RADIAL PISTON PUMP - OPEN CASING

Open Casing | Upto 2.3 LPM | Max 700 bar

Specification/ Technical Data

Max Pressure	700 bar
Flow Range	1.1…2.3 LPM+
Type	Open Casing
No. of Elements	3
Noise Level	< 85 dB
Body Material	Steel/ Aluminium++
Max RPM	1800
Delivery Port	1/4" BSP (F)
Media	Mineral Oil
Oil Temperature Range	+10 to 60°C
Oil Viscosity	ISO VG 46-100
Oil Cleanliness (ISO 4406)	20/18 /15
Installation	In Oil Tank
Weight (approx.)	3.75/ 5.0 Kg

Radial piston pump type HPO1 is a open casing constant flow hydraulic pump where the working pistons (3nos) are arranged radially around a central drive shaft. The stroke of each piston is caused by an eccentric drive shaft. As the central shaft rotates, the eccentric mechanism forces the pistons to move in and out of their cylinders. During the outward stroke, fluid is drawn into the pump chamber, and during the inward stroke, the fluid is pressurised and expelled. These pumps are known for their durability and high-pressure capabilities upto 700bar and are commonly used in industrial applications like hydraulic presses, moulding equipment, construction equipment and, hydraulic tools etc.

Use of open design pump makes it possible to reduce the size of power unit and these pumps are light weight and also economical when compared with other designs.

* Refer HPX/ RPX catalogue for multi-port pump options
\+ Refer Frame 1B and 2B catalogues for higher flow pumps
++ Consult factory for custom design pump options viz. extended shaft, light weight, tandem pump etc.

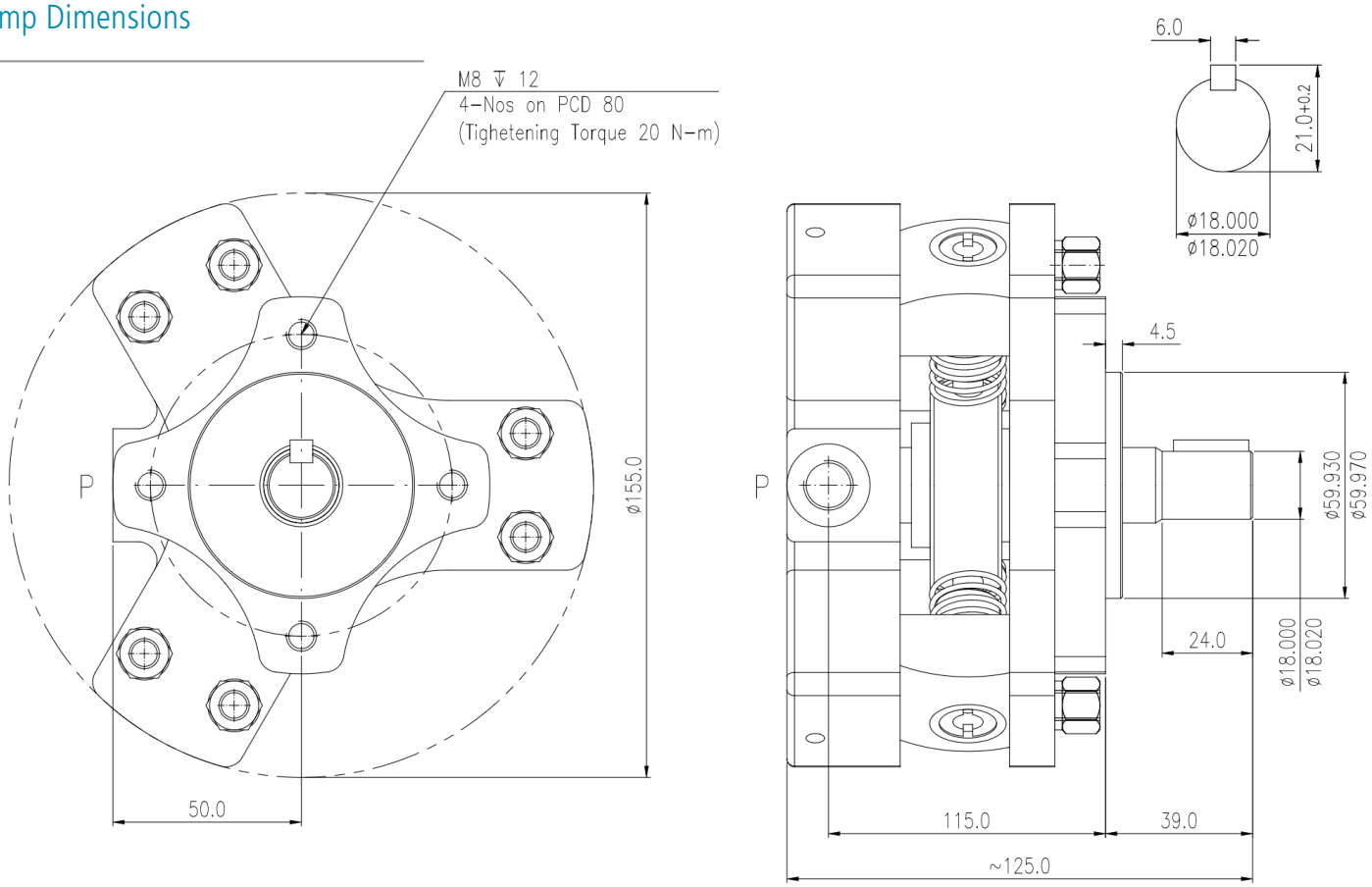
Ordering Information

Basic Code	Radial Piston Pump	HP
Type	Open Casing	O
Delivery Ports	1	1
Flow Rate	1.1…5.5 LPM	1.1…5.5
Working Pr. Bar	500-700 bar	500…700
Version		2x

Model	Geo. Disp. (cc/rev)	Flow LPM @1440RPM	Max Pr. Bar	Weight Kg	
				Aluminium	Steel
HPO1- HPA07	0.8	1.1	700	3.75	5.0
HPO1- HPA08	1.0	1.4	700		
HPO1- HPA09	1.3	1.9	550		
HPO1- HPA10	1.6	2.3	500		

Flow calculated at 1440RPM and at no-load condition
Consider pump efficiency under load when selecting suitable pump
Volumetric Efficiency 5% drop for every 100 bar

Pump Dimensions

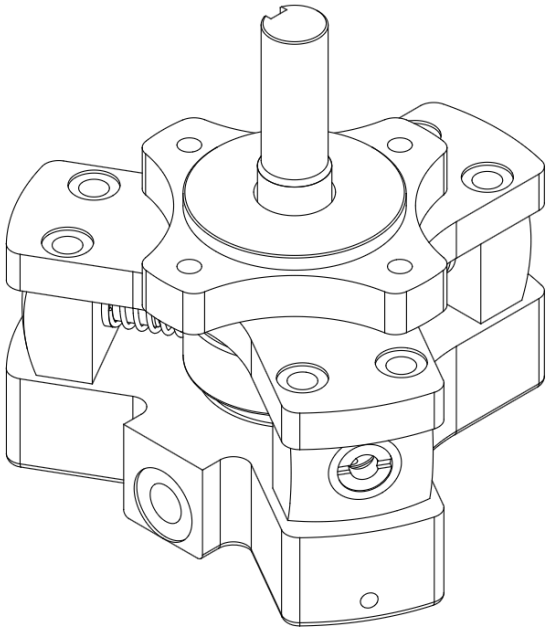


Motor Sizing & Torque Calculation

Motor Sizing

PkW = Pbar x Qlpm / 540
PkW is the power required to drive the pump shaft in kW
Pbar is the required system pressure in bar or kgf/cm2
Qlpm is the delivery flow from the pump in litres/minute (LPM)

Sample Calculation:
For a pump delivering 5.1lpm and system pressure of 315bar,
the required motor size will be,
PkW = (5.1 x 315) / 540 = 2.975 i.e. 3kW
(select next available size motor)



Torque Calculation

Tmax = 60000 x PkW / (2 x p x N)
T is the torque in N-m
PkW is the power required to drive the pump shaft in kW
N is the motor rpm

Sample Calculation:
For a 5.1lpm pump @ 315bar, PkW is 3kW.
Tmax = 60000 x 3 / (2 x 3.14 x 1450) = 19.7N-m