# PUMPSQUARE®

Foot Mounted Pump with Outboard Bearing & Perpendicular Ports

# SB-OX

SHUTTLE BLOCK PUMPS
OSCILLATION ROTARY PISTON PUMP

PRESSURE UPTO 10 BAR
CAPACITY UPTO 1000 LPM
VISCOSITY UPTO 2,00,000 cSt
OPERATING TEMPERATURE UPTO 250˚C

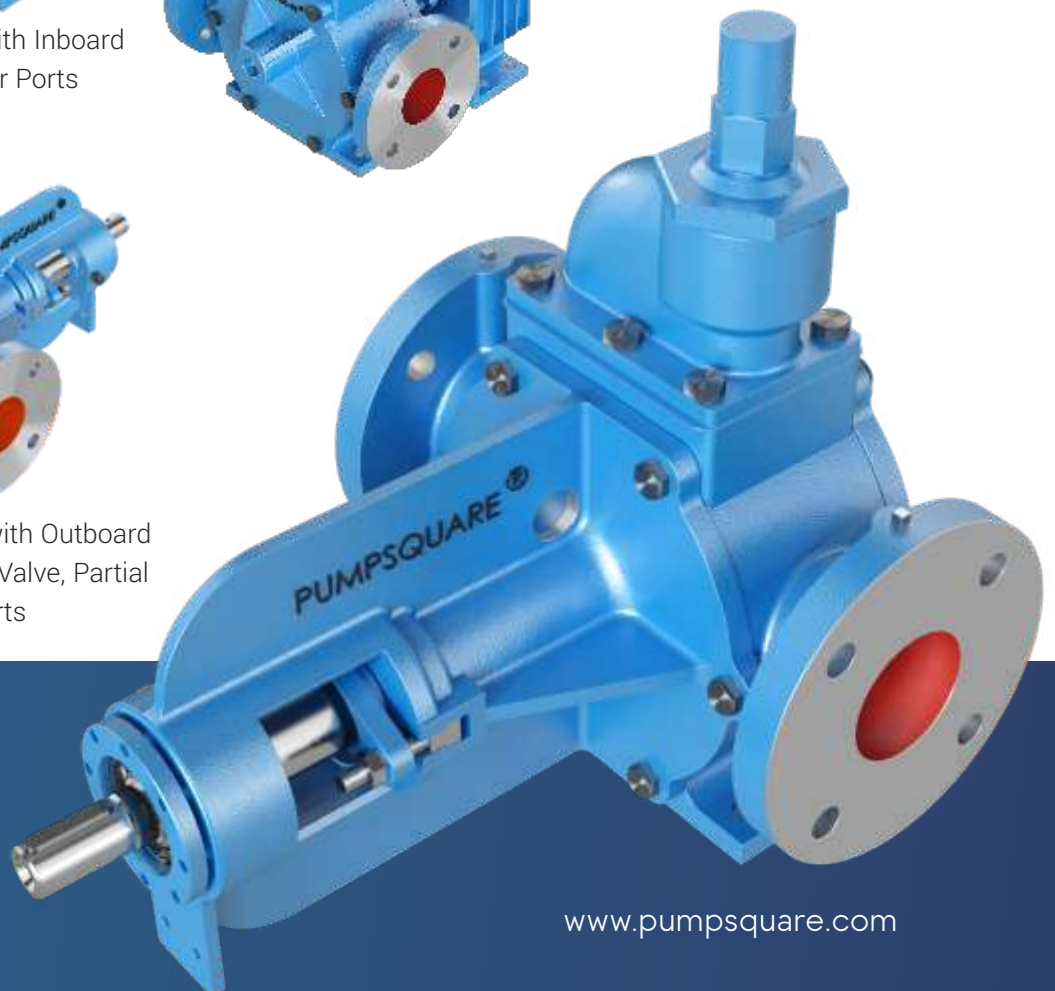Foot Mounted Pump with Inboard Bearing & Perpendicular Ports

Flange Mouted Pump with Relief Valve, Close Coupled to Foot Mounted Built-In Speed Reducer

Foot Mounted Pump with Outboard Bearing, Built In Relief Valve, Partial Jacketing & In-Line Ports

Foot Mounted Pump with Outboard Bearing, Built-In Releif Valve & In Line Ports

www.pumpsquare.com

**Call +91-800-00-PUMPS or +91-800-00-78677 For Your Pumping Solution Requirements**

# WORKING PRINCIPLE

The shuttle block pump is a **positive displacement pump,** which mainly consist of three components: **rotor, piston and shuttle.** The **liquid-tight fit reciprocation** of double acting piston in the rotor slot **ensures high efficiency and suction power.** This action of piston results due to the **rotating shuttle on shuttle pin, which is placed eccentrically inside a rotor.** Thereby, the fluid is caused to fill the pockets on suction side and get emptied **smoothly and without any shear and churning on a discharge side. The robust design of this pump** is precisely executed by using advanced CNC machines, making our pumps **highly reliable and assures quality with minimum leakage and exceptionally long service life.** Our shuttle block pumps are **highly suitable to continuously handle wide range of viscous fluids with an enormously silent operation.** Furthermore, it is designed to **delivers vibration free pumping with minimum run out** by incorporating single shaft design supported by long sleeve bearing and external ball bearing. **The Front Pull-Out design of this pump enables a simple, convenient and quick inspection and maintenance of pump.** This pump has a **unique feature to manually change the clearances as well as adjust and compensate wear for longer pumping life.**
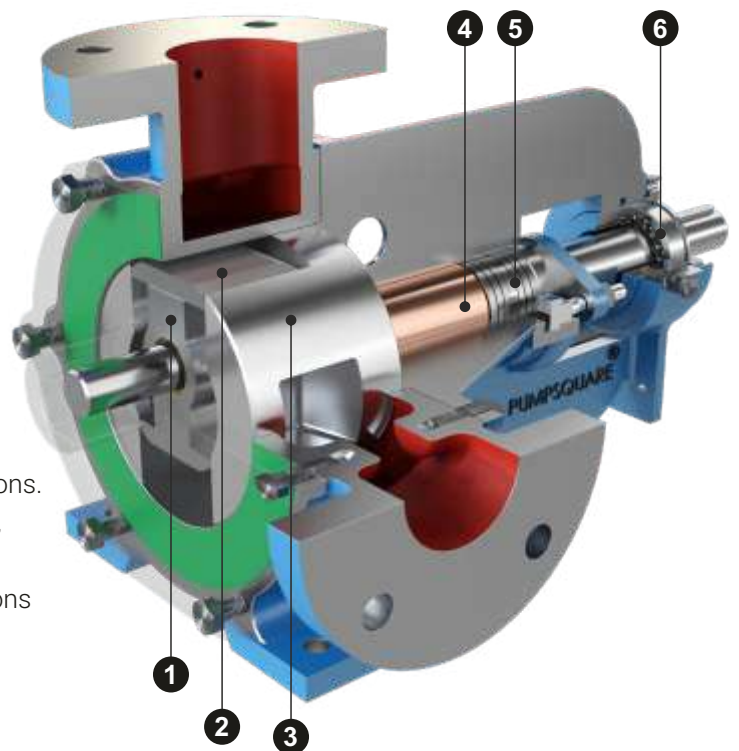
## TECHNICAL DATA

- Mounting:   : Horizontal Foot Mounted
               Horizontal Flange Mounted
               Pulley Mounted
- Jacket      : Fully Jacketed / Partial Jacketed
- Relief Valve : Built-In / No Relief Valve
- Sealing     : Gland Packing, Mechanical Seal
               or Seal-less Magnetic version

## APPLICATIONS

- Mainly applicable for handling dirty liquids.
- Loading-unloading of tank lorries and rail wagons.
- High viscous fluid such as Bitumen, Molasses, etc. can be pumped easily.
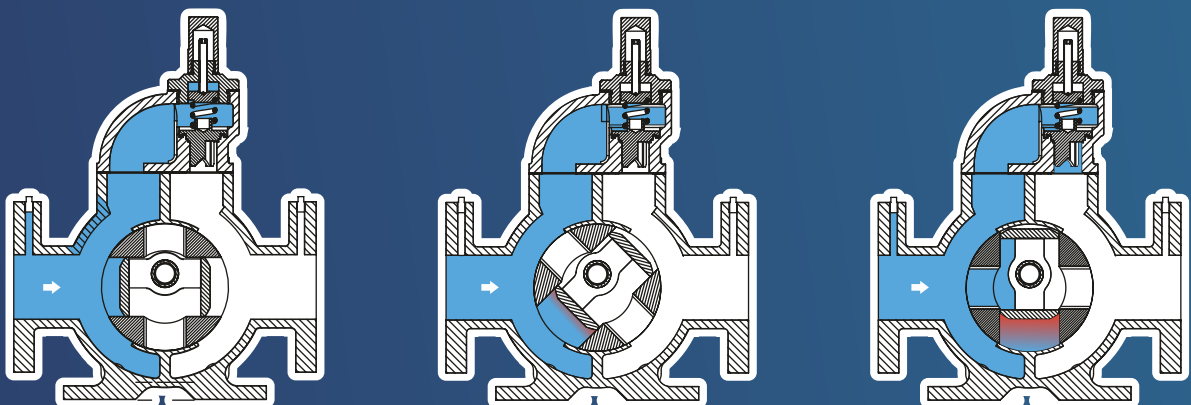- For Decanting, Tanking and Process Applications

## INDUSTRY

- Petrochemical
- Oil and Gas
- Sugar Plant
- Food

- Chemical
- Pharmaceutical
- Paint & Paper
- Pharma

① Shuttle    ④ Bush
② Piston     ⑤ Gland Packing
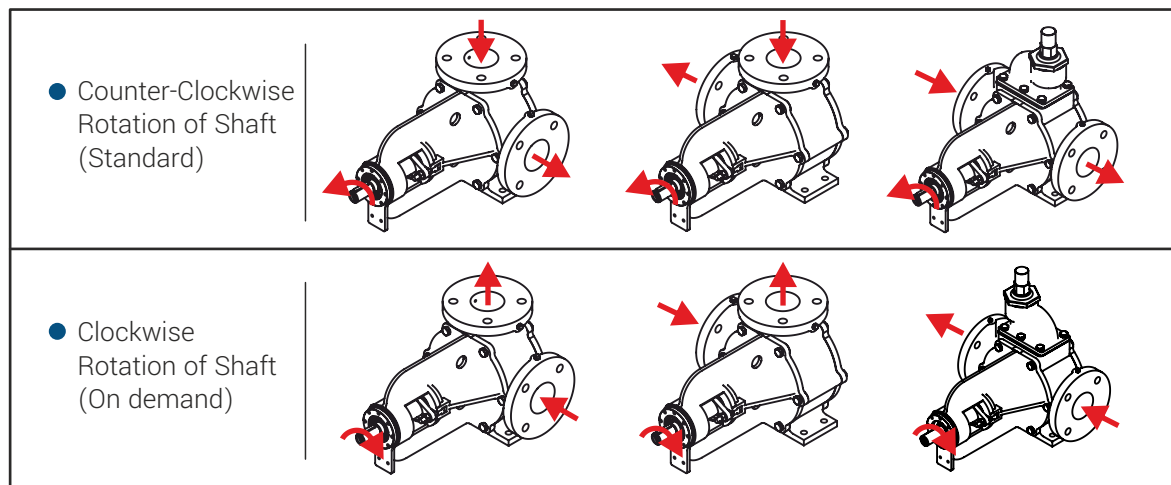③ Rotor      ⑥ Ball-Bearing

# WORKING PRINCIPLE

# TYPICAL LIQUID LIST

**Thin Products:** Olive Oils, Thermal Oils, Acetone, Alcohol, Benzol, Styrene, Hexane, Diesel, Gasoline, Aliphatic Hydrocarbons, Aromatic Hydrocarbons, Kerosene, Toluene, White Spirit.

**Thick / Sticky Products:** Industrial Oils, Mineral Oils, Adhesives, Additives, Tars, Asphalt, Varnish, Polyvinyl Chloride, Urea or Phenol Glue, Cosmetics, Toothpaste, Detergent, Emulsions, Diesel Oil, Grease, Isocyanate, Soap, Molasses, Paraffin, Refinery Pastes, Paint, Plastic, Polyol, Resins, Silicates, Elbow Grease, etc.

**Food Products:** Edible Oils, Creams, Chocolates, Glaze, Glucose, Syrup, Juice, Butter, Mayonnaise, Jam, Honey Pasta, Cookie Dough, Cake Ratter Tomato Paste etc.

# PORT POSITION

- Counter-Clockwise Rotation of Shaft (Standard)

- Clockwise Rotation of Shaft (On demand)

# DRIVER & MOUNTING OPTIONS

Motorized Unit consisting of Foot Mounted Pump with Base Plate and V-Belt Transmission
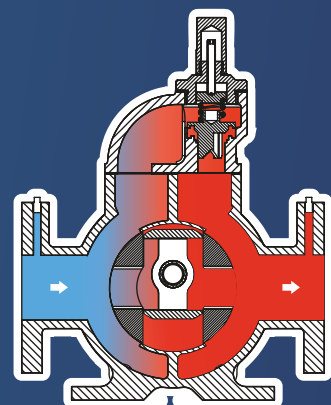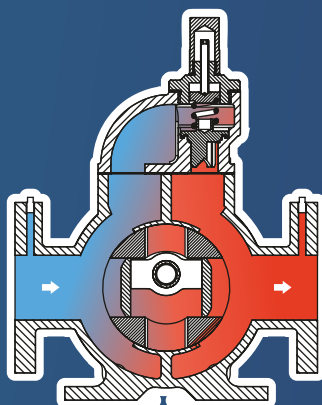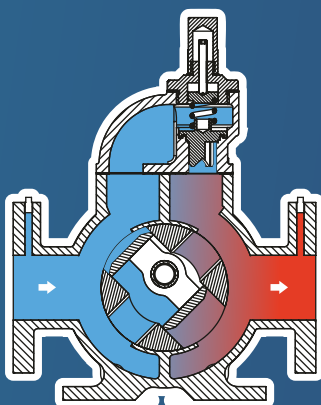
Motorized Unit Consisting of Foot Mounted Pump with Base Plate, Directly Coupled to Geared Motor

Motorized Unit Consisting of Flange Mounted Pump with Bell Housing, Coupling and Electrical Motor

Motorized Unit Consisting of Foot Mounted Pump with Base Plate, Flexible Coupling and Electrical Motor

# MATERIAL OF CONSTRUCTION

| Designation | Pump Housing & Covers | Bush Bearing | Shaft | Rotor | Shuttle | Piston | Pin |
|---|---|---|---|---|---|---|---|
| FI | Cast Iron | Bronze | Alloy Steel | Cast Iron | Steel | Cast Iron | Alloy Steel |
| IA | Cast Iron | Iron | Alloy Steel | Cast Iron | Steel | Cast Iron | Alloy Steel |
| FB | Cast Iron | Bronze | Alloy Steel | Bronze | Steel | Bronze | Alloy Steel |
| BA | Bronze | Bronze | Alloy Steel | Bronze | Bronze | Bronze | Monel |

# PUMP PERFORMANCE TABLE

| PUMP MODEL | SB-01 INLET X OUTLET (NB 2", ANSI, B16.5, 150#,FF) | | SB-02 INLET X OUTLET (NB 3", ANSI, B16.5, 150#,FF) | | SB-03 INLET X OUTLET (NB 4", ANSI, B16.5, 150#,FF) | | Std. Available Gearbox Ratios |
|---|---|---|---|---|---|---|---|
| PUMP SPEED (RPM) | Flow (LPM) | Power (kW) | Flow (LPM) | Power (kW) | Flow (LPM) | Power (kW) | |
| 960 | 250 | 5.00 | N.A. | N.A. | N.A. | N.A. | 1.5:1 |
| 720 | 187 | 3.76 | 403 | 8.11 | N.A. | N.A. | 2:1 |
| 576 | 150 | 3.00 | 323 | 6.50 | 1000 | 20.12 | 2.5:1 |
| 480 | 125 | 2.50 | 270 | 5.43 | 845 | 17.00 | 3:1 |
| 360 | 98 | 1.97 | 210 | 4.22 | 660 | 13.27 | 4:1 |
| 288 | 75 | 1.50 | 160 | 3.22 | 507 | 10.20 | 5:1 |
| 240 | 62 | 1.25 | 134 | 2.70 | 420 | 8.45 | 6:1 |

The data given in the above table are at 6 bar and 40 cSt and subjected to change, Hence contact PUMPSQUARE for accurate performance details. Test Standard as per VDMA 24284 G.II CL.II.

**Important Note:**
- Minor Repair Kit (Static Seal + Dynamic Seal Kit + Bush)
- Major Repair Kit (Rotor + Shuttle + Piston + Shaft + Pin + Minor Repair Kit)
- Interchangeability to your existing installed pump can be guaranteed.
- Reduced Stroke Length and Variable Volume Control Head Pumps are available on demand.

**Important Note: Shuttle Block Pump currently Available in Stainless Steel Construction**

## We also Manufacture

| | | |
|---|---|---|
| INTERNAL GEAR PUMPS | RELIEF VALVES | SIMPLEX / DUPLEX FILTERS |
| INTERNAL LOBE PUMPS | TWIN SCREW PUMPS | THREE SCREW PUMPS |
| EXTERNAL LOBE PUMPS | EXTERNAL GEAR PUMPS | FLEXIBLE IMPELLER PUMPS |
| STRAINERS | PROGRESSIVE CAVITY PUMPS | PERISTALTIC PUMPS |

However it can be offered in customized material based on your specialized application.
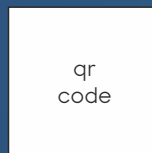
**PUMP**

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Authorised Dealer Stamp

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