

The correct HIDROSTAL Hydraulic System solves your transportation problems in practically all application areas








The HIDROSTAL impellers handle:

- *Food products*
- *Sealants*
- *Fibrous materials*
- *Abrasive media*
- *Gaseous media*



Each specific pumping task requires specific pump characteristics

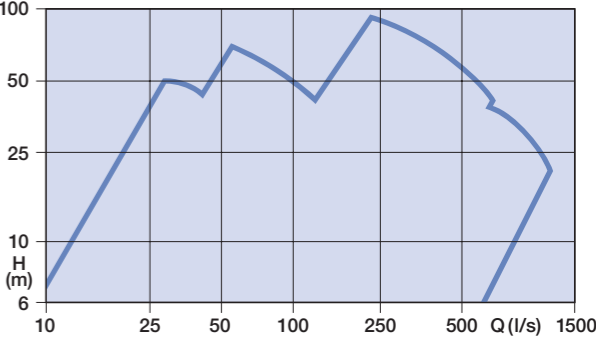
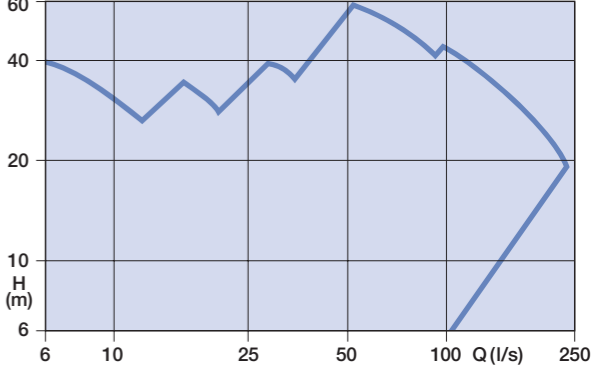
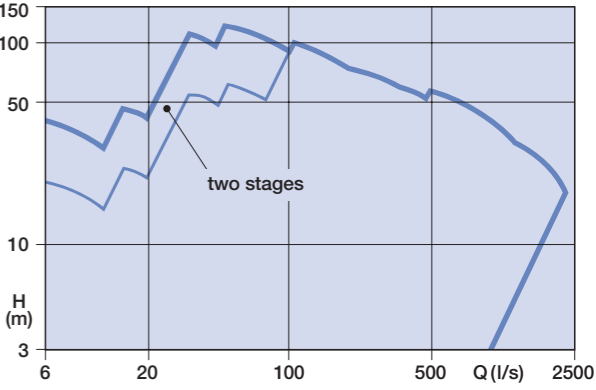
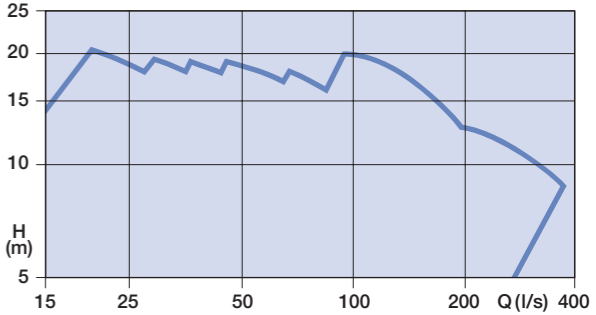
HIDROSTAL can make the optimal choice from 500 different screw-centrifugal impeller standard models

Shape of impeller	Type	Application	Examples
	Closed impeller	Delicate handling of large-volume material	Delicate goods, such as fruit, vegetables, fish in breeding farms and hydro-power stations
	Medium and low-pressure impeller	Handling of granulates	Cereal suspensions, crystals, flakes
	Medium-pressure impeller with adjustable suction cones	Coarse solid suspensions	Media contaminated with solid matter, such as unscreened sewage, abattoir wastes
	High-pressure impeller with adjustable suction cones	Fibrous, knot-forming material	Textile suspensions and artificial fibres, such as nylon
	High and medium-pressure impeller with adjustable wear parts	Solids with abrasive characteristics	Storm water containing dirt and sand
	High and medium-pressure impeller with adjustable wear parts	Viscous, sludgy and gaseous liquids	Paint, glue, paper stock, sludge from sedimentation as well as gas-producing or flake-forming biological processes
	High and medium-pressure impeller with adjustable wear parts	strongly abrasive media	Liquids heavily contaminated with sand and gravel, as well as grinding and milling wastes

The above standard executions or special constructions are widely used, even for pure liquids

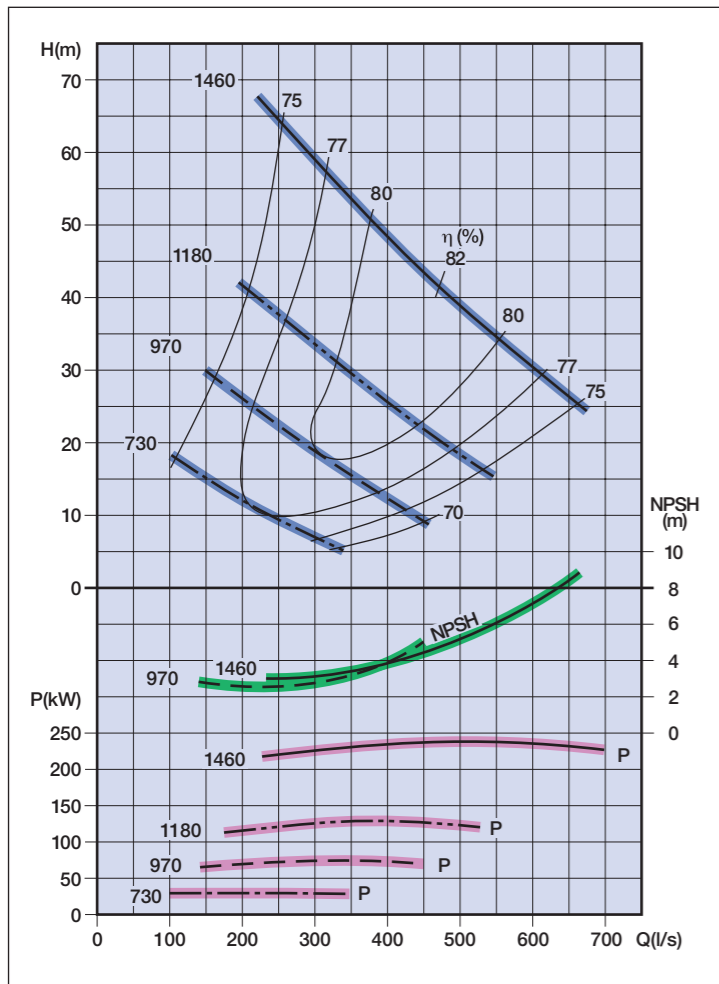
low NPSH

High pump installations, e.g., in river dams, applications for hot media or for falling system pressures



For optimal handling and lowest operating costs

An example of a medium-size HIDROSTAL screw-centrifugal pump



High efficiency
= low operational costs

Steep characteristic
= stable operating point

Low NPSH
= high suction capability

Flat power curve
= no overload area

High rotary speed
= small construction

Our research work has produced screw shapes that permit high rotary speeds, which results in considerable energy savings in applications involving small quantities and large heights.

For each application area, special impeller shapes and the corresponding metallurgy have been developed. As a result, a high service life with the lowest possible costs is guaranteed.

The standard model consists of a grey cast-iron construction, an impeller gear from spheroidal graphite iron, and a replaceable suction cone.

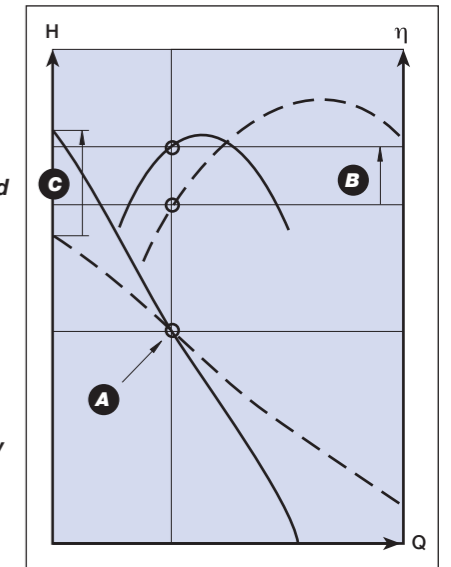
Large impeller,
low rotary speed

—
Small impeller,
high rotary speed

A
Operation point

B
better efficiency

C
large pressure
reserve



With abrasive media, an suction cone from wear-resistant material, which can be adjusted externally, is used. In this model, the wearing parts can be re-adjusted externally without having to dismantle the pump.

If the medium has corrosive characteristics, those parts coming into contact with it can be manufactured from stainless steel.

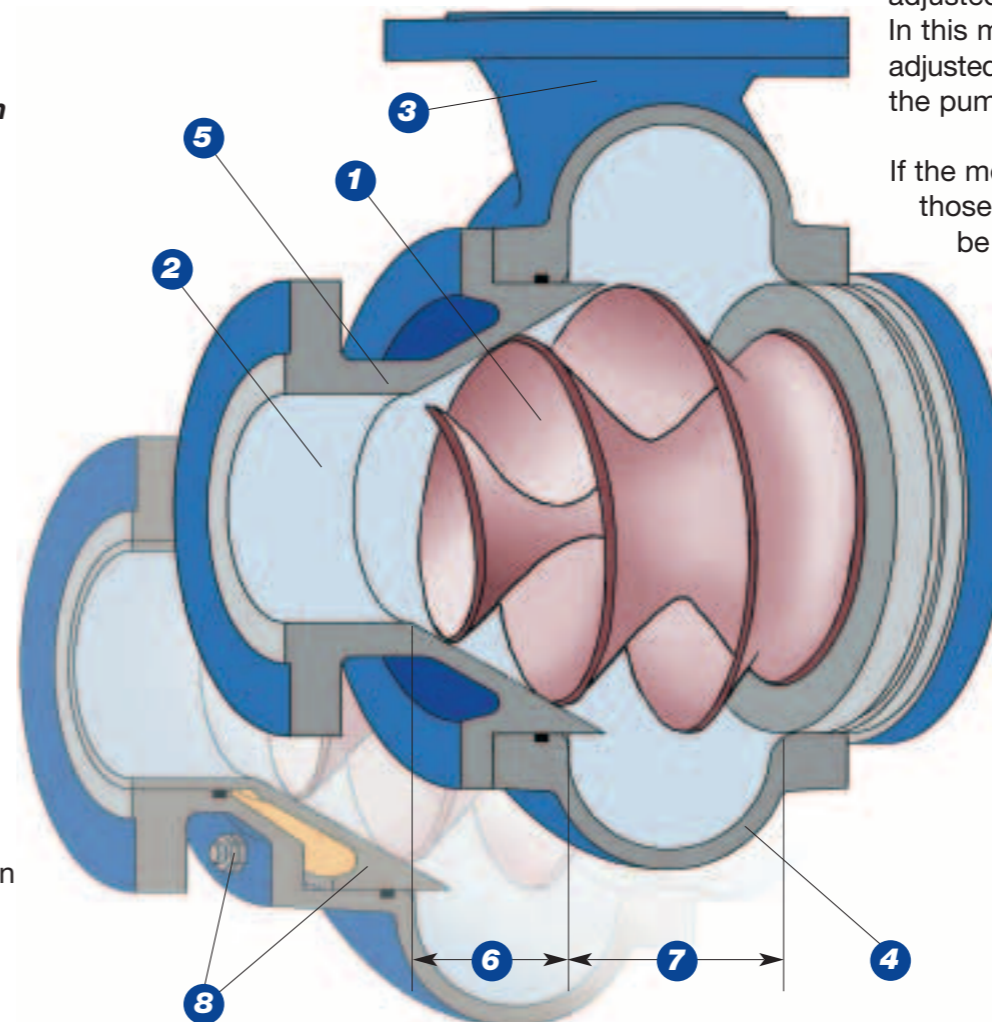
For extremely corrosive and abrasive media, HIDROSTAL special alloys are used.

HIDROSTAL Hydraulic Systems

work on the principle of the centrifugal pump. The classic centrifugal pump application area is the transportation of water or pure, low-viscosity liquids. They have multiple vanes and high flow rates. As a result, they have limited negative suction head, and are unsuitable for solid suspensions.

The HIDROSTAL screw-centrifugal pumps can go beyond these limits. The single vane guides the solids towards the impeller axis, and from there to the single flow channel without the possibility of becoming caught. The shape of the inlet edge creates an "inducer effect",

which makes a large negative suction head possible (or a higher transportation media temperature). A pronounced screw shape creates a displacement effect with high viscosities, which makes possible the handling of viscous liquids well into the displacement pump application range.



Pump construction

- 1** Screw-centrifugal impeller
- 2** Inlet
- 3** Outlet
- 4** Spiral housing
- 5** Suction cone
- 6** Screw-impeller portion
- 7** Centrifugal impeller portion
- 8** Clearance adjustment

Higher efficiency, stable operation and high suction head with longer service life



Transportation of living fish on a fish-breeding farm.



Abrasive sludges with a high concentration of solid mater can be transported without problem.



Vegetables, fruit and other food products can be gently handled.



Sewage lift station with vertical installation and the PREROSTAL® flow regulating system.



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