



RADIAL PISTON DOUBLE PUMPS

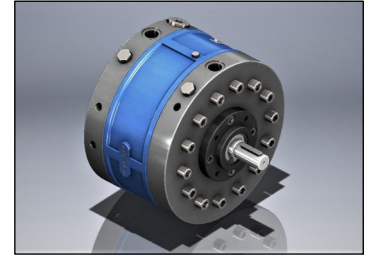
Model : 12RC****

Ref. No. D 09207
Release 05 / 2021
ENGINEERING - 1 of 4

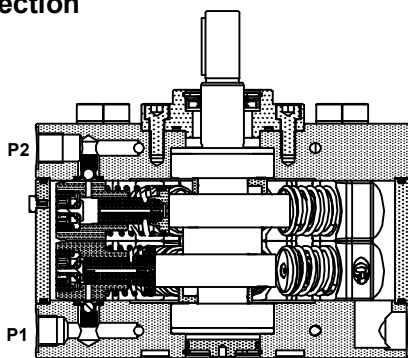
A Polyhydron Group Company

Description

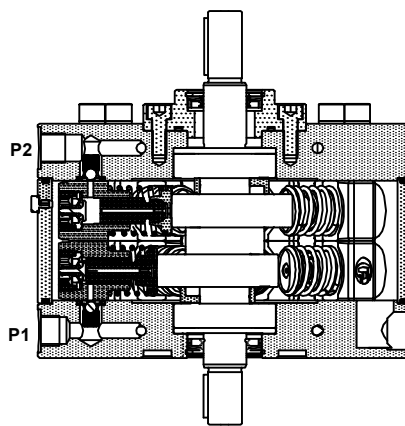
Model **12RC****** are rugged Radial Piston Double Pumps and have either 3, 5, 7 or 9 pumping elements in each section of the pump. These pumps are valve controlled and there is no restriction on direction of rotation of the pump. These pumps can be submerged in oil or externally mounted above oil level. Pumps model **12RCE***** 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 (Ref datasheet no. D 09090). They are available with 12 displacements and 3 pressure ratings. Flows can be combined internally or 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

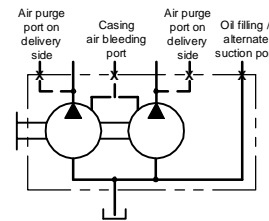


Model : 12RC***

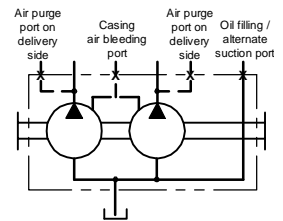


Model : 12RCE***

Hydraulic symbol



Model : 12RC***



Model : 12RCE***

Technical specifications

Designation	:	12RC is a basic Radial piston double pump with casing. 12RCE is a Radial piston double pump with casing and extension shaft.
Design	:	Radial piston, valve controlled.
No. pumping elements	:	3, 5, 7 or 9 each at P1 and P2 port depending upon flow requirement.
Mounting	:	Face mounting with Air purge port at highest level.
Interface	:	Factory standard.
Direction of rotation	:	12RC - No restriction on direction of rotation. 12RCE - Depends upon the direction rotation of pump attached.
Connection	:	Suction port - G3/4 female. Delivery (port P1 and P2) - G1/2 female.
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 - 220 Nm Extension shaft - 130 Nm
Hydraulic medium	:	Mineral oil.
Temperature range	:	-20°C to + 80°C.
Viscosity range	:	10 cSt to 100 cSt.
Fluid cleanliness required	:	ISO 4406 20/18/15 or better.
Mass	:	Model : 12RC3 12RCE3 12RC5 12RCE5 12RC7 12RCE7 12RC9 12RCE9 Kg : 26.33 27.12 42.3 42.45 45.05 45.2 47.8 47.95

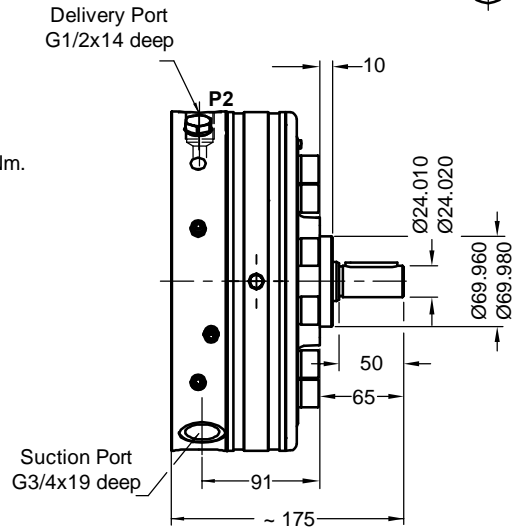
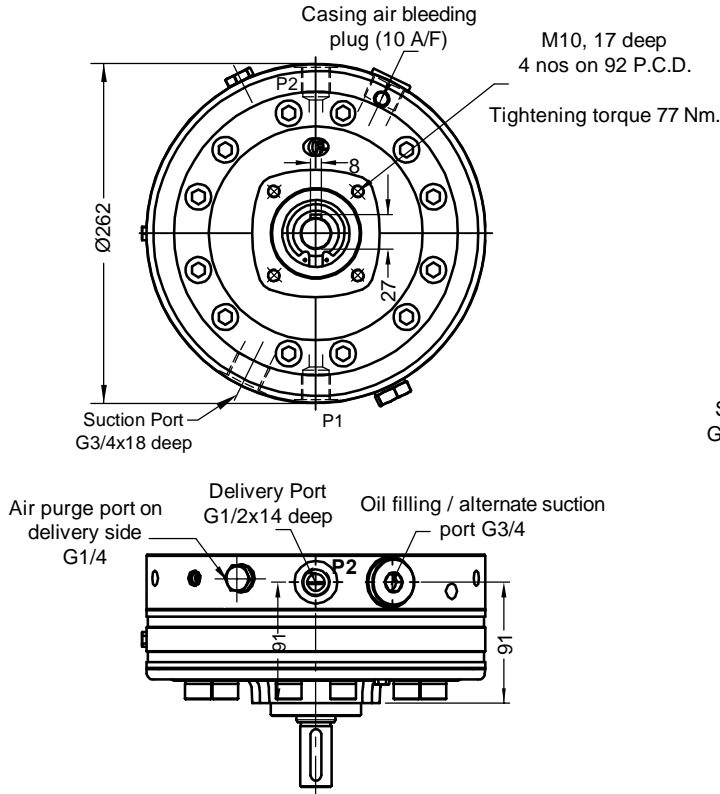
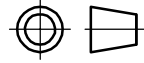


Unit dimensions

Pump without extension shaft

Model - 12RC3

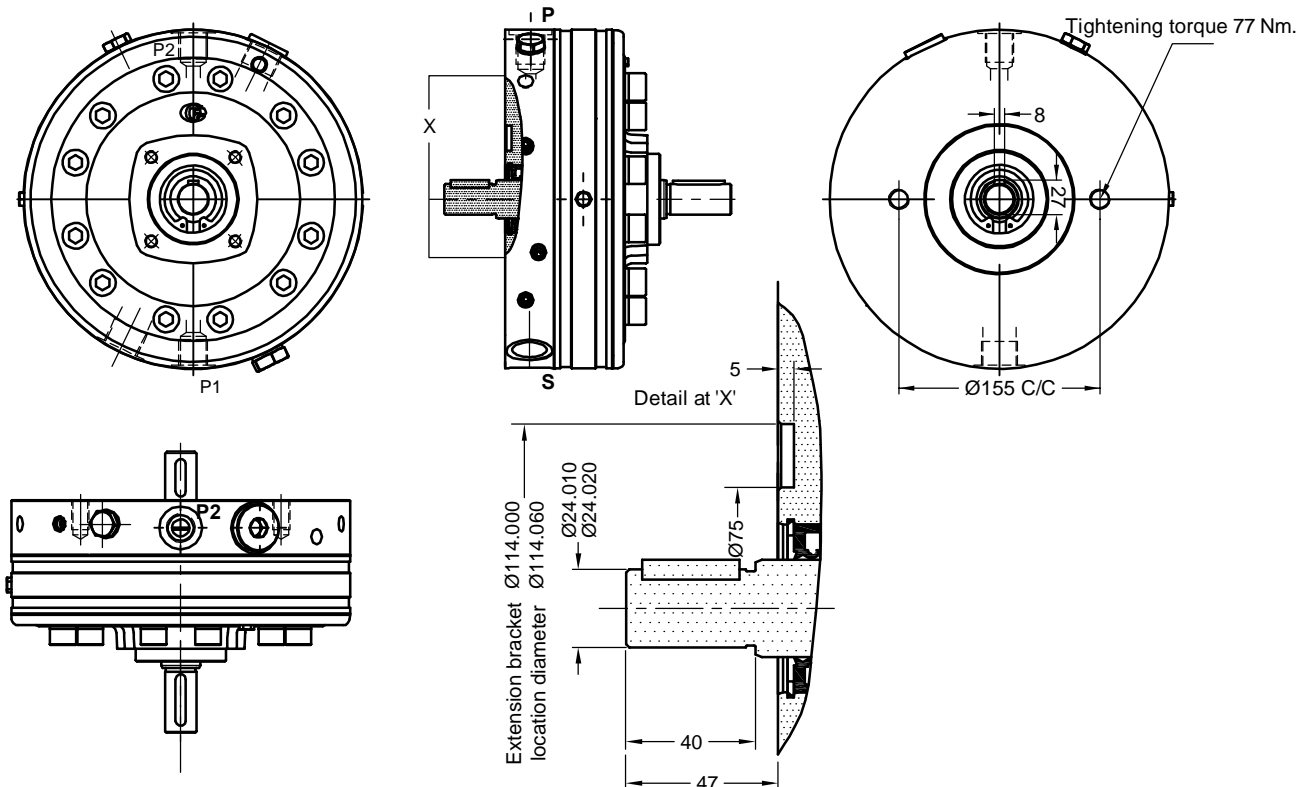
Dimensions in mm.



Pump with extension shaft

Model - 12RCE3

Extension bracket mounting
holes M16x20 deep, 2 nos.

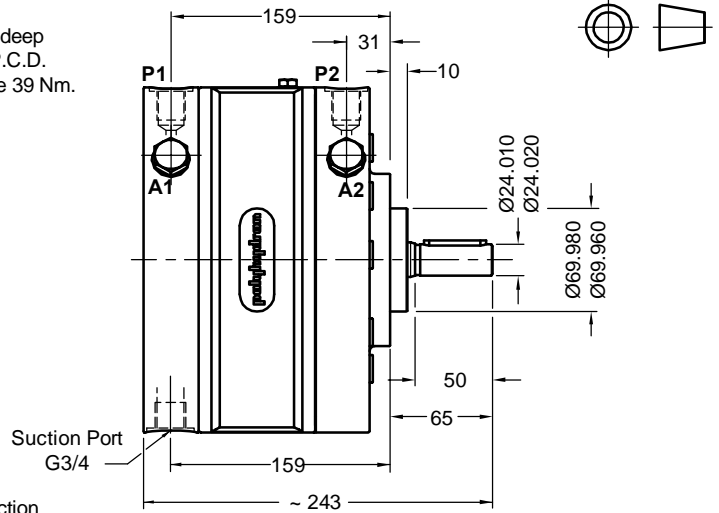
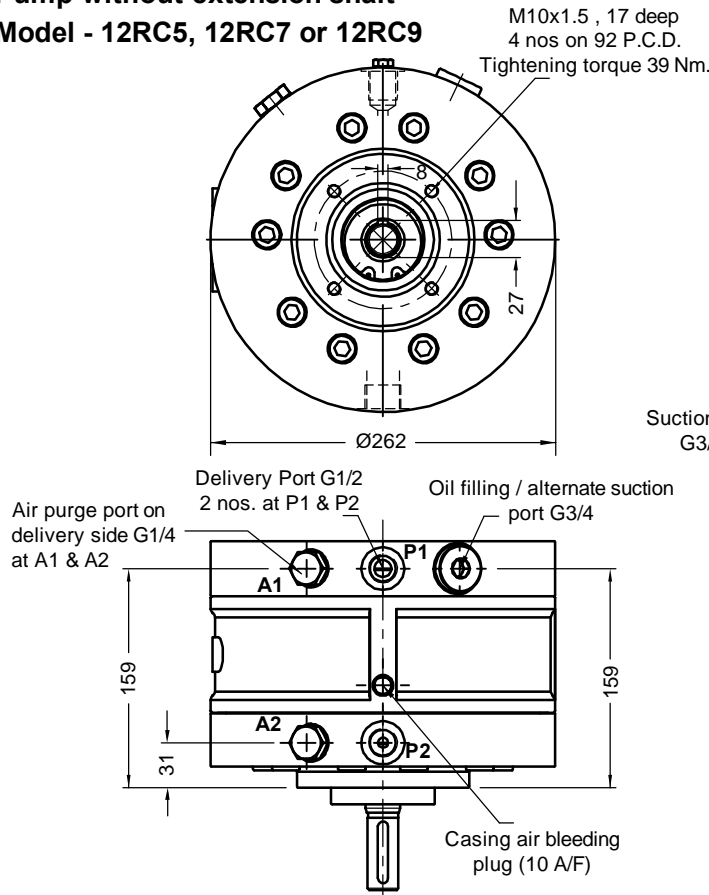




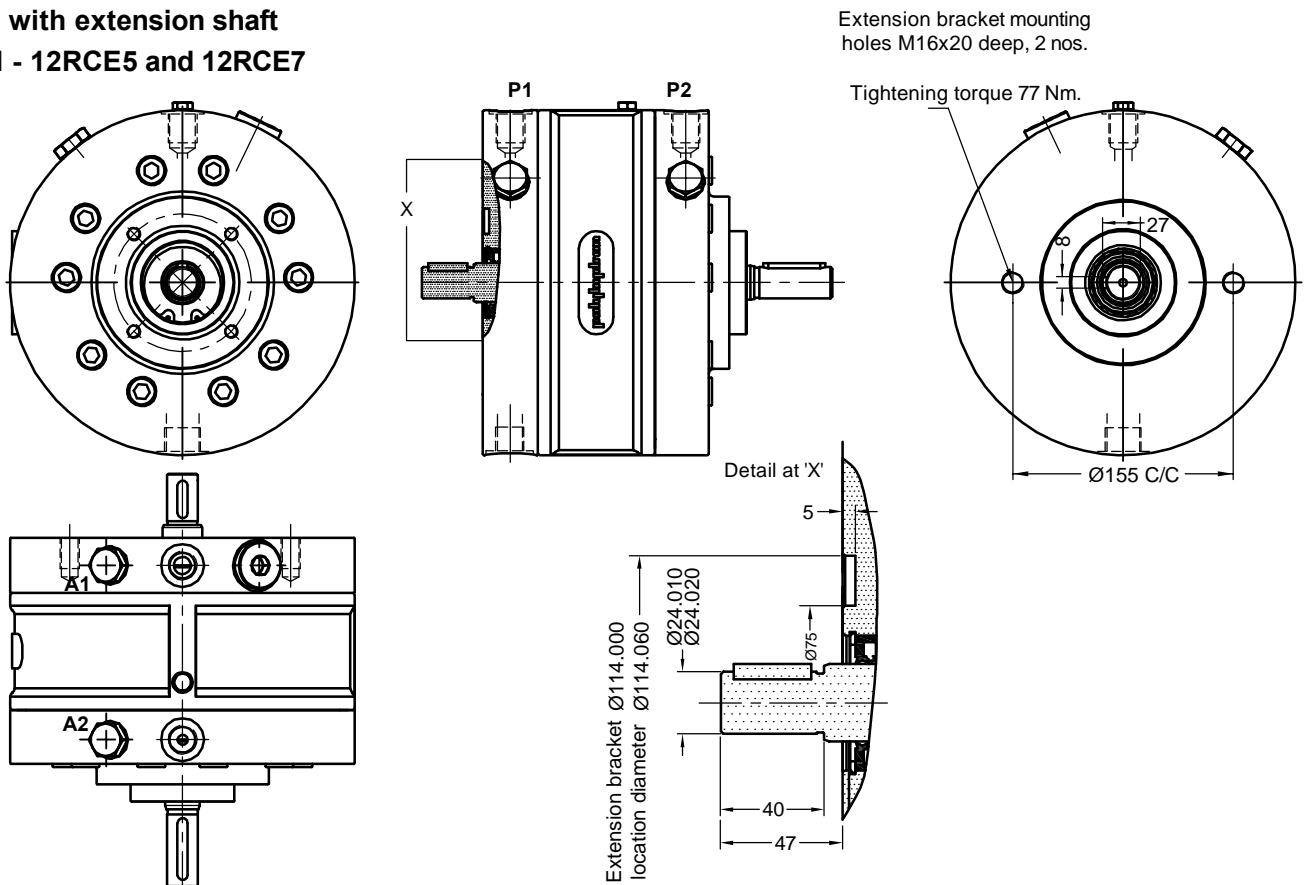
Unit dimensions

Dimensions in mm.

Pump without extension shaft Model - 12RC5, 12RC7 or 12RC9

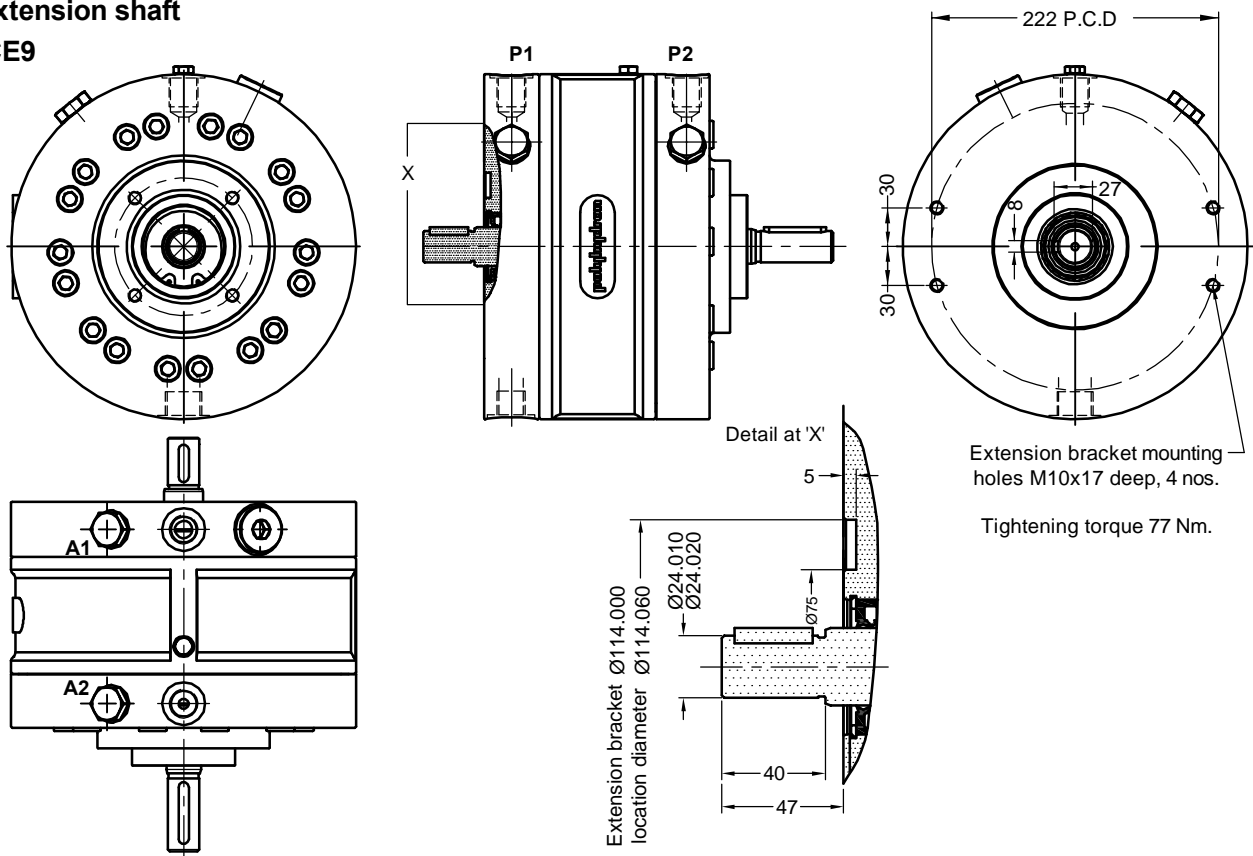


Pump with extension shaft Model - 12RCE5 and 12RCE7





Pump with extension shaft
Model - 12RCE9



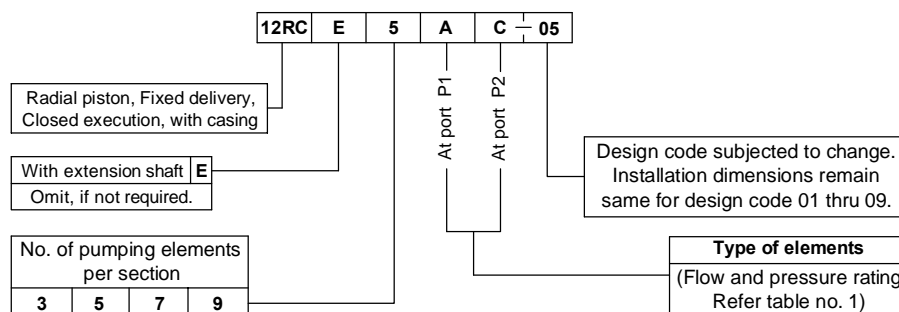
Performance table no.1

No. of pumping elements per section	Element type	Geometrical displacement in cm ³ /r	Pump output in l/min At 1450 r/min	Maximum Operating pressure in bar	Pressure in bar							
					50	100	150	200	250	300	315	400
3	A	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
9		13.85	18.9		1.97	3.94	5.91	7.88	9.85	11.82	12.41	15.76
3	B	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	9.00	
7		14.07	19.2		2.00	4.00	6.00	8.00	10.0	12.0	12.6	
9		18.10	24.7		2.57	5.14	7.72	10.29	12.86	15.43	16.21	
3	C	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	10.1	12.6			
9		22.90	31.2		3.26	6.51	9.77	13.02	16.28			

1kW = 1.3410 hp

Note : Torque limitation : The total sum of torque applied to drive the each section of double pump and the pump attached (In case model 12RE is used), at any given instance, should not exceed 220 Nm.

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 P.

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For critical applications, please ask for certified installation drawing.