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	Original Line® [1,2]						Flat-I® [2]						Double-Wall®					
Size	Power Factor		Force(#) @ 60psi		Force(#) @ 80 psi		Power Factor		Force(#) @ 60psi		Force(#) @ 80 psi		Power Factor		Force(#) @ 60psi		Force(#) @ 80 psi	
(Part No.)	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	0.20	15.0	12.0	20.0	16.0						
3/4" (04)	0.44	.39	26.4	23.4	35.2	31.2	0.44	0.36	26.4	21.6	35.2	28.8						
7/8" (06)	0.60	0.55	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)

Bimba Manufacturing Company
Monee, IL 60449-0068
Telephone: 708.534.8544
Email: cs@bimba.com
www.bimba.com
Rev Level: 0

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