

Horizontal End Suction Centrifugal Pumps



Horizontal End Suction Back Pullout Centrifugal Chemical Process Pumps as per ISO 5199 design standard

Versatile

Reliable

Efficient


RedAx[™]
Technology


XSpan[™]
Technology

VERSA Series

Horizontal end suction back pull-out heavy duty chemical process pumps as per ISO 5199 design standard

Product Description:

VERSA series horizontal chemical pumps are designed based on ISO 5199 design standard and DIN 24256 / ISO2858 / EN22858 dimension standard. These pumps are specially designed for process or transfer duty applications, having high efficiency for pumping clean or slightly contaminated chemicals and chemical effluents without solid contents. All types of corrosive and crystallising liquids can be handled with various shaft sealing options either with gland packing or mechanical seal with various API flushing plans. The modular design offers maximum interchange ability of the parts.



Applications:

- Acids
- Alkalis
- Dyes
- Paints
- Petrochemicals
- Intermediates
- Seawater
- Hydrocarbons
- Hot water
- Clear effluents

Industries:

- Fertiliser
- Petrochemicals
- Refineries
- Textile
- Desalination
- Water treatment
- Wastewater treatment
- Steel
- Power generation
- Pharmaceutical
- Acids
- Caustic soda
- Soda ash
- Adhesives
- Distillery

Performance Parameters:

Flow	: upto 3,000 m ³ /hr
Head	: upto 150 m.l.c
Specific gravity	: upto 1.9
Temperature	: upto 180 °C
Viscosity	: upto 20 cP
DN sizes	: 25 to 400 mm

Pressure Ratings:

Suction pressure	: upto 2 kg/cm ²
Discharge pressure	: upto 16 kg/cm ²
Test pressure	: 24 kg/cm ²

Standard Features:

- Centrifugal, single stage, end suction, top discharge pump
- ISO standard pumps upto 150 mm additional sizes as per KISHOR design
- Back pull-out design for easy maintenance
- Closed or semi-open impeller
- Shaft fully protected by shaft sleeve
- Can accommodate any axial shaft coupling type
- Sealed, grease lubricated deep groove ball bearing
- XSpan™ Technology mitigating the effect of undesirable hydraulic forces on shaft bearings & mechanical seals in HI & HE versions
- Performance testing as per ISO 9906
- Flanges as per DIN standard

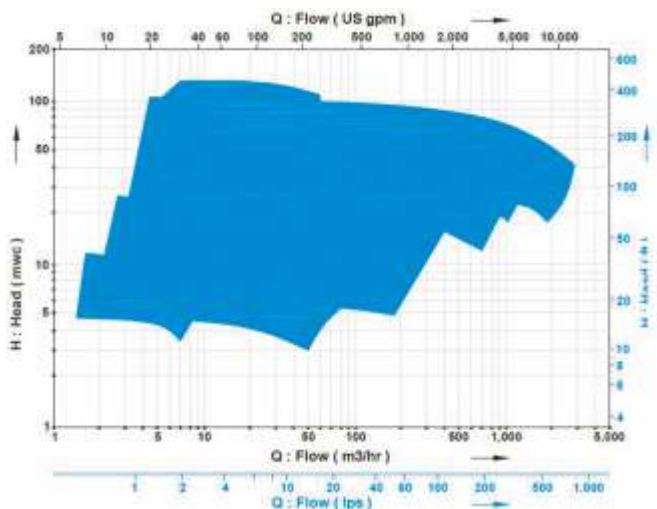
Versions:

- HI : Pump with internal mechanical seal
- HE : Pump with external mechanical seal
- HD : Pump with double mechanical seal
- HG : Pump with gland packing
- HJ : Pump with steam jacketing

Material of Construction:

Casing	: CI, Ni-Resist, WCB, DIN 4136, CF8, CF8M, CF3, CF3M, CN7M, CD 4MCuN, CE 3MN, HV 9A.
Impeller	: CI, Ni-Resist, WCB, DIN 4136, CF8, CF8M, CF3, CF3M, CN7M, CD 4MCuN, CE3MN, HV 9A.
Shaft	: SS 410, SS 304, SS 316, SS 316L, SS 904L, UNS 32760, UNS 31803, UNS 32205.

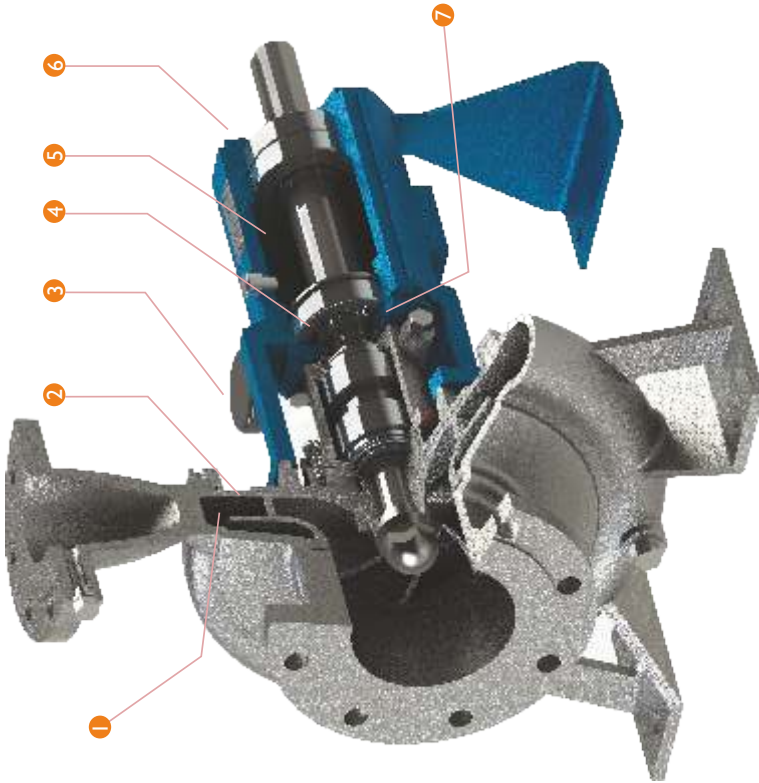
Performance Range:



Optional Features:

- ANSI / BS/ ISO drilling on DIN flanges
- Drain plug accessory
- Cast or fabricated baseframe
- Variety of wear rings
- Heavy duty roller / angular contact ball bearings
- Belt or pulley driven
- Oil lubricated bearings
- Steam jacketing for crystallising liquids

Unique Constructional Features



- 1 Highly efficient closed impeller with wear ring in casing
- 2 Reduction in axial thrust by RedAx™ technology
- 3 Single piece bearing housing, for extra rigidity and service reliability
- 4 Specially designed slinger (shaft sleeve + flinger combined), restricting entry of leakage liquid into bearing housing
- 5 Robust solid shaft, minimizing shaft deflection at mechanical seal portion
- 6 Grease lubricated bearings, sealed for life
- 7 Versatility of fitting most of the API plans for mechanical seal flushing

Bearing Drive Options:



- XSpan™ Drive
- Grease or oil Lubrication
- Single mechanical seal (internal or external)

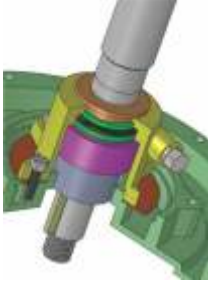


- Drive as per DIN 24960 stuffing box cavity
- Grease or oil Lubrication
- Double seal with all API flushing plans



Versions :

HI : Horizontal pump, with inside mounted single seal.



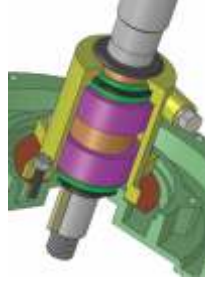
- User-friendly design with spacer sleeve, to accommodate reputed brand of any seal type
- Wide choice of flushing / quenching plans

HE : Horizontal pump, with external mounted single seal.



- No abuse of corrosive and abrasive liquids on springs.
- Highly recommended for corrosive liquids like sulphuric acid and dirty liquids containing solids
- No flushing plan needed

HD : Horizontal pump, with double (back-to-back) mechanical seals.



- Pressurized barrier fluid for toxic, flammable, abrasive, polymerizing liquids
- Option of double (tandem) mechanical seals with unpressurized buffer fluids for high temperature, toxic liquids

HG : Horizontal pump with asbestos-free gland packing.



- Stuffing box design as per DIN 24960
- Primarily designed for accommodating gland packing and temporary conversion kit to mechanical seal

Technology Features :

XSpan™ Technology

XSpan™ technology makes use of a scientifically designed bearing frame, which improves overall strength and stiffness of the pump. It mitigates the effect of undesirable hydraulic forces on the pump shaft, bearing and mechanical seal.

Advantages of XSpan™:

- Reduces deflection on shaft
- Increases radial thrust handling capacity for more stable operation
- Lower chance of mech. seal failure
- Better mechanical stability over a wide range of operation & lower vibrations
- Better ability to handle sudden changes in system head
- Hydraulic clearances maintained for optimal efficiency



RedAx™ Technology

RedAx™ technology makes use of a special impeller design, that improves the pump uptime and reduces axial thrust. This technology mitigates the effect of the undesirable hydraulic forces, which eventually damage the shaft bearings.

Benefits :

- Low life cycle costs
- Reduced vibrations
- Reduced maintenance
- Longer bearing life due to minimized axial thrust
- No balancing holes, hence no choking risk of holes and no loss in efficiency



Jacketing option: for crystallising liquids :

Pumps used for crystallising liquids like molten sulfur or copper sulphate need to be designed with a special steam jacket wherein the casing (and the liquid inside) can be maintained at the desired temperature. This allows for smooth operation and protects the mechanical seal from getting damaged due to crystallisation of the liquids incase the temperature drops below the melting point temperature.



Other Horizontal End Suction Centrifugal Pumps for Non Clog Applications :



ASTRA Series
(100mm Solids passage)



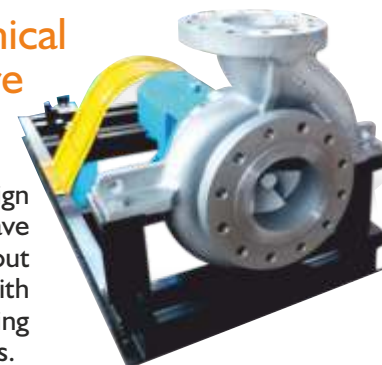
C Series
(50mm Solids Passage)



D Series
(25mm Solids Passage)

HYPER Series

Horizontal end suction back pull-out pump for chemical applications with high pressure & high temperature



Product Description:

HYPER series chemical horizontal pumps are designed based on ISO 5199 design standard. These pumps are specially designed for high pressure. These pumps have high efficiency for pumping clean or slightly contaminated severe chemicals without solid contents. All types of corrosive and crystallising liquids can be handled with various shaft sealing options, with various API flushing plans with all types of bearing cooling options. The modular design offers maximum interchangeability of the parts.

Applications:

- Acids
- Alkalis
- Dyes
- Paints
- Petrochemicals
- Intermediates
- Seawater
- Hydrocarbons
- Hot water
- Hydrogenation plants

Industries:

- Fertiliser
- Petrochemicals
- Refineries
- Acids
- Caustic soda
- Water treatment
- Power generation
- Pharmaceutical
- Adhesives
- Distillery

Performance Parameters:

Flow : upto 1,300 m³/hr
 Head : upto 130 m.l.c
 Specific gravity : upto 1.1
 Temperature : upto 270 °C
 Viscosity : upto 20 cP
 DN sizes : 32 to 250 mm
 Solid passage size : Nil

Pressure Ratings:

Suction pressure : upto 35 kg/cm²
 Discharge pressure : upto 50 kg/cm²
 Test pressure : 75 kg/cm²

Standard Features:

- Centrifugal, single stage, end suction, top discharge pump
- Back pull-out design for easy maintenance
- Dimensions as per KISHOR design
- Rigid mounting with centre line mounted casing
- Semi open (F) or closed impeller
- Heavy duty, oil lubricated bearings
- Shaft sealing by balanced mechanical seal
- XSpan™ Technology mitigating the effect of undesirable hydraulic forces on shaft bearings & mechanical seal
- Performance testing as per ISO 9906
- Can accommodate any axial thrust coupling
- Bearing cooling for high temperature duties

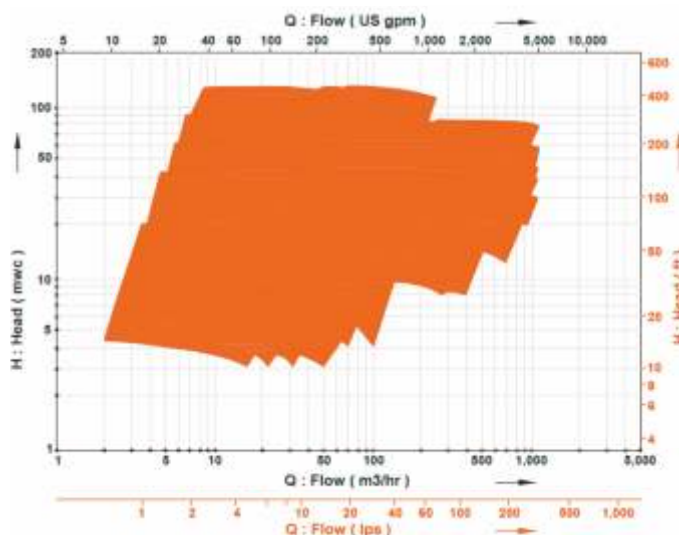
Versions:

- HI : Pump with internal mechanical seal
- HD : Pump with double mechanical seal

Material of Construction:

Casing : WCB, CF8, CF8M, CF3M, Duplex St. steel etc.
 Impeller : WCB, CF8, CF8M, CF3M, Duplex St. steel etc.
 Shaft : SS 410, SS 316, UNS 32760, etc

Performance Range:



Optional Features:

- Cartridge seal mounting
- Fan / water cooled bearing housing
- Steam jacketed casing / casing backplate
- ANSI B16.5 # 300RF or # 600RF flanges.
- Bearing isolator / labyrinth seal
- Double mechanical seal in tandem / back to back arrangement

About Us:

We design & manufacture tailor-made products for pumping and mixing of corrosive, abrasive and solids laden liquids, along with suitable service support. We have one of widest spectrums of material options to suit the application based on over 5 decades of experience and expertise. At the core of product selection process, lies a deep understanding of the application and the environment in which the pump is supposed to operate, ensuring optimal selection to suit the requirement.

Project References:



Horizontal end suction pumps



Horizontal high pressure pumps



Horizontal non clog pumps

Service Support :

Service support is at the heart of our business philosophy. Being a custom-made product manufacturer we need to ensure that our products are handled, installed, commissioned, maintained and repaired in time and with skilled manpower. In addition, we provide service of energy audit of existing installations and suggest the required modifications at site, if any, to enhance energy efficiency & reliability. We have deployed our team of experts across India and along with our service partners who are trained in all aspects of the product. We ensure prompt and apt service support to our customers. We also ensure continuous training to our service partners so that they are upto the mark on the latest developments and practices.

