

WATER VERTICAL PUMPS



Gruppo Aturia



VERTICAL PUMPS



Vertical line-shaft pumps enable considerable savings to be achieved in the construction of pumping stations.

These pumps are suitable for the transfer of most liquids, including clear water and liquids with small solids in suspension, especially in industrial applications.

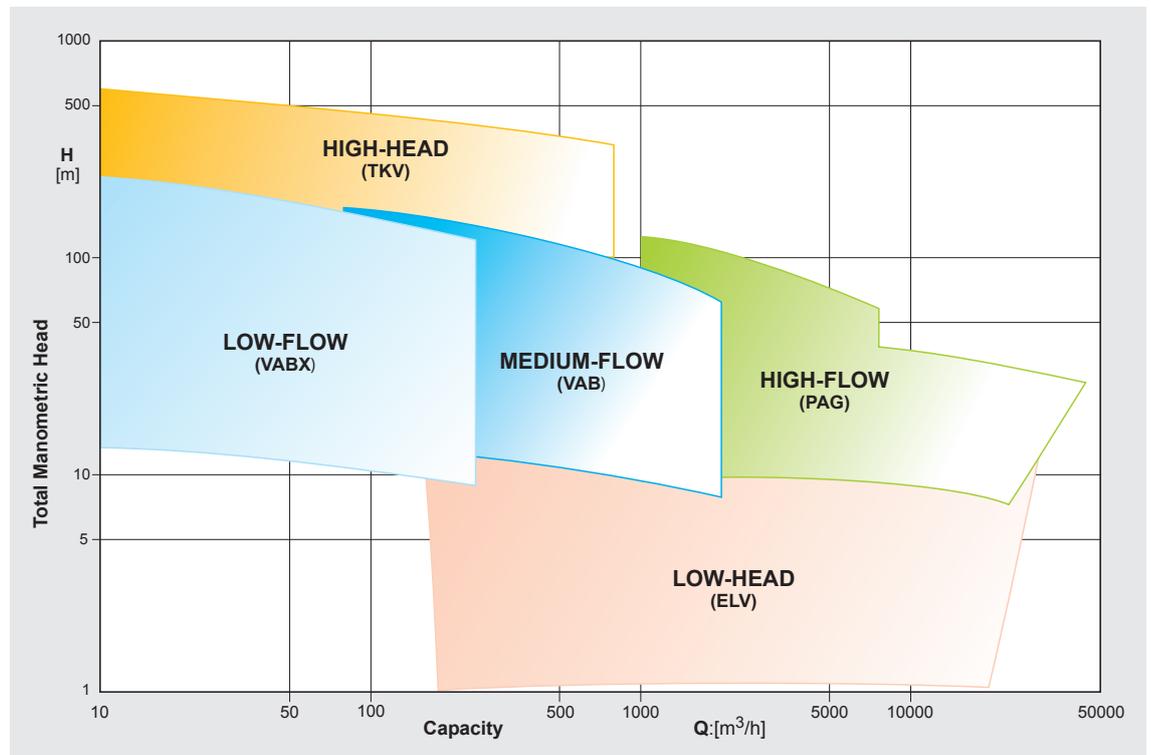
If the pumped liquid is not clean or contains suspended abrasive particles, the shaft and the bearings are enclosed within an additional inner tube to avoid direct contact with these particles.

These type of pumps have the impellers always submerged in the pumped liquid, accordingly it does not need priming arrangements.

The installation is extremely simple. The pump assembly is easy to install with the minimum of site involvement.

For the above described advantages, vertical line-shaft pumps are used in an increasing number of applications, some general schemes are illustrated in the following pages.

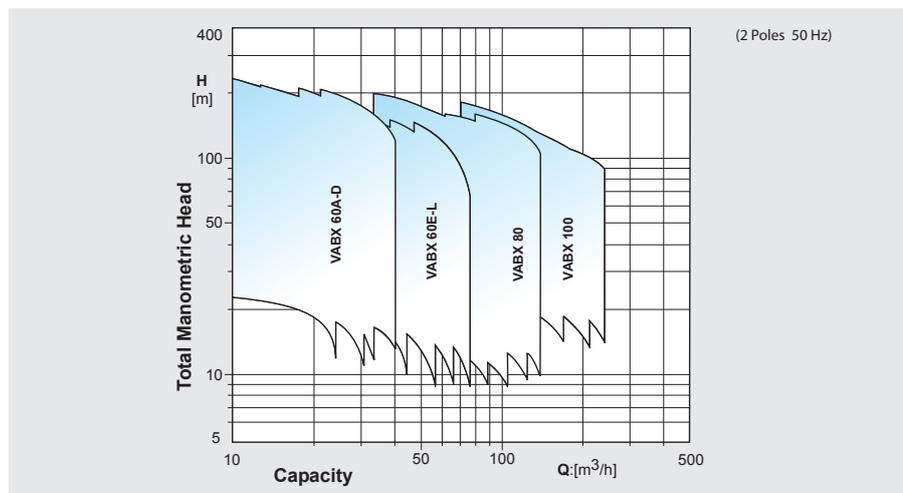
PERFORMANCE RANGE



Gruppo Aturia Vertical Pumps cover a wide performance range:

LOW-FLOW (VABX)	Vertical Multistage Turbine Pumps
MEDIUM-FLOW (VAB)	Vertical Multistage Turbine Pumps
HIGH-FLOW (PAG)	Mixed and Semi Axial Flow Vertical Pumps
LOW-HEAD (ELV)	Vertical Propeller Pumps
HIGH-HEAD (TKV)	Vertical Multistage Radial Pumps

LOW-FLOW VERTICAL MULTISTAGE TURBINE PUMPS “VABX”



DESCRIPTION

VABX series are Vertical line-shaft Mixed Flow Multistage Pumps suitable for use in basin or pits.

CONSTRUCTION

- Pump Bowl with shaft supported by intermediate bearing sleeves lubricated by pumped liquid.
- **Impeller, Mixed Flow type hydraulically and dynamically balanced.**
- Line-Shaft and Column Pipe composed of delivery pipe, with shaft sleeves support lubricated by pumped liquid.
- Discharge Head with delivery flange, shaft supported by grease lubricated thrust bearings.
- Pump and Motor are coupled to a motor stool and elastic coupling.
- Direction of rotation, counterclockwise (viewed from TOP).

TECHNICAL DATA

SIZE: DN 80 to DN 125
CAPACITY: from 20 to 250 m ³ /h
HEAD: 220 m
TEMPERATURE: 0°C to +60°C (standard execution) 0°C to +90°C (special execution)
Ø BOWL: 6" to 10"

APPLICATIONS

- Municipalities - Water supply
- Industrial plant - Water supply, cooling tower, water treatment
- Agriculture - Irrigation water
- Draining - Storm water
- Fire-fighting - Main and jockey pumps
- Pumping water from sump, canal, river, lake or sea

MATERIALS

Components	Cast Iron (*)	Steel (*)	Bronze	Carbon Steel	Stainless Steel	Duplex Gr. 4A	Super Duplex Gr. 5A
Bowl	■		■	■	■	■	■
Impeller	■		■	■	■	■	■
Discharge Head	■			■	■	■	■
Motor Stool	■						
Welded Struct. Components		■			■	■	■

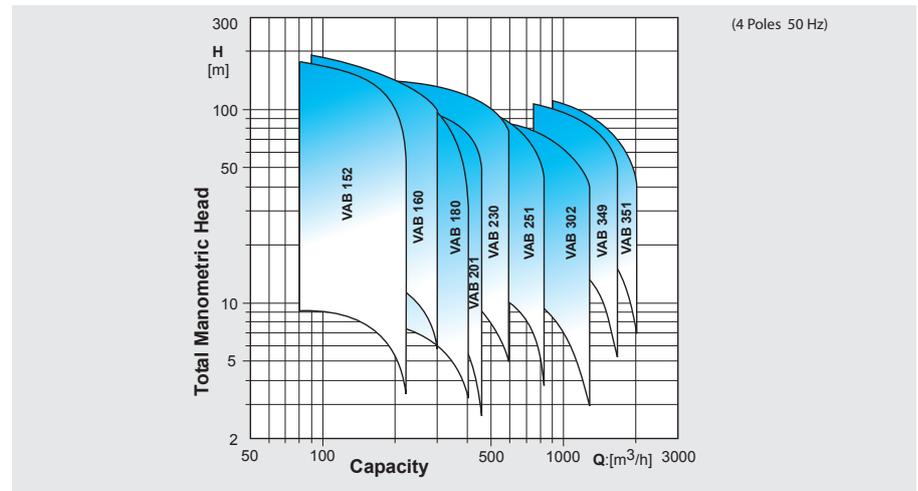
(*) Standard Execution

VABX series pump is feasible with Special Materials for corrosive and abrasive liquids.





MEDIUM-FLOW VERTICAL MULTISTAGE TURBINE PUMPS “VAB”



DESCRIPTION

VAB series are Vertical line-shaft Mixed Flow Multistage Pumps suitable for use in basin or pits.

CONSTRUCTION

- Pump Bowl with shaft supported by intermediate bearing sleeves lubricated by pumped liquid.
- **Impeller, Mixed Flow type hydraulically and dynamically balanced.**
- Line-Shaft and Column Pipe composed of delivery pipe, with shaft sleeves support lubricated by pumped liquid.
- Discharge Head with delivery flange, shaft supported by grease lubricated thrust bearings.
- Pump and Motor are coupled to a motor stool and elastic coupling.
- Direction of rotation, clockwise (viewed from TOP).



APPLICATIONS

- Municipalities - Water supply
- Industrial plant - Water supply, cooling tower, water treatment
- Agriculture - Irrigation water
- Draining - Storm water
- Fire-fighting - Main and jokey pumps
- Pumping water from sump, canal, river, lake or sea

TECHNICAL DATA

SIZE: DN 125 to DN 300

CAPACITY: from 80 to 2.000 m³/h

HEAD: 180 m

TEMPERATURE: 0°C to +60°C (standard execution)
0°C to +90°C (special execution)

Ø BOWL: 12" to 22"

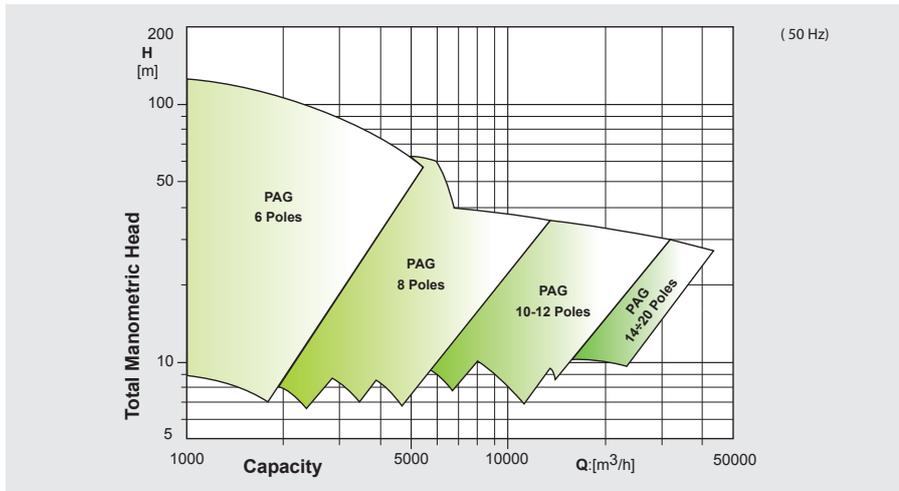
MATERIALS

Components	Cast Iron (*)	Steel (*)	Bronze	Carbon Steel	Stainless Steel	Duplex Gr. 4A	Super Duplex Gr. 5A
Bowl	■		■	■	■	■	■
Impeller	■		■	■	■	■	■
Discharge Head	■			■	■	■	■
Motor Stool	■						
Welded Struct. Components		■			■	■	■

(*) Standard Execution

VAB series pump is feasible with Special Materials for corrosive and abrasive liquids.

HIGH-FLOW MIXED AND SEMI-AXIAL FLOW VERTICAL PUMPS “PAG”



DESCRIPTION

PAG series are Vertical Single and Multistage Mixed and Semi-Axial Flow pumps suitable for use in wet pits or dry pits (with possibility of inspection).
API 610 last edition is available for this kind of pumps.

CONSTRUCTION

- Pump Bowl with shaft supported by intermediate bearing sleeves lubricated by pumped liquid.
- **Impeller Closed or Open Mixed Flow Type, hydraulically and dynamically balanced.**
- Line shaft and Column Pipe composed of delivery pipe, with shaft sleeves support lubricated by pumped liquid.
- Discharge Head with delivery flange, shaft supported by oil lubricated thrust bearings.
- Pump and Motor, coupled to the drive (usually an electric motor) by means of two half joints.
- Direction of rotation, clockwise (viewed from TOP)

TECHNICAL DATA

SIZE: DN 300 to DN 2.000
CAPACITY: from 1.000 to 44.000 m ³ /h
HEAD: 120 m
TEMPERATURE: 0°C to +60°C (standard execution) 0°C to +90°C (special execution)
Ø BOWL: 22" to 78"

Pumps for duties out of this range will be designed and quoted on specific customer request.

APPLICATIONS

- Iron and steel, chemical, petrochemical and paper industry
- Steam and nuclear power generation - Incinerators
- Agriculture
- Municipalities
- Building and construction industry
- Desalting and potable water plants
- Salt works
- Cooling Water Pumps in LPG/LNG transfer plants

MATERIALS

Components	Cast Iron (*)	Steel (*)	Bronze	Carbon Steel	Stainless Steel	Duplex Gr. 4A	Super Duplex Gr. 5A
Bowl	■	■	■	■	■	■	■
Impeller	■	■	■	■	■	■	■
Discharge Head	■	■	■	■	■	■	■
Motor Stool	■	■	■	■	■	■	■
Welded Struct. Components	■	■	■	■	■	■	■

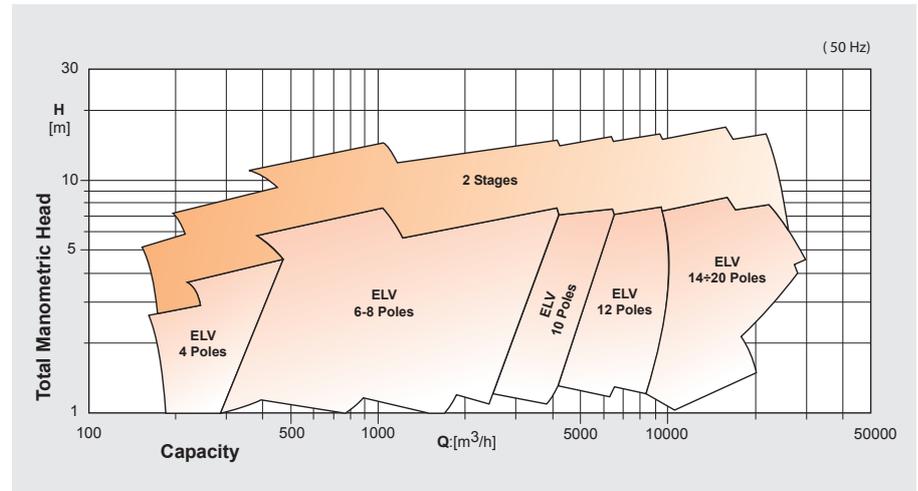
(*) Standard Execution

PAG series pump is feasible with special materials for corrosive and abrasive liquids.





LOW-HEAD VERTICAL PROPELLER PUMPS “ELV”



DESCRIPTION

ELV series are propeller water scooping propeller machines able to lift large quantities of fluid at low heads.

CONSTRUCTION

Pump Bowl

- Suction bell, Propeller or blades mounted on the proper hub, Diffuser

Column pipe

- Conveying pipe, Shaft, Shaft bearing retainer

Discharge head

- Support frame, Discharge elbow (under or above floor level), Motor stool
Axial thrust supporting unit, including grease or oil lubricated roller bearings
- Direction of rotation, counterclockwise (viewed from TOP)

APPLICATIONS

- Agriculture – Irrigation.
- Land reclamation – Land reclamation and drainage of marsh land or areas subject to floods.
- Ecology – Transfer or movement of large water quantities, treated or to be treated.
- Shipyards – Dry docks pumping down.
- Feeding of canals and transfer of fluvial or sea water.

TECHNICAL DATA

SIZE: DN 250 to DN 1.800

CAPACITY: from 200 to 30.000 m³/h

HEAD: 18 m

TEMPERATURE: 0°C to +60°C (standard execution)
0°C to +90°C (special execution)

Ø BOWL: 14" to 55"

Pumps for duties out of this range will be designed and quoted on specific customer request.

MATERIALS

Components	Cast Iron (*)	Steel (*)	Bronze (*)	Stainless Steel	Duplex Gr. 4A	Super Duplex Gr. 5A
Suction Bell	■			■	■	■
Diffuser	■			■	■	■
Propeller Blades			■	■	■	■
Discharge Head		■		■	■	■
Motor Stool		■				
Welded Struct. Components		■		■	■	■

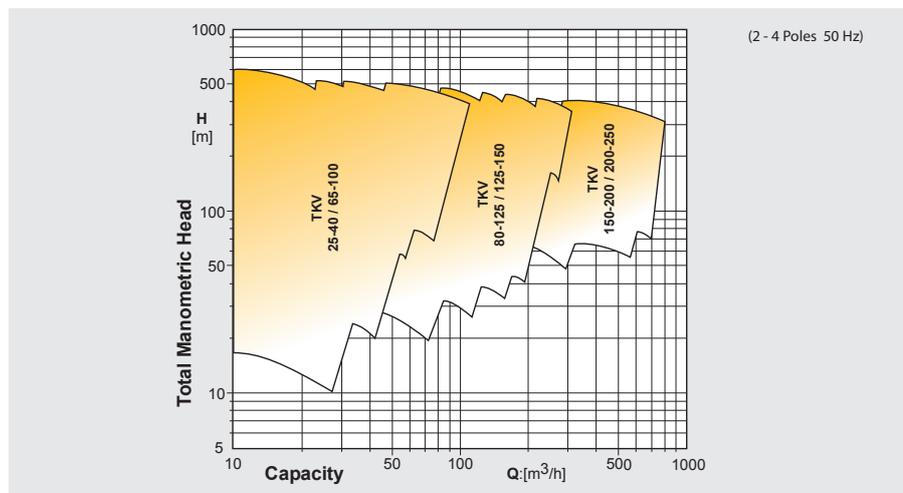
(*) Standard Execution

ELV standard execution is suitable for pumping clean water, however non aggressive or low abrasive water. Different metallurgies will be proposed for charged, corrosive and abrasive liquids.



HIGH HEAD

VERTICAL MULTISTAGE RADIAL PUMPS "TKV"



DESCRIPTION

TKV pumps are Vertical Multistage Radial Pumps connected to the drive (generally an electric motor) by flexible coupling. **TKV pumps are available for BARREL execution.**

CONSTRUCTION

The pump is composed by:

- Stage Casing, Suction Casing, Delivery Casing, Diffuser, Impeller Centrifugal Radial type
- Line-Shaft and Column Pipe composed of delivery pipe, with shaft supported by intermediate bearing sleeves lubricated by pumped liquid.
- Discharge Head
- Motor Stool
- Oil lubricated Thrust bearing housing
- Direction of rotation, Counterclockwise (viewed from TOP)
- Alignment and drive of line shaft is ensured by shaft sleeves bearing located in pump casing and by the column pipe joints.

TECHNICAL DATA

SIZE: DN 80 to DN 300

CAPACITY: up to 800 m³/h

HEAD: 600 m

TEMPERATURE: 0°C to +60°C (standard execution)
0°C to +90°C (special execution)

Ø BOWL: 10" to 28"

APPLICATIONS

- Water Distribution
- Underground Service
- Lube Oil Systems
- Hydraulic power plants
- Irrigation and reclaiming facilities
- Fire fighting plants
- Industrial applications

Pumps for duties out of this range will be designed and quoted on specific customer request.

MATERIALS

Components	Cast Iron (*)	Steel (*)	Bronze	Carbon Steel	Stainless Steel	Duplex Gr. 4A	Super Duplex Gr. 5A
Stage Casing	■			■	■	■	■
Suction/Delivery Casing	■			■	■	■	■
Diffuser	■				■	■	■
Impeller	■		■	■	■	■	■
Discharge Head		■			■	■	■
Motor Stool		■					
Welded Struct. Components		■			■	■	■

(*) Standard Execution

TKV standard execution is suitable for pumping clean water, however non aggressive or low abrasive water. Different metallurgies will be proposed for charged, corrosive and abrasive liquids.





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TURIN: 3.000 sq m
(Covered surface)
Production site for Fire-fighting units.



Taglio di Po (Rovigo): 3.000 sq m
(Covered surface)
Production site for Magnetic drive pumps.



RÜTSCHI ^{FR}
SWITZERLAND - FRANCE

In order to acquire greater expertise and experience for particularly demanding applications (chemical, petrochemical and nuclear sector), Gruppe Rüttschi was acquired by Gruppo Aturia in 2006.

RÜTSCHI FLUID AG



Brugg (Switzerland): 3.000 sq m
(Covered surface)
RÜTSCHI FLUID AG's head office
production site for RÜTSCHI process pumps and Sealless/Canned pumps.
Retailer for GRUPPO ATURIA's pumps.

POMPES RÜTSCHI SAS



Mulhouse (France): 3.000 sq m
(Covered surface)
POMPES RÜTSCHI SAS' head office
production site for RÜTSCHI process pumps and vertical pumps for lubrication systems.
Retailer for GRUPPO ATURIA's pumps.

Gruppo Aturia and Gruppe Rüttschi operate all over the world with a network of agents, retailers and service centres.



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