



RADIAL PISTON PUMPS

Model : 1RC****

Ref. No. D 04892
Release 10 / 2021

ENGINEERING - 1 of 4

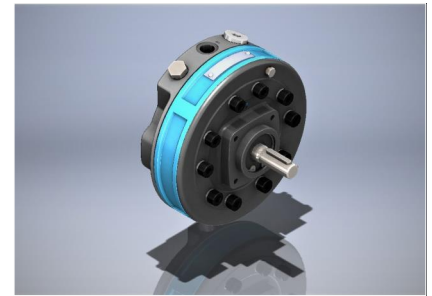
A Polyhydron Group Company

Description

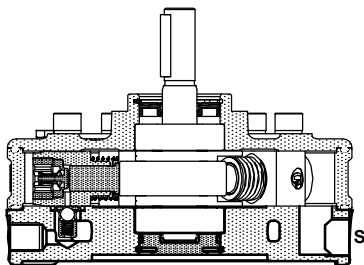
Model **1RC****** are small, low weight, rugged radial piston pumps with 2, 3, 5 or 7 pumping elements. These pumps are valve controlled and have no restriction on direction of rotation. These pumps can be submerged in oil or externally mounted above oil level.

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. Refer data sheet no. D 09090 for Extension Bracket details.

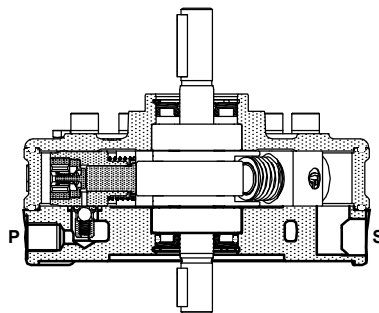
These are available with 28 displacements and 7 pressure ratings. The pumps give fixed output per revolution of the shaft.



Section

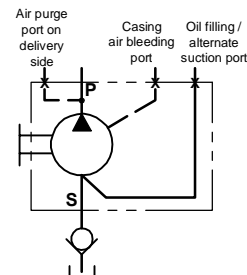


Model : 1RC***

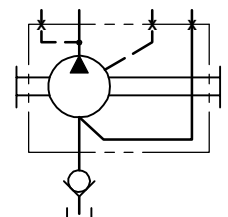


Model : 1RCE***

Hydraulic symbol



Model : 1RC***



Model : 1RCE***

Technical specifications

| | | | | | | | | | | |
|----------------------------|---|---|----------------|-------|------|-------|-------|-------|-------|-------|
| Designation | : | 1RC is a basic radial piston pump with casing. 1RCE is a radial piston pump with casing and extension shaft. | | | | | | | | |
| Design | : | Radial piston, valve controlled. | | | | | | | | |
| No. of elements | : | 2, 3, 5 or 7. | | | | | | | | |
| Mounting interface | : | Factory standard, Face mounting with Air purge port at highest level. Suction Foot Valve recommended refer data sheet no. D 12400. | | | | | | | | |
| Direction of rotation | : | 1RC - No restriction on direction of rotation. 1RCE - Depends upon the direction rotation of pump attached. | | | | | | | | |
| Connection | : | Suction port (S) | - G1/2 female. | | | | | | | |
| | | Delivery (P) | - G3/8 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 (case filling recommended). | | | | | | | | |
| 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 100 cSt. | | | | | | | | |
| Fluid cleanliness required | : | ISO 4406 20/18/15 or better. | | | | | | | | |
| Mass | : | Model : | 1RC2 | 1RCE2 | 1RC3 | 1RCE3 | 1RC5 | 1RCE5 | 1RC7 | 1RCE7 |
| | | Kg : | 9.17 | 9.25 | 9.67 | 9.78 | 10.38 | 10.52 | 11.15 | 11.2 |

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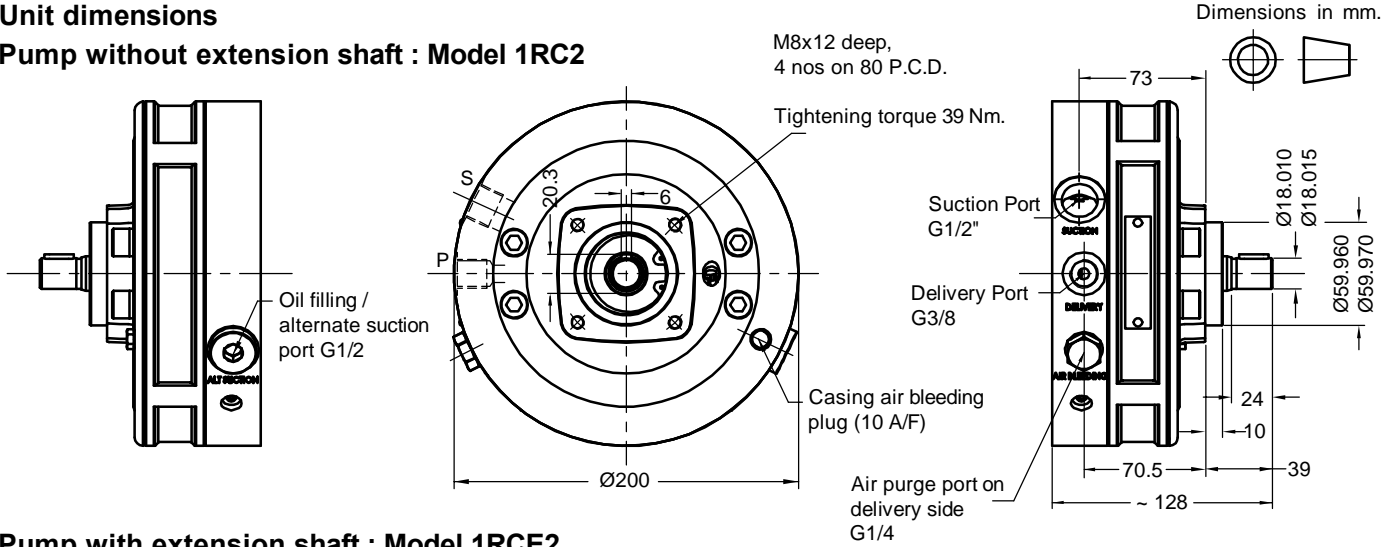
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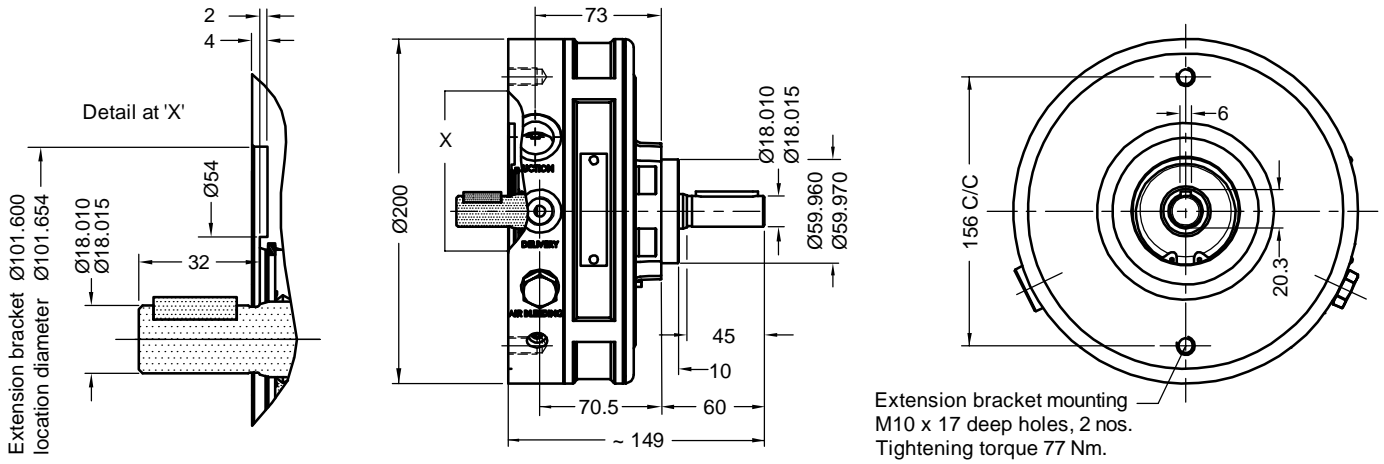


Unit dimensions

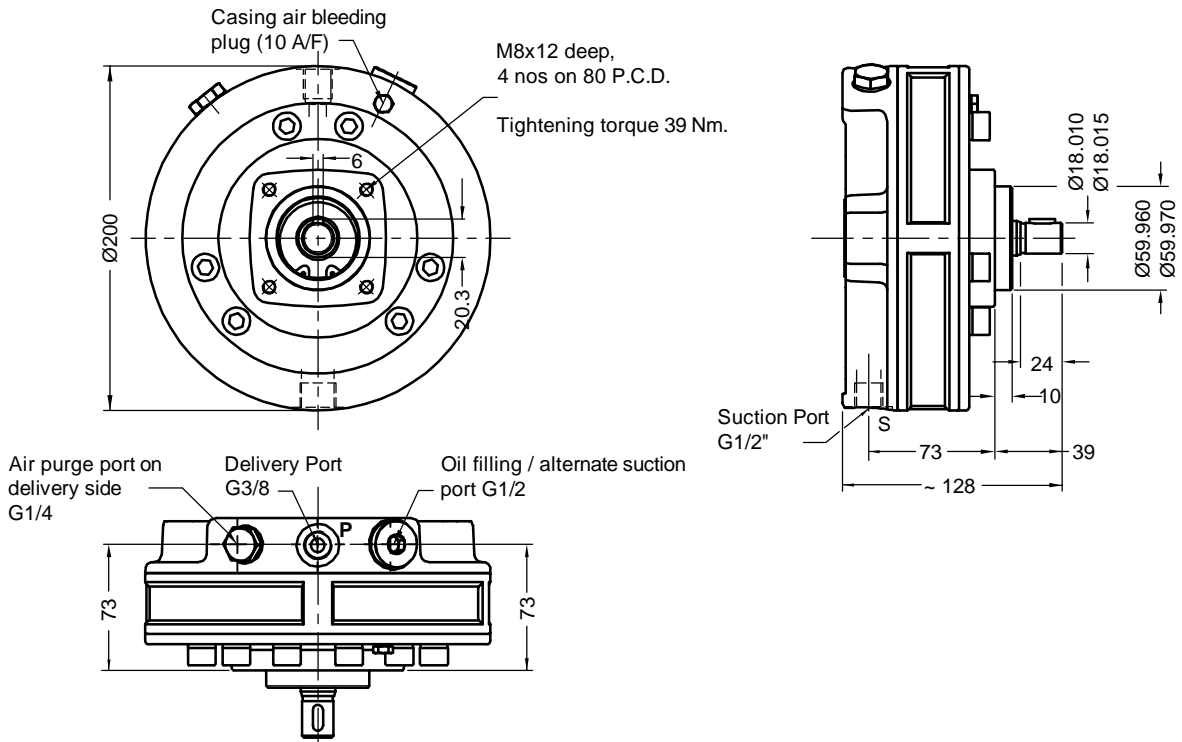
Pump without extension shaft : Model 1RC2



Pump with extension shaft : Model 1RCE2

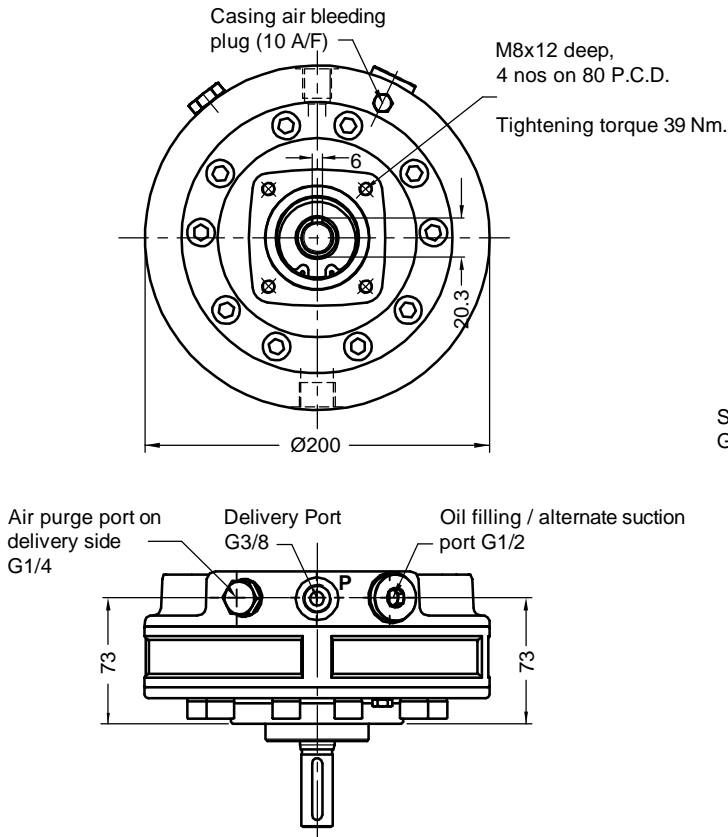


Pump without extension shaft : Model 1RC3

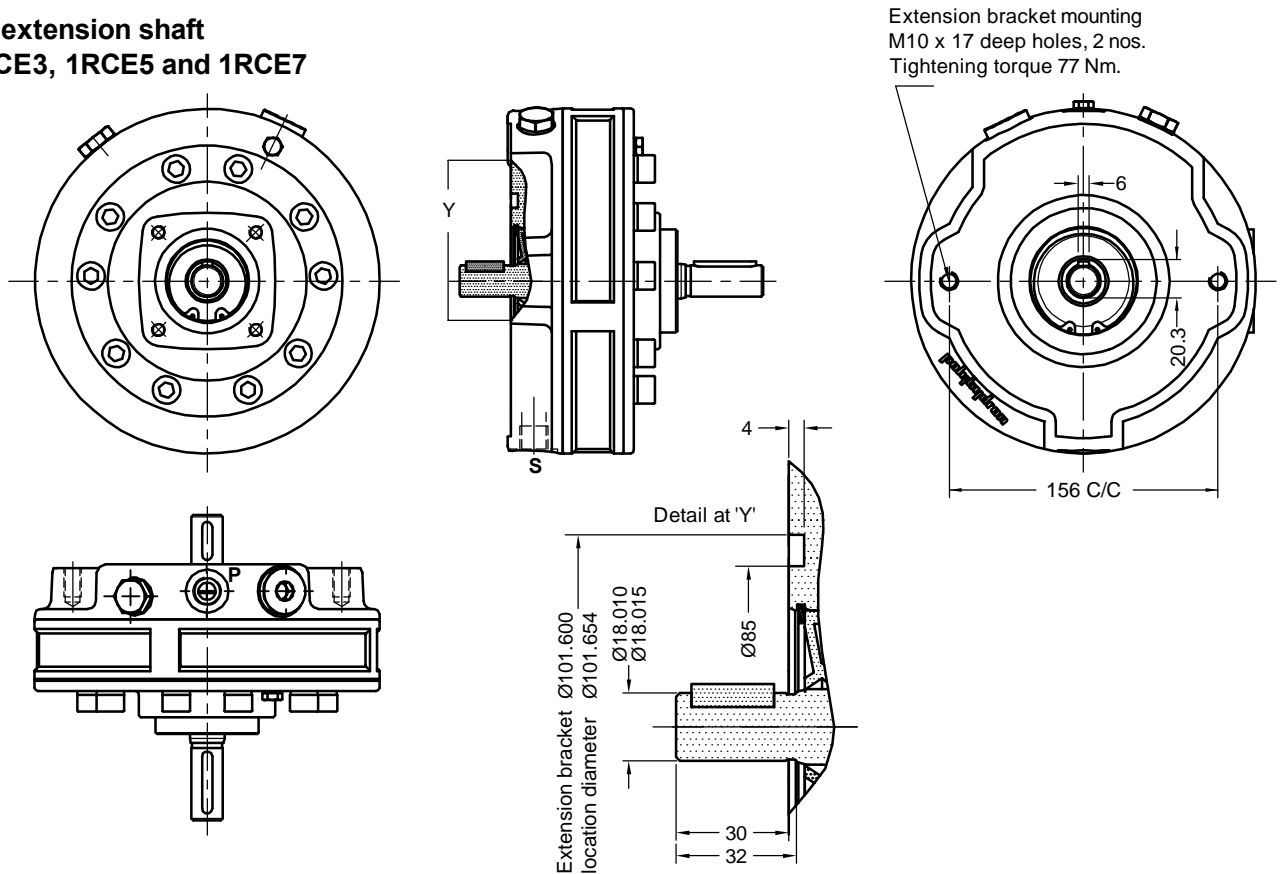




Pump without extension shaft
Model - 1RC5 and 1RC7



Pump with extension shaft
Model - 1RCE3, 1RCE5 and 1RCE7



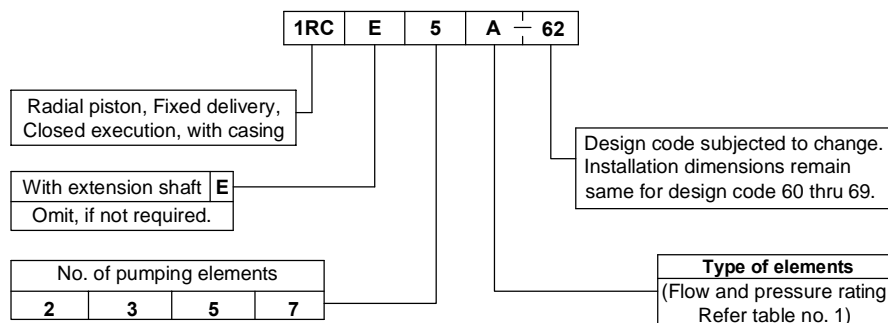


Performance Table no. 1

| No. of pumping elements | 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 | 350 | 400 | 450 | 500 | 550 | 600 | 650 | 700 |
| | | | | | Power required to drive the pump in kW | | | | | | | | | | | | | |
| 2 | Z | 0.45 | 0.6 | 700 | 0.06 | 0.13 | 0.19 | 0.26 | 0.32 | 0.39 | 0.45 | 0.51 | 0.58 | 0.64 | 0.71 | 0.77 | 0.84 | 0.90 |
| 3 | | 0.69 | 0.9 | | 0.10 | 0.19 | 0.29 | 0.39 | 0.48 | 0.58 | 0.68 | 0.77 | 0.87 | 0.96 | 1.06 | 1.16 | 1.25 | 1.35 |
| 5 | | 1.15 | 1.5 | | 0.16 | 0.32 | 0.48 | 0.64 | 0.80 | 0.96 | 1.13 | 1.29 | 1.45 | 1.61 | 1.77 | 1.93 | 2.09 | 2.25 |
| 7 | | 1.61 | 2.2 | | 0.23 | 0.45 | 0.68 | 0.90 | 1.13 | 1.35 | 1.58 | 1.80 | 2.03 | 2.25 | 2.48 | 2.70 | 2.93 | 3.15 |
| 2 | A | 0.80 | 1.1 | 550 | 0.11 | 0.23 | 0.34 | 0.46 | 0.57 | 0.69 | 0.80 | 0.91 | 1.03 | 1.14 | 1.26 | | | |
| 3 | | 1.20 | 1.6 | | 0.17 | 0.34 | 0.51 | 0.69 | 0.86 | 1.03 | 1.20 | 1.37 | 1.54 | 1.71 | 1.89 | | | |
| 5 | | 2.00 | 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 | | 2.80 | 3.8 | | 0.40 | 0.80 | 1.20 | 1.60 | 2.00 | 2.40 | 2.80 | 3.20 | 3.60 | 4.00 | 4.40 | | | |
| 2 | B | 1.25 | 1.7 | 450 | 0.18 | 0.36 | 0.54 | 0.71 | 0.89 | 1.07 | 1.25 | 1.43 | 1.61 | | | | | |
| 3 | | 1.89 | 2.6 | | 0.27 | 0.54 | 0.80 | 1.07 | 1.34 | 1.61 | 1.88 | 2.14 | 2.41 | | | | | |
| 5 | | 3.15 | 4.3 | | 0.45 | 0.89 | 1.34 | 1.79 | 2.23 | 2.68 | 3.13 | 3.57 | 4.02 | | | | | |
| 7 | | 4.41 | 6.0 | | 0.63 | 1.25 | 1.88 | 2.50 | 3.13 | 3.75 | 4.38 | 5.00 | 5.63 | | | | | |
| 2 | C | 1.80 | 2.5 | 350 | 0.26 | 0.51 | 0.77 | 1.03 | 1.29 | 1.54 | 1.80 | | | | | | | |
| 3 | | 2.70 | 3.7 | | 0.39 | 0.77 | 1.16 | 1.54 | 1.93 | 2.32 | 2.70 | | | | | | | |
| 5 | | 4.50 | 6.2 | | 0.64 | 1.29 | 1.93 | 2.57 | 3.22 | 3.86 | 4.50 | | | | | | | |
| 7 | | 6.30 | 8.6 | | 0.90 | 1.80 | 2.70 | 3.60 | 4.50 | 5.40 | 6.30 | | | | | | | |
| 2 | D | 2.12 | 2.9 | 300 | 0.30 | 0.60 | 0.91 | 1.21 | 1.51 | 1.81 | | | | | | | | |
| 3 | | 3.18 | 4.3 | | 0.45 | 0.91 | 1.36 | 1.81 | 2.26 | 2.72 | | | | | | | | |
| 5 | | 5.30 | 7.2 | | 0.75 | 1.51 | 2.26 | 3.02 | 3.77 | 4.53 | | | | | | | | |
| 7 | | 7.42 | 10.1 | | 1.06 | 2.11 | 3.17 | 4.23 | 5.28 | 6.34 | | | | | | | | |
| 2 | E | 2.46 | 3.4 | 250 | 0.35 | 0.70 | 1.05 | 1.40 | 1.75 | | | | | | | | | |
| 3 | | 3.69 | 5.0 | | 0.53 | 1.05 | 1.58 | 2.10 | 2.63 | | | | | | | | | |
| 5 | | 6.15 | 8.4 | | 0.88 | 1.75 | 2.63 | 3.50 | 4.38 | | | | | | | | | |
| 7 | | 8.61 | 11.7 | | 1.23 | 2.45 | 3.68 | 4.90 | 6.13 | | | | | | | | | |
| 2 | F | 2.82 | 3.9 | 200 | 0.40 | 0.80 | 1.21 | 1.61 | | | | | | | | | | |
| 3 | | 4.23 | 5.8 | | 0.60 | 1.21 | 1.81 | 2.41 | | | | | | | | | | |
| 5 | | 7.05 | 9.6 | | 1.00 | 2.01 | 3.01 | 4.02 | | | | | | | | | | |
| 7 | | 9.87 | 13.5 | | 1.41 | 2.81 | 4.22 | 5.63 | | | | | | | | | | |

1kW = 1.34 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.

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For critical applications, please ask for certified installation drawing.