



## SIHI *ISOchem* - Modular Process Pumps



STERLING FLUID SYSTEMS GROUP

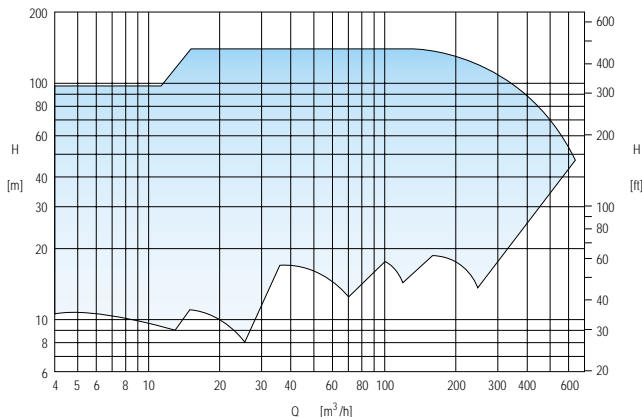
Volute casing pumps are used in a wide variety of process applications and due to their high reliability they provide reduced operating costs in the Process industry. The different volute casing pump applications require specific methods of shaft sealing including single or double acting mechanical seals or sealless designs. Specific technical standards including ISO 5199 / EN 25199 and ISO 2858 / EN 22858 are fully complied with, providing a modular range of efficient volute casing pumps.

### Industry Applications

- Chemical and Pharmaceutical
- Refinery and Process
- Paper and Pulp
- Food and Drink
- Plastic and Rubber
- and many more ...



## The modular Process Pump



Standard chemical process pumps of the **SIHI<sup>ISOchem</sup>** range are horizontal single-stage volute casing pumps with dimensions to ISO 2858 / EN 22858 and designs that fully meet the technical requirements of ISO 5199 / EN 25199.

This modular process pump consists of 30 hydraulics sizes which can be designed either with a closed impeller or semi-open impeller.

Due to the modular configuration of the **SIHI<sup>ISOchem</sup>** it can be used in a bare shaft or close-coupled or canned motor configuration.

The benefits include the interchangeability of the back pull-out assemblies and reduced spare parts costs.

## Advantages of SIHI<sup>ISOchem</sup>

- *Modular design*
- *Interchangeability of back pull-out assemblies*
- *High reliability*
- *Specific customer solutions*
- *Special materials (Hastelloy, Titanium,...)*
- *Reduced spare parts costs*
- *Global service network*



Single-stage volute casing pumps to ISO 5199 / EN 25199  
and ISO 2858 / EN 22858 in either bare shaft  
or close coupled designs with:

- mechanical seals
- magnetic couplings
- canned motors

## Hydraulics



Volute casing  
with closed impeller



Volute casing with  
semi-open impeller

## Options

- Temperatures up to 400 °C without external cooling
- Casing pressures up to 40 bar
- Special materials (Hastelloy, Titanium...)
- Heated jackets
- Monitoring Systems

## Bare shaft back pull-out assemblies



CBSD

Pumps with a single acting  
mechanical seal and grease  
lubricated ball bearings



CBSD

Pumps with a single or double  
acting mechanical seal and  
oil lubricated ball bearings



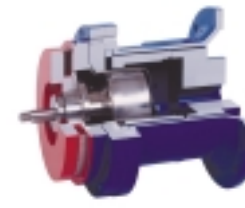
CBMD

Pumps with a magnetic  
coupling according to  
VDMA 24279



CBBD

Pumps with a single acting  
mechanical seal and  
lifetime-greased ball bearings



CBED

Pumps with a magnetic  
coupling to VDMA 24279



CBCD

Pumps with standard or  
explosion proof canned motors



## Close-coupled back pull-out assemblies



## Advantages of close-coupled assemblies

- Extended MTBF due to self-alignment
- Cost savings
  - standard motors
  - no baseplates and couplings
  - reduced space
  - less maintenance



## Mechanical seal arrangements:

*The shaft seal chamber can accommodate most standard mechanical seal types according to ISO 3069 / DIN 24960.*



**elastomeric mechanical seal**  
bellows in conical shaft seal chamber  
- shaft seal chamber with vortex breaker



**single-acting mechanical seal**  
in conical shaft seal chamber  
- shaft seal chamber with vortex breaker  
- quench connection or circulation connection  
- with or without shaft sleeve



**double-acting mechanical seal, back-to-back arrangement**  
in cylindrical shaft seal chamber  
- barrier liquid connection  
- integrated shaft sleeve



**double acting mechanical seal, tandem design**  
in conical shaft seal chamber  
- buffer liquid connection  
- integrated shaft sleeve

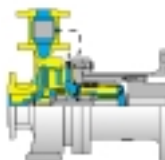


**cartridge type mechanical seal**  
in cylindrical shaft seal chamber  
- cartridge mechanical seal, single or double acting  
- quench connection and buffer or barrier liquid connection  
- integrated shaft sleeve

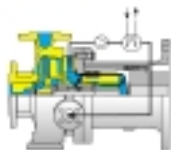
## Magnetic coupling arrangements:



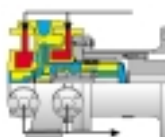
**with internal strainer**



**with free flow filter for heavily contaminated liquids**



**with external partial flow for**  
- very dirty liquids  
- very hot liquids

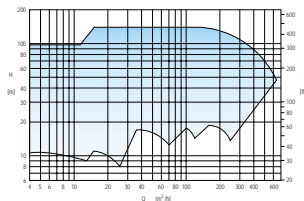


**heated for handling melts**





## Performance:



Capacity: max. 650 m<sup>3</sup>/h  
 Head: max. 150 m  
 Speed: max. 3600 rpm  
 Casing pressure: PN 16  
 Temperature: max. 350 °C

## Hydraulics:

### Volute casing with closed impeller



- clean applications
- low NPSH

### Volute casing with semi-open impeller



- slurry handling
- gas handling
- fibrous materials
- viscous liquids

## Shaft sealing:

- single or double mechanical seals
- magnetic couplings
- canned motors

## Materials:

Volute casing:	Ductile Iron, Stainless Steel, Duplex Steel
Casing cover:	Ductile Iron, Stainless Steel, Duplex Steel
Shaft:	Steel, Stainless Steel, Duplex Steel
Impeller:	Cast Iron, Stainless Steel, Duplex Steel

## Options:

- Temperatures up to 400 °C without external cooling
- Casing pressures up to 40 bar
- Special materials (Hastelloy, Titanium,...)
- Heated jackets
- Monitoring Systems