



Technical Bulletins

Power Factors

This table should be used as a guide for determining *estimated* cylinder force output in both the extend and retract directions. Output force is calculated by multiplying supply pressure by available piston surface area. Allow for an approximately 15%-20% reduction in output force due to friction and/or mechanical inefficiencies. *The following data should be used for reference only.*

Bore Size (Part No.)	Original Line ^{1,2}						Flat - 1 ²						Double-Wall						
	Power Factor		Force(#) @ 60psi		Force(#) @ 80 psi		Power Factor		Force(#) @ 60psi		Force(#) @ 80 psi		Power Factor		Force(#) @ 60psi		Force(#) @ 80 psi		
	Extend	Retract	Extend	Retract	Extend	Retract	Extend	Retract	Extend	Retract	Extend	Retract	Extend	Retract	Extend	Retract	Extend	Retract	
5/16" (007)	.07	.06	4.2	3.6	5.6	4.8													
7/16" (01)	0.15	.12	9.0	7.2	12.0	9.6													
9/16" (02)	0.25	.22	15.0	13.2	20.0	17.6	0.25	.20	15.0	12.0	20.0	16.0							
3/4" (04)	0.44	.39	26.4	23.4	35.2	31.2	0.44	.36	26.4	21.6	35.2	28.8							
7/8" (06)	0.60	.55	36.0	33.0	48.0	44.0													
1-1/16" (09)	0.89	.81	53.4	48.6	71.2	64.8	0.89	.69	53.4	41.4	71.2	55.2							
1-1/4" (12)	1.23	1.08	73.8	64.8	98.4	86.4													
1-1/2" (17)	1.77	1.62	106.2	97.2	141.6	129.6	1.77	1.46	106.2	87.6	141.6	116.8	1.77	1.46	106.2	87.6	141.6	116.8	
1-3/4" (24)	2.41	2.21	144.6	132.6	192.8	176.8													
2" (31)	3.14	2.83	188.4	169.8	251.2	226.4	3.14	2.70	188.4	162.0	251.2	216.0	3.14	2.83	188.4	169.8	251.2	226.4	
2-1/2" (50)	4.91	4.60	294.6	276.0	392.8	368.0	4.91	4.47	294.6	268.2	392.8	357.6	4.91	4.60	294.6	276.0	392.8	368.0	
3" (70)	7.07	6.63	424.2	397.8	565.6	530.4	7.07	6.46	424.2	387.6	565.6	516.8							
3-1/4" (83)													8.30	7.52	498.0	451.2	664.0	601.6	
4" (125)							12.57	11.79	754.2	707.4	1005.6	943.2	12.57	11.79	754.2	707.4	1005.6	943.2	

¹ MRS cylinders have slightly larger rod diameters which will reduce retract power factor.

² Use "retract" data for both extend and retract directions on double rod end cylinders (- DXDE, FOD, and DWD)

The information presented is in Bimba's best engineering opinion and should be used for reference only. Recommendations derived should be verified under actual operating conditions. Bimba reserves the right to change specifications without prior notice.

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