



MUNSCH

Plastic Pumps for Aggressive Media

Non-Metallic Chemical pumps

with magnetic drive

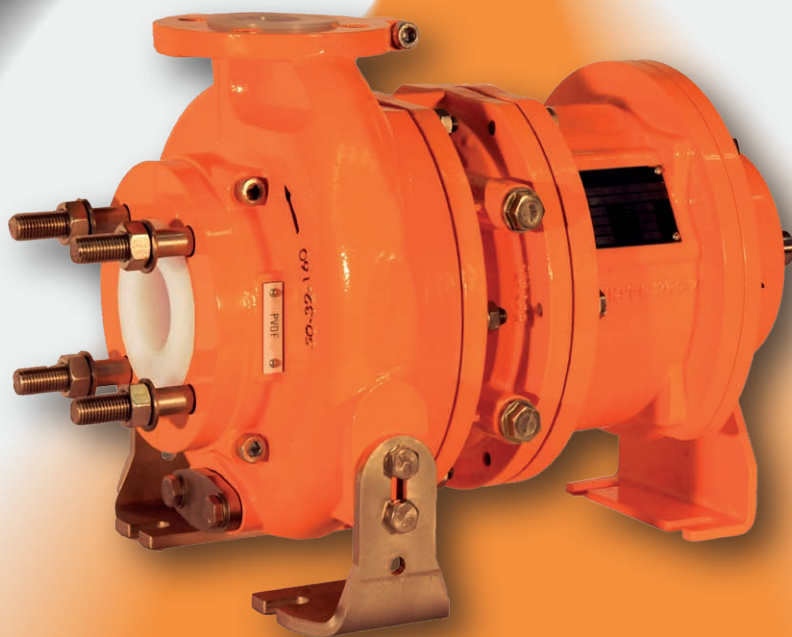
Standardized pump CM

Close-Coupled pump CM-B

In PFA / PVDF / PP / PE-UHMW

Flow rate up to 180 m³/h

Differential heads up to 85 m



► Applications

The type CM and CM-B hermetically sealed magnetically coupled pumps are the solution of choice for pumping fluids posing an environmental or health hazard such as acids, alkalis, solvents or chemically polluted 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.

► Materials

Part designation	Standard material range			
	PP	PE-UHMW	PVDF	PFA
Pump casing	PP	PE-UHMW	PVDF	PFA
Impeller	PP	PE-UHMW	PVDF	PFA
Inner magnet assembly	PFA			
Intermediate lantern	Spheriodal cast iron			
Casing armour	Spheriodal cast iron			
Outer magnet assembly	Steel			
Plain bearing	SSIC			
Drive shaft	Steel			
Plain bearing holder	GGG/PFA			

► Performance data^②

	50 Hz	60 Hz
Pump capacity [Q]	180 m³/h	200 m³/h
Total differential head [H]	85 m	115 m
Motor rating [P]	30 kW	36 kW

2) Performance data for standardized pumps; extended performance ranges on request

► Flange connection

Standard design: as per DIN 2533, PN16,
 alternatively: - as per ANSI B16.5, Class 150,
 - as per JIS B2210, Class 10K

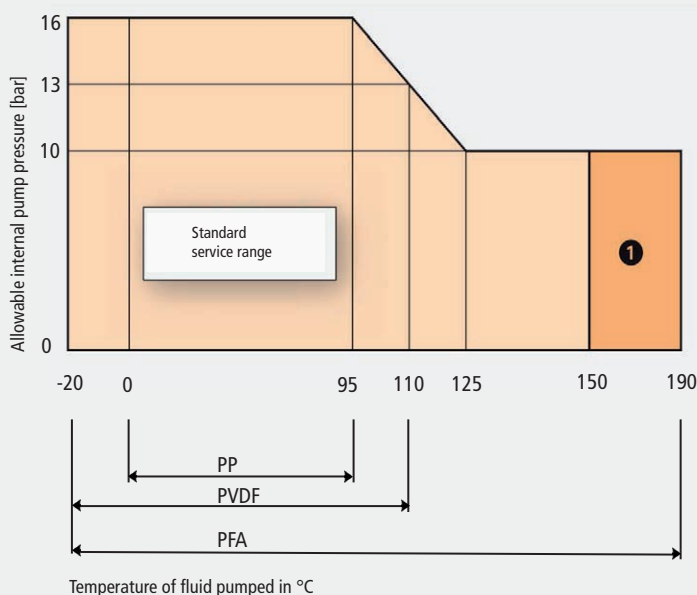
► Drive

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

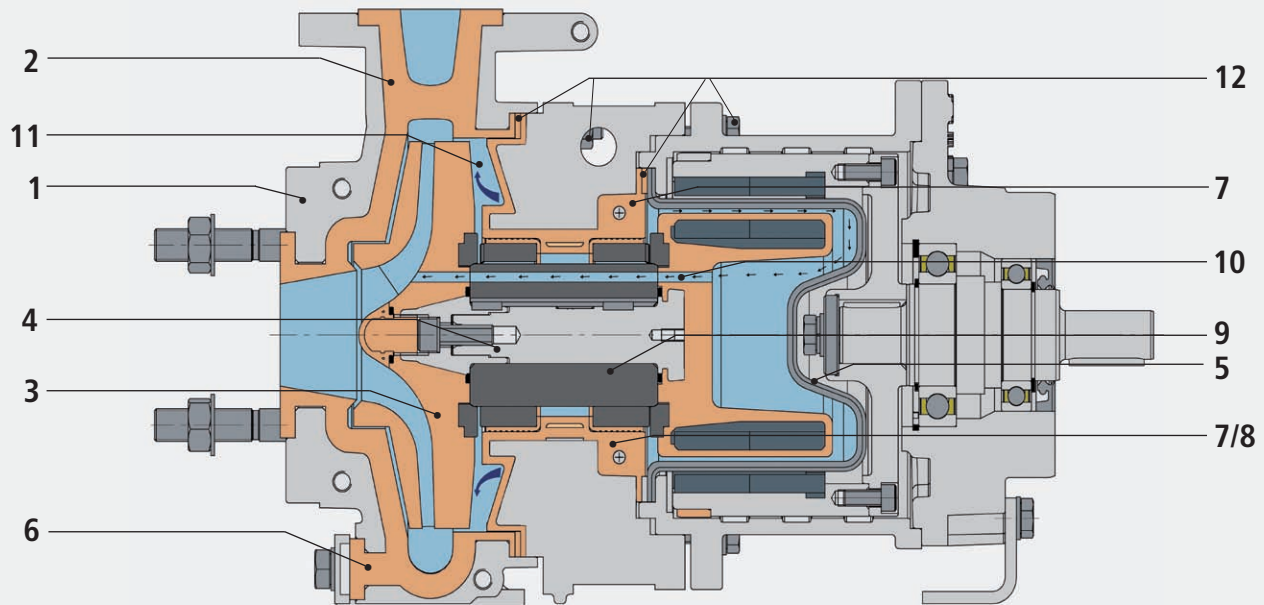
► Coating

- Base coat: epoxy resin
 Dry film thickness 60 - 80 µm
 - Top coat: polyurethane,
 Dry film thickness 60 - 80 µm
 Total dry film thickness: 130-150 µm;
 Special coatings available on request.

► Maximum allowable service pressures and temperatures



① Extended service range



► Design features

- 1** Robust casing liner reliably accommodates all allowable system pressures and piping loads.
- 2** Thick-walled volute casing of sealless and non-welded design ensures reliable containment and retains its shape even under vacuum conditions; superior mechanical wear resistance for maximum operating reliability in chemically aggressive and abrasive service environments.
- 3** Impeller: Available in closed, semi-open and vortex impeller designs.
- 4** Impeller is positively locked to the inner magnet assembly for reverse rotation protection; torque is transmitted by a polygon. If operating conditions change, the impeller and/or inner magnet assembly can be replaced.
- 5** Spacer can is designed as a metal-free double-wall unit consisting of an outer shell and a separate spacer 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; proximity monitor available as an option.
- 6** Casing drain: drain bore for low point drainage of volute casing available as an option.
- 7** Flushing via top or bottom flush connection available as an option.
- 8** Spacer can drainage via bottom flush connection available as an option.
- 9** Plain bearings of silicon carbide (SSIC) ensure maximum resistance to corrosion and wear; axial bearings are radially secured between the metal cores of the impeller and the inner magnet assembly.
- 10** Circulation bore: Forced coolant and lubricant flow through the spacer can reduces the retention time of the fluid pumped in the system and hence, the crystallization/polymerization risk while at the same time effectively venting gas bubbles.
- 11** Solids deflector keeps the greater part of the solids clear from the axial clearance of the plain bearing.
- 12** PTFE casing gasket and spacer can gasket are separately seated from outside via 2 cogsets for maximum safety. No spillage of residual fluid from the spacer can on disassembly of volute casing.

► Accessories/Options

- Base plate
- Levelling bolts as an alternative to pump concrete pads
- Coupling with/without spacer sleeve
- Sturdy coupling guard
- Plain bearing flush connection
- Spacer can drain
- Casing drain
- Priming pot
- Motor overload switch

► Vortex impeller/option

Vortex impellers are selected for pumping fluids with high solids loads.

The f dimensions (Side 6) is 38 mm larger. In such service conditions, an external flushing source should be provided for the plain bearing. Connection options: flange or G1/2" thread.

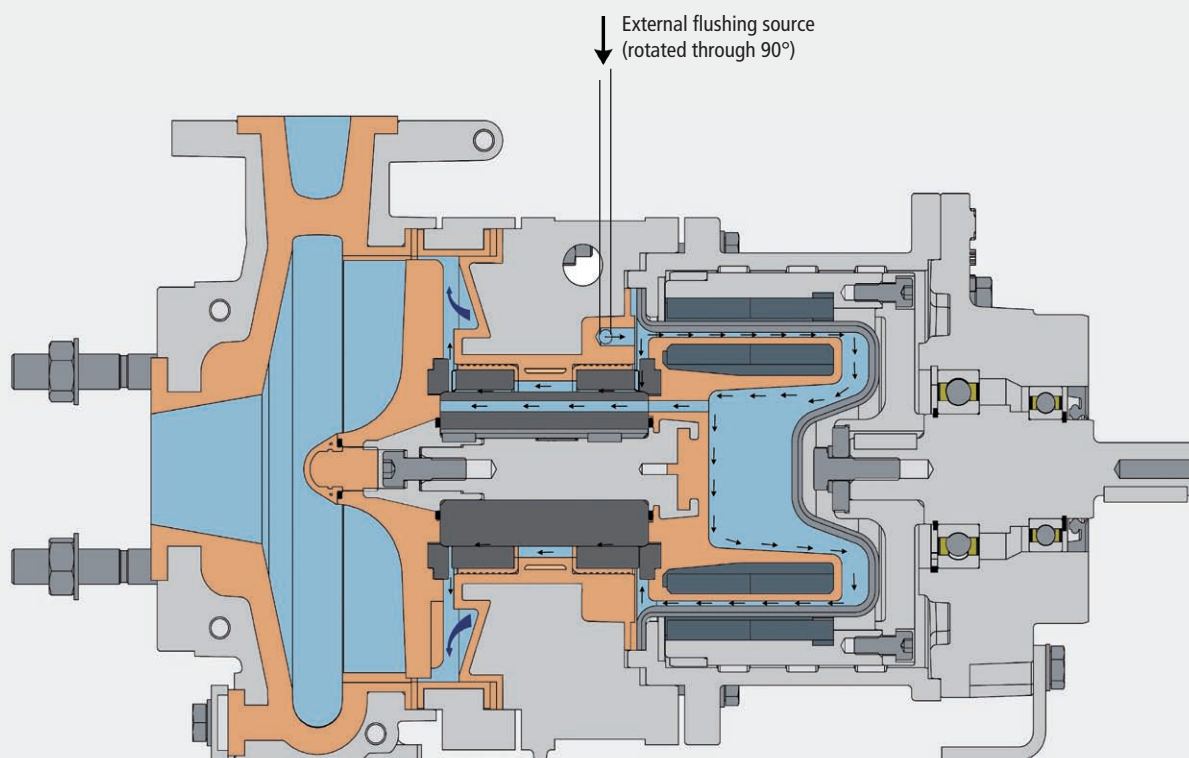
► Explosion protection for Explosion Group II C (option)

Additional engineering measures can be provided to allow use of the pumps in explosion hazard zones involving Group II C gases. The pump meets the requirements of EU directive 94/9/EC.

► Semi-open impeller/option

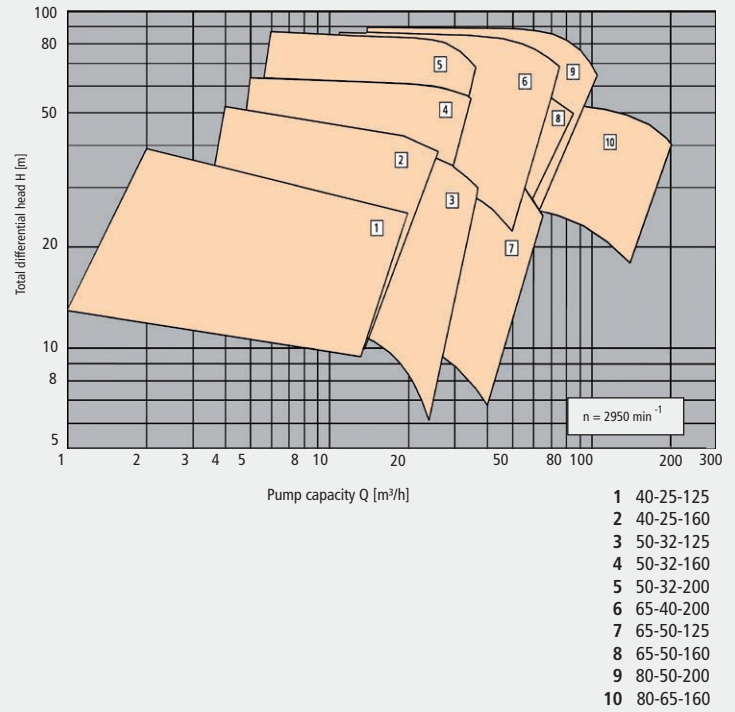
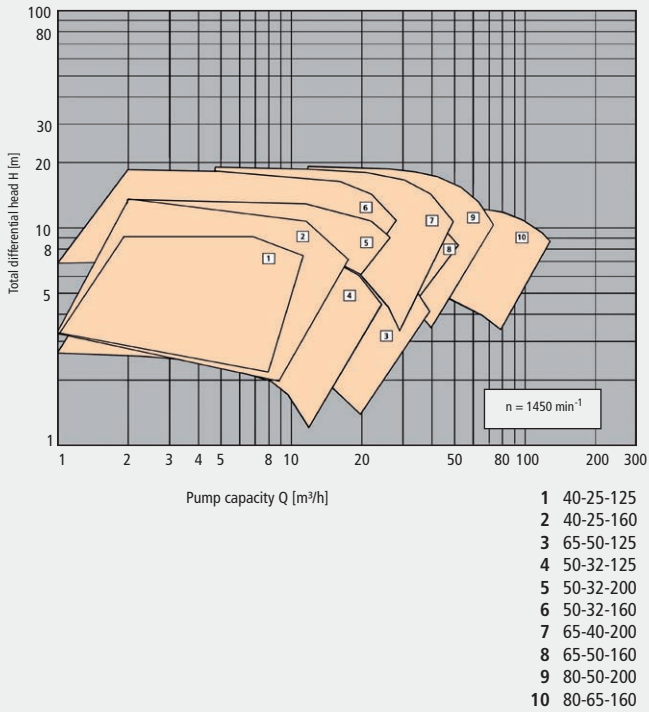
Semi-open impellers are used for pumping solids-laden fluids and fluids containing dissolved gases.

► Vortex impeller/external flushing source for plain bearing

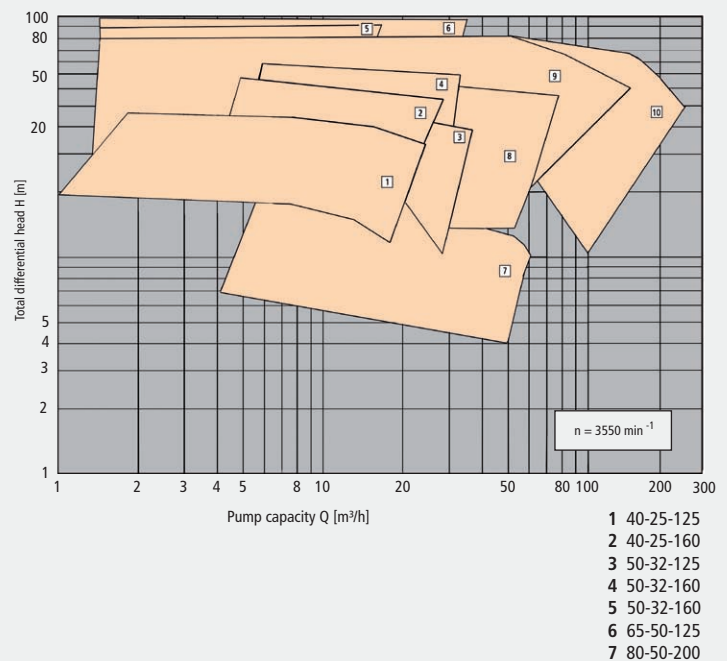
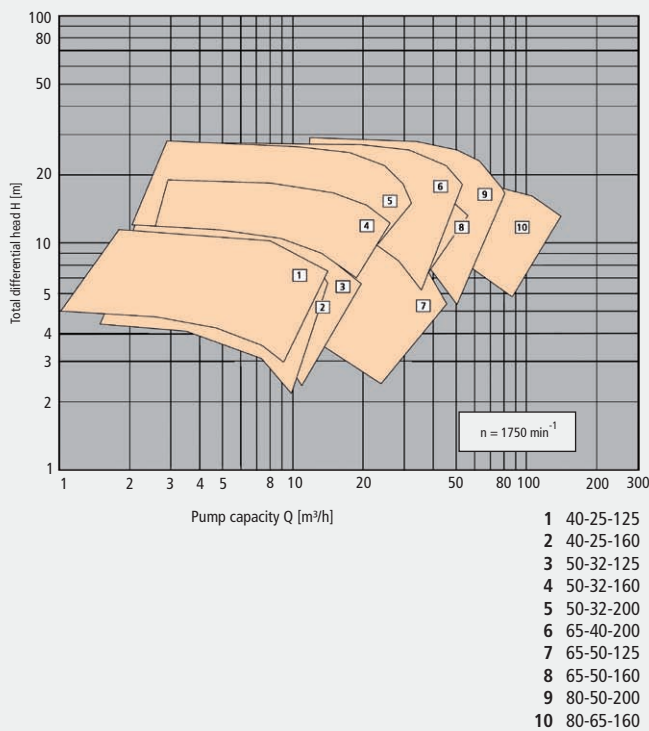


CM with vortex impeller and external flushing source for plain bearing

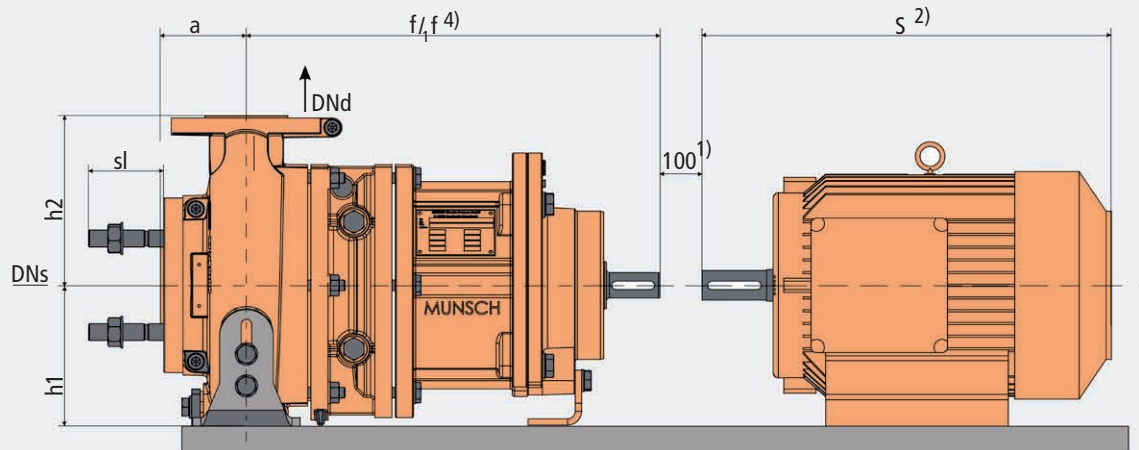
► Performance range charts [50 Hz]



► Performance range charts [60 Hz]



► Dimensions of CM standardized pump



Pump size	Pump dimensions						
	DNs	DNd	a	f	h1	h2	sl
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
50-32-200	50	32	80	385	160	180	70
65-40-200	65	40	100	385	160	180	70
65-50-125	65	50	80	385	112	140	70
65-50-160	65	50	80	385	132	160	70
80-50-200	80	50	100	385	160	200	70
80-65-160	80	65	100	385	160	200 ³⁾	70

Motor dimensions ²⁾						
1450 min ⁻¹				2900 min ⁻¹		
Motor size	IP55 [kW]	EEExII [kW]	S	IP55 [kW]	EEExII [kW]	S
100 LB	2,2	2,0	383	3	2,5	383
100 LD	3	2,5	383	-	-	-
112 MB	4	3,6	389	4	3,3	389
132 SB	5,5	5,0	458	5,5	-	458
132 SD	-	-	-	7,5	4,6	458
132 SX	-	-	-	-	5,5	458
160 MB	-	-	-	11	7,5	628
160 MD	-	-	-	15	10	628
160 LB	-	-	-	18,5	12,5	672
180 MB	-	-	-	22	15	696
200 LG	-	-	-	30	20	766
200 LJ	-	-	-	-	24	766
225 MB	-	-	-	-	28	813

Flange as per DIN 2533, PN 16
 Suction-side studs to DIN 938

Dimensions in [mm]

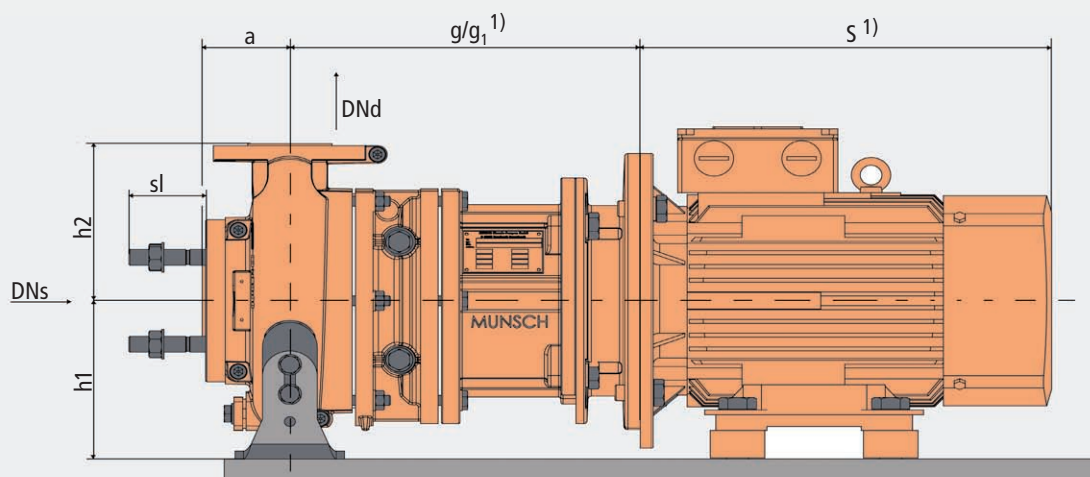
1) Length of spacer piece for spacer coupling, i.e. allows pump removal without disconnection of motor.

2) Motor length S relates to LOHER motors.

3) According to EN 22858: 180 mm

4) Design of vortex impeller $f_1 = 423\text{mm}$

► Dimensions of CM-B close-coupled pump



Pump size	Pump dimensions						
	DNs	DNd	a	g ¹⁾	h1	h2	sl
40-25-125	40	25	80		112	140	70
40-25-160	40	25	80		132	160	70
50-32-125	50	32	80		112	140	70
50-32-160	50	32	80		132	160	70
50-32-200	50	32	80		160	180	70
65-40-200	65	40	100		160	180	70
65-50-125	65	50	80		112	140	70
65-50-160	65	50	80		132	160	70
80-50-200	80	50	100		160	200	70
80-65-160	80	65	100		160	200 ³⁾	70


Motor dimensions ²⁾						
1450 min ⁻¹				2900 min ⁻¹		
Motor size	IP55 [kW]	EExell [kW]	S	IP55 [kW]	EExell [kW]	S
100 LB	2,2	2,0	322	3	2,5	322
100 LD	3	2,5	322	-	-	-
112 MB	4	3,6	329	4	3,3	329
132 SB	5,5	5,0	378	5,5	-	378
132 SD	-	-	-	7,5	4,6	378
132 SX	-	-	-	-	5,5	378
160 MB	-	-	-	11	7,5	518
160 MD	-	-	-	15	10	518
160 LB	-	-	-	18,5	12,5	562

Pump dimensions	
Motor size	g
100	278
112	278
132	320
160	349

Flange as per DIN 2533, PN 16
 Suction-side studs to DIN 938

Dimensions in [mm]

- 1) Design of vortex impeller $g_1 = g + 38$ mm
 2) Motor length S relates to LOHER motors.
 3) According to EN 22858: 180 mm



We are at your service
around the globe!

MUNSCH Chemie Pumpen GmbH

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

Phone: +49 (0) 2623-898-90

Fax: +49 (0) 2623-898-95

Internet: <http://www.munsch.de>

Email: munsch@munsch.de