



RADIAL PISTON PUMPS

Model : 1RC****

Ref. No. D 04892
Release 04 / 2016

ENGINEERING - 1 of 3

A Polyhydron Group Company

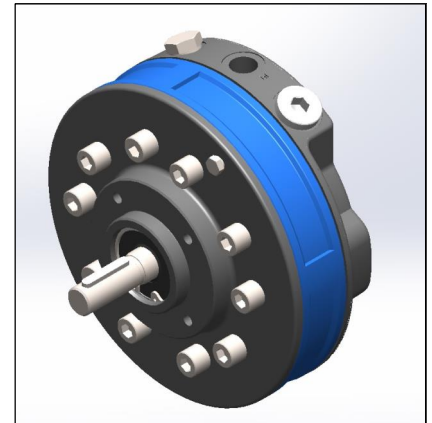
Description

Model **1RC****** are small, low weight, rugged radial piston pumps with 3,5 or 7 pumping elements. These pumps are valve controlled and therefore there no restriction on direction of rotation of the pump. These pumps can be submerged in oil or externally mounted above oil level.

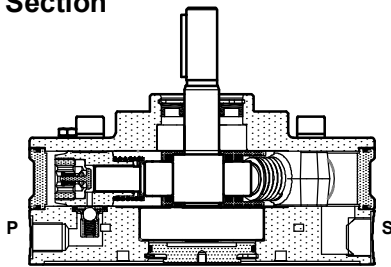
Pumps with model code **1RCE***** have extension shaft for through drive and are available with extension bracket assembly for coupling a pump having standard flange as per ISO 3019/1.

They are available with 18 displacements and 6 pressure ratings.

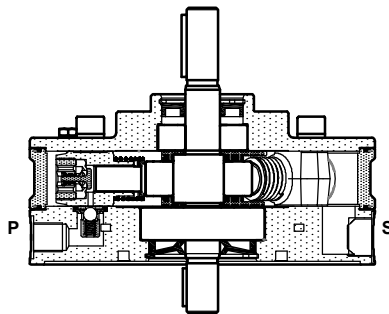
The pumps give fixed output per revolution of the shaft.



Section

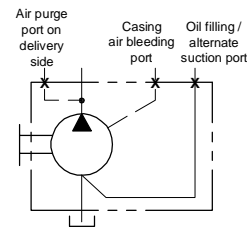


Model : 1RC***

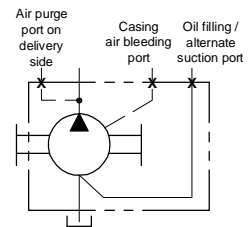


Model : 1RCE***

Hydraulic symbol



Model : 1RC***



Model : 1RCE***

Technical specifications

Designation	:	1RC basic radial piston pump with casing. 1RCE radial piston pump with casing and extension shaft.						
Design	:	Radial piston, valve controlled.						
No. of pistons	:	3, 5 or 7 elements.						
Mounting	:	Face mounting with Air purge port at highest level.						
Interface	:	Factory standard.						
Direction of rotation	:	1RC - No restriction on direction of rotation. 1RCE - Depends upon the direction rotation of pump attached.						
Connection	:	Suction port (S)						
		Delivery (P)						
Speed range	:	300 to 2000 r/min.						
Max. Suction Head	:	At no time allow the oil level in the tank to fall 500 mm below the axis of the pump, when the pump is mounted horizontally, or 500 mm below the mounting face of the pump, when the pump is mounted vertically						
Flow and Pressure	:	Refer Table no. 1						
Torque limitations	:	Input drive shaft						
		Extension shaft						
Hydraulic medium	:	Mineral oil.						
Temperature range	:	-20°C to + 80°C.						
Viscosity range	:	10 cSt to 380 cSt.						
Fluid cleanliness required	:	ISO 4406 20/18/15 or better.						
Mass	:	Model :	1RC3	1RCE3	1RC5	1RCE5	1RC7	1RCE7
		Kg :	10.0	10.12	10.93	11.05	11.55	11.67

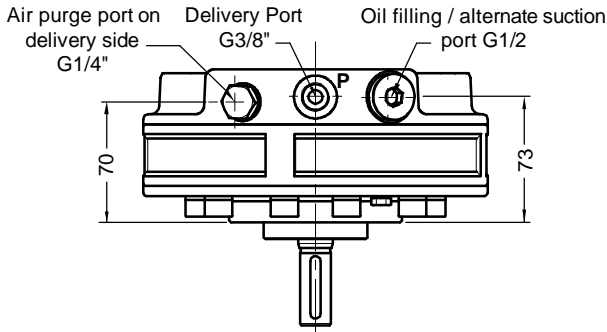
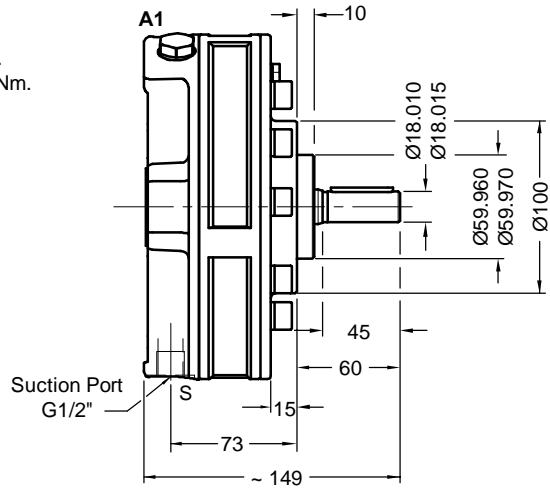
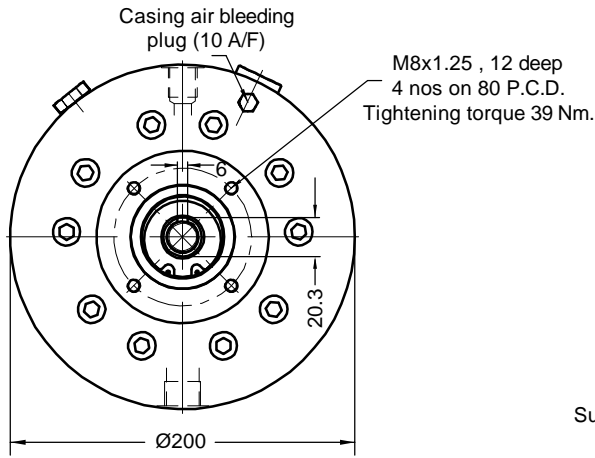
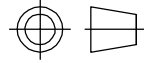


Unit dimensions

Dimensions in mm.

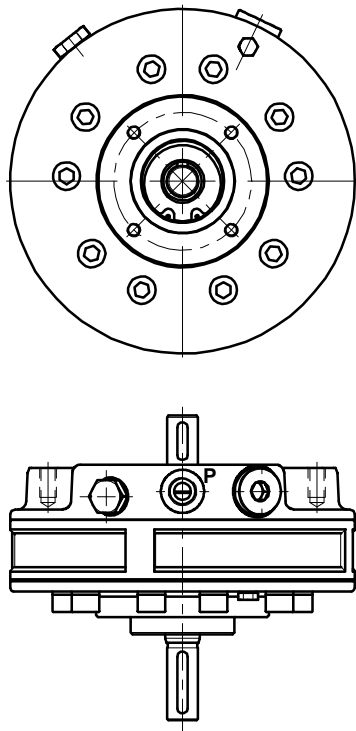
Pump without extension shaft

Model - 1RC3 OR 1RC5 OR 1RC7

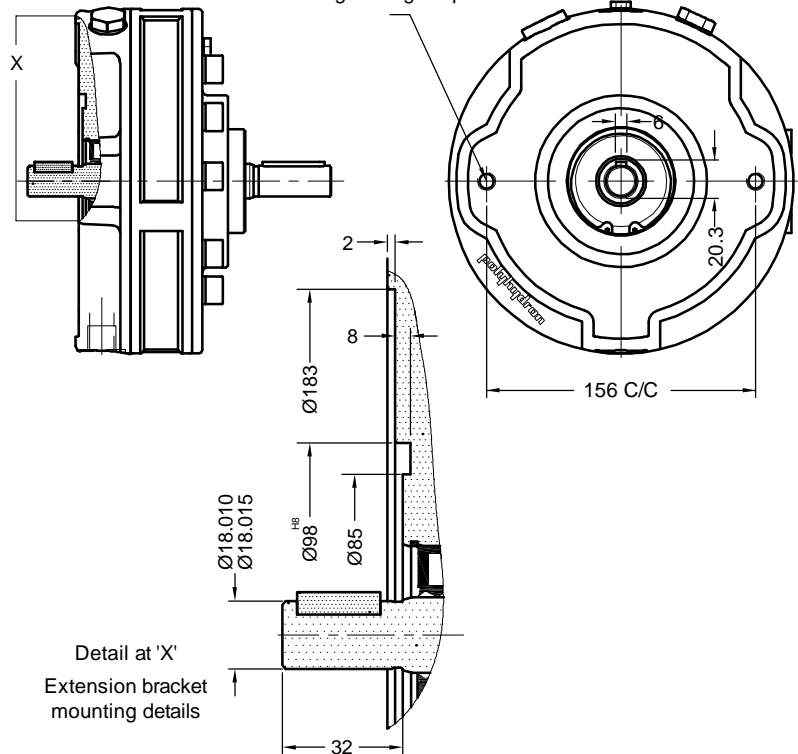


Pump with extension shaft

Model - 1RCE3 OR 1RCE5 OR 1RCE7



Extension bracket mounting
M10 x 17 deep tapped holes, 2 nos.
Tightening torque 77 Nm.



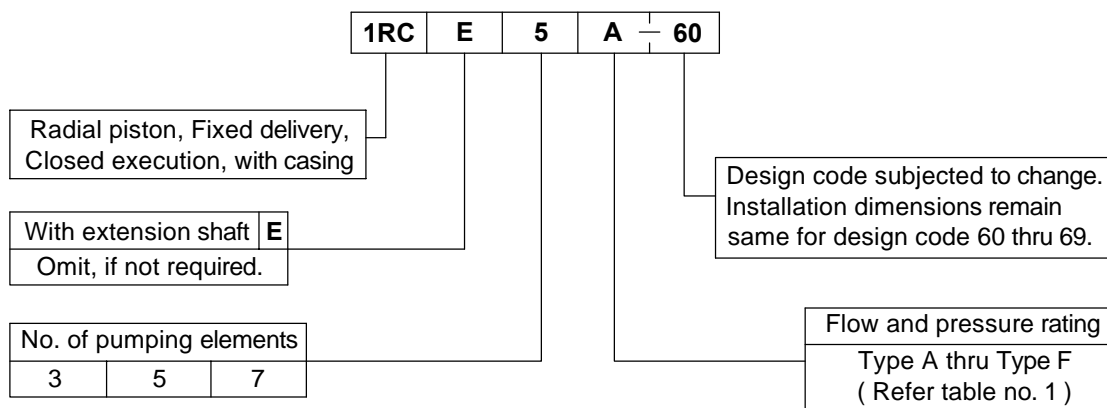


Performance
Table no. 1

No. of pistons	Element type	Geometrical displacement in cm ³ /r	Pump output in l/min At 1450 r/min	Operating pressure in bar	Input power requirement (@ 1450 r/min)										
					50 bar	100 bar	150 bar	200 bar	250 bar	300 bar	350 bar	400 bar	450 bar	500 bar	550 bar
					kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW
3	A	1.21	1.6	550	0.17	0.34	0.51	0.69	0.86	1.03	1.20	1.37	1.54	1.71	1.89
5		2.01	2.7		0.29	0.57	0.86	1.14	1.43	1.71	2.00	2.29	2.57	2.86	3.14
7		2.81	3.8		0.40	0.80	1.20	1.60	2.00	2.40	2.80	3.20	3.60	4.00	4.40
3	B	1.88	2.6	450	0.27	0.54	0.80	1.07	1.34	1.61	1.88	2.14	2.41		
5		3.14	4.3		0.45	0.89	1.34	1.79	2.23	2.68	3.13	3.57	4.02		
7		4.40	6.0		0.63	1.25	1.88	2.50	3.13	3.75	4.38	5.00	5.63		
3	C	2.71	3.7	350	0.39	0.77	1.16	1.54	1.93	2.32	2.70				
5		4.52	6.2		0.64	1.29	1.93	2.57	3.22	3.86	4.50				
7		6.33	8.6		0.90	1.80	2.70	3.60	4.50	5.40	6.30				
3	D	3.19	4.3	300	0.45	0.91	1.36	1.81	2.26	2.72					
5		5.31	7.2		0.75	1.51	2.26	3.02	3.77	4.53					
7		7.43	10.1		1.06	2.11	3.17	4.23	5.28	6.34					
3	E	3.69	5.0	250	0.53	1.05	1.58	2.10	2.63						
5		6.16	8.4		0.88	1.75	2.63	3.50	4.38						
7		8.62	11.7		1.23	2.45	3.68	4.90	6.13						
3	F	4.24	5.8	200	0.60	1.21	1.81	2.41							
5		7.07	9.6		1.00	2.01	3.01	4.02							
7		9.90	13.5		1.41	2.81	4.22	5.63							

1kW = 1.3410 hp

Ordering code



Note : For Bell housing refer Data sheet no. D 09035 and For extension bracket refer Data sheet no. D 09090.
For commissioning of pump refer datasheet no. D 11200 L.