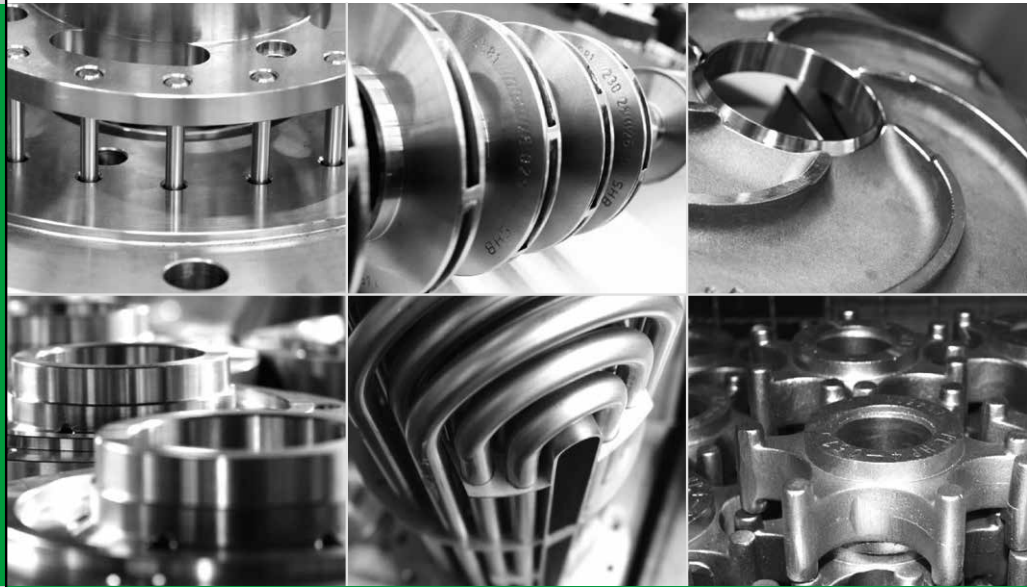


CHEMICAL

OIL & GAS

REFRIGERATION

POWER GENERATION



Product overview HERMETIC-Pumpen GmbH

HERMETICALLY SEALED
CENTRIFUGAL PUMPS

Canned motor pumps intended for use
in potentially explosive atmospheres 3

- single-stage design 4
- multistage design 9
- submersible pump design 12

Canned motor pumps intended for use
outside potentially explosive atmospheres 14

- single-stage design
- multistage design
- self-priming design

Magnetically coupled pumps 15

- single-stage design 16
- multistage design 17

VACUUM PUMPS
AND SYSTEMS

Liquid ring vacuum pumps 18

- design with mechanical seal 18
- design with magnetic coupling 19
- design with canned motor 20

Package Unit 21

POSITIVE
DISPLACEMENT PUMPS

Gear pumps 23

Internal gear pumps 24

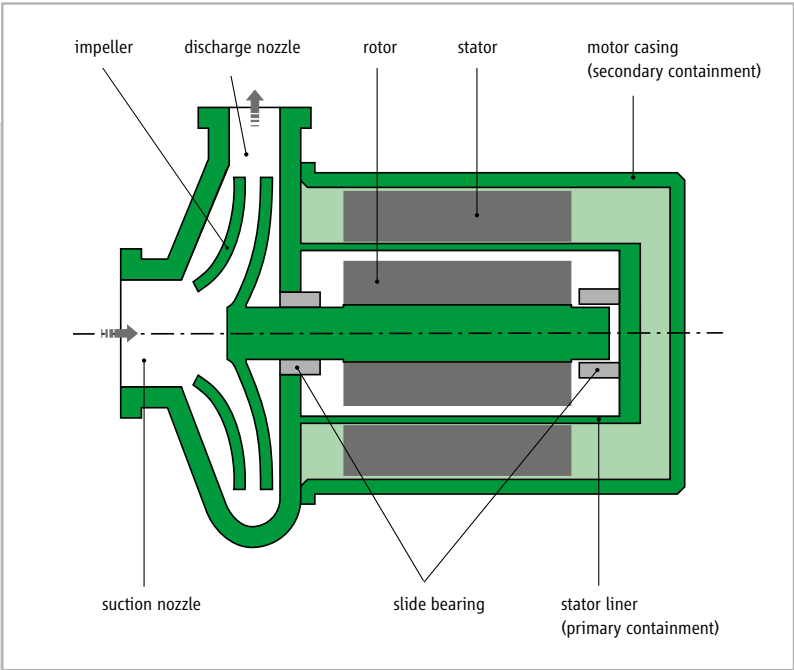
Rotary lobe pumps 25

MONITORING
EQUIPMENT

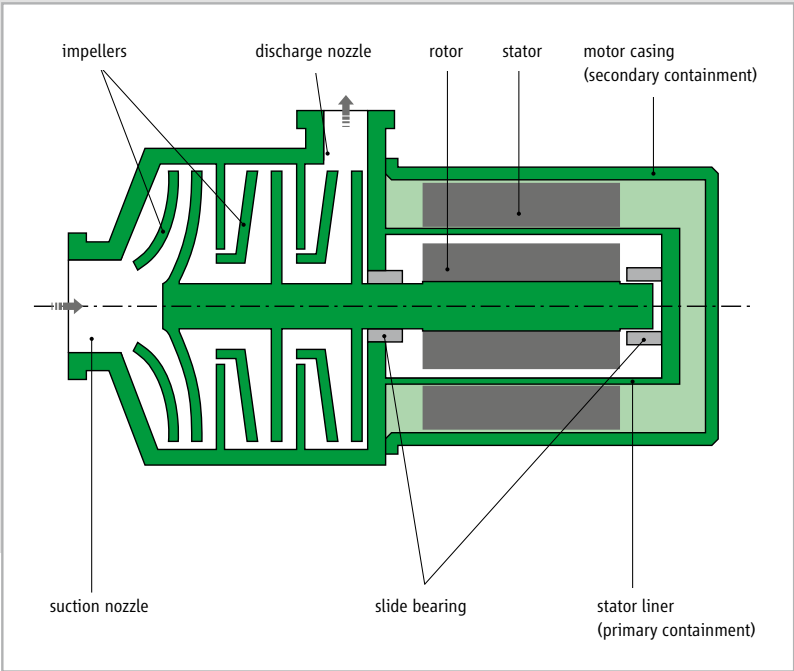
Monitoring equipment 26

- Level monitoring
- Temperature monitoring
- Rotor position monitoring
- Rotation monitoring

*single-stage
canned motor pump*

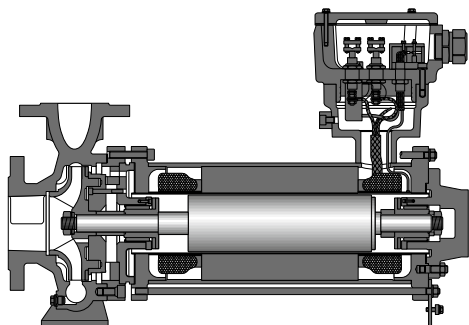


*multistage
canned motor pump*



Type HCN

Chemical | Oil & Gas | Refrigeration | Power Generation

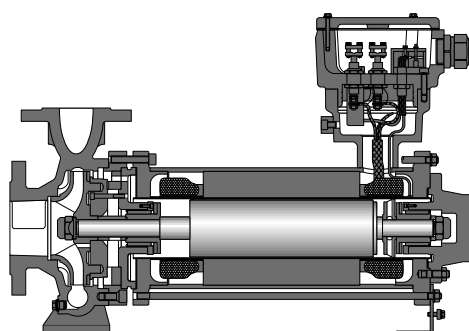


- Normal-suction design
- Dimensions and performance curves in accordance with EN 22858; ISO 2858
- Explosion protection according to EC design test certificate in line with Directive 2014/34/EU $\text{II 2 G Ex de IIC T3 to T6}$

Capacity: max. 300 m³/h
Head: max. 150 m
Rotating speed: 2900 to 3500 rpm
Operating temperature: -120 °C to +120 °C
Viscosity: max. 300 mm²/s
Pressure rating: PN 16

Type HCNF

Chemical | Oil & Gas | Refrigeration | Power Generation

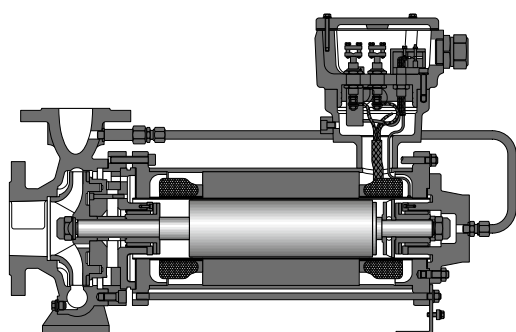


- Normal-suction design
- Liquefied gas design
- Dimensions and performance curves in accordance with EN 22858; ISO 2858
- Explosion protection according to EC design test certificate in line with Directive 2014/34/EU $\text{II 2 G Ex de IIC T3 to T6}$

Capacity: max. 300 m³/h
Head: max. 150 m
Rotating speed: 2900 to 3500 rpm
Operating temperature: -120 °C to +120 °C
Viscosity: max. 300 mm²/s
Pressure rating: PN 16

Type HCNF

Chemical | Oil & Gas | Refrigeration | Power Generation

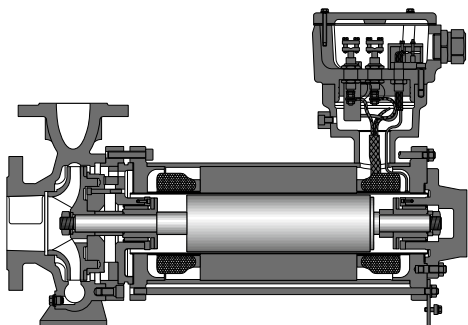


- Normal-suction design
- Liquefied gas design with external by-pass
- Dimensions and performance curves in accordance with EN 22858; ISO 2858
- Explosion protection according to EC design test certificate in line with Directive 2014/34/EU $\text{II 2 G Ex de IIC T3 to T6}$

Capacity: max. 300 m³/h
Head: max. 150 m
Rotating speed: 2900 to 3500 rpm
Operating temperature: -120 °C to +120 °C
Viscosity: max. 300 mm²/s
Pressure rating: PN 16

Type CN

Chemical | Oil & Gas | Refrigeration | Power Generation

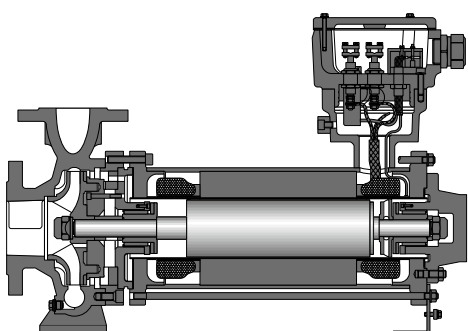


- Normal-suction design
- Dimensions and performance curves in accordance with EN 22858; ISO 2858
- Explosion protection according to EC design test certificate in line with Directive 2014/34/EU $\text{Ex II 2 G Ex de IIC T1 to T6}^{(*)}$

Capacity:	max. 1600 m ³ /h
Head:	max. 220 m
Rotating speed:	1450 to 3500 rpm
Operating temperature:	–120 °C to +120 °C
Viscosity:	max. 300 mm ² /s
Pressure ratings:	PN 16 and PN 25

Type CNF

Chemical | Oil & Gas | Refrigeration | Power Generation

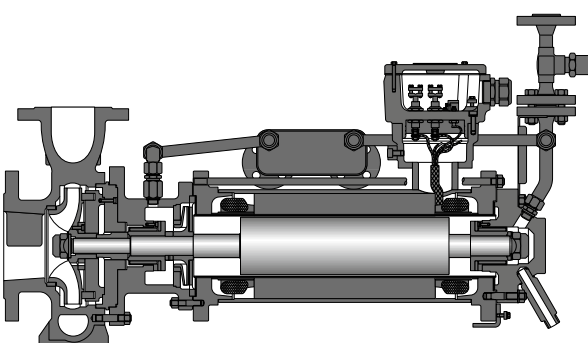


- Normal-suction design
- Liquefied gas design
- Dimensions and performance curves in accordance with EN 22858; ISO 2858
- Explosion protection according to EC design test certificate in line with Directive 2014/34/EU $\text{Ex II 2 G Ex de IIC T1 to T6}^{(*)}$

Capacity:	max. 1600 m ³ /h
Head:	max. 220 m
Rotating speed:	1450 to 3500 rpm
Operating temperature:	–120 °C to +120 °C
Viscosity:	max. 300 mm ² /s
Pressure ratings:	PN 16 and PN 25

Type CNKp

Chemical | Oil & Gas | Refrigeration | Power Generation



- Normal-suction design
- High-temperature design with plate heat exchanger
- Dimensions and performance curves in accordance with EN 22858; ISO 2858
- Explosion protection according to EC design test certificate in line with Directive 2014/34/EU $\text{Ex II 2 G Ex de IIC T1 to T6}^{(*)}$

Capacity:	max. 1600 m ³ /h
Head:	max. 220 m
Rotating speed:	1450 to 3500 rpm
Operating temperature:	max. +400 °C
Viscosity:	max. 300 mm ² /s
Pressure ratings:	PN 16 and PN 25

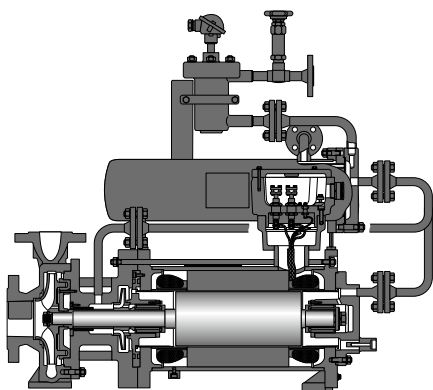
^(*) Based on the requirements of the non-electrical explosion protection, the gas groups are classified as follows:

Thickness of coating > 200 µm – gas group IIB

Thickness of coating ≤ 200 µm – gas group IIC

Type CNKr

Chemical | Oil & Gas | Refrigeration | Power Generation

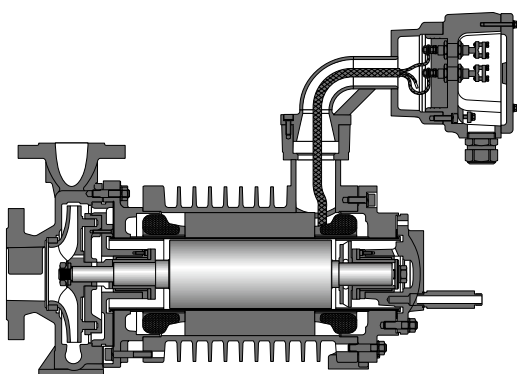


- Normal-suction design
- High-temperature design with tubular cooler
- Dimensions and performance curves in accordance with EN 22858; ISO 2858
- Explosion protection according to EC design test certificate in line with Directive 2014/34/EU $\text{Ex de IIC T1 to T6}^{(*)}$

Capacity:	max. 1600 m ³ /h
Head:	max. 220 m
Rotating speed:	1450 to 3500 rpm
Operating temperature:	max. +400 °C
Viscosity:	max. 300 mm ² /s
Pressure ratings:	PN 16 and PN 25

Type CN and CNF

Chemical | Oil & Gas | Refrigeration | Power Generation

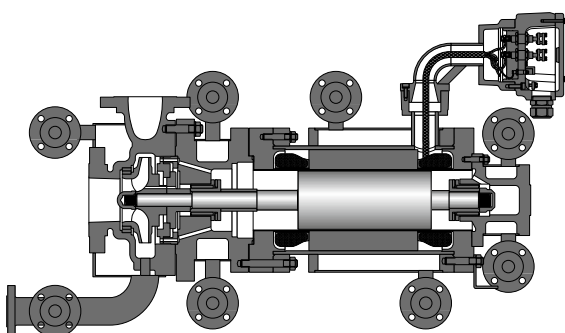


- Normal-suction design
- High-temperature design without external cooler
- Dimensions and performance curves in accordance with EN 22858; ISO 2858
- Explosion protection according to EC design test certificate in line with Directive 2014/34/EU $\text{Ex de IIC T1 to T3}^{(*)}$

Capacity:	max. 300 m ³ /h
Head:	max. 220 m
Rotating speed:	1450 to 3500 rpm
Operating temperature:	−120 °C to +360 °C
Viscosity:	max. 300 mm ² /s
Pressure ratings:	PN 16 and PN 25

Type CN and CNF

Chemical | Oil & Gas | Refrigeration | Power Generation

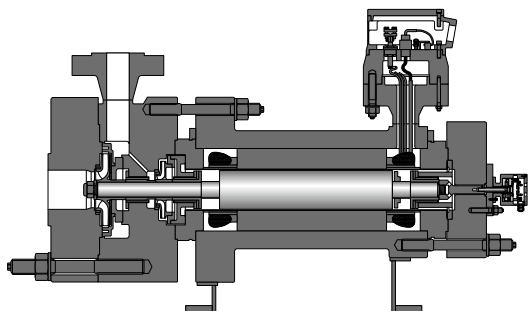



- Normal-suction design
- For liquids with completely high melting point in heatable design
- Dimensions and performance curves in accordance with EN 22858; ISO 2858
- Explosion protection according to EC design test certificate in line with Directive 2014/34/EU $\text{Ex de IIC T1 to T3}^{(*)}$

Capacity:	max. 300 m ³ /h
Head:	max. 220 m
Rotating speed:	1450 to 3500 rpm
Operating temperature:	max. +360 °C
Viscosity:	max. 300 mm ² /s
Pressure ratings:	PN 16 and PN 25

Type CNH, CNFH and CNKH

Chemical | Oil & Gas | Refrigeration | Power Generation

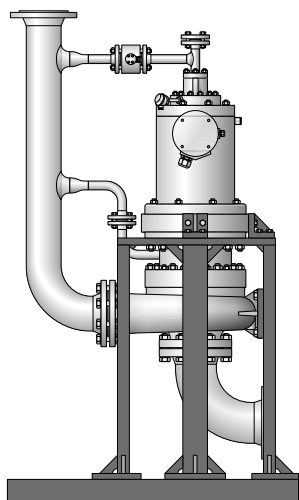



- Normal-suction design
- Design for high system pressures
- Explosion protection according to EC design test certificate in line with Directive 2014/34/EU  II 2 G Ex de IIC T1 to T6 (*)

Capacity:	max. 1600 m ³ /h
Head:	max. 220 m
Rotating speed:	1450 to 3500 rpm
Operating temperature:	–120 °C to +360 °C
Viscosity:	max. 300 mm ² /s
Pressure ratings:	up to PN 1200

Type CNV and CNFV

Chemical | Oil & Gas | Refrigeration | Power Generation



- Normal-suction design
- Design for pressure gases / liquefied gases
- In vertical installation
- Dimensions and performance curves in accordance with EN 22858; ISO 2858
- Explosion protection according to EC design test certificate in line with Directive 2014/34/EU  II 2 G Ex de IIC T1 to T6 (*)

Capacity:	max. 1600 m ³ /h
Head:	max. 220 m
Rotating speed:	1450 to 3500 rpm
Operating temperature:	–120 °C to +120 °C
Viscosity:	max. 300 mm ² /s
Pressure ratings:	PN 16 and PN 25

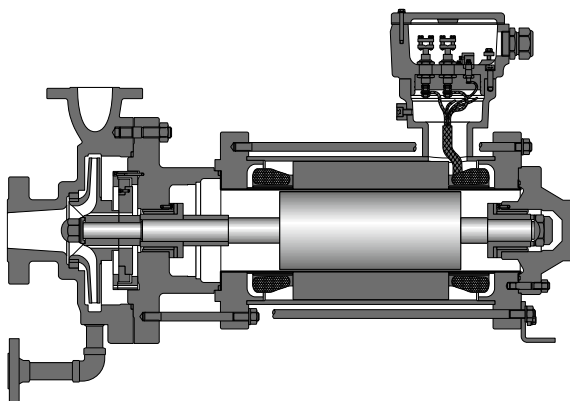
(*) Based on the requirements of the non-electrical explosion protection, the gas groups are classified as follows:

Thickness of coating > 200 µm – gas group IIB

Thickness of coating ≤ 200 µm – gas group IIC

Type CNP acc. to API 685

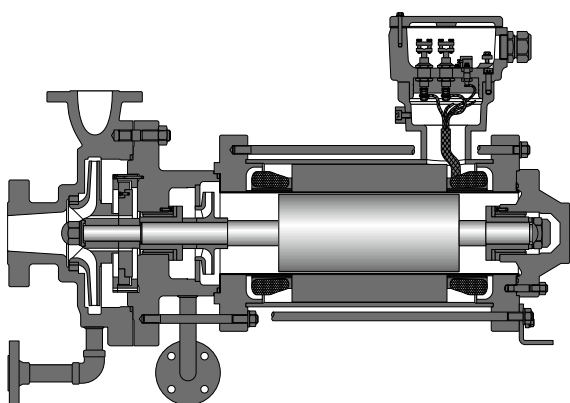
Chemical | Oil & Gas | Refrigeration | Power Generation



- Normal-suction design
 - Single suction
 - Centerline-mounted
 - Process design
 - Completely designed according to the API 685
 - Explosion protection according to EC design test certificate in line with Directive 2014/34/EU $\text{Ex II 2 G Ex de IIC T1 to T6}^{(*)}$
- Capacity: max. 1200 m³/h
 Head: max. 240 m
 Rotating speed: 1450 to 3500 rpm
 Operating temperature: -120 °C to +360 °C
 Viscosity: max. 300 mm²/s
 Pressure rating: PN 50

Type CNPF acc. to API 685

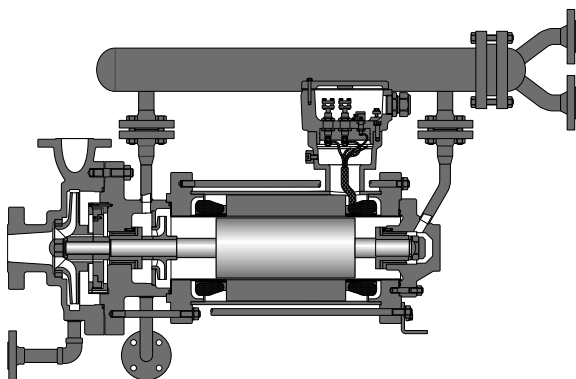
Chemical | Oil & Gas | Refrigeration | Power Generation



- Normal-suction design
 - Liquefied gas design
 - Single suction
 - Centerline-mounted
 - Process design
 - Completely designed according to the API 685
 - Explosion protection according to EC design test certificate in line with Directive 2014/34/EU $\text{Ex II 2 G Ex de IIC T1 to T6}^{(*)}$
- Capacity: max. 1200 m³/h
 Head: max. 240 m
 Rotating speed: 1450 to 3500 rpm
 Operating temperature: -120 °C to +360 °C
 Viscosity: max. 300 mm²/s
 Pressure rating: PN 50

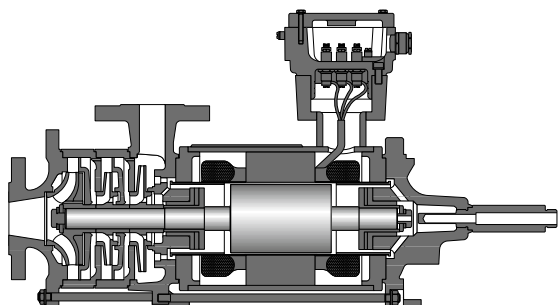
Type CNPKf acc. to API 685

Chemical | Oil & Gas | Refrigeration | Power Generation



- Normal-suction design
 - High-temperature design with tubular cooler
 - Single suction
 - Centerline-mounted
 - Process design
 - Completely designed according to the API 685
 - Explosion protection according to EC design test certificate in line with Directive 2014/34/EU $\text{Ex II 2 G Ex de IIC T1 to T6}^{(*)}$
- Capacity: max. 1200 m³/h
 Head: max. 240 m
 Rotating speed: 1450 to 3500 rpm
 Operating temperature: -120 °C to +425 °C
 Viscosity: max. 300 mm²/s
 Pressure rating: PN 50

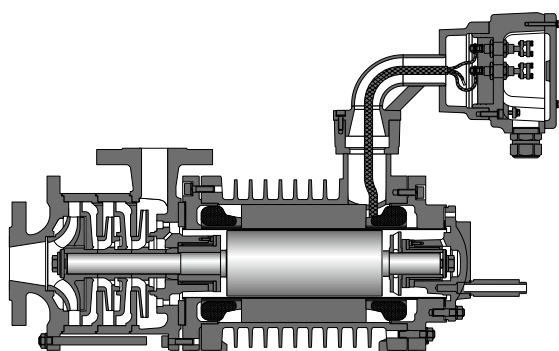
Type CAM



Chemical | Oil & Gas | Refrigeration | Power Generation

- Normal-suction design
 - Explosion protection according to EC design test certificate in line with Directive 2014/34/EU $\text{Ex II 2 G Ex de IIC T1 to T6}^{(*)}$
- | | |
|------------------------|-----------------------------|
| Capacity: | max. 350 m ³ /h |
| Head: | max. 1100 m |
| Rotating speed: | 2900 to 3500 rpm |
| Operating temperature: | -120 °C to +100 °C |
| Viscosity: | max. 300 mm ² /s |
| Pressure ratings: | PN 16 to PN 100 |

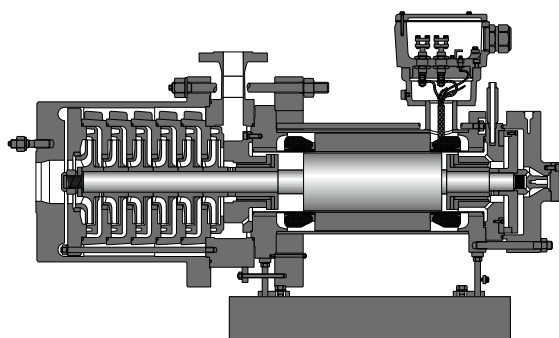
Type CAM



Chemical | Oil & Gas | Refrigeration | Power Generation

- Normal-suction design
 - High-temperature design without external cooling
 - Explosion protection according to EC design test certificate in line with Directive 2014/34/EU $\text{Ex II 2 G Ex de IIC T1 to T3}^{(*)}$
- | | |
|------------------------|-----------------------------|
| Capacity: | max. 350 m ³ /h |
| Head: | max. 1100 m |
| Rotating speed: | 2900 to 3500 rpm |
| Operating temperature: | -100 °C to +360 °C |
| Viscosity: | max. 300 mm ² /s |
| Pressure ratings: | PN 16 to PN 100 |

Type CAMT and CAMH



Chemical | Oil & Gas | Refrigeration | Power Generation

- Normal-suction design
 - With pressure barrel for high system pressures
 - Explosion protection according to EC design test certificate in line with Directive 2014/34/EU $\text{Ex II 2 G Ex de IIC T1 to T6}^{(*)}$
- | | |
|------------------------|-----------------------------|
| Capacity: | max. 350 m ³ /h |
| Head: | max. 1100 m |
| Rotating speed: | 2900 to 3500 rpm |
| Operating temperature: | -120 °C to +100 °C |
| Viscosity: | max. 300 mm ² /s |
| Pressure ratings: | up to PN 500 |

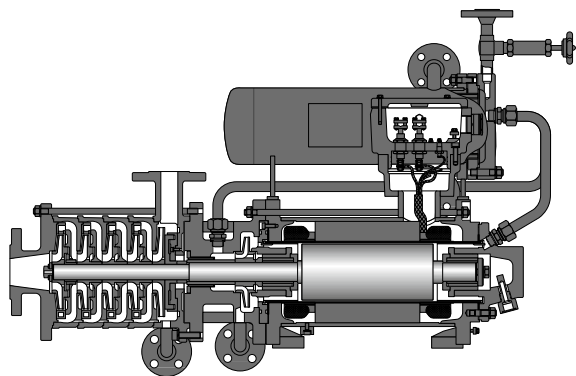
^(*) Based on the requirements of the non-electrical explosion protection, the gas groups are classified as follows:

Thickness of coating > 200 µm – gas group IIB

Thickness of coating ≤ 200 µm – gas group IIC

Type CAMKr and CAMKrT

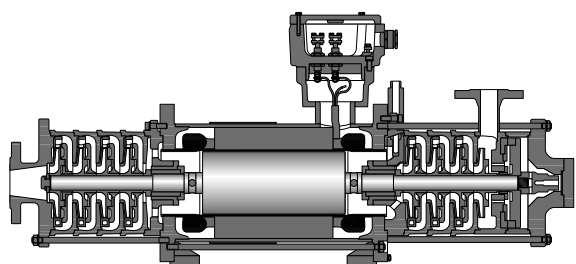
Chemical | Oil & Gas | Refrigeration | Power Generation



- Normal-suction design
 - High-temperature design with tubular cooler
 - Explosion protection according to EC design test certificate in line with Directive 2014/34/EU $\text{Ex II 2 G Ex de IIC T1 to T6 (*)}$
- | | |
|------------------------|-----------------------------|
| Capacity: | max. 350 m ³ /h |
| Head: | max. 1100 m |
| Rotating speed: | 2900 to 3500 rpm |
| Operating temperature: | max. +400 °C |
| Viscosity: | max. 300 mm ² /s |
| Pressure ratings: | PN 16 to PN 100 |

Type CAM-Tandem

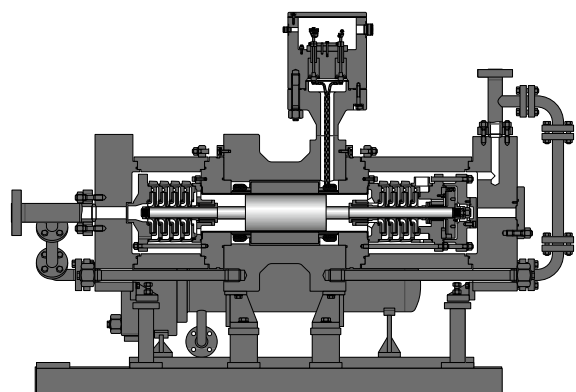
Chemical | Oil & Gas | Refrigeration | Power Generation



- Normal-suction design
 - Tandem design
 - Explosion protection according to EC design test certificate in line with Directive 2014/34/EU $\text{Ex II 2 G Ex de IIC T1 to T6 (*)}$
- | | |
|------------------------|-----------------------------|
| Capacity: | max. 350 m ³ /h |
| Head: | max. 1200 m |
| Rotating speed: | 2900 to 3500 rpm |
| Operating temperature: | −120 °C to +100 °C |
| Viscosity: | max. 300 mm ² /s |
| Pressure ratings: | PN 16 to PN 100 |

Type CAMH-Tandem

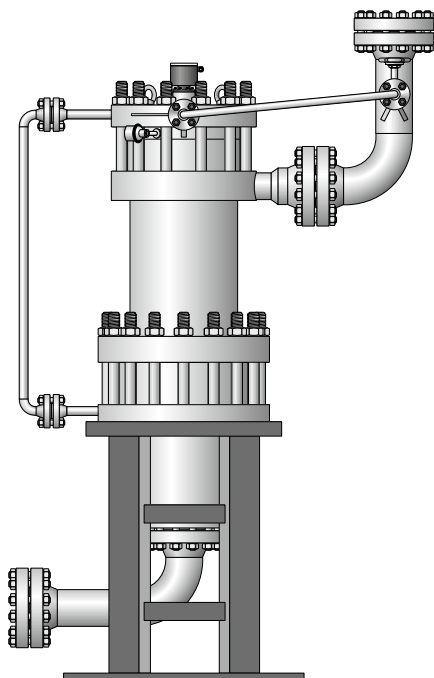
Chemical | Oil & Gas | Refrigeration | Power Generation




- Normal-suction design
 - Tandem design
 - With pressure barrel for high system pressures
 - Explosion protection according to EC design test certificate in line with Directive 2014/34/EU $\text{Ex II 2 G Ex de IIC T1 to T6 (*)}$
- | | |
|------------------------|-----------------------------|
| Capacity: | max. 350 m ³ /h |
| Head: | max. 1200 m |
| Rotating speed: | 2900 to 3500 rpm |
| Operating temperature: | −120 °C to +100 °C |
| Viscosity: | max. 300 mm ² /s |
| Pressure ratings: | up to PN 500 |

Type CAMTV

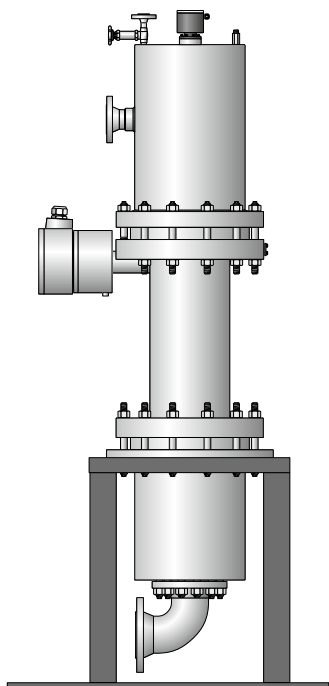
Chemical | Oil & Gas | Refrigeration | Power Generation




- Normal-suction design
 - Design for pressure gases / liquefied gases
 - In vertical installation
 - Explosion protection according to EC design test certificate in line with Directive 2014/34/EU  II 2 G Ex de IIC T1 to T6 (*)
- Capacity: max. 350 m³/h
Head: max. 1100 m
Rotating speed: 2900 to 3500 rpm
Operating temperature: max. +360 °C
Viscosity: max. 300 mm²/s
Pressure ratings: PN 16 to PN 100

Type CAMTV-Tandem

Chemical | Oil & Gas | Refrigeration | Power Generation



- Normal-suction design
 - Tandem design
 - Design for pressure gases / liquefied gases
 - In vertical installation
 - Explosion protection according to EC design test certificate in line with Directive 2014/34/EU  II 2 G Ex de IIC T1 to T6 (*)
- Capacity: max. 350 m³/h
Head: max. 2300 m
Rotating speed: 2900 to 3500 rpm
Operating temperature: -120 °C to +100 °C
Viscosity: max. 300 mm²/s
Pressure ratings: PN 16 to PN 150

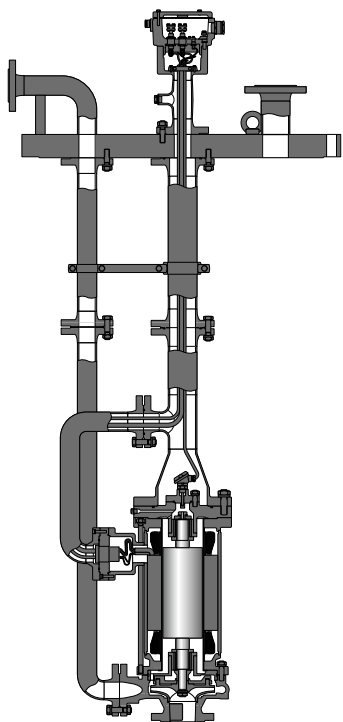
(*) Based on the requirements of the non-electrical explosion protection, the gas groups are classified as follows:

Thickness of coating > 200 µm – gas group IIB

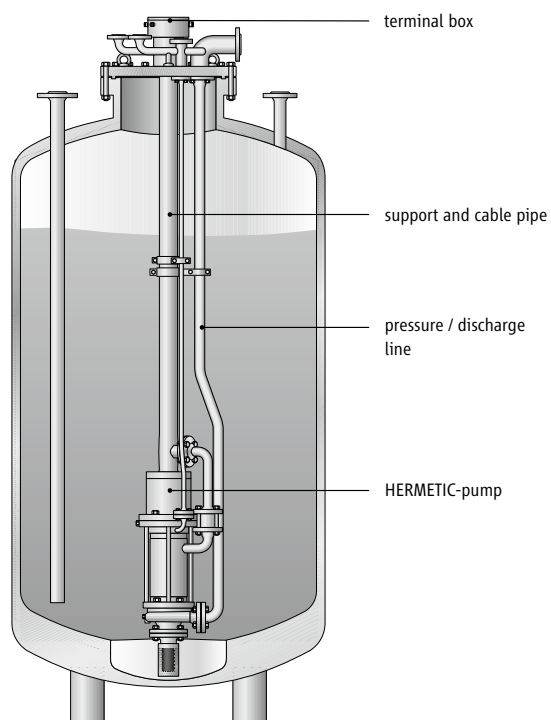
Thickness of coating ≤ 200 µm – gas group IIC

Type TCN

Chemical | Oil & Gas | Refrigeration | Power Generation

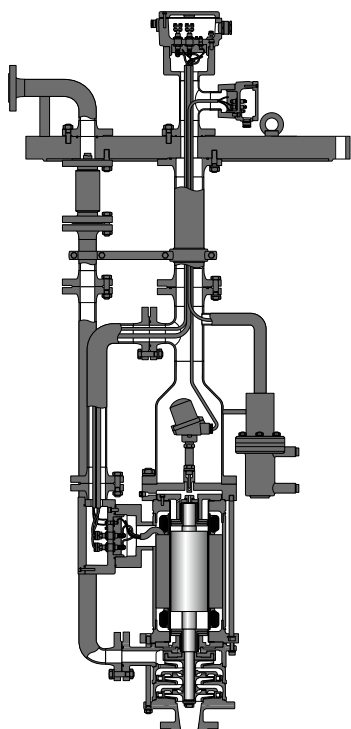



- Single-stage
 - Normal-suction design
 - Explosion protection according to EC design test certificate in line with Directive 2014/34/EU $\text{Ex II 2 G Ex de IIC T1 to T6 (*)}$
- | | |
|------------------------|-----------------------------|
| Capacity: | max. 1600 m ³ /h |
| Head: | max. 150 m |
| Rotating speed: | 1450 to 3500 rpm |
| Operating temperature: | max. +250 °C |
| Viscosity: | max. 300 mm ² /s |
| Pressure ratings: | PN 16 to PN 100 |



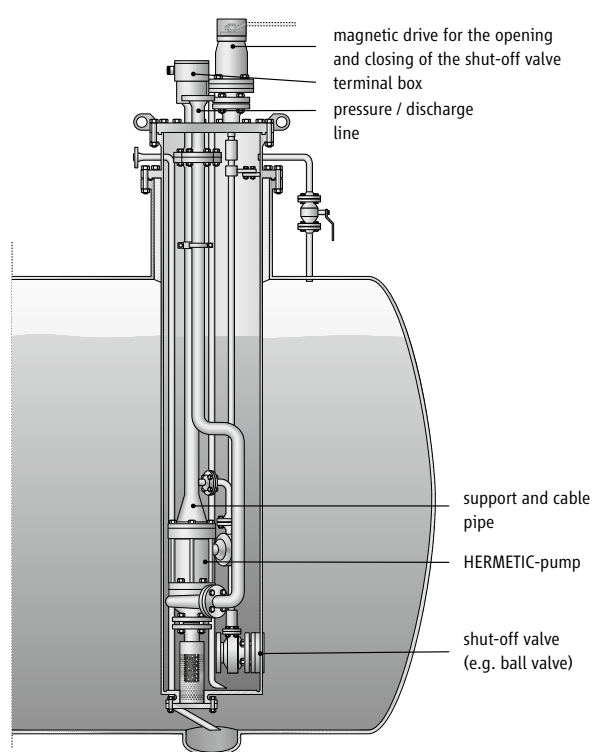
Installation vessel pump

The direct placing of the submersible pump in the tank is recommended for small container volumes, e.g. for NPSHA improvement in vessel loading/unloading stations.



- Multistage
- Normal-suction design
- Explosion protection according to EC design test certificate in line with Directive 2014/34/EU  II 2 G Ex de IIC T1 to T6 (*)

Capacity:	max. 350 m ³ /h
Head:	max. 1200 m
Rotating speed:	1450 to 3500 rpm
Operating temperature:	max. +250 °C
Viscosity:	max. 300 mm ² /s
Pressure ratings:	PN 16 to PN 100



Installation pump with the opportunity to separate the pump from the liquid in the vessel

If it is necessary that the submersible pump with a filled tank is removed and reinstalled during a revision, the installation when the pump is separate from the liquid has proved to be the best optimum solution.

In this system, there is a shut-off valve close to the tank bottom, which can be operated with a gear or with a pressure medium run system. The delivery medium can be pushed back into the tank by inertisation. After closing of the valve and releasing the pressure the submersible pump can be removed or installed without emptying the vessel.

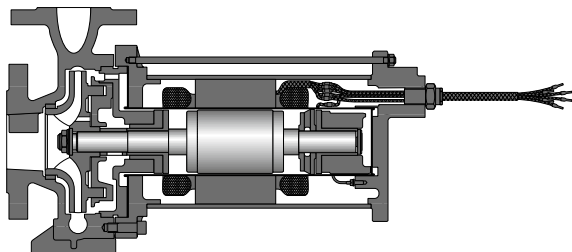
(*) Based on the requirements of the non-electrical explosion protection, the gas groups are classified as follows:

Thickness of coating > 200 µm – gas group IIB

Thickness of coating ≤ 200 µm – gas group IIC

Type CNF

Chemical | Oil & Gas | Refrigeration | Power Generation

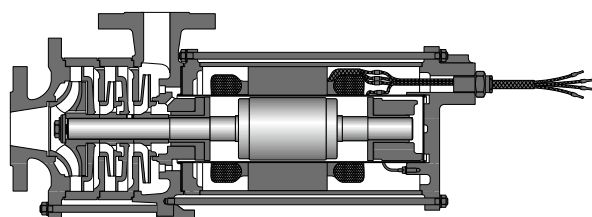


- Normal-suction design
- Single-stage design
- Liquefied gas design
- Dimensions and performance curves in accordance with EN 22858; ISO 2858

Capacity:	max. 80 m ³ /h
Head:	max. 70 m
Rotating speed:	2800 to 3500 rpm
Operating temperature:	–50 °C to +30 °C
Viscosity:	max. 20 mm ² /s
Pressure ratings:	PN 25 and PN 40

Type CAM

Chemical | Oil & Gas | Refrigeration | Power Generation

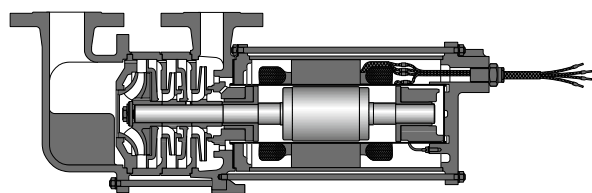


- Normal-suction design
- Multistage design

Capacity:	max. 40 m ³ /h
Head:	max. 180 m
Rotating speed:	2800 to 3500 rpm
Operating temperature:	–50 °C to +30 °C
Viscosity:	max. 20 mm ² /s
Pressure ratings:	PN 25 and PN 40

Type CAMR

Chemical | Oil & Gas | Refrigeration | Power Generation

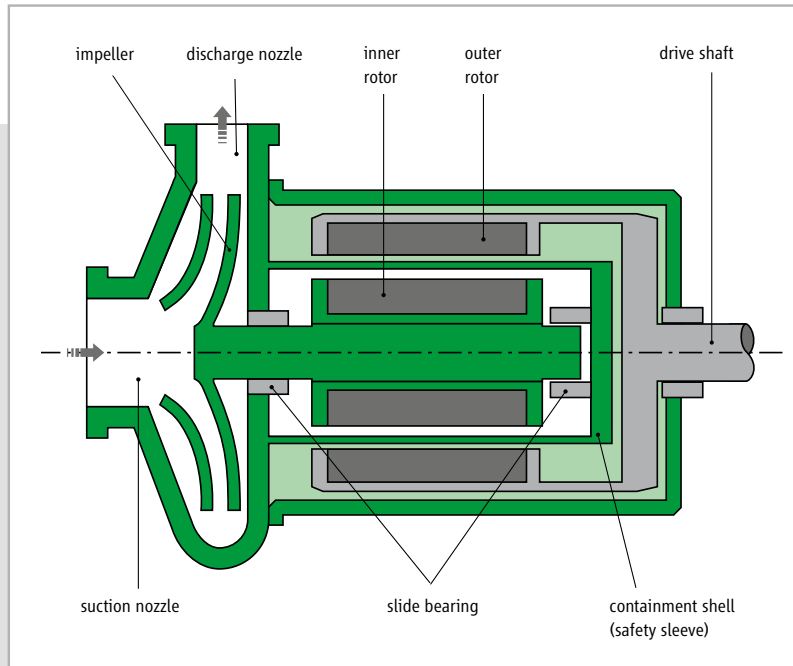


- Normal-suction design
- Multistage design

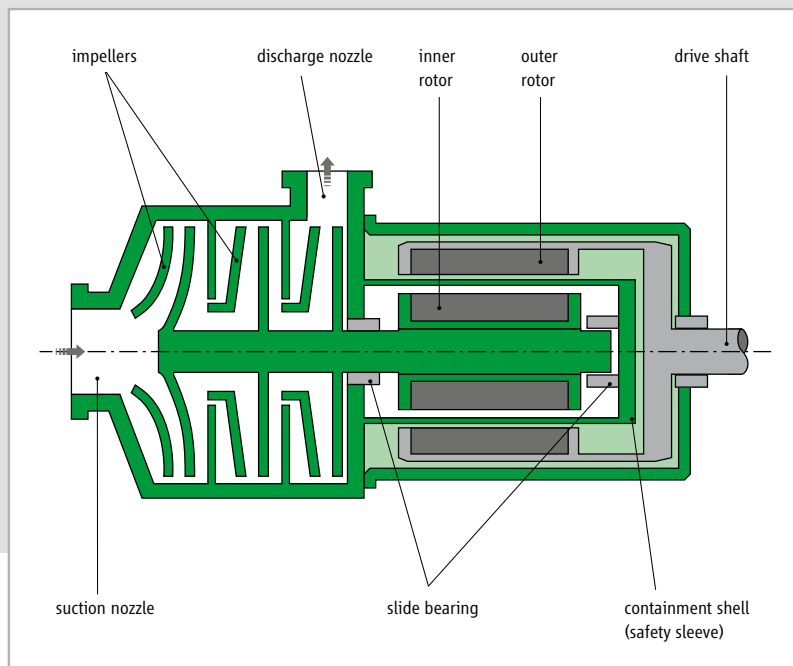
Capacity:	max. 12,5 m ³ /h
Head:	max. 100 m
Rotating speed:	2800 to 3500 rpm
Operating temperature:	–50 °C to +30 °C
Viscosity:	max. 20 mm ² /s
Pressure ratings:	PN 25 and PN 40

SCHEMATIC DIAGRAM OF MAGNETICALLY COUPLED PUMPS

*single-stage
magnetically coupled pump*



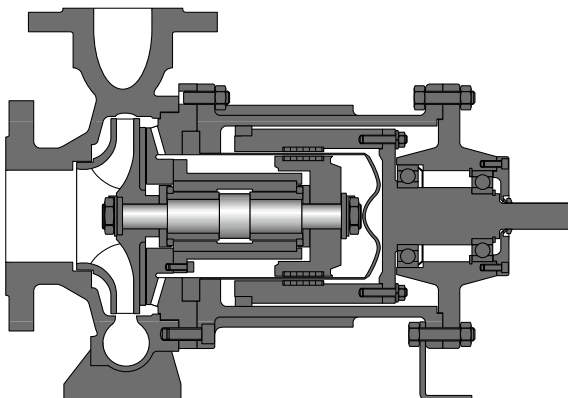
*multistage
magnetically coupled pump*



MAGNETICALLY COUPLED PUMPS SINGLE-STAGE DESIGN

Type MCN

Chemical | Oil & Gas | Refrigeration | Power Generation

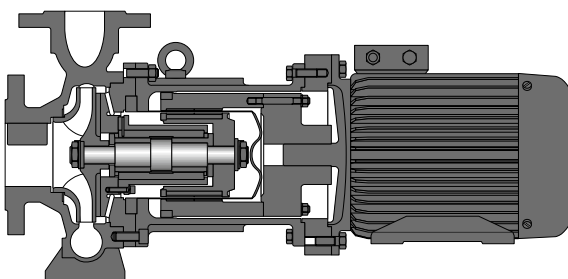


- Normal-suction design
- Dimensions and performance curves in accordance with EN 22858; ISO 2858

Capacity:	max. 700 m ³ /h
Head:	max. 220 m
Rotating speed:	1450 to 3500 rpm
Operating temperature:	max. +220 °C
Viscosity:	max. 100 mm ² /s
Pressure ratings:	PN 16 and PN 25

Type MCN close-coupled

Chemical | Oil & Gas | Refrigeration | Power Generation

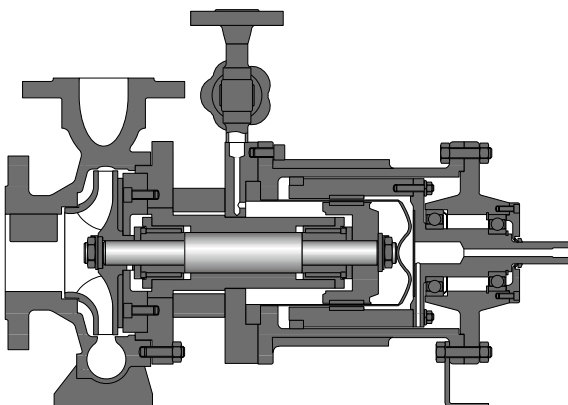


- Normal-suction design
- Close-coupled design
- Dimensions and performance curves in accordance with EN 22858; ISO 2858

Capacity:	max. 220 m ³ /h
Head:	max. 220 m
Rotating speed:	1450 to 3500 rpm
Operating temperature:	max. +140 °C
Viscosity:	max. 100 mm ² /s
Pressure ratings:	PN 16 and PN 25

Type MCNK

Chemical | Oil & Gas | Refrigeration | Power Generation

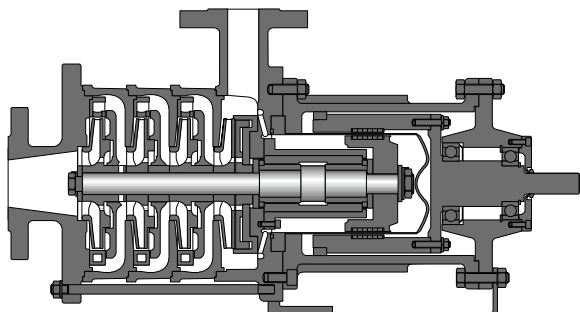


- Normal-suction design
- High-temperature design
- With external cooling
- Dimensions and performance curves in accordance with EN 22858; ISO 2858

Capacity:	max. 700 m ³ /h
Head:	max. 220 m
Rotating speed:	1450 to 3500 rpm
Operating temperature:	max. +360 °C
Viscosity:	max. 100 mm ² /s
Pressure ratings:	PN 16 and PN 25

Type MCAM

Chemical | Oil & Gas | Refrigeration | Power Generation

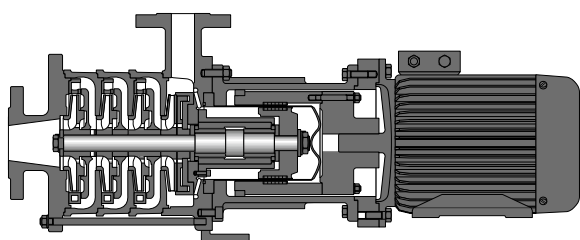


■ Normal-suction design

Capacity:	max. 45 m ³ /h
Head:	max. 270 m
Rotating speed:	2900 to 3500 rpm
Operating temperature:	max. +220 °C
Viscosity:	max. 100 mm ² /s
Pressure ratings:	PN 16 and PN 25

Type MCAM close-coupled

Chemical | Oil & Gas | Refrigeration | Power Generation



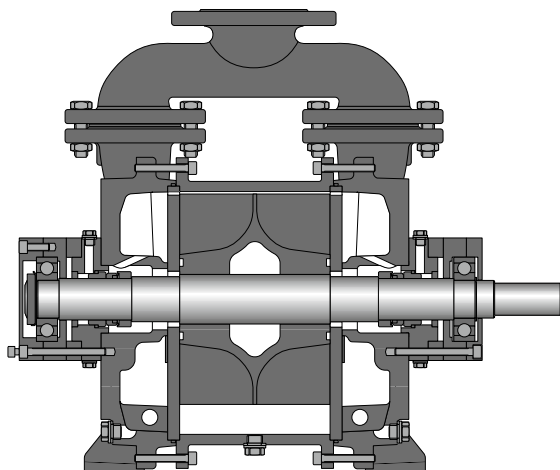
■ Normal-suction design

■ Close-coupled design

Capacity:	max. 45 m ³ /h
Head:	max. 270 m
Rotating speed:	2900 to 3500 rpm
Operating temperature:	max. +140 °C
Viscosity:	max. 100 mm ² /s
Pressure ratings:	PN 16 and PN 25

Type LVPG

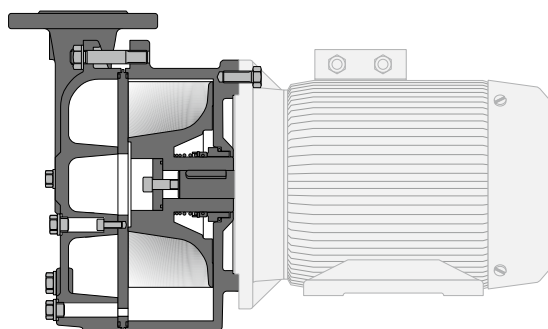
Chemical | Oil & Gas | Refrigeration | Power Generation



- Double suction design
 - Shaft seal by mechanical seal
- Suction capacity: max. 3000 m³/h
 Suction pressure: min. 33 mbar (abs)
 Rotating speed: 600 to 1800 rpm
 Operating temperature: -20 °C to +100 °C
 Pressure rating: PN 10

Type LVPS

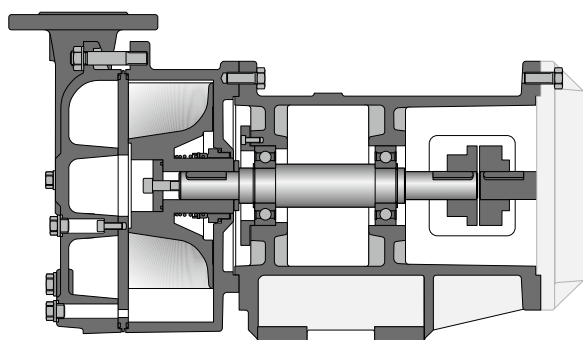
Chemical | Oil & Gas | Refrigeration | Power Generation



- Single suction design
 - Shaft seal by mechanical seal
- Suction capacity: max. 250 m³/h
 Suction pressure: min. 33 mbar (abs)
 Rotating speed: 1500 to 1800 rpm
 Operating temperature: -20 °C to +100 °C
 Pressure rating: PN 10

Type LVPL

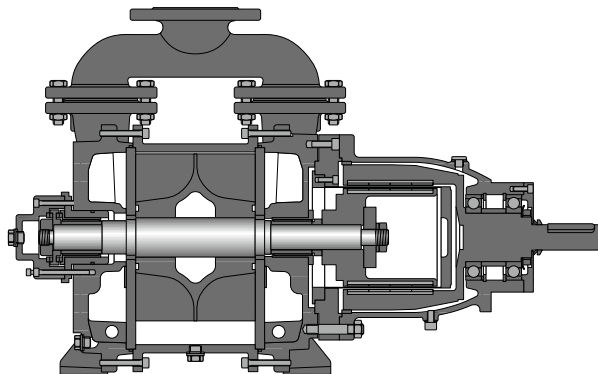
Chemical | Oil & Gas | Refrigeration | Power Generation



- Single suction design
 - Shaft seal by mechanical seal
- Suction capacity: max. 450 m³/h
 Suction pressure: min. 33 mbar (abs)
 Rotating speed: 1500 to 1800 rpm
 Operating temperature: -20 °C to +100 °C
 Pressure rating: PN 10

Type LVPM

Chemical | Oil & Gas | Refrigeration | Power Generation

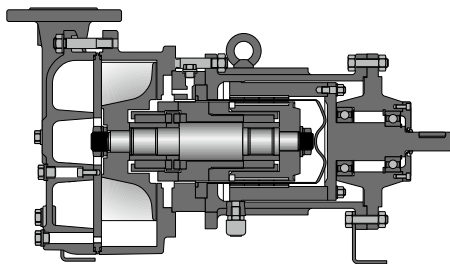


- Double suction design
- Shaft seal by magnetic coupling
- Design test certificate for use in zone 0 (inside), equipment group 1, available

Suction capacity: max. 3000 m³/h
Suction pressure: min. 33 mbar (abs)
Rotating speed: 600 to 1800 rpm
Operating temperature: -20 °C to +100 °C
Pressure rating: PN 10

Type LVFML

Chemical | Oil & Gas | Refrigeration | Power Generation

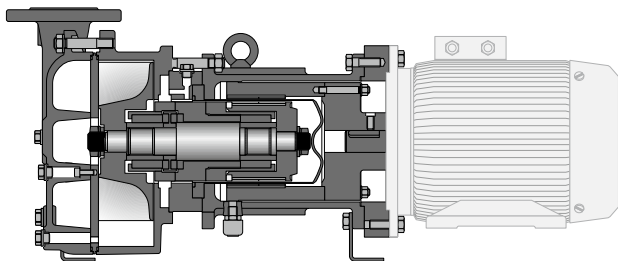


- Single suction design
- Shaft seal by magnetic coupling
- Design test certificate for use in zone 0 (inside), equipment group 1, available

Suction capacity: max. 450 m³/h
Suction pressure: min. 33 mbar (abs)
Rotating speed: 1500 to 1800 rpm
Operating temperature: -20 °C to +100 °C
Pressure rating: PN 10

Type LVPMB

Chemical | Oil & Gas | Refrigeration | Power Generation

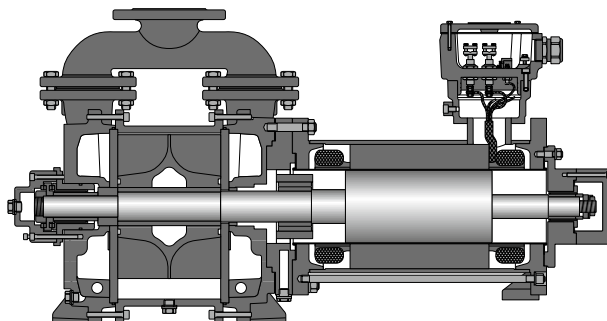


- Single suction design
- Shaft seal by magnetic coupling
- Design test certificate for use in zone 0 (inside), equipment group 1, available

Suction capacity: max. 450 m³/h
Suction pressure: min. 33 mbar (abs)
Rotating speed: 1500 to 3500 rpm
Operating temperature: -20 °C to +100 °C
Pressure rating: PN 10

Type LVPH

Chemical | Oil & Gas | Refrigeration | Power Generation

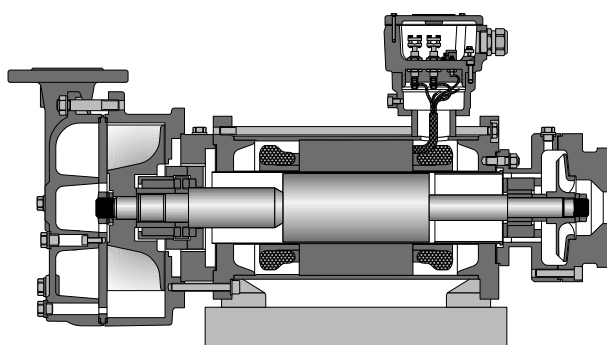


- Double suction design
- Shaft seal by canned motor
- Design test certificate for use in zone 0 (inside), equipment group 1, available

Suction capacity: max. 1800 m³/h
 Suction pressure: min. 33 mbar (abs)
 Rotating speed: 1000 to 1800 rpm
 Operating temperature: -20 °C to +100 °C
 Pressure rating: PN 10

Type LVPH

Chemical | Oil & Gas | Refrigeration | Power Generation

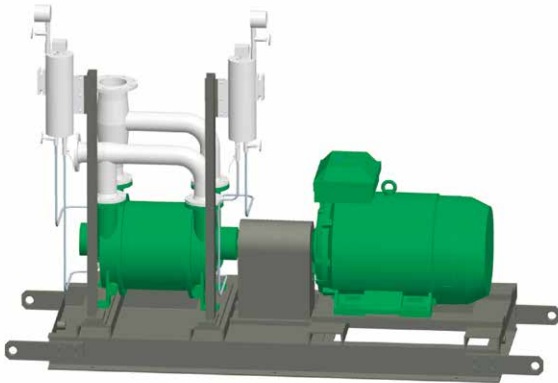


- Single suction design
- Shaft seal by canned motor
- Design test certificate for use in zone 0 (inside), equipment group 1, available

Suction capacity: max. 450 m³/h
 Suction pressure: min. 33 mbar (abs)
 Rotating speed: 1450 to 3500 rpm
 Operating temperature: -20 °C to +100 °C
 Pressure rating: PN 10

Vacuum pump type LVPG 1800

Chemical | Oil & Gas | Refrigeration | Power Generation

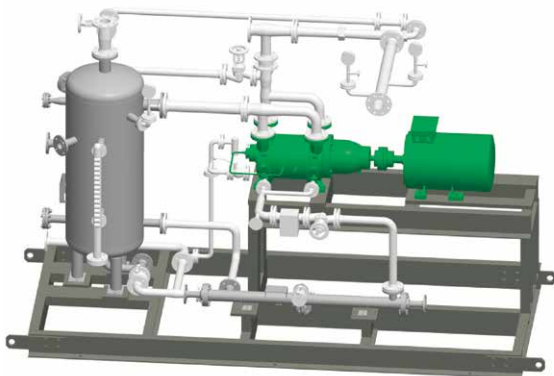


Liquid ring vacuum pump type LVPG 1800
with mechanical shaft seal, double-flow

- For suction of solvent vapours
- Suction temperature approx. 42 °C
- Pumping capacity 1674 m³/h at 147 mbar
- Compression to 1206 mbar

Vacuum package unit type ALVPM 800

Chemical | Oil & Gas | Refrigeration | Power Generation



Liquid ring vacuum pump type LVPM 800
with magnetic coupling, double-flow

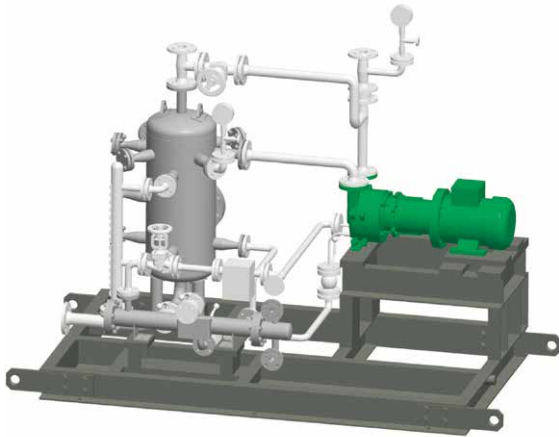
- For suction of a mixture of:
air, nitrogen, epichlorohydrin and water vapour
- Suction temperature approx. 20 °C
- Pumping capacity 280 m³/h at 26 mbar
- Compression to 1113 mbar

Special features:

vacuum package unit with connected gas ejector

Vacuum package unit type ALVPMB 150

Chemical | Oil & Gas | Refrigeration | Power Generation

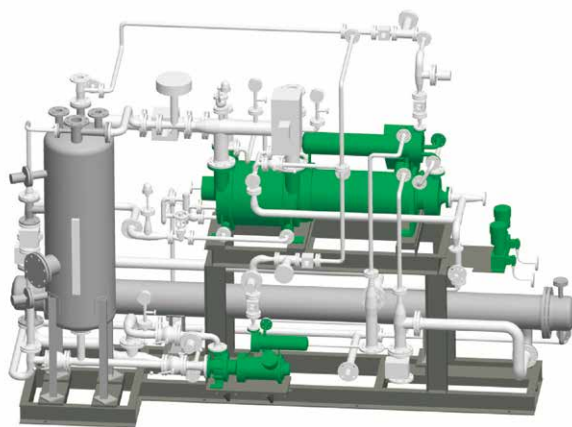


Liquid ring vacuum pump type LVPMB 150 with magnetic coupling, close-coupled, single-flow

- For suction of a mixture of:
air, nitrogen, epichlorohydrin and water vapour
- Suction temperature approx. 25 °C
- Pumping capacity 81 m³/h at 106 mbar
- Compression to 1113 mbar

Vacuum package unit type ALVPH 1800

Chemical | Oil & Gas | Refrigeration | Power Generation



Liquid ring vacuum pump type LVPH 1800 with canned motor, double-flow

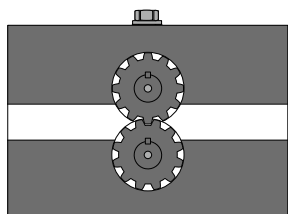
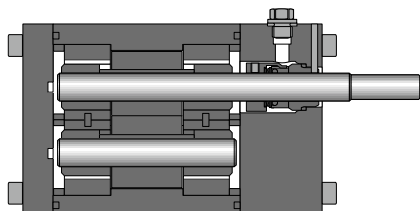
- For suction of nitrogen
- Suction temperature approx. 40 to 45 °C
- Pumping capacity 1007 m³/h at 30 mbar
- Compression to 1113 to 1120 mbar

Special features:

vacuum package unit with integrated canned motor pump type CNK and 2 metering pumps

Type LZ

Chemical | Oil & Gas | Refrigeration | Power Generation

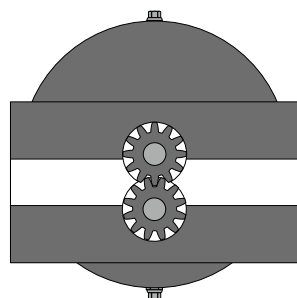
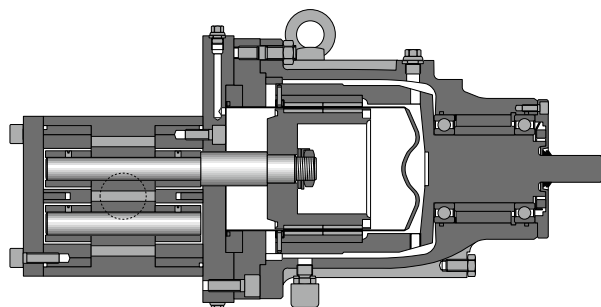


- Self-priming
- Shaft seal by stuffing box packing, single or double mechanical seal

Capacity: 0,5 to 120 m³/h
 Discharge pressure: max. 10 MPa
 Rotating speed: max. 1450 rpm
 Operating temperature: -20 °C to +250 °C
 Viscosity: 0,3 to 5.000.000 mm²/s
 Pressure ratings: PN 25 to PN 100

Type LZM

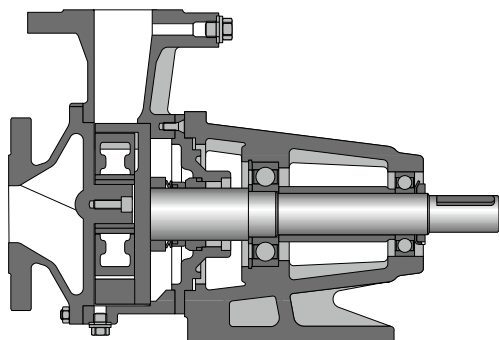
Chemical | Oil & Gas | Refrigeration | Power Generation



- Self-priming
 - Shaft seal by magnetic coupling
- Capacity: 0,5 to 120 m³/h
 Discharge pressure: max. 10 MPa
 Rotating speed: max. 1450 rpm
 Operating temperature: -20 °C to +250 °C
 Viscosity: 0,3 to 6.000 mm²/s
 Pressure ratings: PN 25 to PN 100

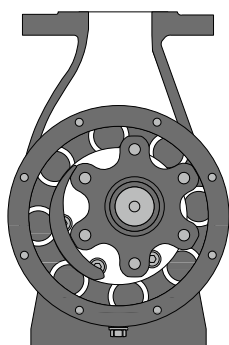
Type HP

Chemical | Oil & Gas | Refrigeration | Power Generation



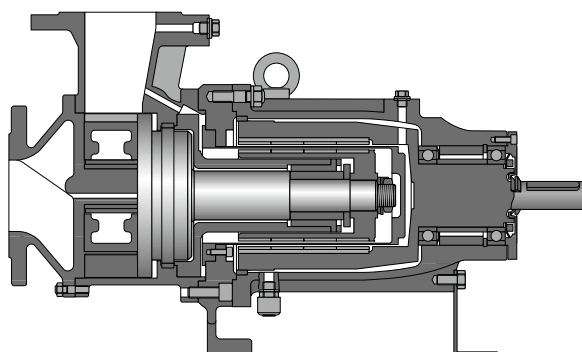
- Self-priming
- Shaft seal by stuffing box packing, single or double mechanical seal

Capacity:	1 to 60 m ³ /h
Discharge pressure:	max. 1,2 MPa
Rotating speed:	max. 1450 rpm
Operating temperature:	–20 °C to +200 °C
Viscosity:	1 to 1.000.000 mm ² /s
Pressure rating:	PN 16

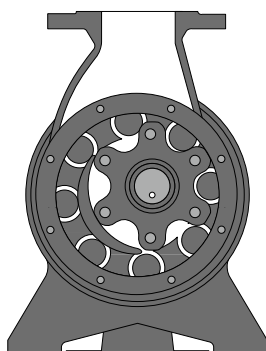


Type MHP

Chemical | Oil & Gas | Refrigeration | Power Generation

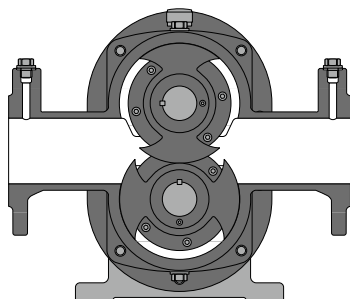
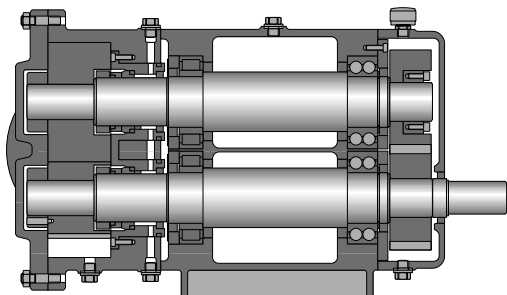


- Self-priming
 - Shaft seal by magnetic coupling
- | | |
|------------------------|-------------------------------|
| Capacity: | 1 to 60 m ³ /h |
| Discharge pressure: | max. 1,2 MPa |
| Rotating speed: | max. 1450 rpm |
| Operating temperature: | –20 °C to +200 °C |
| Viscosity: | 1 to 5.000 mm ² /s |
| Pressure rating: | PN 16 |



Type KRL

Chemical | Oil & Gas | Refrigeration | Power Generation

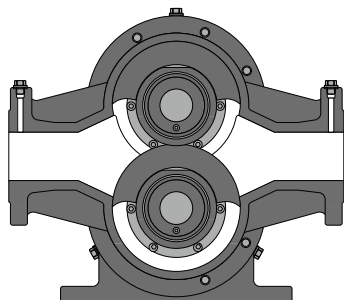
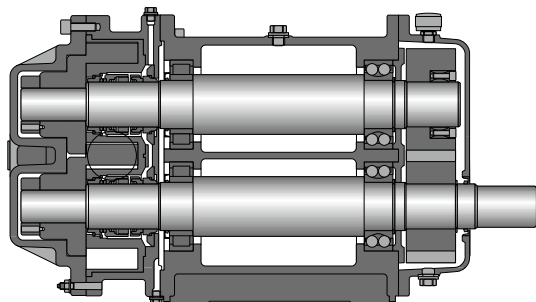


- Self-priming
- Shaft seal by stuffing box packing, single or double mechanical seal

Capacity: 1 to 300 m³/h
 Discharge pressure: max. 10 MPa
 Rotating speed: max. 1450 rpm
 Operating temperature: -20 °C to +280 °C
 Viscosity: 1 to 5.000.000 mm²/s
 Pressure ratings: PN 16 and PN 25

Type KRH

Chemical | Oil & Gas | Refrigeration | Power Generation



- Self-priming
- Shaft seal by stuffing box packing, single or double mechanical seal

Capacity: 1 to 300 m³/h
 Discharge pressure: max. 10 MPa
 Rotating speed: max. 1450 rpm
 Operating temperature: -20 °C to +280 °C
 Viscosity: 1 to 5.000.000 mm²/s
 Pressure ratings: PN 16 and PN 25

Hermetic centrifugal pumps are principally manufactured for use in potentially explosive atmospheres. For this reason the pumps comply with electrical as well as non-electrical explosion protection requirements.

Level monitoring

The pump's interior and rotor cavity must be always filled with the pumped liquid for reasons of safety. HERMETIC provides suitable level monitoring equipment for each pump complying with the explosion protection requirements acc. to directive 2014/34/EU.

Level monitoring can be recommended principally for application cases which do not mandatory comply with explosion protection requirements. Level monitoring prevents the pump from running dry and to be affected by major damages such as by destruction of the slide bearings or by exceeding inadmissible high temperatures caused by missing cooling and lubricating flow. In addition the pump can be prevented from cavitation damages by means of level monitoring equipment which are caused by evaporation of boiling liquids in the suction pipe.

Temperature monitoring

Temperature monitoring ensures that the pump is switched off when achieving inadmissible high temperatures. HERMETIC provides suitable temperature monitoring equipment for each pump complying with explosion protection requirements acc. to directive 2014/34/EU.

Monitoring of the liquid temperature allows a reliable control to ensure the operation of the pump within the admissible range and to ensure the internal motor cooling of a canned motor pump. For liquids with a pour point that is higher than the ambient temperature, the liquid temperature monitoring can also be used to prevent the starting of the pump as long as the maximum admissible viscosity of the liquid is reached.

In order to protect canned motors against inadmissible high temperatures, the winding is equipped either with PTC thermistors or Pt100 resistance thermometers.

potential monitoring equipment			
①	magnetic float switch	LS	level
②	optoelectronic transducer	LS	
③	vibration limit switch	LS	
④	PTC thermistor KL180	TS	temperature
⑤	Pt100	TI	
⑥	MAP	GI	rotor position
⑦	ROM	GS	direction of rotation

Rotor position monitoring of canned motor pumps

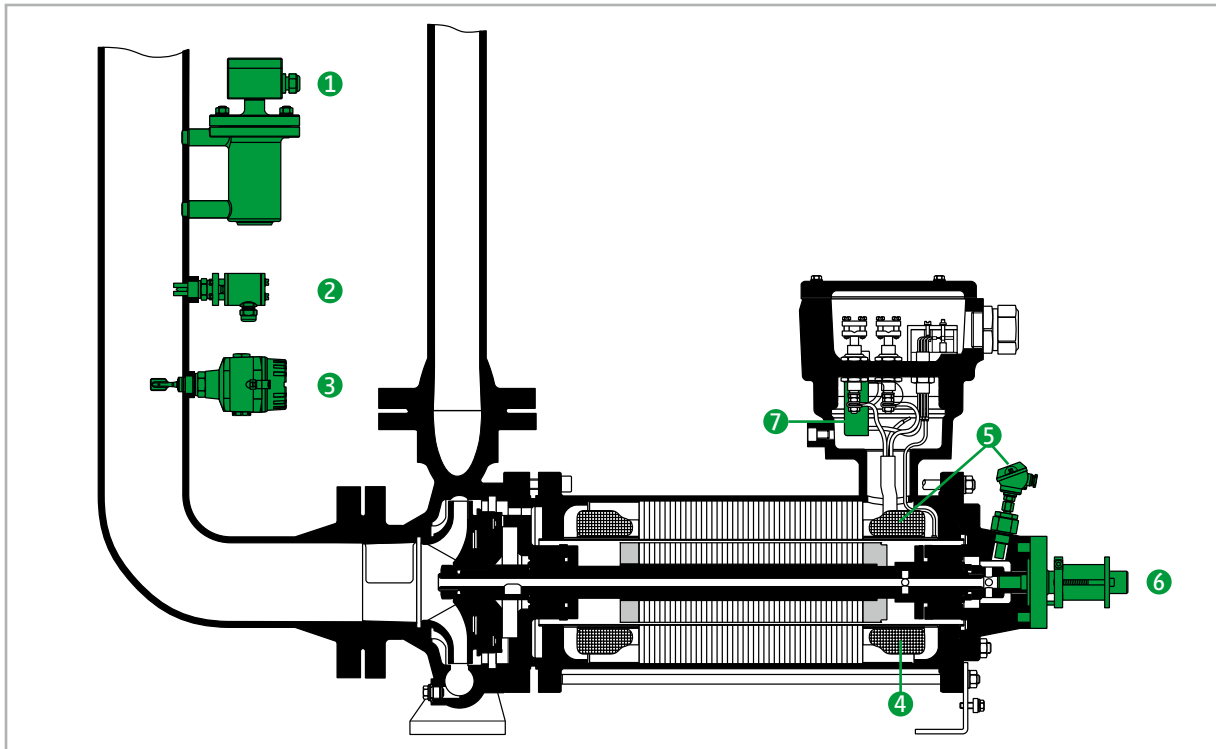
Axial thrust balancing is mainly influenced by the operating method of the pump, plant conditions and various physical properties of the pumped liquid. For an early detection of an imminent malfunction it is recommended to install a rotor position monitoring device. This electronic protection equipment monitors the axial shaft position of the rotor during operation in a hermetic and contact-free way. Combined with the level and temperature monitoring an efficient detection of imminent failures is possible.

Rotation monitoring of canned motor pumps

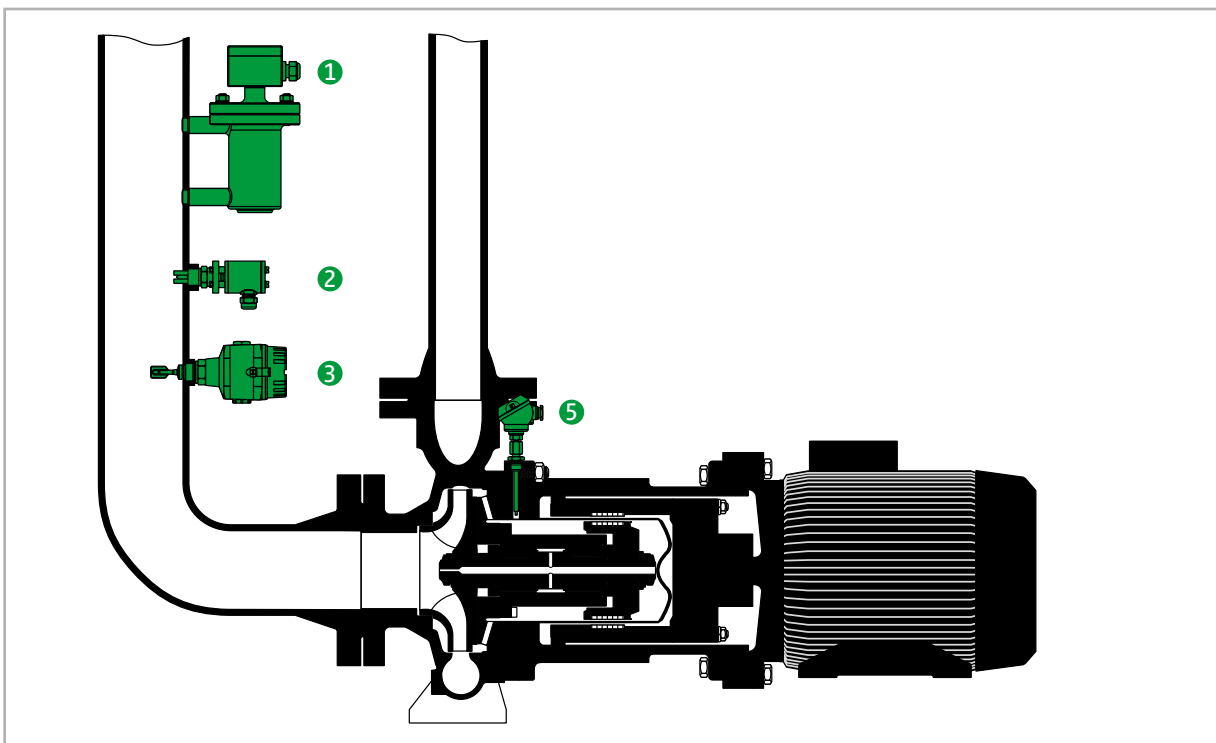
The correct rotating direction of hermetic centrifugal pumps with canned motor cannot be checked visually from the outside. Due to a wrong phase sequence in the power line the pump is operated with an incorrect rotating direction without being noticed what might result in considerable damages to the pump.

By default, hermetic centrifugal pumps with canned motor are equipped with an electronic rotation monitor in the form of a phase sequence relay.

Canned motor pump



Magnetically coupled pump



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