



MUNSCHE

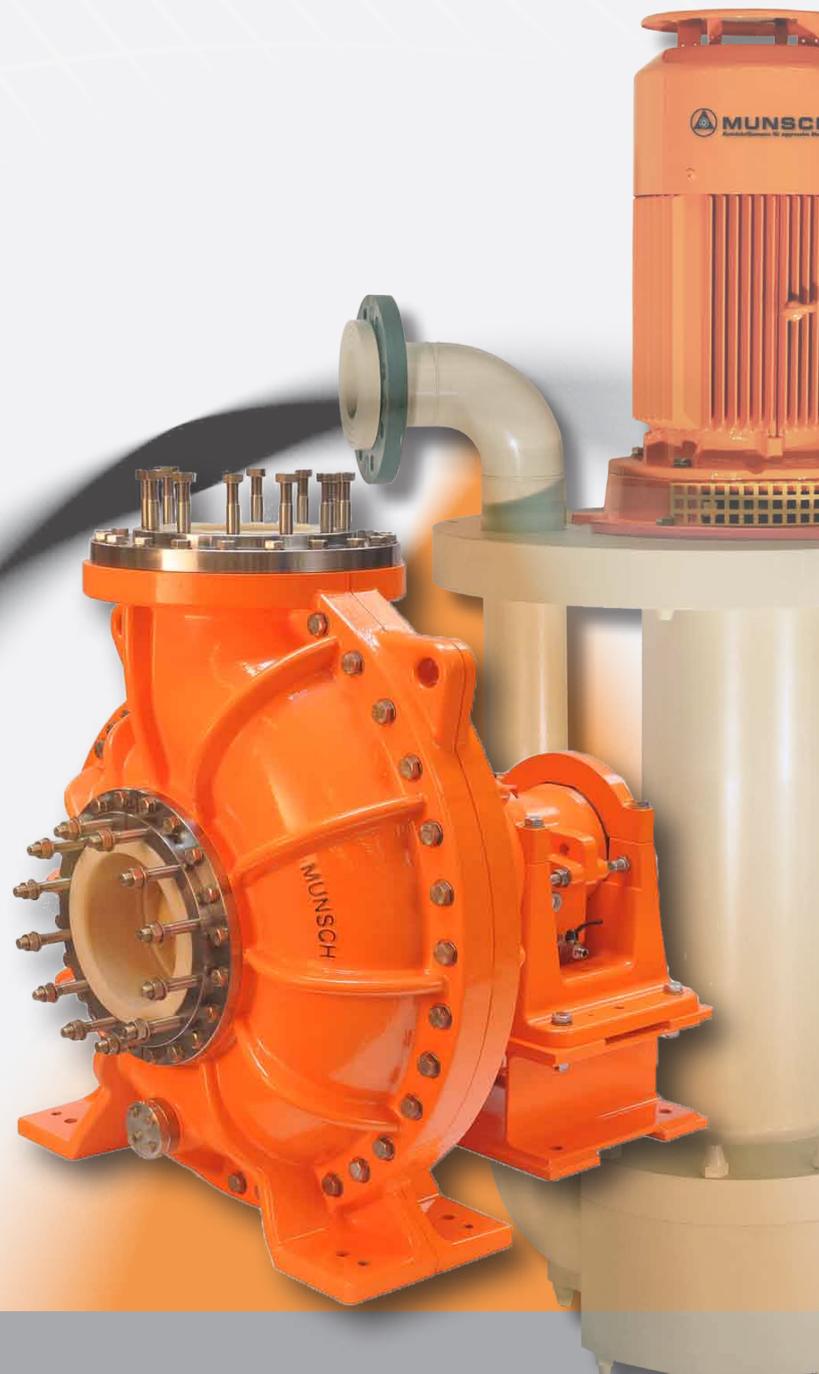
Plastic Pumps for Aggressive Media

Product range Non-metallic pumps

of PP / PE-UHMW / PVDF / PFA

Types

- ▶ Horizontal with mechanical seal
- ▶ Horizontal with magnetic drive
- ▶ Vertical with plain bearing
- ▶ Vertical cantilever pump



Non-metallic pumps for aggressive and abrasive media - from the specialist

Munsch Chemie-Pumpen GmbH is a highly specialized manufacturer of non-metallic pumps. Customers around the globe bank on our pumps whenever it comes to ensuring maximum operating reliability in abrasive and aggressive service conditions.

► Manufacture

Our vertical integration makes for short response times.

We manufacture all plastic components in-house using granulate or semis as starting materials. This makes us independent of external manufacture so that we can respond fast and flexibly to our customers' needs. Bought-in cast iron or silicon carbide components are standardized and kept on stock in large quantities. In a single operation, the blanks are further processed to the finished product on our state-of-the-art five-axis milling machines.

The manufacturing process of each individual component is documented in an electronic database so that the original component can be exactly reproduced even after years.

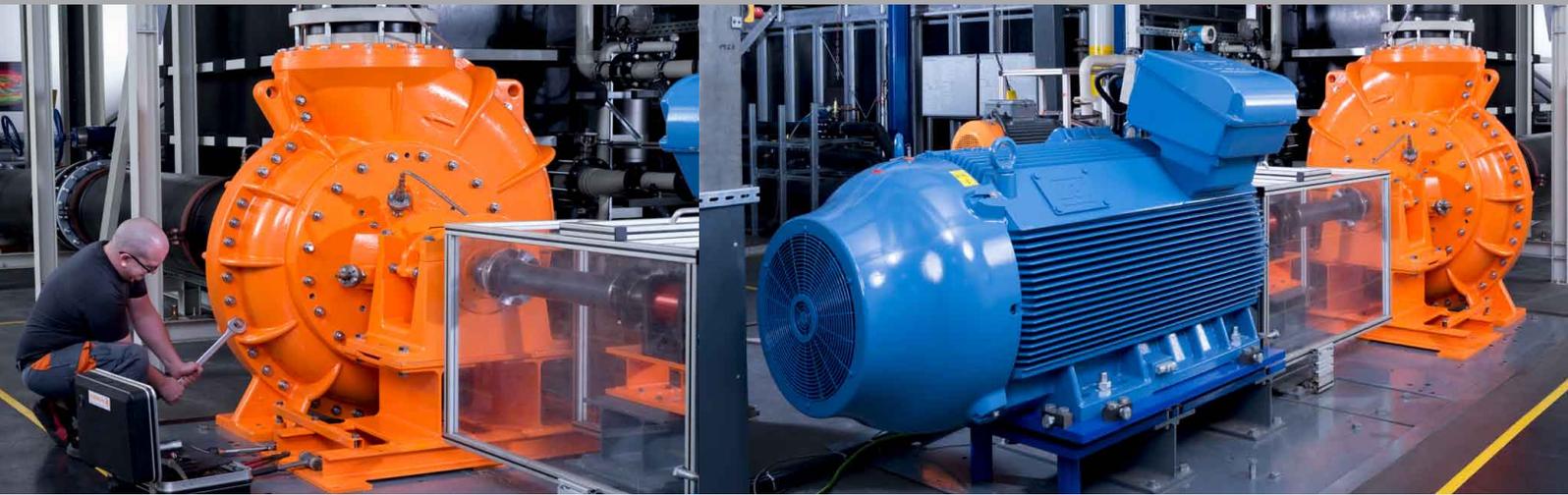
► Design

We design pumps to our customers' specifications.

Our engineers develop pumps for your specific needs. Application engineers from industry and university researchers support the development process through to production maturity of the pump. Rising energy prices are posing a new challenge to our development teams: developing high-efficiency pumps is one of their answers. A numerically optimized hydraulic design is their contribution to energy economy. Another challenge for our engineers is to provide you with pumps that not only cover the standard performance characteristic ranges but offer at the same time ample pump head reserves.

In tackling this task, they always keep in mind the FlowStar® concept: operating reliability, robustness, ease of assembly, maximum hydraulic performance and low lifecycle cost.





▶ **Assembly**

Consistent quality documentation ensures traceability.

The individual quality-controlled pump components arrive at our assembly workbench just in time. Our assembly team assembles the pumps using the latest methods and perform and document the quality tests/inspections at defined hold points on the basis of a rigorous test/inspection schedule.

▶ **Testing**

No pump leaves our production site untested.

Each pump is tested on our test bench. Only when the pump achieves the guaranteed operating point will it be released for shipment. A test report is submitted for each pump delivered.

▶ **Service**

We are at your service around the globe.

Munsch chemical pumps are operating in Europe and overseas. Our worldwide sales and service network ensures that you will find a service technician who is familiar with every detail of our pumps in all industrialized countries. Our local sales and service engineers will be available to you, whether for pump inspection and repair or for on-site advice.



**MUNSCH chemical pumps
at a glance**

- ▶ Innovative products
- ▶ Competent advice
- ▶ Field commissioning and operator training
- ▶ Short response times
- ▶ Local service

CS/CS-B Type standardized chemical pumps with metal armour

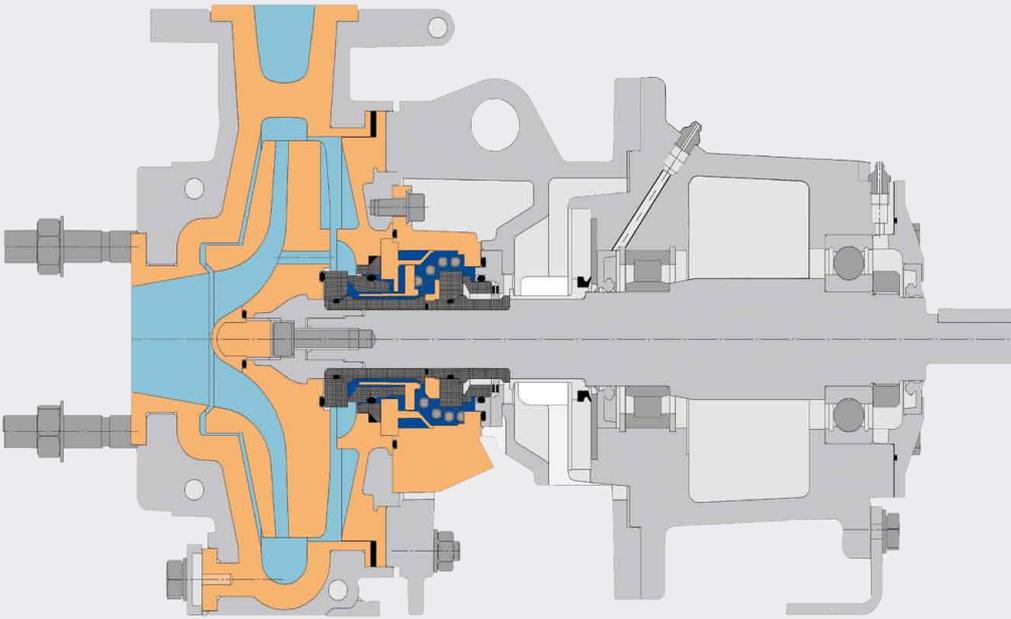


Fig. CS manufactured from PVDF; shaft sealing: MUNSCH-REA-FS/D double mechanical seal;

► Applications

The CS and CS-B close coupled pumps are recommended for the safe handling of fluids posing an environmental or health hazard such as acids, alkalis, solvents or chemically contaminated fluids in the presence or absence of solids.

► Construction

Horizontal centrifugal pump with volute casing; designed to EN 22858/ISO 2858/ISO 5199 dimensional standards and requirements; complemented by size 40-25-125 and 40-25-160 pumps.

► Main materials

PE-UHMW (in preparation)
PP
PVDF
PFA

► Impeller

Closed, semi-open or vortex design, depending on pump size.

► Shaft seal

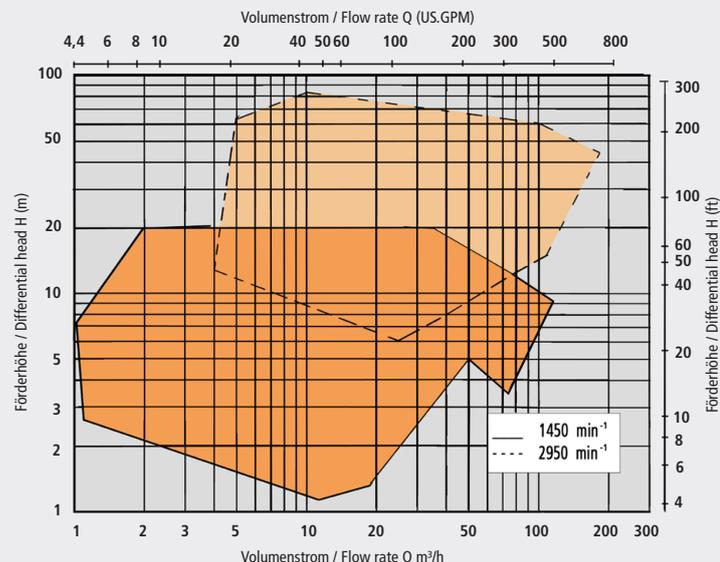
MUNSCH-REA-FS single mechanical seal or MUNSCH-REA-FS/D double mechanical seal, rotating and stationary seal rings of SSiC.

► Performance data

Pump capacity [Q] up to	180 m ³ /h
Differential head [H] up to	85 m
Operating temperature [t] from	-20 °C to +150°C
Operating pressure [p] up to	16 bar
Discharge nozzle	DN 25 to DN 65
Motor rating up to	30 kW

► Options

- Continuous flushing
- Shutdown flushing
- Spring chamber flushing
- Volute casing drain
- Temperature sensor in volute casing

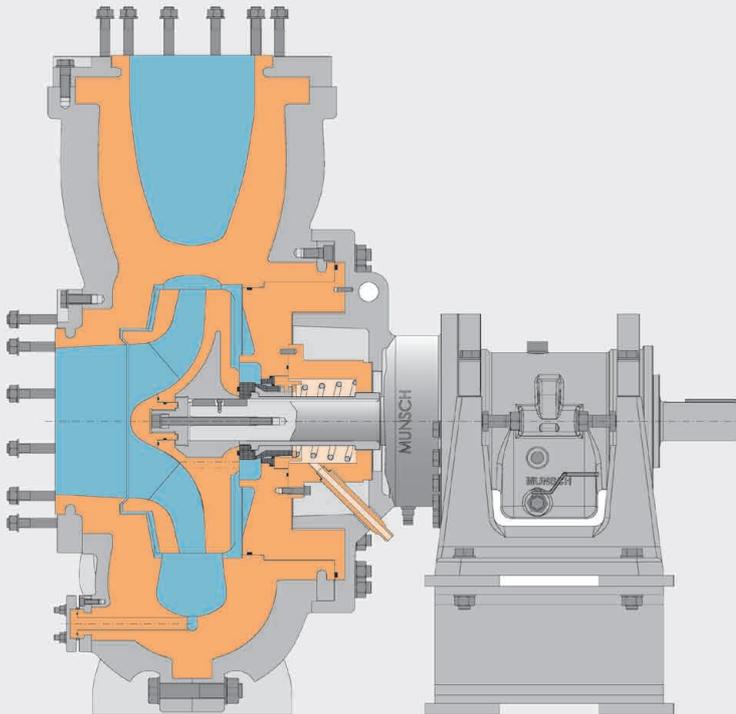




Type NPC Mammut standardized chemical pump with metal armour



Fig. NPC Mammut manufactured from PE; shaft sealing: MUNSCHE-REA-IV/ single mechanical seal;



► Applications

The type NPC MUNSCHE MAMMUT pump is the solution of choice whenever it comes to pumping acids, alkalis or chemically contaminated fluids in the presence or absence of solids.

► Construction

Horizontal centrifugal pump with volute casing and single-entry, single-stage radial impeller. Meets the technical requirements for Class II centrifugal pumps as per EN ISO 5199.

► Main materials

PE
PP
PVDF
(depending on pumps size)

► Impeller

Closed Impeller

► Mechanical seal

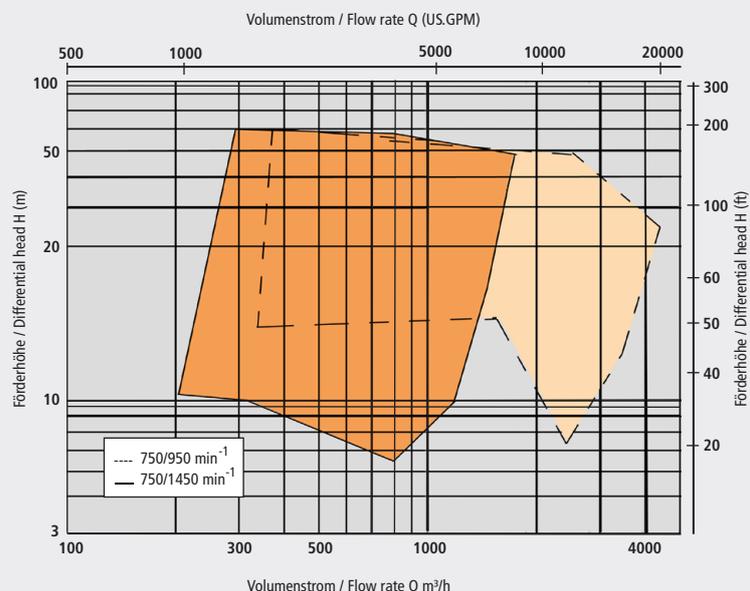
Metal-free MUNSCHE-REA-IV single mechanical seal.
MUNSCHE-REA-IV/D double mechanical seal - rotating and stationary seal ring of SSiC.

► Performance data

Pump capacity [Q] up to	3000 m ³ /h
Differential head [H] up to	65 m
Operating temperature [t] from	0 °C to +100 °C
Operating pressure [p] up to	16 bar
Discharge nozzle	DN 250 to DN 400
Motor rating up to	450 kW

► Options

- Volute casing drain



Type NP standardized chemical pump with solid plastic casing

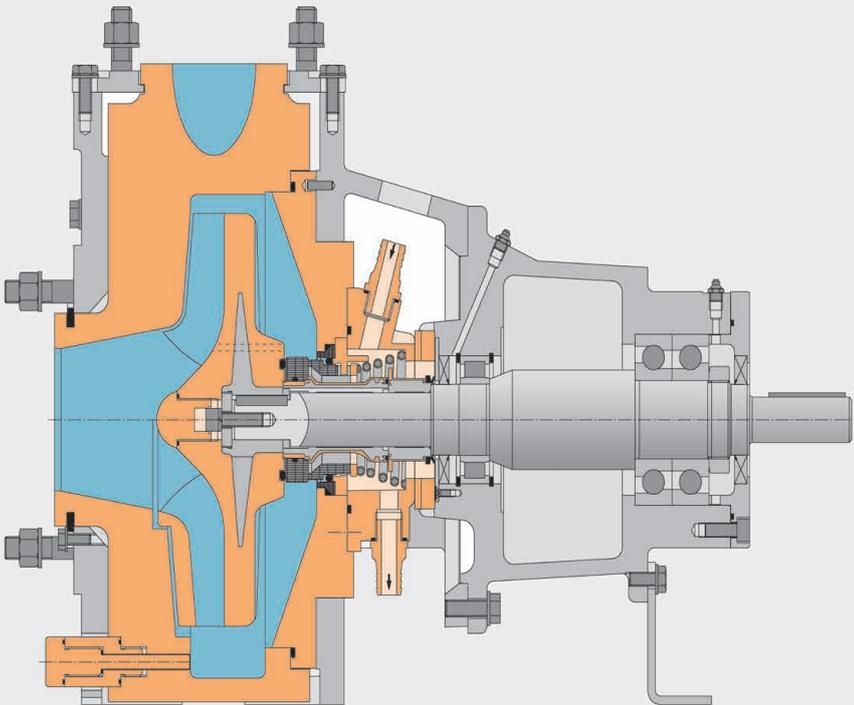


Fig. NP; shaft sealing: MUNSCH-REA-F single mechanical seal; casing drain with plug;

► Applications

The NP is built to handle acids, alkalis and chemically contaminated fluids with or without solids.

► Construction

Horizontal centrifugal pump with volute casing; casing and fitting dimensions to EN 22858/ISO 2858; complemented by size 40-25-125, 40-25-160, 250-200-400, 300-250-400 pumps.

► Main materials

PP
PE-UHMW
PVDF

► Impeller

Closed, semi-open or vortex design, depending on pump size

► Shaft seal

MUNSCH-REA-F single or MUNSCH REA-F/D double mechanical seal, stationary and rotating seal rings of SSiC.

► Explosion protection (option)

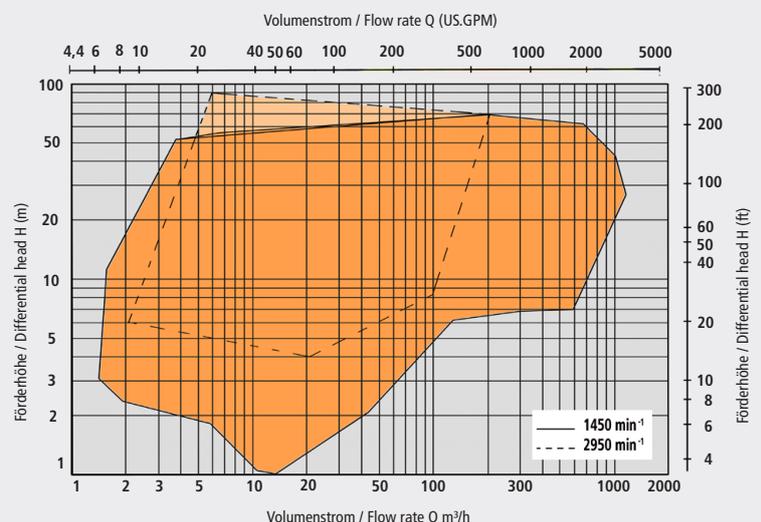
Additional engineering measures can be provided to allow use of the pumps in explosion hazard zones. The pump meets the requirements of EU Directive 94/9/EC.

► Performance data

Pump capacity [Q] up to	1200 m ³ /h
Differential head [H] up to	100 m
Operating temperature [t] from	-20 °C to +110 °C
Operating pressure [p] up to	10 bar
Discharge nozzle	DN 25 to DN 250
Motor rating up to	200 kW

► Options

- Continuous flushing
- Shutdown flushing
- Spring chamber flushing
- Volute casing drain



Type NP-B close-coupled chemical pump with solid plastic casing

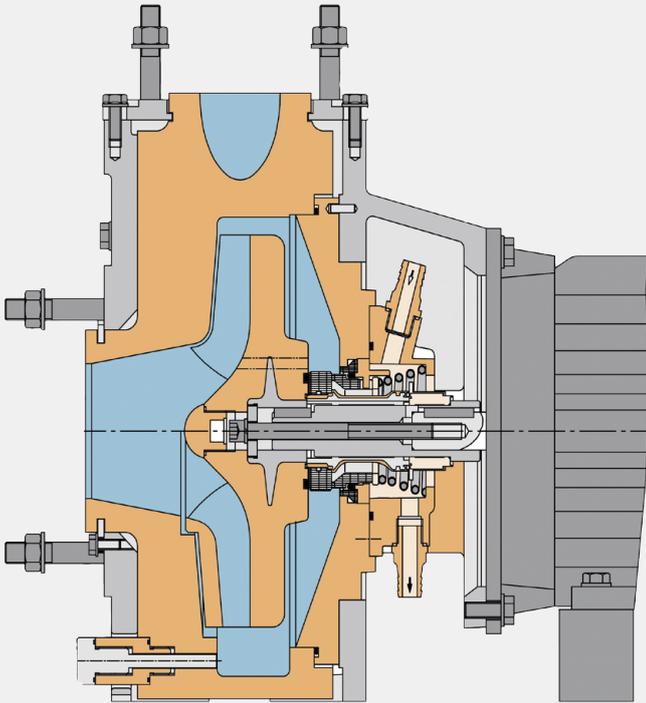


Fig. NP-B; shaft sealing:
MUNSCH-REA single mechanical seal;

► Applications

The NP-B is built to handle acids, alkalis and chemically contaminated fluids with or without solids.

► Construction

Horizontal centrifugal pump with volute casing; casing dimensions to EN 22858 / ISO 2858; complemented by size 40-25-125, 40-25-160 pumps.

► Main materials

PP
PE-UHMW
PVDF

► Impeller

Closed, semi-open or vortex designs, depending on pump size.

► Shaft seal

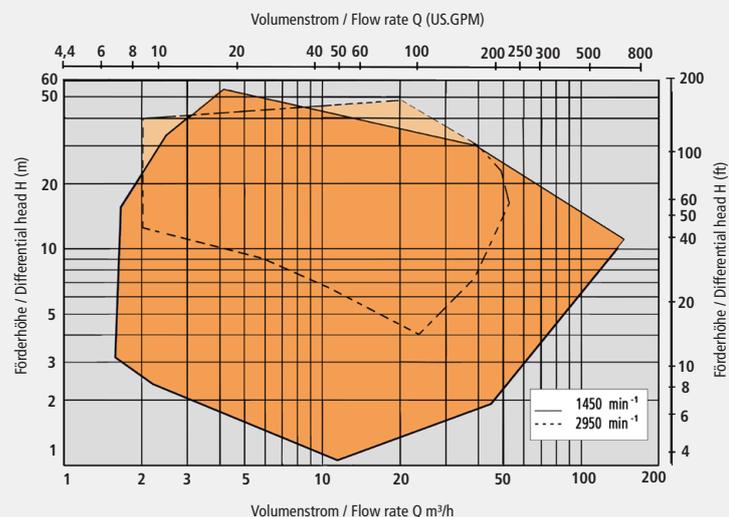
MUNSCH-REA-F single or MUNSCH REA-F/D double mechanical seal stationary and rotating seal rings of SSiC.

► Performance data

Pump capacity [Q] up to	160 m ³ /h
Differential head [H] up to	70 m
Operating temperature [t] from	-20 °C to +110 °C
Operating pressure [p] up to	10 bar
Discharge nozzle	DN 25 to DN 100
Motor sizes up to IEC size	132

► Options

- Continuous flushing
- Shutdown flushing
- Spring chamber flushing
- Volute casing drain



CM/CM-B Type standardized chemical pumps with magnetic drive

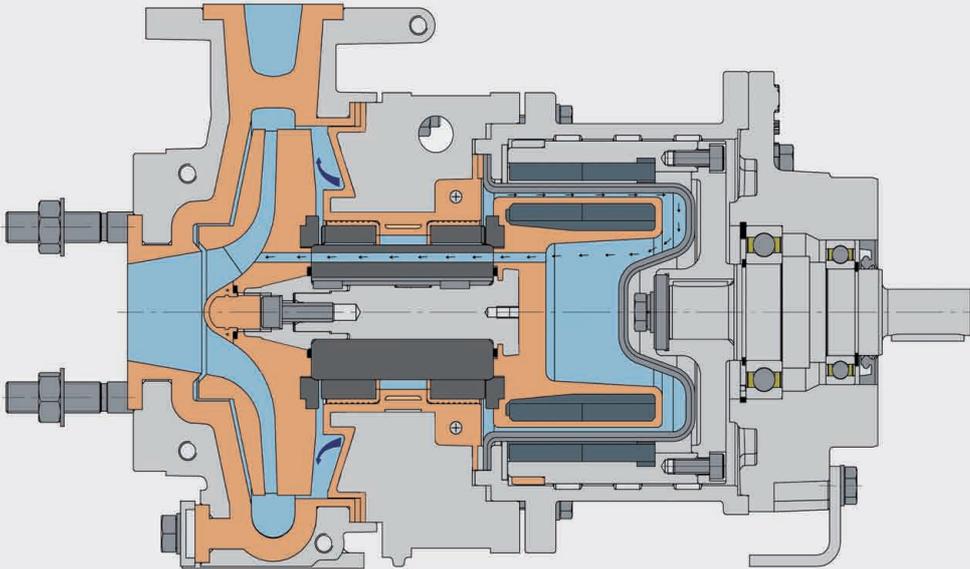


Fig. CM manufactured from PFA; with flushing connections;

► Applications

The CM and CM-B close coupled series hermetically sealed magnetically-coupled pumps are the solution of choice for the safe handling of fluids posing an environmental or health hazard such as acids, alkalis, solvents or chemically contaminated fluids in the presence or absence of solids.

► Construction

Horizontal centrifugal pump with volute casing; designed to EN 22858/ ISO 2858/ ISO 5199 dimensional standards and requirements; complemented by size 40-25-125, 40-25-160 pumps.

► Main materials

PE-UHMW (in preparation)
PP
PVDF
PFA

► Impeller

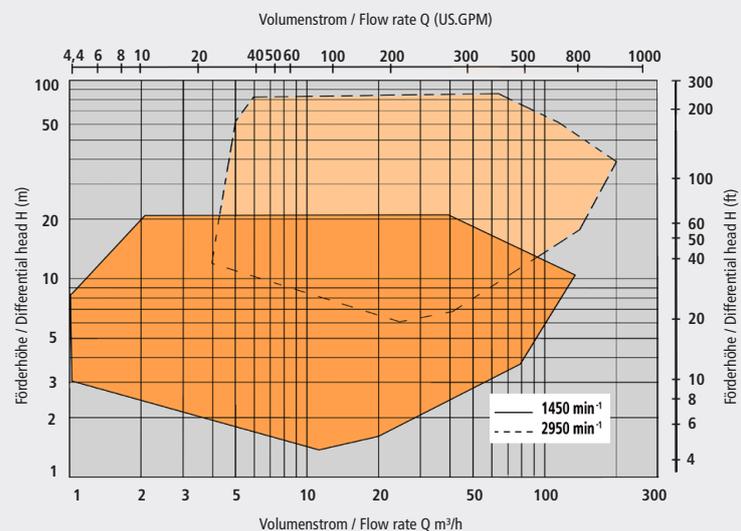
Closed, semi-open or vortex design, depending on the pump size.

► Performance data

Pump capacity [Q] up to	180 m ³ /h
Differential head [H] up to	85 m
Operating temperature [t] from	-20 °C to +150 °C
Operating pressure [p] up to	16 bar
Discharge nozzle	DN 25 to DN 65
Motor ratings up to	30 kW

► Options

- Top and bottom flushing connections
- Drainage through flushing connection or
- Drainage through volute casing drain
- Liquid Temperature Sensor
- Secondary sealing device





ECM/ECM-B Type standardized chemical pumps with magnetic drive

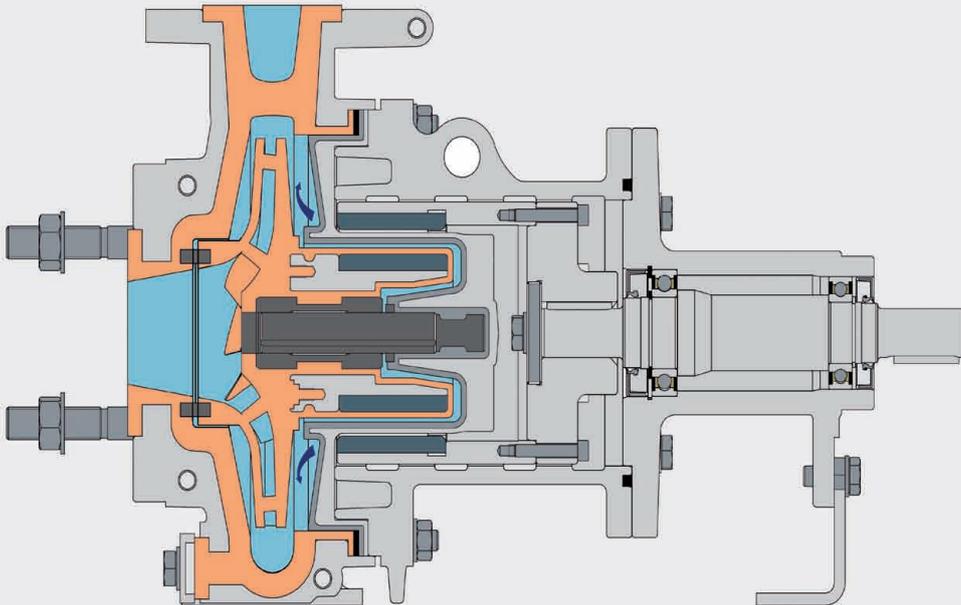


Fig.: ECM

► Applications

The ECM and ECM-B close coupled series hermetically sealed magnetically-coupled pumps are the solution of choice for the safe handling of fluids posing an environmental or health hazard such as acids, alkalis, solvents or chemically contaminated fluids.

► Construction

Horizontal centrifugal pump with volute casing; designed to EN 22858/ ISO 2858/ ISO 5199 dimensional standards and requirements; complemented by size 40-25-125, 40-25-160 pumps.

► Main materials

PFA
PP

► Impeller

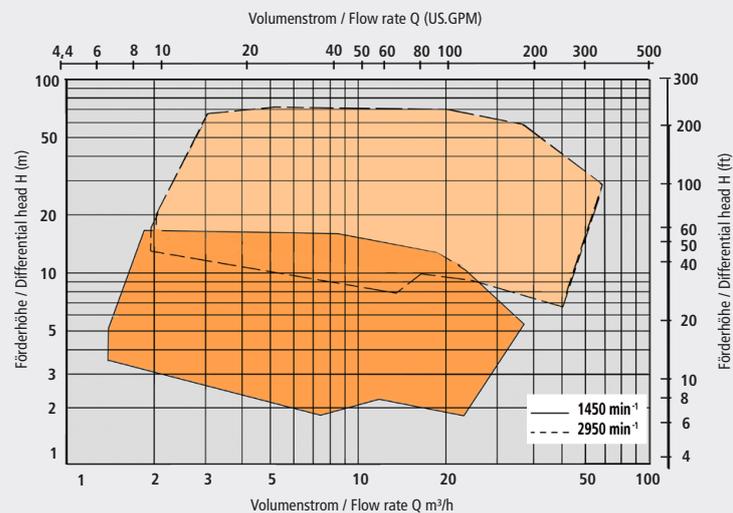
Closed design.

► Performance data

Performance data	
Pump capacity [Q] up to	70 m ³ /h
Differential head [H] up to	70 m
Operating temperature [t] from	-20 °C to +130 °C
Operating pressure [p] up to	16 bar
Discharge nozzle	DN 25 to DN 50
Motor ratings up to	7.5 kW

► Options

- Drainage through volute casing drain



Type TNP-KL vertical chemical pump

with plain bearing

Vertical setting depths up to 3000 mm, with suction pipe up to 4600 mm

► Applications

The TNP-KL is designed to handle acids, alkalis or chemically contaminated fluids with or without solids.

► Construction

Vertical centrifugal pump with volute casing for wet-end installation; dry-end installation possible.

► Main materials

PP
PE-UHMW
PVDF

► Plain bearing

SSiC

► Impeller

Closed, semi-open or vortex design, depending on pump size

► Shaft seal

Labyrinth seal, single or double mechanical seal

► Flushing

Standard: internal flushing with fluid pumped; option: external flushing source.

► Performance data

Pump capacity [Q] up to	700 m ³ /h
Differential head [H] up to	90 m
Operating temperature [t] from	0 °C to +100 °C
Operating pressure [p] up to	10 bar
Discharge nozzle	DN 32 to DN 150
Motor rating up to	75 kW
Vertical setting depth [l] up to	3000 mm
Setting depth incl. suction pipe [l] up to	4600 mm

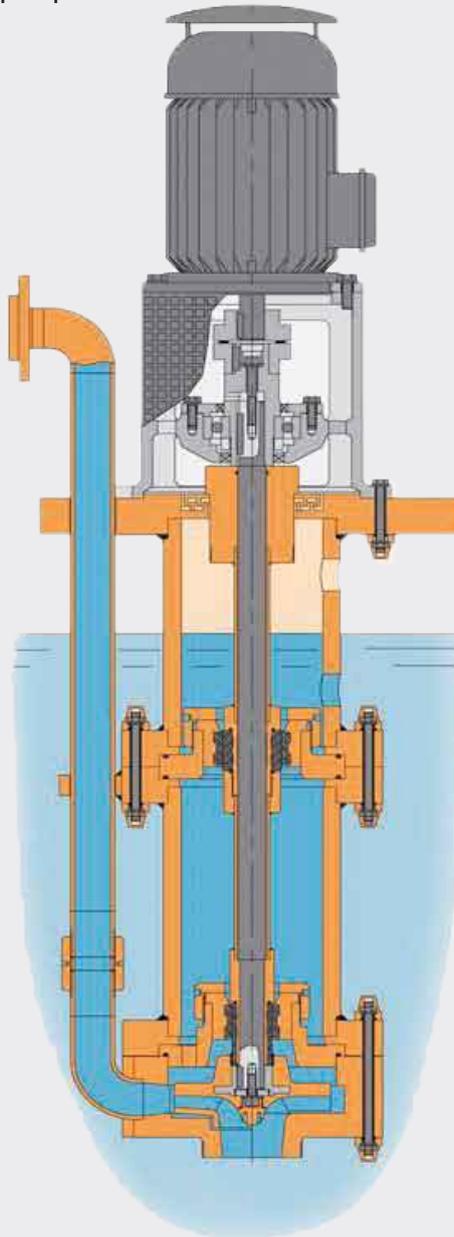


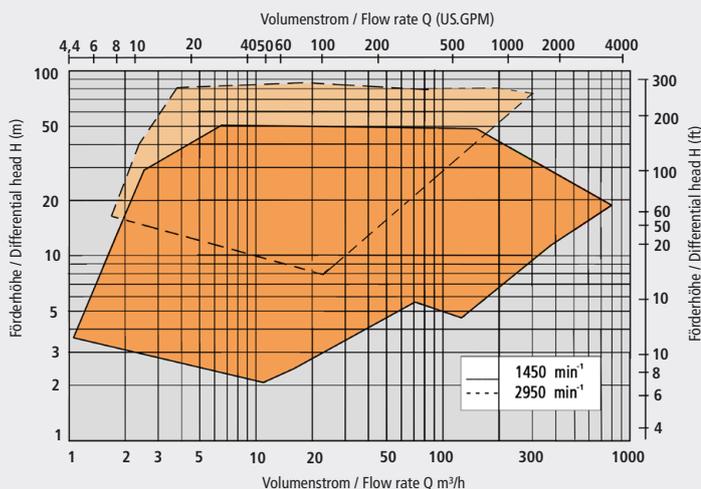
Fig. TNP-KL with intermediate bearing; shaft sealing: labyrinth seal;

► Explosion protection (option)

Additional engineering measures can be provided to allow use of the pumps in explosion hazard zones. The pump meets the requirements of EU Directive 94/9/EC.

► Options

- Suction pipe
- Suction strainer
- Sole plate to customer specifications
- Discharge flange: position and flange to customer specifications





Type TNP vertical chemical pump

with plain bearing

Vertical setting depths up to 1600 mm, with suction pipe up to 3200 mm

► Applications

The TNP pump is specifically designed to handle acids, alkalis or chemically contaminated fluids with or without solids.

► Construction

Vertical centrifugal pump with volute casing for wet-end arrangement; dry-end arrangement possible.

► Main materials

PP
PE-UHMW
PVDF

► Plain bearing

SSiC

► Impeller

Closed, semi-open or vortex design, depending on pump size.

► Shaft seal

Labyrinth seal

► Flushing

Standard: internal flushing with fluid pumped;
option: external flushing source.

► Performance data

Pump capacity [Q] up to	160 m ³ /h
Differential head [H] up to	45 m
Operating temperature [t] from	0 °C to +100 °C
Operating pressure [p] up to	10 bar
Discharge nozzle	DN 32 to DN 80
Motor sizes up to IEC size	132
Vertical setting depth [l] up to	1600 mm
Setting depth incl. suction pipe [l] up to	3200 mm

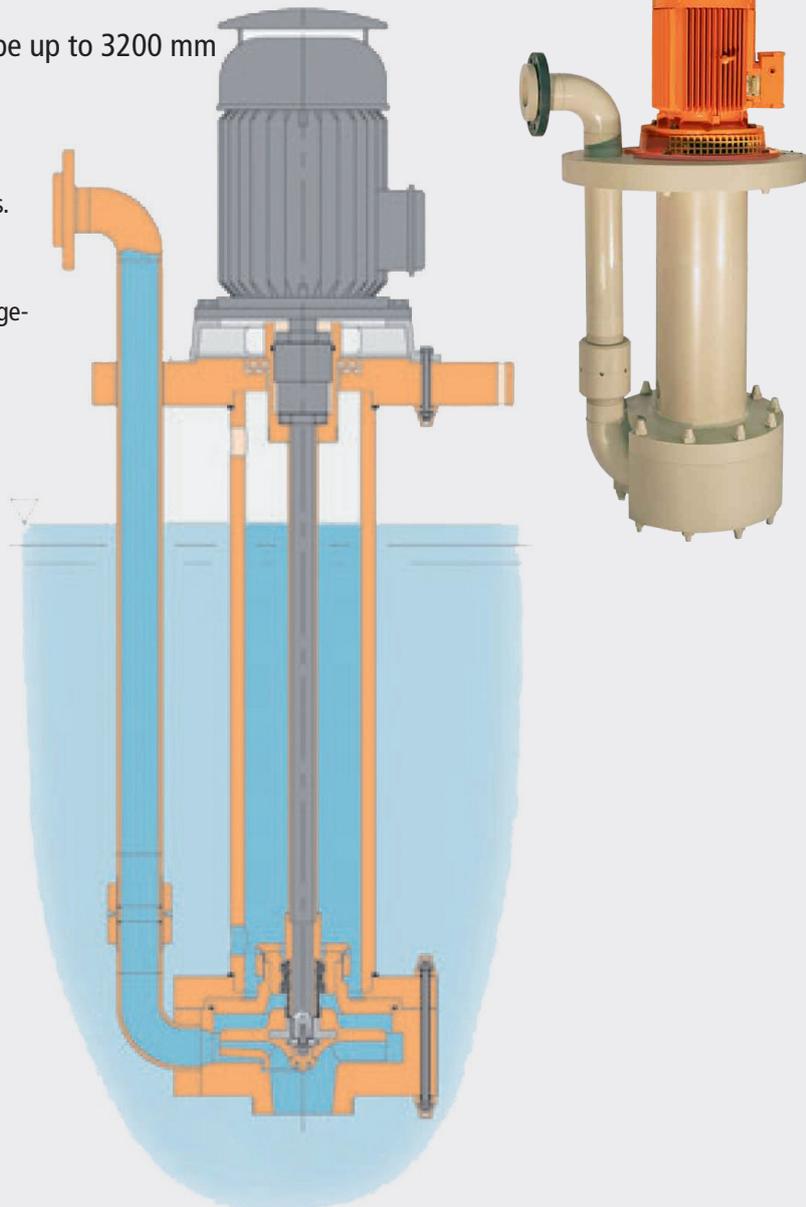
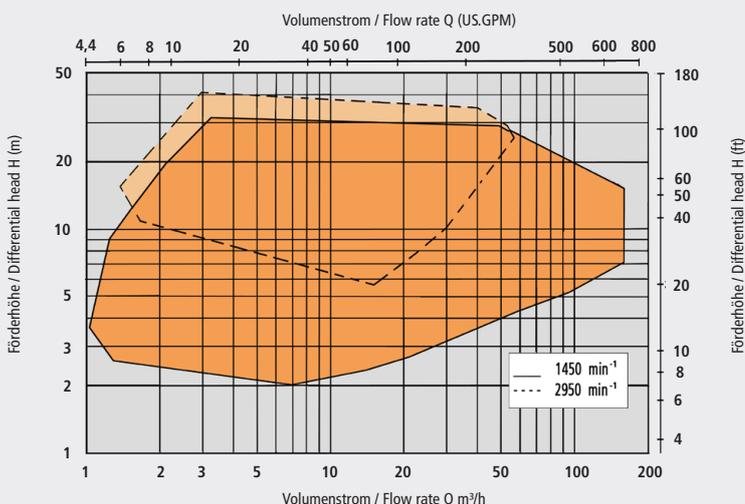


Fig. TNP; shaft sealing system: labyrinth seal



► Options

- Suction pipe
- Suction strainer
- Sole plate to customer specifications
- Discharge flange: position and flange to customer specifications

Type TPC vertical cantilever pump

Vertical setting depths: 1000 mm, 1500 mm and 1800 mm, with suction pipe up to 3400 mm

► Applications

Dry run-proof TPC vertical cantilever pumps are designed for service conditions such as solid-laden acids, alkalis, chemically contaminated liquid effluents or when there is a risk of prolonged dry running.

► Construction

Vertical centrifugal pump with volute casing and single-entry, single-stage radial impeller; without plain bearing; the shaft bearing is located outside the path of the fluid pumped.

► Main materials

PP
PE-UHMW
PVDF

► Impeller

Closed, semi-open or vortex design, depending on pump size.

► Shaft seal

Double V-ring seal,
Option: Radial lip sealing.

► Performance data

Pump capacity [Q] up to	600 m ³ /h
Differential head [H] up to	65 m
Operating temperature [t] from	0 °C to +100 °C
Operating pressure [p] up to	10 bar
Discharge nozzle	DN 40 to DN 150
Motor rating up to	45 kW
Vertical setting depth [I] up to	1800 mm
Setting depth incl. suction pipe [I] up to	3400 mm

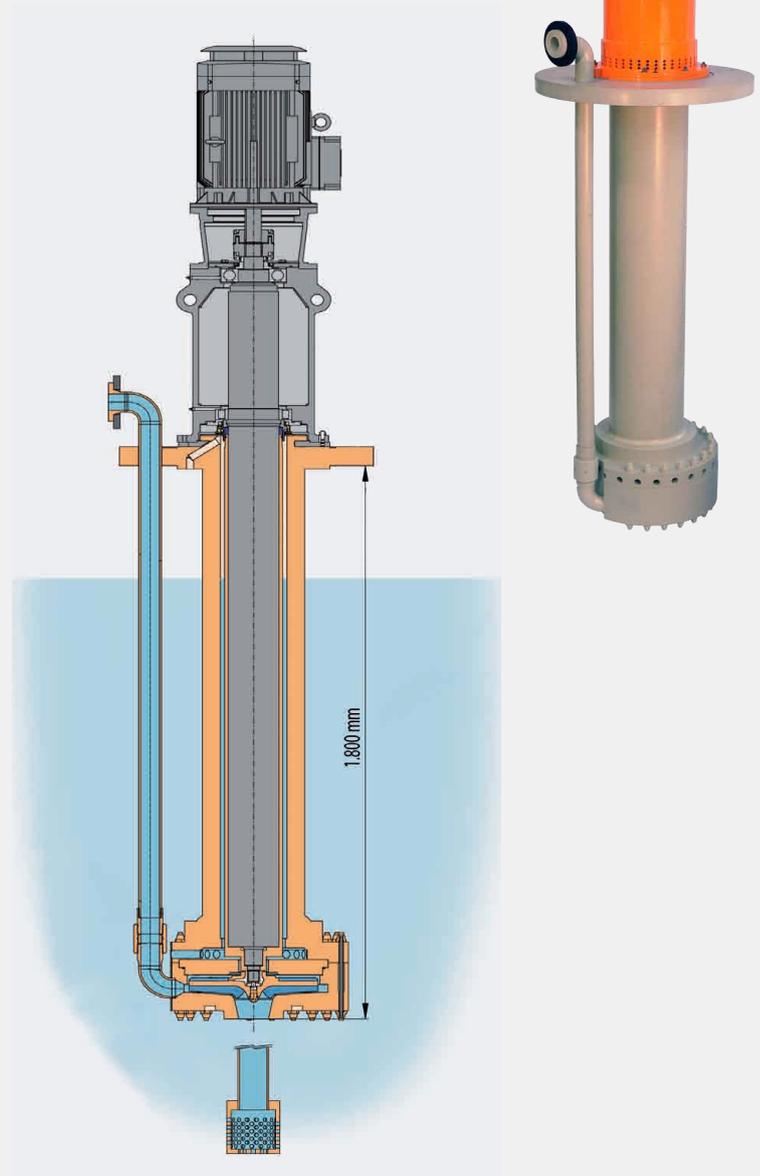
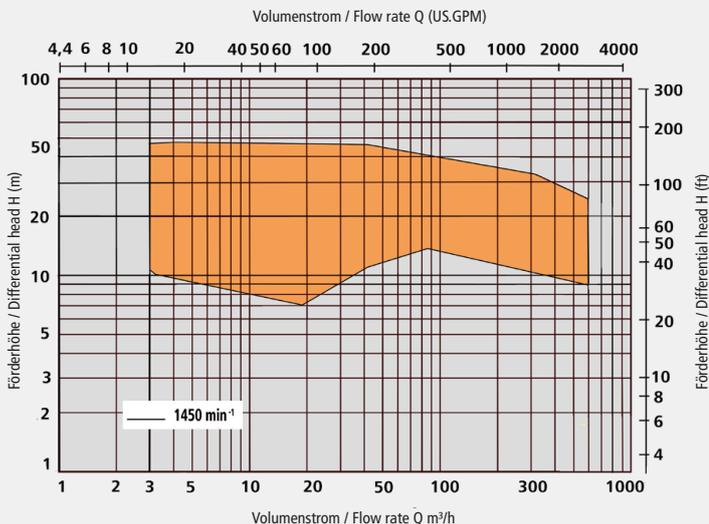


Fig. TPC with Double V-Ring seal



► Explosion protection (option)

Additional engineering measures can be provided to allow use of the pumps in explosion hazard zones. The pump meets the requirements of EU Directive 94/9/EC.

► Options

- Suction pipe
- Suction strainer
- Sole plate to customer specifications
- Discharge flange: position and flange to customer specifications



Type TPC-M vertical cantilever pump

Vertical setting depths up to 1000 mm, with suction pipe up to 2600 mm

► Applications

Dry run-proof TPC-M vertical cantilever pumps are designed for service conditions such as solid-laden acids, alkalis, chemically contaminated effluents or when there is a risk of prolonged dry running.

► Construction

Vertical centrifugal pump with volute casing and single-entry, single-stage radial impeller; without plain bearing: the shaft bearing is located outside the path of the fluid pumped.

► Main materials

PP
PE-UHMW
PVDF

► Impeller

Closed, semi-open or vortex design, depending on pump size

► Shaft seal

Labyrinth seal, single or double mechanical seal.

► Performance data

Pump capacity [Q] up to	250 m ³ /h
Differential head [H] up to	60 m
Operating temperature [t] from	0 °C to +100 °C
Operating pressure [p] up to	10 bar
Discharge nozzle	DN 32 to DN 100
Motor rating up to	20 kW
Vertical setting depth [I] up to	1000 mm
Setting depth incl. suction pipe [I] up to	2600 mm

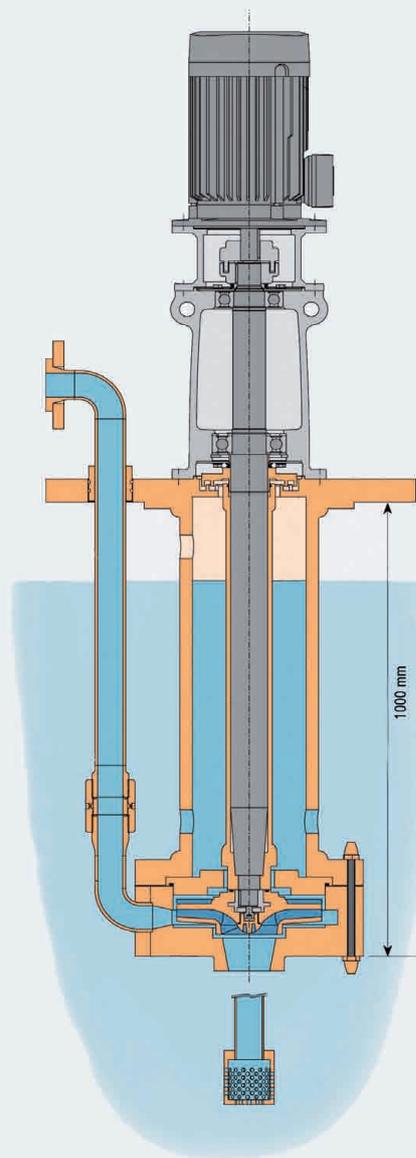
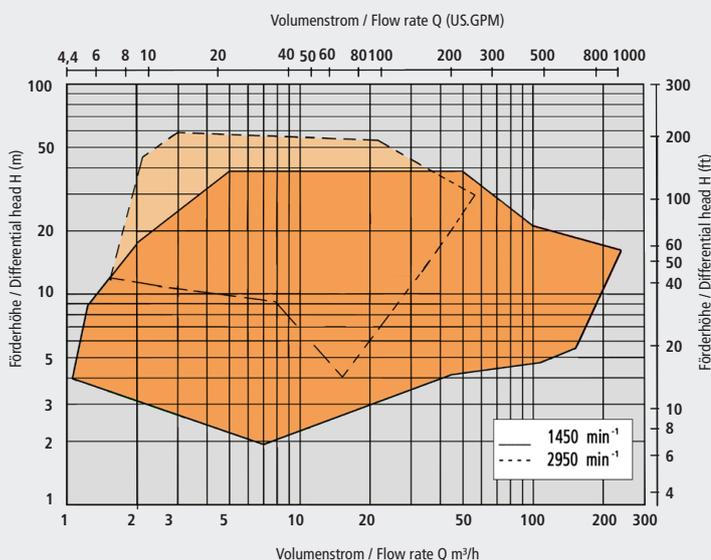


Fig. TPC-M with labyrinth seal



► Explosion protection (option)

Additional engineering measures can be provided to allow use of the pumps in explosion hazard zones. The pump meets the requirements of EU Directive 94/9/EC.

► Options

- Suction pipe
- Suction strainer
- Sole plate to customer specifications
- Discharge flange: position and flange to customer specifications

Type TPC-B vertical cantilever pump

Vertical setting depths up to 600 mm, with suction pipe upto 2200 mm

► Applications

Dry run-proof TPC-B vertical cantilever pumps are designed for service conditions involving solid-laden acids, alkalis, chemically contaminated effluents or when there is a risk of prolonged dry running.

► Construction

Vertical centrifugal pump with volute casing and single-entry, single-stage radial impeller; without plain bearing; the shaft bearing is located outside the path of the fluid pumped.

► Main materials

PP
 PE-UHMW
 PVDF

► Impeller

Closed, semi-open or vortex design, depending on pump size

► Shaft seal

Labyrinth seal.

► Performance data

Pump capacity [Q] up to	110 m ³ /h
Differential head [H] up to	45 m
Operating temperature [t] from	0 °C to +100 °C
Operating pressure [p] up to	6 bar
Discharge nozzle	DN 32 to DN 80
Motor rating up to	11 kW
Vertical setting depth [l] up to	600 mm
Setting depth incl. suction pipe [l] up to	2200 mm

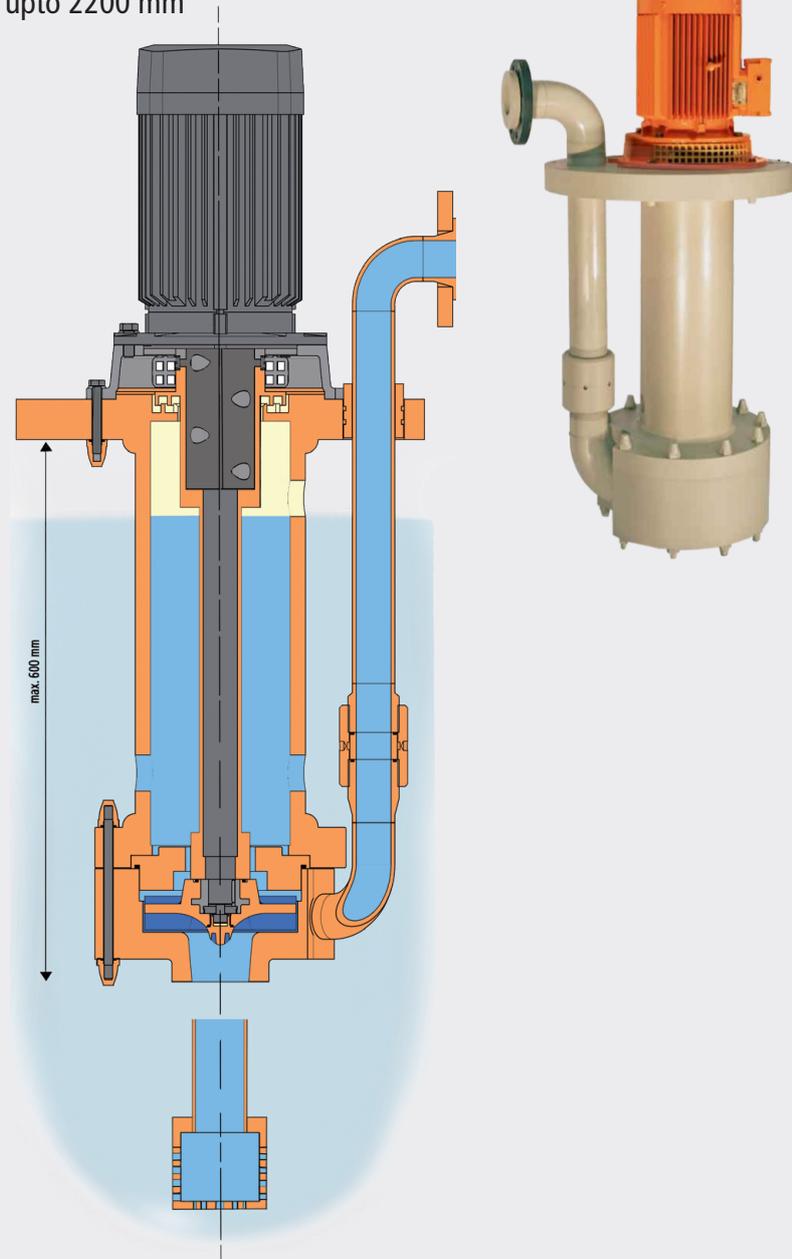
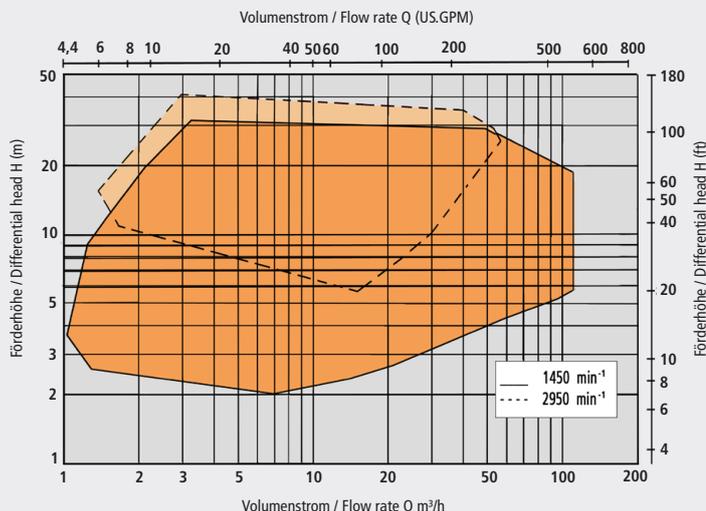


Fig. TPC-B with labyrinth seal;



► Options

- Suction pipe
- Suction strainer
- Sole plate to customer specifications
- Discharge flange: position and flange to customer specifications

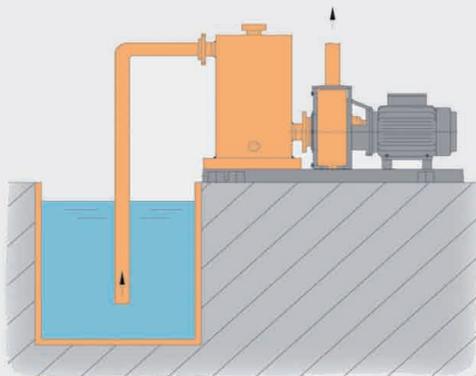
Priming pot

made of plastics

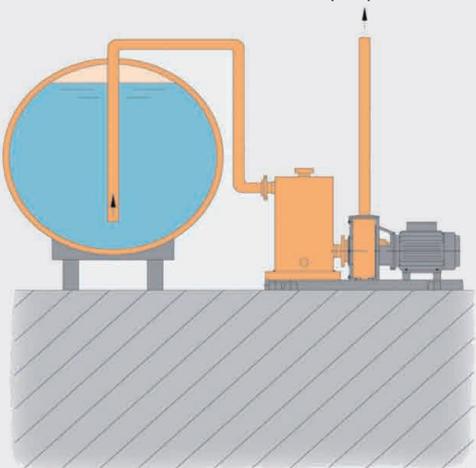
Horizontal pumps can be equipped with a priming pot to provide self-priming capability. The priming pot is installed between the suction pipe and the pump.



Fig.: Priming Pot with pump type NP-B



Suction from a source located below the pump centreline



Suction from a source located above the pump centreline

▶ Operating principle

A priming pot filled with liquid is arranged between the pump and the suction pipe.

During the startup phase, the pump draws the liquid from the priming pot, thereby creating a vacuum in the priming pot. The liquid in the tank to be emptied is under atmospheric pressure; vented system.

Under the action of the pressure gradient, the liquid is forced into the priming pot. As a result, the suction line is vented and the pump can lift the liquid from a level well below the pump.

▶ Technical specification

- The effective volume of the priming pot must exceed the filling volume of the suction line by a factor of 1.5 to 2.
- Priming pots are available with effective volumes of 10 to 26 l.
- Standard construction materials of priming pots: polypropylene; PP, other materials can be supplied on request



MUNSCH
Plastic Pumps for Aggressive Media

We are at your service
- around the globe

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