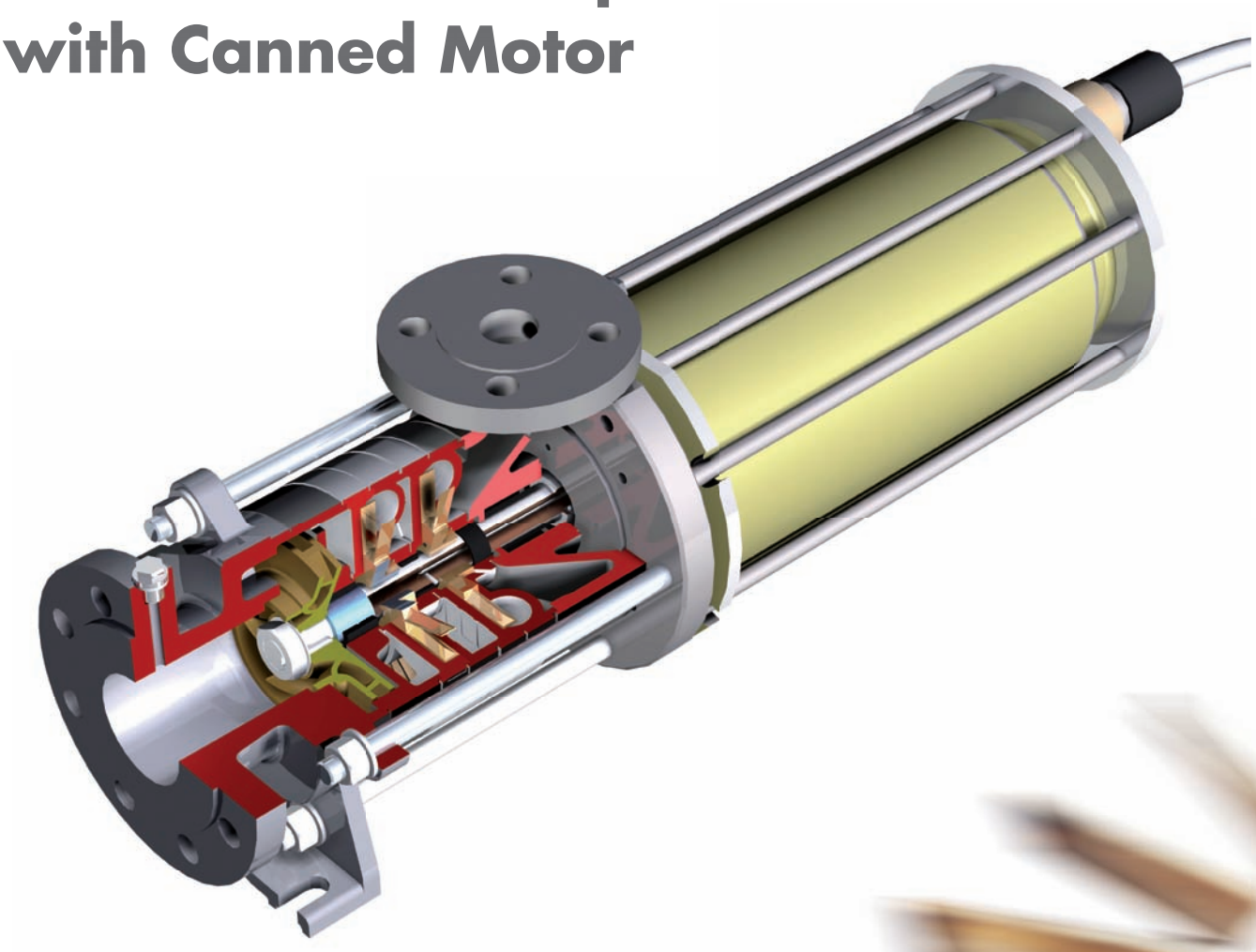
SERO PumpSystems

SEMIS®
self-priming
Side Channel Pump
with Canned Motor

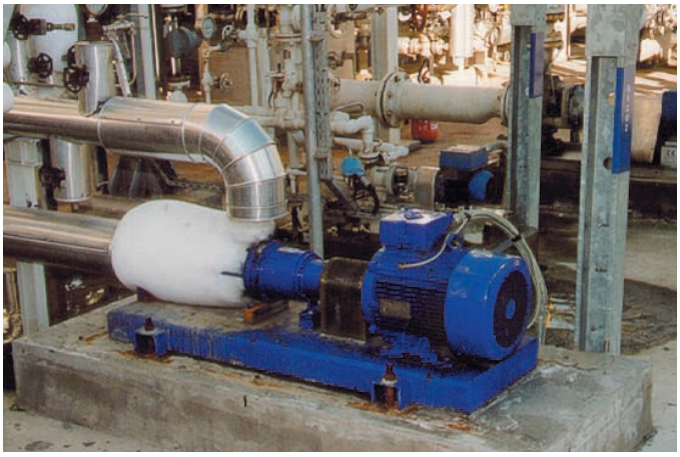


Technical Description

Application

The **SEMIS®** is suitable for handling volatile or dangerous process fluids that contain high amounts of entrained gas (up to 50%) or valuable liquids that must be contained and controlled.

As an example, the **SEMIS®** model is an excellent solution for pumping high value refrigerants in the industrial refrigeration engineering.



Design

Horizontal, radially split, multi-stage, end suction, top discharge, foot mounted side channel pump with fully integrated totally enclosed canned motor.

Construction

The hydraulics used are from our standardised modular design system of **SERO** side channel pumps.

The suction nozzle is axial and the discharge nozzle vertically upwards.

For improving of the NPSH-value the pump has a special suction impeller. The noise level is below 80 dB (A).

Accessories

- A pump power controller protects the pumps from running dry and from overloads
- The motors are approved for operation with frequency converters
- Axial compensators allow shrinkage in the axial direction
- PTC-relay

Operating Data

SEMIS® PN25	
Flow rates:	0,3 up to 7,5 m^3/h
Heads:	up to 200 m
Speed:	max. 1750 1/min
Temperature:	-50 °C up to +100 °C
Suction height:	up to 7 m
Working pressure:	25 bar
Gas entrainment:	max. 50 %
Max. motor:	19 kW

Designation

Example: SEMIS 332.32/4,5-4	
Type series:	SEMIS
Size:	33
Number of stages:	2
Material specification:	62 / 32
Motor rating in kW:	4,5
Number of poles of the motor:	4

Drive

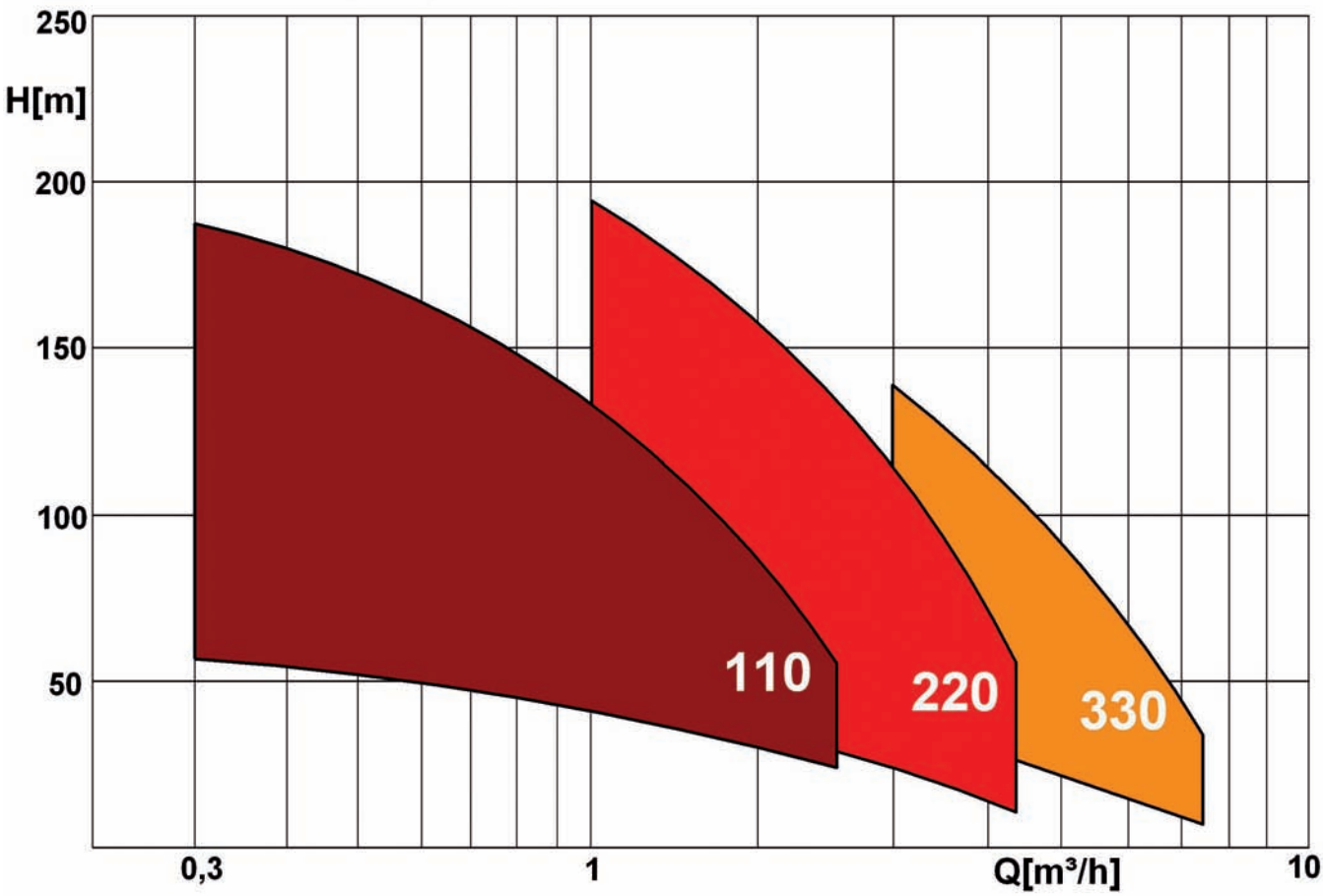
Fully closed asynchronous canned motor, protection class IP64 (terminal box version IP55). PTC for monitoring the winding temperature is standard installed.

Motor data:	Three-phase-asynchronous motor
Switch type:	direct
Insulation class:	H
Operation mode acc. to VDE 0530:	S1
Protection class acc. to VDE 0503:	IP64
Direction of rotation:	counterclockwise

Nominal Diameter

Pump size	suction side (mm)	discharge side (mm)
110	40	20
220 – 330	65	32

Performance Range n = 1450 1/min (50 Hz)

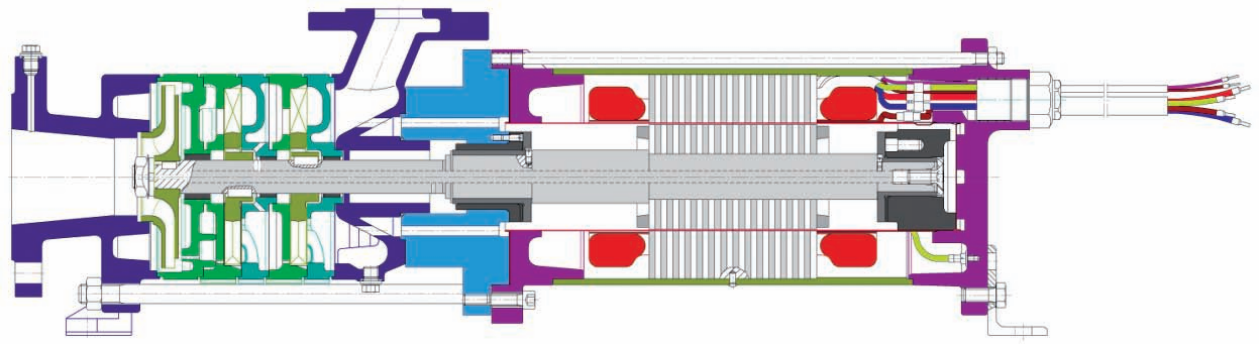


Advantages

Feature: Side Channel Pump Design
Benefit: Low flow rates, high differential pressure, Entrained gas capabilities

Feature: SERO & Hermetic
Benefit: Perfect technical fusion of side channel pump, Canned motor technologies

Feature: State-of-the-art Canned Motor Design
Benefit: Zero leakage and fugitive emissions, Eliminates emission monitoring

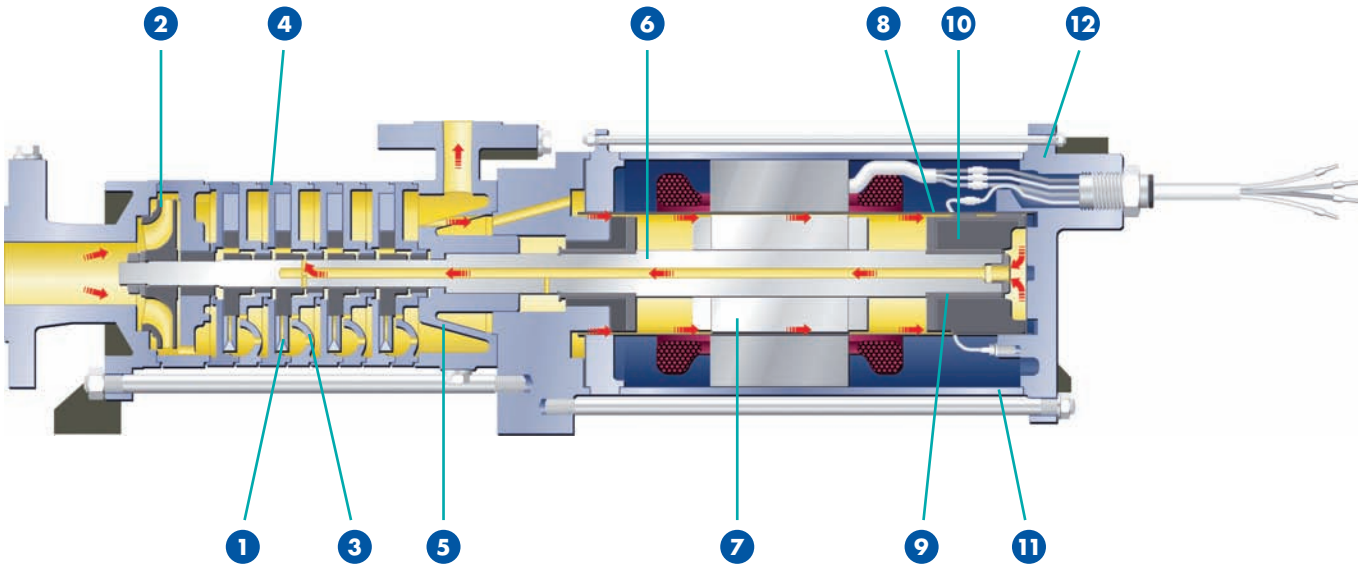


Feature: Self Lubricating Intermediate Stage Bearings
Benefit: Multi-point shaft support

Feature: Low NPSH 1st Stage Impeller
Benefit: Handles difficult suction conditions

Feature: PTC Winding Monitor
Benefit: Protects the motor from overheating

Cross section with cooling flow



Material Specification

Designation – Pump	Material specification 62	Material specification 32
1 Impeller:	1.4059	1.4581
2 Suction impeller:	GG 25	1.4581
3 Side channel casing:	GGG 40	1.4470
4 Stage casing:	GGG 40	1.4470
5 Casing:	GGG 40.3	1.4408
– Motor		
6 Shaft:	1.4021	1.4571
7 Rotor:	Aluminium	Aluminium (covered 1.4571)
8 Split can:	1.4571	1.4571
9 Bearing sleeve:	1.4021	coated 1.4571
10 Bearing bush:	Carbon	1.4571 / SIC30
11 Motor casing:	1.0254	1.0254
12 Cover (Motor casing):	GGG 40	1.0460

34.01.11/10.E.G

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