



# ***Hidrostat***

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

*The HIDROSTAL impellers handle:*

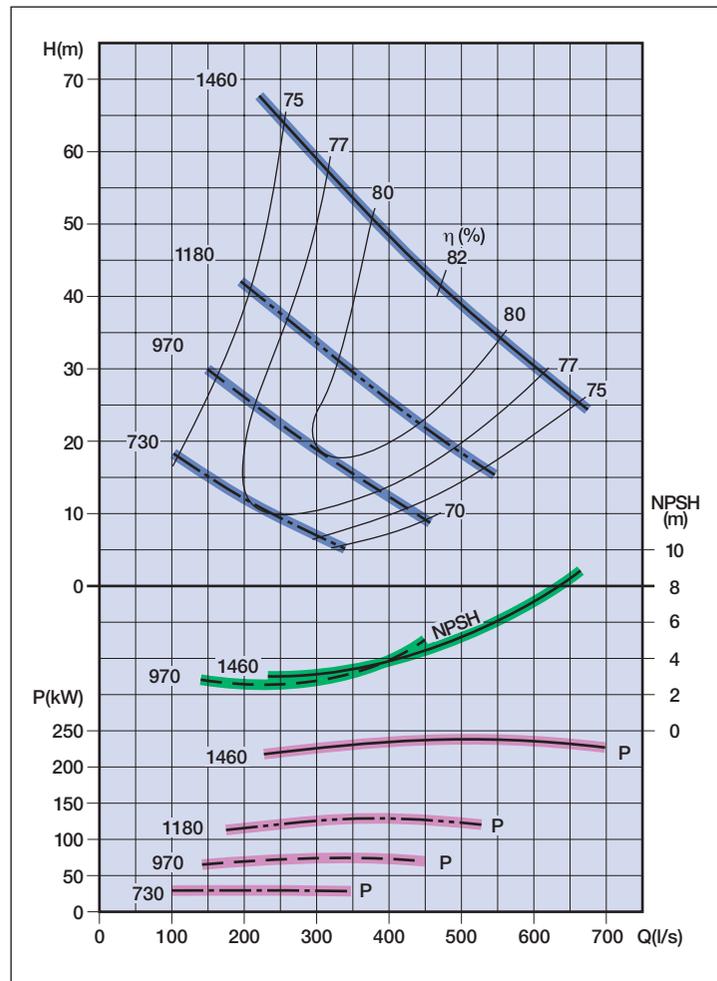
- *Food products*
- *Sealants*
- *Fibrous materials*
- *Abrasive media*
- *Gaseous media*



***HIDROSTAL – Pioneers in Pump Technology***

# 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

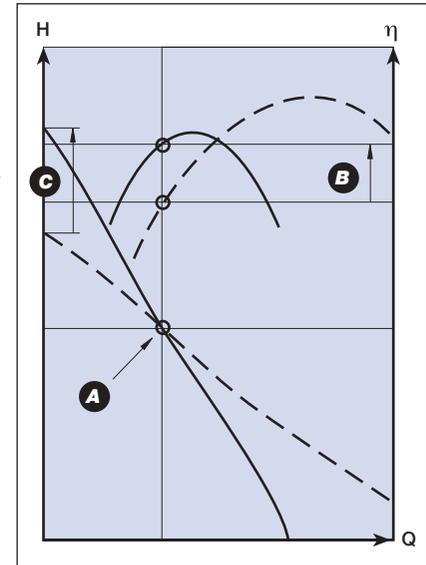
**High rotary speed**  
= small construction

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.

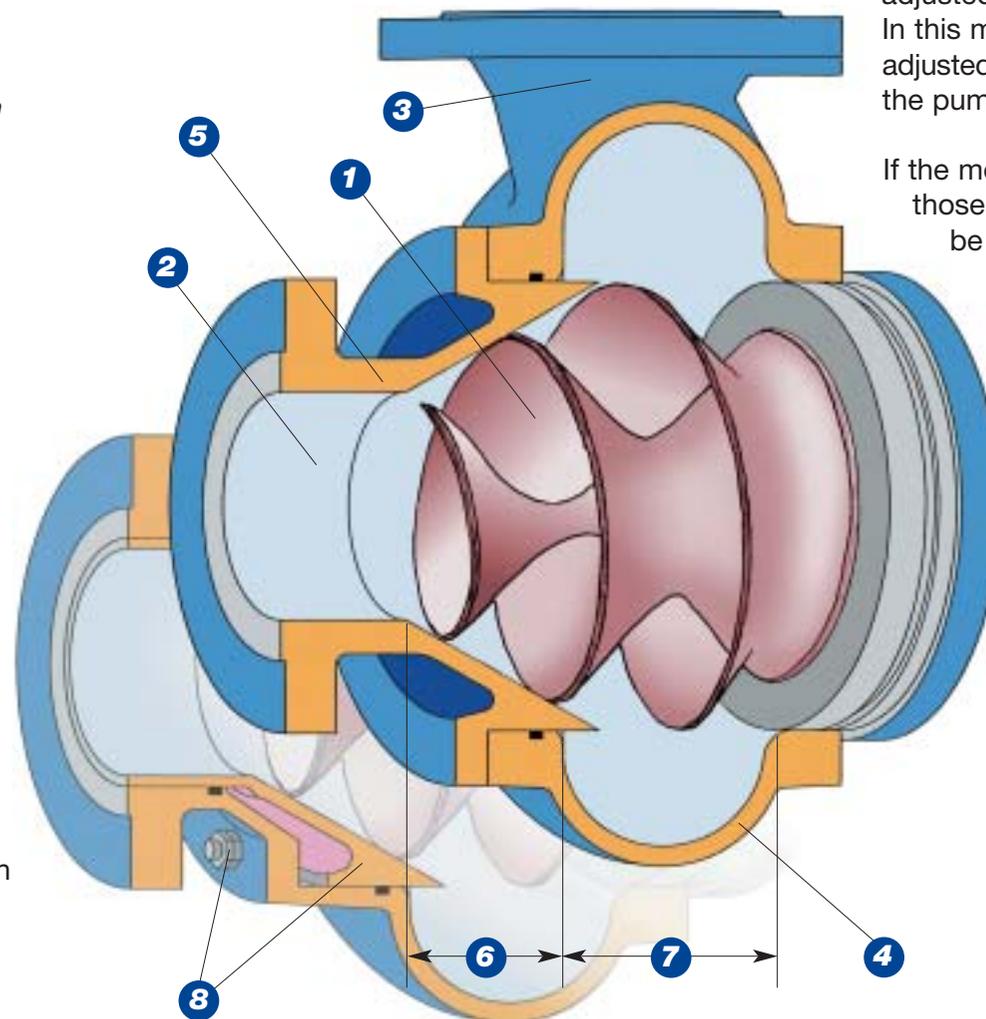
For extremely corrosive and abrasive media, HIDROSTAL special alloys are used.

## 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.



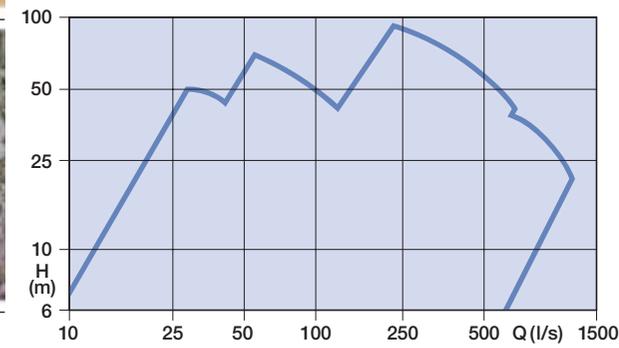
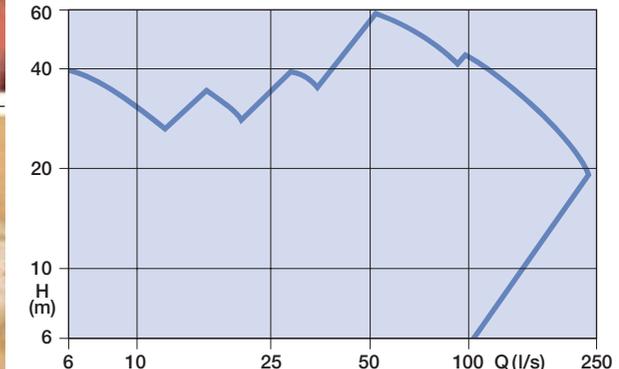
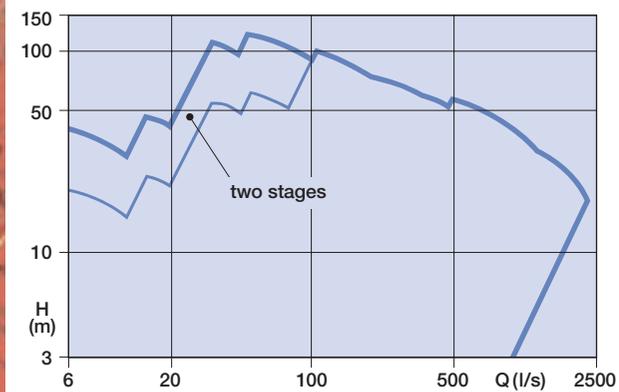
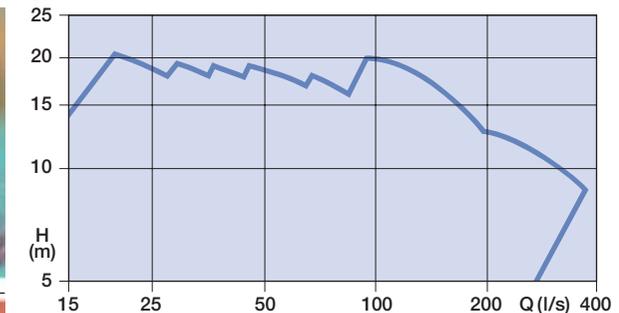
### Pump construction

- 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

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

**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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