# NORTHSTAR

## Vertical Turbine Pump

Northstar provides a "one stop" solution for your liquid handling needs.

With its ability to manufacture vertical turbine pumps ranging from 1000 GPM to 6000 GPM along with supplying you with the required electric motors, gearboxes and engines, Northstar can help you stream line your production and purchasing operations.

### **VERTICAL TURBINE PUMP UNITS**

Northstar is a manufacturer of Vertical Turbine Pumps which can be used to handle variety of liquids from various petroleum products to sea water and condensates.

The unit's modular bowl design provides a significant flexibility to meet a wide range of capacity, pressure and speed requirements. Furthermore, the unit's self priming feature allows it to operate at low NSPH conditions, thus eliminating the need for a separate vacuum pump or other auxiliary equipment.

#### **KEY BENEFITS:**

- Allows for complete removal of product from the tanks without the use of vacuum pumps.
- Flexible arrangement to meet a wide range of flow rates and pressures.
- Wide range of discharge heads and arrangements.

### **CONSTRUCTION STANDARDS**

- Ductile iron casing for longevity.
- Bronze, steel, or Stainless Steel impellers to meet variety of applications. High grade stainless steel shafting material.
- High grade stainless steel stuffing hox
- High grade stainless steel split couplings.

### **PRIMARY MOVERS**

Whether your operations require electric motor drive units or diesel engines,
Northstar can supply you with a drive package to meet your need.

If you require electric motor drives,
Northstar can provide you with electric
motors from trusted manufacturers such
as US Motors, GE, Teco-Westinghouse,
Toshiba or Baldor.

If you require diesel engines, Northstar can provide you with generators powered by Cummins, IVECO, or John Deere.

All generator packages include a PTO, are Tier III EPA Industrial certified and meet USCG's Class 1, Division 1 requirements.

Northstar uses Amarillo gearboxes as standard gearbox on all of its pumps.

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### **VERTICAL TURBINE PUMP PERFORMANCE RANGE**

MODEL	MAX FLOW	PRESSURE RANGE (per stg)
NSVTP01	1300 GPM	82 – 34 FTH
NSVTP02	2400 GPM	124 – 58 FTH
NSVTP03	3100 GPM	150 – 64 FTH
NSVTP04	4800 GPM	200 – 75 FTH

### **DIESEL ENGINE DRIVE UNIT FEATURES**

#### STANDARD FEATURES

Tier III industrial certified

Cummins, IVECO or John Deere diesel engines

Meets USCG Class 1, Division 1 requirements

Anticorrosion coated radiator and after cooler

Flywheel SAE 11.5"

Stainless steel gauge panel

Powder coated aluminum enclosure

Cummins, IVECO or John Deere diesel engines

Meets USCG Class 1, Division 1 requirements

Mechanical governor with weight

Exhaust system

Bosh Mechanical rotary fuel pump

Class 1 division 1 tachometer with hour meter

### **DESIGN CONSIDERATIONS**

Material being pumped
Construction material (ductile iron or stainless steel)
Flow requirement (GPM)
Shaft material
Pressure requirement (PSI)
Bushing material
Overall setting height
Seal requirement (mechanical, stuffing box)
Primary mover (electric motor or diesel engine)
Accessories







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