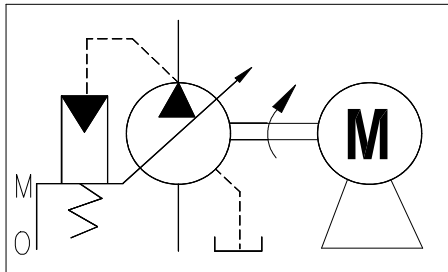


■ RVM Series

These are variable displacement single vane pumps with motor. They come with inbuilt pressure compensator and flow cut off, which in turn give good power saving. This series pump is widely used for machine tools.

Graphical Symbol



■ Specifications

Model Number	Nominal Capacity (cc/rev)	Operating Pressure Range (kgf/cm ²)	Shaft Speed (rpm)	Max. Operating Pressure (kgf/cm ²)	Max. Drain at Max. Pressure (lpm)	Motor (hp)	Mass (kg)
RVM20-SF-17-C-P-10	11.3	10~50	1500	50	1.7	1.5	25

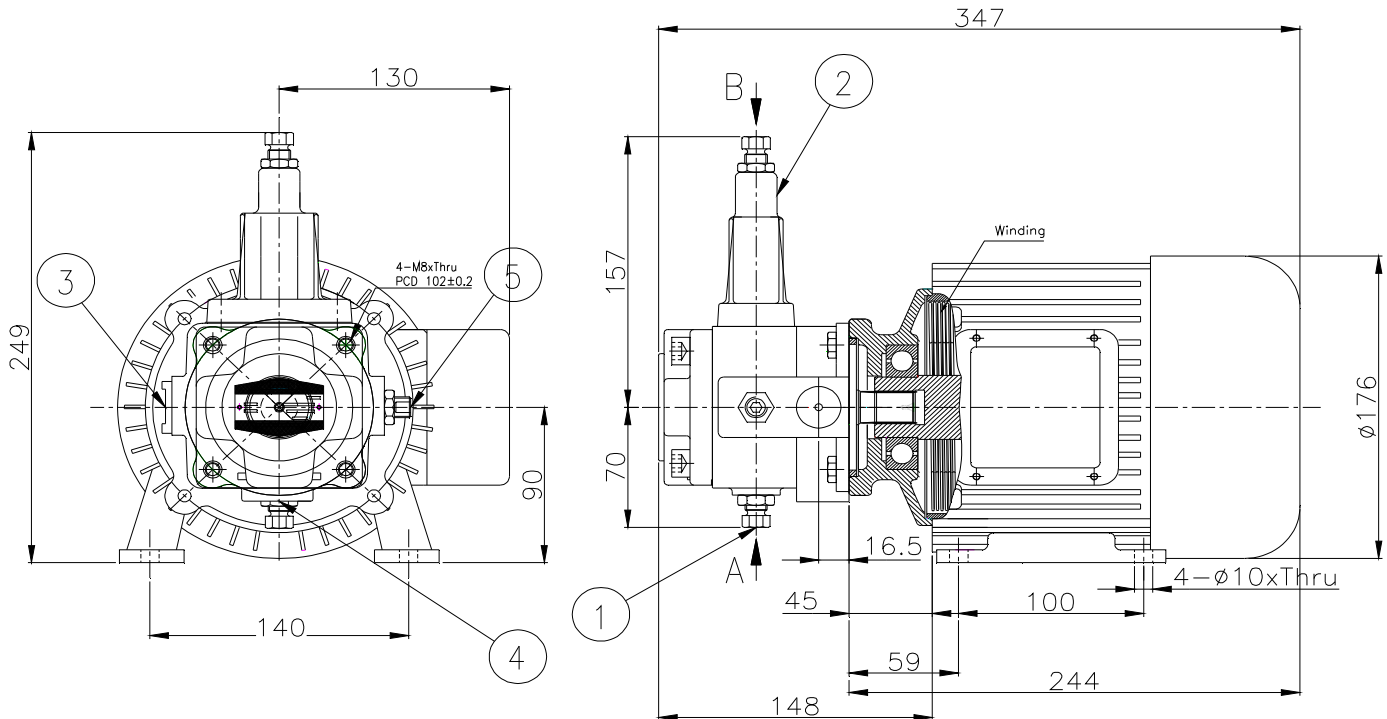
■ Model Number Designation

RVM20	- S	F	- 17	- C	-P	- 10
Series Number	Number of Stage	Type of Mounting	Delivery at Unloading at 1500RPM (lpm)	Max. Operating Pressure (kgf/cm ²)	Motor Power (hp)	Design * Number
RVM20	S: Single Stage	F: Flange Type	17	C : 50	P : 1.5	10

*Design numbers subject to change, but installation dimensions remain as shown.

■ Mounting Details

Note: All dimensions are in mm



1. Flow adjusting screw (A/F 13mm)

- Rotate clockwise (looking in direction A) to reduce the flow.
- Rotate anti-clockwise (looking in direction A) to increase the flow.

2. Pressure adjusting screw (A/F 13mm)

- Rotate clockwise (looking in direction B) to increase the operating pressure.
- Rotate anti-clockwise (looking in direction B) to decrease the operating pressure

3. Suction port (S)

4. Drain port (D)

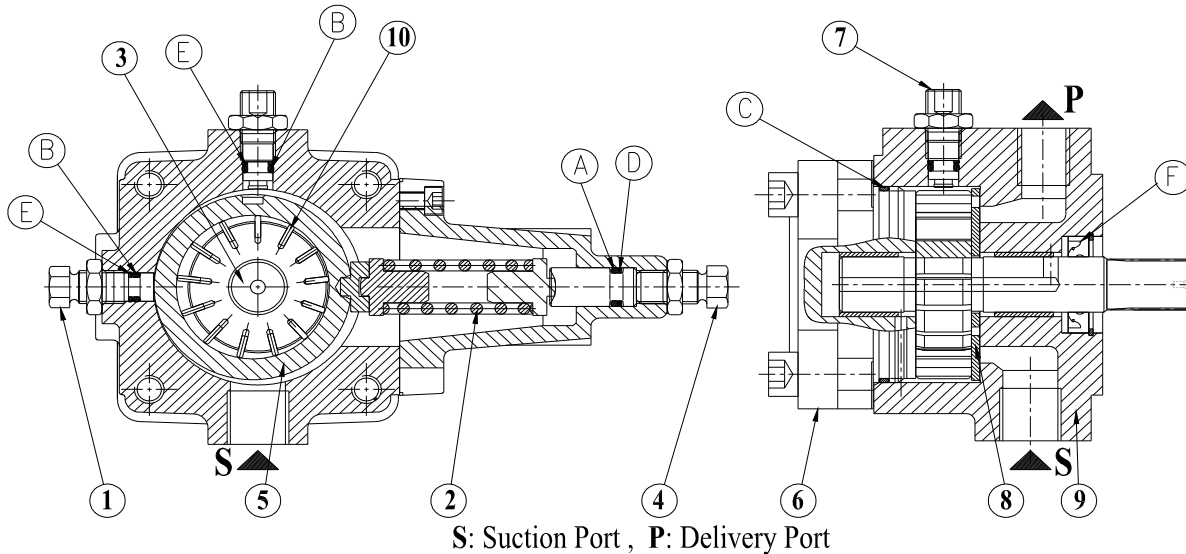
5. Delivery port (P)

Size	Delivery port (p)	Suction port (s)	Drain port (d)
20	G 3/8"	G 1/2"	G 1/4"

● Spare Parts List

SL. No.	Model Code	Description	Qty.
1	KS-RV20-10	Seal Kit	1 Set
2	RV20-SF-17-*-10H02	Pump	1
3	3PH 1.1KW(1.5HP) B5 50Hz 415V	Motor	1

Construction



Parts Description	
1.	Flow adjustment screw
2.	Spring
3.	Spline type Rotor shaft
4.	Pressure adjustment screw
5.	Camring
6.	Cover
7.	Stud
8.	Port plate
9.	Body
10.	Vanes

Seal Kit Details			
MODEL CODE: KS-RV20-10			
Sl.no.	Part name	Description	Qty.
A	O-Ring	SO-NA-P10A	1
B	O-Ring	SO-NA-P7	2
C	O-Ring	SO-NA-A146	1
D	Back-up Ring	SO-BB-P10A	1
E	Back-up Ring	SO-BB-P7	2
F	Oil Seal	ISD-20357	1

Note: When ordering the seals, please specify the seal kit number KS-RV20-10

Functional Description

Hydraulic pumps of the RV-20 series are direct operated variable displacement pumps. This mainly consists of body (9), vanes (10), cam ring (5), spring (2), pressure adjustment screw (4) and port plate (8) Rotor shaft (3).

Suction & Pumping process

The vanes (10), rotor (3), cam ring (5), port plate (8) and the cover (6) form the chambers, which are necessary to transport the fluid.

As the rotor rotates the chambers increase in size and due to the pressure difference fluid is sucked in the suction port. As the rotor continues to rotate the fluid is pushed into a region with a smaller volume as a result giving pressurized fluid, which is then delivered, through the pressure port.

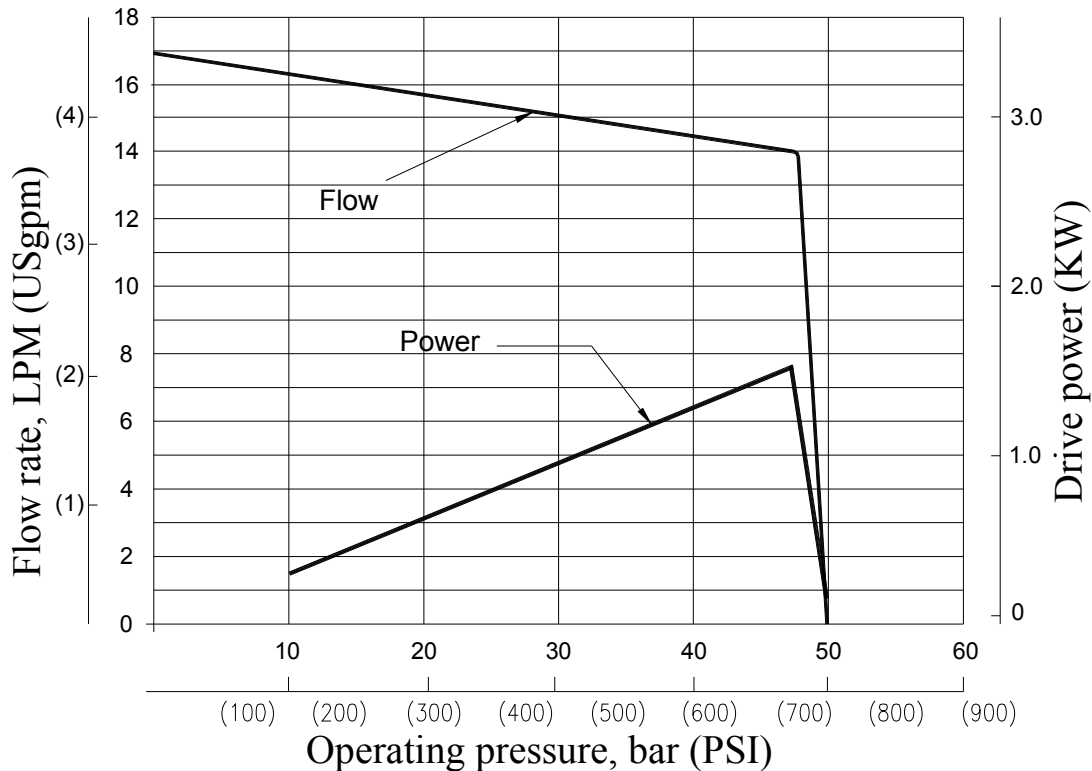
Pressure and Flow control

By means of the spring (2) the cam ring (5) will be held in an eccentric position at the start-up position. The maximum operating pressure required in the system is set using the pressure adjustment screw (4) via spring. The cam ring will be pushed against the force of the spring due to pressure produced by the operation of the pump. The cam ring (5) is pushed to zero position from its eccentric position, if the pressure produced by the pump equals the spring force.

The flow can be adjusted using the flow adjustment screw (1). If the maximum pressure set at the spring has been reached, the pump virtually reduces the flow to zero. Hence operating pressure is maintained and only the leakage fluid is replaced. Therefore losses and heating of the fluid is kept to the minimal.

Operating Characteristics

At 1500 RPM, viscosity = 41cSt & Temp. = 50°C



Notes

1. Cleanliness of oil for safety use:

Contamination level should be within NAS class 9. Use of 100 μ m (150 meshes) tank filter on suction side, more than 50mm away from the tank bottom.

2. Alignment of Shaft for safety use:

Employ a flexible coupling whenever possible & avoid stress from bending or thrust. Maximum permissible misalignment is less than 0.1mm (0.004 inches) TIR & maximum permissible misangular is less than 0.2°.