



## TWIN SCREW PUMPS

### Applications

Loading / Unloading, Transfer and Process application for handling Acids, Bitumen, Crude oil, Chemical & Corrosive Fluids, Dairy products, Gasoline, Glue, Hydrocarbons, Hydraulic controls, Mineral oil, Molasses, Marine fuel oil, Sea water, Vegetable oil, Very Low & Highly Viscous Liquid, Lubricating or Non-lubricating, Liquid with Entrained Gases and many more.

### Basic Design, Principle of Operation

UTPSL Twin Screw Pumps are self-priming, double ended positive displacement pumps with external timing gears and bearings. As the screws rotate, cavities are formed between the individual screws. These hold a given volume of fluid, moving it axially as the screws rotate. The portion of the fluid that enters the pump is diverted to the left or right and then moved forward from left to center and from right to center. At the center the two flow paths rejoin and leave the pump through the discharge flange.

The screws do not mesh with each other. The drive to driven screw is transmitted by means of timing gears. The design provides complete axial balancing of the rotating elements and eliminates all metal-to-metal contact within the pump. This feature makes them ideally suited for dry running and can also be operated at low rpm.

They can handle all types of lubricating/non-lubricating abrasive & corrosive liquids with extremely low and high viscosity.

### Industries

Color & varnish factories, Chemical industry, Cosmetic industries, Food industries, Mineral oil industries, Oil burner, Oil mills & starch factories, Paper & pulp industry, Petrochemical industry, Refineries, Ship building, Soap & fats industry, Storage tank, Transmission and Gear industries and many more.

### Special Features / Advantages

- ★ Separate Screw and Shaft Assembly design offer many advantages.
- ★ Extremely good suction capability
- ★ Compact Design and Rugged construction.
- ★ Various Combinations Of Materials available
- ★ Partial/Full Heating Jacket Available In Various Designs
- ★ Different Sealing Arrangements Possible
- ★ Low NPSH Requirement
- ★ Casing available in Cast construction / Casing in Fabricated Design with replaceable liner.
- ★ Low maintenance cost

### Materials of Construction

UTPSL Twin Screw Pumps are available in different combination of material to suit specific medium requirements. Twin Screw Pumps can be supplied with steel, cast iron, bronze or stainless steel body and screw of stainless steel, bronze or alloy steel. The pump is equipped with in built balance pressure relief valve for safety. Heating of casing by heating foot or steam jacketed. Sealing arrangement by gland packing, single acting mechanical seal or special mechanical seals.

## Twin Screw Pumps are manufactured in two basic design: -

### Short Shaft Design

- For handling liquids at temp < 120° C
- With Single Acting Mechanical Seals.

### Long Shaft Design

- For handling liquid at temp above 120° C
- With special sealing arrangement viz. Gland packing,
- Double Mechanical Seal with Flushing/Quenching cartridge type or arrangement..

## RANGE

### UTPSL Twin Screw Pumps are available in two ranges

#### Range W:

Horizontal pumps with lateral suction flange, delivery flange directed to the top. The pump casings are symmetrically design so that the suction line can be connected on the left or right side by simply turning the casing. Mostly pumps are installed in horizontal position on a base frame directly connected to motor by a flexible coupling.



#### Range V:

These are called IN-LINE-PUMP and are preferably installed vertically. Labyrinth packing with splash rings is used to avoid leakage. A flexible coupling connects the pumps and motor to each other or by motor lantern

UTPSL Screw Pumps may be used with all types of drive, i.e. electric motor, Internal combustion engine, Steam turbines etc and can be stationarily or portably used.

## Performance

Size	Capacity m <sup>3</sup> /hr	Pumping Pressure in (bars)
2	9	25
3	17.4	30
4	40	40
5	67.5	40
6	120	40
7	285	40
7T	455	50

Speed max.	3000 RPM
Temp.	Normal up to 180° C Max. Up to 450° C
Viscosity	40,000 mm <sup>2</sup> / S

For further details, please contact

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