

POMP▶IRECT

Vertical Low-pressure Pump

Etanorm V

Type Series Booklet



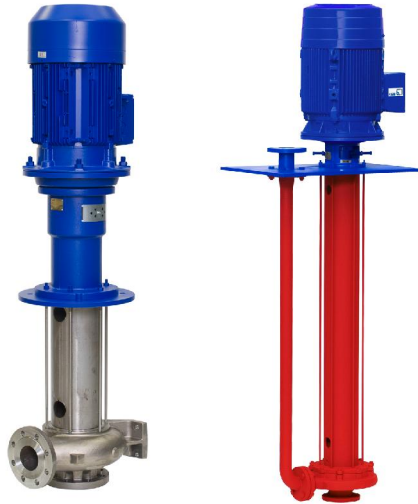
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Vertical Low-pressure Pump

Centrifugal Pumps

Etanorm V



Main applications

Pump for handling neutral degreasing and phosphating solutions

- Supplying lubricating and sealing oils for:
 - Turbines
 - Generators
 - Large compressors
 - Large gear units

Fluids handled

- Water
- Wash water with degreasing agents
- Phosphating solutions and electrophoretic coating paint (e.g. cathoretic dip paint)¹⁾
- Lubricating and sealing oils
- Hydraulic oils

Operating data

Operating properties

Characteristic		Value	
		50 Hz	60 Hz
Flow rate	Q [m ³ /h]	≤ 625	≤ 675
Head	H [m]	≤ 100	
Fluid temperature			
	For design D	T [°C]	≤ 70
	For design W	T [°C]	≤ 95

¹⁾ Only for design D
²⁾ Blank

Materials per country

- A = Europe, Middle East, North Africa
 - A1 = Default material variant
 - A2 = Optional material variant

Designation

Example: Etanorm V 050-032-125.1 GG X DDB0422

Designation key

Code	Description
Etanorm V	Type series
050	Nominal suction nozzle diameter [mm]
032	Nominal discharge nozzle diameter [mm]
125.1	Nominal impeller diameter [mm]
G	Casing material
G	Cast iron
C	Stainless steel
G	Impeller material
G	Cast iron
C	Stainless steel
B	Bronze
X	Special design
2)	Standard
X	Non-standard
D	Version
D	Dry
W	Wet
D	Scope of supply
A	Pump only (Fig. 0)
C	Pump, coupling
D	Pump set
B	Cover plate
B	With cover plate
H	With holder
042	Immersion depth
0 3 7	375 mm
0 3 9	398 mm
0 4 2	425 mm
0 4 4	448 mm
0 5 0	504 mm
0 5 2	529 mm
0 5 3	535 mm
0 7 5	750 mm
1 0 0	1000 mm
1 2 5	1250 mm
1 5 0	1500 mm
1 7 0	1750 mm
2 0 0	2000 mm
2	Shaft unit
2	Shaft unit 25
3	Shaft unit 35
5	Shaft unit 55

Further information on the designation

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Design details

Design

- Volute casing pump
 - For vertical installation in closed tanks under atmospheric pressure
- Single-stage
- Ratings to EN 733
- Rigid connection between pump and motor

Pump casing

- Radially split volute casing
- Volute casing with integrally cast pump feet for:
 - Stainless steel variant
 - Grey cast iron variant with shaft unit WS 55
- Replaceable casing wear rings

Impeller type

- Closed radial impeller with multiply curved vanes

Shaft seal

- Controlled gap

Drive

- KSB surface-cooled IEC frame three-phase current squirrel-cage motor

Winding

- 50 Hz: ≤ 2.20 kW at 220-240 V / 380-420 V
- 50 Hz: ≥ 3.00 kW at 380-420 V / 660-725 V
- 60 Hz: ≤ 2.60 kW at 440-480 V
- 60 Hz: ≤ 3.60 kW at 440-480 V
- Type of construction IM V1
- IP55 enclosure
- Thermal class F with temperature sensor; 3 PTC thermistors
- Mode of operation: continuous operation S1

Contact guard

- Cover plates at bearing lantern³⁾ and drive lantern⁴⁾ to EN 294

Bearings

Design D

- Deep groove ball bearing greased for life in a bearing bracket lantern above the cover plate.
Pump shaft cantilevered below the cover plate.

Design W

- Product-lubricated SiC/SiC plain bearing at the pump end
Rigid coupling between pump shaft and motor shaft

Bearings used

Overview

Shaft unit	Deep groove ball bearing	
	Pump end	Drive end
WS_25	6311 2Z C3	6310 2Z C3
WS_35	6311 2Z C3	6310 2Z C3
WS_55	6413 C3 ⁵⁾	6311 2Z C3

³⁾ Design D

⁴⁾ Design W

⁵⁾ With Nilos ring AV 6413

Overview of shaft units

Nominal diameter		Nominal impeller diameter					
[mm]		[mm]					
DN ₁	DN ₂	125	160	200	250	315	400
50	32	WS_25	WS_25	WS_25	WS_25	WS_35	-
65	40	WS_25	WS_25	WS_25	WS_25	WS_35	-
65	50	WS_25	WS_25	WS_25	WS_25	WS_35	-
80	65	WS_25	WS_25	WS_25	WS_35	WS_35	WS_55
100	80	-	WS_25	WS_35	WS_35	WS_35	WS_55
125	100	-	WS_35	WS_35	WS_35	WS_35	WS_55
150	125	-	-	WS_35	-	WS_55	WS_55
200	150	-	-	WS_35	-	WS_55	WS_55

Automation

Automation options:

- PumpDrive
- KSB SuPremE IE4 motor (as per IEC/CD 60034-30 Ed. 2)

For operating an Etanorm V on a frequency inverter which has not been configured via the KSB selection tool consultation with KSB is required.

For operating pump sets at immersion depths > 1000 mm with variable-speed system consultation with KSB is required for the selection.

Coating and preservation

- Coating and preservation to KSB standard

Product benefits

- Improved efficiency and NPSH_{req} by experimentally verified hydraulic design of impellers (vanes)
- Operating costs reduced by trimming the impeller diameter to match the specified duty point
- Cover plate serves as tank cover and for mounting the pump
- Robust deep groove ball bearings greased for life
- Vertical design with small footprint

Special features of design D

- Variable immersion depth up to 535 mm
- V-ring and/or lip seal prevent any ingress of the fluid handled into the deep groove ball bearing.
- Cantilever design does away with the need of an additional bearing, which would be located in the fluid handled.

Special features of design W

- Variable immersion depth up to 2000 mm
- Wear-resistant, product-lubricated SiC/SiC plain bearing
- No rolling element bearing above the cover plate, therefore resistant to short flooding of the cover plate

Acceptance tests / warranties

Acceptance tests and warranty	Note
Materials testing	▪ Test report 2.2 on request
Final inspection	▪ Inspection certificate 3.1 to EN 10204 on request
Hydraulic test	▪ The duty point of each pump with a delivery address or final destination in Europe is guaranteed to ISO 9906/3B.
The following acceptance tests may be performed at a surcharge:	▪ Performance test to ISO 9906/2B
Other tests (e.g. vibrations, strength) on request.	
Warranty	▪ Warranties are given within the scope of the valid terms and conditions of sale and delivery.

Overview of fluids handled

Table of fluids handled and associated material combinations

X = standard

Fluid handled	Casing/impeller materials		Bearings		Fluid properties			
	Grey cast iron/ grey cast iron	Cast CrNiMo steel / cast CrNiMo steel	Design W Plain bearing	Design D Cantilever	Specific concentration	Temperature	Density	pH value
					[%]	[°C]	[g/cm ³]	
Water								
Cooling water ⁶⁾ (without antifreeze)	X	-	X	X	-	-	-	-
Cooling water pH ≥ 7.5 (with antifreeze)	X	-	X	X	-	-	-	-
Slightly contaminated water ⁶⁾	X	-	X	X	-	-	-	-
Pure water ⁷⁾	X	-	X	X	-	-	-	-
Untreated water ⁶⁾	X	-	X	X	-	-	-	-
Swimming pool water, fresh water ⁶⁾	X	-	X	X	-	-	-	-
Dam water ⁶⁾⁸⁾	X	-	X	X	-	-	-	-
Partly desalinated water ⁹⁾	X	-	X	X	-	-	-	-
Surface treatment - pre-treatment								
Fully desalinated water, free of solids	-	X	X	X	-	≤ 60	1,0	~ 7,0
Silicate-free, alkaline degreasing or cleaning solution	X	X	X	X	0,3 - 5,0	≤ 80	1,1	8,5 - 13,0
Activation	-	X	X	X	0,3 - 5,0	≤ 40	1,1	7,5 - 10,5
Zinc phosphating solution (bath)	-	X	-	X	~ 5,0	≤ 65	1,05	2,0 - 5,0
Iron phosphating solution (alkaline phosphate solution)	X	-	-	X	~ 5,0	≤ 70	1,05	4,0 - 6,0
Passivation	-	X	X	X	≥ 1,0	≤ 50	1,0	3,0 - 6,0
Sodium hydroxide	X	-	X	X	15 - 20	≤ 20	1,18	14,0
Surface treatment - painting								
Conventional paint on solvent basis	X	-	X	X	10 - 40	25 - 35	~ 1,5	7,0
Cataphoretic dip paint	-	X	-	X	10 - 21	25 - 35	1,05 - 1,1	6,0 - 6,7
Anaphoretic dip paint	-	X	-	X	10 - 15	20 - 30	1,05 - 1,1	7,7
Ultrafiltrate = permeate. Pure filtrate, solids content < 3 %	X	X	X	X	-	20 - 30	1,0	5,5 - 6,0
Recirculated fluid, solids content < 3 %	X	X	X	X	-	20 - 30	1,1	6,0
Paint-laden water containing residues of metal, plastic or wood paints	X	-	X	X	-	20 - 30	1,0 - 1,05	~ 7,0
Anolyte (dialyte) with acetic acid or formic acid, free of solids	-	X	X	X	-	20 - 30	1	2,5 - 3,0
Accelerator (as preparation)	-	X	X	X	-	-	1,05 - 1,1	-

⁶⁾ General evaluation criteria for results of water analysis: pH value ≥ 7; chlorides content (Cl) ≤ 250 mg/kg. Chlorine (Cl₂) ≤ 0.6 mg/kg.

⁷⁾ No ultra-pure water! Conductivity at 25 °C: ≤ 800 µS/cm, neutral with regard to chemical corrosion

⁸⁾ If solids are contained, contact KSB.

⁹⁾ Treatment to VdTÜV 1466; additional requirement: O₂ < 0.02 mg/l

Pressure and temperature limits

Pressure and temperature limits of the pump

Material variant	Fluid temperature	Discharge pressure p ₂ ¹⁰⁾	Test pressure ¹¹⁾
G, GB, GC, C	Design D: ≤ 70 °C	10 bar	13.5 bar
G, GB, GC, C	Design W: ≤ 95 °C	10 bar	13.5 bar

Materials

Overview of available materials

Part No.	Description		Material variant			
			GG	GB	GC	CC
68-3.01	Cover plate	Steel	A1	A1	A1	-
		Stainless steel 1.4408/ A743 Gr CF8 M	A2	A2	A2	A1
102	Volute casing	Grey cast iron EN-GJL-250 / A 48 CL 35B	A1	A1	A1	-
		Stainless steel 1.4408/ A743 Gr CF8 M	-	-	-	A1
146	Intermediate lantern	Grey cast iron EN-GJL-250 / A 48 CL 35B	A1	A1	A1	A1
161	Casing cover	Grey cast iron EN-GJL-250 / A 48 CL 35B	A1	A1	A1	-
		Stainless steel 1.4408/ A743 Gr CF8 M	-	-	-	A1
210	Shaft	Tempered steel C45+N	A1	A1	A1	-
		Duplex stainless steel 1.4462 / UNS S31803	A2	A2	A2	A1
230	Impeller	Grey cast iron EN-GJL-250 / A 48 CL 35B	A1	-	-	-
		Stainless steel 1.4408/ A743 Gr CF8 M	-	-	A1	A1
		Bronze CC480K-GS/ B30 C90700	-	A1	-	-
340	Bearing lantern	Grey cast iron EN-GJL-250 / A 48 CL 35B	A1	A1	A1	A1
341	Drive lantern	Grey cast iron EN-GJL-250 / A 48 CL 35B	A1	A1	A1	A1
350	Bearing housing	Grey cast iron EN-GJL-250 / A 48 CL 35B	A1	A1	A1	A1
381	Plain bearing	SiC / SiC	A1	A1	A1	A1
502.01	Casing wear ring, suction side	Grey cast iron EN-GJL-250 / CI	A1	A1	A1	-
		Stainless steel (CrNiMoST)	A2	-	A2	A1
		Bronze CC495K-GS	-	A2	-	-
		None	-	-	-	A1
502.02	Casing wear ring, discharge side	Grey cast iron EN-GJL-250 / CI	A1	A1	A1	-
		Stainless steel (CrNiMoST)	A2	-	A2	A1
		Bronze CC495K-GS	-	A2	-	-
		None	-	-	-	A1
711	Discharge pipe	Steel	A1	A1	A1	-
		Stainless steel 1.4404	-	-	-	A1
712	Support column	Steel	A1	A1	A1	-
		Stainless steel 1.4404	-	-	-	A1
732	Holder	Steel	A1	A1	A1	A2
		Stainless steel 1.4571	-	-	-	A1
902.01	Stud	Steel 8.8	A1	A1	A1	-
		A4 / AISI 316	A2	A2	A2	A1
903	Screw plug	Steel 8.8	A1	A1	A1	-
		A4 / AISI 316	A2	A2	A2	A1
905	Tie bolt	Steel 8.8	A1	A1	A1	-
		A4 / AISI 316	A2	A2	A2	A1
920.95	Impeller nut	Steel 8.8	A1	A1	-	-
		A4 / AISI 316	A2	A2	A1	A1
940	Key	Steel 8.8	A1	A1	-	-
		A4 / AISI 316	A2	A2	A1	A1

Availability of pump sizes per material variant

Available material variants

Size	G	C
050-032-125.1	X	X
050-032-160.1	X	X
050-032-200.1	X	X

Size	G	C
050-032-250.1	X	X
050-032-125	X	X
050-032-160	X	X
050-032-200	X	X
050-032-250	X	X
065-040-125	X	X

¹⁰⁾ The sum of inlet pressure and shut-off head must not exceed the values indicated in the diagram.

¹¹⁾ The casing components are checked for leakage by means of internal pressure tests to ZN 1650 with water.

Size	G	C
065-040-160	X	X
065-040-200	X	X
065-040-250	X	X
065-040-315	X	X
065-050-125	X	X
065-050-160	X	X
065-050-200	X	X
065-050-250	X	X
065-050-315	X	X
080-065-125	X	X
080-065-160	X	X
080-065-200	X	X
080-065-250	X	X
080-065-315	X	X
100-080-160	X	X
100-080-200	X	X
100-080-250	X	X
100-080-315	X	X
100-080-400	X	X
125-100-160	X	X
125-100-200	X	X
125-100-250	X	X
125-100-315	X	X
125-100-400	X	X
150-125-200	X	X
150-125-250	X	X
150-125-315	X	X
150-125-400	X	X
200-150-200	X	X
200-150-250	X	X
200-150-315	X	X
200-150-400	X	X

Technical data

Technical data

Sizes	Bearing bracket	Number of impeller vanes	Impeller outlet width	Free passage diameter	Impeller inlet diameter	Impeller diameter		Speed limit for immersion depth \leq 750 mm			
						Maximum	Minimum	Design W		Design D	
								Maximum	Minimum	Maximum	Minimum
						[mm]		[rpm]		[rpm]	
050-032-125.1	WS_25	6	6	6,0	52	139	104	3600	800	3600	800
050-032-160.1	WS_25	6	10	5,4	63	170	136	3600	800	3600	800
050-032-200.1	WS_25	6	7	5,3	62	204	170	3600	800	3600	800
050-032-250.1	WS_25	6	13	5,2	70	254	200	3500	800	3500	800
050-032-125	WS_25	6	7	5,7	52	139	104	3600	800	3600	800
050-032-160	WS_25	6	6	5,8	54	174	136	3600	800	3500	800
050-032-200	WS_25	6	9	6,7	63	209	170	3600	800	3600	800
050-032-250	WS_25	6	14	7,1	74	261	209	3500	800	3500	800
065-040-125	WS_25	6	9	9,6	69	139	104	3500	800	3500	800
065-040-160	WS_25	6	20	11,5	88	174	128	3600	800	3600	800
065-040-200	WS_25	6	17	8,9	87	209	165	3600	800	3600	800
065-040-250	WS_25	6	14	8,0	83	260	200	3500	800	3500	800
065-040-315	WS_35	6	26	7,1	99	326	260	2900	800	2900	800
065-050-125	WS_25	6	6	11,6	58	142	112	3500	800	3500	800
065-050-160	WS_25	6	8	11,6	63	174	128	3600	800	3600	800
065-050-200	WS_25	6	8	11,9	73	219	170	3500	800	3500	800
065-050-250	WS_25	6	8	10,0	75	260	215	3500	800	3500	800
065-050-315	WS_35	6	11	9,5	84	323	265	2900	800	2900	800
080-065-125	WS_25	6	10	12,9	86	141	130	3500	800	3500	800
080-065-160	WS_25	6	21	12,2	92	174	132	3600	800	3600	800
080-065-200	WS_25	6	17	13,3	100	219	175	3500	800	3500	800
080-065-250	WS_35	6	15	14,3	101	260	215	3500	800	3500	800
080-065-315	WS_35	6	32	14,0	124	320	260	2900	800	2900	800
100-080-160	WS_25	6	25	15,1	115	174	154	3500	800	3500	800
100-080-200	WS_35	6	19	15,2	115	219	180	3500	800	3500	800
100-080-250	WS_35	6	38	15,8	135	269	215	3500	800	3500	800
100-080-315	WS_35	6	33	17,8	142	334	269	2900	800	2900	800
100-080-400	WS_55	6	14	14,3	107	398	330	1800	800	1800	800
125-100-160	WS_35	6	19	16,4	115	185	177	3600	800	3600	800
125-100-200	WS_35	6	15	17,9	129	219	179	3500	800	3500	800
125-100-250	WS_35	6	27	18,8	145	269	210	3500	800	3500	800
125-100-315	WS_35	6	23	19,9	142	334	270	2900	800	2900	800
125-100-400	WS_55	6	18	17,1	142	401	329	1800	800	1800	800
150-125-200	WS_35	6	41	21,1	160	224	205	3500	800	3500	800
150-125-250	WS_35	6	37	22,4	162	269	218	2000	800	2000	800
150-125-315	WS_55	6	31	22,6	162	334	270	2300	800	2300	800
150-125-400	WS_55	6	26	20,9	162	419	330	1800	800	1800	800
200-150-200	WS_35	5	60	25,2	179	224	215	1800	800	1800	800
200-150-250	WS_35	6	49	23,0	191	269	220	1800	800	1800	800
200-150-315	WS_55	6	40	26,9	192	334	264	1800	800	1800	800
200-150-400	WS_55	6	33	23,8	191	419	330	1800	800	1800	800

Immersion depths

Pump sets, 50 Hz / 60 Hz, 2-pole

✓	Permissible immersion depth at rated speed
✓ (max. speed)	Permissible immersion depth with PumpDrive (maximum permissible speed for operation on a frequency inverter)
-	Combination impermissible

Overview of immersion depths for 2-pole pump sets

Size	Shaft unit	Motor size	50 Hz, 2-pole								60 Hz, 2-pole							
			P _N [kW]	Immersion depth [mm]							P _N [kW]	Immersion depth [mm]						
				< 1000	1000	1250	1500	1750	2000	< 1000		1000	1250	1500	1750	2000		
050-032-125	25	100L	3,0	✓ (3600)	✓ (3000)	✓	✓	✓	✓	3,45	✓ (3600)	✓	-	✓	✓	✓		
	25	112M	4,0	✓ (3600)	✓ (3000)	✓	✓	✓	✓	4,6	✓ (3600)	✓	-	✓	✓	✓		
	25	132S	5,5	✓ (3600)	✓ (3000)	✓	-	✓	✓	6,3	✓ (3600)	✓	-	✓	✓	✓		
	25	132S	7,5	✓ (3600)	✓ (3000)	✓	-	✓	✓	8,6	✓ (3600)	✓	-	✓	✓	✓		
050-032-125.1	25	100L	3,0	✓ (3600)	✓ (3000)	✓	✓	✓	✓	3,45	✓ (3600)	✓	-	✓	✓	✓		
	25	112M	4,0	✓ (3600)	✓ (3000)	✓	✓	✓	✓	4,6	✓ (3600)	✓	-	✓	✓	✓		
	25	132S	5,5	✓ (3600)	✓ (3000)	✓	-	✓	✓	6,3	✓ (3600)	✓	-	✓	✓	✓		
	25	132S	7,5	✓ (3600)	✓ (3000)	✓	-	✓	✓	8,6	✓ (3600)	✓	-	✓	✓	✓		
050-032-160	25	100L	3,0	✓ (3600)	✓ (3000)	✓	✓	✓	✓	3,45	✓ (3600)	✓	-	✓	✓	✓		
	25	112M	4,0	✓ (3600)	✓ (3000)	✓	✓	✓	✓	4,6	✓ (3600)	✓	-	✓	✓	✓		
	25	132S	5,5	✓ (3600)	✓ (3000)	✓	-	✓	✓	6,3	✓ (3600)	✓	-	✓	✓	✓		
	25	132S	7,5	✓ (3600)	✓ (3000)	✓	-	✓	✓	8,6	✓ (3600)	✓	-	✓	✓	✓		
	25	160M	11	✓ (3600)	✓ (3000)	✓	-	✓	✓	12,6	✓ (3600)	✓	-	✓	✓	✓		
050-032-160.1	25	100L	3,0	✓ (3600)	✓ (3000)	✓	✓	✓	✓	3,45	✓ (3600)	✓	-	✓	✓	✓		
	25	112M	4,0	✓ (3600)	✓ (3000)	✓	✓	✓	✓	4,6	✓ (3600)	✓	-	✓	✓	✓		
	25	132S	5,5	✓ (3600)	✓ (3000)	✓	-	✓	✓	6,3	✓ (3600)	✓	-	✓	✓	✓		
	25	132S	7,5	✓ (3600)	✓ (3000)	✓	-	✓	✓	8,6	✓ (3600)	✓	-	✓	✓	✓		
	25	160M	11	✓ (3600)	✓ (3000)	✓	-	✓	✓	12,6	✓ (3600)	✓	-	✓	✓	✓		
050-032-200	25	100L	3,0	✓ (3600)	✓ (3000)	✓	✓	✓	✓	-	-	-	-	-	-	-		
	25	112M	4,0	✓ (3600)	✓ (3000)	✓	✓	✓	✓	4,6	✓ (3600)	✓	-	✓	✓	✓		
	25	132S	5,5	✓ (3600)	✓ (3000)	✓	-	✓	✓	6,3	✓ (3600)	✓	-	✓	✓	✓		
	25	132S	7,5	✓ (3600)	✓ (3000)	✓	-	✓	✓	8,6	✓ (3600)	✓	-	✓	✓	✓		
	25	160M	11	✓ (3600)	✓ (3000)	✓	-	✓	✓	12,6	✓ (3600)	✓	-	✓	✓	✓		
	25	160M	15	✓ (3600)	✓ (3000)	✓	-	✓	✓	17,3	✓ (3600)	✓	-	✓	✓	✓		
050-032-200.1	25	100L	3,0	✓ (3600)	✓ (3000)	✓	✓	✓	✓	3,45	✓ (3600)	✓	-	✓	✓	✓		
	25	112M	4,0	✓ (3600)	✓ (3000)	✓	✓	✓	✓	4,6	✓ (3600)	✓	-	✓	✓	✓		
	25	132S	5,5	✓ (3600)	✓ (3000)	✓	-	✓	✓	6,3	✓ (3600)	✓	-	✓	✓	✓		
	25	132S	7,5	✓ (3600)	✓ (3000)	✓	-	✓	✓	8,6	✓ (3600)	✓	-	✓	✓	✓		
	25	160M	11	✓ (3600)	✓ (3000)	✓	-	✓	✓	12,6	✓ (3600)	✓	-	✓	✓	✓		
	25	160M	15	✓ (3600)	✓ (3000)	✓	-	✓	✓	17,3	✓ (3600)	✓	-	✓	✓	✓		
050-032-250	25	132S	7,5	✓ (3500)	✓ (3000)	✓	-	✓	✓	-	-	-	-	-	-	-		
	25	160M	11	✓ (3500)	✓ (3000)	✓	-	✓	✓	-	-	-	-	-	-	-		
	25	160M	15	✓ (3500)	✓ (3000)	✓	-	✓	✓	-	-	-	-	-	-	-		
	25	160L	18,5	✓ (3500)	✓ (3000)	✓	-	✓	✓	-	-	-	-	-	-	-		
050-032-250.1	25	112M	4,0	✓ (3500)	✓ (3000)	✓	-	✓	✓	-	-	-	-	-	-	-		
	25	132S	5,5	✓ (3500)	✓ (3000)	✓	-	✓	✓	-	-	-	-	-	-	-		
	25	132S	7,5	✓ (3500)	✓ (3000)	✓	-	✓	✓	-	-	-	-	-	-	-		
	25	160M	11	✓ (3500)	✓ (3000)	✓	-	✓	✓	-	-	-	-	-	-	-		
	25	160M	15	✓ (3500)	✓ (3000)	✓	-	✓	✓	-	-	-	-	-	-	-		
065-040-125	25	100L	3,0	✓ (3500)	✓ (3000)	✓	-	✓	✓	-	-	-	-	-	-	-		
	25	112M	4,0	✓ (3500)	✓ (3000)	✓	-	✓	✓	4,6	✓ (3500)	✓	-	✓	✓	✓		
	25	132S	5,5	✓ (3500)	✓ (3000)	✓	-	✓	✓	6,3	✓ (3500)	✓	-	✓	✓	✓		
	25	132S	7,5	✓ (3500)	✓ (3000)	✓	-	✓	✓	8,6	✓ (3500)	✓	-	✓	✓	✓		
	25	160M	11	✓ (3500)	✓ (3000)	✓	-	✓	✓	12,6	✓ (3500)	✓	-	✓	✓	✓		
065-040-160	25	100L	3,0	✓ (3600)	✓ (3000)	✓	-	✓	✓	-	-	-	-	-	-	-		
	25	112M	4,0	✓ (3600)	✓ (3000)	✓	-	✓	✓	-	-	-	-	-	-	-		
	25	132S	5,5	✓ (3600)	✓ (3000)	✓	-	✓	✓	6,3	✓ (3600)	✓	-	✓	✓	✓		
	25	132S	7,5	✓ (3600)	✓ (3000)	✓	-	✓	✓	8,6	✓ (3600)	✓	-	✓	✓	✓		
	25	160M	11	✓ (3600)	✓ (3000)	✓	-	✓	✓	12,6	✓ (3600)	✓	-	✓	✓	✓		
	25	160M	15	✓ (3600)	✓ (3000)	✓	-	✓	✓	17,3	✓ (3600)	✓	-	✓	✓	✓		
	25	160L	18,5	✓ (3600)	✓ (3000)	✓	-	✓	✓	21,3	✓ (3600)	✓	-	✓	✓	✓		
	25	180M	22	✓ (3600)	✓ (3000)	✓	-	✓	✓	24,5	✓ (3600)	✓	-	✓	✓	✓		

Size	Shaft unit	Motor size	50 Hz, 2-pole							60 Hz, 2-pole							
			P _N [kW]	Immersion depth [mm]						P _N [kW]	Immersion depth [mm]						
				< 1000	1000	1250	1500	1750	2000		< 1000	1000	1250	1500	1750	2000	
	25	200L	37	✓ (3500)	✓ (3000)	✓	✓	-	✓	✓	41,5	✓ (3500)	✓	✓	-	✓	✓
100-080-200	35	160L	18,5	✓ (3500)	✓ (3000)	✓	-	✓	✓	-	-	-	-	-	-	-	-
	35	180M	22	✓ (3500)	✓ (3000)	✓	-	✓	✓	-	-	-	-	-	-	-	-
	35	200L	30	✓ (3500)	✓ (3000)	✓	-	✓	✓	33,5	✓ (3500)	✓ (3000)	✓	-	✓	✓	✓
	35	200L	37	✓ (3500)	✓ (3000)	✓	-	✓	✓	41,5	✓ (3500)	✓ (3000)	✓	-	✓	✓	✓
	35	225M	45	✓ (3500)	✓ (3000)	✓	✓	-	✓	51	✓ (3500)	✓ (3000)	✓	-	✓	✓	✓
	35	250M	55	✓ (3500)	✓ (3000)	✓	✓	-	✓	63	✓ (3500)	✓ (3000)	✓	-	✓	✓	✓
	35	280S	75	✓ (3500)	✓ (3000)	✓	✓	-	✓	84	✓ (3500)	✓ (3000)	✓	-	✓	✓	✓
100-080-250	35	200L	30	✓ (3500)	✓ (2900)	✓	-	✓	✓	-	-	-	-	-	-	-	-
	35	200L	37	✓ (3500)	✓ (2900)	✓	-	✓	✓	-	-	-	-	-	-	-	-
	35	225M	45	✓ (3500)	✓ (2900)	✓	✓	-	✓	-	-	-	-	-	-	-	-
	35	250M	55	✓ (3500)	✓ (2900)	✓	✓	-	✓	-	-	-	-	-	-	-	-
	35	280S	75	✓ (3500)	✓ (2900)	✓	✓	-	✓	-	-	-	-	-	-	-	-
125-100-160	35	180M	22	✓ (3600)	✓ (3000)	✓	-	✓	✓	-	-	-	-	-	-	-	-
	35	200L	30	✓ (3600)	✓ (3000)	✓	-	✓	✓	-	-	-	-	-	-	-	-
	35	200L	37	✓ (3600)	✓ (3000)	✓	-	✓	✓	41,5	✓ (3600)	✓ (3000)	✓	-	✓	✓	✓
	35	225M	45	✓ (3600)	✓ (3000)	✓	✓	-	✓	51	✓ (3600)	✓ (3000)	✓	-	✓	✓	✓
	35	250M	55	✓ (3600)	✓ (3000)	✓	✓	-	✓	63	✓ (3600)	✓ (3000)	✓	-	✓	✓	✓
	35	280S	75	✓ (3600)	✓ (3000)	✓	✓	-	✓	84	✓ (3600)	✓ (3000)	✓	-	✓	✓	✓
125-100-200	35	200L	30	✓ (3500)	✓ (3000)	✓	-	✓	✓	-	-	-	-	-	-	-	-
	35	200L	37	✓ (3500)	✓ (3000)	✓	-	✓	✓	-	-	-	-	-	-	-	-
	35	225M	45	✓ (3500)	✓ (3000)	✓	✓	-	✓	51	✓ (3500)	✓ (3000)	✓	-	✓	✓	✓
	35	250M	55	✓ (3500)	✓ (3000)	✓	✓	-	✓	63	✓ (3500)	✓ (3000)	✓	-	✓	✓	✓
	35	280S	75	✓ (3500)	✓ (3000)	✓	✓	-	✓	84	✓ (3500)	✓ (3000)	✓	-	✓	✓	✓
	35	280M	90	✓ (3500)	✓ (3000)	✓	✓	-	✓	101	✓ (3500)	✓ (3000)	✓	-	✓	✓	✓
125-100-250	35	225M	45	✓ (3500)	✓ (3000)	✓ (3000)	✓	-	✓	-	-	-	-	-	-	-	-
	35	250M	55	✓ (3500)	✓ (3000)	✓ (3000)	✓	-	✓	-	-	-	-	-	-	-	-
	35	280S	75	✓ (3500)	✓ (3000)	✓ (3000)	✓	-	✓	-	-	-	-	-	-	-	-
	35	280M	90	✓ (3500)	✓ (3000)	✓ (3000)	✓	-	✓	-	-	-	-	-	-	-	-
150-125-200	35	225M	45	✓ (3500)	✓ (3500)	✓ (3000)	✓	-	✓	-	-	-	-	-	-	-	-
	35	250M	55	✓ (3500)	✓ (3500)	✓ (3000)	✓	-	✓	-	-	-	-	-	-	-	-
	35	280S	75	✓ (3500)	✓ (3500)	✓ (3000)	✓	-	✓	84	✓ (3500)	✓ (3500)	✓	-	✓	✓	✓
	35	280M	90	✓ (3500)	✓ (3500)	✓ (3000)	✓	-	✓	101	✓ (3500)	✓ (3500)	✓	-	✓	✓	✓

Pump sets, 50 Hz / 60 Hz, 4-pole

✓	Permissible immersion depth at rated speed
✓ (max. speed)	Permissible immersion depth with PumpDrive (maximum permissible speed for operation on a frequency inverter)
-	Combination impermissible

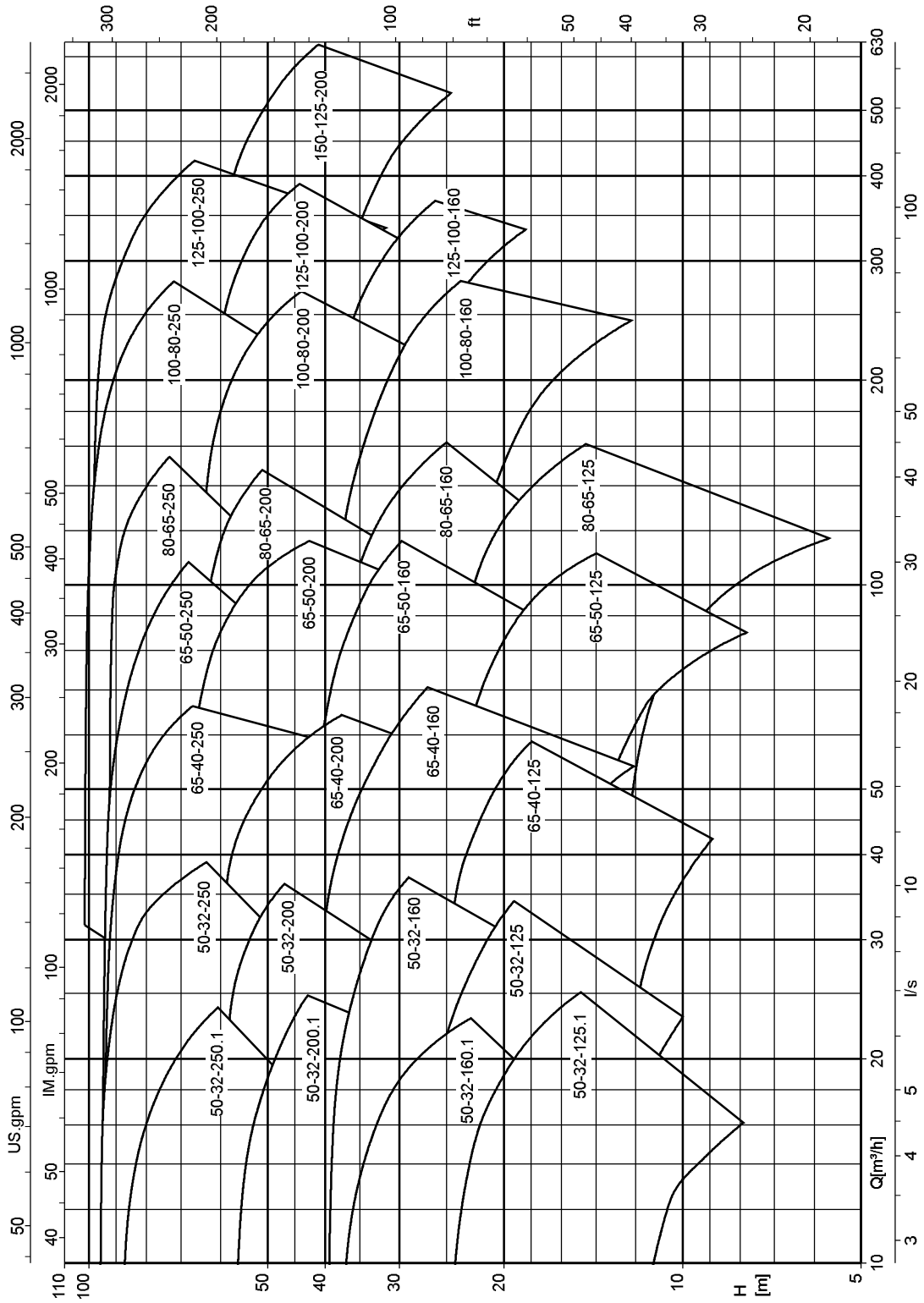
Overview of immersion depths for 4-pole pump sets

Size	Shaft unit	Motor size	50 Hz, 4-pole							60 Hz, 4-pole							
			P _N [kW]	Immersion depth [mm]						P _N [kW]	Immersion depth [mm]						
				< 1000	1000	1250	1500	1750	2000		< 1000	1000	1250	1500	1750	2000	
050-032-125	25	100M	2,2	✓ (3600)	✓ (3000)	✓ (1800)	✓ (1500)	✓	-	2,55	✓ (3600)	✓ (3000)	✓ (1800)	✓	-	✓	✓
	25	100L	3,0	✓ (3600)	✓ (3000)	✓ (1800)	✓ (1500)	✓	-	3,45	✓ (3600)	✓ (3000)	✓ (1800)	✓	-	✓	✓
050-032-125.1	25	100M	2,2	✓ (3600)	✓ (3000)	✓ (1800)	✓ (1500)	✓	-	2,55	✓ (3600)	✓ (3000)	✓ (1800)	✓	-	✓	✓
	25	100L	3,0	✓ (3600)	✓ (3000)	✓ (1800)	✓ (1500)	✓	-	3,45	✓ (3600)	✓ (3000)	✓ (1800)	✓	-	✓	✓
050-032-160	25	100M	2,2	✓ (3600)	✓ (3000)	✓ (1800)	✓ (1500)	✓	-	2,55	✓ (3600)	✓ (3000)	✓ (1800)	✓	-	✓	✓
	25	100L	3,0	✓ (3600)	✓ (3000)	✓ (1800)	✓ (1500)	✓	-	3,45	✓ (3600)	✓ (3000)	✓ (1800)	✓	-	✓	✓
050-032-160.1	25	100M	2,2	✓ (3600)	✓ (3000)	✓ (1800)	✓ (1500)	✓	-	2,55	✓ (3600)	✓ (3000)	✓ (1800)	✓	-	✓	✓
	25	100L	3,0	✓ (3600)	✓ (3000)	✓ (1800)	✓ (1500)	✓	-	3,45	✓ (3600)	✓ (3000)	✓ (1800)	✓	-	✓	✓
050-032-200	25	100M	2,2	✓ (3600)	✓ (3000)	✓ (1800)	✓ (1500)	✓	-	2,55	✓ (3600)	✓ (3000)	✓ (1800)	✓	-	✓	✓
	25	100L	3,0	✓ (3600)	✓ (3000)	✓ (1800)	✓ (1500)	✓	-	3,45	✓ (3600)	✓ (3000)	✓ (1800)	✓	-	✓	✓
	25	112M	4,0	✓ (3600)	✓ (3000)	✓ (1800)	✓ (1500)	✓	-	4,6	✓ (3600)	✓ (3000)	✓ (1800)	✓	-	✓	✓
050-032-200.1	25	100M	2,2	✓ (3600)	✓ (3000)	✓ (1800)	✓ (1500)	✓	-	2,55	✓ (3600)	✓ (3000)	✓ (1800)	✓	-	✓	✓
	25	100L	3,0	✓ (3600)	✓ (3000)	✓ (1800)	✓ (1500)	✓	-	3,45	✓ (3600)	✓ (3000)	✓ (1800)	✓	-	✓	✓

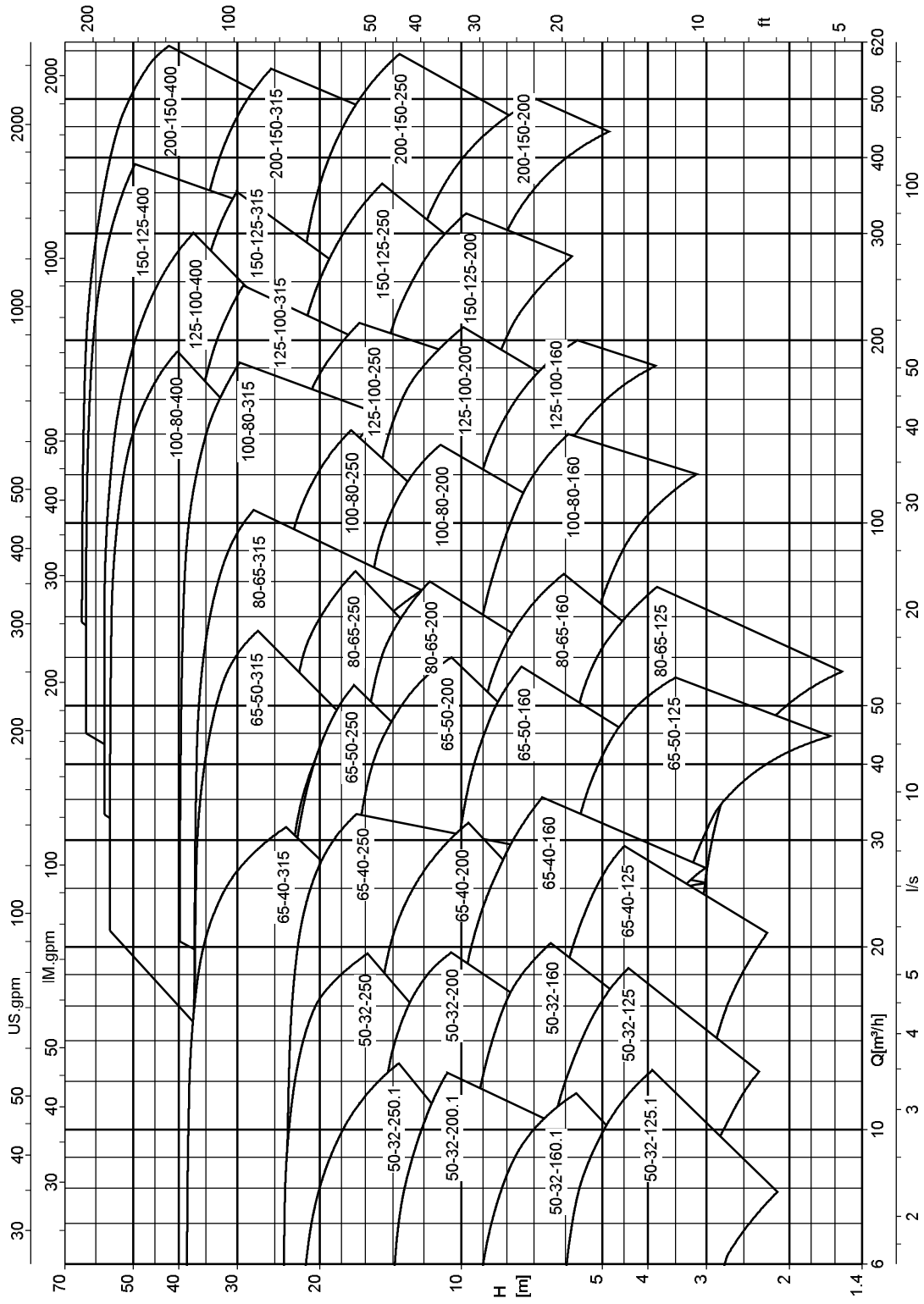
Size	Shaft unit	Motor size	50 Hz, 4-pole							60 Hz, 4-pole						
			P _N	Immersion depth [mm]						P _N	Immersion depth [mm]					
			[kW]	< 1000	1000	1250	1500	1750	2000	[kW]	< 1000	1000	1250	1500	1750	2000
200-150-315	55	180L	22	✓ (1800)	✓ (1800)	✓ (1800)	✓ (1800)	✓ (1800)	✓ (1800)	-	-	-	-	-	-	-
	55	200L	30	✓ (1800)	✓ (1800)	✓ (1800)	✓ (1800)	✓ (1800)	✓ (1800)	-	-	-	-	-	-	-
	55	225S	37	✓ (1800)	✓ (1800)	✓ (1800)	✓ (1800)	✓ (1800)	✓ (1800)	42,5	✓ (1800)	✓ (1800)	✓ (1800)	✓ (1800)	✓ (1800)	✓ (1800)
	55	225M	45	✓ (1800)	✓ (1800)	✓ (1800)	✓ (1800)	✓ (1800)	✓ (1800)	52	✓ (1800)	✓ (1800)	✓ (1800)	✓ (1800)	✓ (1800)	✓ (1800)
	55	250M	55	✓ (1800)	✓ (1800)	✓ (1800)	✓ (1800)	✓ (1800)	✓ (1800)	63	✓ (1800)	✓ (1800)	✓ (1800)	✓ (1800)	✓ (1800)	✓ (1800)
	55	280S	75	✓ (1800)	✓ (1800)	✓ (1800)	✓ (1800)	✓ (1800)	✓ (1800)	86	✓ (1800)	✓ (1800)	✓ (1800)	✓ (1800)	✓ (1800)	✓ (1800)
	55	280M	90	✓ (1800)	✓ (1800)	✓ (1800)	✓ (1800)	✓ (1800)	✓ (1800)	104	✓ (1800)	✓ (1800)	✓ (1800)	✓ (1800)	✓ (1800)	✓ (1800)
200-150-400	55	225M	45	✓ (1800)	✓ (1800)	✓ (1800)	✓ (1800)	✓ (1800)	✓ (1800)	-	-	-	-	-	-	-
	55	250M	55	✓ (1800)	✓ (1800)	✓ (1800)	✓ (1800)	✓ (1800)	✓ (1800)	-	-	-	-	-	-	-
	55	280S	75	✓ (1800)	✓ (1800)	✓ (1800)	✓ (1800)	✓ (1800)	✓ (1800)	86	✓ (1800)	✓ (1800)	✓ (1800)	✓ (1800)	✓ (1800)	✓ (1800)
	55	280M	90	✓ (1800)	✓ (1800)	✓ (1800)	✓ (1800)	✓ (1800)	✓ (1800)	104	✓ (1800)	✓ (1800)	✓ (1800)	✓ (1800)	✓ (1800)	✓ (1800)

Selection charts

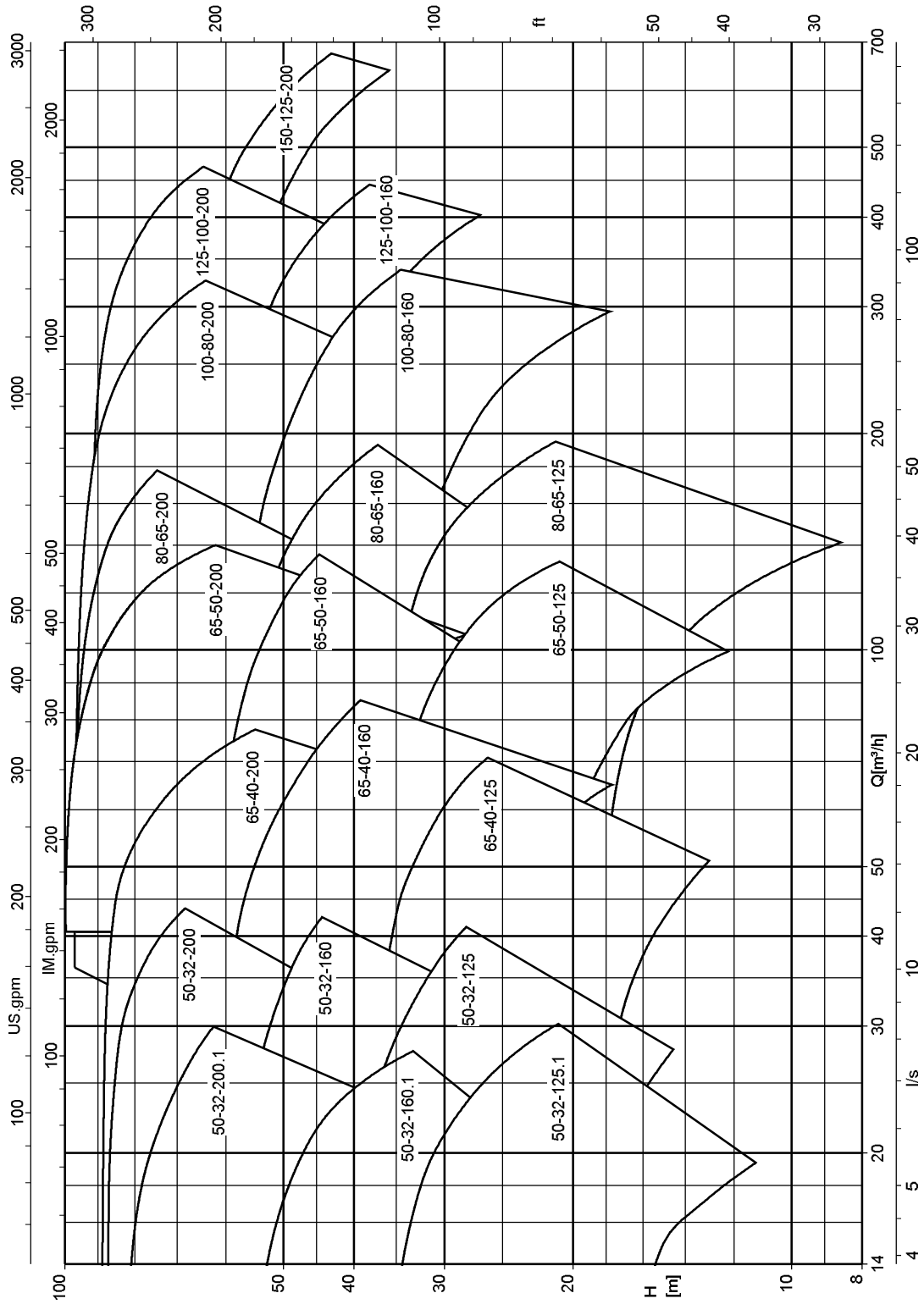
Etanorm V, n = 2900 rpm



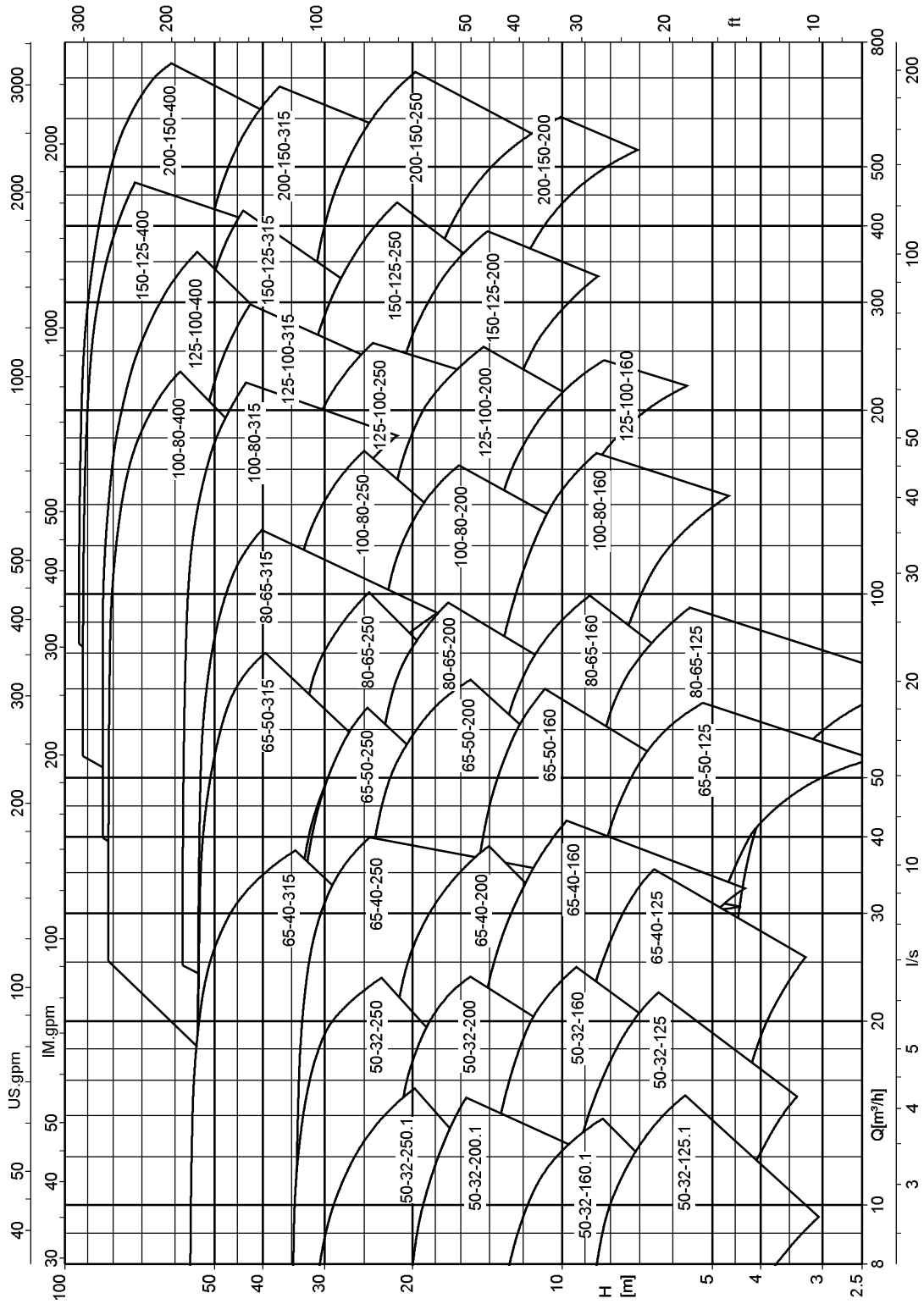
Etanorm V, n = 1450 rpm



Etanorm V, n = 3500 rpm

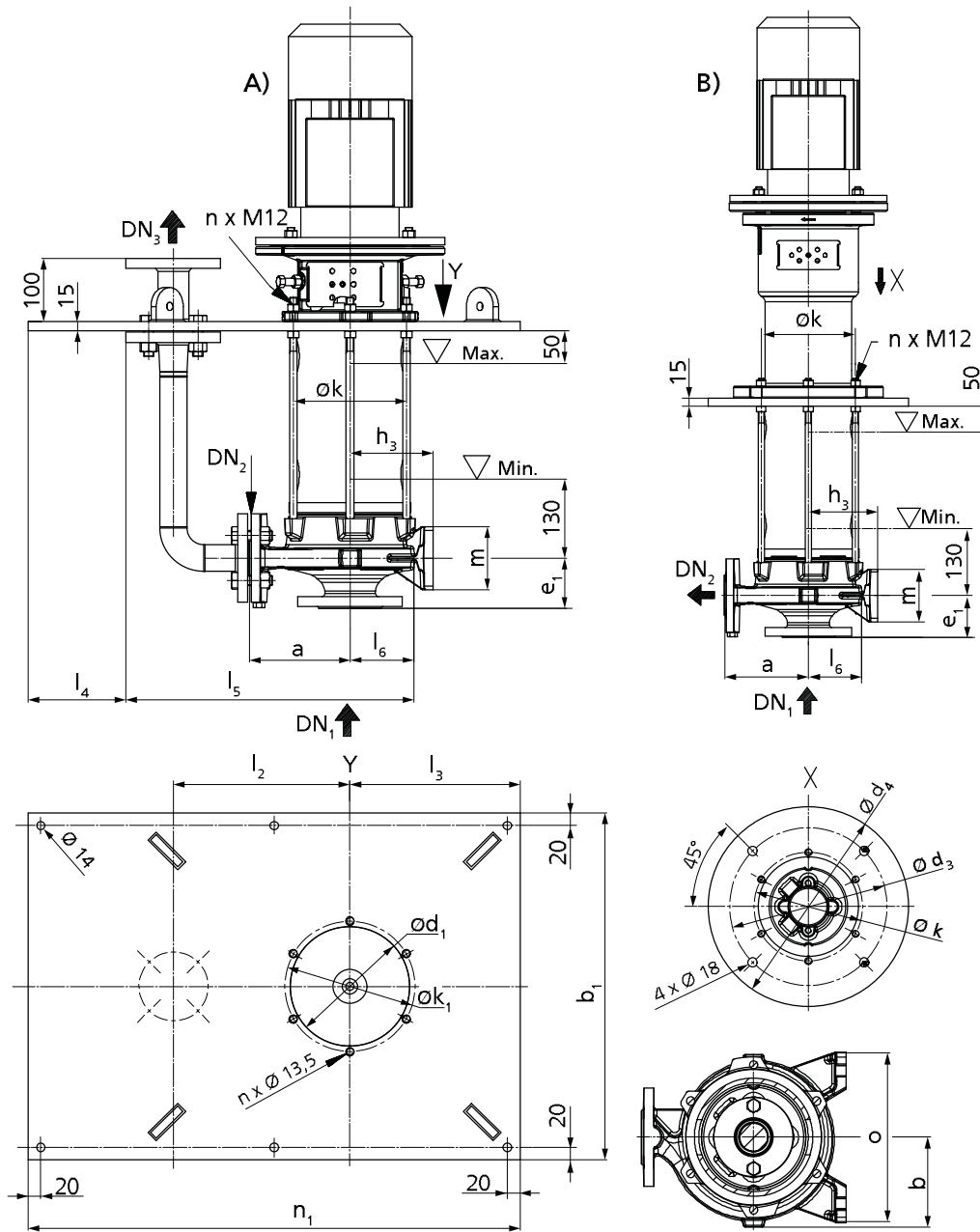


Etanorm V, n = 1750 rpm



Dimensions

Pump dimensions



Dimensions [mm]
A) Design W
B) Design D

i Flanges of DN 65 come with 4 bolt holes; all other sizes come with 8 bolt holes.

Dimensions [mm]

Size	Shaft unit	DN ₁	DN ₂	DN ₃	a	b	b ₁	d ₁	d ₃	d ₄	e ₁	h ₃	k	l ₂	l ₃	l ₄	l ₅	l ₆	m	n	n ₁	o
050-032-125.1	WS_25	50	32	40	140	116	550	190	300	380	80	112	207	280	270	155	455	100	100	6	780	190
050-032-160.1	WS_25	50	32	40	160	116	550	190	300	380	80	132	207	280	270	155	466	111	100	6	780	240
050-032-200.1	WS_25	50	32	40	180	142	550	190	300	380	80	160	207	280	270	155	491	136	100	6	780	240

Size	Shaft unit	DN ₁	DN ₂	DN ₃	a	b	b ₁	d ₁	d ₃	d ₄	e ₁	h ₃	k	l ₂	l ₃	l ₄	l ₅	l ₆	m	n	n ₁	o
050-032-250.1	WS 25	50	32	40	225	168	550	190	300	380	100	180	207	280	270	155	521	166	125	6	780	320
050-032-125	WS 25	50	32	40	140	115	550	190	300	380	80	112	207	280	270	155	455	100	100	6	780	190
050-032-160	WS 25	50	32	40	160	118	550	190	300	380	80	132	207	280	270	155	470	115	100	6	780	240
050-032-200	WS 25	50	32	40	180	142	550	190	300	380	80	160	207	280	270	155	492	137	100	6	780	240
050-032-250	WS 25	50	32	40	225	169	550	190	300	380	100	180	207	280	270	155	521	166	125	6	780	320
065-040-125	WS 25	65	40	50	140	117	550	190	300	380	80	112	207	270	270	157	460	107	100	6	780	210
065-040-160	WS 25	65	40	50	160	119	550	190	300	380	80	132	207	290	270	137	492	119	100	6	780	240
065-040-200	WS 25	65	40	50	180	142	550	190	300	380	100	160	207	310	270	117	534	141	100	6	780	265
065-040-250	WS 25	65	40	50	225	169	550	190	300	380	100	180	207	295	270	132	544	166	125	6	780	320
065-040-315	WS 35	65	40	50	250	207	550	241	300	380	125	225	260	320	270	107	607	204	125	6	780	345
065-050-125	WS 25	65	50	65	160	117	550	190	300	380	100	132	207	310	270	107	515	112	100	6	780	240
065-050-160	WS 25	65	50	65	180	128	550	190	300	380	100	160	207	330	270	87	556	133	100	6	780	265
065-050-200	WS 25	65	50	65	200	144	550	190	300	380	100	160	207	290	270	127	533	150	100	6	780	265
065-050-250	WS 25	65	50	65	225	170	550	190	300	380	100	180	207	315	270	102	580	172	125	6	780	320
065-050-315	WS 35	65	50	65	280	207	550	241	350	380	125	225	260	370	270	47	666	203	125	6	780	345
080-065-125	WS 25	80	65	80	180	117	550	190	300	380	100	160	207	350	270	60	577	127	125	6	780	280
080-065-160	WS 25	80	65	80	200	132	550	190	300	380	100	160	207	370	270	40	610	140	125	6	780	280
080-065-200	WS 25	80	65	80	225	155	550	190	300	380	100	180	207	335	270	75	596	161	125	6	780	320
080-065-250	WS 35	80	65	80	250	179	550	241	350	380	100	200	260	360	270	50	645	185	160	8	780	360
080-065-315	WS 35	80	65	80	280	209	550	241	350	380	125	225	260	390	270	49	674	213	160	8	780	400
100-080-160	WS 25	100	80	100	225	138	550	190	300	380	125	180	207	355	270	145	618	153	125	6	880	320
100-080-200	WS 35	100	80	100	250	159	550	241	350	380	125	180	260	380	270	120	660	170	125	8	880	345
100-080-250	WS 35	100	80	100	280	183	550	241	350	380	125	200	260	410	270	90	712	192	160	8	880	400
100-080-315	WS 35	100	80	100	315	218	550	241	350	380	125	250	260	445	270	55	782	227	160	8	880	400
100-080-400	WS 55	100	80	100	355	257	700	241	420	445	125	280	260	485	355	200	-	-	160	8	1150	435
125-100-160	WS 35	125	100	100	280	178	550	241	350	380	125	200	260	450	270	68	741	199	160	8	880	360
125-100-200	WS 35	125	100	125	280	173	550	241	350	380	125	200	260	450	270	68	731	189	160	8	880	360
125-100-250	WS 35	125	100	125	280	188	550	241	350	380	140	225	260	450	270	68	742	200	160	8	880	400
125-100-315	WS 35	125	100	125	315	225	550	241	350	380	140	250	260	485	260	43	814	237	160	8	880	400
125-100-400	WS 55	125	100	125	355	255	700	241	420	445	140	280	260	525	355	145	-	-	200	8	1150	500
150-125-200	WS 35	150	125	150	315	189	600	241	350	380	140	250	260	520	330	157	875	212	160	8	1150	400
150-125-250	WS 35	150	125	150	355	226	600	241	350	380	140	250	260	560	330	117	951	248	160	8	1150	400
150-125-315	WS 55	150	125	150	355	243	700	241	420	445	140	280	260	560	355	92	-	-	200	8	1150	500
150-125-400	WS 55	150	125	150	400	277	700	241	420	445	140	315	260	605	355	47	-	-	200	8	1150	500
200-150-200	WS 35	200	150	200	400	240	600	241	350	380	160	280	260	645	330	43	1054	277	200	8	1150	550
200-150-250	WS 35	200	150	200	400	230	600	241	350	380	160	280	260	645	330	43	1039	262	200	8	1150	500
200-150-315	WS 55	200	150	200	400	255	700	241	420	445	160	280	260	645	330	43	-	-	200	8	1150	550
200-150-400	WS 55	200	150	200	450	289	700	241	420	445	160	315	260	690	345	43	-	-	200	8	1210	550

Motor dimensions
Design D

The dimensions used refer to a standard motor. For the exact motor-related dimensions refer to the general arrangement drawing.

Drawing	Motor size	h	h ₁			h ₂		
		[mm]	[mm]			[mm]		
			WS_25	WS_35	WS_55	WS_25	WS_35	WS_55
	100	382	0	0	-	354	354	-
	112	371	0	0	-	354	354	-
	132	441	20	20	-	354	354	-
	160	552	50	50	0	354	354	631
	180	610	50	50	0	354	354	631
	200	669	50	50	0	354	354	631
	225	755	-	80	30	-	354	631
	250	817	-	0	30	-	434	631
	280	980	-	0	30	-	434	631

Design W

The dimensions used refer to a standard motor. For the exact motor-related dimensions refer to the general arrangement drawing.

Drawing	Motor size	h	h ₂		
		[mm]	[mm]		
			WS_25	WS_35	WS_55
	100	382	98	95	-
	112	371	98	95	-
	132	441	121	118	-
	160	552	154	151	151
	180	610	154	151	151
	200	669	154	151	151
	225	755	-	182	182
	250	817	-	194	194
	280	980	-	194	194

Dimensions of immersion depths

Design D

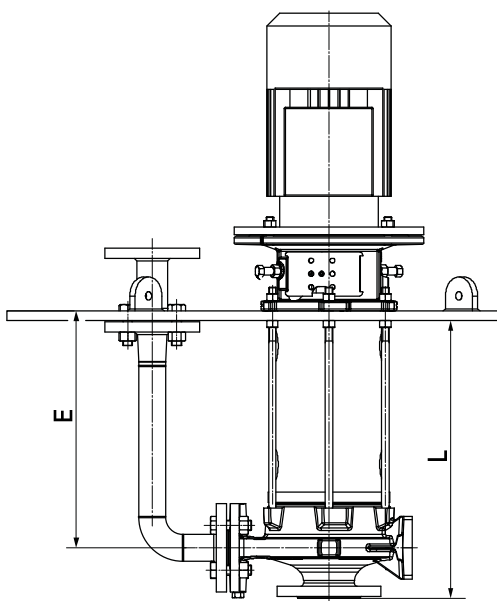
Overview of immersion depths [mm] per shaft unit

Shaft unit	Immersion depth
WS_25	375, 425, 504
WS_35	398, 448, 529
WS_55	535

Design W

Overview of immersion depths [mm] per shaft unit

Shaft unit	Immersion depth
WS_25	375, 425, 504, 750, 1000, 1250, 1500, 1750, 2000
WS_35	398, 448, 529, 750, 1000, 1250, 1500, 1750, 2000
WS_55	535, 750, 1000, 1250, 1500, 1750, 2000



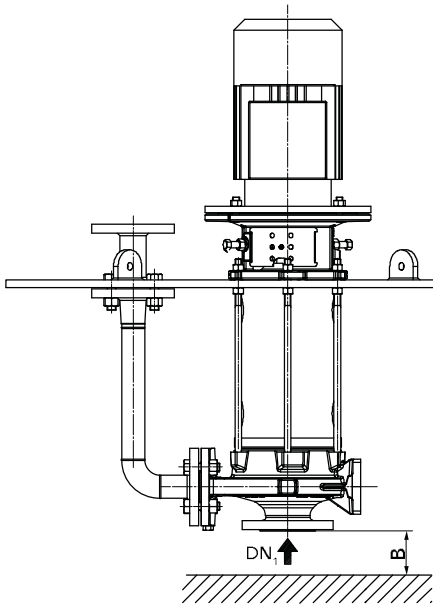
Dimension of the immersion depth

Overview of dimension L [mm] depending on the immersion depth [mm]

Size	Bearing bracket	Immersion depth E												
		375	398	425	448	504	529	535	750	1000	1250	1500	1750	2000
		Dimension L												
050-032-125.1	WS_25	440	-	490	-	569	-	-	815	1065	1315	1565	1815	2065
050-032-160.1	WS_25	440	-	490	-	569	-	-	815	1065	1315	1565	1815	2065
050-032-200.1	WS_25	440	-	490	-	569	-	-	815	1065	1315	1565	1815	2065
050-032-250.1	WS_25	460	-	510	-	589	-	-	835	1085	1335	1585	1835	2085
050-032-125	WS_25	440	-	490	-	569	-	-	815	1065	1315	1565	1815	2065
050-032-160	WS_25	440	-	490	-	569	-	-	815	1065	1315	1565	1815	2065
050-032-200	WS_25	440	-	490	-	569	-	-	815	1065	1315	1565	1815	2065
050-032-250	WS_25	460	-	510	-	589	-	-	835	1085	1335	1585	1835	2085
065-040-125	WS_25	440	-	490	-	569	-	-	815	1065	1315	1565	1815	2065
065-040-160	WS_25	440	-	490	-	569	-	-	815	1065	1315	1565	1815	2065
065-040-200	WS_25	460	-	510	-	589	-	-	835	1085	1335	1585	1835	2085
065-040-250	WS_25	460	-	510	-	589	-	-	835	1085	1335	1585	1835	2085
065-040-315	WS_35	-	508	-	558	-	639	-	860	1110	1360	1610	1860	2110
065-050-125	WS_25	460	-	510	-	589	-	-	835	1085	1335	1585	1835	2085
065-050-160	WS_25	460	-	510	-	589	-	-	835	1085	1335	1585	1835	2085
065-050-200	WS_25	460	-	510	-	589	-	-	835	1085	1335	1585	1835	2085
065-050-250	WS_25	460	-	510	-	589	-	-	835	1085	1335	1585	1835	2085
065-050-315	WS_35	-	508	-	558	-	639	-	860	1110	1360	1610	1860	2110

Size	Bearing bracket	Immersion depth E												
		375	398	425	448	504	529	535	750	1000	1250	1500	1750	2000
		Dimension L												
080-065-125	WS_25	460	-	510	-	589	-	-	835	1085	1335	1585	1835	2085
080-065-160	WS_25	460	-	510	-	589	-	-	835	1085	1335	1585	1835	2085
080-065-200	WS_25	460	-	510	-	589	-	-	835	1085	1335	1585	1835	2085
080-065-250	WS_35	-	483	-	533	-	614	-	835	1085	1335	1585	1835	2085
080-065-315	WS_35	-	508	-	558	-	639	-	860	1110	1360	1610	1860	2110
100-080-160	WS_25	485	-	535	-	614	-	-	860	1110	1360	1610	1860	2110
100-080-200	WS_35	-	508	-	558	-	639	-	860	1110	1360	1610	1860	2110
100-080-250	WS_35	-	508	-	558	-	639	-	860	1110	1360	1610	1860	2110
100-080-315	WS_35	-	508	-	558	-	639	-	860	1110	1360	1610	1860	2110
100-080-400	WS_55	-	-	-	-	-	-	645	860	1110	1360	1610	1860	2110
125-100-160	WS_35	-	508	-	558	-	639	-	860	1110	1360	1610	1860	2110
125-100-200	WS_35	-	508	-	558	-	639	-	860	1110	1360	1610	1860	2110
125-100-250	WS_35	-	523	-	573	-	654	-	875	1125	1375	1625	1875	2125
125-100-315	WS_35	-	523	-	573	-	654	-	875	1125	1375	1625	1875	2125
125-100-400	WS_55	-	-	-	-	-	-	660	875	1125	1375	1625	1875	2125
150-125-200	WS_35	-	523	-	573	-	654	-	875	1125	1375	1625	1875	2125
150-125-250	WS_35	-	523	-	573	-	654	-	875	1125	1375	1625	1875	2125
150-125-315	WS_55	-	-	-	-	-	-	660	875	1125	1375	1625	1875	2125
150-125-400	WS_55	-	-	-	-	-	-	660	875	1125	1375	1625	1875	2125
200-150-200	WS_35	-	543	-	593	-	674	-	895	1145	1395	1645	1895	2145
200-150-250	WS_35	-	543	-	593	-	674	-	895	1145	1395	1645	1895	2145
200-150-315	WS_55	-	-	-	-	-	-	680	895	1145	1395	1645	1895	2145
200-150-400	WS_55	-	-	-	-	-	-	680	895	1145	1395	1645	1895	2145

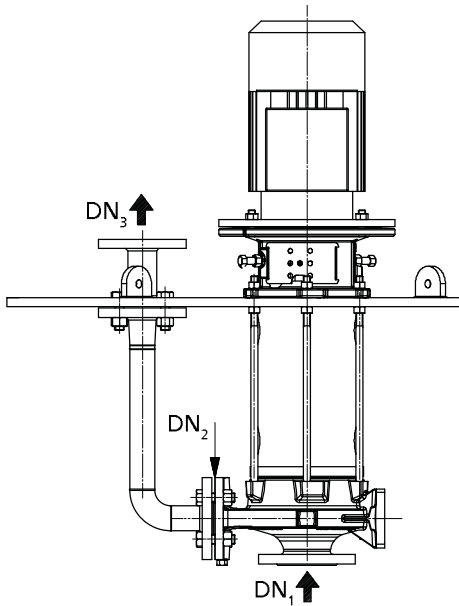
Dimensions: distance from the floor



Distance from the floor

Distance from the floor in [mm]

DN ₁	B
50	80
65	80
80	100
100	100
125	100
150	150
200	150

Flange variant

Flange designation
Flange variants

	Suction side DN ₁	Discharge side DN ₂	Discharge side DN ₃
Standard	DIN EN 1092-2 for material variant G DIN EN 1092-1 for material variant C		
Flange position	Axial		
Pressure class	PN 16, from size DN 200: PN 10	PN 16	PN 10
Flange design	RF	RF	FF
Flange type	21-B	21-B	01-A

Flange sizes

Size	Suction side DN ₁	Discharge side DN ₂	Discharge side DN ₃
050-032-125.1	DN 50	DN 32	DN 40
050-032-160.1	DN 50	DN 32	DN 40
050-032-200.1	DN 50	DN 32	DN 40
050-032-250.1	DN 50	DN 32	DN 40
050-032-125	DN 50	DN 32	DN 40
050-032-160	DN 50	DN 32	DN 40
050-032-200	DN 50	DN 32	DN 40
050-032-250	DN 50	DN 32	DN 40
065-040-125	DN 65 ¹²⁾	DN 40	DN 50
065-040-160	DN 65 ¹²⁾	DN 40	DN 50
065-040-200	DN 65 ¹²⁾	DN 40	DN 50
065-040-250	DN 65 ¹²⁾	DN 40	DN 50
065-040-315	DN 65 ¹²⁾	DN 40	DN 50
065-050-125	DN 65 ¹²⁾	DN 50	DN 65 ¹²⁾
065-050-160	DN 65 ¹²⁾	DN 50	DN 65 ¹²⁾
065-050-200	DN 65 ¹²⁾	DN 50	DN 65 ¹²⁾
065-050-250	DN 65 ¹²⁾	DN 50	DN 65 ¹²⁾
065-050-315	DN 80	DN 50	DN 65 ¹²⁾
080-065-125	DN 80	DN 65 ¹²⁾	DN 80
080-065-160	DN 80	DN 65 ¹²⁾	DN 80
080-065-200	DN 80	DN 65 ¹²⁾	DN 80

¹²⁾ Flange with 4 bolt holes

Size	Suction side DN ₁	Discharge side DN ₂	Discharge side DN ₃
080-065-250	DN 80	DN 65 ¹²⁾	DN 80
080-065-315	DN 80	DN 65 ¹²⁾	DN 80
100-080-160	DN 100	DN 80	DN 100
100-080-200	DN 100	DN 80	DN 100
100-080-250	DN 100	DN 80	DN 100
100-080-315	DN 100	DN 80	DN 100
100-080-400	DN 100	DN 80	DN 100
125-100-160	DN 125	DN 100	DN 125
125-100-200	DN 125	DN 100	DN 125
125-100-250	DN 125	DN 100	DN 125
125-100-315	DN 125	DN 100	DN 125
125-100-400	DN 125	DN 100	DN 125
150-125-200	DN 150	DN 125	DN 150
150-125-250	DN 150	DN 125	DN 150
150-125-315	DN 150	DN 125	DN 150
150-125-400	DN 150	DN 125	DN 150
200-150-200	DN 200	DN 150	DN 200
200-150-250	DN 200	DN 150	DN 200
200-150-315	DN 200	DN 150	DN 200
200-150-400	DN 200	DN 150	DN 200

Flange material variants

Material variant	Standard	Pressure class
G, GB, GC	EN 1092-2	PN 16
C	EN 1092-1	PN 16

Sets of spare parts
Etanorm V in design D

Overview of spare parts sets

Spare assembly	Comprises the following parts	
210 - shaft	210	Shaft
	550.95 ¹³⁾	Disc
	920.95	Nut
	930.95	Safety device
	940.01	Key
	940.02	Key
102 - volute casing	102	Volute casing
	502.01	Casing wear ring
	902.01 ¹⁴⁾	Stud
	903.01	Screw plug
	903.03	Screw plug
	920.01 ¹⁴⁾	Nut

Etanorm V in design W

Overview of spare parts sets

Spare assembly	Comprises the following parts	
210 - shaft	210	Shaft
	515	Locking ring
	550.95 ¹⁵⁾	Disc
	840	Coupling
	914.24	Hexagon socket head cap screw
	920.95	Nut
	930.95	Safety device

¹³⁾ For shaft unit 25 only

¹⁴⁾ For bolted casing cover only

¹⁵⁾ For shaft unit 25 only

Spare assembly	Comprises the following parts	
	940.01	Key
211 - pump shaft	211	Pump shaft
	515	Locking ring
	550.95 ¹⁵⁾	Disc
	561.29	Grooved pin
	914.24	Hexagon socket head cap screw
	920.95	Nut
	930.95	Safety device
	940.01	Key
102 - volute casing	102	Volute casing
	502.01	Casing wear ring
	902.01 ¹⁶⁾	Stud
	903.01	Screw plug
	903.03	Screw plug
	920.01 ¹⁶⁾	Nut
161 - casing cover	161	Casing cover
	502.02	Casing wear ring
515 - locking ring	515	Locking ring
381 - bearing cartridge	914.24	Hexagon socket head cap screw
	381.01	Bearing cartridge
	412.24	O-ring
	504 ¹⁷⁾	Spacer ring
	529.16	Bearing sleeve
	550.80 ¹⁸⁾	Disc
	561.29	Grooved pin
	932.41 ¹⁸⁾	Circlip
	932.42 ¹⁹⁾	Circlip
341 - drive lantern	68-3.02	Cover plate
	341	Drive lantern
	902.11	Stud
	920.11	Nut

Scope of supply

Depending on the model, the following items are included in the scope of supply:

- Pump
- Drive
- Cover plate
- Discharge pipe

¹⁶⁾ For bolted casing cover only

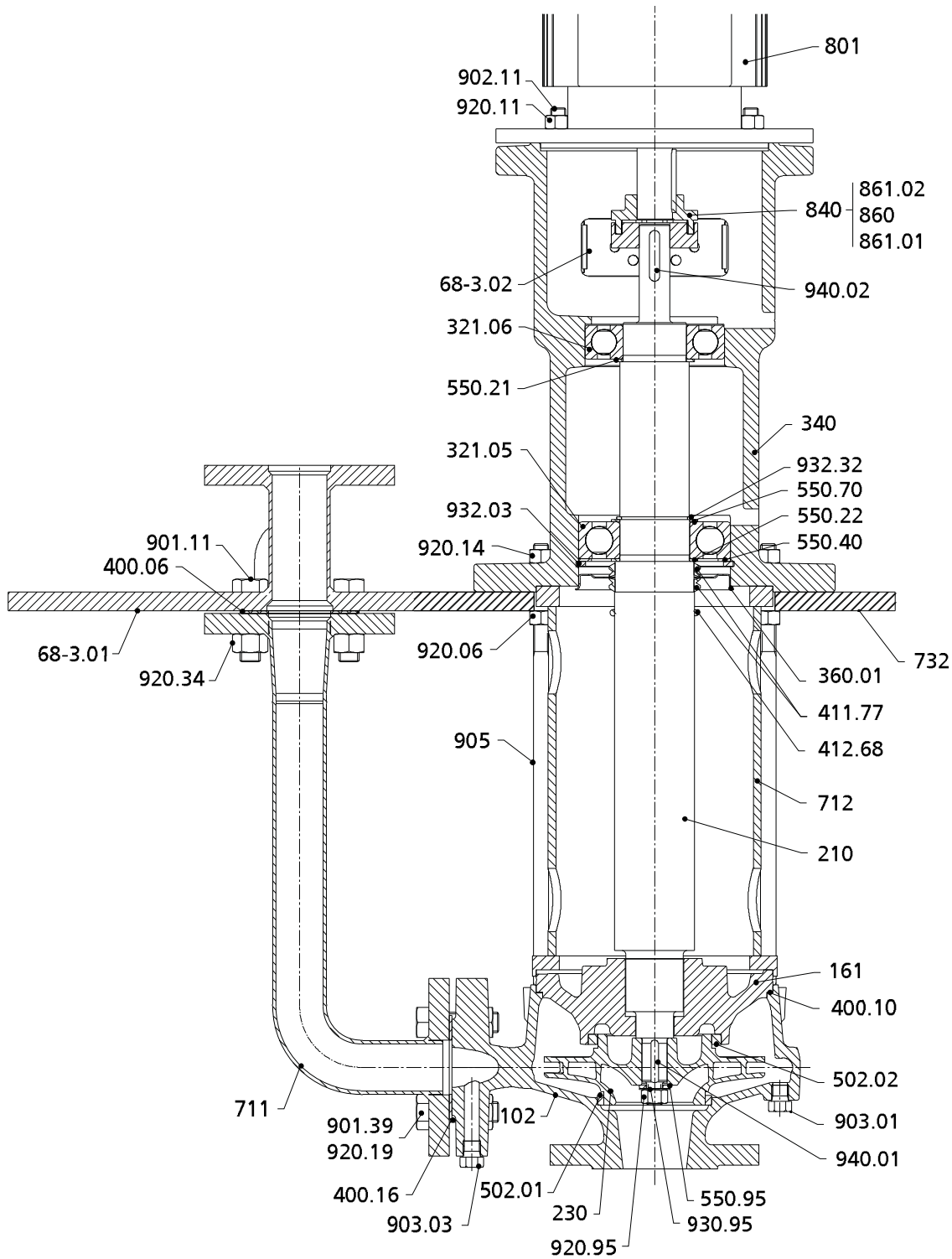
¹⁷⁾ Only for Etanorm V, in stainless steel, design W, shaft unit 55

¹⁸⁾ Only for Etanorm V, in cast iron, design W, shaft unit 55

¹⁹⁾ Only for Etanorm V, in cast iron, design W, shaft units 25, 35 and 55

General assembly drawings

Etanorm V, design D



General assembly drawing Etanorm V, design D

Detail drawing Etanorm V, design D

<p>230</p>	<p>930.95 920.95</p>
<p>Impeller, unbalanced 50-32-125.1 50-32-160.1 50-32-125 65-40-125</p>	<p>Impeller fastening Material variants GG / CC; shaft units WS 35 / 55</p>
	<p>902.01 920.01 161 102</p>
<p>Drawing without casing wear ring Material variant CC</p>	<p>Bolted casing cover Material variants GG / CC; shaft units WS 25 / 35 / 55</p>
<p>500 360.01** 412.01 421 901.36 411.77</p>	<p>902.11 920.11 801 146 914.83 340</p>
<p>Ball bearing Material variants GG / CC; ** Only for shaft unit WS 55</p>	<p>Intermediate lantern, for the following shaft units: WS_25: motor 132 / 160 / 180 WS_35: motor 132 / 160 / 180 / 200 / 225 WS_55: motor 225 (4 poles) / 250 (4 poles) / 280 (4 poles)</p>

<p>411.01/03*</p> <p>903.01/03</p>	
Drain plug * For material variant CC only	

List of components

Part No.	Description	Part No.	Description
68-3.01/02	Cover plate	711	Discharge pipe
102	Volute casing	712	Support column
146	Intermediate lantern	732 ²⁰⁾	Holder
161	Casing cover	801	Flanged motor
210	Shaft	840	Coupling
230	Impeller	860	Coupling part
321.05/06	Radial ball bearing	861.01/02	Coupling half
340	Bearing lantern	901.11/36 ²¹⁾ /39	Hexagon head bolt
360.01	Bearing cover	902.01/11	Stud
400.06/10/16	Gasket	903.01/03	Screw plug
411.01/03/77	Joint ring	905	Tie bolt
412.01 ²¹⁾ /68	O-ring	914.83	Hexagon socket head cap screw
421 ²¹⁾	Lip seal	920.01/06/11/14/19/34/95	Nut
500 ²¹⁾	Ring	930.95	Safety device
502.01/02	Casing wear ring	932.03/32	Circlip
550.21/22/40/70/95 ²²⁾	Disc	940.01 ²³⁾ /02	Key

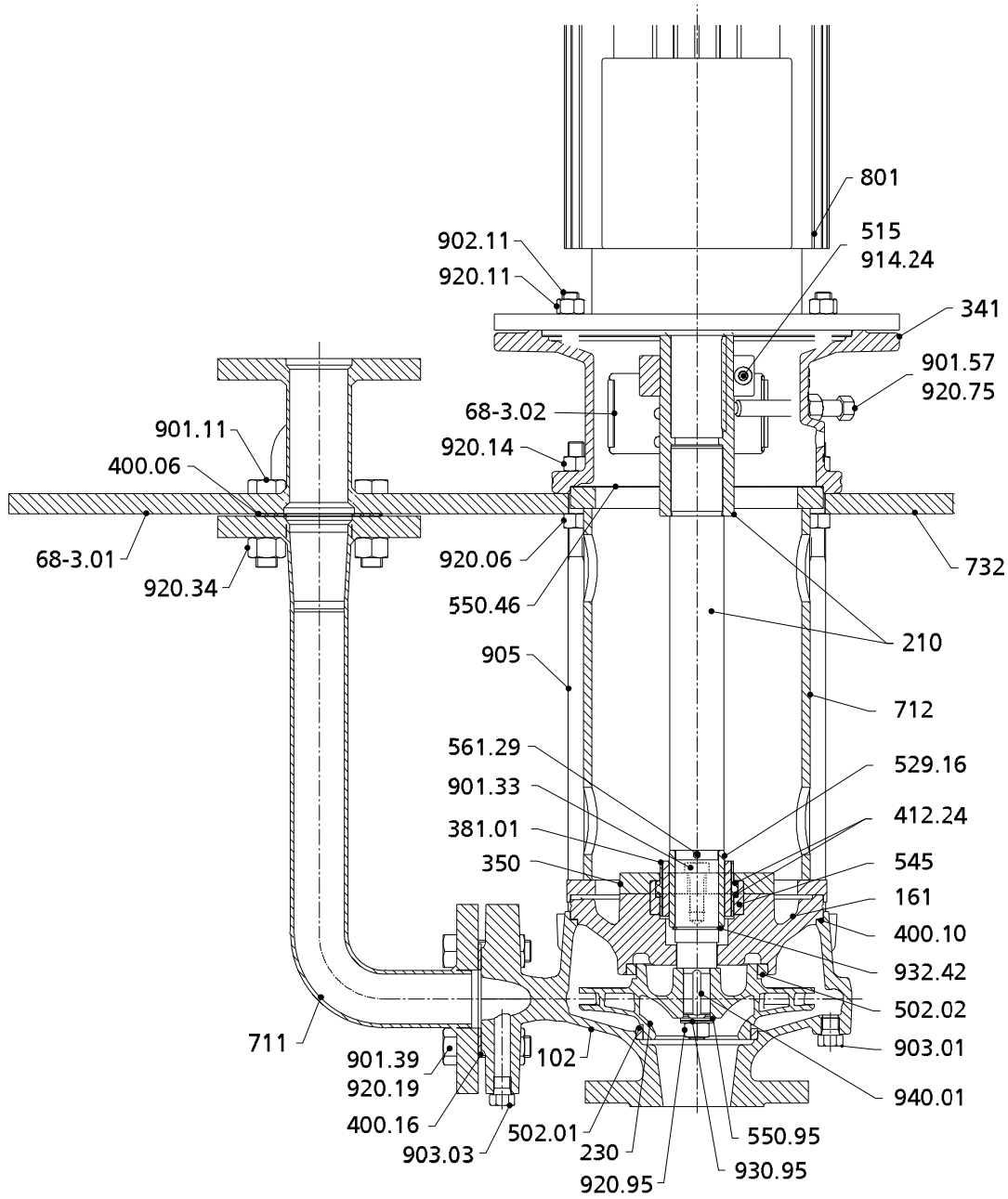
²⁰⁾ On pumps without cover plate only

²¹⁾ For WS_55 only

²²⁾ For WS_25 only

²³⁾ 2x for WS_55

Etanorm V, design W



General assembly drawing Etanorm V, design W

Detail drawings Etanorm V, design W

<p>Impeller, unbalanced 50-32-125.1 50-32-160.1 50-32-125 65-40-125</p>	<p>Impeller fastening Material variants GG / CC; shaft units WS 35 / 55</p>
<p>Spacer sleeve Material variant GG; shaft units WS 35 / 55</p>	<p>Spacer sleeve and bearing sleeve Material variant CC; shaft units WS 25 / 35 / 55</p>
<p>Motor connection Material variants GG / CC; shaft units WS 25 / 35; motors 100 / 112</p>	<p>Bolted casing cover Material variants GG / CC; shaft units WS 25 / 35 / 55</p>

Fig.1_ WS55 Material variant GG; * For shaft unit WS 55 only	Fig.2_ WS55 Material variant CC; shaft unit WS 55
Drain plug * For material variant CC only	Drawing without casing wear ring Material variant CC

List of components

Part No.	Description	Part No.	Description
68-3.01/02	Cover plate	545	Bearing bush
102	Volute casing	550.46/80 ²⁴⁾ /95 ²⁵⁾	Disc
161	Casing cover	561.29	Grooved pin
210	Shaft	711	Discharge pipe
211	Pump shaft	712	Support column
230	Impeller	732 ²⁶⁾	Holder
341	Drive lantern	801	Flanged motor
350	Bearing housing	901.11/33/39/57 ²⁷⁾	Hexagon head bolt
381.01	Bearing cartridge	902.01/11	Stud
400.06/10/16	Gasket	903.01/03	Screw plug
411.01/03	Joint ring	905	Tie bolt
412.24	O-ring	914.24	Hexagon socket head cap screw
502.01/02	Casing wear ring	920.01/06/11/14/19/34/75 ²⁷⁾ /95	Nut
504 ²⁴⁾	Spacer ring	930.95	Safety device
515	Locking ring	932.41 ²⁴⁾ /42	Circlip

²⁴⁾ For WS_55 only

²⁵⁾ For WS_25 only

²⁶⁾ On pumps without cover plate only

²⁷⁾ Assembly aid or transport lock

Part No.	Description	Part No.	Description
525	Spacer sleeve	940.01 ²⁸⁾	Key
529.16	Bearing sleeve		

²⁸⁾ 2x for WS_55

Detailed designation

Designation example

Position																																			
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36
E	T	N	V	0	5	0	-	0	3	2	-	1	2	5	1	G	G		W	D	B	1	5	0	2	0	0	7	5	2	B	P	D	2	E
See name plate and data sheet																								See data sheet											

Designation key

Position	Code	Description
1-4	Pump type	
	ETNV	Etanorm V
5-16	Size	
	0 5 0	Nominal suction nozzle diameter [mm]
	0 3 2	Nominal discharge nozzle diameter [mm]
	1 2 5 1	Nominal impeller diameter [mm]
17	Pump casing material	
	G	EN-GJL 250 / A48 CL35B
	C	1.4408 / A743 CF8M
18	Impeller material	
	G	EN-GJL 250 / A48 CL35B
	C	1.4408 / A743 CF8M
	B	CC480K-GS / B30 C90700
19	Special design	
	_)29)	Standard
	X	Non-standard BT3D, BT3
20	Version	
	D	Dry
	W	Wet
21	Scope of supply	
	A	Pump only (Fig. 0)
	C	Pump, coupling
	D	Pump set
22	Cover plate	
	B	With cover plate
	H	With holder
23-25	Immersion depth	
	0 3 7	375 mm
	0 3 9	398 mm
	0 4 2	425 mm
	0 4 4	448 mm
	0 5 0	504 mm
	0 5 2	529 mm
	0 5 3	535 mm
	0 7 5	750 mm
	1 0 0	1000 mm
	1 2 5	1250 mm
1 5 0	1500 mm	
1 7 0	1750 mm	
2 0 0	2000 mm	
26	Shaft unit	
	2	Shaft unit 25
	3	Shaft unit 35
	5	Shaft unit 55
27-30	Motor rating	
	1 3 2 0	132 kW
	0 0 7 5	7.5 kW
	0 0 0 7	0.75 kW
	_)2)	Without motor
31	Number of poles	
	2	2 poles

29) Blank

Position	Code	Description
	4	4 poles
	6	6 poles
	8	8 poles
	..2)	Without motor
32	Product generation	
	B	Product generation Etanorm V / 04/2015
33-36	PumpDrive	
	P D B	PumpDrive 1st generation, Basic
	P D A	PumpDrive 1st generation, Advanced
	P D 2	PumpDrive 2nd generation
	P D 2 E	PumpDrive 2nd generation, Eco
	..2)	Without PumpDrive