



MUNSCH

PRODUCT RANGE

**PUMPS FOR
CORROSIVE AND
ABRASIVE FLUIDS**





NON-METALLIC PUMPS FROM THE SPECIALIST

MUNSCH GmbH,

a family-owned company, has been a reliable partner to the chemical and process industries for more than 50 years, working shoulder to shoulder with its customers. From the very beginnings of our activities, our single-minded focus has been on non-metallic pumps for corrosive and abrasive service environments satisfying the highest quality, reliability and efficiency standards.

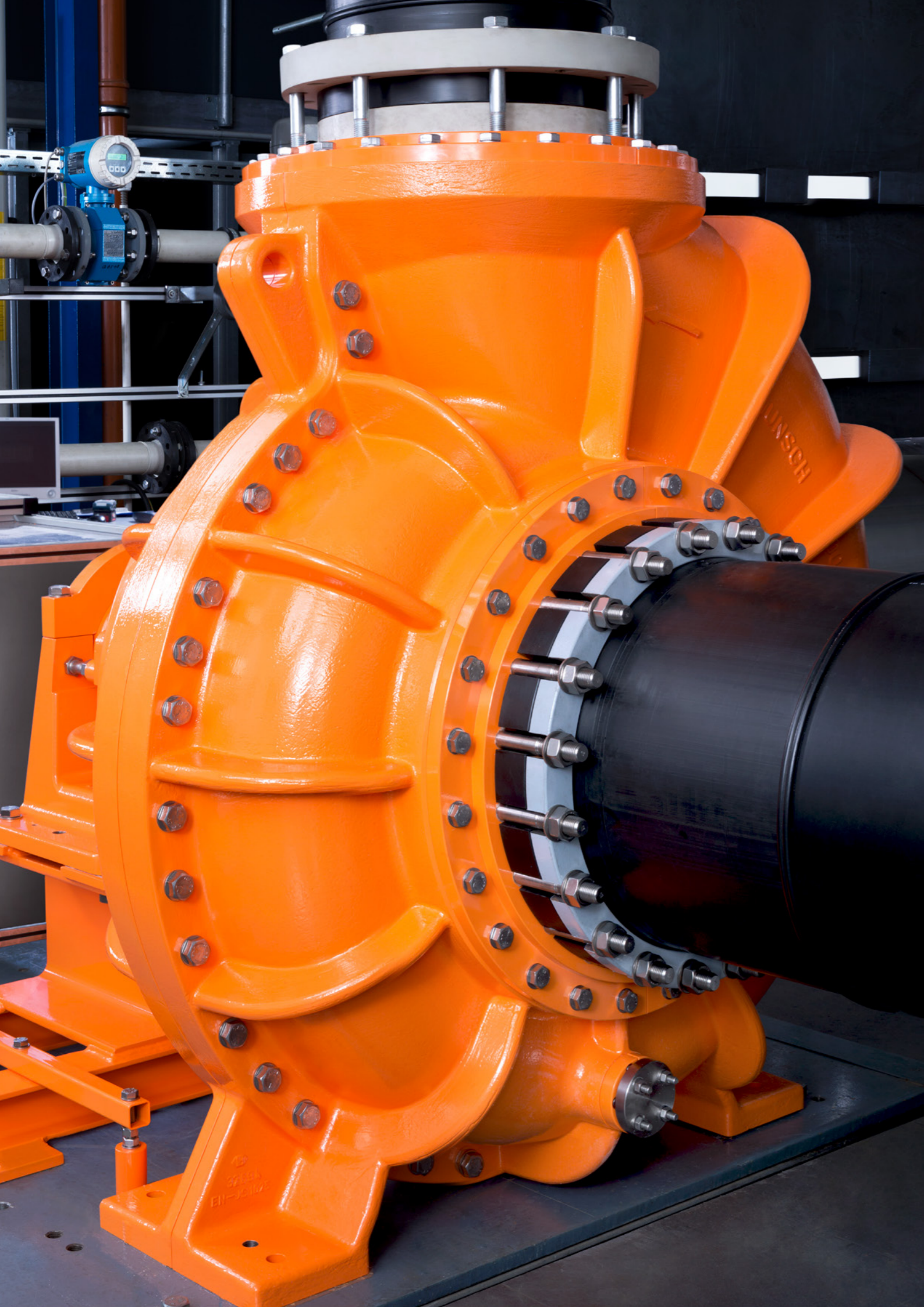
Our dedicated staff and their drive for innovation are steering us into the world of tomorrow. At MUNSCH, digitalization has long been part of our corporate philosophy, being lived out to the full and putting us in a position to respond flexibly to our customer's special product and service needs. Thanks to our high level of vertical integration and latest manufacturing technology, we can manufacture individual components just as cost-effectively as the volume components.

MUNSCH pumps ...

have earned themselves an excellent reputation among industry users and our customers' project engineers over the years. They stand for reliability, safe operation, ease of handling, high efficiencies and thick-walled plastic casings. Drawing on numerous configuration options, the product series presented on the following pages can be perfectly matched to the requirements of the specific application.

Together with our customers ...

and building on our many years of experience, we select optimum solutions from our product portfolio that guarantee reliable operation at optimum life cycle cost. Competent advice by our field technicians and technical support throughout the lifecycle of the pump are the services that come with our products.



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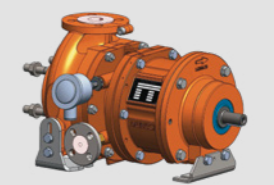


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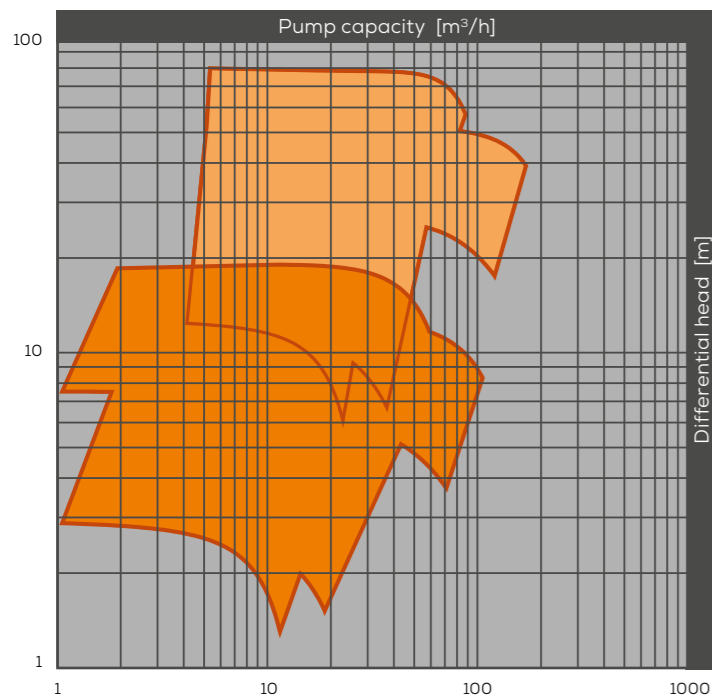
STANDARDIZED CHEMICAL PUMP CS

WITH MECHANICAL SEAL

CS-series pumps are the solution of choice for **highly corrosive and high-temperature applications** in the chemical industry when the use of magnetically coupled pumps is not feasible or desirable (e.g. because of the high solids load of the fluids pumped). Typical features of this **chemical industry specialist** include a thick-walled plastic casing, an all-SSIC mechanical seal and a sealing concept which, at identical pump capacities, is interchangeable with that of the CM-series magnetically coupled pumps.

Casing dimensions, fitting dimensions and design to SO2858/ISO5199 (complemented by further pump sizes)

Also available as close-coupled pump CS-B.



PERFORMANCE DATA

Capacity [Q] up to:	200 m ³ /h
Differential head [H] up to:	90 m
Operating temperature:	-20 to 180 °C
Operating pressure [p] up to:	16 bar
Discharge nozzle:	DN 25 to DN 65
Motor rating up to:	30 kW

CONSTRUCTION

Main materials	PFA PP PVDF
Impeller	Closed Semi-open Vortex design (depending on pump size)
Shaft seal	Metal-free mechanical seal with SSIC rotating and stationary seal rings Available as single or double mechanical seal Optimized double mechanical seal for operation with thermosyphon buffer system Various flushing options
Explosion protection (ATEX)	Meets the requirements of Directive 2014/34/EU for use in explosion hazard zones

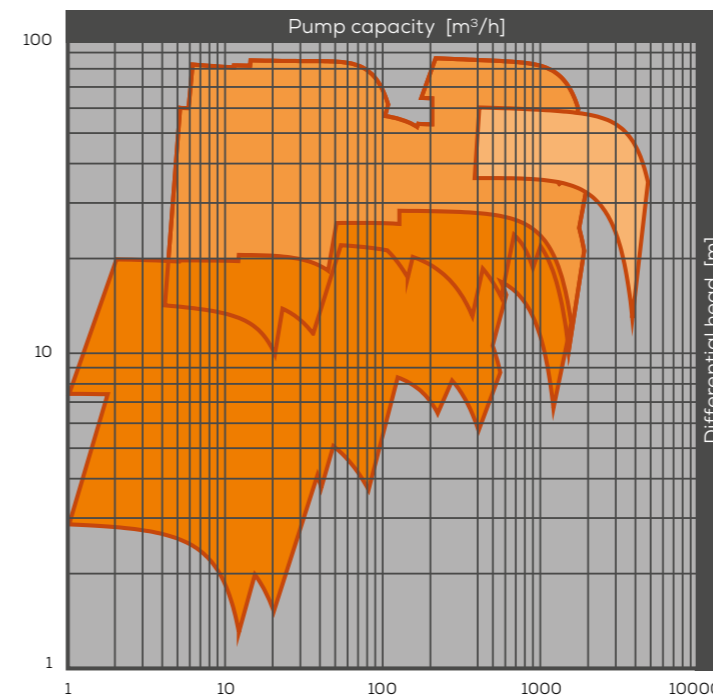


STANDARDIZED CHEMICAL PUMP NPC

WITH MECHANICAL SEAL

Our current NPC pump series is the answer to ever more exacting demands on operating pressure, temperature, corrosion resistance and energy efficiency. These pumps are setting **new standards in terms of performance and service range** without neglecting the virtues of our tried-and-tested NP pump series.

Casing dimensions, fitting dimensions and design to SO2858/ISO5199 (complemented by further pump sizes)



PERFORMANCE DATA

Capacity [Q] up to:	1200 m ³ /h
Differential head [H] up to:	80 m
Operating temperature:	-20 to 150 °C
Operating pressure [p] up to:	16 bar
Discharge nozzle:	DN 40 to DN 150, DN 250
Motor rating up to:	200 kW

CONSTRUCTION

Main materials	PE-UHMW PP PVDF PTFE (depending on pump size)
Impeller	Closed
Shaft seal	Metal-free mechanical seal with SSIC rotating and stationary seal rings Available as single or double mechanical seal Optimized double mechanical seal for operation with thermosyphon buffer system Various flushing options
Explosion protection (ATEX)	Meets the requirements of Directive 2014/34/EU for use in explosion hazard zones

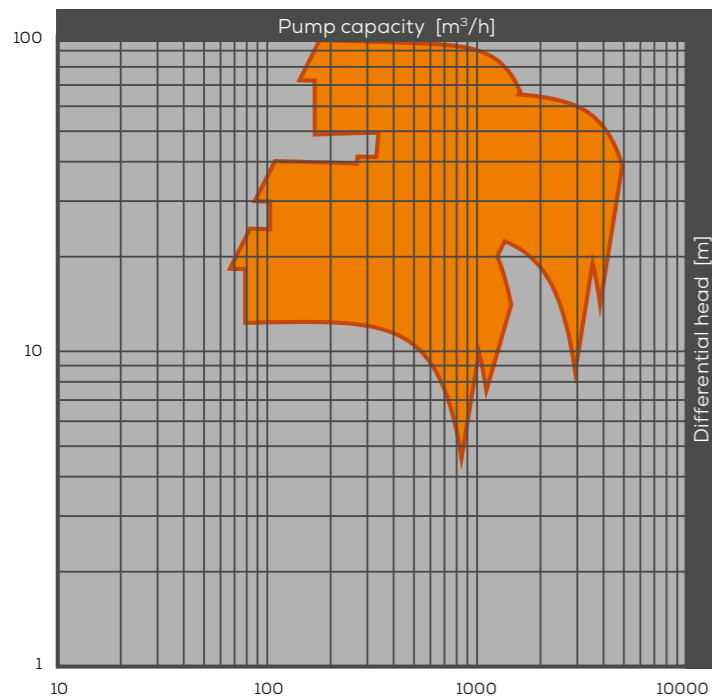


NPC-MAMMUT CHEMICAL PROCESS PUMP

WITH MECHANICAL SEAL

For mega-pumping tasks beyond the norm. Its extremely robust design and large wall thicknesses coupled with excellent energy efficiency and suction behaviour make the NPC Mammut a problem solver for extreme tasks as encountered in high-capacity exhaust gas scrubbers, for instance.

The NPC Mammut offers **unequaled performance** when it comes to pumping corrosive and solids-carrying fluids with flow rates of 1000 m³/h to 5000 m³/h and **high differential heads**.



PERFORMANCE DATA

Capacity [Q] up to:	5000 m ³ /h
Differential head [H] up to:	100 m
Operating temperature:	0 to 100 °C
Operating pressure [p] up to:	10 bar (extended service range on request)
Discharge nozzle:	DN 250 to DN 400
Motor rating up to:	1 MW

CONSTRUCTION

Main materials	PE-UHMW PP PVDF
Impeller	Closed
Shaft seal	Metal-free mechanical seal with SSiC rotating and stationary seal rings Available as single or double mechanical seal Various flushing options

Explosion protection (ATEX) Meets the requirements of Directive 2014/34/EU for use in explosion hazard zones

DETAILS
PUMP
SERIES



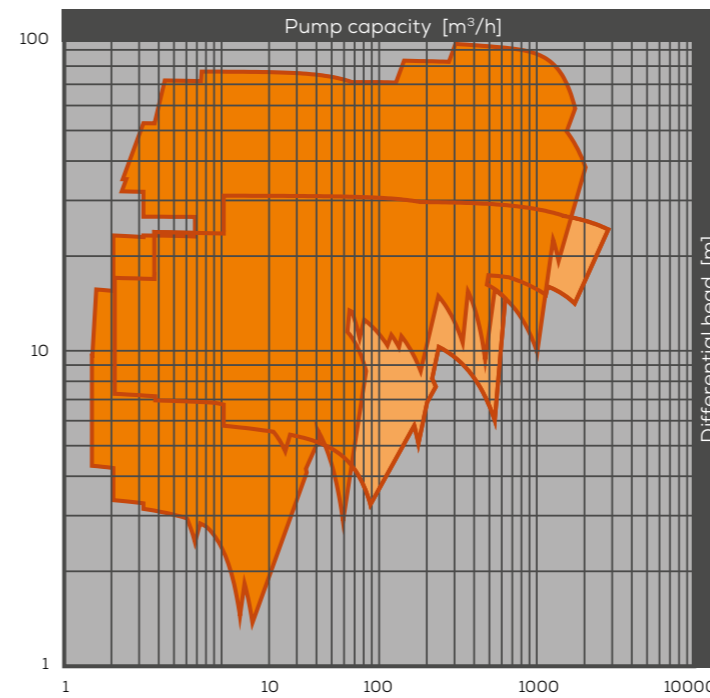
STANDARDIZED CHEMICAL PUMP NP

WITH MECHANICAL SEAL

Developed for the harsh service conditions of steel pickling lines, this **all-round talent** has been rendering decades of excellent service in the most diverse corrosive and abrasive service environments in all industries. Featuring a metal-free mechanical seal perfectly matched to the application and optimised hydraulics, the NP stands for **reliability, simplicity and efficiency**. This pump has paved the way for our worldwide success and consolidated our reputation as a reliable partner for challenging pumping tasks.

Casing dimensions, fitting dimensions and design to ISO2858/ISO5199 (complemented by further pump sizes)

Also available as close-coupled pump NP-B.



PERFORMANCE DATA

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

CONSTRUCTION

Main materials	PP PE-UHMW PVDF
Impeller	Closed Semi-open Vortex design (depending on pump size)

Shaft seal Metal-free mechanical seal with SSiC rotating and stationary seal rings
Available as single or double mechanical seal

Explosion protection (ATEX) Meets the requirements of Directive 2014/34/EU for use in explosion hazard zones

DETAILS
PUMP
SERIES



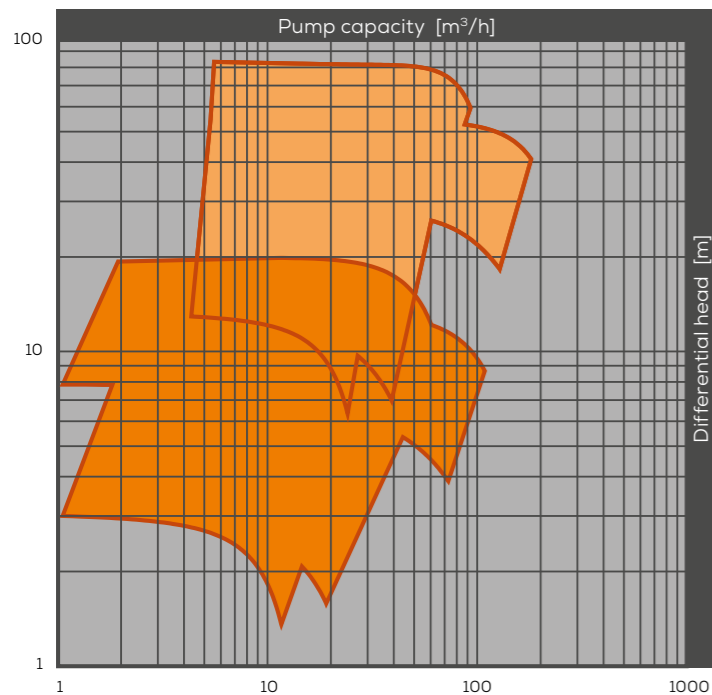
STANDARDIZED CHEMICAL PUMP CM

WITH MAGNETIC DRIVE

Operating reliability and flexibility are the hallmarks of the hermetically sealed magnetically coupled CM-series pumps. In cooperation with users we have pooled the experience gathered with our magnetic drive pumps over many years, providing the basis for the development of this specialist pump for the chemical process industry. Typical applications include **high-temperature and highly corrosive service environments** with stringent safety requirements. Solids in the fluid pumped are also addressed by the solution concept underlying the CM.

Casing dimensions, fitting dimensions and design to ISO2858/ISO5199 (complemented by further pump sizes)

Also available as close-coupled pump CM-B.



PERFORMANCE DATA

Capacity [Q] up to:	240 m ³ /h
Differential head [H] up to:	90 m
Operating temperature:	-20 to 180 °C
Operating pressure [p] up to:	16 bar
Discharge nozzle:	DN 25 to DN 65
Motor rating up to:	30 kW

CONSTRUCTION

Main materials	PFA PP PVDF
Impeller	Closed Semi-open Vortex design (depending on pump size)
Shaft seal	Sealless design through magnetic coupling
Options	External mechanical seal flushing system Fluid temperature sensor in spacer can Secondary sealing system Spacer can contact protection Design with solids deflector Other safety options available on request
Explosion protection (ATEX)	Meets the requirements of Directive 2014/34/EU for use in explosion hazard zones

DETAILS
PUMP
SERIES



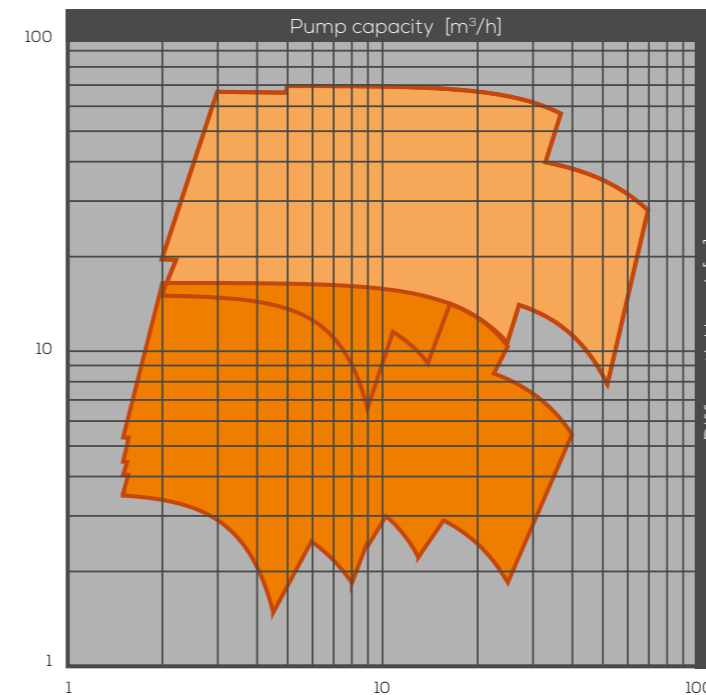
STANDARDIZED CHEMICAL PUMP ECM

WITH MAGNETIC DRIVE

Consistently reduced to the basics, the ECM is our **economical variant** of a hermetically sealed magnetically coupled pump and the ideal alternative to the CM series for standard applications. Excellent **suction behaviour** and **exceptional efficiencies** complement the pump concept.

Casing dimensions, fitting dimensions and design to ISO2858/ISO5199 (complemented by further pump sizes)

Also available as close-coupled pump ECM-B.



PERFORMANCE DATA

Capacity [Q] up to:	70 m ³ /h
Differential head [H] up to:	70 m
Operating temperature:	-20 to 130 °C
Operating pressure [p] up to:	16 bar
Discharge nozzle:	DN 25 to DN 50
Motor rating up to:	7.5 kW

CONSTRUCTION

Main materials	PFA PP
Impeller	Closed
Shaft seal	Sealless design through magnetic coupling
Explosion protection (ATEX)	Meets the requirements of Directive 2014/34/EU for use in explosion hazard zones

DETAILS
PUMP
SERIES

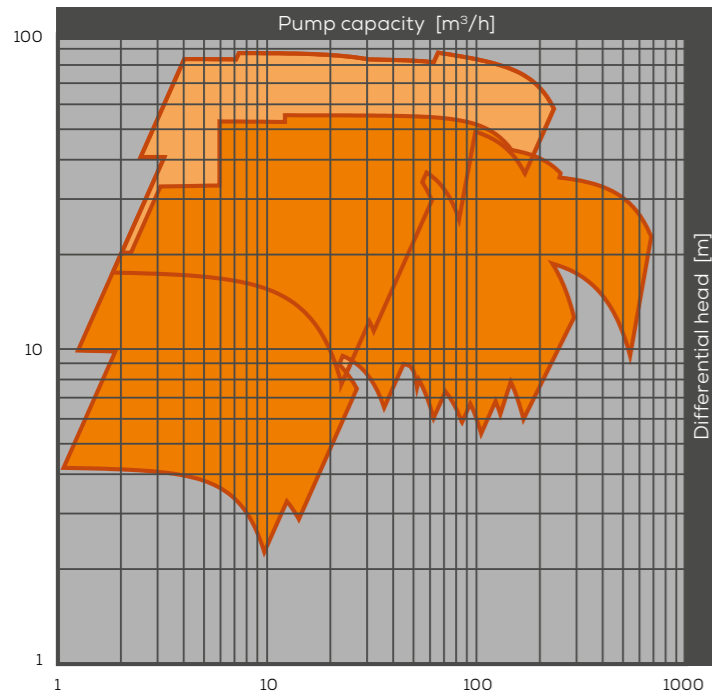


VERTICAL CHEMICAL PUMP TNP-KL

WITH FOOT BEARING

Our TNP-KL, available in capacities of 2 to 700 m³/h, is unmatched when it comes to **versatility**. Featuring all-plastic construction, our vertical pumps are **extremely robust**, opening up a **broad application spectrum** for this all-round talent.

Also available as close-coupled pump TNP.



PERFORMANCE DATA

Capacity [Q] up to:	700 m ³ /h
Differential head [H] up to:	90 m
Operating temperature:	0 to 100 °C
Operating pressure [p] up to:	10 bar
Discharge nozzle:	DN 32 to DN 150
Motor rating up to:	75 kW
Setting depths:	400 to 3000 mm
Setting depths incl. suction pipe:	up to 4600 mm

CONSTRUCTION

Main materials	PP
	PE-UHMW
	PVDF
Impeller	Closed
	Semi-open Vortex design (depending on pump size)
Shaft seal	Labyrinth seal
	Single or double mechanical seal
Plain bearing (foot bearing)	SSiC
Options	Extension of setting depth via suction pipe
	Suction strainer
	Sole plate to customer specifications
	Position and design of suction-side flange to customer specifications
Explosion protection (ATEX)	Meets the requirements of Directive 2014/34/EU for use in explosion hazard zones

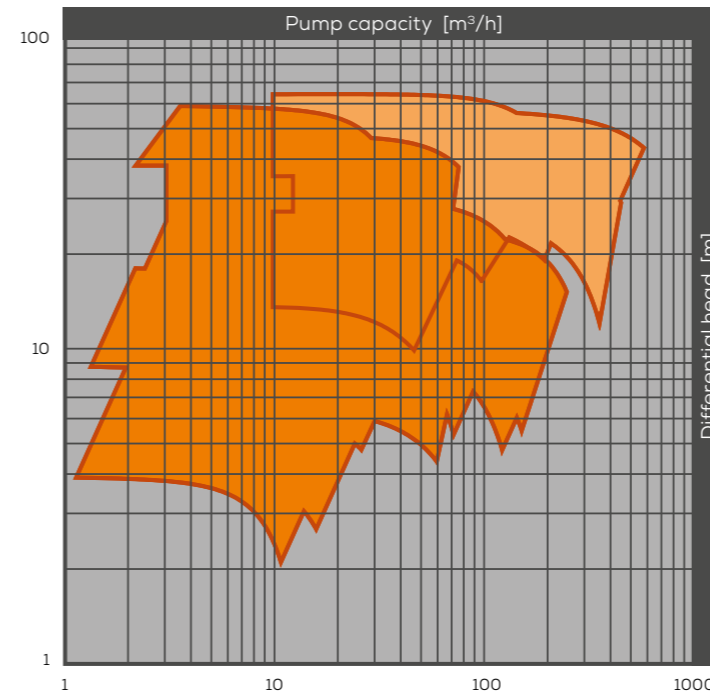
DETAILS PUMP SERIES



VERTICAL CHEMICAL PUMPS TPC AND TPC-M

WITHOUT FOOT BEARING - CANTILEVER DESIGN

The cantilever design without plain bearing along with the all-plastic construction make the TPC and TPC-M the ideal solutions for pumping highly corrosive fluids **with high solids loads** and for applications where **dry running cannot be ruled out**. With its exceptional performance and setting depths, the **TPC** is setting new standards. Whenever cost-effectiveness is a priority consideration, the **TPC-M** scores high without compromising operating reliability.



TPC-M
TPC

PERFORMANCE DATA

Capacity [Q] up to:	TPC-M up to 250 m ³ /h TPC up to 600 m ³ /h
Differential head [H] up to:	65 m
Operating temperature:	0 to 100 °C
Operating pressure [p] up to:	10 bar
Discharge nozzle:	DN 32 to DN 150
Motor rating up to:	45 kW
Setting depths:	600 mm - TPC-M 800 mm - TPC-M 1000 mm - TPC oder TPC-M 1800 mm - TPC
Setting depths incl. suction pipe:	up to 3400 mm

CONSTRUCTION

Main materials	PP
	PE-UHMW
	PVDF
Impeller	Closed
	Semi-open Vortex design (depending on pump size)
Shaft seal	Labyrinth seal (depending on pump size)
	Double-V-ring seal (depending on pump size)
Plain bearing (foot bearing)	Without foot bearing
Options	Setting depth extendable via suction pipe
	Suction strainer
	Sole plate to customer specifications
	Position and design of suction-side flange to customer specifications
Explosion protection (ATEX)	Meets the requirements of Directive 2014/34/EU for use in explosion hazard zones

DETAILS PUMP SERIES



CLOSE-COUPLED PUMPS

Close-coupled pump designs, preferred for magnetically coupled pumps in particular, provide many users with a compact and cost-effective alternative to the conventional standardized chemical pumps. Besides obviating the need for time-consuming coupling alignment, close-coupled pumps have a distinct advantage when it comes to footprint and weight. No need to say, these products as well meet the same high standards of operating reliability, robustness and quality as their frame-mounted counterparts.

HORIZONTAL CLOSE-COUPLED PUMPS WITH MECHANICAL SEAL

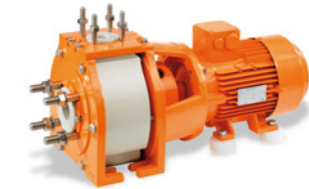
CS-B casing and fitting dimensions to ISO2858/ISO5199



PERFORMANCE DATA

Capacity [Q] up to:	90 m³/h
Differential head [H] up to:	60 m
Operating temperature:	-20 to 180 °C
Operating pressure [p] up to:	16 bar
Discharge nozzle:	DN 25 to DN 65
Motor rating up to:	18.5 kW

NP-B casing and fitting dimensions to ISO2858/ISO5199



PERFORMANCE DATA

Capacity [Q] up to:	200 m³/h
Differential head [H] up to:	80 m
Operating temperature:	-20 to 110 °C
Operating pressure [p] up to:	10 bar
Discharge nozzle:	DN 25 to DN 100
Motor rating up to:	11 kW

HORIZONTAL CLOSE-COUPLED PUMPS WITH MAGNETIC DRIVE

CM-B casing and fitting dimensions to ISO2858/ISO5199



PERFORMANCE DATA

Capacity [Q] up to:	90 m³/h
Differential head [H] up to:	60 m
Operating temperature:	-20 to 150 °C
Operating pressure [p] up to:	16 bar
Discharge nozzle:	DN 25 to DN 65
Motor rating up to:	18.5 kW

ECM-B casing and fitting dimensions to ISO2858/ISO5199



PERFORMANCE DATA

Capacity [Q] up to:	50 m³/h
Differential head [H] up to:	45 m
Operating temperature:	-20 to 150 °C
Operating pressure [p] up to:	16 bar
Discharge nozzle:	DN 25 to DN 50
Motor rating up to:	7.5 kW

CLOSE-COUPLED VERTICAL PUMP

TNP



PERFORMANCE DATA

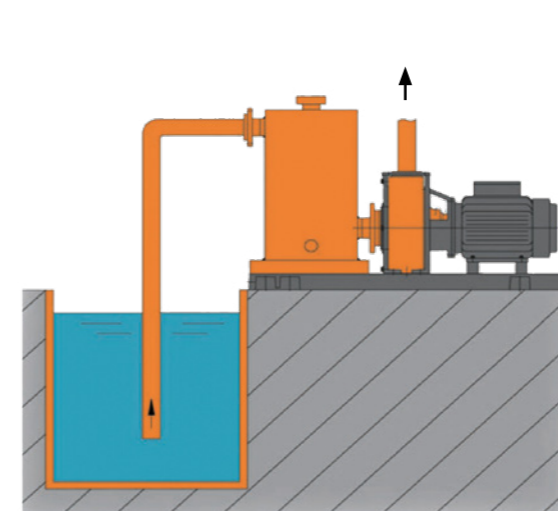
Capacity [Q] up to:	110 m³/h
Differential head [H] up to:	45 m
Operating temperature:	0 to 100 °C
Operating pressure [p] up to:	10 bar
Discharge nozzle:	DN 32 to DN 80
Motor rating up to:	11 kW

PRIMING POT

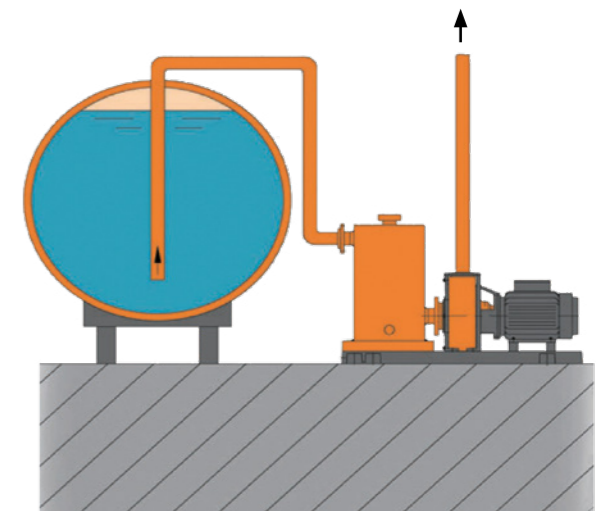
For reasons inherent in their design, horizontal centrifugal pumps are not able to prime the liquid from a deeper level. If the use of a vertical pump is not feasible or desirable, a priming pot can be installed between the suction pipe and the horizontal pump to provide self-priming capability.

Operating principle:

Prior to startup, the priming pot and pump are filled with a chemically compatible liquid via the filling nozzle. During the startup phase, the pump draws the liquid from the priming pot into the discharge pipe. As a result, the suction line is vented and the pump can lift the liquid from a level well below the pump. After the pump has been shut down, pressure equalization will cause the priming pot to be filled. Sizing and monitoring options are application-specific.



Suction operation Pit emptying



Suction operation Boiler emptying



Visualised pressure distribution in the impeller and the volute casing

MONITORING OPTIONS

Analog and even more so digital monitoring options for pumps and systems are being continuously expanded. MUNSCH pumps come prepared for the use of these monitoring devices and are adapted to accommodate the latest trends in this area. We offer solutions to many tasks, which we devise in consultation with our customers and extend to suit the specific application.

Motor load monitor

for the contactless monitoring of undesirable and critical operating conditions such as dry running, cavitation, overload and part load.

Temperature monitoring

With magnetically coupled pumps in particular, this is an optimal monitoring solution to detect any unallowable temperature increase in the pump. Our CM-series pumps are provided with an instrument tap on the SiC plain bearing allowing continuous measurement of the fluid temperature in the spacer can and thus timely response to unallowable operating conditions. Optionally, the temperature can be directly measured in the pump casing.

Spacer can contact protection

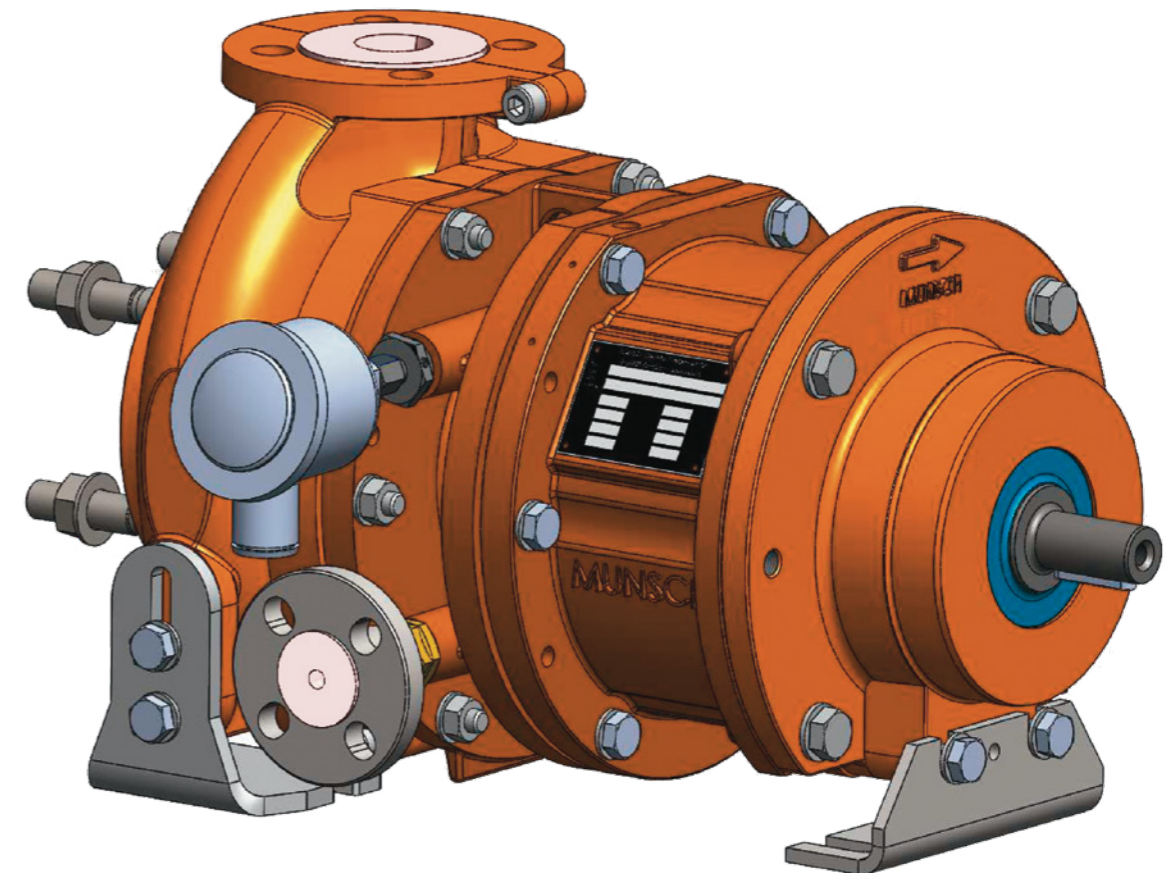
Incipient anti-friction bearing damage can be detected by proximity switches, thus preventing the magnets from contacting the spacer can in the case of an anti-friction bearing failure.

Temperature and vibration monitoring of anti-friction bearings

Conventional monitoring concepts for anti-friction bearings can of course also be readily implemented in our machines.

Secondary sealing system with pressure monitor

The secondary sealing system of magnetically coupled pumps offers secondary containment in service conditions posing major health and environmental hazards. In the event of primary seal damage, the secondary sealing system can prevent hazardous fluid releases to the environment for a limited period of time. Monitoring the secondary sealing system by a pressure switch helps ensure fast and controlled response to critical situations.



MUNSCH MECHANICAL SEALS

It takes a well-designed mechanical seal to make a good pump perfect! The latest generation of MUNSCH mechanical seals is the synthesis of the operating experience of the users.



- One mechanical seal size per pump series (reduced spare parts inventory)
- Many interchangeable components
- Ease of mounting without the need for adjustment or alignment
- Ease of conversion from a single to a double mechanical seal
- Optimum circulation of the buffer/barrier fluid
- Sense of rotation-independent

Durability

MUNSCH mechanical seals do not have any metal components. The rotating and stationary seal rings are fabricated from universally chemical-resistant ceramics (SSIC), the secondary seals from fluoroelastomers. The spring comes with a fluoroplastic coating. All in all, a material selection that leaves no chance for corrosion!

Maintenance & handling

In the design of the pump components, special emphasis has been placed on positive identification, availability and ease of assembly. Adjustments or alignment of the mechanical seal is not needed.

Flexibility

Conversion from a single-acting to a double-acting mechanical seal or retrofitting a flushing arrangement requires only a few components and a few simple steps.

Robust down to the minute detail

To ensure long service lives, mechanical seal components must be adequately sized and their design must suit the construction material. Crucial components of MUNSCH mechanical seals are constructed from robust materials and positively locked to the shaft.

DOUBLE MECHANICAL SEAL – THE SAFE SOLUTION

Double mechanical seals consist of two tandem-mounted single mechanical seals. They are supplied with barrier fluid from an external source via two connections in the seal casing.

A safe alternative

Double mechanical seals with controlled barrier fluid supply from an external source are a safe alternative in hazardous and toxic service conditions when flow interruption and hence dry running of the mechanical seal cannot be ruled out. The pressurised barrier fluid system is of critical importance to ensuring reliable liquid supply to the seal.

A convenient kit

The product-side mechanical seal is identical in design with the single mechanical seal. To seal the pump interior against the atmosphere, a second mechanical seal is provided at the atmosphere side (tandem arrangement).

Flushing options

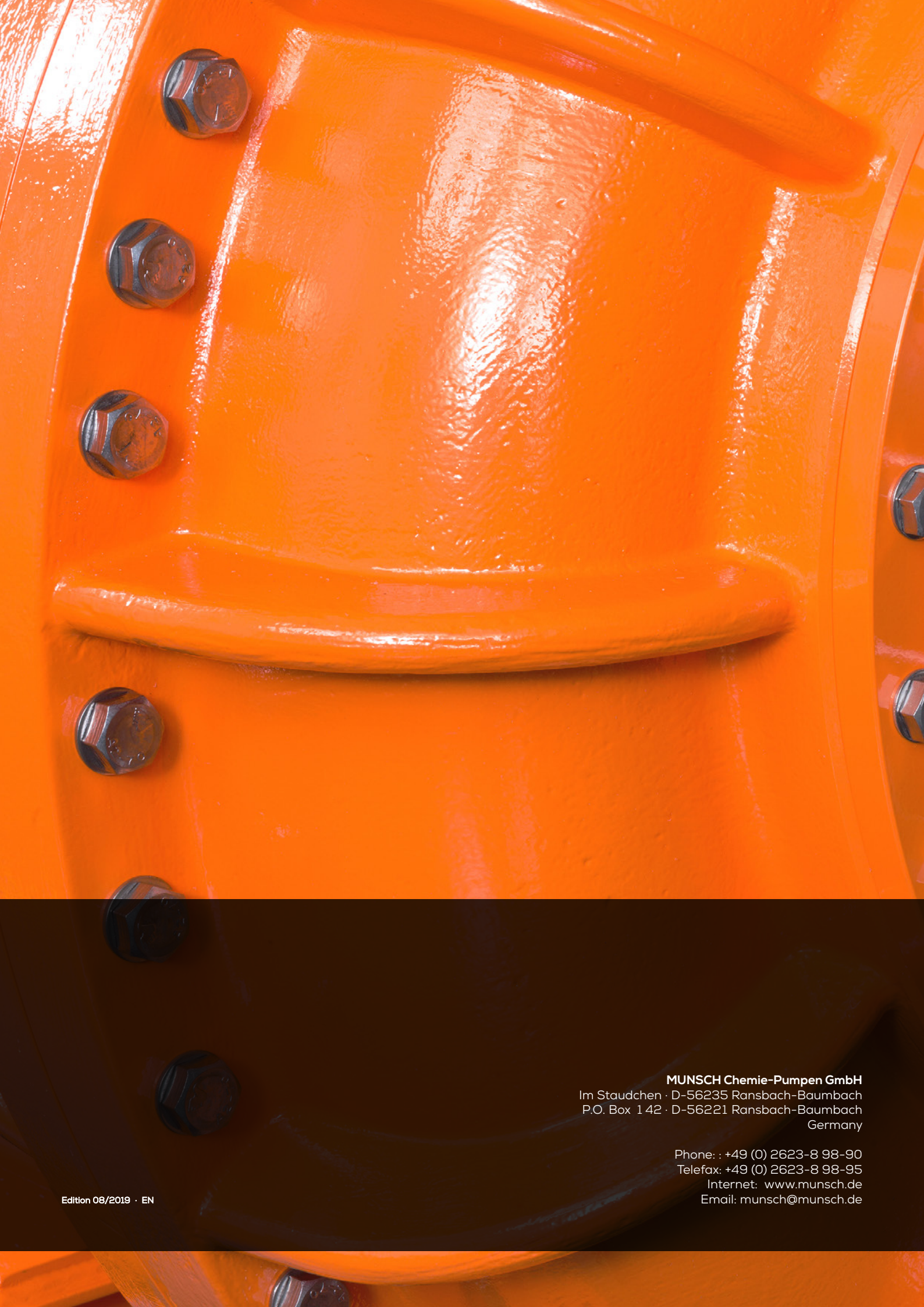
MUNSCH mechanical seals are supplied with provisions for various flushing options. The flushing variants can be adapted to the specific application. Contact us! We will recommend you the best-suited configuration.



Already heard?

MUNSCH offers you a broad range of hand-held plastic extrusion welders with a full suite of accessories for container engineering, hydraulic engineering and landfill construction applications.





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