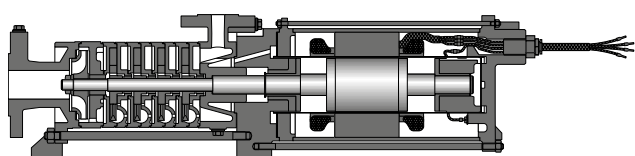


PRODUCT INFORMATION



Product news for the
CHILLVENTA 2010

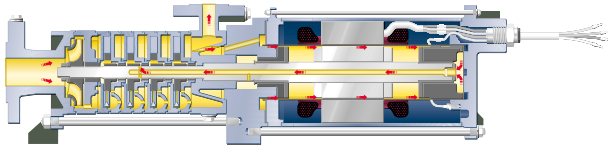
Side channel pump
with canned motor

Model series HCS

HCS – Side channel pump with canned motor

General

HERMETIC pumps of the model series HCS are contained in fully enclosed centrifugal pumps with no shaft seals, which function electromagnetically via the so-called “canned motor”. It is based on the principle of a side channel pump.

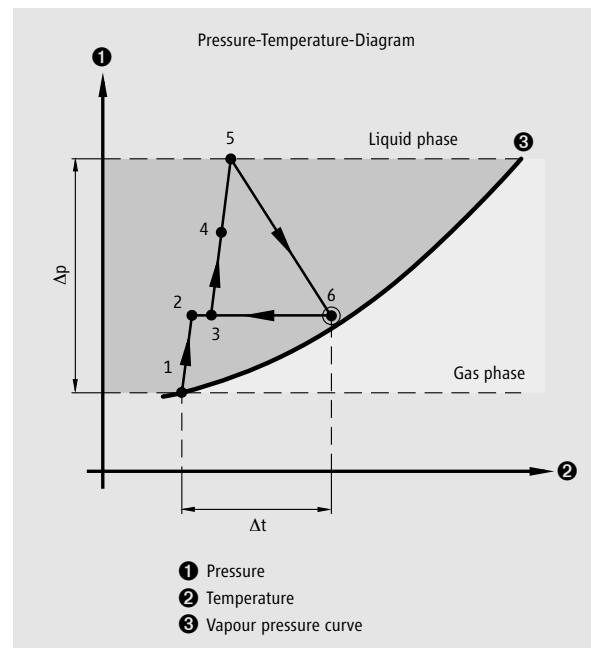


Thanks to a sophisticated concept and our comprehensive expertise, this construction allows for the delivery of two-phase flows. Without external implements, liquid-gas mixtures with a gas share of up to 50% can be transported. The result: an economical and clean transport and circulation of refrigerants. The newly developed range of pumps with upstream NPSH impellers features extremely steep characteristic curves. At high pressure-reduction speed, the HCS pumps are characterised by their extreme insensitivity to cavitation.

The installed hydraulic systems come from the **SERO** side channel pump, designed in modular construction. The motors are part of the modular construction of the **HERMETIC** canned motor pumps.

Function

The partial current for the cooling of the motor and for the lubricating of the bearing is taken from the last impeller on the discharge side and led through the motor space. It is led back through the sleeve shaft not to the suction side of the pump but between two impellers in a region with increased pressure. The point 3, which corresponds to the highest heating in the pressure-temperature-diagram, is sufficiently distanced from the vapour diagram, in order to avoid a boiling out inside the pump.



HCS – Side channel pump with canned motor

Design

Horizontal, self-priming multistage pump with side channel hydraulic system. Single-stage or multistage with hermetically sealed canned motor.

The suction part is axially positioned and the suction port is designed vertically up. In order to improve the NPSH value, the first stage is a closed suction impeller. The noise level is below 80 dB (A).

Application sector

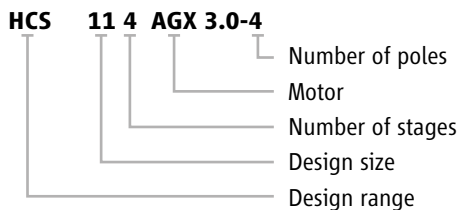
- For the delivery of aggressive, toxic, precious, slightly volatile fluids in environmental technology and industrial engineering.
- For the delivery of liquid gases as e.g. R 717 (NH₃), R 22 (Frigen), CO₂, R 134a, R 404a, R 11, R 12, baysilone (M3, M5), methanol, silicon oil KT3, syltherm, lithium bromide.

Application ranges

- -50 °C to +30 °C ***
- Capacity max. 7,5 m³/h
- Head max. 180 m
- Gas share max. 50%
- Pressure rating PN 25

Pump and hydraulic denomination

e. g.



Canned motors

Power: up to 19 kW
Rotating speed: 1450 or 1750 rpm
Voltage: 380, 400, 415 V
Heat class: H
Frequency: 50 or 60 Hz
(plus frequency converter operation on request)
Enclosure: Motor/Rotor IP64 / IP67
Motor protection: thermistor KL 180

Bearing arrangement

Slide bearings are lubricated by the processed liquid radially guide the pump shaft and the rotor shaft. This guiding, however, takes place only during the starting phase and the stopping phase, since the guiding function is hydrodynamically taken over by the rotor after the nominal speed of the canned motor has been reached. The axial thrust of our pumps is hydraulically balanced.

Documentation according to HERMETIC-Standard

- operating instructions incl. instructions for commissioning, operation and maintenance
- technical specification
- standard sectional drawing with position numbers
- standard dimensional collection drawing
- spare part list with order numbers
- EC Declaration of Conformity

Painting

Painting according to HERMETIC-Standard: thickness 120 µm, 2-layer-coating
Colour: Pantone 355 C (green)

Additional options

- The motors are suitable for the operation with a frequency converter.
- Switching amplifier
- Base plate

Delivery time

8 weeks from receipt of order

Materials (pressure rating PN 25)

Impeller	1.4059
Suction impeller	JL 1040
Side channel casing	JS 1030
Stage casing	JS 1030
Pump casing	JS 1025
Shaft	1.4021
Rotor	Aluminium or copper
Stator can	1.4571
Bearing	1.4021 / carbon
Motor casing	1.0254

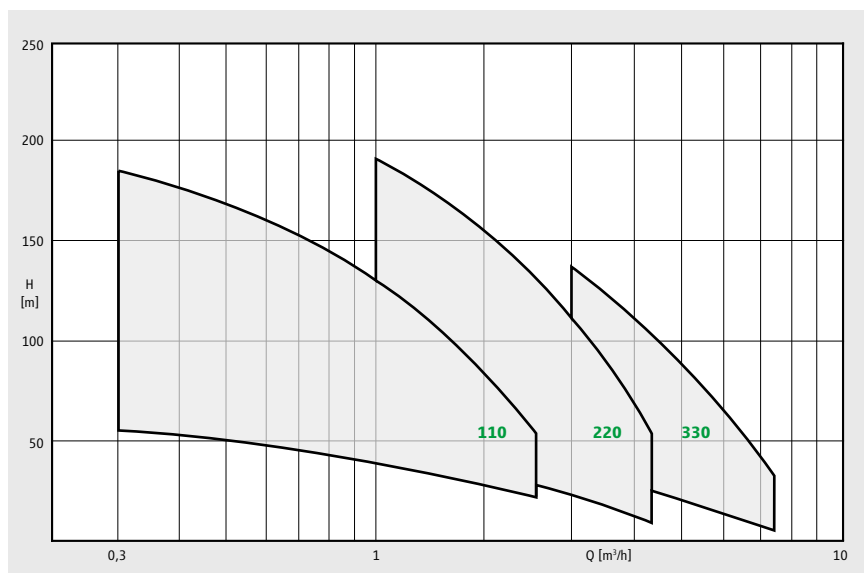
*** further temperatures on demand

HCS – Side channel pump with canned motor

Construction size matrix

Hydraulic	Motor / Ordernumber					
	AGX3.0-4	AGX4.5-4	AGX6.5-4	AGX8.5-4	CKPx12.0-4	CKPx19.0-4
HCS 111	5051					
HCS 112	5052					
HCS 113	5053	5057				
HCS 114	5054	5058				
HCS 115	5055	5059				
HCS 116	5056	5060	5062			
HCS 117		5061	5063			
HCS 221	5064					
HCS 222		5065				
HCS 223			5066			
HCS 224				5067		
HCS 225				5068		
HCS 331	5069					
HCS 332		5070				
HCS 333			5071	5072		
HCS 334				5073		
HCS 335					5074	
HCS 336					5075	5076

Characteristics diagram 1450 rpm 50 Hz



Deviations from the standard described and the additional options described are only available if another type range is chosen.

PRODUKTINFO
HCS/E/10/2010

All details as stated in this document comply with the technical standard that is applicable at the date of printing. These details are subject to technical innovations and modifications at any time.



HERMETIC-Pumpen GmbH
Gewerbestrasse 51 · D-79194 Gundelfingen
phone +49 761 5830-0 · fax +49 761 5830-280
hermetic@hermetic-pumpen.com
www.hermetic-pumpen.com