



MUNSCHE ECM+

THE EFFICIENT MAGNETICALLY COUPLED CHEMICAL PUMP

NON-METALLIC PUMPS FROM THE SPECIALIST

As a family-owned company, MUNSCH has been a reliable partner to the chemical and process industries for more than 50 years, working shoulder to shoulder with their 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 fullest and putting us in a position to respond flexibly to our customers' special product and service needs. Thanks to our high level of vertical integration and latest manufacturing technology, we are well placed for cost-effective manufacture.

TOGETHER WITH OUR CUSTOMERS ...

and built on many years of experience, we select optimal solutions from our product portfolio that guarantees reliable operation at ideal 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.

MUNSCH PUMPS ...

have earned an excellent reputation among industry users and our customers' project engineers over the years. They stand for reliability, safe operation, easy handling, high efficiencies and thick-walled plastic casings. The ECM+ series unites these attributes and is setting new standards of efficiency and cost effectiveness.



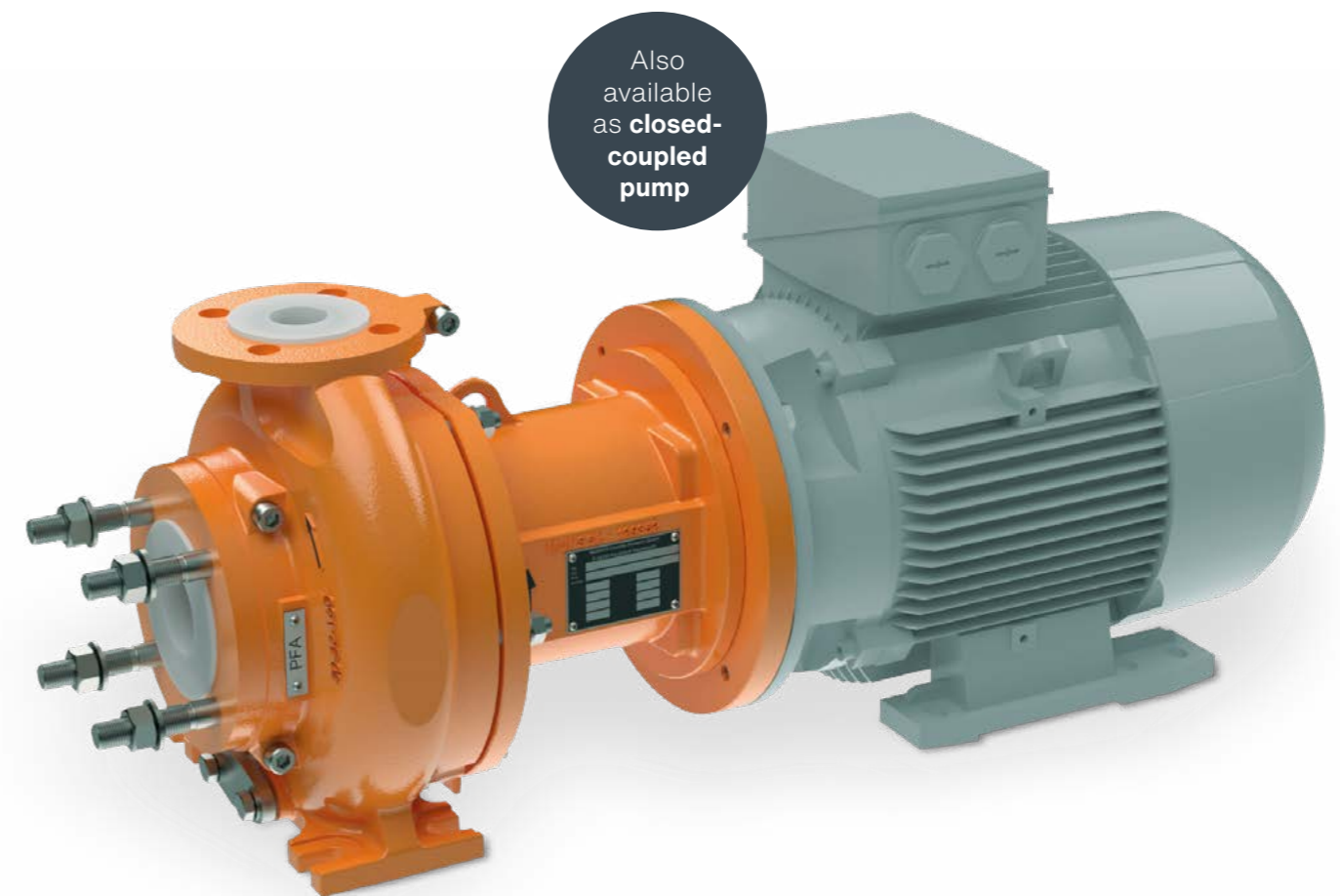
THE MUNSCH ECM+

The efficient pump for highly corrosive applications in the chemical industry

The ECM+ series pumps are the solution of choice for the safe pumping of highly corrosive and aggressive fluids such as acids, alkalis, solvents or chemically contaminated fluids. Thanks to a special design feature, their reliable function is also ensured when pumping solids-carrying fluids.

Consistently reduced to the essentials, the ECM+ series represents our economical variant of a hermetically sealed magnetically coupled pump.

Excellent suction behaviour and exceptional efficiencies are further hallmarks of this pump series.



APPLICATIONS

The pump series for medium-duty applications

The hermetically sealed ECM+ and ECM-B+ series magnetically-coupled pumps are specifically designed for the safe handling of highly corrosive fluids such as acids, alkalis, solvents or chemically contaminated fluids in the presence or absence of solids.

Typical applications of the ECM+ include service in:

- chemicals distribution
- semi-conductor production
- the chemical and pharmaceutical industries
- waste water and exhaust gas treatment
- metal surface finishing



The ECM+ and ECM-B+ series pumps meet the requirements of EU-Directive 2014/34/EU for use in explosion hazard areas.

FACTS

The MUNSCH ECM+ at a glance



TYPES OF CONSTRUCTION

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

COATING SYSTEM (metal components)

The high-quality powder coating provides perfect protection in highly corrosive service environments (corrosiveness category 4 as per ISO 12944) as typically encountered in chemical plants, industrial and coastal areas.

- Base coat: epoxy resin, film thickness 60-80 µm
- Top coat: polyurethane, film thickness 60-80 µm
- Total film thickness: 130-150 µm
- Colour: RAL 2003, pastel orange

PERFORMANCE DATA

	50Hz	60Hz
Capacity [Q]:	up to 60 m³/h	up to 70 m³/h
Differential head [H]:	up to 60 m	up to 70 m
Motor rating [P] up to:	7,5 kW	7,5 kW

DRIVE

Three-phase a.c. motor, frame types B3 and B3/B5 to IEC, BS or NEMA; type of protection, flameproof enclosure and motor voltage to customer specifications.

PIPING CONNECTION

Standard design to DIN 2501, PN 16, optionally to:

- ANSI B16.5, Class 150
- JIS B2210, Class 10K

PUMP MATERIALS

Part designation	Standard materials
Volute casing	PFA / PP
Inner magnet assembly	PFA / PP / steel
Outer magnet assembly	steel
Intermediate lantern	ductile cast iron
Casing armour	ductile cast iron
Spacer can	PFA / PP / PPS
Plain bearing	SSIC / carbon
Drive shaft	steel
Bearing bracket	ductile cast iron

EXPLOSION PROTECTION TO EU DIRECTIVE 94/9/EG (OPTION)

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

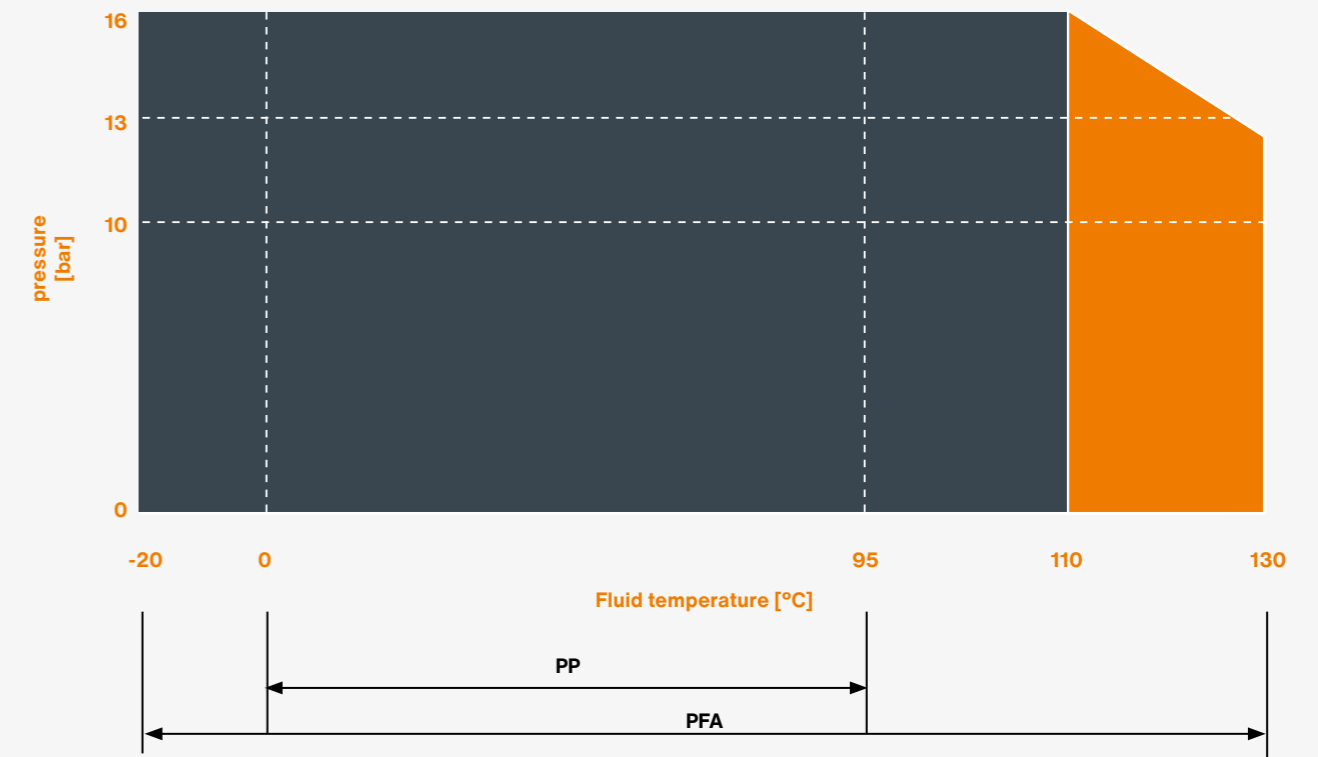
ACCESSORIES/OPTIONS

- Base plate
- Levelling elements for anchor-free setup
- Coupling with/without spacer piece
- Sturdy coupling guard
- Casing drain
- Priming pot
- Motor overload switch
- RAL colour of pump: customer-specific

PUMP MATERIALS

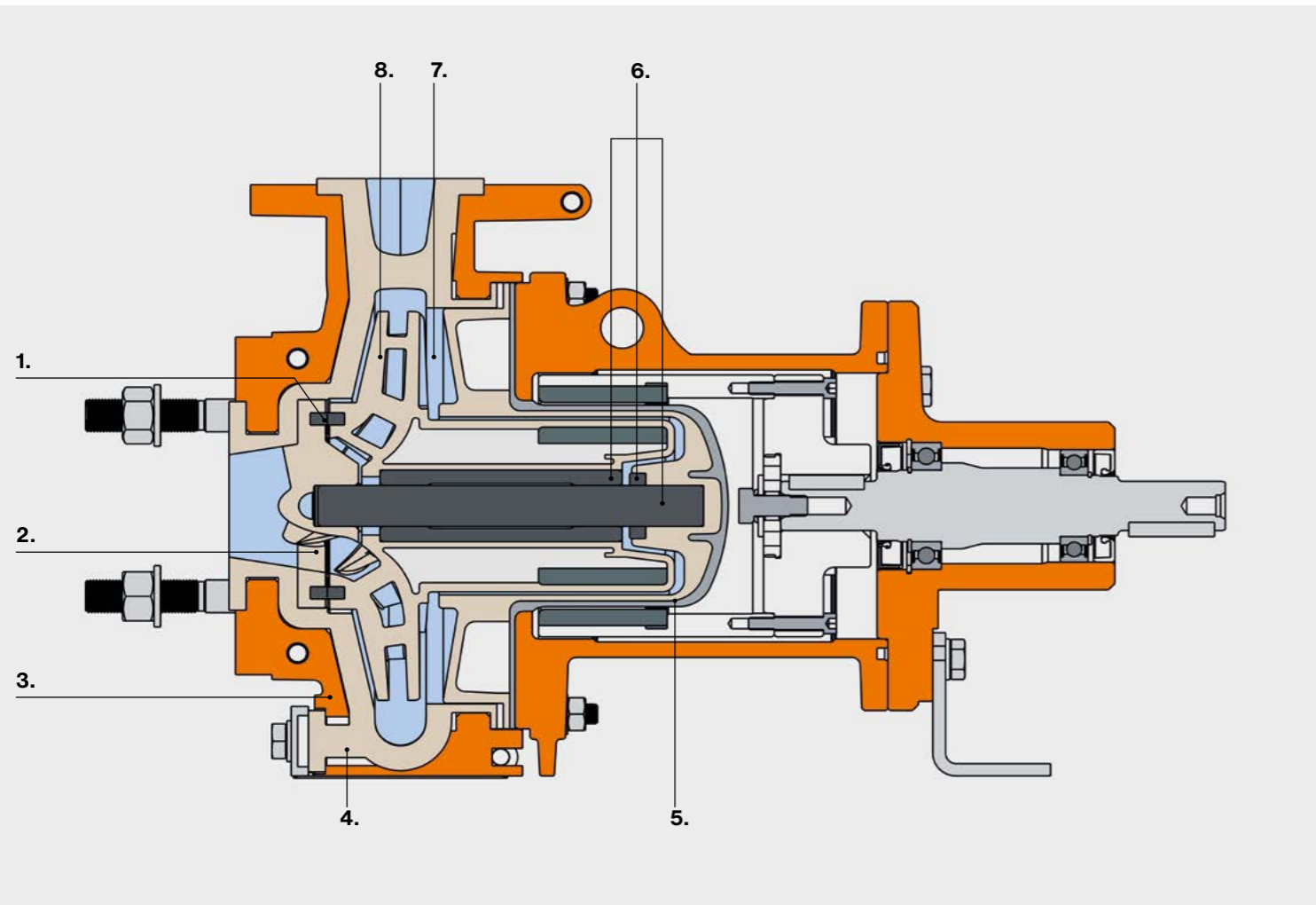
	PP	0 to 95 °C	Cost-effective material featuring excellent resistance to many inorganic acids, alkalis and salts
	PFA	-20 to 130 °C	Virtually universally chemical-resistant fluoropolymer with a broad temperature and application range

MAXIMUM ALLOWABLE OPERATING PRESSURES AND TEMPERATURES



THE ECM+ EFFICIENCY CONCEPT

The tried-and-tested solution for highly corrosive service environments



1. AXIAL BEARING

Axial bearing installed in impeller suction eye area fabricated from SSiC, minimized clearance gap losses, excellent suction behaviour (low NPSH), high efficiency, reduced number of components, ease of assembly and disassembly.

2. VOLUTE CASING

Thick-walled, single-piece volute casing. Replaceable, vacuum-resistant and designed with mechanical wear reserves; maximum operating reliability in chemically aggressive and abrasive service environments.

3. CASING ARMOUR

Robust cast iron armour reliably absorbs all allowable piping loads and system pressures.

4. CASING DRAIN

Drain bore for low point drainage of volute casing available as an option.

5. SPACER CAN

Metal-free double-wall unit consisting of an outer shell and a separate can liner:

- no eddy currents and hence no heat transfer to the fluid pumped
- no energy losses and hence no efficiency losses
- spacer can protected from mechanical contact with the outer magnet assembly

6. PLAIN BEARING

Plain bearings of silicon carbide (SSiC) provide maximum resistance to wear and corrosion; continuous forced coolant and lubricant flow to the bearing. Option: improved dry run protection through SiC/ carbon bearing.

7. SOLIDS

The integrated solids deflector keeps the greater part of the solids clear from the axial clearance of the plain bearing. Option: design with additional solids barrier.

8. IMPELLER

Available in closed design.



CONSISTENTLY SUSTAINABLE & ENERGY-EFFICIENT

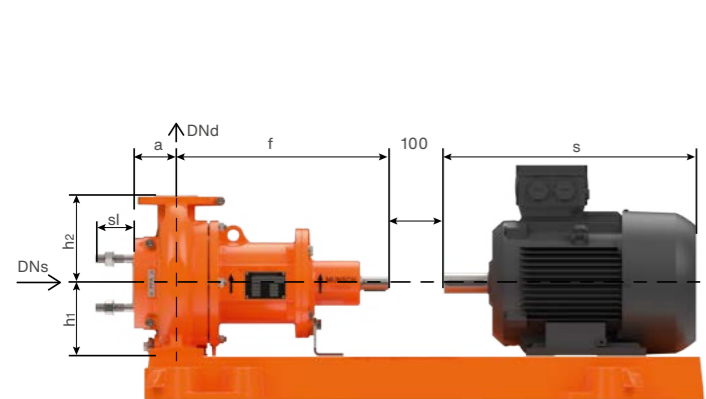
Thanks to its stunningly high efficiencies, the EMC+ saves valuable resources and supports efforts to reduce greenhouse gas emissions.

Featuring hermetic tightness, a minimum of components, a replaceable volute casing and other useful options, the efficiency concept of the ECM+ reflects our commitment to sustainability.

The robust design not only convinces through its exceptional running smoothness, but also helps extend the pump's service life.

PUMP SIZES AND PUMP DIMENSIONS

MOTOR DIMENSIONS ECM+



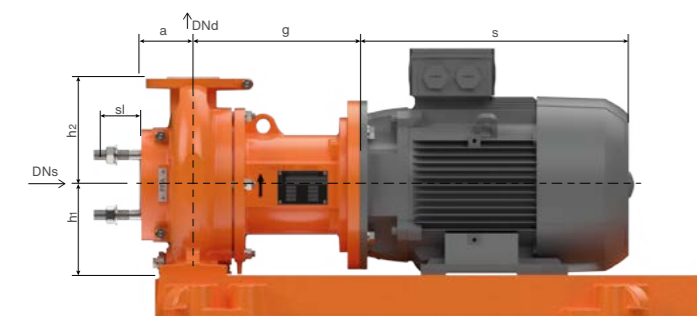
speed 1450 min⁻¹

Pump size	IP55 [kW]	EExel [kW]	S
90S	1,1	1	275
90L	1,5	1,35	297
100LB	2,2	2,0	383
100LD	3	2,5	383
112MB	4	3,6	389
132SB	-	-	-
132SD	-	-	-
132SX	-	-	-

speed 2900 min⁻¹

Pump size	IP55 [kW]	EExel [kW]	S
90S	1,5	1,3	275
90L	2,2	1,85	297
100LB	3	2,5	383
100LD	-	-	-
112MB	4	3,3	389
132SB	5,5	-	458
132SD	7,5	4,6	458
132SX	-	5,5	458

MAIN PUMP DIMENSIONS ECM-B+



speed 1450 min⁻¹

Pump size	IP55 [kW]	Ex eb IIC [kW]	S
100L	2,2	2	336
100L	3	2,5	336
112M	4	3,6	329
132S	5,5	5	385
132M	-	-	-

speed 2900 min⁻¹

Pump size	IP55 [kW]	Ex eb IIC [kW]	S
100L	3	2,5	336
100L	-	-	-
112M	4	3,3	329
132S	5,5	-	385
132M	7,5	4,6	385

MAIN PUMP DIMENSION ECM+

Pump size	DNs	DNd	a	f	h1	h2	sl
25-25-125	25	25	80	385	112	140	70
25-25-160	25	25	80	385	132	160	70
40-25-125	40	25	80	385	112	140	70
40-25-160	40	25	80	385	132	160	70
50-32-125	50	32	80	385	112	140	70
50-32-160	50	32	80	385	132	160	70
65-50-125	65	50	80	385	112	140	70

DIMENSION "G" ECM-B+

Motor size	g
90	227,5
100	246,5
112	246,5
132	257,5



Hints:
 Flange to DIN 2501, PN 16
 Suction-side studs to DIN 938

Dimensions in [mm]

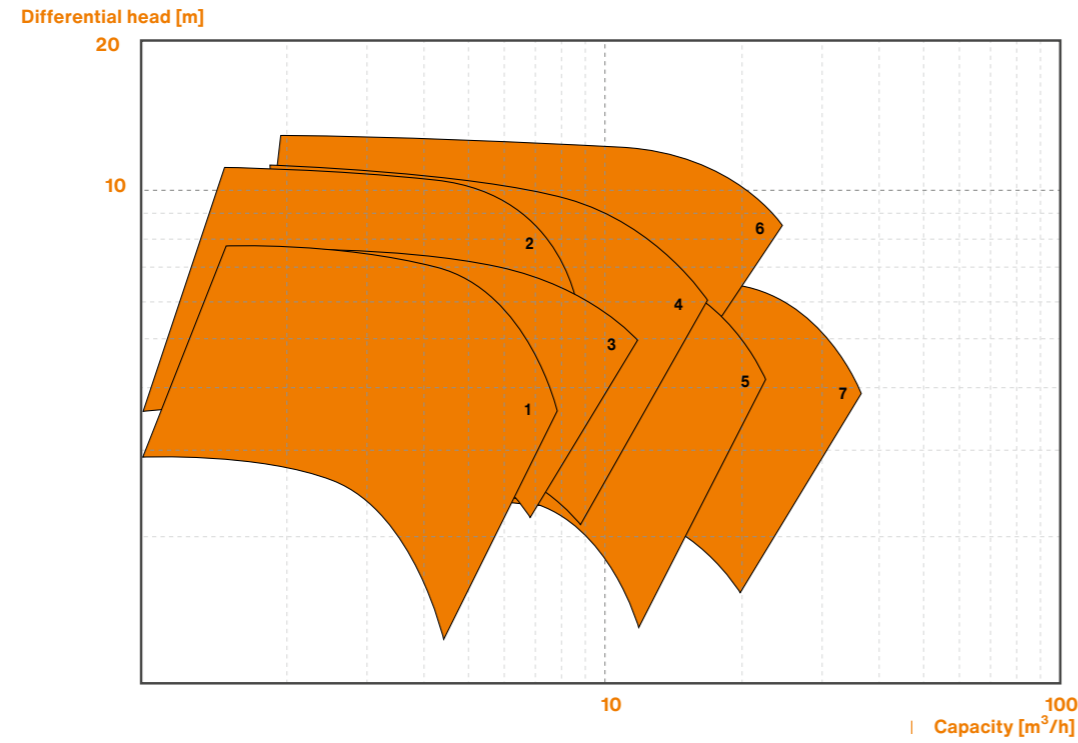
1) Length of spacer piece of spacer coupling, i.e. no need for disconnecting the motor for dis-assembly.

2) Motor length S relates to a European brand name motor.

PERFORMANCE RANGES

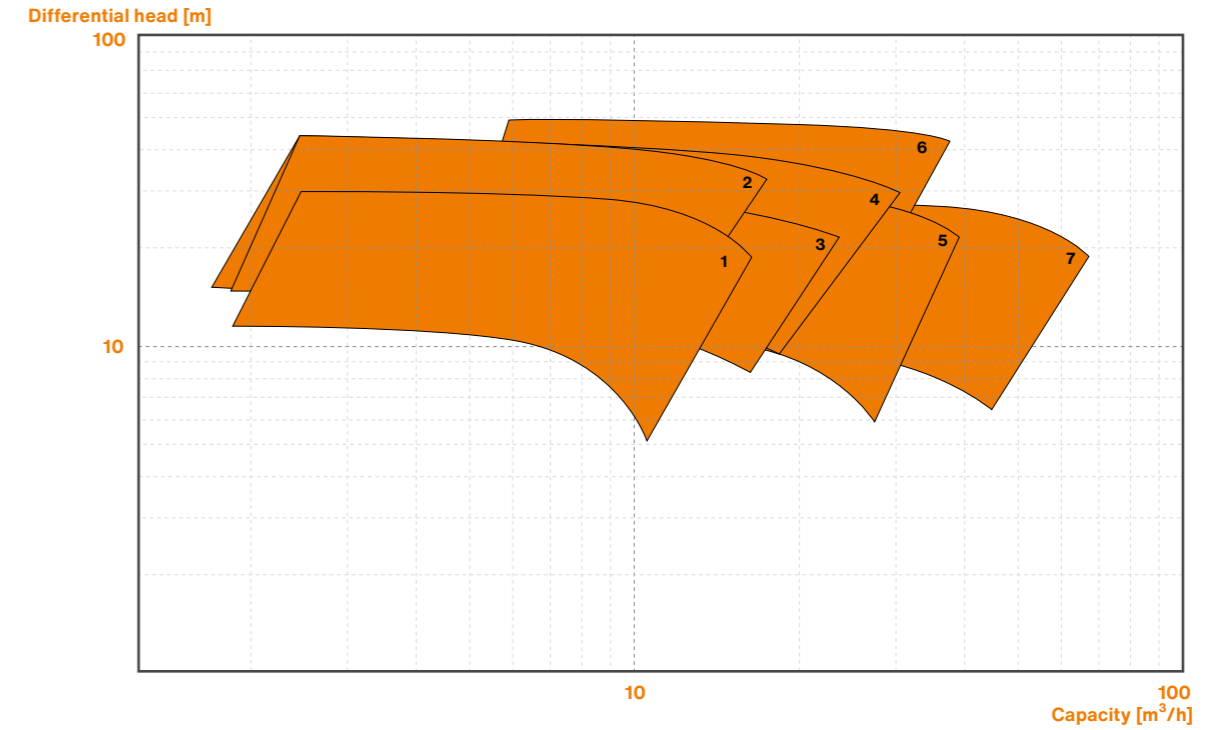
PERFORMANCE RANGE CHARTS 1.450 MIN⁻¹ (50 HZ)

- 1. 25-25-125
- 2. 25-25-160
- 3. 40-25-125
- 4. 40-25-160
- 5. 50-32-125
- 6. 50-32-160
- 7. 65-50-125



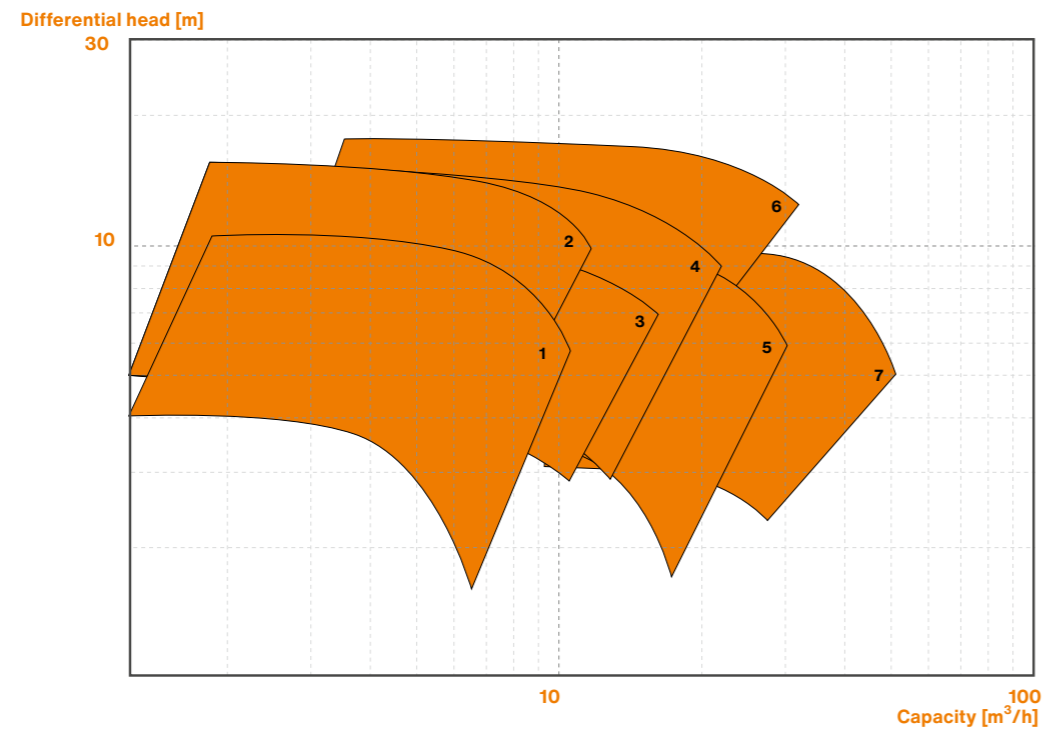
PERFORMANCE RANGE CHARTS 2.950 MIN⁻¹ (50 HZ)

- 1. 25-25-125
- 2. 25-25-160
- 3. 40-25-125
- 4. 40-25-160
- 5. 50-32-125
- 6. 50-32-160
- 7. 65-50-125



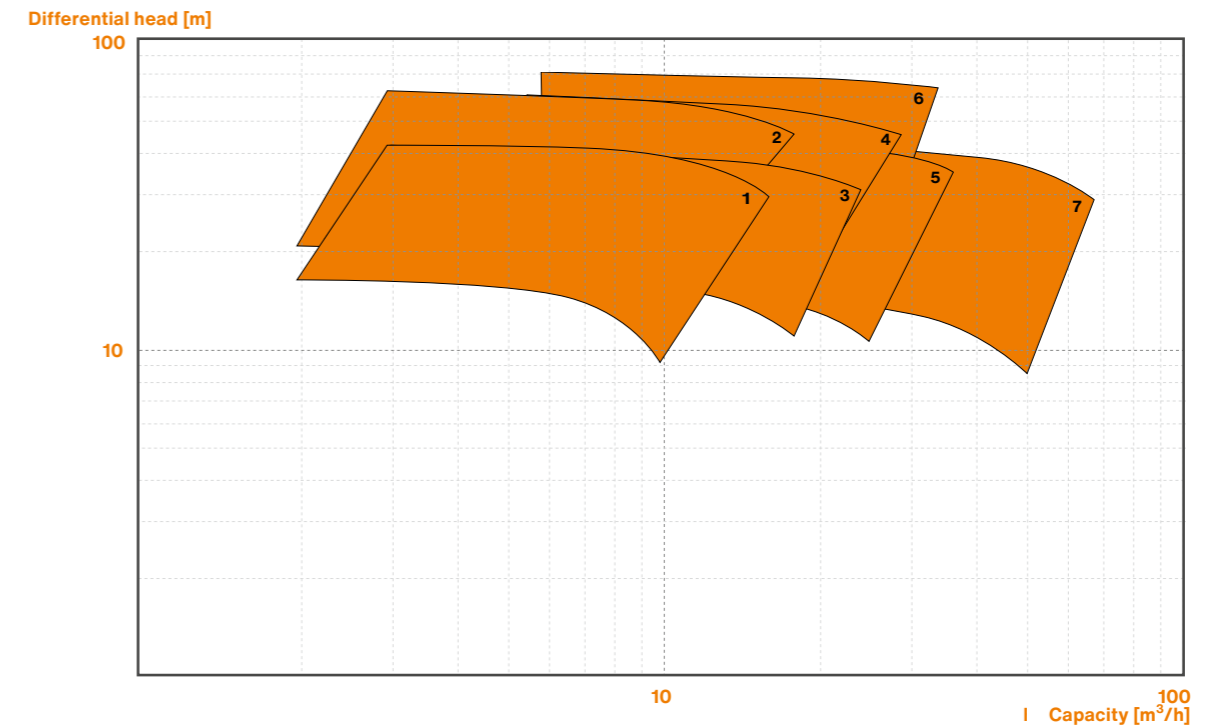
PERFORMANCE RANGE CHARTS 1.750 MIN⁻¹ (60 HZ)

- 1. 25-25-125
- 2. 25-25-160
- 3. 40-25-125
- 4. 40-25-160
- 5. 50-32-125
- 6. 50-32-160
- 7. 65-50-125



PERFORMANCE RANGE CHARTS 3.550 MIN⁻¹ (60 HZ)

- 1. 25-25-125
- 2. 25-25-160
- 3. 40-25-125
- 4. 40-25-160
- 5. 50-32-125
- 6. 50-32-160
- 7. 65-50-125



PORTFOLIO

Our solutions for all applications



HORIZONTAL CENTRIFUGAL PUMPS WITH MECHANICAL SEALS

Capacity	up to 4,500 m ³ /h
Pump head	up to 90 m
Pump pressure	up to 16 bar
Main material	UHMW-PE (PE1000) · PP · PVDF · PTFE/PFA
Fluid temperature	up to 150°C
Pump sizes	40-25-125 to 500-400-700
Seals	Single/double metal-free MUNSCH REA mechanical seal



HORIZONTAL CENTRIFUGAL PUMPS WITH MAGNETIC COUPLING

Capacity	up to 200 m ³ /h
Pump head	up to 90 m
Pump pressure	up to 16 bar
Main material	PP · PTFE/PFA
Fluid temperature	up to 180 °C
Seals	Sealless (magnetically coupled)



VERTICAL CENTRIFUGAL PUMPS FOR TANKS AND PUMP SUMPS

Capacity	up to 650 m ³ /h
Pump head	up to 70 m
Pump pressure	up to 10 bar
Main material	PE-UHMW · PP · PVDF
Fluid temperature	up to 120 °C
Pump sizes	50-32-125 to 200-150-250
Vertical setting depth	500 to 3,000 mm



PLASTIC EXTRUSION WELDERS

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.

More information at:
www.munschwelding.com



VARIANTS AND ACCESSORIES

- Space-saving close-coupled design available
- High-quality motors to your specifications
- High-quality couplings
- Priming pots with limit switch for self-priming operation
- Pressure and temperature monitors
- Leakage and pump monitoring systems
- Flange adapters and expansion joints
- Seal flush systems based on API

Already heard?

WHAT YOU CAN EXPECT FROM MUNSCH

Expect more than just a pump! Our customers appreciate that we are accessible, good listeners and act fast. Our solutions do not stop at the pump discharge nozzle – we are interested in what our customers do and offer flexible solutions. We mean it – give us a try!

Your MUNSCH team is putting its heart and soul into problem solving and product development.

Together with our worldwide partners, we put every effort into meeting your pumping needs.

MUNSCH Chemie-Pumpen GmbH

Im Staudchen · D-56235 Ransbach-Baumbach
P.O. Box 1 42 · D-56221 Ransbach-Baumbach
Germany

Phone: +49 (0) 2623-8 98-90
Telefax: +49 (0) 2623-8 98-95
Internet: www.munsch.de
Email: munsch@munsch.de