	51	10 1-1/4

Fork



Bore Size	KK BSF	ØCK	CP	CL	CM	LE	T	CE
38 (1-1/2")	1/2"	12.7	63.5	23.8	15.8	32	12	76.2
50.8 (2")	1/2"	12.7	63.5	23.8	15.8	32	12	76.2
57 (2-1/4")	1/2"	12.7	63.5	23.8	15.8	32	12	76.2
63 (2-1/2")	1/2"	12.7	63.5	23.8	15.8	32	12	76.2
63 (2-1 / 2" (1")	3/4"	19	77.7	34.9	19	50.8	12	96.8
76 (3")	3/4"	19	77.7	34.9	19	50.8	12	96.8
102 (4")	3/4"	19	77.7	34.9	19	50.8	12	96.8

Standard Cylinders Mode Selection Chart

* * * Bore	* * Mounting	* * * * Stroke	* * * * * Extra Mounting
1½" (15)	Rear Pivot (RP)	50	Single
2" (20)	Front Pivot (FP)	:	Pivot (SP)
2"¼ (22)	Front Flange (FF)	100	Rod End (RE)
2"½ (25)	Rear Flange (RF)	:	Fork (F)
3" (30)	Foot MTG (FM)	200	Double
4" (40)	NECK MTG (NM)	:	Ended (DE)
5" (50)	Centre Truion (CT)	1000	
6" (60)	Basic (B)	:	
8" (80)			
10" (100)			
12" (120)			
14" (140)			

E.g. 1½" Bore x 400 mm Stroke Rear Pivot with Fork is represented as (15 RP 400 F)

Note : Due to continuous developments dimensions are subject to change without notice.