



**Hidrostat**

EN

# PreroClean Double Station System

Self-cleaning pump sump for removing floating layers and solids that have settled in standardised wastewater shafts.

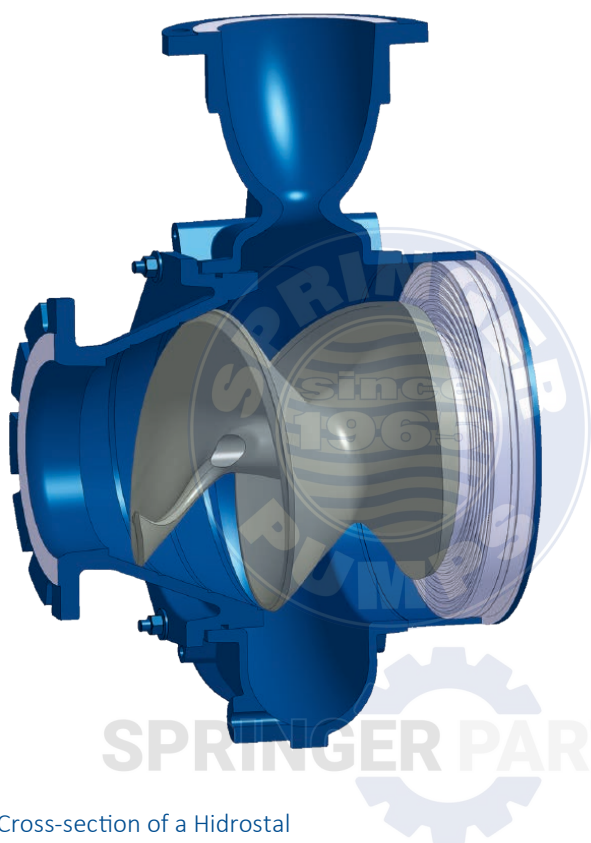


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# Main components of the Hidrostal PreroClean System

Quality and innovation, combined with our passion to continually improve and develop our products are our guarantees for providing our customers with the best solution for their applications. Because we bring together engineering, production, assembly and testing under one roof, we are able to manufacture products of the highest quality and to the highest technical standards.



Cross-section of a Hidrostal screw centrifugal impeller pump

## HIDROSTAL screw centrifugal pump

The core component of the Hidrostal PreroClean system is the proven blockage-free Hidrostal screw centrifugal pump. The large channel from the pump entrance to the discharge port enables highly efficient blockage-free operation, which is resistant to large solids as well as long fibrous materials. The screw centrifugal pump is shaped like a paddle wheel impeller, which is extended in the axial direction to form a large, free cross section with a soft transition from the axial to the radial flow direction. The resulting sickle-shaped geometry of the scoop at the entrance is an important construction feature, making it an ideal choice for pumping wastewater.

## Noteworthy characteristics

- Large, free cross section, which enables large solids to be pumped
- Steep and stable characteristic curve, which limits the flow under low discharge pressure
- Shutoff head typically twice the head at BEP, giving a large pressure reserve.
- High efficiency reduces energy consumption and operating costs
- Non overloading power curves allow the use of small motors
- Low NPSHR characteristics

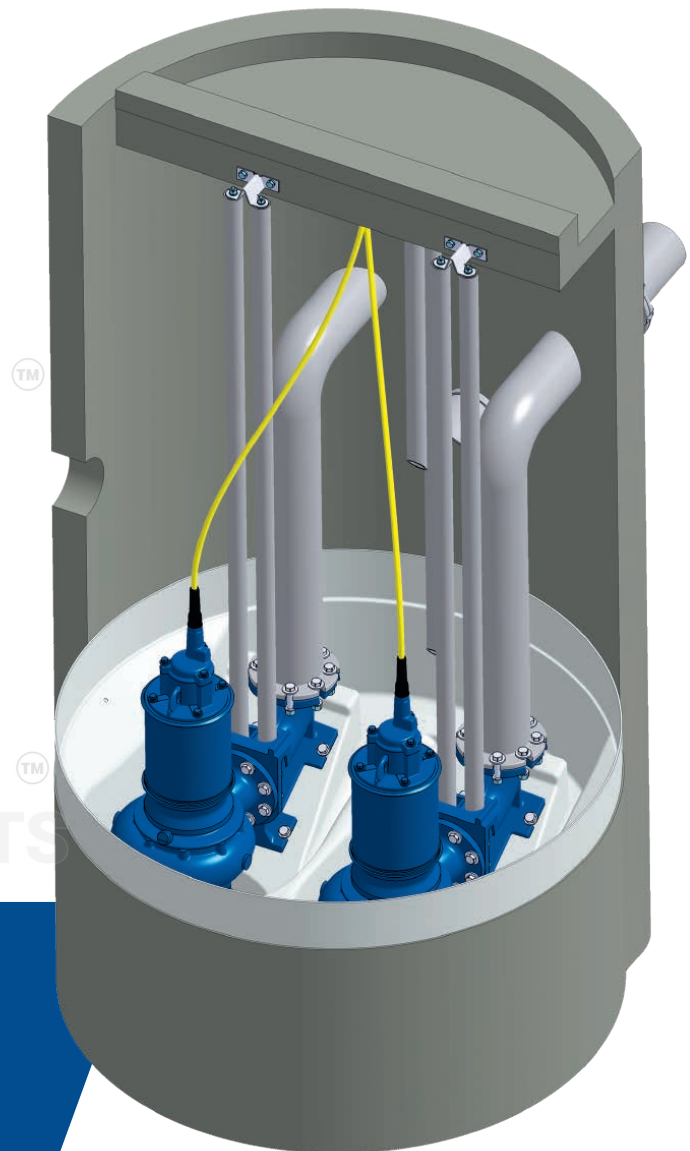


# What is PreroClean?

The Hidrostal PreroClean self-cleaning pump sump is a simplified and standardised version of the PREROSTAL system. Through the rotating movement of the media before the pump entrance, all the suspended solids and particles are fed into the pump. This cleaning process takes place once per pump cycle. By this process, the pump sump is kept free of any deposits and soiling.

## Double basin

The double basin was developed in order to be mounted in a standard 1.2, 1.5 or 2 meter shaft. Similar to the standard Hidrostal PREROSTAL basin, it was built with a partial overflow and a spiral-shaped inlet channel, which assists the skimming off of floating layers at the end of the pump cycle. With this design all floating and solid matter is nearly completely removed thus preventing material from continually collecting and building up in the well.



Cross-section of a Double Station System

## Applications

- Wastewater pumping stations and shafts
- Pump sumps for water containing oil
- High performance washing systems
- Pump sumps with a high percentage of fat
- Pump sumps requiring removal of floating items, such as styrofoam balls and feathers



Collecting basin with PreroClean Installation.

By installing Hidrostral self-cleaning pumping stations with screw centrifugal pump technology and the Hidrostral PreroClean™ double basin, this more or less eliminates the undesirable formation of odours, unanticipated maintenance work and the time-consuming and costly removal of solids that have settled.

Collecting basin without PreroClean Installation.



## Benefits

Unplanned maintenance work as a result of the build-up of floating layers and the settling of solids in the sump pump are a thing of the past with the Hidrostral PreroClean system.

## The system offers:

- Use of the Hidrostral screw centrifugal pumps with an impeller geometry which has been developed especially for pumping fibrous material and solids.
- Virtually complete draining of the sump with each pump cycle.
- Skimming off of all the floating material on the surface, including such things as oils and fats, styrofoam balls and feathers, once per pump cycle.
- Removal of all decomposing materials and significant suppression of odour formation, preventing this from affecting living areas.
- Has a pump sump with a small base area so that all the solids that have settled can be flushed into the suction pieces of the pump by the residual flow velocity.

# Assembly

It is relatively simple to assemble the double basins in a standard shaft and this can be done easily in one day.



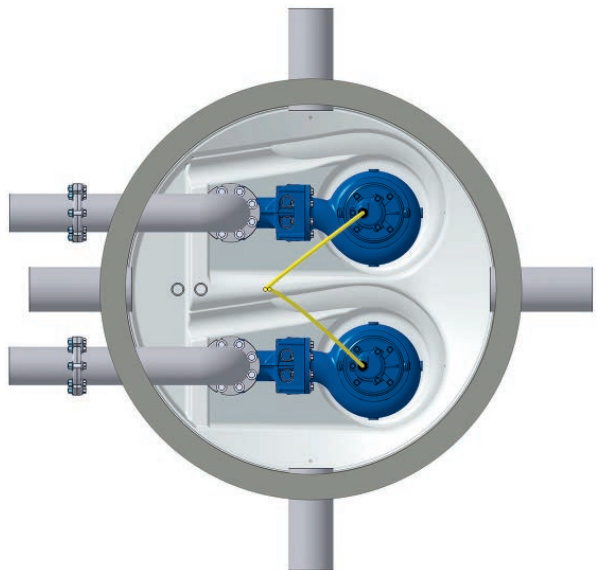
## The work steps are as follows:

- Clean and level out the shaft
- Insert the pre-mounted double basin with tank holder and lowering feet into the shaft
- Fasten the double basin to the floor
- Fill the cavity behind the basin with concrete
- Fit the wastewater pipes and the lowering device guiderails

When using small basins in large shafts you must make sure that the incline in the pump sump for the double basin is around 30°. This supports optimal sump cleaning.

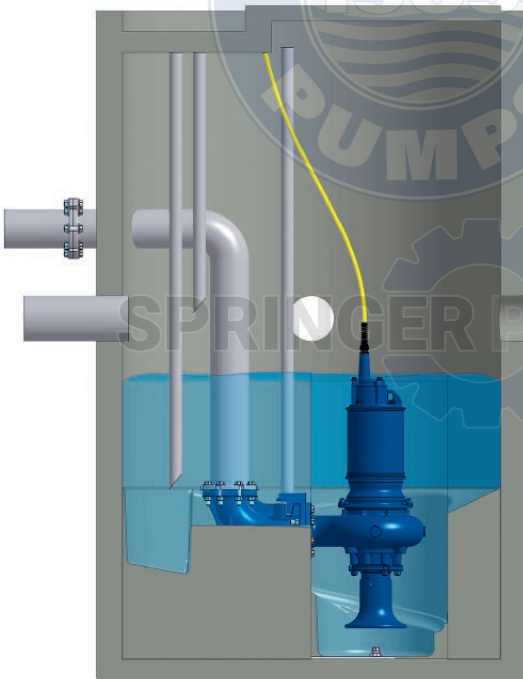
## Inlet flow direction

The introduction of water into the shaft is not critical and does not influence the performance of the pump and the cleaning effect, provided that the system control unit has been fitted correctly.



## Level controller

The simple and reliable level controller consists of two floating switches and an adjustable time switch. The upper floating switch switches the pump on. The lower switch activates the time switch, which operates the pump for long enough to make sure that the sump is cleaned sufficiently. After reaching the time limit, the pump switches off automatically. When the water level reaches the upper floating switch again, the pumps are switched on again and the entire cycle begins from the start.



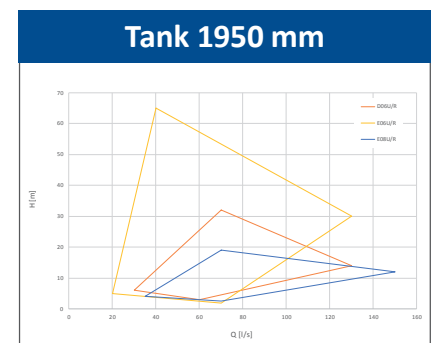
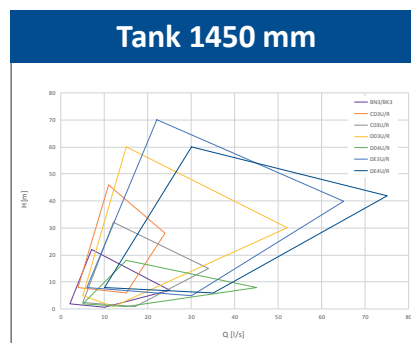
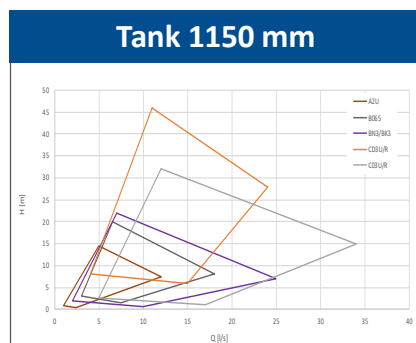


# Technical information about the Hidrostal PreroClean

In the table below are the dimensions for each PreroClean basin and the possible pump impeller configurations. In addition the performance curves with flow and head for the various pumps are shown graphically.

## Basin sizes and flow range

Basin size	Pump type	Impeller type	External diameter	Basin height	concrete filling volume
1150	A2U	E, R, S	1150 mm	800 mm	ca. 0,3 m <sup>3</sup>
	B065	E, R, T, TR			
	B0BQ	E, R, T, TR			
	BE3/BK3/BN3	R, L, S, H, M, TR			
	C03R/U	LMN, RLN, RMN, MMN, SMM, LHN, MHN, HHN			
1450	CD3R/U	EHU, HHN, EHN, SHN	1450 mm	800 mm	ca. 0,6 m <sup>3</sup>
	BN3/BK3	R, L, S, H, M, TR			
	C03U/R	LMN, RLN, RMN, MMN, SMM, LHN, MHN, HHN			
	D03U/R	EHN, EHU, EMN, EMT, EMU, HHN, HHT, RMN, SHN, SHT, SMT			
	D04U/R	RMN, LMT, LMN, MMN, HMN, EMN, EMU, SMN			
	DE3U/R	MHT, MHN, HHH, SHH, EMU, EMN, HHN, SHN			
	DE4U/R	RMN, LMT, LMN, MMN, HMN, EMN, EMU			
1950	D06U/R	LLN, MLN, HLN, SLN, SLU	1950 mm	800 mm	ca. 1,4 m <sup>3</sup>
	E06U/R	MHN, HHN, SHN, LMN, MMN, HMN, SMN, MLN, HLN, SLN, LLN			
	E08U/R	LLN, MLN, HLN, SLN, SLU			



# Hidrostal Pump Applications

Due to their outstanding characteristics, Hidrostal pumps are used in numerous municipal and industrial sectors. They pump the most diverse fluids and materials gently and with low pulsation. Our specialists select the suitable material combinations and individually adapt every pump to the local conditions. We ensure with this process that Hidrostal pumps are successful in difficult applications and achieve the best results with respect to performance, energy efficiency and low life-cycle costs.

- clog-free pumping
- high suction capacity
- gentle delivery due to low shear forces
- high efficiency
- stable, steep pump curve
- long service life
- low pulsation
- continuous flow proportional to the speed
- high pressure stability across a wide speed range



## Wastewater

- Wastewater collection
- Wastewater & sewage-sludge treatment
- Industrial wastewater
- Manure
- Ship wastewater



## Industry

- Paper
- Cellulose & Chips
- Biomass
- Oil and gas
- Adhesives
- Paint
- Plastic granulates
- Solvents
- Swarf and cooling lubricants
- Brine



- Dewatering & drainage
- Bentonite
- Sewer rerouting
- Mine drainage
- Water intake & power
- Flood protection

## Construction



- Fruits
- Vegetables
- Live fish
- Brewery
- Molasses
- Oils and pastes
- Gels

## Food

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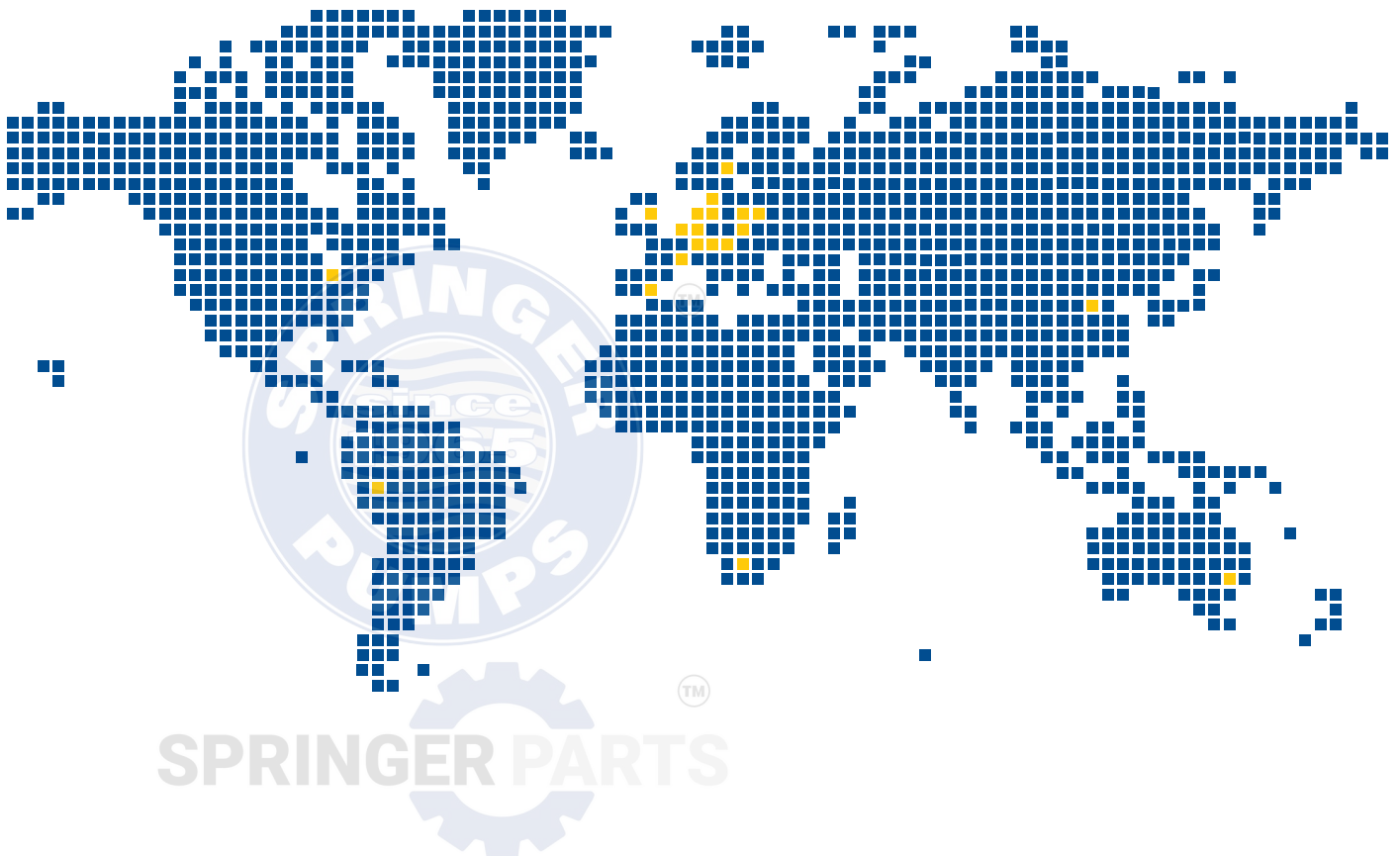
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## Hidrostal worldwide

Pumps from Hidrostal are used all around the world. Our pumps are custom -made and are specially tailored to the needs of each location. With this procedure we achieve a high level of operational effectiveness and excellent energy efficiency. It is always worth investing in a Hidrostal pump

in the long run because our pumps are low-maintenance, they almost never clog, and their long service life is unique. Depending on the location, our clients are assisted by one of our subsidiary companies or sales partners. You will find your contact at [www.hidrostal.com](http://www.hidrostal.com)



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