



MUNSCH
Plastic Pumps for Aggressive Media

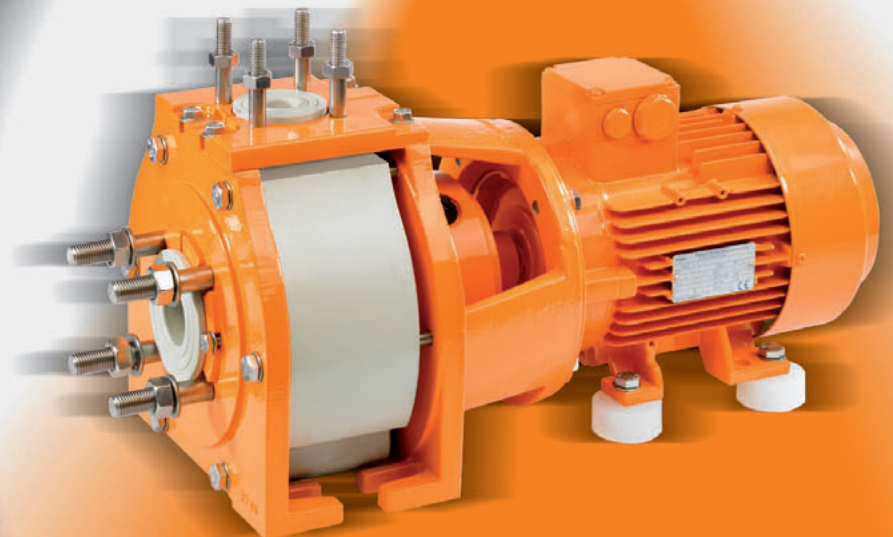
Chemical Pumps

With mechanical seal

Non-Metallic Close-Coupled Chemical Pump Type NP-B

In PP / PE-UHMW / PVDF

Casing dimensions to EN 22858 / ISO 2858



Close-Coupled Chemical Pump NP-B

▲ Applications

Type NP-B chemical pumps are the solution of choice whenever it comes to pumping acids, alkalis or chemically contaminated fluids in the presence or absence of solids. Typical applications include the chemical and metal finishing industries, steel and stainless steel pickling lines, evaporation and regeneration units, flue gas scrubbing downstream of waste incinerators as well as exhaust air cleaning and scrubber effluent treatment.

▲ Design

Horizontal, end-suction, single-stage, centrifugal pump with volute casing and radial impeller. Casing and fitting dimensions to EN 22858/ISO 2858, complemented by Size 40-25-125 and 40-25-160 pumps.

▲ Materials

Part designation	Standard material range		
	PP	PE-UHMW	PVDF
Pump casing	PP	PE-UHMW	PVDF
Intermediate lantern	GG 20		
Suction flange	GG 20		
Pressure flange	1.0037		
Casing cover	PP ¹⁾	PE-UHMW ¹⁾	PVDF ¹⁾
Pump shaft	9SMnPb28		
Impeller	PP ¹⁾	PE-UHMW ¹⁾	PVDF ¹⁾
Secondary seals	EPDM, FPM, FFKM		
Seal cover	PP		
Stationary seal ring	SSiC		
Rotating seal ring	SSiC		
Shaft sleeve	1.4571/Fluoroplastics		

1) Material combinations possible

PP	Polypropylene
PE-UHMW	Ultrahigh-molecular polyethylene
PVDF	Polyvinylidene fluoride
SSiC	High-purity silicon carbide
FPM	Fluoroelastomer
EPDM	Ethylene propylene diene elastomer
FFKM	Perfluoro elastomer

▲ Performance data for 50/60 Hz operation²⁾

Pump capacity [Q] up to	110 m ³ /h
Total differential head [H] up to	70 m
Motor sizes up to IEC motor size	132

2) NP-B pumps should only be installed in countries with 50 Hz frequency; the procurement of an alternative motor for 60 Hz frequency with compatible fitting dimensions may be difficult.

▲ Shaft sealing

Single mechanical seal

▲ Flange connection dimensions

Standard:	- to DIN 2501, PN 16,
Options:	- to ANSI B16.5, Class 150,
	- to JIS B2210, Class 10K.

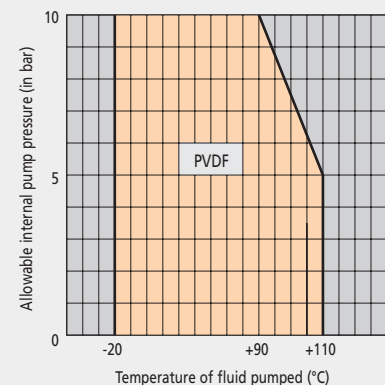
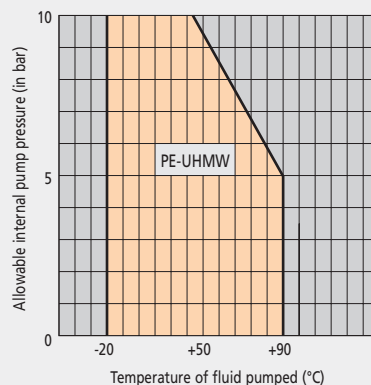
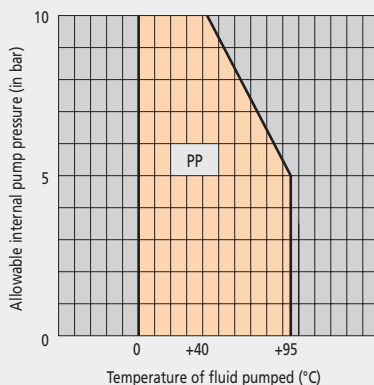
▲ Drive

Three-phase a.c. motor, design B35 to IEC, type of enclosure IP55; motor voltage according to customer's specification.

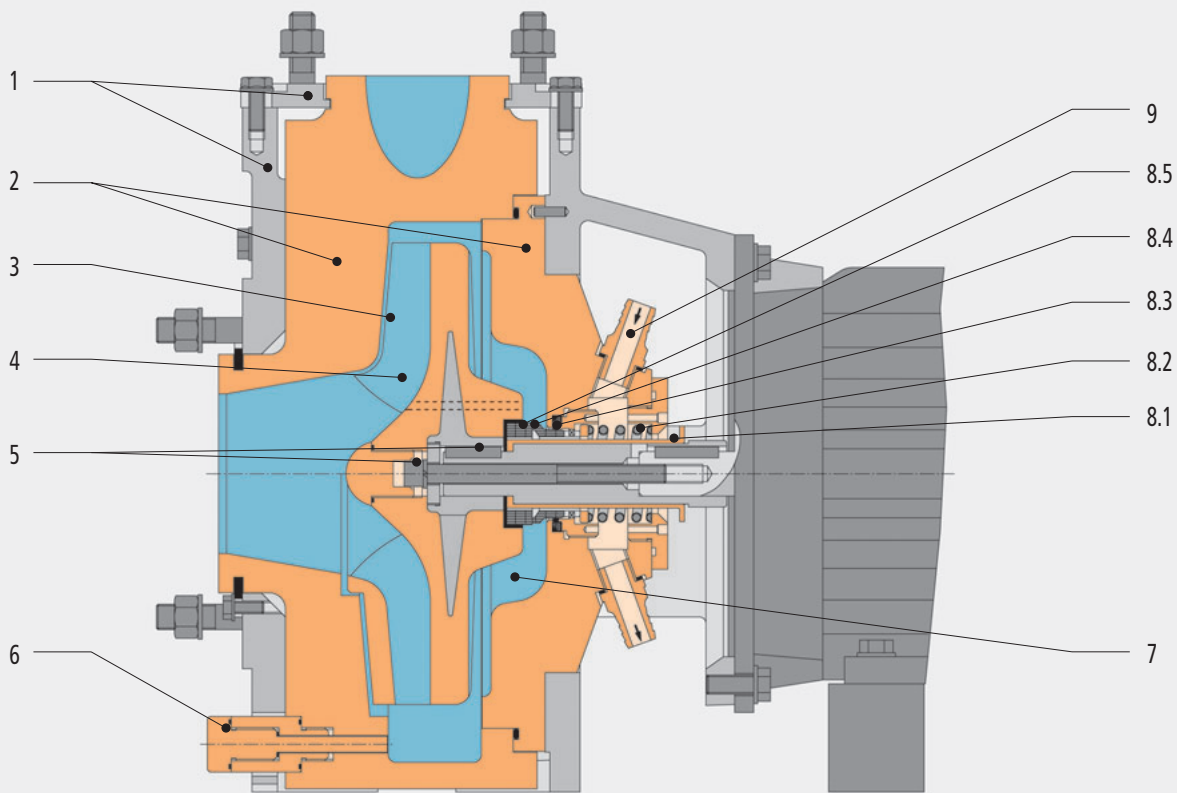
▲ Painting

Base coat: 2-component epoxy resin thick-film primer, single coat, dry-film thickness 40 - 50 µm;
Top coat: 2-component polyurethane finish paint, RAL 2003, pastel orange, 2 coats, dry-film thickness 40 - 50 µm per coat; total dry-film thickness 130 - 150 µm; special coatings available on request.

▲ Maximum allowable service pressures and temperatures



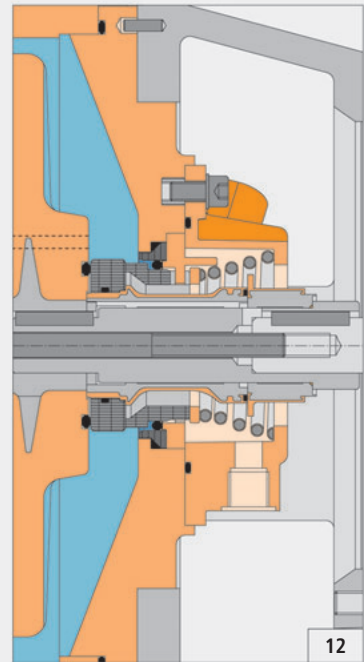
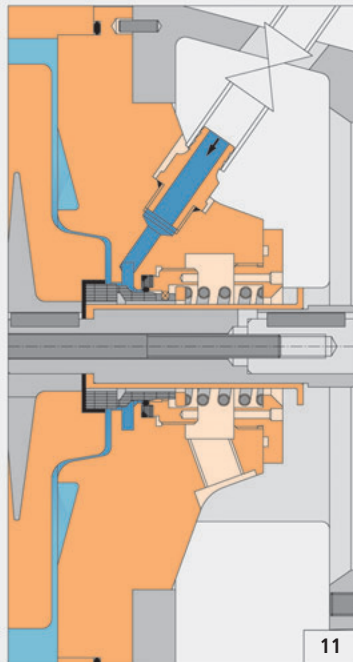
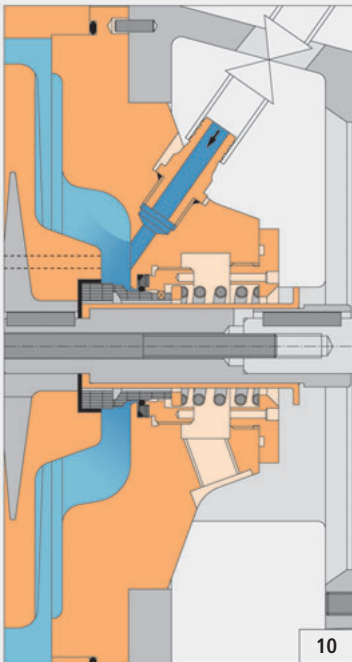
The above maximum allowable service pressures and temperatures relate to the standard pump design. Higher pressure and temperature applications possible in consultation with MUNSCH GmbH.



▲ Design features

- 1 Robust metal armour reliably accommodates all allowable system pressures and piping loads.
- 2 Sturdy single-piece plastic casing and solid casing cover provide diffusion-tight containment, eliminating secondary sealing problems; superior mechanical wear resistance for maximum operating reliability in chemically aggressive and abrasive service conditions.
- 3 Impeller available in closed and semi-open designs.
- 4 Optimum hydraulic design using the latest numerical methods ensures: good suction behaviour due to low NPSH requirements, minimum mechanical vibration of components, long service lives of anti-friction bearings and mechanical seal, minimized running noise.
- 5 Impeller is keyed to the shaft and is therefore bi-directional and unaffected by inadvertent reverse rotation.
- 6 Casing drain or connection to cleaning circuit (option).
- 7 Optimum seal chamber geometry without dead flow pockets ensures continuous liquid exchange.
- 8 The MUNSCH-REA mechanical seal is a direction of rotation-independent mechanical seal with stationary springs that has been specifically developed for MUNSCH non-metallic pumps.
Special feature: insensitive to solids-laden fluids; the rotating seal ring keeps solids clear of the seal faces.
- 8.1 The CrNiMo shaft sleeve is provided with a fluoroplastics coating and positively locked to the shaft.
- 8.2 The fluoroplastics (E-CTFE)-coated spring is located outside the path of the fluid pumped.
- 8.3 Dynamic O-ring optimally positioned between the SSiC components ensures reliable sealing over the full range of allowable service temperatures.
- 8.4 The rotating and stationary seal rings are fabricated from EKasic® C. This advanced silicon carbide not only offers extreme abrasion resistance but is also resistant to virtually all acids and alkalis.
- 8.5 The rotating seal ring design with a larger outer diameter counteracts edge pressure effectively.
- 8.6 Disassembly or assembly of the mechanical seal requires no special skills. No adjustment or alignment needed (not shown).

▲ Shaft seals - flushing options



9 MUNSCH-REA mechanical seal with spring chamber flushing system (option)

The flushing of the spring chamber is used in environments involving a risk of crystal formation or solids depositing in the spring chamber.

10 Shutdown flushing system (option)

A shutdown flushing system is provided when the fluid pumped tends to crystallize and whenever there is a risk of solids depositing in the pump interior and causing plugging problems.

11 Continuous flushing system (option)

A continuous flushing system is applied when the fluids pumped have high solids concentrations, are near their boiling point, contain undissolved gases or when there is a risk of dry running.

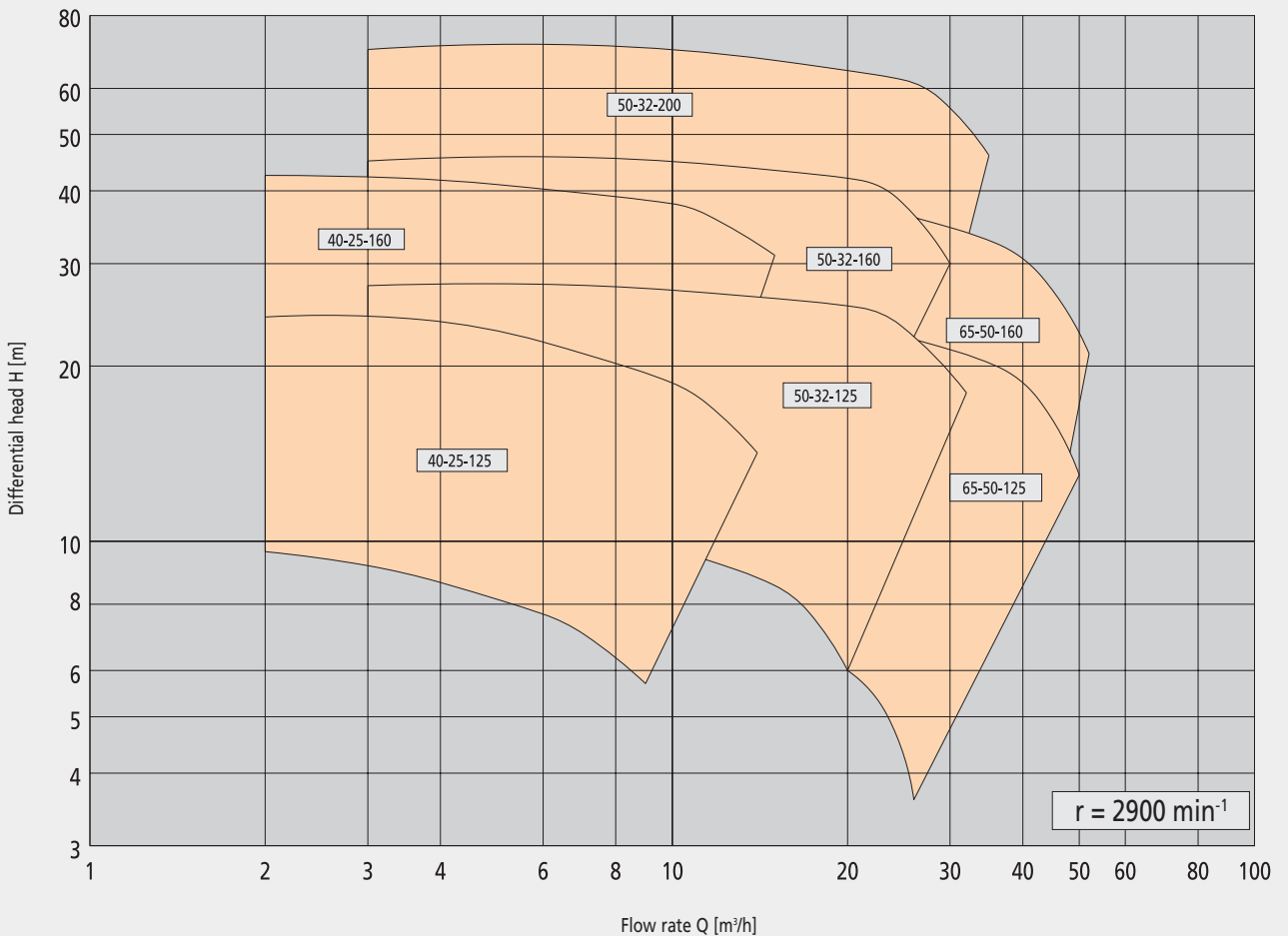
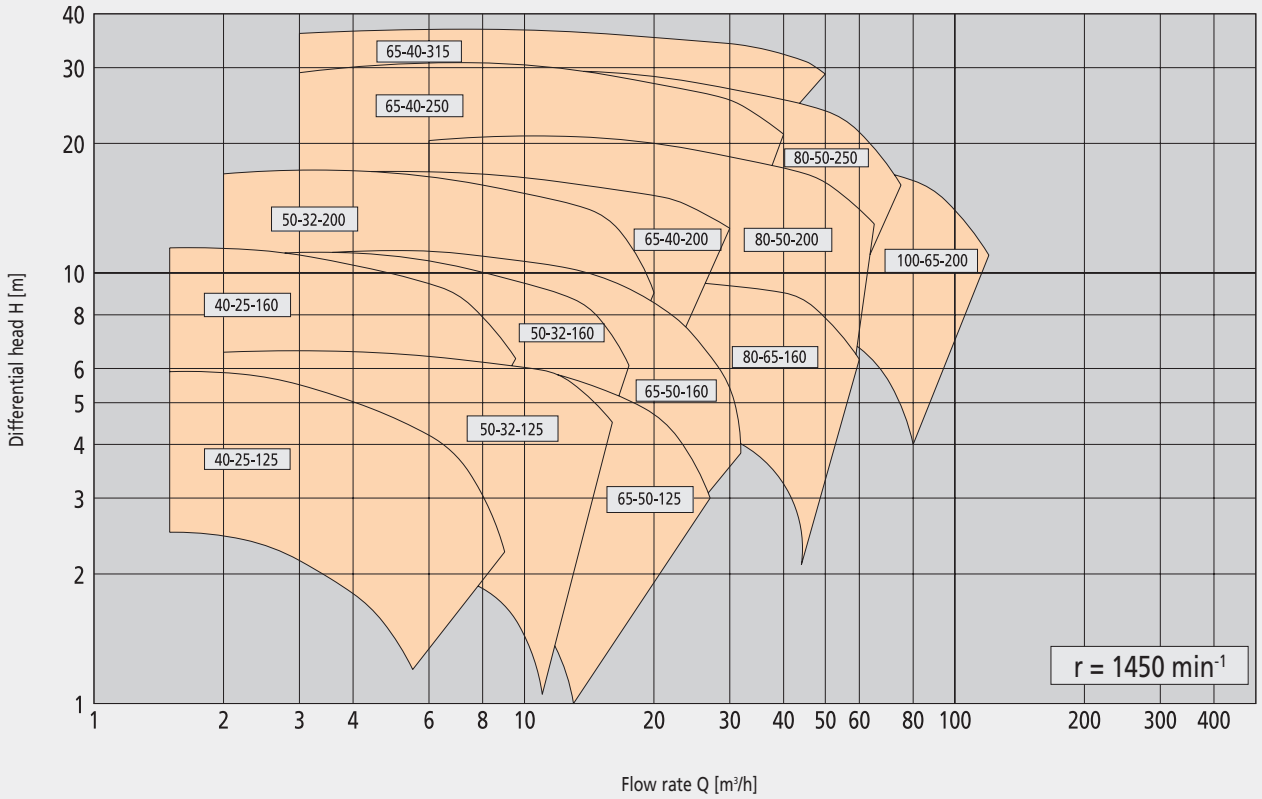
12 MUNSCH-REA-F mechanical seal (option)

Optionally, the NP-B close-coupled chemical pump may be equipped with a MUNSCH-REA-F shaft seal (not applicable to pump sizes 40-25-125, 50-32-125, 65-50-125). The MUNSCH REA-F mechanical seal is the standard shaft seal for MUNSCH standardized chemical pumps (pump size-dependent).

▲ Accessories/Options

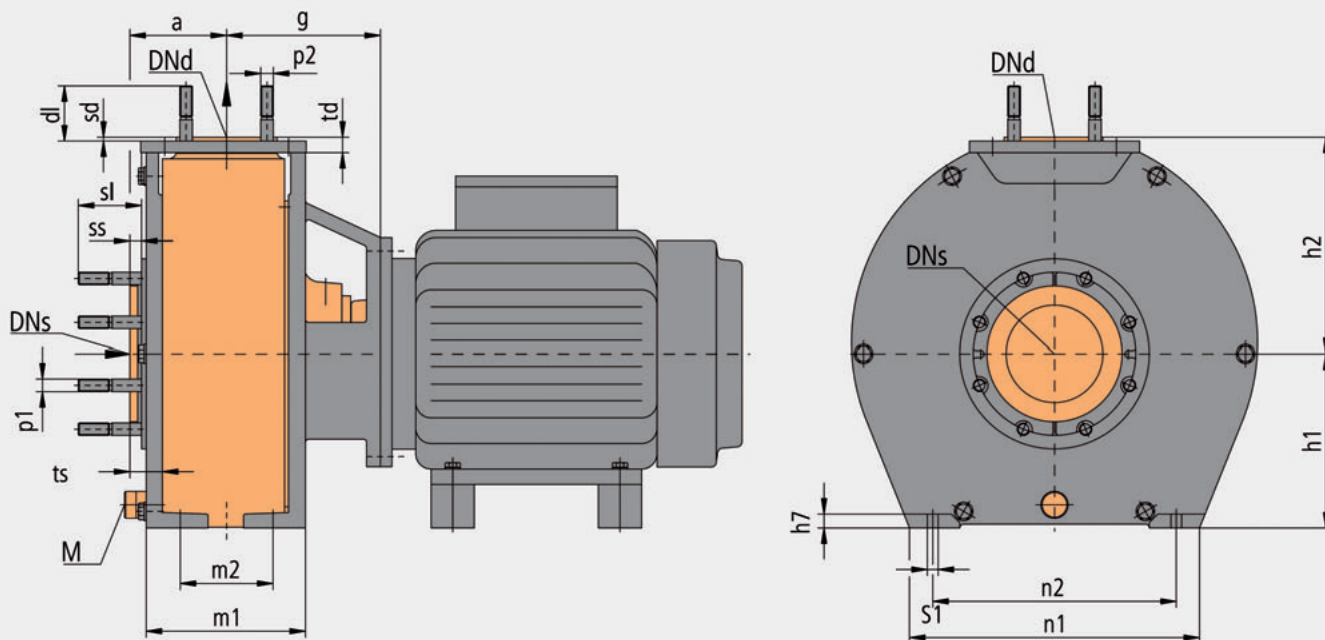
- Base plate
- Levelling elements for installation of base plates without foundation
- Priming tank
- Motor overload switch

▲ Performance range charts



Close-Coupled Chemical Pump NP-B

▲ Dimensions, Weights and Connections



Pump size	DNs ¹⁾		Weights ⁴⁾		a	g	h1	h2	m1	m2	n1	n2	S1	td	ts	h7	M ³⁾
	DNd ¹⁾	PP/PE	PVDF														
40-25-125 ³⁾	40	25	30	36	80	186	112	140	145	70	240	190	14	20	32,5	13	-
40-25-160 ³⁾	40	25	35	42	80	186	132	160	145	70	240	190	14	20	32,5	15	-
50-32-125	50	32	30	36	80	186	112	140	145	70	240	190	14	20	32,5	13	-
50-32-160	50	32	35	42	80	186	132	160	145	70	240	190	14	20	32,5	15	-
50-32-200	50	32	45	55	80	186	160	180	155	70	265	212	14	20	34	15	•
65-40-200	65	40	45	55	100	186	160	180	175	70	265	212	14	20	34	15	•
65-40-250	65	40	80	95	100	199	180	225	180	95	335	280	14	20	42	17	•
65-40-315	65	40	95	115	125	199	200	250	205	95	375	315	17	20	42	18	•
65-50-125	65	50	30	36	80	186	112	140	145	70	240	190	14	20	32,5	13	-
65-50-160	65	50	35	42	80	186	132	160	145	70	240	190	14	20	32,5	15	-
80-50-200	80	50	45	55	100	186	160	200	175	70	265	212	14	20	34	15	•
80-50-250	80	50	80	95	125	199	180	225	205	95	335	280	14	20	42	17	•
80-65-160	80	65	45	55	100	186	160	180	175	70	265	212	14	20	34	15	•
100-65-200	100	65	80	95	100	199	180	225	180	95	335	280	14	20	42	17	•

Dimensions in [mm]

Weights in [kg]

1) Flange connection dimensions to DIN 2501, PN 16

2) M = Casing drain: • = available (option), - = not available

3) Not available in PE-UHMW

4) Dimensions and weights excluding motor; for motor sizes and weights, please refer to motor catalogue

Pump size	DNs	p1	DNd	p2	sd	dl	ss	sl
40-25-125	40	M16	25	M12	5	60	11,5	70
40-25-160	40	M16	25	M12	5	60	11,5	70
50-32-125	50	M16	32	M16	5	60	11,5	70
50-32-160	50	M16	32	M16	5	60	11,5	70
50-32-200	50	M16	32	M16	5	60	12	70
65-50-125	65	M16	50	M16	5	60	11,5	70
65-50-160	65	M16	50	M16	5	60	11,5	70
65-40-200	65	M16	40	M16	5	60	12	70
65-40-250	65	M16	40	M16	5	60	15	80
65-40-315	65	M16	40	M16	5	60	15	80
80-65-160	80	M16	65	M16	5	70	12	80
80-50-200	80	M16	50	M16	5	70	12	80
80-50-250	80	M16	50	M16	5	70	15	80
100-65-200	100	M16	65	M16	5	70	15	80

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