



PISTON TYPE	ps0 [Kg]	ps1 [Kg/m]	Pt0 [Kg]	Pt0c [Kg]	Pt1 [Kg/m]	Qt [lt/m]	qc [lt/m]
46/2	17	6.8	28	57	13.5	2.5	1.7
60/2	23	11.2	36	65	19.8	4.2	2.8
78/2	32	15.8	66	94	30.7	7	4.8
85/2	39	22.3	64	100	38.3	8.5	5.7
103/2	50	24.2	98	140	43.3	12.2	8.3
120/2	73	29.7	149	200	52.0	17.1	11.4
141/2	102	41.7	193	245	80.1	23.4	15.7
170/2	137	39.6	267	340	91.9	33.6	22.6
205/2	189	51.7	364	470	116.2	49	33

ps0 = Rod basic weight.
 ps1 = Weight for every metre of the rod
 Pt0 = Basic weight of the complete piston
 Pt0c = Basic weight of the complete central piston (with plates)
 Pt1 = Weight for every metre of the complete piston
 Qt = Oil in the cylinder for every metre of travel with the rod completely out (to add to the minimum quantity of the oil in the tank)
 qc = Oil in circulation for every metre of the piston travel (to compare with the quantity available in the tank)

DELIVERY PRESSURE CALCULATION

Piston	Formula
46/2	$P_s = (P_3 + Q + 8 + (5.3 \times C)) * 0.981 / 166$
60/2	$P_s = (P_3 + Q + 12 + (9.2 \times C)) * 0.981 / 284$
78/2	$P_s = (P_3 + Q + 15 + (12.3 \times C)) * 0.981 / 475$
85/2	$P_s = (P_3 + Q + 16 + (18.7 \times C)) * 0.981 / 566$
103/2	$P_s = (P_3 + Q + 21 + (18.2 \times C)) * 0.981 / 826$
120/2	$P_s = (P_3 + Q + 34 + (21.8 \times C)) * 0.981 / 1135$
141/2	$P_s = (P_3 + Q + 42 + (32.5 \times C)) * 0.981 / 1571$
170/2	$P_s = (P_3 + Q + 64 + (28.7 \times C)) * 0.981 / 2262$
205/2	$P_s = (P_3 + Q + 85 + (36.4 \times C)) * 0.981 / 3303$

P3+Q = kg of weight on the piston
 C = metres of total stroke of the piston
 Ps = Mpa of delivery static pressure

Type	d1 [mm]	e st1 [mm]	2d1 [mm]	d2 [mm]	e st2 [mm]	D [mm]	e cyl [mm]	Di [mm]	e1 [mm]	r1 [mm]	s1 [mm]	h1 [mm]	u1 [mm]	Sp [mm]	G1 [mm]	T1 [mm]	G2 [mm]
46/2	34.8	/	128	54.9	4.95	80	7.5	68	20	9	8	18	9	210	55	105	30
60/2	48	/	158	70.2	5.1	100	7.5	88	20	9	8	18	9	210	55	105	30
78/2	64.5	13.75	220	89.23	7.1	130	10	113	25	11	10.5	23	12	230	62	113	30
85/2	70	/	205	97.6	6.3	140	10	123	25	11	10.5	23	12	230	62	113	30
103/2	84.8	13.9	255	117.8	8.9	165	10	148	30	11	10.5	28	14	245	70	120	30
120/2	97	13.5	285	139.7	9.85	190	10	173	30	11	10.5	28	14	245	68	122	30
141/2	120	18.5	350	160	10	229	14.5	203	35	11	15.5	33	18	245	60	125	30
170/2	146.2	10.6	420	189.7	9.85	273	16.5	243	40	11	17.5	38	20	265	69	131	35
205/2	180	10	420	228	11.5	324	17	293	40	11	17.5	38	20	290	70	135	35

MATERIALS RESISTANCE

- ① A) Tondi Rm = 410, Rp0.2 = 240 N/mm² B) Tubi Rm = 510, Rp0.2 = 360 N/mm² ② Rm = 510, Rp0.2 = 360 N/mm²
 ③ Rm = 510, Rp0.2 = 360 N/mm² ④ Rm = 510, Rp0.2 = 360 N/mm²

**CALCULATING DATA
 TELESCOPIC PISTONS
 TWO EXTENSIONS**



Start Elevator Srl

10 141 / G

rev. 2

1/1