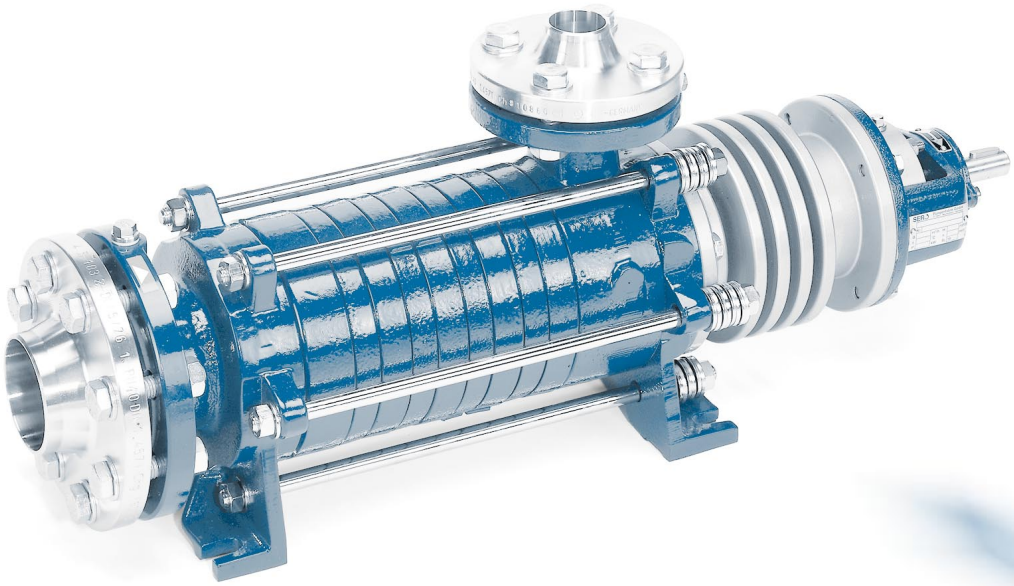
SERO
Pumps & Systems

Condensate pump, PN 40

for the temperature range from 120 °C to 220 °C
SRZS...KK



SERO is the optimal technological solution for transporting media which contain gas or which vaporize readily

Operating data

Flow rates:	0,3 up to 35 m^3/h
Heads:	5 up to 350 m
Speeds:	max. 1800 1/min
Temperature:	+120 °C up to +220 °C
Rated pressure:	40 bar
Viscosity:	0,3 up to 230 mPas
Gas entrainment:	max. 50 %
Max. motor:	55 KW
NPSH-pump	0,4 up to 1,5 m

Design

Side channel pump, gas-entraining, self-priming,
in segmented construction,
with open unpressurized impellers,
single-stage or multi-stage,
with intake NPSH suction impeller
and with cooling segment.

Construction

Housing pressure: Nominal pressure 40

Socket position: Suction casing: axial
Pressure casing: radial

Flanges: As specified by DIN 2501,
nominal pressure 40
Suction side:
Nominal diameters 40-100 mm
Pressure side:
Nominal diameters 20-65 mm

Bearings: Pressure side: deep-grooved
ball bearing
Suction side: hard carbon in
steel housing and shaft sleeve
intermediate stages: special carbon

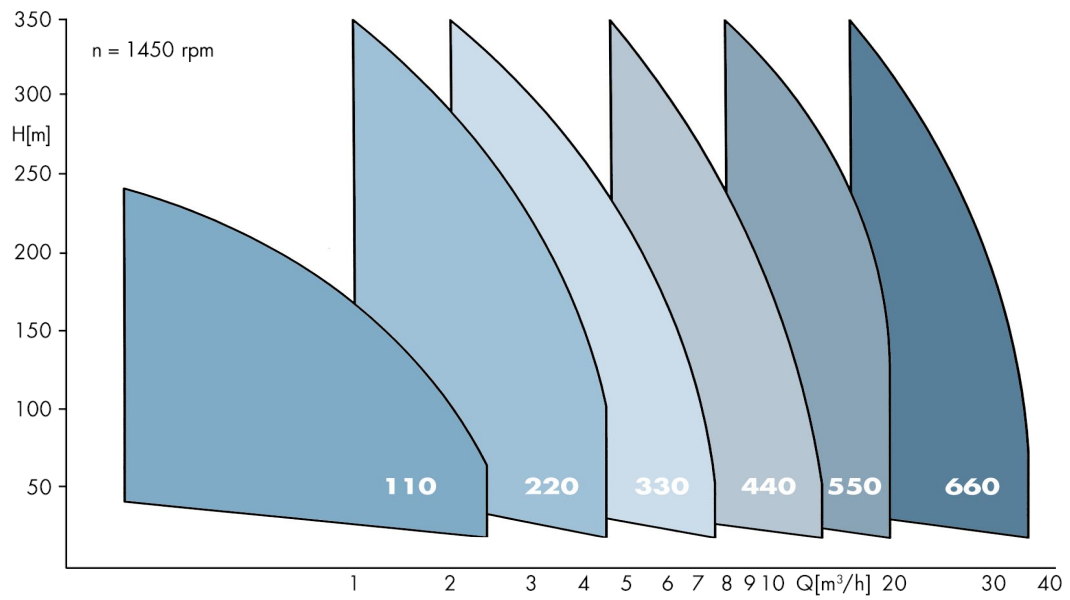
Direction of rotation: Counterclockwise

Shaft seal: Standard single-acting mechanical
seal as specified by DIN 24960,
graphitic carbon, aluminium oxide,
ethylene-propylene rubber
G11E = < 16 bar, unbalanced
G12E = < 40 bar, balanced
Deaeration of the shaft seal
space avoids evaporation and
dry running of the sliding surfaces.

Condensate design KK:
- Expansion disks, supporting jackets and enlarged clearances assure temperature equalization
- Cooling of the shaft seal not required because of cooling segment and cooling ribs
- High-temperature coating

Drive: Standard 3-phase motors, 4-pole

Performance Range n = 1450 rpm (50 Hz)



Areas of application

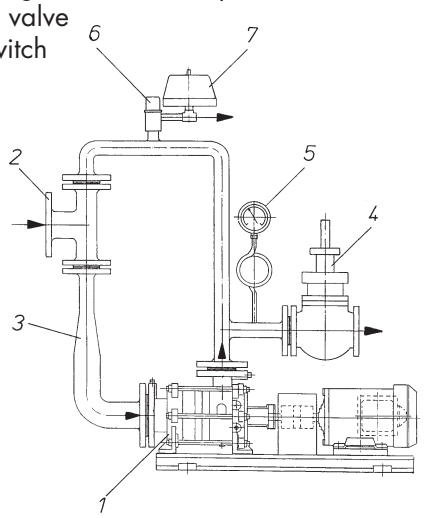
as condensate pumps

- in open and closed, pipe and vessel systems
- in condensate reflux systems for steam consumers (see figure)

as boiler feed pumps

- for steam boilers and steam generators

1 SRZS...KK pump
2 Condensate intake connection
3 Diffuser
4 Control valve
5 Pressure gauge with water trap
6 Deaeration valve
7 Pressure switch



Advantages for you

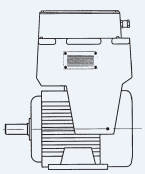
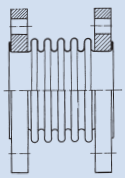
Reducing system costs

- Omission of a cooling system for the shaft seal saves cooling water and the cost of monitoring and maintenance
- Coolant connecting, piping, etc., no longer necessary
- Uses economical mechanical seal, as the maximum temperature in the seal gap is only 85 °C
- High efficiency at specific speeds below 10 nq (rpm) saves energy costs
- Extremely low intake height saves costs

A sophisticated know-how concept

- Insensitive to cavitation with variable steam pressure (the flow is not interrupted during partial degassing)
- The steep Q-H characteristic curve controls steam pressure fluctuations
- High nominal pressure of 40 bar makes SERO pumps reliable

Pump Components

	Dry Run and Load Monitors 	**Speed Control** 	**Expansion Joints** 
Brief Technical Description	Metering without sensor. The monitor is directly connected to the motor circuit and can be installed outside of the Ex zone.	Three-phase motor with integrated electronic frequency converter for continuously variable speed control.	Axial expansion joints, on both sides with fixed flanges.
Particularities	**Simple handling by means of keyboard settings. Factory presettings possible.**	Compact, space-saving IEC standard dimension motor. No extra space required for the electronic frequency converter in the control cabinet.	**Ensures expansion of the pump in axial direction,** in particular with higher or lower temperatures.
Application	Signaling or pump shutdown, respectively, in the following cases: ● Dry Run ● Closed Suction or Pressure Line ● The suction head is below the specified NPSH value	Variable duty points can be controlled at different speeds. This ensures **expanded pump performance while saving energy.**	Recommended for pumps in boiler/condensate systems.

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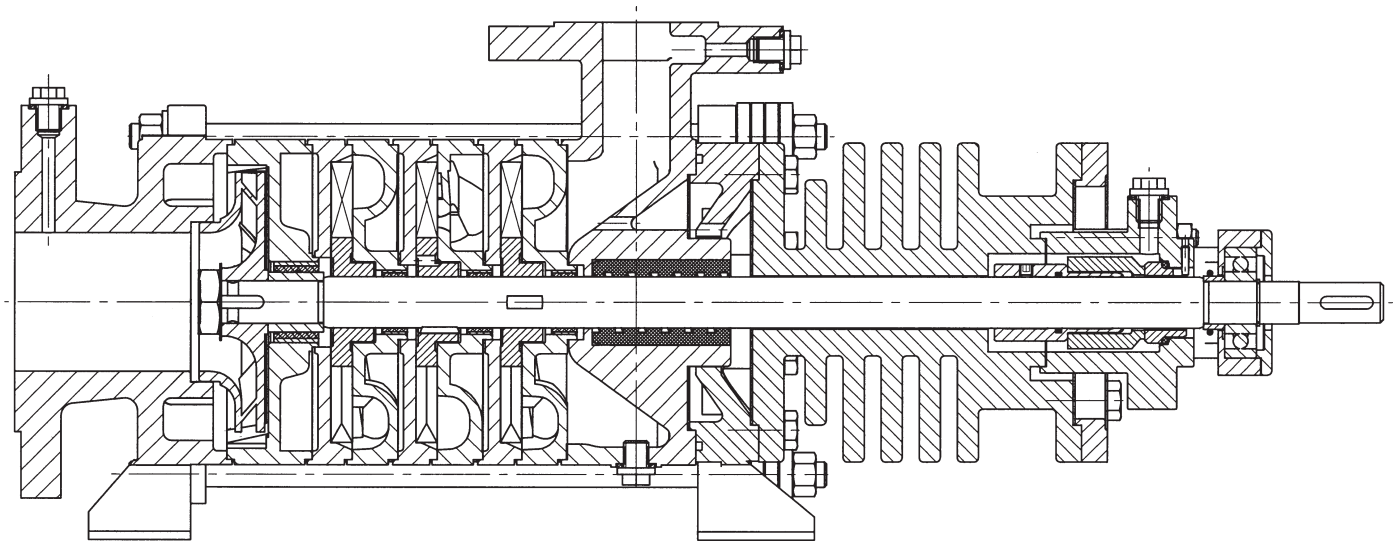
Condensate pumps

with extended cooling segments and specially designed cooling ribs for media temperatures up to 220 °C

This design allows a temperature drop from 220 °C to 85 °C for the pumped medium at the shaft seal. **Because of the temperature drop at the seal gap, the pump can be operated without external cooling.**



Material Specification

	Material version 62
suction casing	GGG 40.3
discharge casing	GGG 40.3
stage casing	GGG 40
discharge stage casing	GGG 40
shaft	1.4021
impeller	1.4059
foot	GGG 40
bearing bracket	GG 25
bearing bushing	Antimon – impregnated carbon
tie bolt	St. 60
cooling segment	GGG 40

High quality materials subject to change.

Pump Designation (Example)

SRZS 33 5 W KK G12E *I.* 62

- Pump series
- Size
- Numbers of stages
- Bearing design
- Condensate design
- Shaft seal
- Material version

38.01.05/00.E.T

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