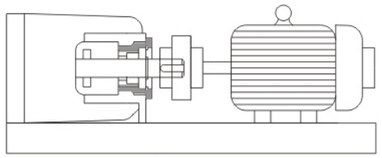
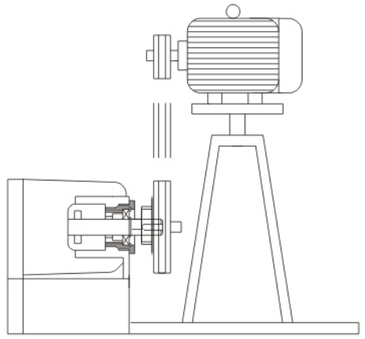
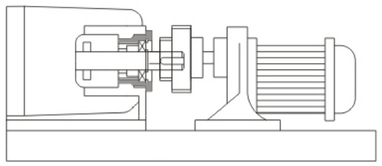
RPP with various drive arrangements



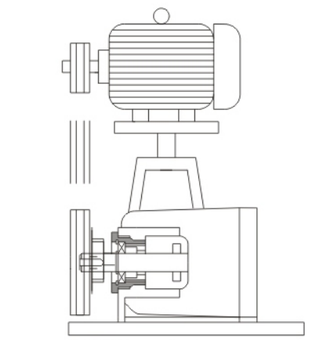
Flexible Coupling and motor.



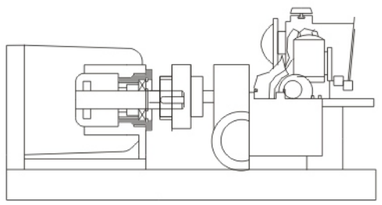
V- Belt drive with adjustable motor plat from.



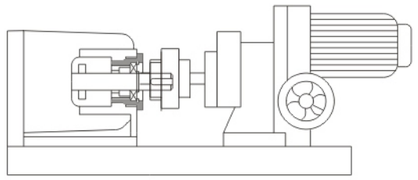
Flexible Coupling and geared motor.



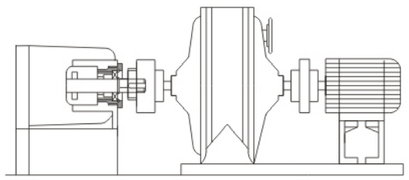
V-Belt drive and motor.



IC Engine Coupled



Flexible Coupling and variable drive



Flexible Coupling,Gear Box and motor.

Other types of drives and Configuration are possible.

Manufactured by
ROVAR PUMPS PRIVATE LIMITED
Shinoli - 416 507 Maharashtra India
Website : www.rovarpumps.com

Your area dealer

Mktg. offices

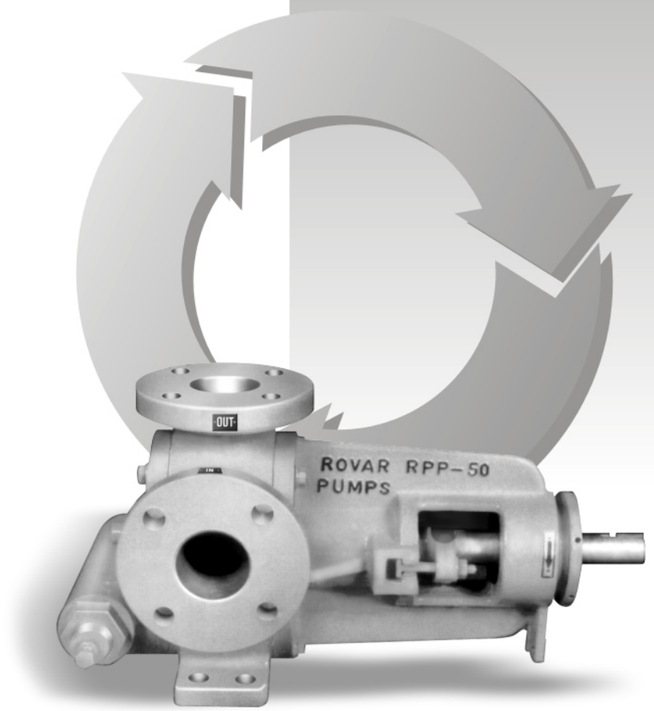
BELGAUM
2nd Floor, 'B' Wing,
'Geetanjali Plaza' (behind Axis Bank),
21-2, Khanapur Road, Angol,
Belgaum - 590 006 India.
Tel.: +91-831-2485 450, 4201 063.
Fax: +91-831-2485 451.
E-mail : sales@rovarpumps.com

CHENNAI
No. 10, 1st Floor,
602, Annasalai,
Chennai - 600 006 India
Tel.: +91-44-2822 4170

AB/RPPL/RSSP/DEC09

Pumps & beyond...

Shuttle Block Pumps Series RPP



Rovar Pumps Private Limited

Shuttle Block Pumps Series RPP

- **Applications :**

  For pumping neutral and lightly acidic liquids, non-abrasive & clear liquids. Low viscous, high viscous and heavy viscous liquids. Typical Liquids: MSD, FO, diesel oil, grease, Petroleum products, bitumen, Pitch, resin, molasses, edible oils, fats, chocolate, creams, soap solution, molten wax, gum, varnish.

- **Principal field of applications :**

  Petrochemical & Chemical industries, Food & Pharma industries, Bitumen plants, Lube oil plants, Sugar, Paint industries, Soap & Fats industry, Edible oil industries, Ship building & all process industries.

- **Advantages :**

  - High volumetric efficiency
  - Broad range and RHS & LHS suction orientation
  - Axial shaft positioning device for wear compensation
  - Insensitive to viscosities
  - Generously sized external bearing
  - No damage to liquid structure

Operation & design :

RPP Pumps works in a combination of rotary and piston principle. The self priming shuttle block pump utilizes two rotary reciprocating double acting pistons, in over lapping stroke relationship, to accomplish the pumping action.

The pump incorporates three pumping elements the rotor, the piston and the shuttle. The rotor is a liquid tight fit within the casing with the piston and shuttle being equally liquid tight in their fit to each other and to the rotor. In operation the piston slides back & forth in the rotor slot drawing liquid from one end and discharging through opposite end. At the same time shuttle reciprocates within the piston slot, drawing liquid through one rotor port & discharging through other. The liquid drawn from the intake port is taken around the casing & discharging through outlet port.

The reciprocating action is accomplished by the center bearing of the shuttle which rotates on a pin fitted on the pump cover eccentric to the rotor shaft. Since the rotor is concentric to the shaft a reciprocating action of the piston and shuttle within their respective cylinder slots is created by revolving the rotor.

Due to this rotary piston action the pump can handle highly viscous liquids or thin volatile materials with exceptionally high volumetric efficiency & liquid being handled without agitation, churning or mechanical beating.

- **Safety relief valve :**

  RPP pump is a positive displacement pump. This means that when the pump is rotated liquid will be delivered to the discharge side of the pump. If there is no place for this liquid to go, discharge line is blocked or closed, the pressure will build up until the pump part breaks or ruptures or the piping bursts. To prevent the possibility of any one or more of these things happening in case of unintentional closing of the discharge line, the use of a safety relief valve is recommended. The safety relief valve will relieve the pressure at a predetermined set pressure thus protecting the entire system.

- **Shaft seals :**

  RPP series pumps are versatile & suitable for gland packing, mechanical seal (single or double) and oil seals.
  The type of seals and materials are adapted to suit the particular operating conditions.
  In any given size of pump the housings for various types of stuffing box or mechanical seal are interchangeable with one another. With all kind of seals, the shaft can be supplied with or without shaft sleeve.

- **Bearings :**

  The drive shaft is supported by rugged bearings which requires no attention. There are out board bearing & do not have any contact with pumping liquid & will take care of radial & axial loads while running with V pulleys and other speed reduction drives.

- **Interchangeability of parts :**

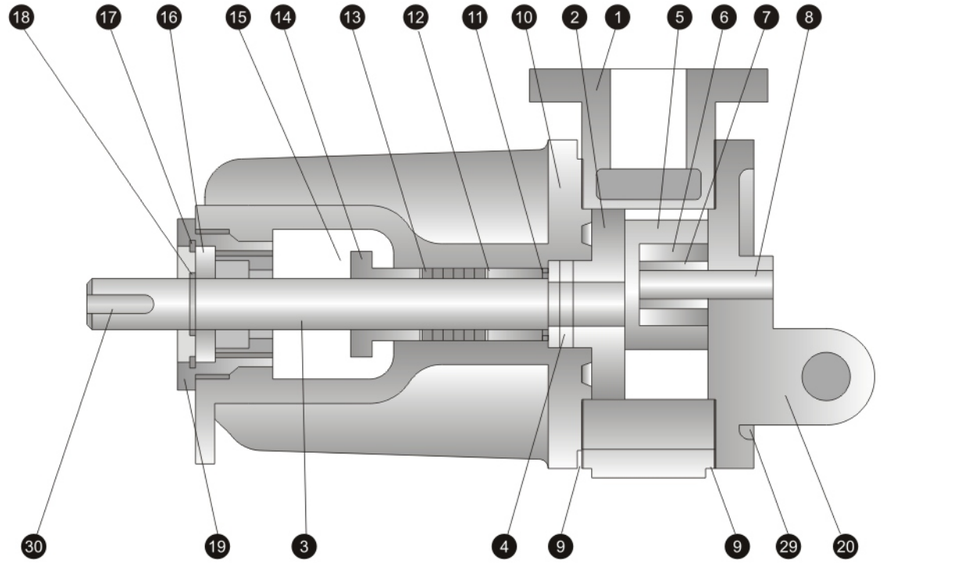
  The components of RPP similar models, are produced to a modular system.

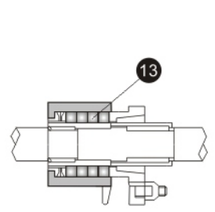
- **Prime movers :**

  RPP series pumps are suitable to drive with all standard motors, IC engines, variable speed Drives, V-belt pulleys, Gear Box, hydraulic drives, air motors etc.

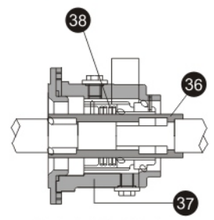
Pumps & beyond...

Shuttle Block Pumps Series RPP

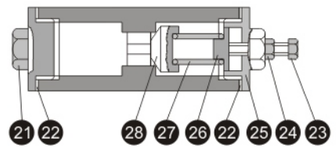




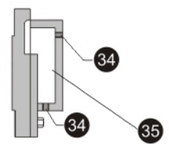
Gland packing/Stuffing Box with shaft wear sleeve.



Mechanical Seal Single, Non balanced bidirectional

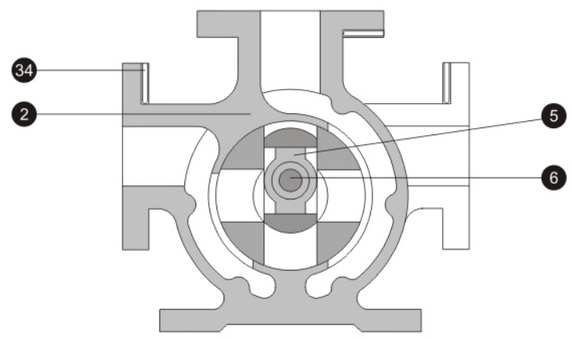


Relife valve



Jacket cover for heating or cooling,
Heating or cooling liquid
Maximum pressure 14 bar

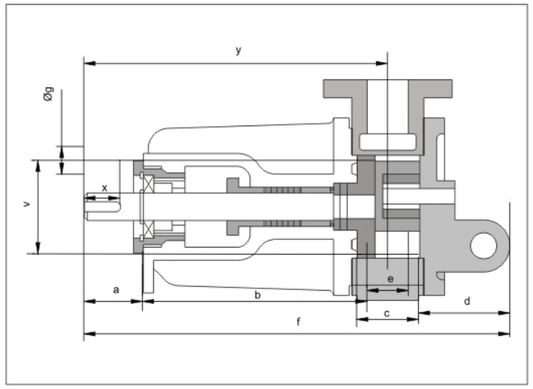
1. Pump Body
2. Rotor
3. Rotor Shaft
4. Dowel Pin
5. Piston
6. Shuttle
7. Shuttle Bush
8. Shuttle Pin
9. Packing
10. Back Cover
11. Internal Circlip
12. Gland Bush
13. Gland Packing
14. Gland
15. Stud & Nut for Gland
16. Ball Bearing
17. Internal Circlip
18. External Circlip
19. Bearing House

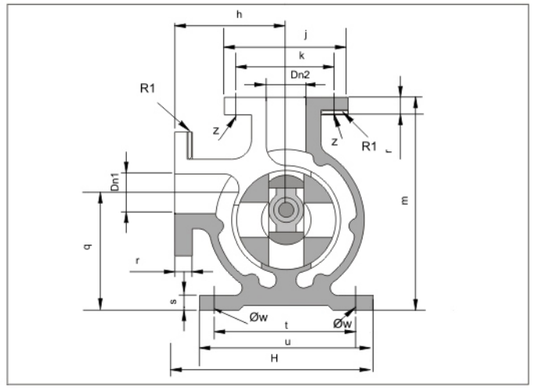


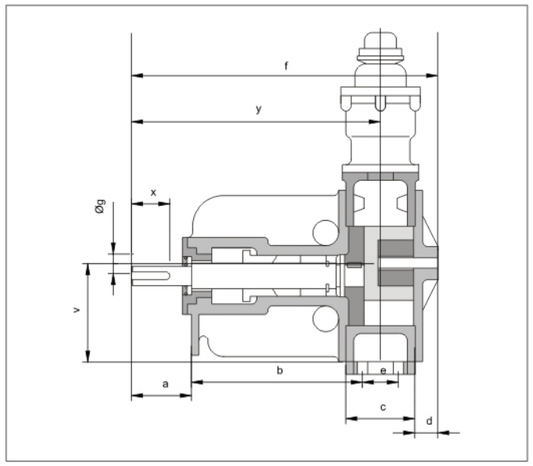
Possible branch positions looking from drive end

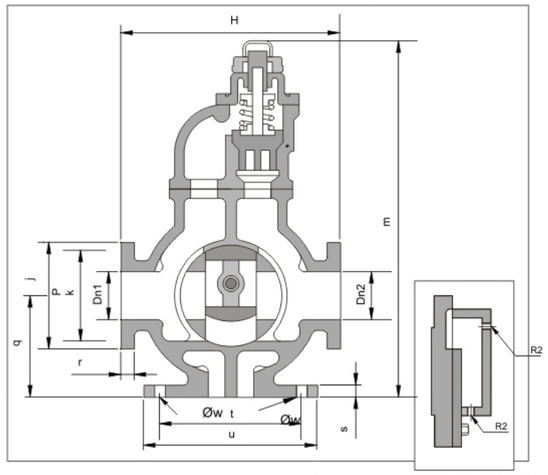
20. Relief Valve
21. Relief Valve Cap
22. Packing Washer
23. Adujusting Screwstl
24. Lock Nut
25. Adj. Screw Adopter
26. Buffer
27. Spring
28. Relief Valve
29. Bolt for Body
30. Key
31. Self Locking Nut
32. Grease Nipple
33. T - Head Bolt
34. Auxiliary Connection
35. Jacket Cover
36. Shaft Sleeve
37. Mech. Seal Housing
38. Mech. Seal

Shuttle Block Pumps Series RPP









Jacket cover for heating or cooling
Maximum pressure 14 bar

Models	a	b	c	d	e	f	ÿg	h	m	q	s	t	u	v
RPP37	50	175	72	70	40	345	19	126	220	117.5	20	140	203	90
RPP50	60	260	76	75	70	490	28	143	255	140	15	185	222	100
RPP75	80	300	114	80	70	605	31.8	171	305	133	16	197	235	122
RPP100	100	432	146	75	80	725	40	470	795	222	25	315	370	218

	*Mating flange connections for suction & discharge ANSI B 16.5 class 150#									
MODELS	j	k	Dn1	Dn2	z x ÿP	r	R1	R2	ÿw	wt. kg.
RPP37	137	100	42	42	4 x 16	17.5	⅜"	½"	10	27
RPP50	150	120.7	54	54	4 X 16	19.5	⅜"	½"	12	45
RPP75	190.5	152.4	76	76	4 X 19	23.8	⅜"	¾"	11.5	75
RPP100	228.5	102	102	102	8 X 19	23.8	½"	1"	22	230

*Mating flange connections as DIN2501,PN16,DIN11851 Threaded connection,ANSI B16.1 class 125, on request.
All dimensions are in mm unless specified.

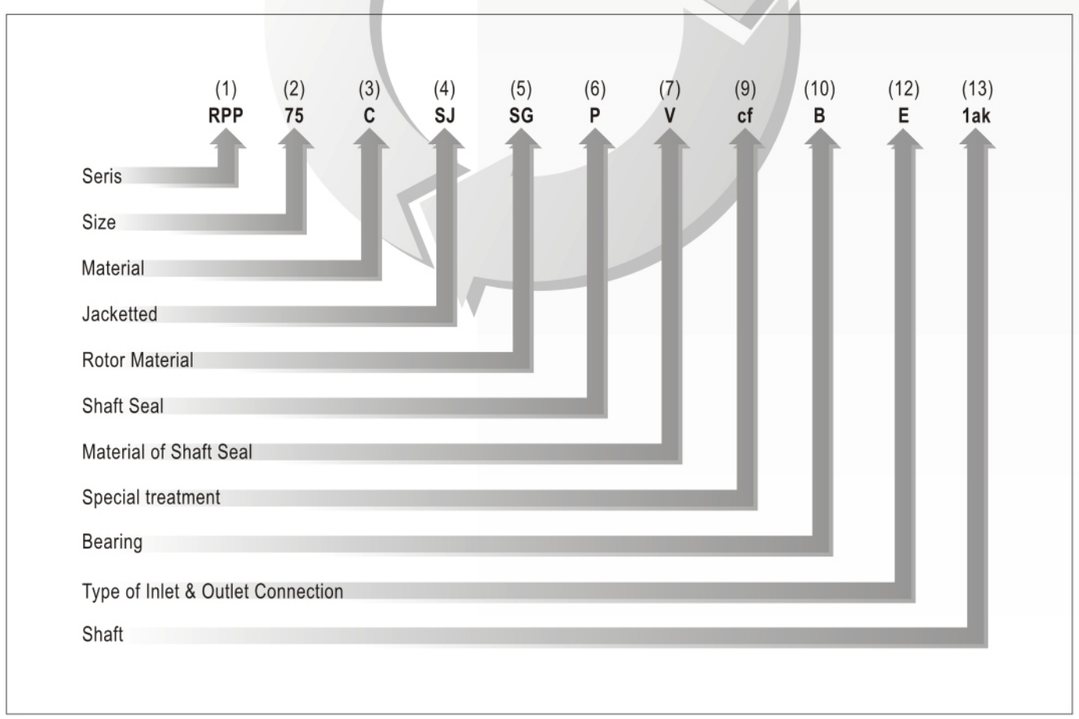
Pumps & beyond...

Shuttle Block Pumps Series RPP

Technical Specification

Max. Flow rate	:	Up to 1000 LPM
Max. Pressure	:	Up to 12 kg /cm^2
Max. Permissible Temp	:	375 °C
Max. Viscosity	:	Up to 10,00,000 CST & more with special configuration
Direction of rotation	:	Anti clock will be standard bi-direction is possible.
Safety relief valve	:	A standard feature isall RPP model except Jacketed
Speed	:	Depending on the liquid viscosity & application. 50 RPM - 1500 RPM

Details of Coding



Shuttle Block Pumps Series RPP

Explanatory notes on the type of coding

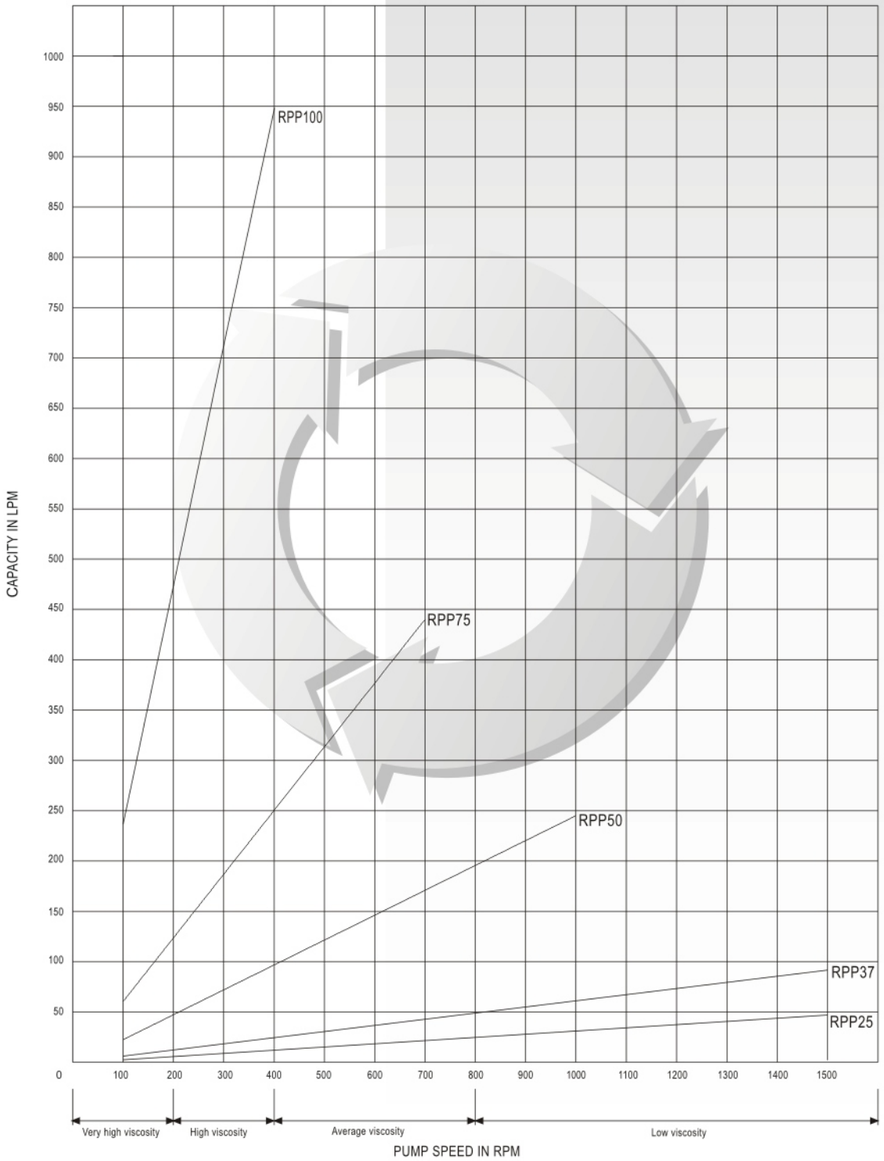
Name	Explanation
Series	Rovar Shuttle Block Pump
Size	25, 37, 50, 75, 100 (The number indicates the inlet & outlet size of pump size in mm)
Jacketed	SJ - Steam Jacketed, HJ - Hot oil Jacketed
Pump Material	C - Cast iron, S - Stainless Steel G - Cast Steel X - Other special material
Shaft Seal	P1 - Stuffing Box P2 - Stuffing Box with Flushing M - Single Mechanical Seal MD - Double Mechanical Seal O - Oil Seal
Material of Shaft Seal	**Stuffing Box** V1 = Graphited Asbestos - Standard V2 = Cotton Packing V3 = Oil & Solvant Packing V4 = PTFE Packing V5 = Graphoil Packing
	Mechanical Seal Seal faces / Springs & Hardware / Auxilary seals M1 TC VS TC / SS 316 / Viton M2 Ceramic Hard carbon / SS 316 / Neoprene M3 Cr. Steel / Hard carbon / SS 316 / Viton M4 Corbon VS TC / SS316 / Viton MX Special material / Special / Viton Silicone
Special treatment	f = Rotor with high thermal expansion clearance
Bearings	B = Sintered Bronze bush bearing and ball bearing B1 = corbon graphited bush bearing & ball bearing
Type of inlet & Outlet Connections	F1 = ANSI Flanges F2 = DIN Flanges F3 = Threaded Connections FX = Special type Flanges
Shaft	1 = Without shaft wear sleeve 2 = With shaft sleeve a = shaft hard chrome plated k = Shaft ceramic coated

Pumps & beyond...

Shuttle Block Pumps Series RPP

Performance Chart

To give a rough indication of the appropriate pump size speed as a function of the requried output and the nature of the liquid to be pumped



For exact performance data, see the individual pump characteristics.