

CYLINDER FORCE

The formula to determine cylinder output force is $F = A \times P$

F = cylinder force (lbs)

A = cylinder bore area (in²)

P = Pressure applied (lbs/sq-in)

• It is important to note that these are theoretical force output values that do not consider the loss of force due to internal friction of the cylinder.

• Typical break away pressure to overcome the force due to friction is 5-8 PSI.

RODLESS CYLINDERS - HAVE EQUAL FORCE IN BOTH DIRECTIONS (IMPERIAL)

Bore Dia. (in)	Bore Area (in ²)	Pressure (PSI)	Force (lbs)	Force (N)
1	0.79	100	79	349
2	1.77	100	177	786
2	3.14	100	314	1397
3	4.91	100	491	2184
3	7.07	100	707	3144
4	12.57	100	1257	5590
5	19.64	100	1964	8734
6	28.27	100	2827	12577

RODLESS CYLINDERS - HAVE EQUAL FORCE IN BOTH DIRECTIONS (METRIC)

Bore Dia. (mm)	Bore Area (mm ²)	Pressure (Bar)	Force (N)	Force (lbs)
18	254.47	6	153	34
25	490.88	6	295	66
32	804.25	6	483	108
40	1256.64	6	754	170
50	1963.50	6	1178	265
63	3117.25	6	1870	420

CABLE CYLINDERS - HAVE EQUAL FORCE IN BOTH DIRECTIONS

Bore Dia. (in)	Bore Area (in ²)	Pressure (PSI)	Force (lbs)
1	0.44	100	44
1	0.78	100	78
2	1.74	100	174
2	3.09	100	309
3	4.86	100	486
3	6.99	100	699
4	12.49	100	1249
5	19.20	100	1920