TTAAL-Vertical Turbine Pumps

● Vertical Turbine Pumps

The 4 different model vertical turbine pumps have one thing in common the hydraulic design of the pump bowl assembly. Using a new techniques in turbine pump design. It covers a wide range of hydraulic conditions to meet virtually every pumping service with optimum efficiency.

Seoca flexibility of design allows the use of a wide range of material and design features to meet the custom requirements of user. No matter what the requirements, whether low first cost, ease of maintenance, optimum efficiency. Tough service conditions, Seoca can make the pump to best satisfy the requirements.

- TTAAL-VTC Centrifugal or mixed–flow pump for high pressure
- TTAAL-VTM Mixed–flow pump for high flow and middle pressure
- TTAAL-VTA Axial–flow pump for high flow low pressure
- TTAAL-VTG Pump for fire and marine gear box engine driven

Model VTC

Vertical Industrial Turbine Pumps

VTC series is a single or multistage pump with centrifugal or mixed–flow enclosed type impeller, designed for high pressure services.

Model VTA

Low Head Vertical Turbine Pumps

VTA series is a single stage pump with axial–flow impeller, designed for high capacity, low head services.

Model VTM

High Capacity Vertical Turbine Pumps

VTM series is a single stage pump with mixed–flow semi–open or enclosed type impeller, designed for high capacity, medium to high head services.

Model VTG

Right Angle Gear Box Driven Vertical Turbine Pumps

VTG series is vertical turbine pump designed for engine driven through a right angle gear box, for the place where electric power is not available services.

TORONTECH™
Pumps and Valves
TTAAL

Description

Vertical Turbine Pumps

• The 4 different model vertical turbine pumps have one thing in common.
• The hydraulic design of the pump bowl assembly use new technology in turbine pump design.
• It covers a wide range of hydraulic conditions to meet virturally every pumping service with optimum efficiency. And flexibility of design allows the use of a wide range of material and design features to meet the custom requirements of user.

• No matter what the requirements, whether low first cost, ease of maintenance, optimum efficiency.
• Tough service conditions, we can make the pump to best satisfy the requirements.

• VTC centrifugal or mixed flow pump for high pressure
• VTM mixed flow pump for high flow and middle pressure
• VTA axial-flow pump for high flow low pressure
• VTG pump for fire and marine gear box engine driven

• Standard Design for VTP

• The bowl assembly is the heart of the VTP.
• The impeller and diffuser type casing are designed to deliver the head and capacity that your system requires in the most efficiency possible way.
• The fact that the VTP can be multi-stages allows maximum flexibility both in the initial pump selection and in the event that future system modifications require a change in the pump rating.
• Submerges impellers allow pump to be started without priming

• A variety material options allows the selection of a pump test suited for even the most severe services.
• The many bowl assembly options available assure that the VTP satisfies the user's need for safe, efficient, reliable and maintenance- free operation

1. Stainers
• SS316 basket strainers to provide protection from large solids.
2. Suction bell
• Allows smooth entry of liquid into impeller eye, minimized vortex formation
• Scotchkote custom fusion bonded expoxy coating inside
3. Suctioin Bell bearing
• Provided to make sure the stability of shaft
4. Sand Collar
• Provents solid from entering suction bearing
5. Impeller
• Hydraulic balancing to reduce axial down thrust and achieve long thrust bearing life
6.Pump shaft
• Heavy duty, ss316 std, other allows for strength and corrosive resistance
• Hollow pump shaft with flushing hole special for bearing flushing on corrosive/abrasive services
7. Diffuser bowl
• Available in varienty of cast material. Scotchkote custom fusing bonded expoy coating inside to improve the efficiency and longer service life. Registered fits assure positive alignment, ease of maintenance.
8. Sleeve type bearing
• Provide at each stage to assure stable operation away from critical speed
9. Wear rings
• Dural wear rings for enclosed impellers and bowls, permits re-establish initial running clearances and efficiency at lower cost. Hard face of wear surface available for longer life
• Wear ring can be flushed when solids are present in the pumping liquid
10. Key impeller
• Key impeller for all the pumps suitable for pumping liquid in high temperatures.
• Key impellers provide ease if maintenance and positive lock under fluctuating load and temperature conditions
11. Flanged column
• Heavy duty seemless column pipe sections are provided with flanged ends incorporating registered fits for ease of alignment during assembly.
12. Line shaft and coupling
• 1. Open line shaft
• Flanged column/product lubricated line shaft is recommended for ease of maintenance or whenever a special bearing material is required. Precision key line shaft coupling available in all sizes for ease of maintenance. Various bearing material available. Renewable shaft sleeve or hard face of shaft available for longer life
• b. Enclosed line shaft
• The line shaft is protected by water flushing tube, flushing water for bearing and wear ring on corrosive/abrasive services.

13. Bearing retainer and line shaft bearing
• Ductile cast iron bearing retainer for smaller size that 24 inch various bearing material available.
14. Discharge head and motor riser
• Discharge head and motor riser desgined for all modes of drivers including hollow shaft or solid shaft motors, right angle gears, vertical steam turbines, etc
• Fabricated elbow discharge head engineered to minimized losses.
• Large access holes provide easy access to coupling and stuffing box.
• Above ground and below ground discharge head for requirement
15. Thrust bearing
• Oil lubricate thrust bearing assembly set with water cooling system make the pumps running safely in longer life
16. Packing box
• Whenever packing lubrication leakage can be tolerated and the discharge pressure does not exceed 300psi, a packed box may be used. Optional head shaft sleeve available to protect shaft
• Coupling for pump and motor
• Flexible coupling for pump and motor when pump with thrust bearing
• Impeller adjustment by the nut on the top shaft

• Specification range
• Capacity to 4000m3/h (18,000 GPM)
• Head is up to 380m (1250ft)
• Temperature is up to 200 cesius degree (388 F degree)

Application:
• Cooling water
• Sea water and raw water intake
• Industrial process pumps
• Utility circulating water
• Condenser circulating water pumps
• Ash sluice

TTAAL-Vertical Turbine Pumps

● VTC, VTG Industrial Turbine Pumps

Specification range

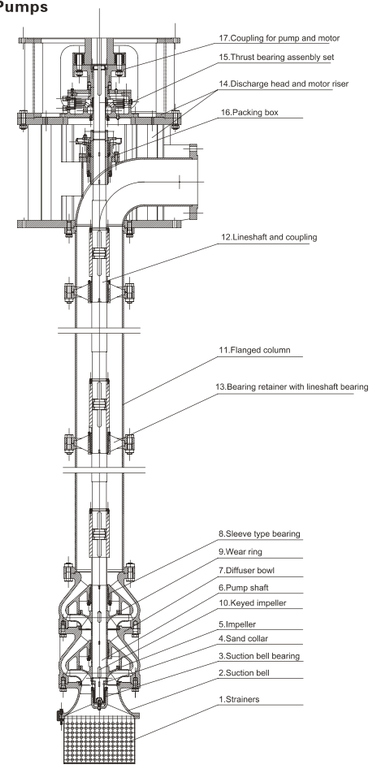
- Capacities to 4000m³/h (18,000GPM)
- Heads to 380m (1250ft)
- Temperatures to 200℃(388°F)

Design Advantages

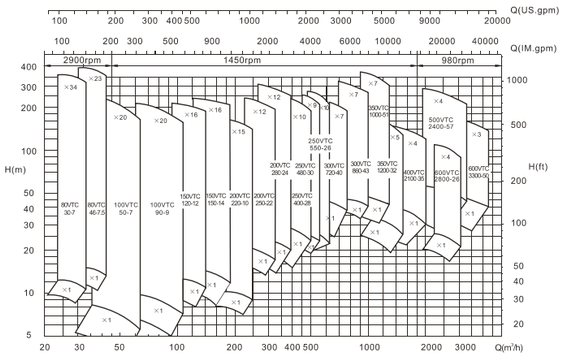
1. Fabricated discharge head for 10" or larger sizes. Suitable for temperaturer liquid pumping.
2. Seamless flanged ends column pipe and flanges bowl construction incorporating registered fits for ease of assembly during assembly.
3. Alloy construction with external tube flush of critical wear areas available for abrasive services.
4. Build–in alignment and simple piping for less costly installation and ease of maintenance reduced downtime.
5. 416SS shafting. Keyed lineshaft coupling available in all size for ease of maintenance.
The lineshaft can be protected by water flushing the enclosing tube bearing on corrosive/abrasive services.
6. Various bearing material available.
7. Renewable shaft sleeve or hard facing of shaft available for long life.
8. Dual wear rings for impellers and bowls.
Hard facing wear surfaces available for longer life. Wear rings can be flushed when solids are present in pumpage.

Services

Cooling Water
Seawater and Raw Water Intake
Industrial Process Pumps
Utility Circulating Water
Condenser Circulating Water Pumps
Ash Sluice
Fire–fighting



● VTC Selection Charts



TORONTECH™
Pumps and Valves
TTAAL

TTAAL-Vertical Turbine Pumps

● VTM, VTG Vertical Turbine Pumps

Specification range

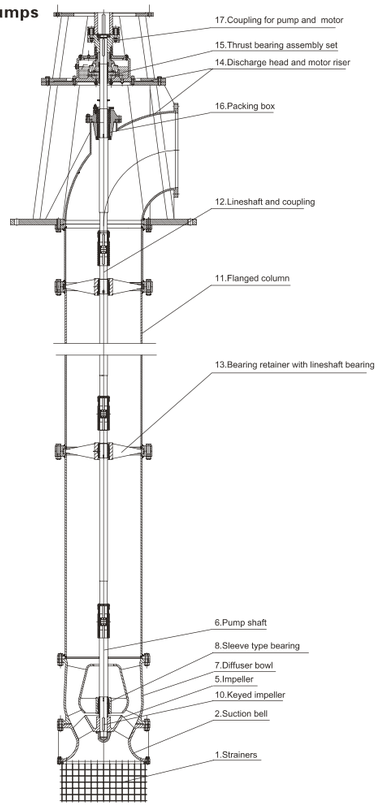
- Capacities to 25,000 m³/h (110,000GPM)
- Heads to 70 m (210ft)

Design Advantages

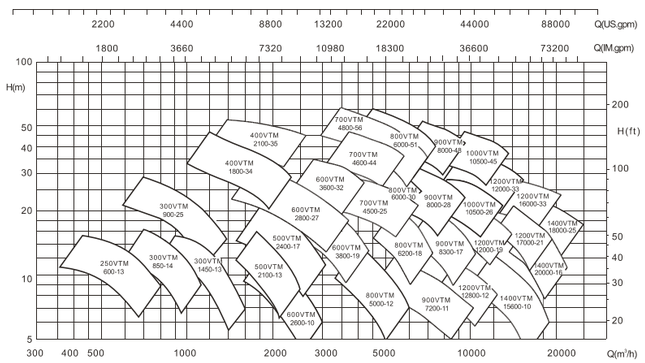
1. Fabricated discharge head for all sizes.
2. Seamless flanged ends column pipe and flanges bowl construction incorporating registered fits for ease of assembly during assembly.
3. Alloy construction with external tube flush of critical wear areas available for abrasive services.
4. Available with semi–open or enclosed impeller, with or without wear rings, optimum diffuser and impeller match for maximum efficiency.
5. 416SS shafting. Keyed lineshaft coupling available in all size for ease of maintenance.
The lineshaft can be protected by water flushing the enclosing tube bearing on corrosive/abrasive services.
6. Various bearing material available.
7. Wide range of corrosion and erosion resistant materials.
8. Hollow shaft for bowl bearing flushing.
9. Flexible design to accommodate fixed or existing dimensions above and below ground discharge.

Services

Cooling Water
Seawater and Raw water intake
Industrial Process Pumps
Utility Circulating Water
Condenser Circulating Water Pumps
Irrigation and Drainage
Storm and Flood water
River Water Intake
Municipal Water Supply

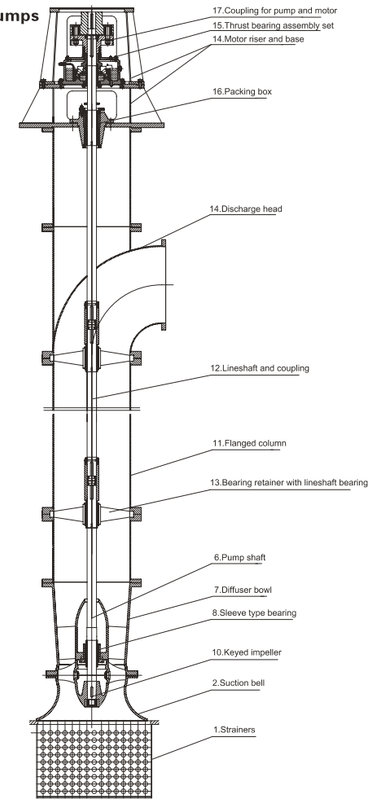


● VTM Selection Charts



TTAAL-Vertical Turbine Pumps

● VTA, VTG Vertical Turbine Pumps



Specification range

- Capacities to 20,000 m^3/h (90,000GPM)
- Heads to 12 m (36ft)

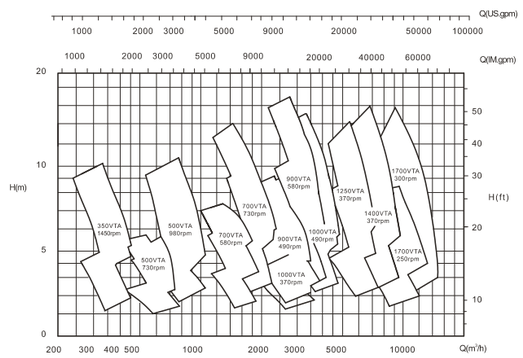
Design Advantages

1. Fabricated discharge head for all sizes.
2. Seamless flanged ends column pipe and flanges bowl construction incorporating registered fits for ease of assembly during assembly.
3. Alloy construction with external tube flush of critical wear areas available for abrasive services.
4. High efficiency design. Broad hydraulic coverage provides best selection to meet specific operating conditions.
5. 416SS shafting. Keyed lineshaft coupling available in all size for ease of maintenance. The lineshaft can be protected by water flushing the enclosing tube bearing on corrosive/abrasive services.
6. Various bearing material available.
7. Wide range of corrosion and erosion resistant materials.
8. Flexible design to accommodate fixed or existing dimensions.

Services

Pollution Control
Medium and Low Head Circulation
Effluent Disposal
Flood Control
Dewatering
River Water Intake
Cooling Water
Irrigation and Drainage
Dry Docks

● Selection Charts of VTA pumps



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CATALOGUE

2014

TTAAL-Vertical Turbine Pumps

PRODUCT BROCHURE

TORONTECH™ PUMPS

TORONTECH.COM

TORONTECH™

Torontech™ is a leading North American based international manufacturer and supplier of pumps, pipes, valves & actuators. The Torontech™ group has established an extensive network in the USA as well as international markets and remains to be a preferred vendor of choice supplying quality pumps for today's leading corporations.

Creating comprehensive solutions for our clients has always been the core value of our company. From sales, to order execution, and post-sales support; every staff member is here to assist you in selecting the solution that best suits your unique requirements and budget.

The Torontech™ group offers a complete range of quality pumps that are,ANSI to ISO approved and engineered to last, ensuring your company continuous production without interruptions.

Since the beginning, we have succeeded in only offering quality manufactured pumps that are currently being used worldwide. We offer the best value for your investment and provide world-class support.

Due to the demand for our quality pumps, Torontech™ has experience explosive growth primarily in the oil & gas, water filtration and chemical refinery industries.

We offer an extensive range of solutions and products for oil & gas projects, refineries, petrochemical plants, and marine applications. Our main class of pumps includes API (American Petroleum Institute) Standard, Mining, Water & Sewage and Firefighting applications. The pumps are offered in various configurations depending on orientation of the pump, required head and type of fuel used for operation.