

## Operating pressure and stroke force

Maximum dynamic operating pressure (bar) and maximum dynamic stroke force (N) for cylinder with take-up in head

Rods stroke (mm)	Piston rod Ø 12 mm				Piston rod Ø 16 mm				Piston rod Ø 20 mm			
	Ø 32 mm		Ø 40 mm		Ø 40 mm		Ø 50 mm		Ø 63 mm		Ø 80 mm	
	stroke force (N)	dyn. operating pressure (bar)	stroke force (N)	dyn. operating pressure (bar)	stroke force (N)	dyn. operating pressure (bar)	stroke force (N)	dyn. operating pressure (bar)	stroke force (N)	dyn. operating pressure (bar)	stroke force (N)	dyn. operating pressure (bar)
250	1920	28	3010	28	3010	28	4710	28	7480	28	12060	28
300	1920	28	3010	28	3010	28	4710	28	7480	28	12060	28
350	1920	28	3010	28	3010	28	4710	28	7480	28	12060	28
400	1920	28	3010	28	3010	28	4710	28	7480	28	12060	28
450	1920	28	3010	28	3010	28	4710	28	7480	28	12060	28
500	1920	28	3010	28	3010	28	4710	28	7480	28	12060	28
550	1920	28	3010	28	3010	28	4710	28	7480	28	12060	28
600	1920	28	3010	28	3010	28	4710	28	7480	28	12060	28
650	1920	28	3010	28	3010	28	4710	28	7480	28	12060	28
700	1920	28	2900	27	3010	28	4710	28	7480	28	12060	28
750	1920	28	2500	23,9	3010	28	4710	28	7480	28	12060	28
800	1920	28	2200	21,5	3010	28	4710	28	7480	28	12060	28
850	1920	28	1950	19,5	3010	28	4710	28	7480	28	12060	28
900	1740	25,6	1740	17,8	3010	28	4710	28	7480	28	12060	28
950	1560	23,4	1560	16,4	3010	28	4710	28	7480	28	12060	28
1000	1410	21,5	1410	15,2	3010	28	4440	26,6	7480	28	12060	28
1050	1280	19,9	1280	14,2	3010	28	4030	24,5	7480	28	12060	28
1100	1160	18,4	1160	13,2	3010	28	3670	22,7	7480	28	12060	28

## Cylinder volume

Cylinder volume in liters

pistons → stroke (mm) ↓	Piston rod Ø 12 mm		Piston rod Ø 16 mm		Piston rod Ø 20 mm	
	Ø 32 mm	Ø 40 mm	Ø 40 mm	Ø 50 mm	Ø 63 mm	Ø 80 mm
300	0,260	0,422	0,422	0,650	1,200	1,530
400	0,366	0,555	0,555	0,850	1,520	2,030
500	0,452	0,688	0,688	1,050	1,830	2,530
600	0,536	0,821	0,821	1,260	2,140	3,030
700	0,624	0,953	0,953	1,460	2,450	3,530
800	0,710	1,086	1,086	1,670	2,760	4,030
900	0,796	1,219	1,219	1,870	3,080	4,530
1000	0,882	1,352	1,352	2,080	3,390	5,030
1100	0,962	1,487	1,487	2,290	3,700	5,530

## Cylinder shear/ tensile force

Cylinder shear/tensile force

Rods	Ø 32 mm	Ø 40 mm	Ø 50 mm	Ø 63 mm	Ø 80 mm
<b>Piston surfaces (cm<sup>2</sup>)</b>	8,04	12,56	19,63	31,17	50,26
<b>Pressure (bar)</b>					
6	shear force (N)	410	640	1000	1580
8		540	850	1330	2120
10		680	1060	1660	2620
12		820	1280	2000	3180
15		1020	1600	2500	3970
<b>Tensile force with 10 bar</b>	550	910 Kst. Ø 12 mm 844 Kst. Ø 16 mm	1409	2330	3860

From the theoretic stroke force value a reduction of 15 % is calculated for the friction loss.