

### CYLINDER FORCE OUTPUT CHART

Cylinder Bore	Rod Size	2 BAR Extend	2 BAR Retract	3 BAR Extend	3 BAR Retract	4 BAR Extend	4 BAR Retract	5 BAR Extend	5BAR Retract	6 BAR Extend	6 BAR Retract	7 BAR Extend	7 BAR Retract	8 BAR Extend	8 BAR Retract	9 BAR Extend	9 BAR Retract	10 BAR Extend	10 BAR Retract
8 mm	3 mm	1.0	0.9	1.5	1.3	2.0	1.7	2.5	2.2	3.0	2.6	3.5	3.0	4.0	3.5	4.5	3.9	5.0	4.3
10 mm	4 mm	1.6	1.3	2.4	2.0	3.1	2.6	3.9	3.3	4.7	4.0	5.5	4.6	6.3	5.3	7.1	5.9	7.9	6.6
12 mm	6 mm	2.3	1.7	3.4	2.5	4.5	3.4	5.7	4.2	6.8	5.1	7.9	5.9	9.0	6.8	10.2	7.6	11.3	8.5
16 mm	6 mm	4.0	3.5	6.0	5.2	8.0	6.9	10.1	8.6	12.1	10.4	14.1	12.1	16.1	13.8	18.1	15.6	20.1	17.3
20 mm	8 mm	6.3	5.3	9.4	7.9	12.6	10.6	15.7	13.2	18.8	15.8	22.0	18.5	25.1	21.1	28.3	23.8	31.4	26.4
25 mm	10 mm	9.8	8.2	14.7	12.4	19.6	16.5	24.5	20.6	29.5	24.7	34.4	28.9	39.3	33.0	44.2	37.1	49.1	41.2
32 mm	12 mm	16.1	13.8	24.1	20.7	32.2	27.6	40.2	34.6	48.3	41.5	56.3	48.4	64.3	55.3	72.4	62.2	80.4	69.1
40 mm	16 mm	25.1	21.1	37.7	31.7	50.3	42.2	62.8	52.8	75.4	63.3	88.0	73.9	100.5	84.4	113.1	95.0	125.7	105.6
50 mm	20 mm	39.3	33.0	58.9	49.5	78.5	66.0	98.2	82.5	117.8	99.0	137.4	115.5	157.1	131.9	176.7	148.4	196.4	164.9
63 mm	20 mm	62.3	56.1	93.5	84.1	124.7	112.1	155.9	140.2	187.0	168.2	218.2	196.2	249.4	224.2	280.6	252.3	311.7	280.3
80 mm	25 mm	100.5	90.7	150.8	136.1	201.1	181.4	251.3	226.8	301.6	272.1	351.9	317.5	402.1	362.9	452.4	408.2	502.7	453.6
100 mm	25 mm	157.1	147.3	235.6	220.9	314.2	294.5	392.7	368.2	471.2	441.8	549.8	515.4	628.3	589.1	706.9	662.7	785.4	736.3
125 mm	32 mm	245.4	229.4	368.2	344.0	490.9	458.7	613.6	573.4	736.3	688.1	859.0	802.7	981.8	917.4	1104.5	1032.1	1227.2	1146.8
160 mm	40 mm	402.1	377.0	603.2	565.5	804.2	754.0	1005.3	942.5	1206.4	1131.0	1407.4	1319.5	1608.5	1508.0	1809.6	1696.5	2010.6	1885.0
200 mm	40 mm	628.3	603.2	942.5	904.8	1256.6	1206.4	1570.8	1508.0	1885.0	1809.6	2199.1	2111.2	2513.3	2412.7	2827.4	2714.3	3141.6	3015.9
250 mm	50 mm	981.8	942.5	1472.6	1413.7	1963.5	1885.0	2454.4	2356.2	2945.3	2827.4	3436.1	3298.7	3927.0	3769.9	4417.9	4241.2	4908.8	4712.4

#### Theoretical force output in daN

(decca Newtons - tens of Newtons - approximates Kilograms Force)

1 daN = approx 2.25 lbs force

Actual cylinder efficiency varies with each application.

60% to 80% efficiency can generally be assumed (with no side loading)

(1 BAR approximates 100 kPa)