



V E R T I C A L P U M P S



WPIL Limited

INTRODUCTION

WPIL Limited, formerly known as Worthington Pump India Ltd., was established about 60 years back and has dedicated itself to the development of complete range of pumps and water handling systems.

Leveraging the hydraulic heritage of the world famous Worthington and Johnston brand and enhancing it with a sophisticated Research and Development Centre, the Company now possesses an enviable product range of Pumps and capability. Its Horizontal Pump range covers the large engineered Horizontal Split Case and Volute Pumps to the smaller End Suction Pumps.

The Pumps find applications in all spheres of Industry, Power, Irrigation and Municipal Sectors from Raw Water applications, Booster Pump Applications, Cooling Water Applications, Municipal Distribution Applications to Lift Irrigation Applications. These products are the market leaders in performance.

Based on WPIL's huge manufacturing capability including 4 foundries handling various metallurgies, these pumps can be supplied in all metallurgies from simple cast iron construction to exotic super duplex stainless steels and nickel alloys.

WPIL products are backed by a world class after sales team with trained personnel who can be deputed a short notice.

Today WPIL is truly an International Company with operations across the Globe.

The company had following Historical Benchmarks during these long years:

- | | |
|------|--|
| 1952 | Johnston Pumps India - A JV of Johnston, US |
| 1983 | Worthington Pump India Ltd - JV of Worthington |
| 1991 | India's largest Cooling Water Pump |
| 2003 | Start of Turnkey Project Division |
| 2010 | Manufacture of Concrete and Metallic Volute Pumps |
| 2011 | Large Turnkey Projects for Water System of Power Plant |
| 2011 | WPIL International Formed |
| 2013 | Large order for 30000 KW Volute Pumps |

APPLICATIONS



Power

- Intake
- Fire Water
- Circulating Water
- Cooling Water / Auxiliary Cooling Water
- Cooling Tower / Cooling Tower Make Up
- Ash Water
- Service Water
- Utility Service



Irrigation & Drainage

- Lift Irrigation Schemes
- Pump Turbine Station
- Drainage Pumping Stations
- Barge Mounted Pump Station



Municipal

- Raw Water Intake
- Booster Pump Station
- Drainage Pump Station
- Sewage Pump Station
- Drinking Water Scheme

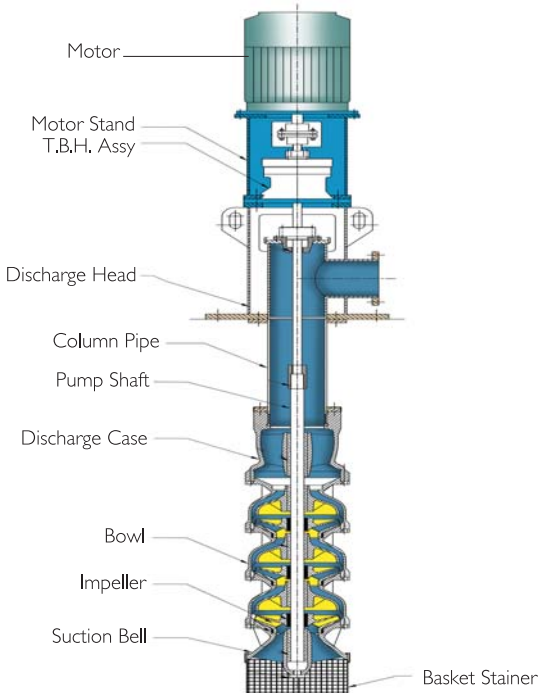


Industry

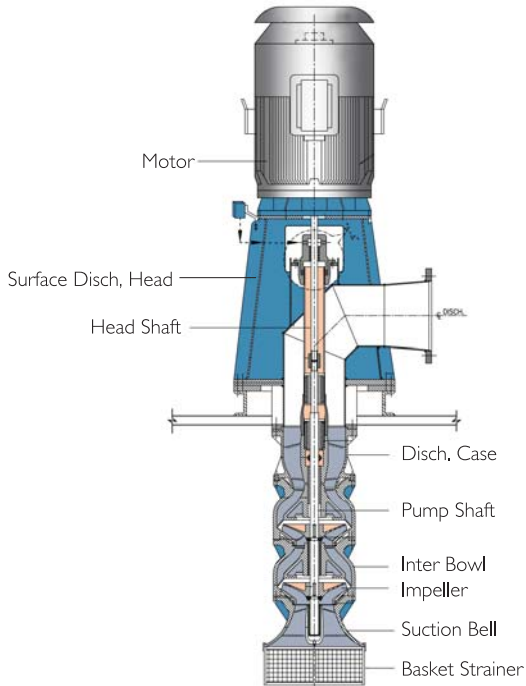
- Utilities
- Intake
- Waste Water
- Fire Water
- Process Water

CONSTRUCTION

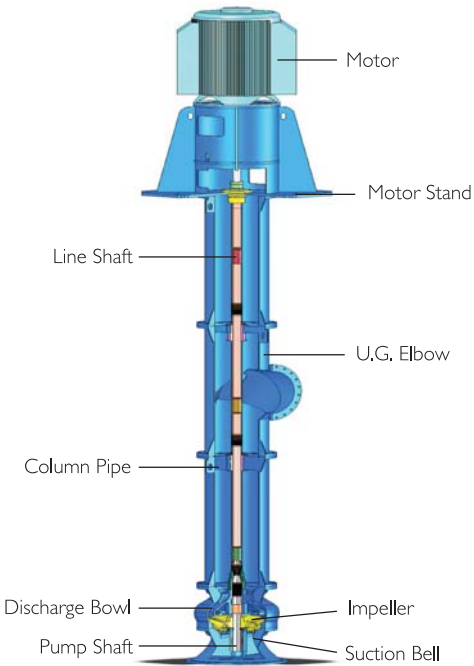
Cross Section of Vertical Turbine & Mixed Flow Pumps



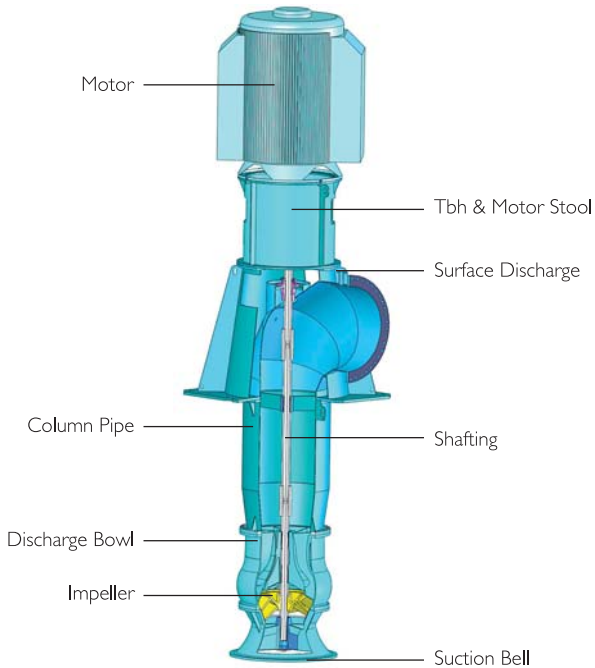
Product Lubricated



Oil Lubricated

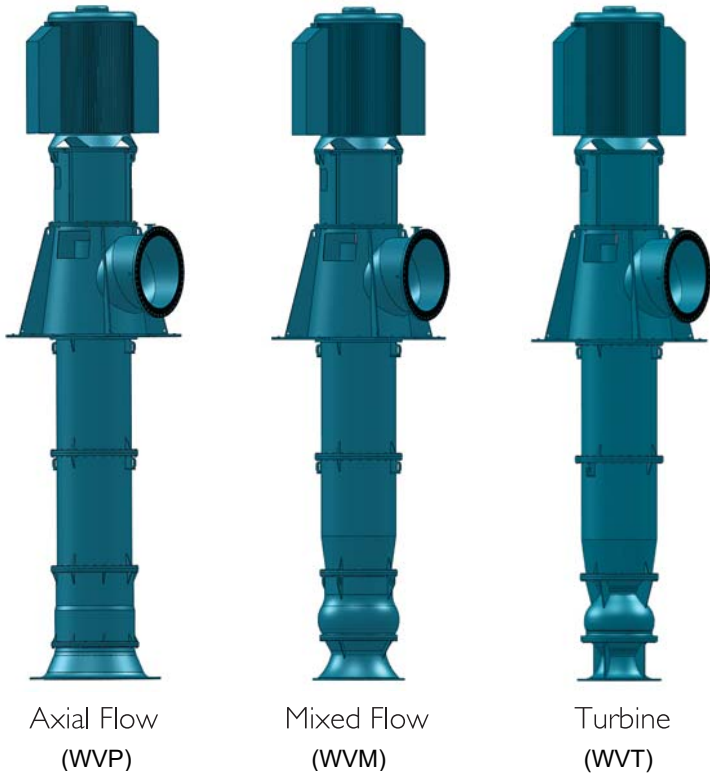


Underground Discharge



Overground Discharge

RANGE OF VERTICAL PUMPS

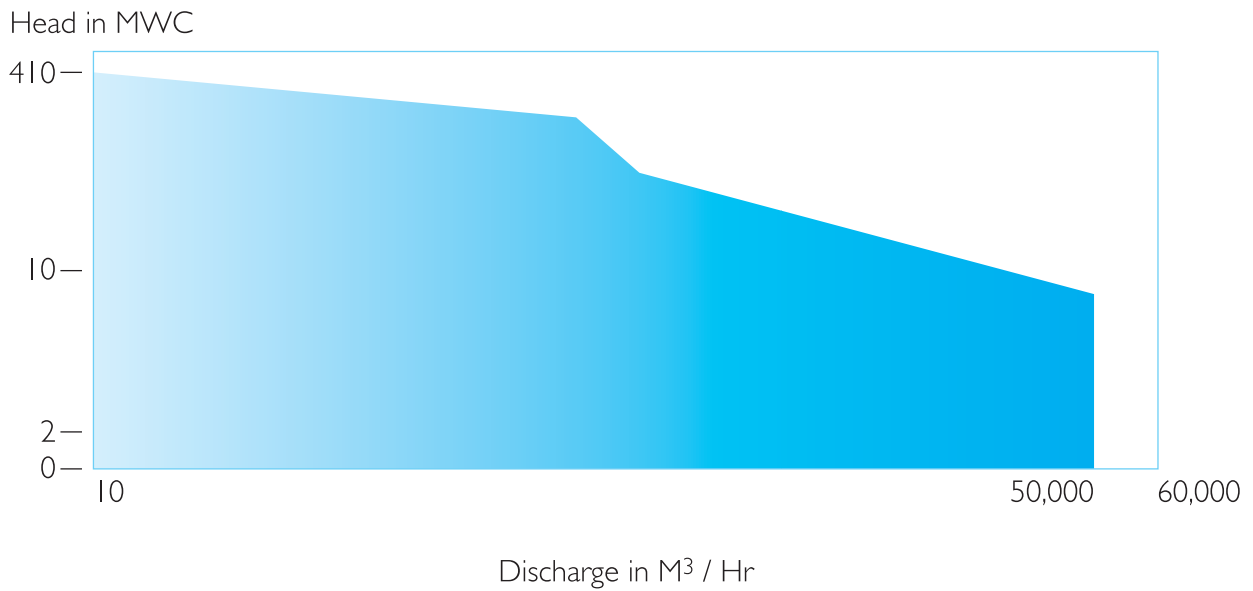


Engineering Excellence of WPIL

- Shop Testing
- Sump Model Study
- Seismic Analysis
- Transient Analysis
- Upgradations
- Replacement
- After Sales Service and Spare Parts



Range Chart of Vertical Turbine / Mixed Flow / Axial Flow (Propeller) Pumps



Condenser Cooling Water System

- Main Circulating Water Pumps
- Auxiliary Cooling Water Pumps
- Cooling Tower Make-up & Blow down Pumps

Fully engineered pumps, customized for complete integration with the system and maximum user satisfaction. Capacity upto 45000 M³/hr, head to suit site condition and Driver rating upto 5000 KW.



Condenser Cooling Water System

Intake & Raw Water System

Intake Water Pumps

- Jackwell type installation
- Barge Mounted installation
- Open Jetty with caisson pipe installation
- Inclined installation of River/Lake bank

Fully engineered pump customized for complete integration with system and maximum user satisfaction. Capacity upto 12000 M³/hr, head upto 200 M, Driver rating upto 5000 KW.



Intake & Raw Water System

Miscellaneous Water Systems

- Ash water Recirculation Pumps
- Service Water Pumps
- Fire Water Pumps
- Storm water drainage Pumps

Engineered pumps with capacity rating from 15 M³/hr to 3000 M³/hr, head rating upto 150 Mtr. and driver rating roughly upto 1000 KW.



Miscellaneous Water System

IRRIGATION & DRAINAGE

- River Lift Irrigation Pumping by means of Medium to Large Vertical as well as Inclined Pumps
- Capability to take up complete turnkey solution for Irrigation or Drainage Pumping
- Wide range of high capacity (upto 45,000 M³/Hr and low to medium lift pumps to cater to diverse needs)
- Vertical Axial Flow Pumps to take care of drainage applications - even large size solids can be handled



Worldwide & Diverse Applications :

- VAN THIAI - a project in Vietnam with 4 Pumps each having 12,960 M³/Hr capacity
- LAOS - 4 Turnkey Pump Stations including complete electro-mechanical jobs, pump house design to irrigate 8000 Ha area
- Andhra Pradesh - 4 MW Pump Turbine Station in Technical collaboration with MHI - Japan
- Bagjola Drainage Pumping Station - Complete Electro-mechanical job with 19 Pumps to Drainage capacity of 1650 Cusec



MUNICIPAL

Mainly used for large water supply schemes containing Water Treatment Plant

Intake Side :

- Intake pumps in Jackwell type installation.
- Intake pumps in Barge Mounted installation.
- Intake pumps in Open Jetty with caisson pipe installation.
- Fully engineered pump to ensure proper integration with the system. Capacity, Head as per system requirement with water rating upto 4000 KW.

Process Side :

Raw water feed pumps, semi engineered to suit site requirement.

Capacity ranging upto 2000 M³/Hr & head ranging upto 50M. Driver rating upto 400 KW.

Distribution Side

Clear water transfer pumps engineered to suit site requirements. Capacity ranging upto 5000 M³/Hr & head ranging upto 160M. Driver rating ranging upto 3000 KW.



Utility Applications :

- Service Water Pumps
- Portable Water Supply Pumps

Waste Water Applications :

- Scale Pit Water Pumps
- Storm Water Drainage Pumps
- Waste Water Recycle Pumps

Capacity upto 3000 M³/Hr, Head upto 50 Mtr, Motor Rating upto 600 KW

Process Applications :

- Spray Cooling Pumps
- Gas Cooling and Dust Suppression Pumps
- Circulating Cooling Water Pumps
- Raw Water Transfer Pumps
- Make Up Water Pumps

Capacity ranging from 10 M³/Hr to 25,000 M³/Hr, and Head ranging upto 70 Mtr, Motor Rating upto 2500 KW

Other Off-Site Applications :

- Ash water Recitanlation Pumps
- Service Water Pumps
- Fire Water Pumps

INDUSTRY



Intake Applications :

- Jackwell type installation
- Barge Mounted installation
- Open Jetty with caisson pipe installation
- Inclined pump on bank of River / Lake installation

SEA WATER

Sea Water is being widely used for various applications including Intake & Cooling, which are the major ones. Sea Water Pumping is prevalent in most of the industries out of which Power Plants / Desalination Plants, Chemical Plants are major users. Other plants like Steel Plant, Paper Mill, Cement Plant, Mines are also using sea water extensively which have necessitated complete relook at the selection of appropriate materials for pump. WPIL has been one of the pioneers in sea water handling pumps to combat various types of corrosion as under :



Process Side:

- Galvanic Corrosion of Metals in Sea Water
- Microbial Corrosion or Microbiologically-influenced Corrosion - caused by the presence and activities of microbes
- Pitting Corrosion - WPIL's experienced engineering team developed various methods to combat such corrosion by :



- A) Proper selection of materials extending from Stainless Steel 316 grade to Super Duplex Stainless Steel (SAF 2507 or UNS S32760) i.e., PREN numbers upto 44-45 or Nickel Aluminum Bronze or D2 Ni-resist / various other higher grades of stainless steel depending on the degree of corrosiveness which depends on the geographical area as well.
- B) Providing Cathodic protection by an electrical means of corrosion control, the above selection of materials not only helps the pumps to run trouble free in Sea Water handling applications but also in media having other corrosive waters as well. All these led to huge response from clients worldwide. A selected few are : –



Selected Major Users

- Jubail Chemical Industries Co. (NAMA / JANA CHEMICAL), Saudi Arabia
- Ravensthorpe Nickel Project, Australia
- Petroleum Development Organisation – R.O. Plant, Salalah, Oman
- Daleel Petroleum – Oman
- Essar Oil Limited, Refinery Site, Jamnagar – India
- National Thermal Power Corporation, Simhadri STPP-Circulating Water Pumps, India
- Oil & Natural Gas Commission – India



REFERENCES

POWER

- NTPC Farakka 2 × 500 MW
- Apgenco, Vijaywada
- NTPC Vindhyachal 2 × 500 MW (turnkey)
- NTPC Simhadri 2 × 500 MW (with sea water)
- NTPC Barh 2 × 660 MW
- Nalco Captive Power Plant
- Pltu Tarahan, Sumatra - Indonesia

DRAINAGE & IRRIGATION

- Department of Irrigation, Lao PDR
- Multipurpose river lift project (Pump turbine station), AP-India
- Rasi Salai Diversion Project, Thailand
- Sungai dareil irrigation scheme, indonesia
- Bhairawaha Lumbini ground water project, Nepal
- Bagjola Drainage Pumping Station
- Pattaya Waste Water Treatment Plant, Thailand
- Kolkata Environment Improvement Project (4 Pumping stations)
- Basantpur Lift Irrigation - J&K
- Massanjore Barge Pumping Station



MUNICIPAL

- Rajasthan Urban Infrastructure Development Project - Bikaner & Kota
- Delhi Municipal Corporation
- Kolkata Municipal Corporation - IS9&I0, Mullick Ghat, KMDA/KMWSA - Belgachia, Kona, Serampore, Kalyani, Rajpur - Kolkata
- Loakulu, Samarinda - Indonesia

INDUSTRY

- Jubail Chemical-Hassad, KSA
- Chemanol - Methanol, KSA
- Steel Authority of India Limited - Bokaro, Durgapur, Rourkela
- Nilachal Ispat Nigam - Orissa
- Jindal Steel - Raigarh/Angul
- Gujarat Narmada Fertiliser Corpn.
- Essar Steels Limited, Hazira
- Hindalco - Renukoot & Sambalpur

FACILITY

- Specialised Factories having 34,000 Sq.Mtr area in Kolkata and 20,000 Sq.Mtr in Nagpur
- Foundries in 3 locations in India capable for producing various range of ferrous, non-ferrous and other alloy steel castings
- Test facility to test pumps upto 40,000 M³/Hr capacity of 4 MW power
- Specialised fabrication areas for Stainless Steel Welding
- Research & Development Wing recognised by Govt. of India, Ministry of Science



INTERNATIONAL OPERATIONS

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BANGKOK ■ MELBOURNE ■ JOHANNESBURG ■ MANCHESTER



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