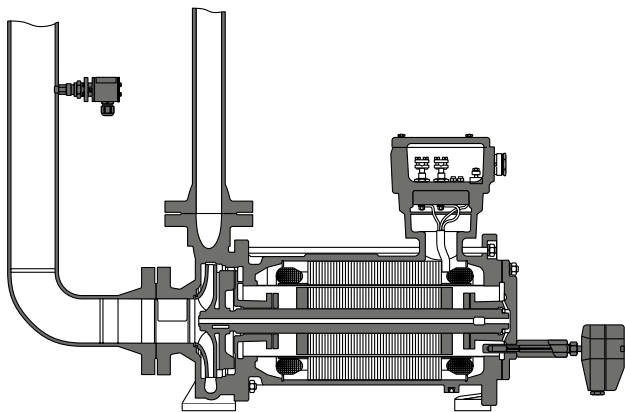


PRODUCT INFORMATION



Electronic level- and temperature
monitoring device

Monitoring system OTV 30

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Description

General

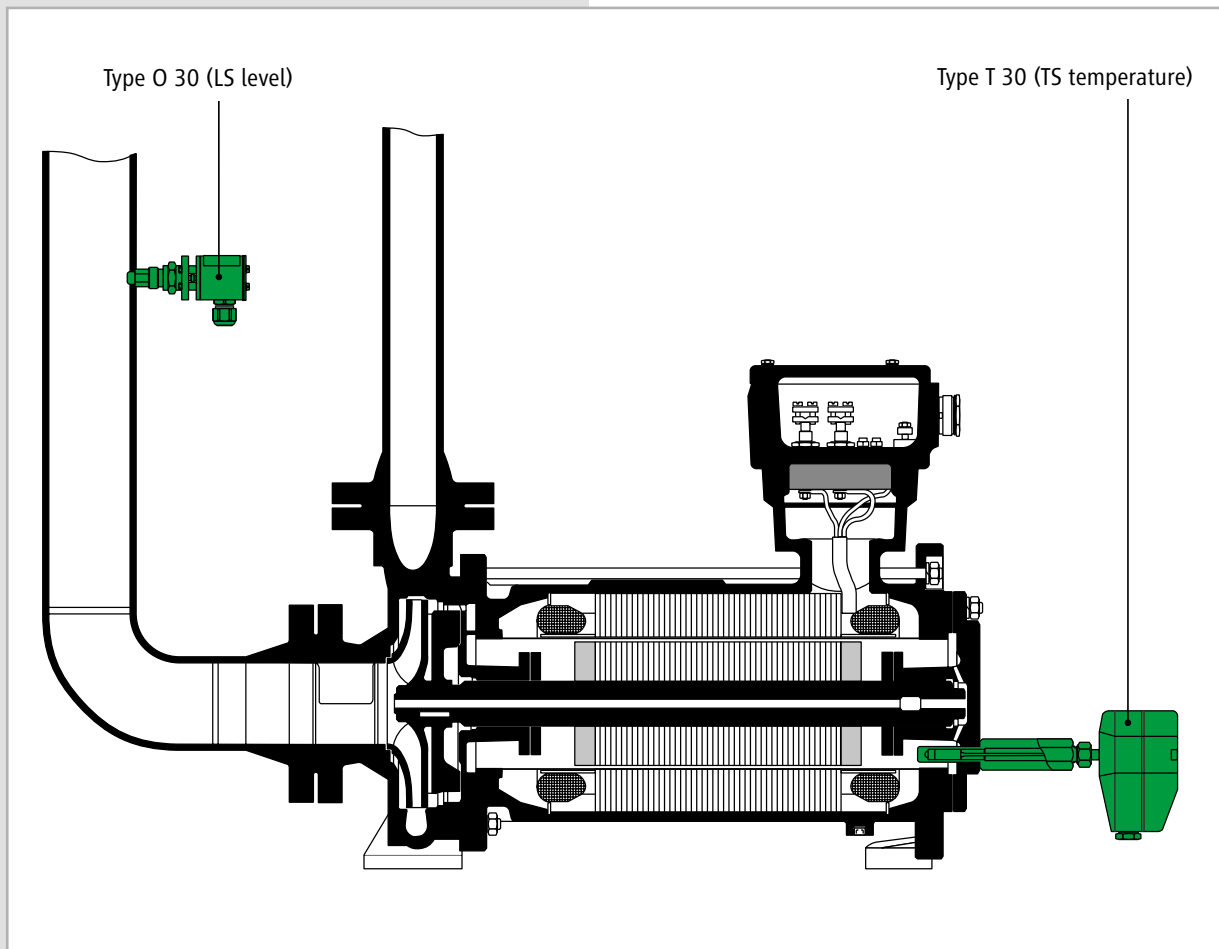
The most part of HERMETIC pumps are designed according to explosion protection requirements. The pumps comply with the requirements of the electrical as well as mechanical explosion protection.

Level monitoring

On condition that the rotor cavity as part of the process system is steadily filled with liquid, no explosive atmosphere may arise. In this case, no accepted explosion protection is required for the rotor cavity. If the operator is not able to guarantee for a steady filling, it is necessary to install level monitoring devices.

Temperature monitoring

The observance of the temperature class and the maximum admissible surface temperature of the canned motor, respectively, is ensured via thermistor in the stator winding and/or via a measuring point on the bearing cover (liquid temperature).



Design and electrical data

Level Sensor O 30

Types

O 30.1 (PHÖNIX 720.211 300 000.0660)

O 30.2 (PHÖNIX 720.211 300 000.0669)

EC type test certificate ZELM 02 ATEX 0087

Explosion protection acc. to Directive 94/9/EC

EN 60079-0: 2009

EN 60079-11: 2007

Design

Sensor with stainless steel (1.4571) connection thread G 1/2", stainless steel sensor glass connection head. Special materials on request: e.g. Hastelloy, titanium.

Type of protection: Ex ib op is IIC T6 (sensor: zone 0).

Application ranges

Type O 30.1: -60 °C to +250 °C
 (standard design)

Type O 30.2: -273 °C to +400 °C
 (with cooling ribs)

Contact function: normally open contact with
 rising level

Standard design

for densities all densities
pressure rating PN 25 (EN 764-1)

Special designs

Special materials such as Hastelloy
with flange connection up to DN 20
seal weld

Installation

The level sensor can be directly welded onto the pipe. If the level sensor is installed in a vertical string of the suction line, it must be located at least at the level of the pump discharge nozzle. No shut-off device of any kind is allowed between the float and the suction nozzle. If such an installation is not possible, the level sensor may alternatively be installed on the pump discharge as well. The tip of the sensor should at least project 10 mm into the pipe cross section, but should be more than 15 mm away from the opposite wall of the pipe.

Electrical data

For connection onto a certified intrinsically safe input current circuit only.

Pilot circuit: type of protection intrinsical safety Ex ib IIC

Peak values: $U_i = 9,7 \text{ V DC}$, $I_i = 149 \text{ mA}$, $P_i = 1 \text{ W}$

Thermostat T 30

Design

Copper temperature probe, protected against corrosion by a stainless steel (1.4571) conduit and a gasket. Inside and outside of casing treated with acid-resistant grey paint.

Internal adjustment of the cut-off temperature with adjustment scale. Type of protection: IP 65

Application ranges

Type T 30.1: +20 °C to +150 °C

Type T 30.2: +100 °C to +370 °C

Type T 30.3: -30 °C to +40 °C

Additional temperature ranges and switching functions on request.

Installation

The thermostat is screwed tightly into the connection piece bore at the motor bearing cover. The connection piece also functions as conduit.

Switching Amplifier V 30

Types

V 30.3 – 230 V AC Macrolon casing (PHÖNIX 720.2502.11)

V 30.3 – 230 V AC Insert card 19" (PHÖNIX 720.2502.17)

V 30.4 – 24 V AC Macrolon casing (PHÖNIX 720.2502.31)

V 30.4 – 24 V AC Insert card 19" (PHÖNIX 720.2502.37)

V 30.5 – 24 V DC Macrolon casing (PHÖNIX 720.2502.41)

V 30.5 – 24 V DC Insert card 19" (PHÖNIX 720.2502.47)

EC type test certificate ZELM 02 ATEX 0106

Explosion protection acc. to Directive 94/9/EC

EN 60079-0: 2009

EN 60079-11: 2007

Intrinsic safety "i", Ambient temperature

Insert card 19": -25 °C to +60 °C

Macrolon casing: -40 °C to +40 °C

Compact amplifier in macrolon casing IP 64 or insert card 19"

SPDT "signal" / SPDT "failure"

Operating voltage alternatively 230 V AC, 24 V AC, 24 V D

The switching amplifiers have intrinsic control inputs according to type of protection [Ex ib] IIC.

Installation

The switching amplifier S 30 must be installed outside of explosive gas atmospheres, since only the pilot circuit is intrinsically safe. If there is a junction of the thermostat and level sensor lines at the pump, only a twin-wire signal line to the switching amplifier is required.

Electrical data

Mains supply:	for amplifier type
(connections L, N, +, -, resp.)	V 30.3 – 230 V AC ± 10 %, 2,8 VA
	V 30.4 – 24 V AC ± 15 %, 2,8 VA
	V 30.5 – 24 V DC ± 25 %, 2,8 W
	48 Hz to 68 Hz
Pilot circuit:	type of protection intrinsic
(connections WS, BR, GN)	safety [Ex ib] IIC
Höchstwerte:	$U_o = 9,6 \text{ V}$, $I_o = 149 \text{ mA}$, $P_o = 1 \text{ W}$

Line length

at 1,5 mm² max. 600 m

Output circuit (connections 1,2,3)

Signal-Relay

max. loading DC:	40 V / 2 A
max. loading AC:	250 V / 3 A
max. switching capacity:	100 VA

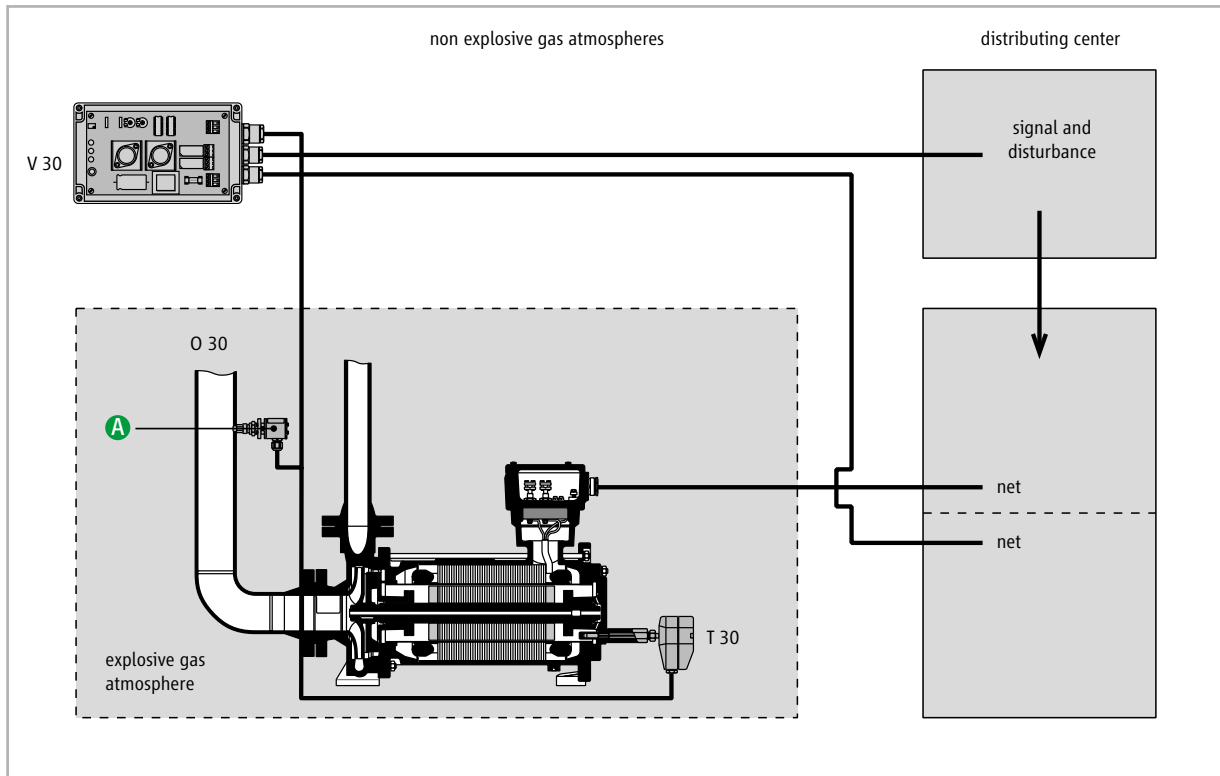
Output circuit (connections 4,5,6)

Failure-Relay

max. loading DC:	40 V / 2 A
max. loading AC:	250 V / 3 A
max. switching capacity:	100 VA

Circuit diagram

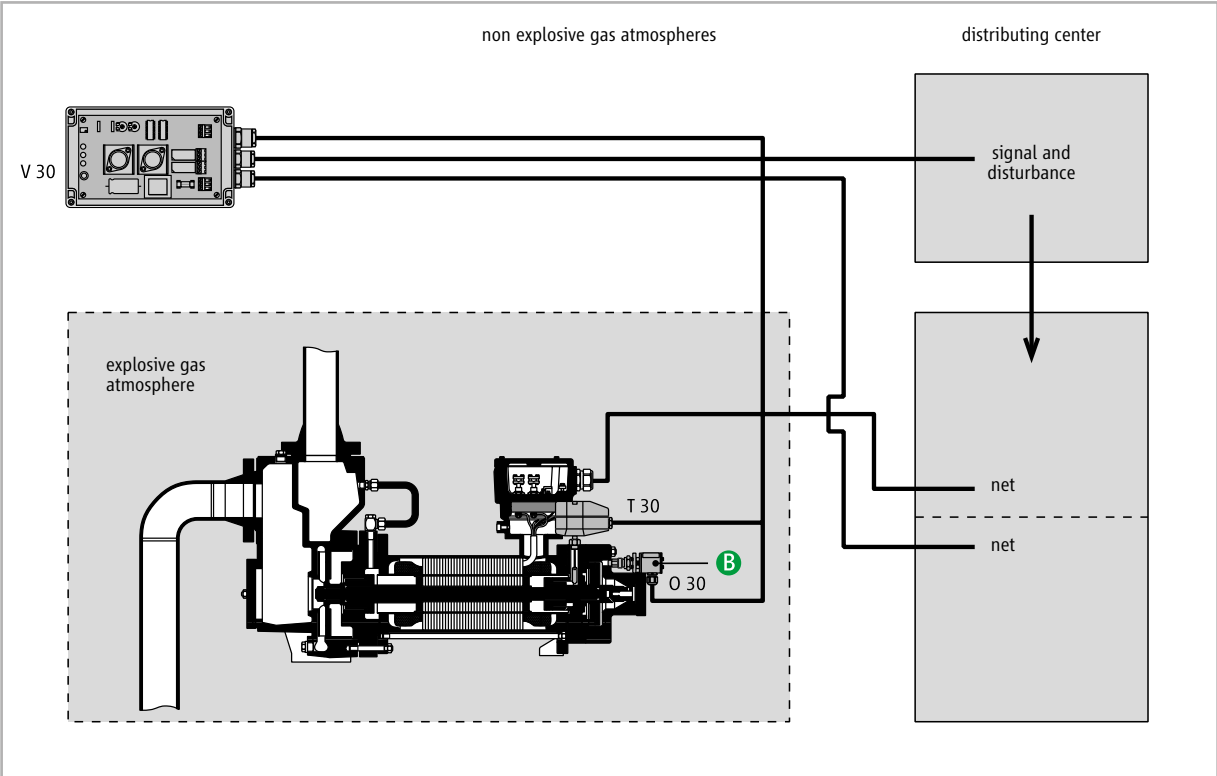
for canned motor pumps (single- and multistage design)



Mounting position **A** suction side

In accordance with the PTB safety requirements it must be guaranteed that the rotor space of the canned motor is kept continuously filled with liquid and that no explosive atmosphere can be set up.

for self priming canned motor pumps (single- and multistage design)



Mounting position B

In case of type CS, the installation is effected on motor-sided bearing cover. The level sensor O 30 must be located above the level of the liquid to be conveyed in rotor cavity.

Convincing service.

Important features are readiness, mobility, flexibility, availability and reliability. We are anxious to ensure a pump operation at best availability and efficiency to our customers.

Installation and commissioning

- service effected on site by own service technicians

Spare part servicing

- prompt and longstanding availability
- customized assistance in spare part stockkeeping

Repair and overhauling

- professional repairs including test run executed by the parent factory
- or executed by one of our service stations worldwide

Retrofit

- retrofit of your centrifugal pumps by installing a canned motor to comply with the requirements of the IPPC Directive

Maintenance and service agreement

- concepts individually worked out to increase the availability of your production facilities

Training and workshops

- extra qualification of your staff to ensure the course of your manufacture

Among others, our products comply with:

- Directive 2006/42/EC (Machinery Directive)
- Explosion protection acc. to Directive 94/9/EC (ATEX); UL; KOSHA; NEPSI; CQST; CSA; Rostechnadzor
- Directive 96/61/EC (IPPC Directive)
- Directive 1999/13/EC (VOC Directive)
- TA-Luft
- RCC-M, Niveau 1, 2, 3

HERMETIC-Pumpen GmbH

is certified acc. to:

- ISO 9001:2008
- GOST; GOST "R"
- Directive 94/9/EC
- AD 2000 HP 0; Directive 97/23/EC
- DIN EN ISO 3834-2
- KTA 1401; AVS D 100 / 50; IAEA 50-C-Q
- Certified company acc. to § 19 I WH

PRODUKTINFO
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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.



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