



# PRECISION PUMPING, ENGINEERED FOR HIGH PRESSURE.

[www.utpumps.com](http://www.utpumps.com)





# Triple Screw Pumps

UT Pumps’ triple screw pumps are self-priming, positive displacement pumps available in both horizontal and vertical configurations, with options for internal or external bearings.

Designed for high-pressure applications, these pumps comply with API 676 standards and are built for reliable, continuous-duty performance across a wide range of industries.

- Flow: Up to 110 m³/h
- Temperature: Up to 150 °C
- Pressure: Up to 60 bar
- Viscosity: Up to 10,000 cP

**PDT MODEL**  
Vertical Tank Top Mounted



## APPLICATIONS

Loading/unloading, transfer and pressurizing application for handling bitumen, crude oil, hydrocarbons, mineral oil, marine fuel oil. Ideally suited for hydraulic controls, circulating & pressure rising, power packs, lubrication systems, and turbine governing systems.

## INDUSTRIES

- |                              |                          |
|------------------------------|--------------------------|
| – Oil & Gas                  | – Power Generation       |
| – Manufacturing              | – Industrial Machinery   |
| – Chemicals & Petrochemicals | – PU Manufacturing       |
| – Nuclear Energy             | – Marine & Shipping      |
| – Agrochemicals              | – Cement                 |
| – Metallurgy                 | – Construction Machinery |

## PRINCIPLE OF OPERATION

Triple screw pumps operate using a set of three intermeshing screws – one drive screw and two driven screws – housed within a precision-machined casing.

As the main screw rotates, it forms sealed transfer chambers that move fluid axially from the suction to the discharge side in a smooth, continuous flow. This design ensures minimal pulsation and high suction lift.

Axial thrust generated by the drive screw is fully balanced, while the driven screws are supported at the discharge end by bearings or balancing bushes.

Suction pressure equalizes forces within the seal housing and compensating pistons, enhancing operational stability.

To manage excess pressure, these pumps typically include a built-in relief valve that redirects flow back to the suction chamber. Alternatively, a return valve can be used to send excess pressure to a separate tank.

Since the screws are in contact with each other and the casing, the pumped medium must have lubricating properties to prevent wear. The viscosity of the fluid also influences the maximum pressure the pump can achieve.



## SPECIAL FEATURES

- Internal or external bearing options
- Low NPSH requirement
- Replaceable cartridge construction
- Orientation of inlet / outlet to meet specific requirement
- Choice of casing materials and sealing types
- Flexible mounting configurations
- Driven by direct coupling to a motor or engine
- Heating of casing for handling liquid at high temperature
- Continuous duty cycle
- API 676 compliant

Model	Nozzle Size (mm)		Flow Rate m <sup>3</sup> /h	Pressure (bar)		
	Suction	Discharge		G	N	K
25	25	25	2	10	15	60
32	32	25	5	10	15	60
38	65	50	10	10	15	60
45	65	50	13	10	15	60
52	80	65	20	10	15	60
60	100	80	32	15	20	60
70	125	100	66	15	20	60
80	125	100	78	15	20	60
90	150	125	109	15	20	60
100	150	125	78	15	15	60
110	200	150	102	15	30	40

**Note:** Screw types: G = Large Pitch, N = Normal Pitch, K = Kral Type.  
Flow rate: Models 25–90 at 2950 RPM; Models 100 & 110 at 1450 RPM

## PDF MODEL

Horizontal/Vertical  
Flange Mounted



## PUMP MODELS

### PDT

- Specially designed for vertical tank top mounting with submerged suction and discharge outside the tank.
- Option for internal or external bearings with replaceable cartridge assembly.
- Ideal for Hydro Turbine Governing Systems.

### PDS

- Vertical pedestal-mounted with motor directly on casing flange.
- Lateral suction and discharge with reversible flange orientation.
- Available with heating cover/jacket for medium to high-temperature fluids.

### PDH

- Horizontal foot-mounted design with lateral suction/discharge and reversible flange.
- Symmetrical casing allows flexible inlet/outlet orientation.
- Built-in relief valve for pressure control and re-circulation.

### PDF

- Bell-mounted casing suitable for both horizontal and vertical installation.
- Flexible flange arrangement with 180° reversal option.
- Designed for high-temperature fluids with heating jacket support.

### PDE

- Complete cartridge pump ready for direct installation — no external casing required.
- Special construction allows standalone operation without additional housing.
- Compact and ideal for machine or plant integration.



# ABOUT

For over four decades, UT Pumps has been a trusted provider of industrial pumping solutions, renowned for engineering excellence and dependable performance in demanding environments. Specializing in the manufacture of high-quality screw pumps and high-pressure plunger pumps, we serve critical sectors including chemicals, water treatment, and food processing with precision-engineered systems tailored to industrial requirements.

Our commitment to quality, sustainability, and safety is reflected in our ISO 9001, ISO 14001, and ISO 45001 certifications, ensuring that every solution we deliver enhances productivity and operational efficiency.

As a brand of Hydro Prokav Pumps India Pvt. Ltd. and Ingersoll Rand, UT Pumps offers its customers the advantage of global expertise, expanded capabilities, and a commitment to innovation.



**HYDRO  
PROKAV**

An Ingersoll Rand Business

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