Engineered Pump Catalog
50 Hz Performance Curves
Index

Vertical Turbine Pumps (VTP) ...................... 7
  Applications ........................................... 10
  Main Components & Materials ..................... 10
  Range Chart - 50 Hz - 1 Stage .................... 11
  Available Models .................................... 11
  Diagram ................................................. 12
  Main Dimensions ..................................... 13
  Main Dimensions (cont.) .............................. 14
  Multiple discharge configurations and sizes .... 14

Vertical Submersible Pumps (VS) ............... 67
  Applications ........................................... 69
  Main Components & Materials ..................... 70
  Diagram ................................................. 71
  Main Dimensions ..................................... 72
  Range Chart - 50 Hz - 1 Stage .................... 72

Multistage Pumps (HR) ............................... 91
  Applications ........................................... 94
  Main Components & Materials ..................... 94
  Available Models .................................... 95
  Range Chart - 50 Hz - 1 Stage .................... 95
  Diagram ................................................. 96
  Main Dimensions ..................................... 96

Axial Split Case Pumps (HA) ...................... 105
  Applications ........................................... 108
  Main Components & Materials ..................... 108
  Available Models .................................... 109
  Range Chart - 50Hz .................................. 109
  Diagram ................................................. 110
  Main Dimensions ..................................... 110

Volute Pumps (HV) ................................... 127
  Applications ........................................... 130
  Main Components & Materials ..................... 130
  Available Models .................................... 131
  Range Chart - 50 Hz ................................. 131
  Diagram ................................................. 132
  Main Dimensions ..................................... 132

AS SIMPLE AS 1-2-3
Find the right Vertical Turbine Pump (VTP) for your application using the Neptuno Pumps® VTPSelector™. Simply select your system design point, fluid characteristics and NPSH ratings and the VTPSelector™ will create a dynamic pump curve. From there you can adjust operating speeds, view/save electronic curves and data sheet reports in a PDF format, generate system curves, simulate multiple pumps/speeds, request quotes and much more.

www.vtpselector.com
ABOUT US
NEPTUNO PUMPS® is a world-class manufacturer of centrifugal pumps for industrial and heavy-duty applications, delivering a comprehensive line of innovative products and engineered pumping solutions to satisfy and exceed your most demanding needs with the highest quality and lowest lead-times in the market.

TECHNOLOGY
NEPTUNO PUMPS® counts with a highly skilled team of engineers and well-trained personnel; state-of-the-art computer assisted design softwares and advanced manufacturing technologies complemented with rigorous quality control systems that guarantee high quality products and services with its emphasis on total customer satisfaction.

RESEARCH & DEVELOPMENT
NEPTUNO PUMPS® is continually working with business partners and most prestigious universities and institutions in the areas of mechanical, hydraulic, aerospace engineering and material science. Our active in-house R&D Department is permanently doing research for new designs and developing new technologies always focusing on maximizing efficiency and delivering innovative pumping solutions, to keep your business going strong.

QUALITY, ENVIRONMENT, SAFETY & HEALTH PROGRAM
The principals of Quality Management System (QMS) are the foundation of our business. That is why all our Design and Manufacturing Processes are certified under:

- ISO 9001:2008
- ISO 9906:1999
- ISO 14001:2004
- OHSAS 18001:2007

And conforms or meets most recognized specifications, including:

- ANSI/HI
- ANSI/AWWA E101

TESTING
ISO 9906 certified state-of-the-art Testing Facility, in accordance with Hydraulic Institute Standards and ISO 13709/API 610.

APPLICATIONS

- **Primary Water Supply** – Fresh water or Sea water
- **Mining Processes**: Cooling Water, Thickener Overflow, Reclaim Water, Mine Seepage, Well Pumps-Process, Water Supply, Mine De-Watering, Electrolyte, Pressure Boosting and Transfer
- **Solvent Extraction/Electro-Winning (SX/EW)**: Raffinate, Pregnaite Leach Solution (PLS), Heap Leach, Dump Leach, Acid Water Pressure Boosting and Transfer
- **Dewatering** – Sump, Deep Well, Ponds
- **Tailings** – Post Processed Solutions
- **Seepage Water** – Sump or Can/Booster
- **Oil & Gas Production** – Onshore, Offshore and Pipeline
- **Marine**
- **Pulp and Paper**
- **Municipal Water & Wastewater**
- **Agriculture - Irrigation**
Vertical Turbine Pumps (VTP)
Vertical Turbine Pumps (VTP)

Versatility is one of the main characteristics of NEPTUNO PUMPS® VTP: flanged bowl construction, single or multiple stage design, depending on your total head requirements, for continuous service. Heavy duty design for long term operation in industrial applications.

VERTICAL PUMPS MODELS

- VERTICAL TURBINE PUMPS (VTP)
- VERTICAL CAN TYPE (VC)

OPERATING PARAMETERS

- Capacities up to 40,000 gpm (7,500 m³/h)
- Head up to 1,200 Feet (400 m)
- Power through 2000 hp (1500 kW)
- Pressures up to 590 psi (4,067 kPa)
- Frequency 50/60 Hz
- Temperatures to 400 °F (200°C)
- Bowls sizes from 8” to 40”

DESIGN FEATURES

- NEPTUNO PUMPS® high-efficiency design
- High-quality investment cast impellers and bowls
- Maximum versatility and reliability
- Low NPSH first stage construction
- No priming required
- Thrust balanced impellers available
- Product lube or enclosed lineshaft
- Minimum space requirement
- Special material selection for standard or abrasive/corrosive service
- Packing or mechanical seal
- Independent axial-thrust bearing assembly
- Multiple discharge configurations and sizes

SERVICES

- Primary Water Supply – Fresh water or Sea water
- Solvent Extraction/Electro-Winning (SX/EW): Raffinate, Pregnate Leach Solution (PLS), Heap Leach, Acid Water Pressure Boosting and Transfer
- Dewatering – Sump, Deep Well, Ponds
- Tailings – Post Processed Solutions
- Seepage Water – Sump or Can/Booster
- Oil & Gas Production – Onshore, Offshore and Pipeline
- Marine
- Pulp and Paper
- Municipal Water & Wastewater
- Agriculture - Irrigation
Vertical Turbine Pumps (VTP)

Applications

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Vertical Turbine Pumps (VTP)

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### Vertical Turbine Pumps (VTP)

**Range Chart - 50 Hz - 1 Stage**
Vertical Turbine Pumps (VTP)

Diagram

- Vertical Motor
- Solid Shaft
- Stand Motor with Bearing Housing
- Discharge Head
- Center Line Discharge Head
- Flanged Column
- Bowl Assembly
- Lbowl
- Lbell
- Lstrainer
- Hmin
- FD
- S
- Maximum Liquid Level
- Minimum Submergence
- Datum 0
## Vertical Turbine Pumps (VTP)
### Main Dimensions

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Discharge Configurations  
Multiple discharge configurations and sizes
Vertical Turbine Pumps (VTP)
3000 rpm

VTP 30
Curve #: 11063-140207-S1

Notes:
1. Operating data certified to ISO 9906 Hydraulic performance acceptance tests - Grades 1 & 2
2. Performance based on single stage pumping clean non-aerated water (H2O T°=18 [°C], H2O Density = 998 [kg/m³])
3. Power and efficiency losses are not reflected on the curve
4. Elevated temperature effects on performance are not included
5. Consider 3.0% efficiency derate if operated Off-BEP (60% - 80%)
6. Consider 2.0% efficiency derate if using balanced impellers
7. Specifications are subject to change without previous notice.
1. Operating data certified to ISO 9906 Hydraulic performance acceptance tests - Grades 1 & 2
2. Performance based on single stage pumping clean non-aerated water (H2O T°=18 [°C], H2O Density = 998 [kg/m³])
3. Power and efficiency losses are not reflected on the curve
4. Elevated temperature effects on performance are not included
5. Consider 3.0% efficiency derate if operated Off-BEP (60% - 80%)
6. Consider 2.0% efficiency derate if using balanced impellers
7. Specifications are subject to change without previous notice.

Vertical Turbine Pumps (VTP)

3000 rpm

Notes:

VTP 50
Curve #: 11001-110214-S1

![VTP 50 Performance Curves](image_url)
Vertical Turbine Pumps (VTP)  
3000 rpm

VTP 60M  
Curve #: 11086-151123-S1

Notes:
1. Operating data certified to ISO 9906 Hydraulic performance acceptance tests - Grades 1 & 2
2. Performance based on single stage pumping clean non-aerated water (H₂O T°=18 °C, H₂O Density = 998 [kg/m³])
3. Power and efficiency losses are not reflected on the curve
4. Elevated temperature effects on performance are not included
5. Consider 3.0% efficiency derate if operated Off-BEP (60% - 80%)
6. Consider 2.0% efficiency derate if using balanced impellers
7. Specifications are subject to change without previous notice.
1. Operating data certified to ISO 9906 Hydraulic performance acceptance tests - Grades 1 & 2
2. Performance based on single stage pumping clean non-aerated water ($T°=18\degree$C), $H_2O$ Density = 998 [kg/m$^3$]
3. Power and efficiency losses are not reflected on the curve
4. Elevated temperature effects on performance are not included
5. Consider 3.0% efficiency derate if operated Off-BEP (60% - 80%)
6. Consider 2.0% efficiency derate if using balanced impellers
7. Specifications are subject to change without previous notice.
Vertical Turbine Pumps (VTP)  
1500 rpm

VTP 100
Curve #: 11002-070713-F1

Notes:
1. Operating data certified to ISO 9906 Hydraulic performance acceptance tests - Grades 1 & 2
2. Performance based on single stage pumping clean non-aerated water \( H_2O \ T°=18 [°C] \), \( H_2O \) Density = 998 [kg/m³]
3. Power and efficiency losses are not reflected on the curve
4. Elevated temperature effects on performance are not included
5. Consider 3.0% efficiency derate if operated Off-BEP (60% - 80%)
6. Consider 2.0% efficiency derate if using balanced impellers
7. Specifications are subject to change without previous notice.
Operating data certified to ISO 9906 Hydraulic performance acceptance tests - Grades 1 & 2

Performance based on single stage pumping clean non-aerated water \( (\text{H}_{2}\text{O} \; T = 18 \; ^\circ\text{C}, \; \rho_{\text{H}_2\text{O}} = 998 \; \text{kg/m}^3) \)

Power and efficiency losses are not reflected on the curve

Notes:
4. Elevated temperature effects on performance are not included
5. Consider 3.0% efficiency derate if operated Off-BEP (60% - 80%)
6. Consider 2.0% efficiency derate if using balanced impellers
7. Specifications are subject to change without previous notice.
Vertical Turbine Pumps (VTP)
3000 rpm

1. Operating data certified to ISO 9906 Hydraulic performance acceptance tests - Grades 1 & 2
2. Performance based on single stage pumping clean non-aerated water (H2O T°=18 [°C], H2O Density = 998 [kg/m³])
3. Power and efficiency losses are not reflected on the curve
4. Elevated temperature effects on performance are not included
5. Consider 3.0% efficiency derate if operated Off-BEP (60% - 80%)
6. Consider 2.0% efficiency derate if using balanced impellers
7. Specifications are subject to change without previous notice.

Notes:

Vertical Turbine Pumps (VTP)
3000 rpm

VTP 130
Curve #: 11004-081121-S1
VTP 135X
Curve #: 11076-141114-S1

Vertical Turbine Pumps (VTP)
3000 rpm

Notes:
1. Operating data certified to ISO 9006 Hydraulic performance acceptance tests - Grades 1 & 2
2. Performance based on single stage pumping clean non-aerated water (H2O T=18°C, H2O Density = 998 [kg/m³])
3. Power and efficiency losses are not reflected on the curve
4. Elevated temperature effects on performance are not included
5. Consider 3.0% efficiency derate if operated Off-BEP (60% - 80%)
6. Consider 2.0% efficiency derate if using balanced impellers
7. Specifications are subject to change without previous notice.
Vertical Turbine Pumps (VTP)  
3000 rpm

Notes:
1. Operating data certified to ISO 9906 Hydraulic performance acceptance tests - Grades 1 & 2
2. Performance based on single stage pumping clean non-aerated water (H₂O T°=18 °C, H₂O Density = 998 [kg/m³])
3. Power and efficiency losses are not reflected on the curve
4. Elevated temperature effects on performance are not included
5. Consider 3.0% efficiency derate if operated Off-BEP (60% - 80%)
6. Consider 2.0% efficiency derate if using balanced impellers
7. Specifications are subject to change without previous notice.

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**VTP 170**  
Curve #: 11005-080704-E1

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**Pump Performance Curves 50 Hz**

**Vertical Turbine Pumps (VTP)**

**3000 rpm**

**VTP 170**  
Curve #: 11005-080704-E1

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**Notes:**
1. Operating data certified to ISO 9906 Hydraulic performance acceptance tests - Grades 1 & 2
2. Performance based on single stage pumping clean non-aerated water (H₂O T°=18 °C, H₂O Density = 998 [kg/m³])
3. Power and efficiency losses are not reflected on the curve
4. Elevated temperature effects on performance are not included
5. Consider 3.0% efficiency derate if operated Off-BEP (60% - 80%)
6. Consider 2.0% efficiency derate if using balanced impellers
7. Specifications are subject to change without previous notice.
VTP 170M
Vertical Turbine Pumps (VTP)

Notes:
1. Operating data certified to ISO 9906 Hydraulic performance acceptance tests - Grades 1 & 2
2. Performance based on single stage pumping clean non-aerated water (H₂O T°=18 °C, H₂O Density = 998 [kg/m³])
3. Power and efficiency losses are not reflected on the curve
4. Elevated temperature effects on performance are not included
5. Consider 3.0% efficiency derate if operated Off-BEP (60% - 80%)
6. Consider 2.0% efficiency derate if using balanced impellers
7. Specifications are subject to change without previous notice.
Vertical Turbine Pumps (VTP)
1500 rpm

VTP 180
Curve #: 11007-070717-E1

Notes:
1. Operating data certified to ISO 9906 Hydraulic performance acceptance tests - Grades 1 & 2
2. Performance based on single stage pumping clean non-aerated water (H₂O T°=18 [°C], H₂O Density = 998 [kg/m³])
3. Power and efficiency losses are not reflected on the curve
4. Elevated temperature effects on performance are not included
5. Consider 3.0% efficiency derate if operated Off-BEP (60% - 80%)
6. Consider 2.0% efficiency derate if using balanced impellers
7. Specifications are subject to change without previous notice.
2. Performance based on single stage pumping clean non-aerated water \( (H_2O \ T^\circ = 18 \ \text{[\degree C]}, \ H_2O \ \text{Density} = 998 \ [\text{kg/m}^3]) \)

3. Power and efficiency losses are not reflected on the curve

4. Elevated temperature effects on performance are not included

5. Consider 3.0% efficiency derate if operated Off-BEP (60% - 80%)

6. Consider 2.0% efficiency derate if using balanced impellers

7. Specifications are subject to change without previous notice.

Notes:

1. Operating data certified to ISO 9906 Hydraulic performance acceptance tests - Grades 1 & 2

2. Performance based on single stage pumping clean non-aerated water \( (H_2O \ T^\circ = 18 \ [\degree C], \ H_2O \ \text{Density} = 998 \ [\text{kg/m}^3]) \)

3. Power and efficiency losses are not reflected on the curve
Vertical Turbine Pumps (VTP)
3000 rpm

VTP 250
Curve #: 11009-100625-E2

Notes:
1. Operating data certified to ISO 9906 Hydraulic performance acceptance tests - Grades 1 & 2
2. Performance based on single stage pumping clean non-aerated water (H₂O T°=18 [°C], H₂O Density = 998 [kg/m³])
3. Power and efficiency losses are not reflected on the curve
4. Elevated temperature effects on performance are not included
5. Consider 3.0% efficiency derate if operated Off-BEP (60% - 80%)
6. Consider 2.0% efficiency derate if using balanced impellers
7. Specifications are subject to change without previous notice.
1. Operating data certified to ISO 9906 Hydraulic performance acceptance tests - Grades 1 & 2
2. Performance based on single stage pumping clean non-aerated water \( (\text{H}_2\text{O} \, T^\circ=18 \,[\,\text{°C}], \, \text{H}_2\text{O} \, \text{Density} = 998 \,[\,\text{kg/m}^3]) \)
3. Power and efficiency losses are not reflected on the curve
4. Elevated temperature effects on performance are not included
5. Consider 3.0% efficiency derate if operated Off-BEP (60% - 80%)
6. Consider 2.0% efficiency derate if using balanced impellers
7. Specifications are subject to change without previous notice.

Notes:

Vertical Turbine Pumps (VTP) 3000 rpm
Vertical Turbine Pumps (VTP)
1500 rpm

VTP 300
Curve #: 11011-070713-F1

Notes:
1. Operating data certified to ISO 9906 Hydraulic performance acceptance tests - Grades 1 & 2
2. Performance based on single stage pumping clean non-aerated water (H2O T°=18 [°C], H2O Density = 998 [kg/m³])
3. Power and efficiency losses are not reflected on the curve
4. Elevated temperature effects on performance are not included
5. Consider 3.0% efficiency derate if operated Off-BEP (60% - 80%)
6. Consider 2.0% efficiency derate if using balanced impellers
7. Specifications are subject to change without previous notice.
1. Operating data certified to ISO 9906 Hydraulic performance acceptance tests - Grades 1 & 2
2. Performance based on single stage pumping clean non-aerated water (H₂O T°=18°C, H₂O Density = 998 [kg/m³])
3. Power and efficiency losses are not reflected on the curve
4. Elevated temperature effects on performance are not included
5. Consider 3.0% efficiency derate if operated Off-BEP (60% - 80%)
6. Consider 2.0% efficiency derate if using balanced impellers
7. Specifications are subject to change without previous notice.
Vertical Turbine Pumps (VTP)
1500 rpm

VTP 325
Curve #: 11012-100701-E1

Notes:
1. Operating data certified to ISO 9906 Hydraulic performance acceptance tests - Grades 1 & 2
2. Performance based on single stage pumping clean non-aerated water (H₂O T°=18 °C, H₂O Density = 998 [kg/m³])
3. Power and efficiency losses are not reflected on the curve
4. Elevated temperature effects on performance are not included
5. Consider 3.0% efficiency derate if operated Off-BEP (60% - 80%)
6. Consider 2.0% efficiency derate if using balanced impellers
7. Specifications are subject to change without previous notice.
VTP 325X
Curve #: 11070-140513-F1

Vertical Turbine Pumps (VTP)
1500 rpm

Notes:
1. Operating data certified to ISO 9906 Hydraulic performance acceptance tests - Grades 1 & 2
2. Performance based on single stage pumping clean non-aerated water (H2O T°=18 [°C], H2O Density = 998 [kg/m³])
3. Power and efficiency losses are not reflected on the curve
4. Elevated temperature effects on performance are not included
5. Consider 3.0% efficiency derate if operated Off-BEP (60% - 80%)
6. Consider 2.0% efficiency derate if using balanced impellers
7. Specifications are subject to change without previous notice.
1. Operating data certified to ISO 9906 Hydraulic performance acceptance tests - Grades 1 & 2
2. Performance based on single stage pumping clean non-aerated water (H₂O T°=18 [°C], H₂O Density = 998 [kg/m³])
3. Power and efficiency losses are not reflected on the curve
4. Elevated temperature effects on performance are not included
5. Consider 3.0% efficiency derate if operated Off-BEP (60% - 80%)
6. Consider 2.0% efficiency derate if using balanced impellers
7. Specifications are subject to change without previous notice.

**Vertical Turbine Pumps (VTP)**

**VTP 360**

**3000 rpm**

**Curve #: 11013-080614-E1**
1. Operating data certified to ISO 9906 Hydraulic performance acceptance tests - Grades 1 & 2
2. Performance based on single stage pumping clean non-aerated water (H₂O T°=18 [°C], H₂O Density = 998 [kg/m³])
3. Power and efficiency losses are not reflected on the curve
4. Elevated temperature effects on performance are not included
5. Consider 3.0% efficiency derate if operated Off-BE P (60% - 80%)
6. Consider 2.0% efficiency derate if using balanced impellers
7. Specifications are subject to change without previous notice.

Notes:
Vertical Turbine Pumps (VTP)
1500 rpm

Notes:
1. Operating data certified to ISO 9906 Hydraulic performance acceptance tests - Grades 1 & 2
2. Performance based on single stage pumping clean non-aerated water (H₂O T°=18 [°C], H₂O Density = 998 [kg/m³])
3. Power and efficiency losses are not reflected on the curve
4. Elevated temperature effects on performance are not included
5. Consider 3.0% efficiency derate if operated Off-BEP (60% - 80%)
6. Consider 2.0% efficiency derate if using balanced impellers
7. Specifications are subject to change without previous notice.
VTP 500
Curve #: 11015-080802-E2
Vertical Turbine Pumps (VTP)
1500 rpm

Notes:
1. Operating data certified to ISO 9006 Hydraulic performance acceptance tests - Grades 1 & 2
2. Performance based on single stage pumping clean non-aerated water (H₂O T°=18°C, H₂O Density = 998 [kg/m³])
3. Power and efficiency losses are not reflected on the curve
4. Elevated temperature effects on performance are not included
5. Consider 3.0% efficiency derate if operated Off-BEP (60% - 80%)
6. Consider 2.0% efficiency derate if using balanced impellers
7. Specifications are subject to change without previous notice.
Vertical Turbine Pumps (VTP)  
1500 rpm  

Notes:
1. Operating data certified to ISO 9906 Hydraulic performance acceptance tests - Grades 1 & 2  
2. Performance based on single stage pumping clean non-aerated water (H_2O T=18 [°C], H_2O Density = 998 [kg/m^3])  
3. Power and efficiency losses are not reflected on the curve  
4. Elevated temperature effects on performance are not included  
5. Consider 3.0% efficiency derate if operated Off-BEP (60% - 80%)  
6. Consider 2.0% efficiency derate if using balanced impellers  
7. Specifications are subject to change without previous notice.
1. Operating data certified to ISO 9906 Hydraulic performance acceptance tests - Grades 1 & 2
2. Performance based on single stage pumping clean non-aerated water ($T = 18 \degree C, \rho = 998 [kg/m^3]$)
3. Power and efficiency losses are not reflected on the curve
4. Elevated temperature effects on performance are not included
5. Consider 3.0% efficiency derate if operated Off-BEP (60% - 80%)
6. Consider 2.0% efficiency derate if using balanced impellers
7. Specifications are subject to change without previous notice.
Vertical Turbine Pumps (VTP)
1500 rpm

VTP 650
Curve #: 11017-070713-E1

Notes:
1. Operating data certified to ISO 9906 Hydraulic performance acceptance tests - Grades 1 & 2
2. Performance based on single stage pumping clean non-aerated water (H2O T°=18 [°C], H2O Density = 998 [kg/m³])
3. Power and efficiency losses are not reflected on the curve
4. Elevated temperature effects on performance are not included
5. Consider 3.0% efficiency derate if operated Off-BEP (60% - 80%)
6. Consider 2.0% efficiency derate if using balanced impellers
7. Specifications are subject to change without previous notice.
VTP 700
Curve #: 11018-070713-E1

Vertical Turbine Pumps (VTP)
1000 rpm

Notes:
1. Operating data certified to ISO 9906 Hydraulic performance acceptance tests - Grades 1 & 2
2. Performance based on single stage pumping clean non-aerated water (H₂O T°=18 °C, H₂O Density = 998 [kg/m³])
3. Power and efficiency losses are not reflected on the curve
4. Elevated temperature effects on performance are not included
5. Consider 3.0% efficiency derate if operated Off-BEP (60% - 80%)
6. Consider 2.0% efficiency derate if using balanced impellers
7. Specifications are subject to change without previous notice.
Vertical Turbine Pumps (VTP)
1500 rpm

VTP 700
Curve #: 11018-070713-E1

Notes:
1. Operating data certified to ISO 9906 Hydraulic performance acceptance tests - Grades 1 & 2
2. Performance based on single stage pumping clean non-aerated water (H₂O T°=18 [°C], H₂O Density = 998 [kg/m³])
3. Power and efficiency losses are not reflected on the curve
4. Elevated temperature effects on performance are not included
5. Consider 3.0% efficiency derate if operated Off-BEP (60% - 80%)
6. Consider 2.0% efficiency derate if using balanced impellers
7. Specifications are subject to change without previous notice.
VTP 750
Curve #: 11019-090112-S1

Vertical Turbine Pumps (VTP)
1500 rpm

Notes:
1. Operating data certified to ISO 9906 Hydraulic performance acceptance tests - Grades 1 & 2
2. Performance based on single stage pumping clean non-aerated water [H₂O T°=18 °C], H₂O Density = 998 [kg/m³]
3. Power and efficiency losses are not reflected on the curve
4. Elevated temperature effects on performance are not included
5. Consider 3.0% efficiency derate if operated Off-BEP (60% - 80%)
6. Consider 2.0% efficiency derate if using balanced impellers
7. Specifications are subject to change without previous notice.
1. Operating data certified to ISO 9906 Hydraulic performance acceptance tests – Grades 1 & 2
2. Performance based on single stage pumping clean non-aerated water (H₂O T°=18 [°C], H₂O Density = 998 [kg/m³])
3. Power and efficiency losses are not reflected on the curve
4. Elevated temperature effects on performance are not included
5. Consider 3.0% efficiency derate if operated Off-BEP (60% - 80%)
6. Consider 2.0% efficiency derate if using balanced impellers
7. Specifications are subject to change without previous notice.

Notes:

Vertical Turbine Pumps (VTP)
1500 rpm

VTP 750M
Curve #: 11020-081103-S1

Pump Performance Curves 50 Hz
Notes:
1. Operating data certified to ISO 9906 Hydraulic performance acceptance tests - Grades 1 & 2
2. Performance based on single stage pumping clean non-aerated water (H₂O T°=18 [°C], H₂O Density = 998 [kg/m³])
3. Power and efficiency losses are not reflected on the curve
4. Elevated temperature effects on performance are not included
5. Consider 3.0% efficiency derate if operated Off-BEP (60% - 80%)
6. Consider 2.0% efficiency derate if using balanced impellers
7. Specifications are subject to change without previous notice.
Vertical Turbine Pumps (VTP)  
1500 rpm

Notes:
1. Operating data certified to ISO 9906 Hydraulic performance acceptance tests - Grades 1 & 2
2. Performance based on single stage pumping clean non-aerated water (H₂O T°=18 °C, H₂O Density = 998 [kg/m³])
3. Power and efficiency losses are not reflected on the curve
4. Elevated temperature effects on performance are not included
5. Consider 3.0% efficiency derate if operated Off-BEP (60% - 80%)
6. Consider 2.0% efficiency derate if using balanced impellers
7. Specifications are subject to change without previous notice.
1. Operating data certified to ISO 9006 Hydraulic performance acceptance tests - Grades 1 & 2
2. Performance based on single stage pumping clean non-aerated water (H₂O T°=18 °C, H₂O Density = 998 [kg/m³])
3. Power and efficiency losses are not reflected on the curve
4. Elevated temperature effects on performance are not included
5. Consider 3.0% efficiency derate if operated Off-BEP (60% - 80%)
6. Consider 2.0% efficiency derate if using balanced impellers
7. Specifications are subject to change without previous notice.

VTP 850M

Vertical Turbine Pumps (VTP)

1500 rpm

Notes:
1. Operating data certified to ISO 9006 Hydraulic performance acceptance tests - Grades 1 & 2
2. Performance based on single stage pumping clean non-aerated water (H₂O T°=18 °C, H₂O Density = 998 [kg/m³])
3. Power and efficiency losses are not reflected on the curve
4. Elevated temperature effects on performance are not included
5. Consider 3.0% efficiency derate if operated Off-BEP (60% - 80%)
6. Consider 2.0% efficiency derate if using balanced impellers
7. Specifications are subject to change without previous notice.
Vertical Turbine Pumps (VTP)
1500 rpm

VTP 850X
Curve #: 11022-101104-E1

Notes:
1. Operating data certified to ISO 9906 Hydraulic performance acceptance tests - Grades 1 & 2
2. Performance based on single stage pumping clean non-aerated water (H2O T°=18 [°C], H2O Density = 998 [kg/m^3])
3. Power and efficiency losses are not reflected on the curve
4. Elevated temperature effects on performance are not included
5. Consider 3.0% efficiency derate if operated Off-BEP (60% - 80%)
6. Consider 2.0% efficiency derate if using balanced impellers
7. Specifications are subject to change without previous notice.
1. Operating data certified to ISO 9906 Hydraulic performance acceptance tests - Grades 1 & 2
2. Performance based on single stage pumping clean non-aerated water (H₂O T°=18 °C, H₂O Density = 998 [kg/m³])
3. Power and efficiency losses are not reflected on the curve

Notes:
4. Elevated temperature effects on performance are not included
5. Consider 3.0% efficiency derate if operated Off-BEP (60% - 80%)
6. Consider 2.0% efficiency derate if using balanced impellers
7. Specifications are subject to change without previous notice.
Vertical Turbine Pumps (VTP)  
1500 rpm

VTP 1000  
Curve #: 11024-080704-S1

Notes:
1. Operating data certified to ISO 9906 Hydraulic performance acceptance tests - Grades 1 & 2
2. Performance based on single stage pumping clean non-aerated water (H₂O T°=18°C, H₂O Density = 998 [kg/m³])
3. Power and efficiency losses are not reflected on the curve
4. Elevated temperature effects on performance are not included
5. Consider 3.0% efficiency derate if operated Off-BEP (60% - 80%)
6. Consider 2.0% efficiency derate if using balanced impellers
7. Specifications are subject to change without previous notice.
VTP 1000X
Curve #: 11053-131114-E1

Vertical Turbine Pumps (VTP)
1500 rpm

Notes:
1. Operating data certified to ISO 9906 Hydraulic performance acceptance tests - Grades 1 & 2
2. Performance based on single stage pumping clean non-aerated water (H₂O T°=18 [°C], H₂O Density = 998 [kg/m³])
3. Power and efficiency losses are not reflected on the curve
4. Elevated temperature effects on performance are not included
5. Consider 3.0% efficiency derate if operated Off-BEP (60% - 80%)
6. Consider 2.0% efficiency derate if using balanced impellers
7. Specifications are subject to change without previous notice.
Vertical Turbine Pumps (VTP)
1500 rpm

VTP 1250
Curve #: 11025-080520-S1

Notes:
1. Operating data certified to ISO 9906 Hydraulic performance acceptance tests - Grades 1 & 2
2. Performance based on single stage pumping clean non-aerated water (H₂O T°=18 °C, H₂O Density = 998 [kg/m³])
3. Power and efficiency losses are not reflected on the curve
4. Elevated temperature effects on performance are not included
5. Consider 3.0% efficiency derate if operated Off-BEP (60% - 80%)
6. Consider 2.0% efficiency derate if using balanced impellers
7. Specifications are subject to change without previous notice.
VTP 1300
Curve #: 11026-081111-S1

Horizontal Turbine Pumps (VTP)
1500 rpm

Notes:
1. Operating data certified to ISO 9906 Hydraulic performance acceptance tests - Grades 1 & 2
2. Performance based on single stage pumping clean non-aerated water (H₂O T°=18 [°C], H₂O Density = 998 [kg/m³])
3. Power and efficiency losses are not reflected on the curve
4. Elevated temperature effects on performance are not included
5. Consider 3.0% efficiency derate if operated Off-BEP (60% - 80%)
6. Consider 2.0% efficiency derate if using balanced impellers
7. Specifications are subject to change without previous notice.
Vertical Turbine Pumps (VTP)
1500 rpm

Pump Performance Curves 50 Hz

Notes:
1. Operating data certified to ISO 9906 Hydraulic performance acceptance tests - Grades 1 & 2
2. Performance based on single stage pumping clean non-aerated water (H₂O T°=18°C, H₂O Density = 998 [kg/m³])
3. Power and efficiency losses are not reflected on the curve
4. Elevated temperature effects on performance are not included
5. Consider 3.0% efficiency derate if operated Off-BEP (60% - 80%)
6. Consider 2.0% efficiency derate if using balanced impellers
7. Specifications are subject to change without previous notice.

VTP 1350
Curve #: 11087-160202-F1

Vertical Turbine Pumps (VTP)
1500 rpm

Q [gpm] vs. H [m]

Q [m³/h] vs. NPSHr [m]

P [kW] vs. Q [m³/h]

P [hp] vs. Q [m³/h]

VTP 1350
Curve #: 11087-160202-F1

Vertical Turbine Pumps (VTP)
1500 rpm

Pump Performance Curves 50 Hz

Notes:
1. Operating data certified to ISO 9906 Hydraulic performance acceptance tests - Grades 1 & 2
2. Performance based on single stage pumping clean non-aerated water (H₂O T°=18°C, H₂O Density = 998 [kg/m³])
3. Power and efficiency losses are not reflected on the curve
4. Elevated temperature effects on performance are not included
5. Consider 3.0% efficiency derate if operated Off-BEP (60% - 80%)
6. Consider 2.0% efficiency derate if using balanced impellers
7. Specifications are subject to change without previous notice.

Vertical Turbine Pumps (VTP)
1500 rpm

Pump Performance Curves 50 Hz

Notes:
1. Operating data certified to ISO 9906 Hydraulic performance acceptance tests - Grades 1 & 2
2. Performance based on single stage pumping clean non-aerated water (H₂O T°=18°C, H₂O Density = 998 [kg/m³])
3. Power and efficiency losses are not reflected on the curve
4. Elevated temperature effects on performance are not included
5. Consider 3.0% efficiency derate if operated Off-BEP (60% - 80%)
6. Consider 2.0% efficiency derate if using balanced impellers
7. Specifications are subject to change without previous notice.
VTP 1500
Vertical Turbine Pumps (VTP)

Curve #: 11027-081205-E1
1500 rpm

Notes:
1. Operating data certified to ISO 9906 Hydraulic performance acceptance tests - Grades 1 & 2
2. Performance based on single stage pumping clean non-aerated water (H₂O T°=18 [°C], H₂O Density = 998 [kg/m³])
3. Power and efficiency losses are not reflected on the curve
4. Elevated temperature effects on performance are not included
5. Consider 3.0% efficiency derate if operated Off-BEP (60% - 80%)
6. Consider 2.0% efficiency derate if using balanced impellers
7. Specifications are subject to change without previous notice.
Vertical Turbine Pumps (VTP)
1500 rpm

Notes:
1. Operating data certified to ISO 9906 Hydraulic performance acceptance tests - Grades 1 & 2
2. Performance based on single stage pumping clean non-aerated water (H₂O T°=18[°C], H₂O Density = 998 [kg/m³])
3. Power and efficiency losses are not reflected on the curve
4. Elevated temperature effects on performance are not included
5. Consider 3.0% efficiency derate if operated Off-BEP (60% - 80%)
6. Consider 2.0% efficiency derate if using balanced impellers
7. Specifications are subject to change without previous notice.

VTP 1500KM
Curve #: 11089-160405-F1
1. Operating data certified to ISO 9906 Hydraulic performance acceptance tests - Grades 1 & 2
2. Performance based on single stage pumping clean non-aerated water (H₂O T°=18 °C, H₂O Density = 998 [kg/m³])
3. Power and efficiency losses are not reflected on the curve
4. Elevated temperature effects on performance are not included
5. Consider 3.0% efficiency derate if operated Off-BEP (60% - 80%)
6. Consider 2.0% efficiency derate if using balanced impellers
7. Specifications are subject to change without previous notice.
Vertical Turbine Pumps (VTP)  
1500 rpm

VTP 1500LH  
Curve #: 11029-080830-S1

Notes:
1. Operating data certified to ISO 9906 Hydraulic performance acceptance tests - Grades 1 & 2
2. Performance based on single stage pumping clean non-aerated water (H2O T° = 18 [°C], H2O Density = 998 [kg/m³])
3. Power and efficiency losses are not reflected on the curve
4. Elevated temperature effects on performance are not included
5. Consider 3.0% efficiency derate if operated Off-BEP (60% - 80%)
6. Consider 2.0% efficiency derate if using balanced impellers
7. Specifications are subject to change without previous notice.
VTP 1800M
Curve #: 11067-140320-S1

Vertical Turbine Pumps (VTP)
1500 rpm

Notes:
1. Operating data certified to ISO 9906 Hydraulic performance acceptance tests - Grades 1 & 2
2. Performance based on single stage pumping clean non-aerated water (H₂O T°=18 °C, H₂O Density = 998 [kg/m³])
3. Power and efficiency losses are not reflected on the curve
4. Elevated temperature effects on performance are not included
5. Consider 3.0% efficiency derate if operated Off-BEP (60% - 80%)
6. Consider 2.0% efficiency derate if using balanced impellers
7. Specifications are subject to change without previous notice.
Vertical Turbine Pumps (VTP)
1500 rpm

Notes:
1. Operating data certified to ISO 9906 Hydraulic performance acceptance tests - Grades 1 & 2
2. Performance based on single stage pumping clean non-aerated water (H2O T°=18 [°C], H2O Density = 998 [kg/m 3])
3. Power and efficiency losses are not reflected on the curve
4. Elevated temperature effects on performance are not included
5. Consider 3.0% efficiency derate if operated Off-BEP (60% - 80%)
6. Consider 2.0% efficiency derate if using balanced impellers
7. Specifications are subject to change without previous notice.
VTP 2200
Curve #: 11030-080728-S1

Vertical Turbine Pumps (VTP)
1000 rpm

Notes:
1. Operating data certified to ISO 9906 Hydraulic performance acceptance tests - Grades 1 & 2
2. Performance based on single stage pumping clean non-aerated water (H_2O T=18 [°C], H_2O Density = 998 [kg/m^3])
3. Power and efficiency losses are not reflected on the curve
4. Elevated temperature effects on performance are not included
5. Consider 3.0% efficiency derate if operated Off-BEP (60% - 80%)
6. Consider 2.0% efficiency derate if using balanced impellers
7. Specifications are subject to change without previous notice.
Vertical Turbine Pumps (VTP)  
1000 rpm  

VTP 2200M  
Curve #: 11032-080723-S1

Notes:
1. Operating data certified to ISO 9906 Hydraulic performance acceptance tests - Grades 1 & 2
2. Performance based on single stage pumping clean non-aerated water (H₂O T°=18 °C, H₂O Density = 998 [kg/m³])
3. Power and efficiency losses are not reflected on the curve
4. Elevated temperature effects on performance are not included
5. Consider 3.0% efficiency derate if operated Off-BEP (60% - 80%)
6. Consider 2.0% efficiency derate if using balanced impellers
7. Specifications are subject to change without previous notice.
1. Operating data certified to ISO 9906 Hydraulic performance acceptance tests - Grades 1 & 2
2. Performance based on single stage pumping clean non-aerated water (H₂O T°=18 [°C], H₂O Density = 998 [kg/m³])
3. Power and efficiency losses are not reflected on the curve
4. Elevated temperature effects on performance are not included
5. Consider 3.0% efficiency derate if operated Off-BEP (60% - 80%)
6. Consider 2.0% efficiency derate if using balanced impellers
7. Specifications are subject to change without previous notice.
Vertical Turbine Pumps (VTP)
1000 rpm

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<th>NPSHr [ft]</th>
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<th>H [ft]</th>
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<tr>
<td>657 mm</td>
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<tr>
<td>622 mm</td>
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<th>P [hp]</th>
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<td>691 mm</td>
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<td>657 mm</td>
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<td>622 mm</td>
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<th>NPSHr [m]</th>
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<td>657 mm</td>
<td>78</td>
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<tr>
<td>622 mm</td>
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Notes:
1. Operating data certified to ISO 9906 Hydraulic performance acceptance tests - Grades 1 & 2
2. Performance based on single stage pumping clean non-aerated water (H₂O T°=18°C, H₂O Density = 998 [kg/m³])
3. Power and efficiency losses are not reflected on the curve
4. Elevated temperature effects on performance are not included
5. Consider 3.0% efficiency derate if operated Off-BEP (60% - 80%)
6. Consider 2.0% efficiency derate if using balanced impellers
7. Specifications are subject to change without previous notice.
VTP 3400M
Curve #: 11035-080702-S1

Vertical Turbine Pumps (VTP)
1000 rpm

Notes:
1. Operating data certified to ISO 9006 Hydraulic performance acceptance tests - Grades 1 & 2
2. Performance based on single stage pumping clean non-aerated water (H2O T°=18 [°C], H2O Density = 998 [kg/m3])
3. Power and efficiency losses are not reflected on the curve
4. Elevated temperature effects on performance are not included
5. Consider 3.0% efficiency derate if operated Off-BEP (60% - 80%)
6. Consider 2.0% efficiency derate if using balanced impellers
7. Specifications are subject to change without previous notice.
Vertical Turbine Pumps (VTP)
750 rpm

Notes:
1. Operating data certified to ISO 9906 Hydraulic performance acceptance tests - Grades 1 & 2
2. Performance based on single stage pumping clean non-aerated water (H₂O T°=18°C, H₂O Density = 998 [kg/m³])
3. Power and efficiency losses are not reflected on the curve
4. Elevated temperature effects on performance are not included
5. Consider 3.0% efficiency derate if operated Off-BEP (60% - 80%)
6. Consider 2.0% efficiency derate if using balanced impellers
7. Specifications are subject to change without previous notice.

VTP 6500
Curve #: 11036-090310-S2

Pump Performance Curves 50 Hz
Vertical Submersible Pumps (VS)
Vertical Submersible Pumps (VS)

Equipment is completely submerged, ideal for deep well applications where lineshaft pumps cannot be used. Flanged bowl construction, single or multiple stage design, depending on your total head requirements, for continuous service. Heavy duty design for long term operation in industrial applications.

**OPERATION PARAMETERS**
- Capacities up to 6,000 gpm (1,150 m³/h)
- Head up to 2,130 Feet (650 m)
- Power through 1000 hp (750 kW)
- Pressures up to 960 psi (6,620 kPa)
- Frequency 50/60 Hz
- Bowls sizes from 8” to 20”

**DESIGN FEATURES**
- NEPTUNO PUMPS® high-efficiency design
- Ideal for deep-well applications
- High-quality investment cast impellers and bowls
- Thrust balanced impellers available
- Maximum versatility and reliability
- Minimum space requirement
- Discharge casing with incorporated non-return valve
- Special material selection for standard or abrasive/corrosive service

**SERVICES**
- Primary Water Supply – Fresh water or Sea water
- Dewatering – Sump, Deep Well, Ponds
- Oil & Gas Production – Onshore, Offshore and Pipeline
- Agriculture – Irrigation

Vertical Submersible Pumps (VS)

Available Models

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<tr>
<th>VS 50</th>
<th>VS 100</th>
<th>VS 110</th>
<th>VS 130</th>
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Vertical Submersible Pumps (VS)
Applications

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<td>Fluid</td>
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Vertical Submersible Pumps (VS)
Main Components & Materials

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Vertical Submersible Pumps (VS)

Diagram
Vertical Submersible Pumps (VS)

Main Dimensions

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<th>Pump Model</th>
<th>RPD [in]</th>
<th>BD [mm]</th>
<th>CRmin [mm]</th>
<th>LV [mm]</th>
<th>L [mm] (1st Stage)</th>
<th>Lbowl [mm] Each add Stage</th>
<th>Lbell [mm]</th>
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Vertical Submersible Pumps (VS)
3000 rpm

VS 50
Curve #: 11001-110214-S1

Notes:
1. Operating data certified to ISO 9906 Hydraulic performance acceptance tests - Grades 1 & 2
2. Performance based on single stage pumping clean non-aerated water (H₂O T°=18°C, H₂O Density = 998 [kg/m³])
3. Power and efficiency losses are not reflected on the curve
4. Elevated temperature effects on performance are not included
5. Consider 3.0% efficiency derate if operated Off-BEP (60% - 80%)
6. Consider 2.0% efficiency derate if using balanced impellers
7. Specifications are subject to change without previous notice.
Vertical Submersible Pumps (VS)

VS 100

Curve #: 11002-070713-F1

1500 rpm

Notes:
1. Operating data certified to ISO 9906 Hydraulic performance acceptance tests - Grades 1 & 2
2. Performance based on single stage pumping clean non-aerated water ($H_2O$ $T=18 \, ^\circ C$, $H_2O$ Density = 998 [kg/m$^3$])
3. Power and efficiency losses are not reflected on the curve
4. Elevated temperature effects on performance are not included
5. Consider 3.0% efficiency derate if operated Off-BEP (60% - 80%)
6. Consider 2.0% efficiency derate if using balanced impellers
7. Specifications are subject to change without previous notice.
Vertical Submersible Pumps (VS)
3000 rpm

Notes:
1. Operating data certified to ISO 9906 Hydraulic performance acceptance tests - Grades 1 & 2
2. Performance based on single stage pumping clean non-aerated water (H₂O T°=18 [°C], H₂O Density = 998 [kg/m³])
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4. Elevated temperature effects on performance are not included
5. Consider 3.0% efficiency derate if operated Off-BEP (60% - 80%)
6. Consider 2.0% efficiency derate if using balanced impellers
7. Specifications are subject to change without previous notice.

VS 130
Curve #: 11004-081121-S1

Vertical Submersible Pumps (VS)
3000 rpm

Notes:
1. Operating data certified to ISO 9906 Hydraulic performance acceptance tests - Grades 1 & 2
2. Performance based on single stage pumping clean non-aerated water (H₂O T°=18 °C, H₂O Density = 998 [kg/m³])
3. Power and efficiency losses are not reflected on the curve
4. Elevated temperature effects on performance are not included
5. Consider 3.0% efficiency derate if operated Off-BEP (60% - 80%)
6. Consider 2.0% efficiency derate if using balanced impellers
7. Specifications are subject to change without previous notice.
Vertical Submersible Pumps (VS)  
3000 rpm

Curve #: 11005-080704-E1

Notes:
1. Operating data certified to ISO 9906 Hydraulic performance acceptance tests - Grades 1 & 2
2. Performance based on single stage pumping clean non-aerated water (H₂O °T=18 [°C], H₂O Density = 998 [kg/m³])
3. Power and efficiency losses are not reflected on the curve
4. Elevated temperature effects on performance are not included
5. Consider 3.0% efficiency derate if operated Off-BEP (60% - 80%)
6. Consider 2.0% efficiency derate if using balanced impellers
7. Specifications are subject to change without previous notice.
1. Operating data certified to ISO 9906 Hydraulic performance acceptance tests - Grades 1 & 2
2. Performance based on single stage pumping clean non-aerated water (H₂O T°=18 °C, H₂O Density = 998 [kg/m³])
3. Power and efficiency losses are not reflected on the curve
4. Elevated temperature effects on performance are not included
5. Consider 3.0% efficiency derate if operated Off-BEP (60% - 80%)
6. Consider 2.0% efficiency derate if using balanced impellers
7. Specifications are subject to change without previous notice.

Notes:

Vertical Submersible Pumps (VS) 3000 rpm

Q [gpm] vs. H [m] & H [ft]

P [kW] vs. Q [m³/h]

NPSHr [m] vs. Q [m³/h]
Vertical Submersible Pumps (VS)
1500 rpm

Notes:
1. Operating data certified to ISO 9906 Hydraulic performance acceptance tests - Grades 1 & 2
2. Performance based on single stage pumping clean non-aerated water (H₂O T°=18°C, H₂O Density = 998 [kg/m³])
3. Power and efficiency losses are not reflected on the curve
4. Elevated temperature effects on performance are not included
5. Consider 3.0% efficiency derate if operated Off-BEP (60% - 80%)
6. Consider 2.0% efficiency derate if using balanced impellers
7. Specifications are subject to change without previous notice.

Curve #: 11007-070717-E1
1. Operating data certified to ISO 9906 Hydraulic performance acceptance tests - Grades 1 & 2
2. Performance based on single stage pumping clean non-aerated water (H2O T°=18 [°C], H2O Density = 998 [kg/m³])
3. Power and efficiency losses are not reflected on the curve
4. Elevated temperature effects on performance are not included
5. Consider 3.0% efficiency derate if operated Off-BEP (60% - 80%)
6. Consider 2.0% efficiency derate if using balanced impellers
7. Specifications are subject to change without previous notice.
Vertical Submersible Pumps (VS)
3000 rpm

VS 250
Curve #: 11009-100625-E2

Notes:
1. Operating data certified to ISO 9906 Hydraulic performance acceptance tests - Grades 1 & 2
2. Performance based on single stage pumping clean non-aerated water (H2O T°=18 [°C], H2O Density = 998 [kg/m³])
3. Power and efficiency losses are not reflected on the curve
4. Elevated temperature effects on performance are not included
5. Consider 3.0% efficiency derate if operated Off-BEP (60% - 80%)
6. Consider 2.0% efficiency derate if using balanced impellers
7. Specifications are subject to change without previous notice.
1. Operating data certified to ISO 9906 Hydraulic performance acceptance tests - Grades 1 & 2
2. Performance based on single stage pumping clean non-aerated water (H₂O T°=18 °C), H₂O Density = 998 [kg/m³]
3. Power and efficiency losses are not reflected on the curve
4. Elevated temperature effects on performance are not included
5. Consider 3.0% efficiency derate if operated Off-BEP (60% - 80%)
6. Consider 2.0% efficiency derate if using balanced impellers
7. Specifications are subject to change without previous notice.
Vertical Submersible Pumps (VS)  
1500 rpm

VS 300  
Curve #: 11011-070713-F1

Notes:
1. Operating data certified to ISO 9906 Hydraulic performance acceptance tests - Grades 1 & 2  
2. Performance based on single stage pumping clean non-aerated water (H2O T°=18°C, H2O Density = 998 [kg/m³])  
3. Power and efficiency losses are not reflected on the curve  
4. Elevated temperature effects on performance are not included  
5. Consider 3.0% efficiency derate if operated Off-BEP (60% - 80%)  
6. Consider 2.0% efficiency derate if using balanced impellers  
7. Specifications are subject to change without previous notice.
1. Operating data certified to ISO 9906 Hydraulic performance acceptance tests - Grades 1 & 2
2. Performance based on single stage pumping clean non-aerated water (H₂O T°=18 °C, H₂O Density = 998 [kg/m³])
3. Power and efficiency losses are not reflected on the curve
4. Elevated temperature effects on performance are not included
5. Consider 3.0% efficiency derate if operated Off-BEP (60% - 80%)
6. Consider 2.0% efficiency derate if using balanced impellers
7. Specifications are subject to change without previous notice.
Vertical Submersible Pumps (VS)
3000 rpm

Curves: 11013-080614-E1

Notes:
1. Operating data certified to ISO 9906 Hydraulic performance acceptance tests - Grades 1 & 2
2. Performance based on single stage pumping clean non-aerated water (H₂O T°=18 [°C], H₂O Density = 998 [kg/m³])
3. Power and efficiency losses are not reflected on the curve
4. Elevated temperature effects on performance are not included
5. Consider 3.0% efficiency derate if operated Off-BEP (60% - 80%)
6. Consider 2.0% efficiency derate if using balanced impellers
7. Specifications are subject to change without previous notice.
**VS 450**

Curve #: 11014-081103-S1

**Vertical Submersible Pumps (VS)**

1500 rpm

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**Notes:**

1. Operating data certified to ISO 9906 Hydraulic performance acceptance tests - Grades 1 & 2
2. Performance based on single stage pumping clean non-aerated water (H₂O T° = 18 °C, H₂O Density = 998 [kg/m³])
3. Power and efficiency losses are not reflected on the curve
4. Elevated temperature effects on performance are not included
5. Consider 3.0% efficiency derate if operated Off-BEP (60% - 80%)
6. Consider 2.0% efficiency derate if using balanced impellers
7. Specifications are subject to change without previous notice.
Vertical Submersible Pumps (VS)
1500 rpm

VS 500
Curve #: 11015-080802-E2

1. Operating data certified to ISO 9906 Hydraulic performance acceptance tests - Grades 1 & 2
2. Performance based on single stage pumping clean non-aerated water (H₂O T°=18°C, H₂O Density = 998 [kg/m³])
3. Power and efficiency losses are not reflected on the curve
4. Elevated temperature effects on performance are not included
5. Consider 3.0% efficiency derate if operated Off-BEP (60% - 80%)
6. Consider 2.0% efficiency derate if using balanced impellers
7. Specifications are subject to change without previous notice.

Notes:
1. Operating data certified to ISO 9906 Hydraulic performance acceptance tests - Grades 1 & 2
2. Performance based on single stage pumping clean non-aerated water ($H_2O \, T=18 \, ^\circ C, \, H_2O \, Density = 998 \, [kg/m^3]$)
3. Power and efficiency losses are not reflected on the curve
4. Elevated temperature effects on performance are not included
5. Consider 3.0% efficiency derate if operated Off-BEP (60% - 80%)
6. Consider 2.0% efficiency derate if using balanced impellers
7. Specifications are subject to change without previous notice.

Notes:

Vertical Submersible Pumps (VS)
1500 rpm
Vertical Submersible Pumps (VS)
1500 rpm

Notes:
1. Operating data certified to ISO 9906 Hydraulic performance acceptance tests - Grades 1 & 2
2. Performance based on single stage pumping clean non-aerated water (H₂O T°=18 [°C], H₂O Density = 998 [kg/m³])
3. Power and efficiency losses are not reflected on the curve
4. Elevated temperature effects on performance are not included
5. Consider 3.0% efficiency derate if operated Off-BEP (60% - 80%)
6. Consider 2.0% efficiency derate if using balanced impellers
7. Specifications are subject to change without previous notice.

Multistage Pumps (HR)
Multistage Pumps (HR)

Versatile modular design concept for ease in components interchangeability. Pumps are suitable for pumping clean or slightly polluted liquids. Equipment characterized by its application in operation with high flows and where high pressures and excellent air tightness are required.

**OPERATING PARAMETERS**

- Capacities up to 6,500 gpm (1,400 m³/h)
- Head up to 1,320 Feet (400 m)
- Power through 1000 hp (750 kW)
- Pressures up to 590 psi (4,067 kPa)
- Frequency 50/60 Hz
- Temperatures to 300 °F (150°C)
- Discharge sizes from 3" to 12"

**DESIGN FEATURES**

- NEPTUNO PUMPS® high-efficiency design
- High-quality investment cast impellers and stage diffusers
- Modular design concept for maximum interchangeability
- Maximum versatility and reliability
- Both ends bearings and axial thrust balancing
- Special material selection for standard or abrasive/corrosive service
- Different suction and discharge flange orientation
- Packing or mechanical seal

**SERVICES**

- Primary Water Supply – Fresh water or Sea water
- Solvent Extraction/Electro-Winning (SX/EW) - Raffinate, Pregnate Leach Solution (PLS), Heap Leach, Dump Leach, Acid Water Pressure Boosting and Transfer
- Tailings – Post Processed Solutions
- Oil & Gas Production – Onshore, Offshore and Pipeline
- Marine
- Pulp and Paper
Multistage Pumps (HR)
Applications

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<th>Duty</th>
<th>Heavy</th>
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<th>Low</th>
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<td>Flexibility</td>
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Multistage Pumps (HR)
Main Components & Materials

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<th>Components</th>
<th>Cast Iron</th>
<th>Carbon Steel</th>
<th>Brass</th>
<th>Stainless Steel</th>
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Multistage Pumps (HR)
Available Models

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<th>HR 70</th>
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<td>HR 150</td>
<td>HR 360</td>
<td>HR 900</td>
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Multistage Pumps (HR)
Range Chart - 50 Hz - 1 Stage

[Graph showing performance curves with Q [gpm] and H [ft] values]
Multistage Pumps (HR)

Diagram

Multistage Pumps (HR)
Main Dimensions

<table>
<thead>
<tr>
<th>Model</th>
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<th>S₁</th>
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<th>D</th>
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Multistage Pumps (HR)
1500 rpm

HR 32
Curve #: 22001-070713-F1

Notes:
1. Operating data certified to ISO 9906 Hydraulic performance acceptance tests - Grades 1 & 2
2. Performance based on single stage pumping clean non-aerated water (H₂O T°=18 [°C], H₂O Density = 998 [kg/m³])
3. Power and efficiency losses are not reflected on the curve
4. Elevated temperature effects on performance are not included
5. Consider 3.0% efficiency derate if operated Off-BEP (60% - 80%)
6. Consider 2.0% efficiency derate if using balanced impellers
7. Specifications are subject to change without previous notice.
HR 50
Curve #: 22002-080917-E1

Multistage Pumps (HR)
3000 rpm

Notes:
1. Operating data certified to ISO 9906 Hydraulic performance acceptance tests - Grades 1 & 2
2. Performance based on single stage pumping clean non-aerated water (H₂O T°=18 °C, H₂O Density = 998 [kg/m³])
3. Power and efficiency losses are not reflected on the curve
4. Elevated temperature effects on performance are not included
5. Consider 3.0% efficiency derate if operated Off-BEP (60% - 80%)
6. Consider 2.0% efficiency derate if using balanced impellers
7. Specifications are subject to change without previous notice.
Multistage Pumps (HR)
3000 rpm

HR 70
Curve #: 22003-070619-S1

Notes:
1. Operating data certified to ISO 9906 Hydraulic performance acceptance tests - Grades 1 & 2
2. Performance based on single stage pumping clean non-aerated water ($H_2O\ T^0=18\ [\degree C],\ H_2O\ Density = 998\ [kg/m^3]$)
3. Power and efficiency losses are not reflected on the curve
4. Elevated temperature effects on performance are not included
5. Consider 3.0% efficiency derate if operated Off-BEP (60% - 80%)
6. Consider 2.0% efficiency derate if using balanced impellers
7. Specifications are subject to change without previous notice.
HR 150
Curve #: 22004-100709-E1

Multistage Pumps (HR)
1500 rpm

Notes:
1. Operating data certified to ISO 9906 Hydraulic performance acceptance tests - Grades 1 & 2
2. Performance based on single stage pumping clean non-aerated water (H₂O T°=18 °C, H₂O Density = 998 [kg/m³])
3. Power and efficiency losses are not reflected on the curve
4. Elevated temperature effects on performance are not included
5. Consider 3.0% efficiency derate if operated Off-BEP (60% - 80%)
6. Consider 2.0% efficiency derate if using balanced impellers
7. Specifications are subject to change without previous notice.
Multistage Pumps (HR)
3000 rpm
HR 150
Curve #: 22004-100709-E1

Notes:
1. Operating data certified to ISO 9906 Hydraulic performance acceptance tests - Grades 1 & 2
2. Performance based on single stage pumping clear non-aerated water (H₂O T°=18 [°C], H₂O Density = 998 [kg/m³])
3. Power and efficiency losses are not reflected on the curve
4. Elevated temperature effects on performance are not included
5. Consider 3.0% efficiency derate if operated Off-BEP (60% - 80%)
6. Consider 2.0% efficiency derate if using balanced impellers
7. Specifications are subject to change without previous notice.
HR 360
Curve #: 22005-080614-E1

Multistage Pumps (HR)
1500 rpm

Notes:
1. Operating data certified to ISO 9906 Hydraulic performance acceptance tests - Grades 1 & 2
2. Performance based on single stage pumping clean non-aerated water [H2O T°=18°C, H2O Density = 998 [kg/m³]]
3. Power and efficiency losses are not reflected on the curve
4. Elevated temperature effects on performance are not included
5. Consider 3.0% efficiency derate if operated Off-BEP (60% - 80%)
6. Consider 2.0% efficiency derate if using balanced impellers
7. Specifications are subject to change without previous notice.
Multistage Pumps (HR)
1000 rpm

HR 900
Curve #: 22006-120214-S2

Notes:
1. Operating data certified to ISO 9906 Hydraulic performance acceptance tests - Grades 1 & 2
2. Performance based on single stage pumping clean non-aerated water (H₂O T°=18 °C, H₂O Density = 998 [kg/m³])
3. Power and efficiency losses are not reflected on the curve
4. Elevated temperature effects on performance are not included
5. Consider 3.0% efficiency derate if operated Off-BEP (60% - 80%)
6. Consider 2.0% efficiency derate if using balanced impellers
7. Specifications are subject to change without previous notice.
HR 900
Curve #: 22006-120214-S2
Multistage Pumps (HR)
1500 rpm

Notes:
1. Operating data certified to ISO 9906 Hydraulic performance acceptance tests - Grades 1 & 2
2. Performance based on single stage pumping clean non-aerated water (H₂O T°=18 [°C], H₂O Density = 998 [kg/m³])
3. Power and efficiency losses are not reflected on the curve
4. Elevated temperature effects on performance are not included
5. Consider 3.0% efficiency derate if operated Off-BEP (60% - 80%)
6. Consider 2.0% efficiency derate if using balanced impellers
7. Specifications are subject to change without previous notice.
Axial Split Case Pumps (HA)
Axial Split Case Pumps (HA)

The range axial split pump available pumps include both single double-suction and multi-stage designs. Our pumps are designed for high volume, high pressure heavy-duty liquid transport applications.

OPERATING PARAMETERS

• Capacities up to 17,000 gpm (3,200 m³/h)
• Head up to 2,700 Feet (800 m)
• Power through 1000 hp (750 kW)
• Pressures up to 1,180 psi (8,148 kPa)
• Frequency 50/60 Hz
• Temperatures to 300 °F (150°C)
• Discharge sizes from 3” to 14”

DESIGN FEATURES

• NEPTUNO PUMPS® high-efficiency design
• High-quality investment cast impellers and stage diffusers
• Axially split casing for ease of maintenance
• Heavy duty single row bolting
• Opposed impeller arrangement for thrust balancing
• Special material selection for standard or abrasive/corrosive service
• Different suction and discharge flange orientation
• Mechanical sealing

SERVICES

• Primary Water Supply – Fresh water or Sea water
• Mining Processes - Cooling Water, Thickener Overflow, Reclaim Water, Mine Seepage, Well Pumps-Process, Water Supply, Mine De-Watering, Electrolyte, Pressure Boosting and Transfer
• Solvent Extraction/Electro-Winning (SX/EW): Raffinate, Pregnate Leach Solution (PLS), Heap Leach, Dump Leach, Acid Water Pressure Boosting and Transfer
• Tailings – Post Processed Solutions
• Oil & Gas Production – Onshore, Offshore and Pipeline
• Marine
• Pulp and Paper
Axial Split Case (HA)
Applications

<table>
<thead>
<tr>
<th>Duty</th>
<th>Heavy</th>
<th>Medium</th>
<th>Low</th>
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<tbody>
<tr>
<td>Capacity</td>
<td>High</td>
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<tr>
<td>Head</td>
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<td>Flexibility</td>
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Axial Split Case (HA)
Main Components & Materials

<table>
<thead>
<tr>
<th>Components</th>
<th>Cast Iron</th>
<th>Carbon Steel</th>
<th>Brass</th>
<th>Stainless Steel</th>
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Axial Split Case (HA)
Available Models

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Axial Split Case (HA)
Range Chart - 50Hz
Axial Split Case (HA)
Diagram

Axial Split Case (HA)
Main Dimensions

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<th>Model</th>
<th>$S_1$ Suction</th>
<th>$S_2$ Discharge</th>
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<th>B</th>
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<td>816</td>
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1. Operating data certified to ISO 9906 Hydraulic performance acceptance tests - Grades 1 & 2
2. Performance based on single stage pumping clean non-aerated water (H₂O T°=18 °C, H₂O Density = 998 [kg/m³])
3. Power and efficiency losses are not reflected on the curve
4. Elevated temperature effects on performance are not included
5. Consider 3.0% efficiency derate if operated Off-BEP (60% - 80%)
6. Specifications are subject to change without previous notice.

Notes:
1. Operating data certified to ISO 9906 Hydraulic performance acceptance tests - Grades 1 & 2
2. Performance based on single stage pumping clean non-aerated water \(T=18 \text{°C}, \rho=998 \text{kg/m}^3\)
3. Power and efficiency losses are not reflected on the curve.
4. Elevated temperature effects on performance are not included.
5. Consider 3.0% efficiency derate if operated Off-BEP (60% - 80%)
6. Specifications are subject to change without previous notice.

Notes:

1. Operating data certified to ISO 9906 Hydraulic performance acceptance tests - Grades 1 & 2
2. Performance based on single stage pumping clean non-aerated water \(T=18 \text{°C}, \rho=998 \text{kg/m}^3\)
3. Power and efficiency losses are not reflected on the curve
4. Elevated temperature effects on performance are not included
5. Consider 3.0% efficiency derate if operated Off-BEP (60% - 80%)
6. Specifications are subject to change without previous notice.
Axial Split Case (HA)
3000 rpm

HA 140
Curve #: 31002-090923-S1

Notes:
1. Operating data certified to ISO 9906 Hydraulic performance acceptance tests - Grades 1 & 2
2. Performance based on single stage pumping clean non-aerated water (H2O T°=18 [°C], H2O Density = 998 [kg/m³])
3. Power and efficiency losses are not reflected on the curve
4. Elevated temperature effects on performance are not included
5. Consider 3.0% efficiency derate if operated OFF-BEP (60% - 80%)
6. Specifications are subject to change without previous notice.
HA 200
Curve #: 31003-080724-E1

Axial Split Case (HA)
1500 rpm

Notes:

1. Operating data certified to ISO 9906 Hydraulic performance acceptance tests - Grades 1 & 2
2. Performance based on single stage pumping clean non-aerated water (H₂O T°=18 °C, H₂O Density = 998 [kg/m³])
3. Power and efficiency losses are not reflected on the curve
4. Elevated temperature effects on performance are not included
5. Consider 3.0% efficiency derate if operated Off-BEP (60% - 80%)
6. Specifications are subject to change without previous notice.
1. Operating data certified to ISO 9906 Hydraulic performance acceptance tests - Grades 1 & 2
2. Performance based on single stage pumping clean non-aerated water (H₂O T°=18 [°C], H₂O Density = 998 [kg/m³])
3. Power and efficiency losses are not reflected on the curve
4. Elevated temperature effects on performance are not included
5. Consider 3.0% efficiency derate if operated Off-BEP (60% - 80%)
6. Specifications are subject to change without previous notice.

Notes:

Axial Split Case (HA) 3000 rpm

Pump Performance Curves 50 Hz
HA 250
Curve #: 31004-080704-F1
Axial Split Case (HA)
1500 rpm

Notes:
1. Operating data certified to ISO 9906 Hydraulic performance acceptance tests - Grades 1 & 2
2. Performance based on single stage pumping clean non-aerated water (H₂O T° = 18 °C, H₂O Density = 998 [kg/m³])
3. Power and efficiency losses are not reflected on the curve
4. Elevated temperature effects on performance are not included
5. Consider 3.0% efficiency derate if operated Off-BEP (60% - 80%)
6. Specifications are subject to change without previous notice.
Axial Split Case (HA)  
3000 rpm  

Notes:
1. Operating data certified to ISO 9906 Hydraulic performance acceptance tests - Grades 1 & 2  
2. Performance based on single stage pumping clean non-aerated water (H₂O T°=18 °C, H₂O Density = 998 [kg/m³])  
3. Power and efficiency losses are not reflected on the curve  
4. Elevated temperature effects on performance are not included  
5. Consider 3.0% efficiency derate if operated Off-BEP (60% - 80%)  
6. Specifications are subject to change without previous notice.
HA 290
Curve #: 31005-080614-F1
Axial Split Case (HA)
1500 rpm

Notes:
1. Operating data certified to ISO 9906 Hydraulic performance acceptance tests - Grades 1 & 2
2. Performance based on single stage pumping clean non-aerated water \( T = 18 \, ^\circ C; \) \( \rho = 998 \, \text{kg/m}^3 \)
3. Power and efficiency losses are not reflected on the curve
4. Elevated temperature effects on performance are not included
5. Consider 3.0% efficiency derate if operated Off-BEP (60% - 80%)
6. Specifications are subject to change without previous notice.
1. Operating data certified to ISO 9906 Hydraulic performance acceptance tests - Grades 1 & 2
2. Performance based on single stage pumping clean non-aerated water (H₂O T°=18 [°C], H₂O Density = 998 [kg/m³])
3. Power and efficiency losses are not reflected on the curve
4. Elevated temperature effects on performance are not included
5. Consider 3.0% efficiency derate if operated Off-BEP (60% - 80%)
6. Specifications are subject to change without previous notice.

Notes:

Axial Split Case (HA) 3000 rpm

HA 290

Curve #: 31005-080614-F1

Pump Performance Curves 50 Hz
1. Operating data certified to ISO 9906 Hydraulic performance acceptance tests - Grades 1 & 2
2. Performance based on single stage pumping clean non-aerated water (\(T = 18 \, ^\circ\text{C}\), \(\rho_{\text{H}_2\text{O}} = 998 \, \text{kg/m}^3\))
3. Power and efficiency losses are not reflected on the curve
4. Elevated temperature effects on performance are not included
5. Consider 3.0% efficiency derate if operated Off-BEP (60% - 80%)
6. Specifications are subject to change without previous notice.

Notes:

Curve #: 32001-100625-S2

Axial Split Case (HA) 1500 rpm

Pump Performance Curves 50 Hz

\(Q \, [\text{m}^3/\text{h}]\)

\(H \, [\text{m}]\)

\(NPSH_r \, [\text{m}]\)

\(NPSH_r \, [\text{ft}]\)

\(P \, [\text{kW}]\)

\(P \, [\text{hp}]\)

\(\eta\)
Axial Split Case (HA)  
3000 rpm  

HA 475  
Curve #: 32001-100625-S2

Notes:
1. Operating data certified to ISO 9906 Hydraulic performance acceptance tests - Grades 1 & 2
2. Performance based on single stage pumping clean non-aerated water ($H_2O$ $T°=18 \, (^\circ C)$, $H_2O$ Density $= 998 \, (kg/m^3)$)
3. Power and efficiency losses are not reflected on the curve
4. Elevated temperature effects on performance are not included
5. Consider 3.0% efficiency derate if operated Off-BEP (60% - 80%)
6. Specifications are subject to change without previous notice.
1. Operating data certified to ISO 9906 Hydraulic performance acceptance tests - Grades 1 & 2
2. Performance based on single stage pumping clean non-aerated water (H2O T°=18 °C, H2O Density = 998 [kg/m³])
3. Power and efficiency losses are not reflected on the curve
4. Elevated temperature effects on performance are not included
5. Consider 3.0% efficiency derate if operated Off-BEP (60% - 80%)
6. Specifications are subject to change without previous notice.

Notes:

1. Operating data certified to ISO 9906 Hydraulic performance acceptance tests - Grades 1 & 2
2. Performance based on single stage pumping clean non-aerated water (H2O T°=18 °C, H2O Density = 998 [kg/m³])
3. Power and efficiency losses are not reflected on the curve
4. Elevated temperature effects on performance are not included
5. Consider 3.0% efficiency derate if operated Off-BEP (60% - 80%)
6. Specifications are subject to change without previous notice.
Axial Split Case (HA)
3000 rpm

HA 700
Curve #: 32002-070619-F1

Notes:
1. Operating data certified to ISO 9906 Hydraulic performance acceptance tests - Grades 1 & 2
2. Performance based on single stage pumping clean non-aerated water ($H_2O$, $T=18\, ^\circ C$, $H_2O$ Density = 998 [kg/m$^3$])
3. Power and efficiency losses are not reflected on the curve
4. Elevated temperature effects on performance are not included
5. Consider 3.0% efficiency derate if operated Off-BEP (60% - 80%)
6. Specifications are subject to change without previous notice.
1. Operating data certified to ISO 9906 Hydraulic performance acceptance tests - Grades 1 & 2
2. Performance based on single stage pumping clean non-aerated water (H₂O T°=18 °C, H₂O Density = 998 [kg/m³])
3. Power and efficiency losses are not reflected on the curve
4. Elevated temperature effects on performance are not included
5. Consider 3.0% efficiency derate if operated Off-BEP (60% - 80%)
6. Specifications are subject to change without previous notice.

Notes:

1. Operating data certified to ISO 9906 Hydraulic performance acceptance tests - Grades 1 & 2
2. Performance based on single stage pumping clean non-aerated water (H₂O T°=18 °C, H₂O Density = 998 [kg/m³])
3. Power and efficiency losses are not reflected on the curve
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6. Specifications are subject to change without previous notice.
1. Operating data certified to ISO 9906 Hydraulic performance acceptance tests - Grades 1 & 2
2. Performance based on single stage pumping clean non-aerated water (H₂O T°=18 °C, H₂O Density = 998 [kg/m³])
3. Power and efficiency losses are not reflected on the curve
4. Elevated temperature effects on performance are not included
5. Consider 3.0% efficiency derate if operated Off-BEP (60% - 80%)
6. Specifications are subject to change without previous notice.

Axial Split Case (HA)
1500 rpm

HA 2400
Curve #: 32006-070713-F1

---

Notes:
1. Operating data certified to ISO 9906 Hydraulic performance acceptance tests - Grades 1 & 2
2. Performance based on single stage pumping clean non-aerated water (H₂O T°=18 °C, H₂O Density = 998 [kg/m³])
3. Power and efficiency losses are not reflected on the curve
4. Elevated temperature effects on performance are not included
5. Consider 3.0% efficiency derate if operated Off-BEP (60% - 80%)
6. Specifications are subject to change without previous notice.
Volute Pumps (HV)
Volute Pumps (HV)

NEPTUNO PUMPS® offers a wide range Volute Pumps to satisfy a variety of head requirements and capacities, with different suction and discharge flange sizes.

**OPERATING PARAMETERS**
- Capacities up to 19,500 gpm (3,700 m³/h)
- Head up to 820 Feet (250 m)
- Power through 700 hp (520 kW)
- Pressures up to 370 psi (2,550 kPa)
- Frequency 50/60 Hz
- Temperatures to 300 °F (150°C)
- Discharge sizes from 3” to 12”

**DESIGN FEATURES**
- NEPTUNO PUMPS® high-efficiency design
- High-quality investment cast impellers and stage diffusers
- ANSI Design available
- Special material selection for standard or abrasive/corrosive service
- Maximum versatility and reliability
- Different suction and discharge flange sizes
- Packing or mechanical seal

**SERVICES**
- Primary Water Supply – Fresh water or Sea water
- Solvent Extraction/Electro-Winning (SX/EW): Raffinate, Pregmate Leach Solution (PLS), Heap Leach, Dump Leach, Acid Water Pressure Boosting and Transfer
- Tailings – Post Processed Solutions
- Oil & Gas Production – Onshore, Offshore and Pipeline
- Marine
- Pulp and Paper
Volute Pumps (HV)
Applications

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<th>Duty</th>
<th>Heavy</th>
<th>Medium</th>
<th>Low</th>
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<td>Medium</td>
<td>Low</td>
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<tr>
<td>Head</td>
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<td>Medium</td>
<td>Low</td>
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<tr>
<td>Fluid</td>
<td>Clean</td>
<td>Process</td>
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<tr>
<td>Flexibility</td>
<td>High</td>
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Volute Pumps (HV)
Main Components & Materials

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<th>Cast Iron</th>
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Volute Pumps (HV)
Available Models

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<td>HV 105</td>
<td>HV 120</td>
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<td>HV 175</td>
<td>HV 250</td>
<td>HV 450</td>
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<td>HV 475</td>
<td>HV 500</td>
<td>HV 3000</td>
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Volute Pumps (HV)
Range Chart - 50 Hz
### Volute Pumps (HV) Diagram

![Diagram of Volute Pumps (HV)]

### Volute Pumps (HV) Main Dimensions

<table>
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<th>Model</th>
<th>Suction</th>
<th>Discharge</th>
<th>CP</th>
<th>D</th>
<th>F</th>
<th>O</th>
<th>U</th>
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Volute Pumps (HV)
1500 rpm

HV 62
Curve #: 43001-070620-F1

1. Operating data certified to ISO 9906 Hydraulic performance acceptance tests - Grades 1 & 2
2. Performance based on single stage pumping clean non-aerated water (H2O T°=18°C, H2O Density = 998 [kg/m³])
3. Power and efficiency losses are not reflected on the curve
4. Elevated temperature effects on performance are not included
5. Consider 3.0% efficiency derate if operated Off-BEP (60% - 80%)
6. Consider 2.0% efficiency derate if using balanced impellers
7. Specifications are subject to change without previous notice.
HV 62
Curve #: 43001-070620-F1

Volute Pumps (HV)
3000 rpm

Notes:
1. Operating data certified to ISO 9906 Hydraulic performance acceptance tests - Grades 1 & 2
2. Performance based on single stage pumping clean non-aerated water (H₂O T°=18 [°C], H₂O Density = 998 [kg/m³])
3. Power and efficiency losses are not reflected on the curve
4. Elevated temperature effects on performance are not included
5. Consider 3.0% efficiency derate if operated Off-BEP (60% - 80%)
6. Consider 2.0% efficiency derate if using balanced impellers
7. Specifications are subject to change without previous notice.
1. Operating data certified to ISO 9906 Hydraulic performance acceptance tests - Grades 1 & 2
2. Performance based on single stage pumping clean non-aerated water (H2O, T°=18 °C, H2O Density = 998 [kg/m³])
3. Power and efficiency losses are not reflected on the curve
4. Elevated temperature effects on performance are not included
5. Consider 3.0% efficiency derate if operated Off-BEP (60% - 80%)
6. Consider 2.0% efficiency derate if using balanced impellers
7. Specifications are subject to change without previous notice.

Notes:

Volute Pumps (HV)
1500 rpm

HV 105
Curve #: 43002-070619-F1

Pump Performance Curves 50 Hz
HV 105
Curve #: 43002-070619-F1
Volute Pumps (HV)
3000 rpm

Notes:
1. Operating data certified to ISO 9906 Hydraulic performance acceptance tests - Grades 1 & 2
2. Performance based on single stage pumping clean non-aerated water (H₂O T°=18 [°C], H₂O Density = 998 [kg/m³])
3. Power and efficiency losses are not reflected on the curve
4. Elevated temperature effects on performance are not included
5. Consider 3.0% efficiency derate if operated Off-BEP (60% - 80%)
6. Consider 2.0% efficiency derate if using balanced impellers
7. Specifications are subject to change without previous notice.
1. Operating data certified to ISO 9906 Hydraulic performance acceptance tests - Grades 1 & 2
2. Performance based on single stage pumping clean non-aerated water (H₂O T°=18 [°C], H₂O Density = 998 [kg/m³])
3. Power and efficiency losses are not reflected on the curve
4. Elevated temperature effects on performance are not included
5. Consider 3.0% efficiency derate if operated Off-BEP (60% - 80%)
6. Consider 2.0% efficiency derate if using balanced impellers
7. Specifications are subject to change without previous notice.

Notes:

Volute Pumps (HV)
1500 rpm

Curve #: 43003-090209-S1
1. Operating data certified to ISO 9906 Hydraulic performance acceptance tests - Grades 1 & 2
2. Performance based on single stage pumping clean non-aerated water \(H_2O\ T°C = 18\ [°C]\), \(H_2O\ \text{Density} = 998\ [\text{kg/m}^3]\)
3. Power and efficiency losses are not reflected on the curve
4. Elevated temperature effects on performance are not included
5. Consider 3.0% efficiency derate if operated Off-BEP (60% - 80%)
6. Consider 2.0% efficiency derate if using balanced impellers
7. Specifications are subject to change without previous notice.
Volute Pumps (HV)
1500 rpm

Notes:
1. Operating data certified to ISO 9906 Hydraulic performance acceptance tests - Grades 1 & 2
2. Performance based on single stage pumping clean non-aerated water (H₂O T°=18 [°C], H₂O Density = 998 [kg/m³])
3. Power and efficiency losses are not reflected on the curve
4. Elevated temperature effects on performance are not included
5. Consider 3.0% efficiency derate if operated Off-BEP (60% - 80%)
6. Consider 2.0% efficiency derate if using balanced impellers
7. Specifications are subject to change without previous notice.
HV 175
Volute Pumps (HV)
3000 rpm

Notes:
1. Operating data certified to ISO 9906 Hydraulic performance acceptance tests - Grades 1 & 2
2. Performance based on single stage pumping clean non-aerated water (H2O T = 18 °C, H2O Density = 998 [kg/m³])
3. Power and efficiency losses are not reflected on the curve
4. Elevated temperature effects on performance are not included
5. Consider 3.0% efficiency derate if operated Off-BEP (60% - 80%)
6. Consider 2.0% efficiency derate if using balanced impellers
7. Specifications are subject to change without previous notice.
Volute Pumps (HV)
1500 rpm

HV 250
Curve #: 43006-090526-S1

Notes:
1. Operating data certified to ISO 9906 Hydraulic performance acceptance tests - Grades 1 & 2
2. Performance based on single stage pumping clean non-aerated water (\(T=18\, ^{\circ}C\), \(\rho=998\, \text{kg/m}^3\))
3. Power and efficiency losses are not reflected on the curve
4. Elevated temperature effects on performance are not included
5. Consider 3.0% efficiency derate if operated Off-BEP (60% - 80%)
6. Consider 2.0% efficiency derate if using balanced impellers
7. Specifications are subject to change without previous notice.
HV 450
Volute Pumps (HV)
1500 rpm

Notes:
1. Operating data certified to ISO 9906 Hydraulic performance acceptance tests - Grades 1 & 2
2. Performance based on single stage pumping clean non-aerated water (H₂O T°=18°C, H₂O Density = 998 [kg/m³])
3. Power and efficiency losses are not reflected on the curve
4. Elevated temperature effects on performance are not included
5. Consider 3.0% efficiency derate if operated Off-BEP (60% - 80%)
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7. Specifications are subject to change without previous notice.
1. Operating data certified to ISO 9906 Hydraulic performance acceptance tests - Grades 1 & 2
2. Performance based on single stage pumping clean non-aerated water (H_2O T°=18°C, H_2O Density = 998 [kg/m^3])
3. Power and efficiency losses are not reflected on the curve
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5. Consider 3.0% efficiency derate if operated Off-BEP (60% - 80%)
6. Consider 2.0% efficiency derate if using balanced impellers
7. Specifications are subject to change without previous notice.
HV 500

Volute Pumps (HV)

3000 rpm

Notes:

1. Operating data certified to ISO 9906 Hydraulic performance acceptance tests - Grades 1 & 2
2. Performance based on single stage pumping clean non-aerated water (H₂O T = 18 °C, H₂O Density = 998 [kg/m³])
3. Power and efficiency losses are not reflected on the curve
4. Elevated temperature effects on performance are not included
5. Consider 3.0% efficiency derate if operated Off-BEP (60% - 80%)
6. Consider 2.0% efficiency derate if using balanced impellers
7. Specifications are subject to change without previous notice.
1. Operating data certified to ISO 9906 Hydraulic performance acceptance tests - Grades 1 & 2
2. Performance based on single stage pumping clean non-aerated water (H₂O T°=18 [°C], H₂O Density = 998 [kg/m³])
3. Power and efficiency losses are not reflected on the curve
4. Elevated temperature effects on performance are not included
5. Consider 3.0% efficiency derate if operated Off-BEP (60% - 80%)
6. Consider 2.0% efficiency derate if using balanced impellers
7. Specifications are subject to change without previous notice.
Hacia una economía circular comprometida con el medio ambiente.

Neptuno3R™ - Reutiliza, Reduce y Recicla: Debido a la actual escasez y alto valor de las materias primas, creemos en la necesidad de transitar hacia una economía circular que reutilice los materiales y que permita mitigar los efectos del cambio climático. Nos sentimos orgullosos de ser una empresa de diseño y manufactura que reutiliza y recicla desechos industriales metálicos para producir nuevos productos de alta eficiencia energética, contribuyendo al aprovechamiento máximo de los recursos y disminuyendo los efectos del calentamiento global. Para saber más sobre nuestras capacidades visite: www.neptunopumps.com/3R