



RADIAL PISTON DOUBLE PUMPS

Model : 12R****

Ref. No. D 09190
Release 07 / 2016

ENGINEERING - 1 of 3

A Polyhydron Group Company

Description

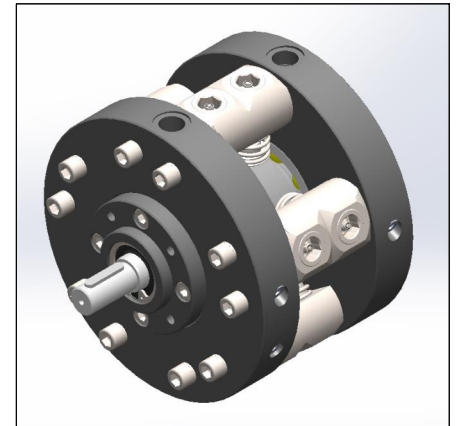
Model **12R****** are rugged oil immersed type Radial Piston Double Pumps with 3, 5 or 7 pumping elements in each section of the pump. These pumps are valve controlled therefore there no restriction on direction of rotation of the pump.

Pumps with model code **12RE***** have extension shaft for through drive and are available with extension bracket assembly for coupling a pump having standard flanges as per ISO 3019/2.

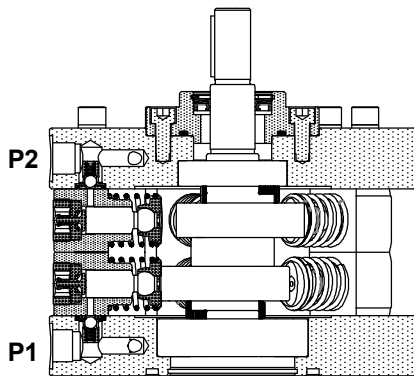
They are available with 18 displacements and 3 pressure ratings.

Flows can be combined internally, externally to feed one circuit or can be used independently to feed two circuits.

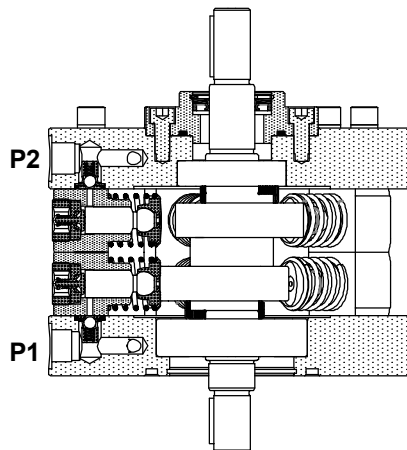
Each section of pumps give fixed output per revolution of the shaft.



Section

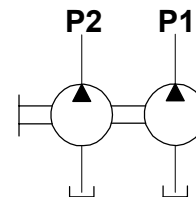


Model : 12R***

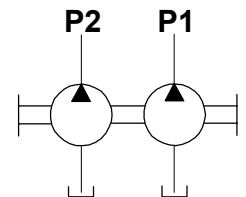


Model : 12RE***

Hydraulic symbol



Model : 12R***



Model : 12RE***

Technical specifications

Designation	:	12R basic radial piston double pump. 12RE radial piston double pump with extension shaft.
Design	:	Radial piston, valve controlled.
No. of pistons	:	3, 5 or 7 elements each at P1 and P2 port depending upon flow requirement.
Mounting	:	Face mounting.
Interface	:	Factory standard.
Direction of rotation	:	12R - No restriction on directions of rotation. 12RE - Depends upon the direction rotation of pump attached.
Connection	:	Suction port - Sucks oil directly from tank, no suction port is provided. Delivery (port P1 and P2) - G1/2 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 : 12R3 12RE3 12R5 12RE5 12R7 12RE7 Kg : 27.0 27.3 38.6 38.9 40.0 40.3

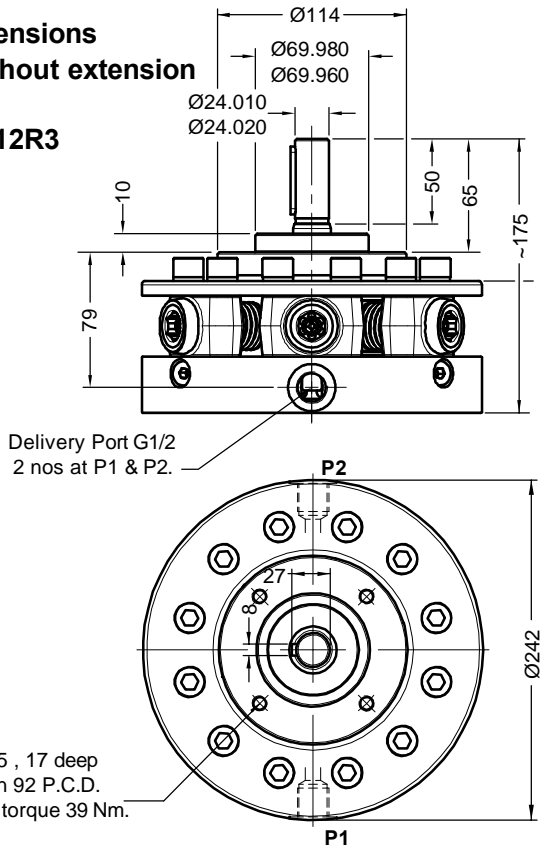
polyhydron pvt. ltd.

78-80, Machhe Industrial Estate,
Machhe, Belgaum - 590 014. INDIA.

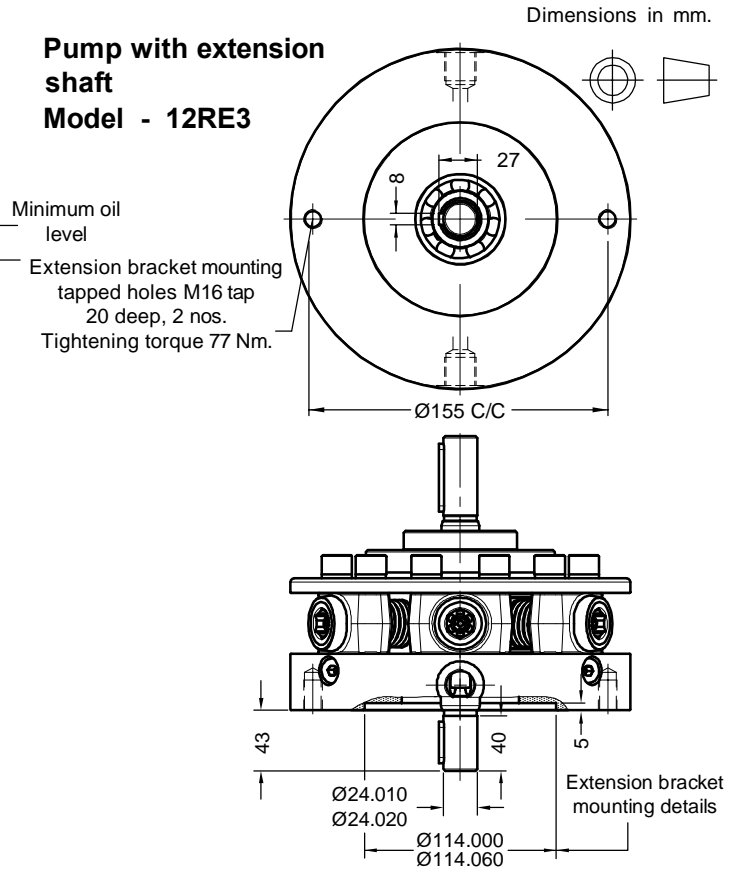
Phone : +91-(0)831- 2411001
Fax : +91-(0)831- 2411002
E-mail : polyhydron@gmail.com
Website : www.polyhydron.com



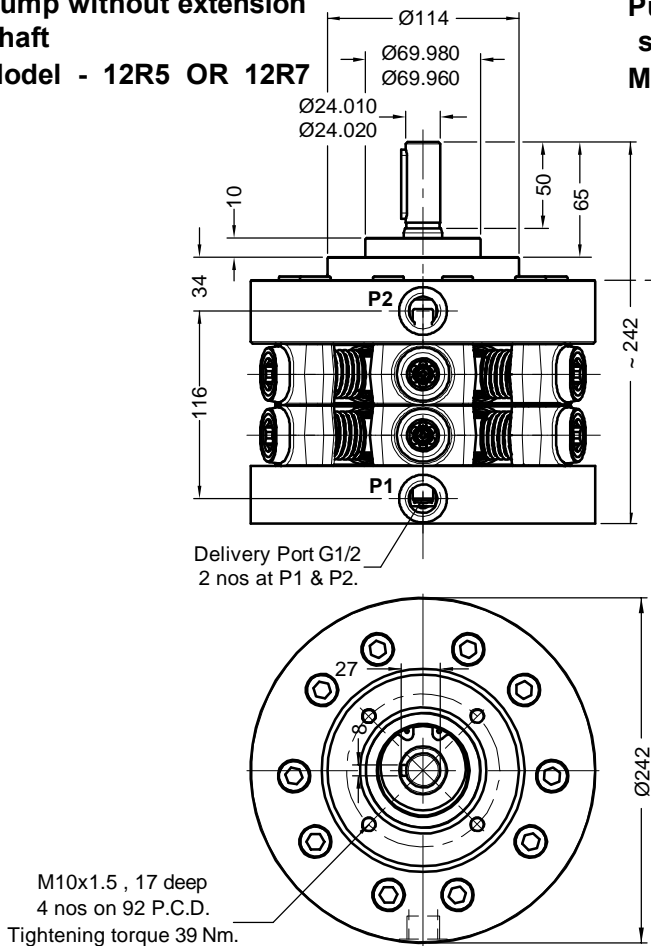
Unit dimensions
Pump without extension shaft
Model - 12R3



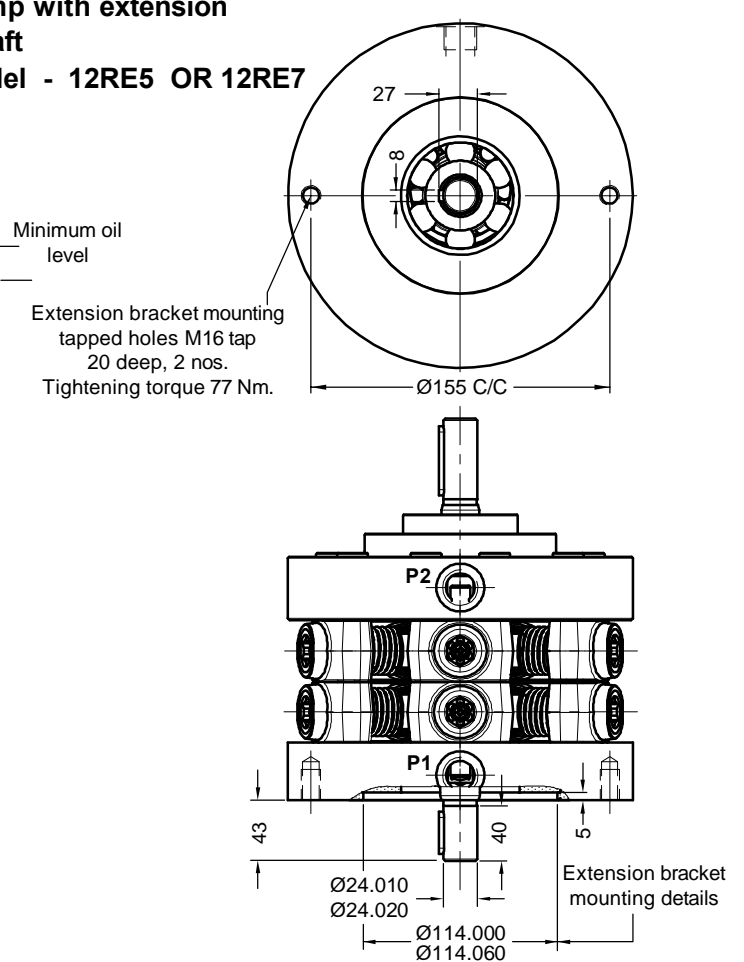
Pump with extension shaft
Model - 12RE3



Pump without extension shaft
Model - 12R5 OR 12R7



Pump with extension shaft
Model - 12RE5 OR 12RE7





Performance
Table no. 1

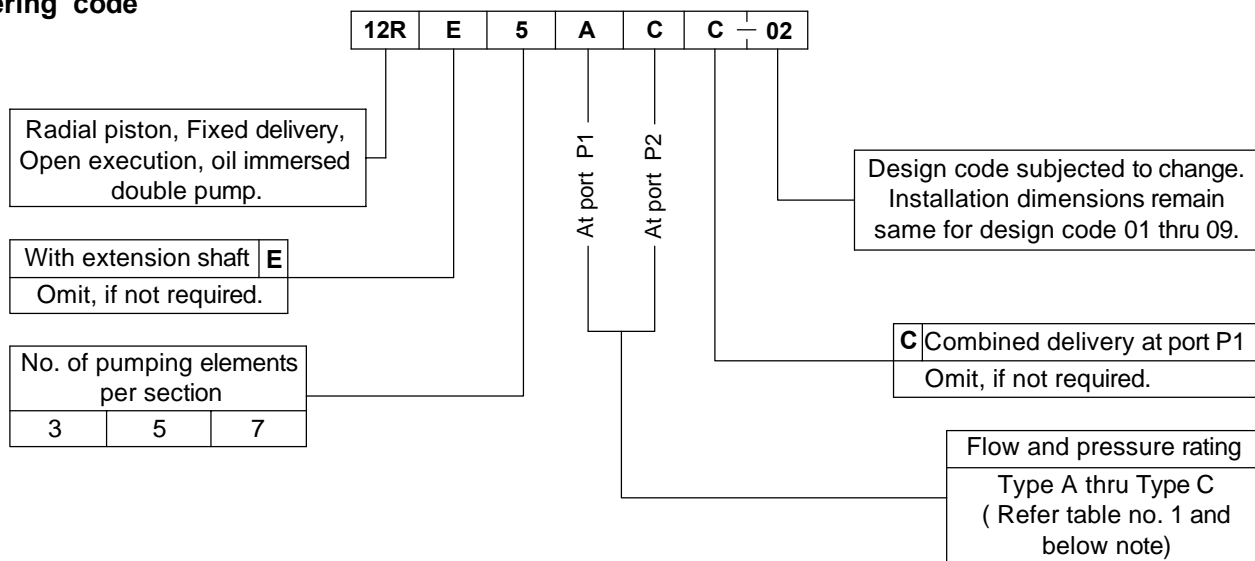
Element type	No. of pistons	Geometrical displacement in cm ³ /r	Actual pump output in l/min	Operating pressure in bar	Input power requirement (@ 1450 r/min)							
					50 bar	100 bar	150 bar	200 bar	250 bar	300 bar	315 bar	400 bar
					kW	kW	kW	kW	kW	kW	kW	kW
A	3	4.62	6.3	400	0.66	1.31	1.97	2.63	3.28	3.94	4.14	5.25
	5	7.70	10.5		1.09	2.19	3.28	4.38	5.47	6.57	6.89	8.75
	7	10.78	14.7		1.53	3.06	4.60	6.13	7.66	9.19	9.65	12.25
B	3	6.03	8.2	315	0.86	1.71	2.57	3.43	4.29	5.14	5.40	
	5	10.05	13.7		1.43	2.86	4.29	5.72	7.15	8.57	9.0	
	7	14.07	19.2		2.0	4.0	6.0	8.0	10.0	12.0	12.6	
C	3	7.63	10.4	250	1.09	2.17	3.26	4.34	5.43			
	5	12.72	17.3		1.81	3.62	5.43	7.23	9.04			
	7	17.81	24.3		2.53	5.06	7.60	10.13	12.66			

1kW = 1.341 hp

Note :

Torque limitation : The sum total of torque applied to drive double pump sections and pump attached (In case model 12RE is used), at any given instances should not exceed 75 Nm.

Ordering code



Note :

1. A double pump of model code **12R5AC-02**, for example, will have 5 pumping elements of 'A' flow and pressure rating at its P1 port end section and 5 pumping elements of 'C' flow and pressure rating at its P2 port end section.
2. An internally combined single flow pump will give sum of flows from its two sections at its P1 port and is rated for maximum pressure equal to least pressure rating out of the two sections.

For Bell housing refer Data sheet no. D 09035 and For extension bracket refer Data sheet no. D 09090.