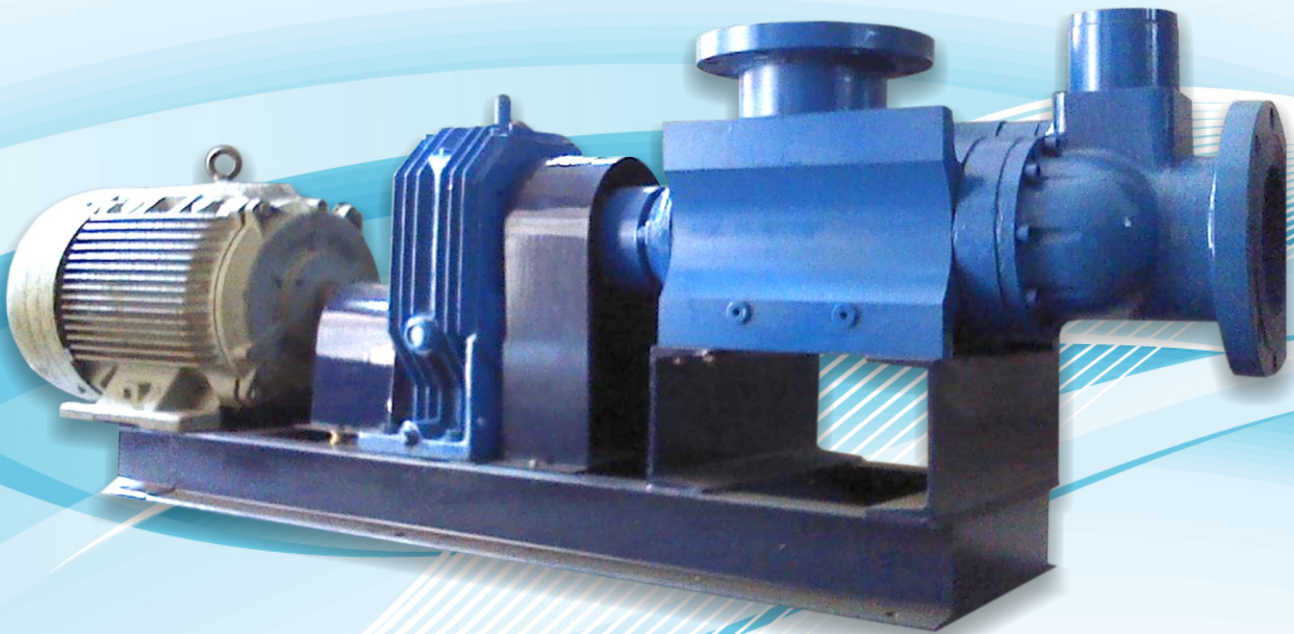


*World class technology with  
proven processing solutions.*

**STEPHENSON**  
P U M P S

**SERIES - TSO**  
**FOR CLEAR OIL**



## **TWIN SCREW PUMP**

### **SALIENT FEATURES**

- Absolutely no metal-to-metal contacts between the moving screws as a small positive clearance is maintained between them. This ensures the pump very long operational service. No wear & tear.
- Pump capable of running dry.
- Screws are mounted on the timing gears and the speed of both the screws are therefore synchronized resulting in pulsation free, turbulent free flow.
- Flow of liquid is axial and do not take path of the casing periphery.
- The sealing is placed at the no-pressure zone area, this therefore allows to use inexpensive arrangement for the sealing.
- Pump is capable of operating at full motor speed.
- Lowest NPSHR.
- Negligible vibrations.

# STEPHENSON

P U M P S

PUMP MODEL	M3/HR
TSO : 105	30
TSO : 135	70
TSO : 150	100



## WORKING PRINCIPLE

**Twin Screw** pumps are robust in design and can handle variety of liquids with diverse operating parameters which generally cannot be handled by other Positive Displacement Pumps.

**Twin Screw** Pumps consists a pair of profiled screw supported on antifriction bearings. Torque is transmitted from the driving shaft onto the driven shaft by oil lubricated, hardened and ground timing gear wheels arranged outside the pump casing in the gear box. The speed of both the screws are therefore synchronized. Timing gears maintains a small clearance between the moving screws. This enables the pump to even dry and can easily handle liquid without lubricating properties and of very high viscosities. Since there is no contacts between the moving screws wear and tear is negligible, giving extremely high service life.

The internal velocities are very low and the NPSH is minimum compare to other positive displacement pump even when operating at full motor speed. Both the screws move in opposite direction hence there is virtually no axial thrust. Also sealing is always under suction pressure due to typical flow of the liquid, thus allowing to use simple seals.

The fluid is handled gently without any turbulence, churning & chewing. Noise and vibration level are lowest.

## TYPICAL APPLICATIONS

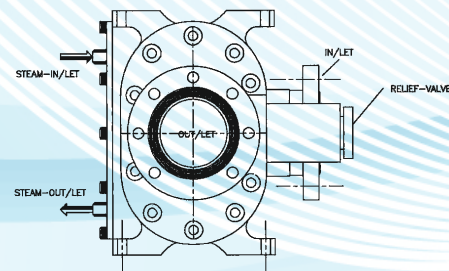
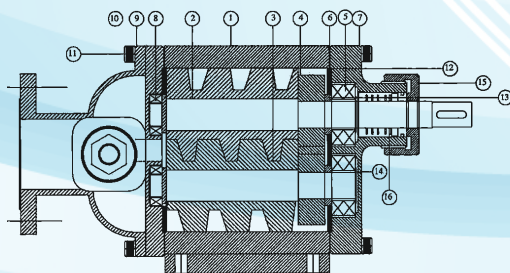
- Loading / unloading of fuel oil & other products from :
  1. Railway Wagon Rakes
  2. Truck tankers
  3. Barges ship & tankers
- Bulk cargo handling
- Lubrication, circulation & cooling
- Process pumping of high viscous products, bitumen, molasses, soap and products
- Long distance pipeline pumping of viscous products

## LIQUID LIST

- Additives • Base Oils • Fuel Oils-all grades • Lubricating Oils-all grades
- Lyes • Molasses • Paraffin Products • Residues • Vegetable Oils

## MAJOR INDUSTRIES

- Petroleum Refineries • Terminals • Depots • Oil Blending Stations
- Thermal Power Plants • Steel Plants • Fertilizer Industries
- Petrochemicals Plants • Paper and pulp • Marine



**Stephenson & Co.**

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