



RADIAL PISTON PUMPS

Model : 1R****

Ref. No. D 04890
Release 04 / 2016

ENGINEERING - 1 of 3

A Polyhydron Group Company

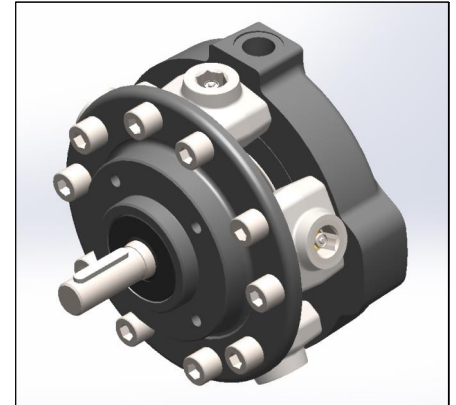
Description

Model 1R**** are small, low weight, rugged oil immersed type Radial Piston Pumps with 3, 5 or 7 pumping elements. These pumps are valve controlled and there is no restriction on direction of rotation of the pump.

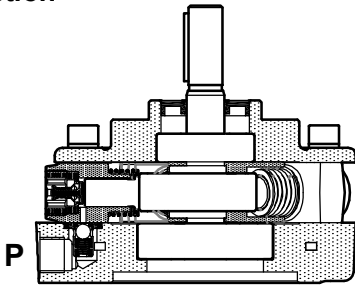
The pumps with model 1RE*** have extension shaft for through drive and are available with extension bracket assembly for coupling a low pressure pump having standard flange as per ISO 3019/1.

They are available with 18 displacements and 6 pressure ratings.

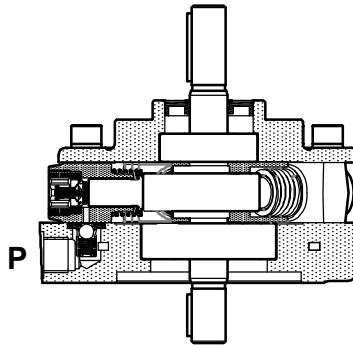
These pumps give fixed output per revolution of the shaft.



Section

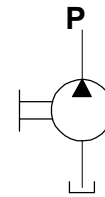


Model : 1R***

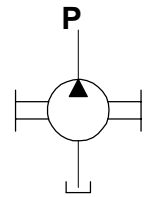


Model : 1RE***

Hydraulic symbol



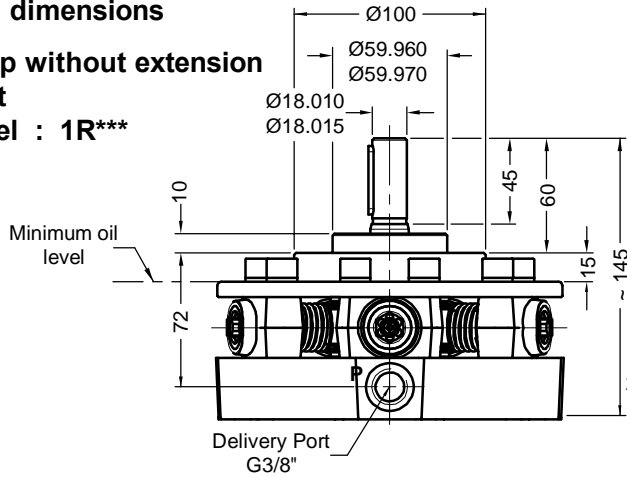
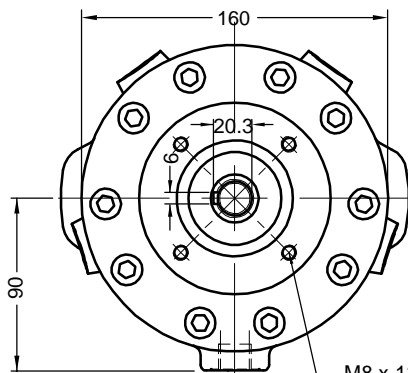
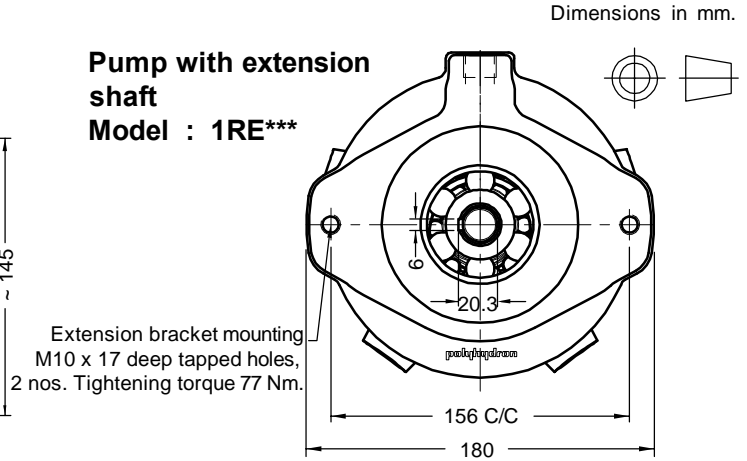
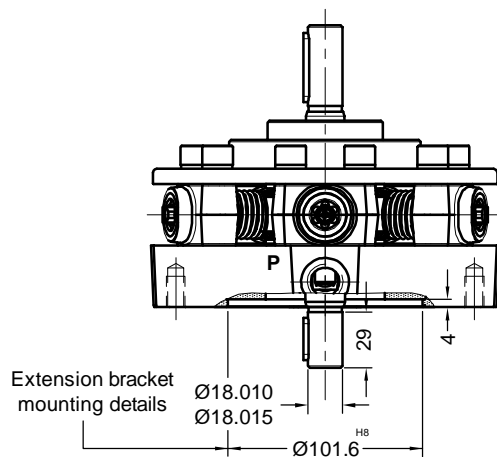
Model : 1R***



Model : 1RE***

Technical specifications

Designation	:	1R basic radial piston pump. 1RE radial piston pump with extension shaft.
Design	:	Radial piston, valve controlled.
No. of pistons	:	3, 5 or 7 elements.
Mounting	:	Oil immersed, face mounting.
Interface	:	Factory standard.
Direction of rotation	:	1R - No restriction on directions of rotation. 1RE - Depends upon the direction rotation of pump attached.
Connection	:	Suction port - Sucks oil directly from tank no suction port is provided. Delivery (port P) - G3/8 female.
Speed range	:	300 to 2000 r/min.
Flow and Pressure	:	Refer Table no.1
Torque limitations	:	Input drive shaft - 75 Nm Extension shaft - 53 Nm
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 : 1RE3 1R5 1RE5 1R7 1RE7 Kg : 7.70 8.34 8.42 9.08 9.16

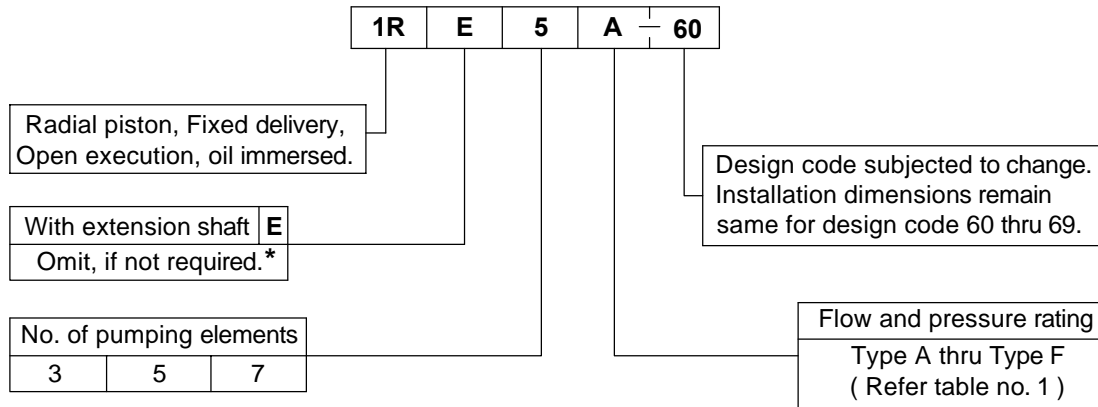
Unit dimensions
Pump without extension shaft
Model : 1R****

Pump with extension shaft
Model : 1RE****

 M8 x 12 deep tapped holes,
 4 nos on 80 P.C.D.
 Tightening torque 39 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 kW	100 bar kW	150 bar kW	200 bar kW	250 bar kW	300 bar kW	350 bar kW	400 bar kW	450 bar kW	500 bar kW	550 bar 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 3 pumping element pump without extension shaft refer datasheet no. D 04931.