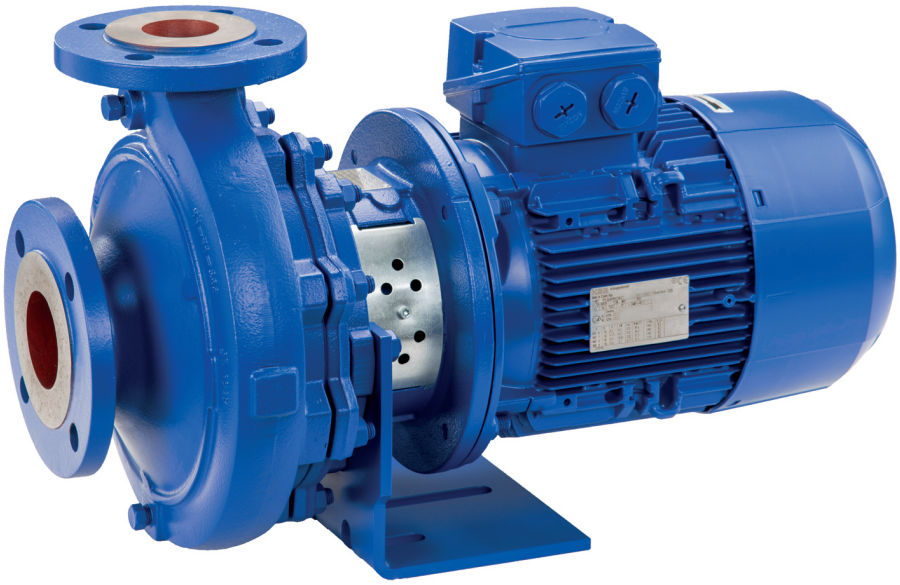
Close-coupled Pump

Etabloc

Fixed Speed / Variable Speed
50 Hz / 60 Hz
SI Units and Imperial Units

Type Series Booklet



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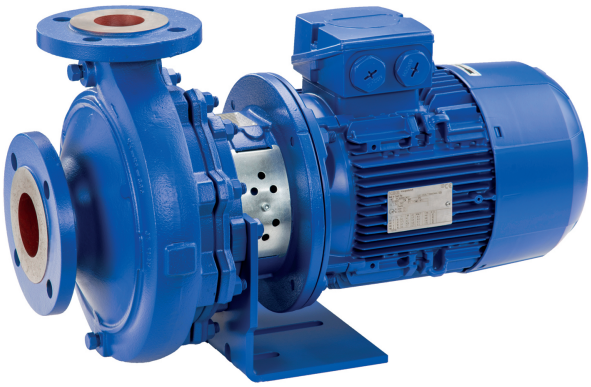
Type Series Booklet Etabloc

Contents

Centrifugal Pumps with Shaft Seal

Close-coupled Pump

Etabloc (EU / ME / NA)



The product illustrated as an example may include options incurring a surcharge!

Main applications

- Handling clean or aggressive fluids not chemically and mechanically aggressive to the pump materials
- Water supply systems
- Cooling circuits
- Swimming pools
- Fire-fighting systems
- General irrigation systems
- Drainage systems
- Heating systems
- Air-conditioning systems
- Spray irrigation systems

Fluids handled

- Seawater
- Brackish water
- Drinking water
- Hot water
- Service water
- Fire-fighting water
- Brine
- Cleaning agents
- Condensate
- Oils

Related documents

Table 1: Information/documents

Document	Reference number
General arrangement drawings booklet	1173.391
Characteristic curves booklet (50 Hz) Fixed speed version	1311.45
Characteristic curves booklet (60 Hz) Fixed speed version	1311.46
Characteristic curve booklet Variable speed version	1311.452
Type series booklet KSB SuPremE	4075.53
Type series booklet PumpDrive 2 / PumpDrive 2 Eco	4074.5
Type series booklet PumpDrive R	4073.5
Type series booklet PumpMeter	4072.5

Operating data

Table 2: Operating data (SI units)

Characteristic		Value	
		50 Hz	60 Hz
Flow rate	Q [m³/h]	≤ 660	≤ 740
Head	H [m]	≤ 160	≤ 148
Fluid temperature	T [°C]	≥ -30	≥ -30
		≤ +140	≤ +140
Operating pressure	p [bar]	≤ 16	≤ 16
Motor rating[1)]	P_N[kW]	≤ 110	≤ 110

Table 3: Operating data (imperial units)

Characteristic		Value	
		50 Hz	60 Hz
Flow rate	Q [gpm]	≤ 2905.89	≤ 3258.12
Head	H [ft]	≤ 524.93	≤ 485.56
Fluid temperature	$T_{min.}$ [°F]	≥ -22	≥-22
		≤ 284	≤ 284
Operating pressure	p [psi]	≤ 232.06	≤ 232.06
Motor rating[1)]	P_N [hp]	≤ 147.51	≤ 147.51

Design details

Design

- Volute casing pump
- Single-stage
- Ratings to EN 733
- Requirements to 2009/125/EC Directive

Pump casing

- Radially split volute casing
- Volute casing with integrally cast pump feet (not for pump casing material G, motor size ≤ 180)
- Replaceable casing wear rings (optional for pump casing material C)

1 Refer to the overview of pump size / motor combinations

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Shaft seal

- Single mechanical seals and double mechanical seals to EN 12756
- Shaft equipped with replaceable shaft sleeve in the shaft seal area

Impeller type

- Closed radial impeller with multiply curved vanes

Designation

Table 4: 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
E	T	B		0	4	0	-	0	2	5	-	1	6	0	-	G	G	S	B	E	1	1	W	S	E	J	B	2	H	C	B
See name plate and data sheet																															

Table 5: Designation key (SI units)

Position	Code	Description	
1-4	Pump type		
	ETB	Etabloc	
	ETBF	Etabloc bottle rinser variant	
5-16	Size [mm], e.g.		
	040	Nominal suction nozzle diameter	
	025	Nominal discharge nozzle diameter	
	160	Nominal impeller diameter	
17	Pump casing material		
	B	Bronze	CC480K-GS / B30 C90700
	C	Stainless steel	1.4408 / A743CF8M
	G	Cast iron	EN-GJL-250 / A48 Cl. 35
	K	Cast iron, electrocoated	EN-GJL-250, electrocoated
	S	Nodular cast iron	EN-GJS-400-15 / A536 Gr. 60-40-18
18	Impeller material		
	B	Bronze	CC480K-GS / B30 C90700
	C	Stainless steel	1.4408 / A743CF8M
	G	Cast iron	EN-GJL-250 / A48 Cl. 35
	P	Cast iron without protective coating	EN-GJL-250 without protective coating
19	Design		
	E	Design as per European Regulation (EC) No. 1935/2004	
	F	Bottle rinser variant	
	H	Approved for drinking water to ACS	
	K	Approved for drinking water to KSB standard	
	P	Swimming pool variant	
	S	Standard	
	U	Approved for drinking water to UBA	
	W	Approved for drinking water to WRAS	
20	Casing cover connections		
	A	Conical casing cover without connection	
	B	Conical casing cover with connection for venting	
	C	Conical casing cover with vent	
	D	Conical casing cover with connection for external flushing	
	E	Conical casing cover with connection for external flushing from discharge nozzle	
	H	Cylindrical casing cover for version with double mechanical seal in tandem arrangement with connection for quench system	
	I	Cylindrical casing cover for version with double mechanical seal in back-to-back arrangement with connection for barrier fluid system	
21	Shaft seal type		
	D	Double mechanical seal in back-to-back arrangement, API Plan: 53A[2)]	
	E	Single mechanical seal, external circulation, conical casing cover, API Plan: 11[2)]	

2 API Plans indicate the operating principle. Some design details, e.g. piping plans or connection features, may deviate from the API requirements.

Position	Code	Description		
21	F	Single mechanical seal, external flushing, conical casing cover, API Plan: 32[2]		
	I	Single mechanical seal, internal circulation, conical casing cover, API Plan: 01[2]		
	T	Double mechanical seal in tandem arrangement with internal circulation, API Plan[2]: 52[3] / 55[4]		
	V	Single mechanical seal with vented chamber (A-type cover), API Plan[2]: 03		
22-23	Seal code, single mechanical seal			
	01	QQVGG	KSB's choice	≥ -20 - ≤ +110 [°C]
	07	QQEGG DW001	KSB's choice	≥ -30 - ≤ +110 [°C]
	09	U3U3VGG-Y10	EMG13-G6	≥ -20 - ≤ +110 [°C]
	10	QQXGG	KSB's choice	≥ -20 - ≤ +110 [°C]
	11	BQEGG DW001	KSB's choice	≥ -30 - ≤ +110 [°C]
	12	Q12Q1M1GG1	M37GN83	≥ -20 - ≤ +100 [°C]
	13	BQVGG	KSB's choice	≥ -20 - ≤ +110 [°C]
	14	Q1Q1KY7G	KMB13S2G9	≥ -20 - ≤ +120 [°C]
	15	Q1Q1KGG	M7G49	≥ -20 - ≤ +110 [°C]
	17	Q1BVGG	M7N	≥ -20 - ≤ +110 [°C]
		BQ1VGG	5A	≥ -20 - ≤ +110 [°C]
	22	AQ1EGG	M32N69	≥ -30 - ≤ +140 [°C]
	45	BQ7EGG-Y10 FD004	EMG13-G6	≥ -30 - ≤ +110 [°C]
	46	Q7Q7EGG-Y10 FD004	EMG13-G6	≥ -30 - ≤ +110 [°C]
	51	BQ7VGG-Y10 FD004	EMG13-G6	≥ -14 - ≤ +120 [°C]
	52	Q7Q7VGG-Y10 FD004	EMG13-G6	≥ -14 - ≤ +120 [°C]
	66	Q7Q7EGG-Y10 DW001	EMG13-G6	≥ -30 - ≤ +120 [°C]
	76	AQ7EGG-Y10	ERMG13-G6	≥ -30 - ≤ +140 [°C]
	79	Q7Q7VGG-Y10	EMG13-G6	≥ -20 - ≤ +110 [°C]
	Seal code, double mechanical seal in tandem arrangement			
	18	Q7Q7EGG-Y10 DW001	EMG12-G6	≥ -30 - ≤ +110 [°C]
		Q7Q7EGG-Y10 DW001	EMG12-G6	≥ -30 - ≤ +110 [°C]
	20	Q12Q1M1GG1	M37GN85	≥ -20 - ≤ +110 [°C]
		Q7Q7EGG-Y10 DW001	EMG12-G6	≥ -20 - ≤ +110 [°C]
	23	Q12Q1M1GG1	M37GN92	≥ -20 - ≤ +110 [°C]
		Q7Q7EGG-Y10 DW001	EMG12-G6	≥ -20 - ≤ +110 [°C]
	Seal code, double mechanical seal in back-to-back arrangement			
	21	Q1Q1KGG	M7G49	≥ -20 - ≤ +110 [°C]
		Q1Q1KGG	M7G49	≥ -20 - ≤ +110 [°C]
	24	Q1Q1KGG	M7G49	≥ -20 - ≤ +110 [°C]
		Q1BVGG	M7N	≥ -20 - ≤ +110 [°C]
24	Type of lubrication			
	W	None		
25	Design			
	C	Extended standard		
	S	KSB standard		
	X	Special design		
26	Bearing bracket / Shaft unit			
	E	Shaft unit 25		
	F	Shaft unit 35		
	H	Shaft unit 55		
27-28	Motor rating P_N [kW]			
	AJ	0.37		
	...	...		
	KP	160		
29	Number of motor poles			
	1	10 poles (PumpDrive)		
	2	2 poles		
	4	4 poles		

3 Applies to: Version without reservoir and version with unpressurized reservoir
4 Applies to: Version with external circulation system

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Position	Code	Description
29	5	14 poles (PumpDrive)
	6	6 poles
30	Scope of supply	
	A	Bare-shaft pump
	C	Pump, baseplate
	G	Back pull-out unit
	H	Pump, motor
31	Accessories / automation	
	A	KSB PumpDrive 2
	B	KSB PumpMeter
	C	KSB PumpDrive 2 + KSB PumpMeter
	D	KSB MyFlow
	E	KSB Guard
	H	None
	I	Version for potentially explosive atmospheres
	J	KSB PumpDrive 2 + KSB Guard
	K	KSB PumpMeter 2 + KSB Guard
	L	KSB PumpDrive 2 + KSB PumpMeter + KSB Guard
	M	KSB MyFlow + KSB Guard
	N	KSB PumpDrive 3
	O	KSB PumpDrive R + KSB PumpMeter
	P	KSB PumpDrive R + KSB Guard
	Q	KSB PumpDrive R + KSB PumpMeter + KSB Guard
	R	KSB PumpDrive R
	W	KSB PumpDrive 3 + KSB Guard
32	Product generation	
	B	Generation B

Table 6: 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
E	T	B		0	4	0	-	0	2	5	-	1	6	0	-	G	G	S	B	E	1	1	W	S	E	J	B	2	H	C	B
See name plate and data sheet																															

Table 7: Designation key (imperial units)

Position	Code	Description	
1-4	Pump type		
	ETB	Etabloc	
	ETBF	Etabloc bottle rinser variant	
5-16	Size [mm], e.g.		
	040	Nominal suction nozzle diameter	
	025	Nominal discharge nozzle diameter	
	160	Nominal impeller diameter	
17	Pump casing material		
	B	Bronze	CC480K-GS / B30 C90700
	C	Stainless steel	1.4408 / A743CF8M
	G	Cast iron	EN-GJL-250 / A48 Cl. 35
	K	Cast iron, electrocoated	EN-GJL-250, electrocoated
	S	Nodular cast iron	EN-GJS-400-15 / A536 Gr. 60-40-18
18	Impeller material		
	B	Bronze	CC480K-GS / B30 C90700
	C	Stainless steel	1.4408 / A743CF8M
	G	Cast iron	EN-GJL-250 / A48 Cl. 35
	P	Cast iron without protective coating	EN-GJL-250 without protective coating
19	Design		
	E	Design as per European Regulation (EC) No. 1935/2004	
	F	Bottle rinser variant	

Position	Code	Description		
19	H	Approved for drinking water to ACS		
	K	Approved for drinking water to KSB standard		
	P	Swimming pool variant		
	S	Standard		
	U	Approved for drinking water to UBA		
	W	Approved for drinking water to WRAS		
20	Casing cover connections			
	A	Conical casing cover without connection		
	B	Conical casing cover with connection for venting		
	C	Conical casing cover with vent		
	D	Conical casing cover with connection for external flushing		
	E	Conical casing cover with connection for external flushing from discharge nozzle		
	H	Cylindrical casing cover for version with double mechanical seal in tandem arrangement with connection for quench system		
	I	Cylindrical casing cover for version with double mechanical seal in back-to-back arrangement with connection for barrier fluid system		
21	Shaft seal type			
	D	Double mechanical seal in back-to-back arrangement, API Plan: 53A[5)]		
	E	Single mechanical seal, external circulation, conical casing cover, API Plan: 11[5)]		
	F	Single mechanical seal, external flushing, conical casing cover, API Plan: 32[5)]		
	I	Single mechanical seal, internal circulation, conical casing cover, API Plan: 01[5)]		
	T	Double mechanical seal in tandem arrangement with internal circulation, API Plan[5)]: 52[3)] / 55[4)]		
	V	Single mechanical seal with vented chamber (A-type cover), API Plan[5)]: 03		
22-23	Seal code, single mechanical seal			
	01	QQVGG	KSB's choice	≥ -4 - ≤ +230 [°F]
	07	QQEGG DW001	KSB's choice	≥ -22 - ≤ +230 [°F]
	09	U3U3VGG-Y10	EMG13-G6	≥ -4 - ≤ +230 [°F]
	10	QQXGG	KSB's choice	≥ -4 - ≤ +230 [°F]
	11	BQEGG DW001	KSB's choice	≥ -22 - ≤ +230 [°F]
	12	Q12Q1M1GG1	M37GN83	≥ -4 - ≤ +212 [°F]
	13	BQVGG	KSB's choice	≥ -4 - ≤ +230 [°F]
	14	Q1Q1KY7G	KMB13S2G9	≥ -4 - ≤ +248 [°F]
	15	Q1Q1KGG	M7G49	≥ -4 - ≤ +230 [°F]
	17	Q1BVGG	M7N	≥ -4 - ≤ +230 [°F]
		BQ1VGG	5A	≥ -4 - ≤ +230 [°F]
	22	AQ1EGG	M32N69	≥ -22 - ≤ +284 [°F]
	45	BQ7EGG-Y10 FD004	EMG13-G6	≥ -22 - ≤ +230 [°F]
	46	Q7Q7EGG-Y10 FD004	EMG13-G6	≥ -22 - ≤ +230 [°F]
	51	BQ7VGG-Y10 FD004	EMG13-G6	≥ -6.8 - ≤ +248 [°F]
	52	Q7Q7VGG-Y10 FD004	EMG13-G6	≥ -6.8 - ≤ +248 [°F]
	66	Q7Q7EGG-Y10 DW001	EMG13-G6	≥ -22 - ≤ +248 [°F]
	76	AQ7EGG-Y10	ERMG13-G6	≥ -22 - ≤ +284 [°F]
	79	Q7Q7VGG-Y10	EMG13-G6	≥ -4 - ≤ +230 [°F]
	Seal code, double mechanical seal in tandem arrangement			
	18	Q7Q7EGG-Y10 DW001	EMG12-G6	≥ -22 - ≤ +230 [°F]
		Q7Q7EGG-Y10 DW001	EMG12-G6	≥ -22 - ≤ +230 [°F]
	20	Q12Q1M1GG1	M37GN85	≥ -4 - ≤ +230 [°F]
		Q7Q7EGG-Y10 DW001	EMG12-G6	≥ -4 - ≤ +230 [°F]
	23	Q12Q1M1GG1	M37GN92	≥ -4 - ≤ +230 [°F]
		Q7Q7EGG-Y10 DW001	EMG12-G6	≥ -4 - ≤ +230 [°F]
	Seal code, double mechanical seal in back-to-back arrangement			
	21	Q1Q1KGG	M7G49	≥ -4 - ≤ +230 [°F]
		Q1Q1KGG	M7G49	≥ -4 - ≤ +230 [°F]
	24	Q1Q1KGG	M7G49	≥ -4 - ≤ +230 [°F]
		Q1BVGG	M7N	≥ -4 - ≤ +230 [°F]

5 API Plans indicate the operating principle. Some design details, e.g. piping plans or connection features, may deviate from the API requirements.

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Position	Code	Description
24	Type of lubrication	
	W	None
25	Design	
	C	Extended standard
	S	KSB standard
	X	Special design
26	Bearing bracket / Shaft unit	
	E	Shaft unit 25
	F	Shaft unit 35
	H	Shaft unit 55
27-28	Motor rating P_N [hp]	
	AJ	0.50
	...	...
	KP	215
29	Number of motor poles	
	1	10 poles (PumpDrive)
	2	2 poles
	4	4 poles
	5	14 poles (PumpDrive)
	6	6 poles
30	Scope of supply	
	A	Bare-shaft pump
	C	Pump, baseplate
	G	Back pull-out unit
	H	Pump, motor
31	Accessories / automation	
	A	KSB PumpDrive 2
	B	KSB PumpMeter
	C	KSB PumpDrive 2 + KSB PumpMeter
	D	KSB MyFlow
	E	KSB Guard
	H	None
	I	Version for potentially explosive atmospheres
	J	KSB PumpDrive 2 + KSB Guard
	K	KSB PumpMeter 2 + KSB Guard
	L	KSB PumpDrive 2 + KSB PumpMeter + KSB Guard
	M	KSB MyFlow + KSB Guard
	N	KSB PumpDrive 3
	O	KSB PumpDrive R + KSB PumpMeter
	P	KSB PumpDrive R + KSB Guard
	Q	KSB PumpDrive R + KSB PumpMeter + KSB Guard
	R	KSB PumpDrive R
	W	KSB PumpDrive 3 + KSB Guard
32	Product generation	
	B	Generation B

Materials

Table 8: Symbols key

Symbol	Description
✗	Standard
o	Optional
-	Version not available / not possible

Table 9: Overview of available materials

Part No. (⇨ Page 43)	Designation	Material	Material variant							
			GG	GB	GC	BB	SG	SB	SC	CC
102	Volute casing	Gray cast iron EN-GJL-250 / A 48 Cl. 35 B	✗	✗	✗	-	-	-	-	-
		Gray cast iron EN-GJL-250 / CATAPHORESIS	o	o	o	-	-	-	-	-
		Bronze CC480K-GS / B30 C90700	-	-	-	✗	-	-	-	-
		Nodular cast iron EN-GJS-400-15/ A536 Gr. 60-40-18	-	-	-	-	✗	✗	✗	-
		Stainless steel 1.4408 / A743 Gr. CF8 M	-	-	-	-	-	-	-	✗
161	Casing cover, conical	Gray cast iron EN-GJL-250 / A 48 Cl. 35 B	✗	✗	✗	-	-	-	-	-
		Gray cast iron EN-GJL-250 / CATAPHORESIS	o	o	o	-	-	-	-	-
		Bronze CC480K-GS/ B30 C90700	-	-	-	✗	-	-	-	-
		Nodular cast iron EN-GJS-400-15 / A536 Gr. 60-40-18	-	-	-	-	✗	✗	✗	-
		Stainless steel 1.4408 / A743 Gr. CF8 M	-	-	-	-	-	-	-	✗
161	Casing cover, cylindrical	Gray cast iron EN-GJL-250 / A 48 Cl. 35 B	o	o	o	-	-	-	-	-
		Gray cast iron EN-GJL-250 / CATAPHORESIS	o	o	o	-	-	-	-	-
		Stainless steel 1.4408 / A743 Gr. CF8 M	-	-	-	o	-	-	-	-
		Bronze CC480K-GS/ B30 C90700	-	-	-	-	-	-	-	o
210	Shaft	Tempered steel C45+N	✗	✗	✗	-	✗	✗	✗	-
		Stainless steel 1.4571	o	o	o	✗	o	o	o	✗
230	Impeller	Gray cast iron EN-GJL-250 / A 48 Cl. 35 B	✗	-	-	-	✗	-	-	-
		Bronze CC480K-DW	-	✗	-	✗	-	✗	-	-
		Stainless steel 1.4408 / A743 Gr. CF8 M	-	-	✗	-	-	-	✗	✗
341	Drive lantern	Gray cast iron EN-GJL-250 / A 48 Cl. 35 B	✗	✗	✗	✗	✗	✗	✗	✗
400	Gaskets	DPAF, asbestos-free	✗	✗	✗	✗	✗	✗	✗	✗
502.01	Casing wear ring, suction side	JL / lamellar graphite cast iron	✗	✗	✗	-	✗	✗	✗	-
		Stainless steel (CrNiMo steel)[6)]	o	o	o	-	-	-	-	o
		Bronze CC495K-GS	-	o	-	✗	-	o	-	-
502.02	Casing wear ring, discharge side	JL / lamellar graphite cast iron	✗	✗	✗	-	✗	✗	✗	-
		Stainless steel (CrNiMo steel)[6)]	o	o	o	-	-	-	-	o
		Bronze CC495K-GS	-	o	-	✗	-	o	-	-
523	Shaft sleeve[7)]	Stainless steel (CrNiMo steel)[6)]	✗	✗	✗	✗	✗	✗	✗	✗
902	Studs	Steel 8.8	✗	✗	✗	-	✗	✗	✗	-
		A4-70 / A193 Gr. B8M Cl. 2	o	o	o	✗	o	o	o	✗
903	Screw plug	Steel	✗	✗	✗	-	✗	✗	✗	-
		A4 / AISI 316	o	o	o	✗	o	o	o	✗
920	Nut	8+A2A / 8+B633 SC1 TP3	✗	✗	✗	-	✗	✗	✗	-
		A4 / AISI 316	o	o	o	✗	o	o	o	✗
920.95	Impeller nut	A4 / AISI 316	o	o	✗	✗	o	✗	✗	✗
		Steel 8	✗	✗	-	-	✗	-	-	-

Coating and preservation

- Coating and preservation to KSB standard

6 Possible materials for material group CrNiMo steel INT (material identification code 7605): 1.4401, 1.4404, 1.4408, 1.4571, AISI 316, AISI 316TI, A743 Gr. CF8 M, A479 type 316L.

7 For versions with mechanical seal

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Product benefits

- Improved efficiency and NPSHreq by experimentally verified hydraulic design of impellers (vanes)
- Operating costs reduced by trimming the nominal impeller diameter to match the specified duty point
- Little wear, low vibration levels and excellent smooth running characteristics thanks to good suction performance and virtually cavitation-free operation across a wide operating range
- Casing sealed reliably – even in varying operating conditions – by confined casing gasket
- Large variety of materials as standard for perfectly matching the pump to the fluid handled
- Extended selection chart with additional pump sizes for small flow rates
- Easy to dismantle using forcing screws at the interface of casing cover and drive lantern

Product information

Product information as per Regulation No. 1907/2006 (REACH)

For information as per European chemicals regulation (EC) No. 1907/2006 (REACH) see https://www.ksb.com/en-global/company/corporate-responsibility/reach.

Product information as per Regulation No. 547/2012 (for water pumps with a maximum shaft power of 150 kW) implementing "Ecodesign" Directive 2009/125/EC

- Minimum efficiency index: see data sheet
- The benchmark for the most efficient water pumps is MEI ≥ 0.70.
- Year of construction: see data sheet
- Manufacturer's name or trade mark, commercial registration number and place of manufacture: see data sheet or order documentation
- Product's type and size identificator: See data sheet
- Hydraulic pump efficiency (%) with trimmed impeller: See data sheet.
- Pump performance curves, including efficiency characteristics: see documented characteristic curve
- The efficiency of a pump with a trimmed impeller is usually lower than that of a pump with the full impeller diameter. Trimming of the impeller will adapt the pump to a fixed duty point, leading to reduced energy consumption. The minimum efficiency index (MEI) is based on the full impeller diameter.
- The operation of this water pump with variable duty points may be more efficient and economic when controlled, for example, by the use of a variable speed drive that matches the pump duty to the system.
- Information relevant for disassembly, recycling or disposal at end of life: see installation/operating manual
- Information on benchmark efficiency or benchmark efficiency graph for MEI = 0.70 (0.40) for the pump based on the model shown in the Figure are available at: www.europump.org/efficiencycharts

Acceptance tests and warranty

Materials testing:

- Test report 2.2 on request

Final inspection:

- Inspection certificate 3.1 to EN 10204 on request

Hydraulic test against surcharge

- Duty point to ISO 9906/2B
- NPSH test

Other inspections/tests on request

Warranty:

- Warranties are given within the scope of the valid terms and conditions of sale and delivery.

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Overview of product features / selection tables

Overview of variants

Other designs on request

Table 10: Symbols key

Symbol	Description
✗	Standard
-	Version not available / not possible

Table 11: Overview of Etabloc variants (SI units)

Design	102 / Volute casing	230 / Impeller	Mechanical seal	T	Main applications									
				[°C]	Handling clean or aggressive fluids not chemically and mechanically aggressive to the pump materials	Water supply systems	Cooling circuits	Swimming pools	Fire-fighting systems	General irrigation systems	Drainage systems	Heating systems	Air-conditioning systems	Spray irrigation systems
GG10	Gray cast iron EN-GJL-250 / A 48 Cl. 35 B	Gray cast iron EN-GJL-250 / A 48 Cl. 35 B	Mech. seal QQXGG	≥ -20 - ≤ +110	-	✗	-	✗ [8]	✗	✗	✗	-	-	✗
GG11	Gray cast iron EN-GJL-250 / A 48 Cl. 35 B	Gray cast iron EN-GJL-250 / A 48 Cl. 35 B	Mech. seal BQEGG DW001	≥ -30 - ≤ +110	✗	✗	✗ [9]	-	✗	-	-	-	✗ [9]	-
GG76	Gray cast iron EN-GJL-250 / A 48 Cl. 35 B	Gray cast iron EN-GJL-250 / A 48 Cl. 35 B	SU 25, 35: mech. seal AQ7EGG-Y10 SU 55: mech. seal AQ1EGG	≥ -30 - ≤ +140	-	-	-	-	-	-	-	✗	-	-
GB10	Gray cast iron EN-GJL-250 / A 48 Cl. 35 B	Bronze CC480K-DW / B30 C90700	Mech. seal QQXGG	≥ -20 - ≤ +110	-	✗	-	✗ [8]	✗	✗	✗	-	-	✗
GB11	Gray cast iron EN-GJL-250 / A 48 Cl. 35 B	Bronze CC480K-DW / B30 C90700	Mech. seal BQEGG DW001	≥ -30 - ≤ +110	✗	✗	✗ [9]	-	✗	-	-	-	✗ [9]	-
GB76	Gray cast iron EN-GJL-250 / A 48 Cl. 35 B	Bronze CC480K-DW / B30 C90700	SU 25, 35: mech. seal AQ7EGG-Y10 SU 55: mech. seal AQ1EGG	≥ -30 - ≤ +140	-	-	-	-	-	-	-	✗	-	-
CC10	Stainless steel 1.4408 / A743 Gr. CF8 M	Stainless steel 1.4408 / A743 Gr. CF8 M	Mech. seal QQXGG	≥ -20 - ≤ +110	-	✗	-	✗ [8]	✗	✗	✗	-	-	✗
CC11	Stainless steel 1.4408 / A743 Gr. CF8 M	Stainless steel 1.4408 / A743 Gr. CF8 M	Mech. seal BQEGG DW001	≥ -30 - ≤ +110	✗	✗	✗ [9]	-	✗	-	-	-	✗ [9]	-
CC76	Stainless steel 1.4408 / A743 Gr. CF8 M	Stainless steel 1.4408 / A743 Gr. CF8 M	SU 25, 35: mech. seal AQ7EGG-Y10 SU 55: mech. seal AQ1EGG	≥ -30 - ≤ +140	-	-	-	-	-	-	-	✗	-	-

8 QQVGG

9 QQEGG, fluid handled: water, glycol with inhibitors

Table 12: Overview of Etabloc variants (imperial units)

Design	102 / Volute casing	230 / Impeller	Mechanical seal	T	Main applications									
				[°F]	Handling clean or aggressive fluids not chemically and mechanically aggressive to the pump materials	Water supply systems	Cooling circuits	Swimming pools	Fire-fighting systems	General irrigation systems	Drainage systems	Heating systems	Air-conditioning systems	Spray irrigation systems
GG10	Gray cast iron EN-GJL-250 / A 48 Cl. 35 B	Gray cast iron EN-GJL-250 / A 48 Cl. 35 B	Mech. seal QQXGG	≥ -4 - ≤ +230	-	✗	-	✗ [8)]	✗	✗	✗	-	-	✗
GG11	Gray cast iron EN-GJL-250 / A 48 Cl. 35 B	Gray cast iron EN-GJL-250 / A 48 Cl. 35 B	Mech. seal BQEGG DW001	≥ -22 - ≤ +230	✗	✗	✗ [9)]	-	✗	-	-	-	✗ [9)]	-
GG76	Gray cast iron EN-GJL-250 / A 48 Cl. 35 B	Gray cast iron EN-GJL-250 / A 48 Cl. 35 B	SU 25, 35: mech. seal AQ7EGG-Y10 SU 55: mech. seal AQ1EGG	≥ -22 - ≤ +284	-	-	-	-	-	-	-	✗	-	-
GB10	Gray cast iron EN-GJL-250 / A 48 Cl. 35 B	Bronze CC480K-DW / B30 C90700	Mech. seal QQXGG	≥ -4 - ≤ +230	-	✗	-	✗ [8)]	✗	✗	✗	-	-	✗
GB11	Gray cast iron EN-GJL-250 / A 48 Cl. 35 B	Bronze CC480K-DW / B30 C90700	Mech. seal BQEGG DW001	≥ -22 - ≤ +230	✗	✗	✗ [9)]	-	✗	-	-	-	✗ [9)]	-
GB76	Gray cast iron EN-GJL-250 / A 48 Cl. 35 B	Bronze CC480K-DW / B30 C90700	SU 25, 35: mech. seal AQ7EGG-Y10 SU 55: mech. seal AQ1EGG	≥ -22 - ≤ +284	-	-	-	-	-	-	-	✗	-	-
CC10	Stainless steel 1.4408 / A743 Gr. CF8 M	Stainless steel 1.4408 / A743 Gr. CF8 M	Mech. seal QQXGG	≥ -4 - ≤ +230	-	✗	-	✗ [8)]	✗	✗	✗	-	-	✗
CC11	Stainless steel 1.4408 / A743 Gr. CF8 M	Stainless steel 1.4408 / A743 Gr. CF8 M	Mech. seal BQEGG DW001	≥ -22 - ≤ +230	✗	✗	✗ [9)]	-	✗	-	-	-	✗ [9)]	-
CC76	Stainless steel 1.4408 / A743 Gr. CF8 M	Stainless steel 1.4408 / A743 Gr. CF8 M	SU 25, 35: mech. seal AQ7EGG-Y10 SU 55: mech. seal AQ1EGG	≥ -22 - ≤ +284	-	-	-	-	-	-	-	✗	-	-

Overview of fluids handled

Table 13: Symbols key

Symbol	Description
✗	Standard
-	Version not available / not possible

Table 14: Excerpt from the overview of fluids handled with associated material variants (SI units)

Fluid handled	T[10]		Materials					Shaft seal								Comments
			Casing/impeller					Mechanical seal								
	Minimum	Maximum	Gray cast iron/ gray cast iron	Gray cast iron/ tin bronze	Nodular cast iron/ gray cast iron	Tin bronze/ tin bronze	CrNiMo cast steel / CrNiMo cast steel	QQEGG DW001	QQXGG	BQEGG DW001	AQ1EGG (WS55)	Q7Q7EGG-Y10 FD004	Q7Q7EGG DW001	AQ7EGG-Y10 (WS25, WS35)	Q7Q7VGG-Y10	
	[°C]		GG	GB	SG	BB	CC	7	10	11	22	46	66	76	79	
Water																
Brackish water[11]	-	≤ +32	-	-	-	✗	-	-	✗	-	-	-	-	-	-	CrNiMo cast steel if T ≤ 25 °C
Fire-fighting water[12]	-	≤ +60	-	✗	-	-	-	-	✗	-	-	-	-	-	-	Consult us for supply to VdS guideline.
Heating water to VDI 2035	-	≤ +100	✗	-	-	-	-	-	✗	✗	-	-	-	-	-	-
Hot water[13]	-	≤ +110	✗	-	-	-	-	-	-	✗	-	-	-	-	-	If used as circulating pump to DIN EN 12953-6: p max. ≤ 13 bar. If ductile material has been specified: SG
Hot water[13]	-	≤ +140	✗	-	-	-	-	-	-	-	✗	-	-	✗	-	
Condensate, conditioned	-	≤ +110	✗	-	-	-	-	-	-	✗	-	-	-	-	-	-
Condensate, not conditioned	-	≤ +110		-	-	-	✗	-	-	✗	-	-	-	-	-	-
Cooling water (without anti-freeze)	-	≤ +60	✗	-	-	-	-	-	✗	-	-	-	-	-	-	Open circuit: GB 10 required
Cooling water with anti-freeze, pH ≥ 7.5[14]	≥ -30	≤ +110	✗	-	-	-	-	-	-	✗	-	-	-	-	-	Open circuit: BB 11 or CC 11 required
Cooling water with anti-freeze[15], pH ≥ 7.5	≥ -30	≤ +110	✗	-	-	-	-	-	-	-	-	-	✗	-	-	Open circuit: BB 66 or CC 66 required
Slightly contaminated water	-	≤ +60	✗	-	-	-	-	-	✗	-	-	-	-	-	-	-
Seawater	-	≤ +32	-	-	-	✗	-	-	✗	-	-	-	-	-	-	CrNiMo cast steel if T ≤ 25 °C
Pure water[16]	-	≤ +60	✗	-	-	-	-	-	-	✗	-	-	-	-	-	-
Raw water	-	≤ +60	✗	-	-	-	-	-	✗	-	-	-	-	-	-	-
Swimming pool water (fresh water)	-	≤ +60	✗	-	-	-	-	-	✗	-	-	-	-	-	-	Also applies to requirements as per DIN 19643
Swimming pool water[17]: filtration	-	≤ +40	-	✗	-	-	-	-	✗	-	-	-	-	-	-	Variant GB Shaft C45+N, shaft sleeve CrNiMo steel, nut A4/AISI 316, key A2, casing wear ring (suction and discharge side) gray cast iron JL 1040/ CI
Swimming pool water[17]: water features; without turbulences and/or air content	-	≤ +40	-	✗	-	-	-	-	✗	-	-	-	-	-	-	Variant GB Shaft C45+N, shaft sleeve CrNiMo steel, nut A4/AISI 316, key A2, casing wear ring (suction side and discharge side) CC495K-GS
Swimming pool water[17]: water features; with turbulences and/or air content	-	≤ +40	-	-	-	✗	-	-	✗	-	-	-	-	-	-	Variant B Shaft 1.4571, shaft sleeve CrNiMo steel, nut A4/AISI 316, key A2, casing wear ring (suction side and discharge side) CC495K-GS
Swimming pool water (seawater)	-	≤ +32	-	-	-	✗	-	-	✗	-	-	-	-	-	-	CrNiMo cast steel if T ≤ 25 °C

10 Fluid temperature
11 For components made of bronze: ammonia (NH3) ≤ 5 mg/kg, free from hydrogen sulfide (H2S); no limitation of Cl content required in this case. Consult us if limits are exceeded.
12 General evaluation criteria for results of water analysis: pH ≥ 7; chlorides content (Cl) ≤ 250 mg/kg. Chlorine (Cl2) ≤ 0.6 mg/kg
13 Treatment to VdTÜV 1466, additional requirement: O2 t ≤ 0.02 mg/l
14 Anti-freeze on ethylene glycol basis without inhibitors
15 Anti-freeze on ethylene glycol basis with inhibitors, content: > 20 % to 50 % (e.g. Antifrogen N)
16 No ultra-pure water: conductivity at 25 °C: ≤ 800 µS/cm, neutral with regard to chemical corrosion
17 France: Observe the rules as per ministerial order dated 18 January 2002.

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Fluid handled	T[10]		Materials					Shaft seal								Comments
			Casing/impeller					Mechanical seal								
	Minimum	Maximum	Gray cast iron/ gray cast iron	Gray cast iron/ tin bronze	Nodular cast iron/ gray cast iron	Tin bronze/ tin bronze	CrNiMo cast steel / CrNiMo cast steel	QQEGG DW001	QQXGG	BQEGG DW001	AQ1EGG (WS55)	Q7Q7EGG-Y10 FD004	Q7Q7EGG DW001	AQ7EGG-Y10 (WS25, WS35)	Q7Q7VGG-Y10	
	[°C]		GG	GB	SG	BB	CC	7	10	11	22	46	66	76	79	
Dam water	-	≤ +60	-	✗	-	-	-	-	✗	-	-	-	-	-	-	If solids are contained, consult us.
Drinking water[18]	-	≤ +60	-	✗	-	-	-	-	-	✗	-	-	-	-	-	-
Partly desalinated water	-	≤ +110	✗	-	-	✗	-	-	-	✗	-	-	-	-	-	-
Fully desalinated water	-	≤ +110	-	-	-	✗	✗	-	-	✗	-	-	-	-	-	Purity requirements cannot be met.
Fully desalinated water as boiler feed water	-	≤ +110	✗	-	-	-	-	-	-	✗	-	-	-	-	-	-
Refrigerants, cooling brines																
Cooling brine; inorganic, pH > 7.5, inhibited	≥ -30	≤ +25	✗	-	-	-	-	-	-	✗	-	-	-	-	-	-
Water with anti-freeze, pH ≥ 7.5	≥ -30	≤ +60	✗	-	-	-	-	-	-	✗	-	-	-	-	-	-
Water with anti-freeze, pH ≥ 7.5	≥ +60	≤ +110	✗	-	-	-	-	✗	-	-	-	-	-	-	-	-
Oils/emulsions																
Diesel fuel, extra light fuel oil	-	≤ +60	-	-	✗	-	-	-	✗	-	-	-	-	-	-	GG possible, unless specific standards have to be observed
Lubricating oil, turbine oil (does not apply to SF-D oils, hardly flammable)	-	≤ +80	-	-	✗	-	-	-	✗	-	-	-	-	-	-	Consult us for versions without internal primer. GG possible, unless specific standards have to be observed
Drilling emulsion, grinding emulsion	-	≤ +60	✗	-	-	-	-	-	-	-	-	-	-	-	✗	-
Oil-water emulsion	-	≤ +60	✗	-	-	-	-	-	-	-	-	-	-	-	✗	-
Brewery applications																
Beer mash	-	≤ +100	✗	-	-	-	✗	-	-	-	-	✗	-	-	-	GG only possible as a special variant. If there is a risk of the pump running dry due to excessive emptying of the tank, use an Etanorm with double mechanical seal in tandem arrangement.
Beer wort	-	≤ +100	✗	-	-	-	✗	-	-	-	-	✗	-	-	-	

Table 15: Excerpt from the overview of fluids handled with associated material variants (imperial units)

Fluid handled	T[10]		Materials					Shaft seal								Comments
			Casing/impeller					Mechanical seal								
	Minimum	Maximum	Gray cast iron/ gray cast iron	Gray cast iron/ tin bronze	Nodular cast iron/ gray cast iron	Tin bronze/ tin bronze	CrNiMo cast steel / CrNiMo cast steel	QQEGG DW001	QQXGG	BQEGG DW001	AQ1EGG (WS55)	Q12Q1M1GG1	Q7Q7EGG DW001	AQ7EGG-Y10 (WS25, WS35)	Q7Q7VGG-Y10	
	[°F]		GG	GB	SG	BB	CC	7	10	11	22	46	66	76	79	
Water																
Brackish water[19]	-	≤ +90	-	-	-	✗	-	-	✗	-	-	-	-	-	-	CrNiMo cast steel if T ≤ 77 °F
Fire-fighting water[20]	-	≤ +140	-	✗	-	-	-	-	✗	-	-	-	-	-	-	Consult us for supply to VdS guideline.
Heating water to VDI 2035	-	≤ +212	✗	-	-	-	-	-	✗	✗	-	-	-	-	-	-

18 For France, ACS approval is required.

19 For components made of bronze: ammonia (NH3) ≤ 8E-05 oz/lb, free from hydrogen sulfide (H2S); no limitation of Cl content required in this case. Consult us if limits are exceeded.

20 General evaluation criteria for results of water analysis: pH ≥ 7, chlorides content (Cl) ≤ 4E-03 oz/lb, chlorine (Cl2) ≤ 9.6E-06 oz/lb

Fluid handled	T[10]		Materials					Shaft seal								Comments
			Casing/impeller					Mechanical seal								
	Minimum	Maximum	Gray cast iron/ gray cast iron	Gray cast iron/ tin bronze	Nodular cast iron/ gray cast iron	Tin bronze/ tin bronze	CrNiMo cast steel / CrNiMo cast steel	QQEGG DW001	QQXGG	BQEGG DW001	AQ1EGG (WS55)	Q12Q1M1GG1	Q7Q7EGG DW001	AQ7EGG-Y10 (WS25, WS35)	Q7Q7VGG-Y10	
	[°F]		GG	GB	SG	BB	CC	7	10	11	22	46	66	76	79	
Hot water[13]	-	≤ +230	✗	-	-	-	-	-	-	✗	-	-	-	-	-	If used as circulating pump to DIN EN 12953-6: p max. ≤ 188.55 psi. If ductile material has been specified: SG
Hot water[13]	-	≤ +284	✗	-	-	-	-	-	-	-	✗	-	-	✗	-	
Condensate, conditioned	-	≤ +230	✗	-	-	-	-	-	-	✗	-	-	-	-	-	-
Condensate, not conditioned	-	≤ +230		-	-	-	✗	-	-	✗	-	-	-	-	-	-
Cooling water (without anti-freeze)	-	≤ +140	✗	-	-	-	-	-	✗	-	-	-	-	-	-	Open circuit: GB 10 required
Cooling water with anti-freeze, pH ≥ 7.5[21]	≥ -22	≤ +230	✗	-	-	-	-	-	-	✗	-	-	-	-	-	Open circuit: BB 11 or CC 11 required
Cooling water with anti-freeze[15], pH ≥ 7.5	≥ -22	≤ +230	✗	-	-	-	-	-	-	-	-	-	✗	-	-	Open circuit: BB 66 or CC 66 required
Slightly contaminated water	-	≤ +140	✗	-	-	-	-	-	✗	-	-	-	-	-	-	-
Seawater	-	≤ +90	-	-	-	✗	-	-	✗	-	-	-	-	-	-	CrNiMo cast steel if T ≤ 77 °F
Pure water[22]	-	≤ +140	✗	-	-	-	-	-	-	✗	-	-	-	-	-	-
Raw water	-	≤ +140	✗	-	-	-	-	-	✗	-	-	-	-	-	-	-
Swimming pool water (fresh water)	-	≤ +140	✗	-	-	-	-	-	✗	-	-	-	-	-	-	Also applies to requirements as per DIN 19643
Swimming pool water[17]: filtration	-	≤ +104	-	✗	-	-	-	-	✗	-	-	-	-	-	-	Variant GB Shaft C45+N, shaft sleeve CrNiMo steel, nut A4/AISI 316, key A2, casing wear ring (suction and discharge side) gray cast iron JL 1040/ CI
Swimming pool water[17]: water features; without turbulences and/or air content	-	≤ +104	-	✗	-	-	-	-	✗	-	-	-	-	-	-	Variant GB Shaft C45+N, shaft sleeve CrNiMo steel, nut A4/AISI 316, key A2, casing wear ring (suction side and discharge side) CC495K-GS
Swimming pool water[17]: water features; with turbulences and/or air content	-	≤ +104	-	-	-	✗	-	-	✗	-	-	-	-	-	-	Variant B Shaft 1.4571, shaft sleeve CrNiMo steel, nut A4/AISI 316, key A2, casing wear ring (suction side and discharge side) CC495K-GS
Swimming pool water (seawater)	-	≤ +90	-	-	-	✗	-	-	✗	-	-	-	-	-	-	CrNiMo cast steel for T ≤ 77 °F
Dam water	-	≤ +140	-	✗	-	-	-	-	✗	-	-	-	-	-	-	If solids are contained, consult us.
Drinking water[18]	-	≤ +140	-	✗	-	-	-	-	-	✗	-	-	-	-	-	-
Partly desalinated water	-	≤ +230	✗	-	-	✗	-	-	-	✗	-	-	-	-	-	-
Fully desalinated water	-	≤ +230	-	-	-	✗	✗	-	-	✗	-	-	-	-	-	Purity requirements cannot be met.
Fully desalinated water as boiler feed water	-	≤ +230	✗	-	-	-	-	-	-	✗	-	-	-	-	-	-
Refrigerants, cooling brines																
Cooling brine; inorganic, pH > 7.5, inhibited	≥ -22	≤ +77	✗	-	-	-	-	-	-	✗	-	-	-	-	-	-
Water with anti-freeze, pH ≥ 7.5	≥ -22	≤ +140	✗	-	-	-	-	-	-	✗	-	-	-	-	-	-
Water with anti-freeze, pH ≥ 7.5	≥ +140	≤ +230	✗	-	-	-	-	✗	-	-	-	-	-	-	-	-
Oils/emulsions																
Diesel fuel, extra light fuel oil	-	≤ +140	-	-	✗	-	-	-	✗	-	-	-	-	-	-	GG possible, unless specific standards have to be observed
Lubricating oil, turbine oil (does not apply to SF-D oils, hardly flammable)	-	≤ +176	-	-	✗	-	-	-	✗	-	-	-	-	-	-	Consult us for versions without internal primer. GG possible, unless specific standards have to be observed
Drilling emulsion, grinding emulsion	-	≤ +140	✗	-	-	-	-	-	-	-	-	-	-	-	✗	-
Oil-water emulsion	-	≤ +140	✗	-	-	-	-	-	-	-	-	-	-	-	✗	-

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21 Anti-freeze on ethylene glycol basis without inhibitors

22 No ultra-pure water: conductivity at 77 °F: ≤ 2032 µS/inch, neutral with regard to chemical corrosion

Fluid handled	T[10]		Materials					Shaft seal								Comments
			Casing/impeller					Mechanical seal								
	Minimum	Maximum	Gray cast iron/ gray cast iron	Gray cast iron/ tin bronze	Nodular cast iron/ gray cast iron	Tin bronze/ tin bronze	CrNiMo cast steel / CrNiMo cast steel	QQEGG DW001	QQXGG	BQEGG DW001	AQ1EGG (WS55)	Q12Q1M1GG1	Q7Q7EGG DW001	AQ7EGG-Y10 (WS25, WS35)	Q7Q7VGG-Y10	
	[°F]		GG	GB	SG	BB	CC	7	10	11	22	46	66	76	79	
Brewery applications																
Beer mash	-	≤ +212	✗	-	-	-	✗	-	-	-	-	✗	-	-	-	GG only possible as a special variant. If there is a risk of the pump running dry due to excessive emptying of the tank, use an Etanorm with double mechanical seal in tandem arrangement.
Beer wort	-	≤ +212	✗	-	-	-	✗	-	-	-	-	✗	-	-	-	

Overview of material variants

Table 16: Symbols key

Symbol	Description
✗	Standard
-	Version not available / not possible

Table 17: Material variants available

Size	GG	GB	GC	BB	SG	SB	SC	CC
040-025-160	✗	✗	✗	-	✗	✗	✗	✗
040-025-200	✗	✗	✗	-	✗	✗	✗	✗
050-032-125.1	✗	✗	✗	✗	✗	✗	✗	✗
050-032-160.1	✗	✗	✗	✗	✗	✗	✗	✗
050-032-200.1	✗	✗	✗	✗	✗	✗	✗	✗
050-032-250.1	✗	✗	✗	-	-	-	-	✗
050-032-125	✗	✗	✗	✗	-	-	-	✗
050-032-160	✗	✗	✗	✗	✗	✗	✗	✗
050-032-200	✗	✗	✗	✗	✗	✗	✗	✗
050-032-250	✗	✗	✗	-	✗	✗	✗	✗
065-040-125	✗	✗	✗	✗	-	-	-	✗
065-040-160	✗	✗	✗	✗	✗	✗	✗	✗
065-040-200	✗	✗	✗	✗	✗	✗	✗	✗
065-040-250	✗	✗	✗	✗	✗	✗	✗	✗
065-040-315	✗	✗	✗	-	✗	✗	✗	✗
065-050-125	✗	✗	✗	✗	-	-	-	✗
065-050-160	✗	✗	✗	✗	✗	✗	✗	✗
065-050-200	✗	✗	✗	✗	✗	✗	✗	✗
065-050-250	✗	✗	✗	✗	✗	✗	✗	✗
065-050-315	✗	✗	✗	-	✗	✗	✗	✗
080-065-125	✗	✗	✗	✗	-	-	-	✗
080-065-160	✗	✗	✗	✗	✗	✗	✗	✗
080-065-200	✗	✗	✗	✗	✗	✗	✗	✗
080-065-250	✗	✗	✗	✗	✗	✗	✗	✗
080-065-315	✗	✗	✗	✗	✗	✗	✗	✗
100-080-160	✗	✗	✗	✗	✗	✗	✗	✗
100-080-200	✗	✗	✗	✗	✗	✗	✗	✗
100-080-250	✗	✗	✗	✗	✗	✗	✗	✗
100-080-315	✗	✗	✗	-	✗	✗	✗	✗
100-080-400	✗	✗	✗	-	-	-	-	✗
125-100-160	✗	✗	✗	✗	✗	✗	✗	✗
125-100-200	✗	✗	✗	✗	✗	✗	✗	✗
125-100-250	✗	✗	✗	✗	✗	✗	✗	✗
125-100-315	✗	✗	✗	✗	✗	✗	✗	✗
125-100-400	✗	✗	✗	-	-	-	-	✗
150-125-200	✗	✗	✗	✗	✗	✗	✗	✗
150-125-250	✗	✗	✗	✗	✗	✗	✗	✗
150-125-315	✗	✗	✗	✗	✗	✗	✗	✗
150-125-400	✗	✗	✗	-	✗	✗	✗	✗
200-150-200	✗	✗	✗	-	-	-	-	✗
200-150-250	✗	✗	✗	✗	-	-	-	✗
200-150-315	✗	✗	✗	✗	✗	✗	✗	✗
200-150-400	✗	✗	✗	✗	✗	✗	✗	✗

1173.53/02-EN-US

Overview of pump size / motor combinations

Table 18: Symbols key

Symbol	Description
✗	Standard
-	Version not available / not possible

Table 19: Available pump size / motor combinations (SI units)

Size	n			Motor (IEC)												
	2900 / 3500	1450 / 1750	960 / 1160	71	80	90	100	112	132	160	180	200	225	250	280	315
	[rpm]	[rpm]	[rpm]													
040-025-160	✗	-	-	-	✗	✗	✗	✗	✗	-	-	-	-	-	-	-
040-025-160	-	✗	-	✗	✗	✗	-	-	-	-	-	-	-	-	-	-
040-025-160	-	-	✗	-	✗	✗	-	-	-	-	-	-	-	-	-	-
040-025-200	✗	-	-	-	-	✗	✗	✗	✗	✗	-	-	-	-	-	-
040-025-200	-	✗	-	✗	✗	✗	✗	-	-	-	-	-	-	-	-	-
040-025-200	-	-	✗	-	✗	✗	-	-	-	-	-	-	-	-	-	-
050-032-125.1	✗	-	-	✗	✗	✗	✗	✗	✗	-	-	-	-	-	-	-
050-032-125.1	-	✗	-	✗	✗	✗	-	-	-	-	-	-	-	-	-	-
050-032-125.1	-	-	✗	-	✗	✗	-	-	-	-	-	-	-	-	-	-
050-032-160.1	✗	-	-	-	✗	✗	✗	✗	✗	✗	-	-	-	-	-	-
050-032-160.1	-	✗	-	✗	✗	✗	-	-	-	-	-	-	-	-	-	-
050-032-160.1	-	-	✗	-	✗	✗	-	-	-	-	-	-	-	-	-	-
050-032-200.1	✗	-	-	-	-	✗	✗	✗	✗	✗	-	-	-	-	-	-
050-032-200.1	-	✗	-	✗	✗	✗	✗	-	-	-	-	-	-	-	-	-
050-032-200.1	-	-	✗	-	✗	✗	-	-	-	-	-	-	-	-	-	-
050-032-250.1	✗	-	-	-	-	-	-	✗	✗	✗	✗	-	-	-	-	-
050-032-250.1	-	✗	-	-	✗	✗	✗	✗	✗	-	-	-	-	-	-	-
050-032-250.1	-	-	✗	-	✗	✗	-	-	-	-	-	-	-	-	-	-
050-032-125	✗	-	-	-	✗	✗	✗	✗	✗	-	-	-	-	-	-	-
050-032-125	-	✗	-	✗	✗	✗	-	-	-	-	-	-	-	-	-	-
050-032-125	-	-	✗	-	✗	✗	-	-	-	-	-	-	-	-	-	-
050-032-160	✗	-	-	-	-	✗	✗	✗	✗	✗	-	-	-	-	-	-
050-032-160	-	✗	-	✗	✗	✗	✗	-	-	-	-	-	-	-	-	-
050-032-160	-	-	✗	-	✗	✗	-	-	-	-	-	-	-	-	-	-
050-032-200	✗	-	-	-	-	-	✗	✗	✗	✗	✗	-	-	-	-	-
050-032-200	-	✗	-	✗	✗	✗	✗	✗	-	-	-	-	-	-	-	-
050-032-200	-	-	✗	-	✗	✗	-	-	-	-	-	-	-	-	-	-
050-032-250	✗	-	-	-	-	-	-	-	✗	✗	✗	✗	-	-	-	-

Size	n			Motor (IEC)												
	2900 / 3500	1450 / 1750	960 / 1160	71	80	90	100	112	132	160	180	200	225	250	280	315
	[rpm]	[rpm]	[rpm]													
050-032-250	-	✗	-	-	✗	✗	✗	✗	✗	-	-	-	-	-	-	-
050-032-250	-	-	✗	-	✗	✗	-	-	-	-	-	-	-	-	-	-
065-040-125	✗	-	-	-	-	✗	✗	✗	✗	✗	-	-	-	-	-	-
065-040-125	-	✗	-	✗	✗	✗	-	-	-	-	-	-	-	-	-	-
065-040-125	-	-	✗	-	✗	✗	-	-	-	-	-	-	-	-	-	-
065-040-160	✗	-	-	-	-	-	✗	✗	✗	✗	✗	-	-	-	-	-
065-040-160	-	✗	-	✗	✗	✗	✗	✗	-	-	-	-	-	-	-	-
065-040-160	-	-	✗	-	✗	✗	-	-	-	-	-	-	-	-	-	-
065-040-200	✗	-	-	-	-	-	-	✗	✗	✗	✗	✗	-	-	-	-
065-040-200	-	✗	-	-	✗	✗	✗	✗	✗	-	-	-	-	-	-	-
065-040-200	-	-	✗	-	✗	✗	-	-	-	-	-	-	-	-	-	-
065-040-250	✗	-	-	-	-	-	-	-	✗	✗	✗	✗	-	-	-	-
065-040-250	-	✗	-	-	✗	✗	✗	✗	✗	✗	-	-	-	-	-	-
065-040-250	-	-	✗	-	✗	✗	✗	-	-	-	-	-	-	-	-	-
065-040-315	✗	-	-	-	-	-	-	-	-	✗	✗	✗	✗	✗	-	-
065-040-315	-	✗	-	-	-	-	✗	✗	✗	✗	✗	-	-	-	-	-
065-040-315	-	-	✗	-	-	-	✗	✗	✗	-	-	-	-	-	-	-
065-050-125	✗	-	-	-	-	✗	✗	✗	✗	✗	✗	-	-	-	-	-
065-050-125	-	✗	-	✗	✗	✗	✗	-	-	-	-	-	-	-	-	-
065-050-125	-	-	✗	-	✗	✗	-	-	-	-	-	-	-	-	-	-
065-050-160	✗	-	-	-	-	-	-	✗	✗	✗	✗	✗	-	-	-	-
065-050-160	-	✗	-	-	✗	✗	✗	✗	✗	-	-	-	-	-	-	-
065-050-160	-	-	✗	-	✗	✗	-	-	-	-	-	-	-	-	-	-
065-050-200	✗	-	-	-	-	-	-	-	✗	✗	✗	✗	-	-	-	-
065-050-200	-	✗	-	-	✗	✗	✗	✗	✗	✗	-	-	-	-	-	-
065-050-200	-	-	✗	-	✗	✗	✗	-	-	-	-	-	-	-	-	-
065-050-250	✗	-	-	-	-	-	-	-	-	✗	✗	✗	-	-	-	-
065-050-250	-	✗	-	-	-	✗	✗	✗	✗	✗	-	-	-	-	-	-
065-050-250	-	-	✗	-	✗	✗	✗	✗	-	-	-	-	-	-	-	-
065-050-315	✗	-	-	-	-	-	-	-	-	-	✗	✗	✗	✗	✗	-
065-050-315	-	✗	-	-	-	-	✗	✗	✗	✗	✗	✗	-	-	-	-
065-050-315	-	-	✗	-	-	-	✗	✗	✗	-	-	-	-	-	-	-
080-065-125	✗	-	-	-	-	-	✗	✗	✗	✗	✗	✗	-	-	-	-
080-065-125	-	✗	-	✗	✗	✗	✗	✗	-	-	-	-	-	-	-	-
080-065-125	-	-	✗	-	✗	✗	-	-	-	-	-	-	-	-	-	-
080-065-160	✗	-	-	-	-	-	-	✗	✗	✗	✗	✗	-	-	-	-

Size	n			Motor (IEC)												
	2900 / 3500	1450 / 1750	960 / 1160	71	80	90	100	112	132	160	180	200	225	250	280	315
	[rpm]	[rpm]	[rpm]													
080-065-160	-	✗	-	-	✗	✗	✗	✗	✗	-	-	-	-	-	-	-
080-065-160	-	-	✗	-	✗	✗	-	-	-	-	-	-	-	-	-	-
080-065-200	✗	-	-	-	-	-	-	-	✗	✗	✗	✗	-	-	-	-
080-065-200	-	✗	-	-	-	✗	✗	✗	✗	✗	-	-	-	-	-	-
080-065-200	-	-	✗	-	✗	✗	✗	✗	-	-	-	-	-	-	-	-
080-065-250	✗	-	-	-	-	-	-	-	-	✗	✗	✗	✗	✗	✗	✗
080-065-250	-	✗	-	-	-	-	✗	✗	✗	✗	✗	-	-	-	-	-
080-065-250	-	-	✗	-	-	-	✗	✗	✗	-	-	-	-	-	-	-
080-065-315	✗	-	-	-	-	-	-	-	-	-	-	✗	✗	✗	✗	✗
080-065-315	-	✗	-	-	-	-	✗	✗	✗	✗	✗	✗	-	-	-	-
080-065-315	-	-	✗	-	-	-	-	✗	✗	-	-	-	-	-	-	-
100-080-160	✗	-	-	-	-	-	-	-	✗	✗	✗	✗	-	-	-	-
100-080-160	-	✗	-	-	✗	✗	✗	✗	✗	✗	-	-	-	-	-	-
100-080-160	-	-	✗	-	✗	✗	✗	-	-	-	-	-	-	-	-	-
100-080-200	✗	-	-	-	-	-	-	-	-	✗	✗	✗	✗	✗	✗	-
100-080-200	-	✗	-	-	-	-	✗	✗	✗	✗	✗	-	-	-	-	-
100-080-200	-	-	✗	-	-	-	✗	✗	✗	-	-	-	-	-	-	-
100-080-250	✗	-	-	-	-	-	-	-	-	-	✗	✗	✗	✗	✗	✗
100-080-250	-	✗	-	-	-	-	✗	✗	✗	✗	✗	✗	-	-	-	-
100-080-250	-	-	✗	-	-	-	✗	✗	✗	-	-	-	-	-	-	-
100-080-315	✗	-	-	-	-	-	-	-	-	-	-	-	✗	✗	✗	✗
100-080-315	-	✗	-	-	-	-	-	-	✗	✗	✗	✗	✗	-	-	-
100-080-315	-	-	✗	-	-	-	-	-	✗	✗	-	-	-	-	-	-
100-080-400	-	✗	-	-	-	-	-	-	-	-	✗	✗	✗	✗	✗	-
125-100-160	✗	-	-	-	-	-	-	-	-	✗	✗	✗	✗	✗	✗	-
125-100-160	-	✗	-	-	-	-	✗	✗	✗	✗	-	-	-	-	-	-
125-100-160	-	-	✗	-	-	-	✗	✗	-	-	-	-	-	-	-	-
125-100-200	✗	-	-	-	-	-	-	-	-	-	✗	✗	✗	✗	✗	✗
125-100-200	-	✗	-	-	-	-	✗	✗	✗	✗	✗	✗	-	-	-	-
125-100-200	-	-	✗	-	-	-	✗	✗	✗	-	-	-	-	-	-	-
125-100-250	✗	-	-	-	-	-	-	-	-	-	-	✗	✗	✗	✗	✗
125-100-250	-	✗	-	-	-	-	-	✗	✗	✗	✗	✗	✗	-	-	-
125-100-250	-	-	✗	-	-	-	-	✗	✗	✗	-	-	-	-	-	-
125-100-315	-	✗	-	-	-	-	-	-	✗	✗	✗	✗	✗	-	-	-
125-100-315	-	-	✗	-	-	-	-	-	✗	✗	-	-	-	-	-	-
125-100-400	-	✗	-	-	-	-	-	-	-	-	✗	✗	✗	✗	✗	✗

Size	n			Motor (IEC)												
	2900 / 3500	1450 / 1750	960 / 1160	71	80	90	100	112	132	160	180	200	225	250	280	315
	[rpm]	[rpm]	[rpm]													
150-125-200	✗	-	-	-	-	-	-	-	-	-	-	✗	✗	✗	✗	✗
150-125-200	-	✗	-	-	-	-	✗	✗	✗	✗	✗	✗	✗	-	-	-
150-125-200	-	-	✗	-	-	-	-	✗	✗	-	-	-	-	-	-	-
150-125-250	-	✗	-	-	-	-	-	-	✗	✗	✗	✗	✗	-	-	-
150-125-250	-	-	✗	-	-	-	-	-	✗	✗	-	-	-	-	-	-
150-125-315	-	✗	-	-	-	-	-	-	-	-	✗	✗	✗	✗	✗	-
150-125-400	-	✗	-	-	-	-	-	-	-	-	✗	✗	✗	✗	✗	✗
200-150-200	-	✗	-	-	-	-	-	✗	✗	✗	✗	✗	✗	-	-	-
200-150-200	-	-	✗	-	-	-	-	-	✗	✗	-	-	-	-	-	-
200-150-250	-	✗	-	-	-	-	-	-	✗	✗	✗	✗	✗	-	-	-
200-150-250	-	-	✗	-	-	-	-	-	✗	✗	✗	-	-	-	-	-
200-150-315	-	✗	-	-	-	-	-	-	-	-	✗	✗	✗	✗	✗	✗
200-150-400	-	✗	-	-	-	-	-	-	-	-	✗	✗	✗	✗	✗	✗

Table 20: Available pump size / motor combinations (imperial units)

Size	n			Motor (IEC)												
	2900 / 3500	1450 / 1750	960 / 1160	71	80	90	100	112	132	160	180	200	225	250	280	315
	[rpm]	[rpm]	[rpm]													
040-025-160	✗	-	-	-	✗	✗	✗	✗	✗	-	-	-	-	-	-	-
040-025-160	-	✗	-	✗	✗	✗	-	-	-	-	-	-	-	-	-	-
040-025-160	-	-	✗	-	✗	✗	-	-	-	-	-	-	-	-	-	-
040-025-200	✗	-	-	-	-	✗	✗	✗	✗	✗	-	-	-	-	-	-
040-025-200	-	✗	-	✗	✗	✗	✗	-	-	-	-	-	-	-	-	-
040-025-200	-	-	✗	-	✗	✗	-	-	-	-	-	-	-	-	-	-
050-032-125.1	✗	-	-	✗	✗	✗	✗	✗	✗	-	-	-	-	-	-	-
050-032-125.1	-	✗	-	✗	✗	✗	-	-	-	-	-	-	-	-	-	-
050-032-125.1	-	-	✗	-	✗	✗	-	-	-	-	-	-	-	-	-	-
050-032-160.1	✗	-	-	-	✗	✗	✗	✗	✗	✗	-	-	-	-	-	-
050-032-160.1	-	✗	-	✗	✗	✗	-	-	-	-	-	-	-	-	-	-
050-032-160.1	-	-	✗	-	✗	✗	-	-	-	-	-	-	-	-	-	-
050-032-200.1	✗	-	-	-	-	✗	✗	✗	✗	✗	-	-	-	-	-	-
050-032-200.1	-	✗	-	✗	✗	✗	✗	-	-	-	-	-	-	-	-	-
050-032-200.1	-	-	✗	-	✗	✗	-	-	-	-	-	-	-	-	-	-
050-032-250.1	✗	-	-	-	-	-	-	✗	✗	✗	✗	-	-	-	-	-
050-032-250.1	-	✗	-	-	✗	✗	✗	✗	✗	-	-	-	-	-	-	-

Size	n			Motor (IEC)												
	2900 / 3500	1450 / 1750	960 / 1160	71	80	90	100	112	132	160	180	200	225	250	280	315
	[rpm]	[rpm]	[rpm]													
050-032-250.1	-	-	✗	-	✗	✗	-	-	-	-	-	-	-	-	-	-
050-032-125	✗	-	-	-	✗	✗	✗	✗	✗	-	-	-	-	-	-	-
050-032-125	-	✗	-	✗	✗	✗	-	-	-	-	-	-	-	-	-	-
050-032-125	-	-	✗	-	✗	✗	-	-	-	-	-	-	-	-	-	-
050-032-160	✗	-	-	-	-	✗	✗	✗	✗	✗	-	-	-	-	-	-
050-032-160	-	✗	-	✗	✗	✗	✗	-	-	-	-	-	-	-	-	-
050-032-160	-	-	✗	-	✗	✗	-	-	-	-	-	-	-	-	-	-
050-032-200	✗	-	-	-	-	-	✗	✗	✗	✗	✗	-	-	-	-	-
050-032-200	-	✗	-	✗	✗	✗	✗	✗	-	-	-	-	-	-	-	-
050-032-200	-	-	✗	-	✗	✗	-	-	-	-	-	-	-	-	-	-
050-032-250	✗	-	-	-	-	-	-	-	✗	✗	✗	✗	-	-	-	-
050-032-250	-	✗	-	-	✗	✗	✗	✗	✗	-	-	-	-	-	-	-
050-032-250	-	-	✗	-	✗	✗	-	-	-	-	-	-	-	-	-	-
065-040-125	✗	-	-	-	-	✗	✗	✗	✗	✗	-	-	-	-	-	-
065-040-125	-	✗	-	✗	✗	✗	-	-	-	-	-	-	-	-	-	-
065-040-125	-	-	✗	-	✗	✗	-	-	-	-	-	-	-	-	-	-
065-040-160	✗	-	-	-	-	-	✗	✗	✗	✗	✗	-	-	-	-	-
065-040-160	-	✗	-	✗	✗	✗	✗	✗	-	-	-	-	-	-	-	-
065-040-160	-	-	✗	-	✗	✗	-	-	-	-	-	-	-	-	-	-
065-040-200	✗	-	-	-	-	-	-	✗	✗	✗	✗	✗	-	-	-	-
065-040-200	-	✗	-	-	✗	✗	✗	✗	✗	-	-	-	-	-	-	-
065-040-200	-	-	✗	-	✗	✗	-	-	-	-	-	-	-	-	-	-
065-040-250	✗	-	-	-	-	-	-	-	✗	✗	✗	✗	-	-	-	-
065-040-250	-	✗	-	-	✗	✗	✗	✗	✗	✗	-	-	-	-	-	-
065-040-250	-	-	✗	-	✗	✗	✗	-	-	-	-	-	-	-	-	-
065-040-315	✗	-	-	-	-	-	-	-	-	✗	✗	✗	✗	✗	-	-
065-040-315	-	✗	-	-	-	-	✗	✗	✗	✗	✗	-	-	-	-	-
065-040-315	-	-	✗	-	-	-	✗	✗	✗	-	-	-	-	-	-	-
065-050-125	✗	-	-	-	-	✗	✗	✗	✗	✗	✗	-	-	-	-	-
065-050-125	-	✗	-	✗	✗	✗	✗	-	-	-	-	-	-	-	-	-
065-050-125	-	-	✗	-	✗	✗	-	-	-	-	-	-	-	-	-	-
065-050-160	✗	-	-	-	-	-	-	✗	✗	✗	✗	✗	-	-	-	-
065-050-160	-	✗	-	-	✗	✗	✗	✗	✗	-	-	-	-	-	-	-
065-050-160	-	-	✗	-	✗	✗	-	-	-	-	-	-	-	-	-	-
065-050-200	✗	-	-	-	-	-	-	-	✗	✗	✗	✗	-	-	-	-
065-050-200	-	✗	-	-	✗	✗	✗	✗	✗	✗	-	-	-	-	-	-

Size	n			Motor (IEC)												
	2900 / 3500	1450 / 1750	960 / 1160	71	80	90	100	112	132	160	180	200	225	250	280	315
	[rpm]	[rpm]	[rpm]													
065-050-200	-	-	✗	-	✗	✗	✗	-	-	-	-	-	-	-	-	-
065-050-250	✗	-	-	-	-	-	-	-	-	✗	✗	✗	-	-	-	-
065-050-250	-	✗	-	-	-	✗	✗	✗	✗	✗	-	-	-	-	-	-
065-050-250	-	-	✗	-	✗	✗	✗	✗	-	-	-	-	-	-	-	-
065-050-315	✗	-	-	-	-	-	-	-	-	-	✗	✗	✗	✗	✗	-
065-050-315	-	✗	-	-	-	-	✗	✗	✗	✗	✗	✗	-	-	-	-
065-050-315	-	-	✗	-	-	-	✗	✗	✗	-	-	-	-	-	-	-
080-065-125	✗	-	-	-	-	-	✗	✗	✗	✗	✗	✗	-	-	-	-
080-065-125	-	✗	-	✗	✗	✗	✗	✗	-	-	-	-	-	-	-	-
080-065-125	-	-	✗	-	✗	✗	-	-	-	-	-	-	-	-	-	-
080-065-160	✗	-	-	-	-	-	-	✗	✗	✗	✗	✗	-	-	-	-
080-065-160	-	✗	-	-	✗	✗	✗	✗	✗	-	-	-	-	-	-	-
080-065-160	-	-	✗	-	✗	✗	-	-	-	-	-	-	-	-	-	-
080-065-200	✗	-	-	-	-	-	-	-	✗	✗	✗	✗	-	-	-	-
080-065-200	-	✗	-	-	-	✗	✗	✗	✗	✗	-	-	-	-	-	-
080-065-200	-	-	✗	-	✗	✗	✗	✗	-	-	-	-	-	-	-	-
080-065-250	✗	-	-	-	-	-	-	-	-	✗	✗	✗	✗	✗	✗	✗
080-065-250	-	✗	-	-	-	-	✗	✗	✗	✗	✗	-	-	-	-	-
080-065-250	-	-	✗	-	-	-	✗	✗	✗	-	-	-	-	-	-	-
080-065-315	✗	-	-	-	-	-	-	-	-	-	-	✗	✗	✗	✗	✗
080-065-315	-	✗	-	-	-	-	✗	✗	✗	✗	✗	✗	-	-	-	-
080-065-315	-	-	✗	-	-	-	-	✗	✗	-	-	-	-	-	-	-
100-080-160	✗	-	-	-	-	-	-	-	✗	✗	✗	✗	-	-	-	-
100-080-160	-	✗	-	-	✗	✗	✗	✗	✗	✗	-	-	-	-	-	-
100-080-160	-	-	✗	-	✗	✗	✗	-	-	-	-	-	-	-	-	-
100-080-200	✗	-	-	-	-	-	-	-	-	✗	✗	✗	✗	✗	✗	-
100-080-200	-	✗	-	-	-	-	✗	✗	✗	✗	✗	-	-	-	-	-
100-080-200	-	-	✗	-	-	-	✗	✗	✗	-	-	-	-	-	-	-
100-080-250	✗	-	-	-	-	-	-	-	-	-	✗	✗	✗	✗	✗	✗
100-080-250	-	✗	-	-	-	-	✗	✗	✗	✗	✗	✗	-	-	-	-
100-080-250	-	-	✗	-	-	-	✗	✗	✗	-	-	-	-	-	-	-
100-080-315	✗	-	-	-	-	-	-	-	-	-	-	-	✗	✗	✗	✗
100-080-315	-	✗	-	-	-	-	-	-	✗	✗	✗	✗	✗	-	-	-
100-080-315	-	-	✗	-	-	-	-	-	✗	✗	-	-	-	-	-	-
100-080-400	-	✗	-	-	-	-	-	-	-	-	✗	✗	✗	✗	✗	-
125-100-160	✗	-	-	-	-	-	-	-	-	✗	✗	✗	✗	✗	✗	-

Size	n			Motor (IEC)												
	2900 / 3500	1450 / 1750	960 / 1160	71	80	90	100	112	132	160	180	200	225	250	280	315
	[rpm]	[rpm]	[rpm]													
125-100-160	-	✗	-	-	-	-	✗	✗	✗	✗	-	-	-	-	-	-
125-100-160	-	-	✗	-	-	-	✗	✗	-	-	-	-	-	-	-	-
125-100-200	✗	-	-	-	-	-	-	-	-	-	✗	✗	✗	✗	✗	✗
125-100-200	-	✗	-	-	-	-	✗	✗	✗	✗	✗	✗	-	-	-	-
125-100-200	-	-	✗	-	-	-	✗	✗	✗	-	-	-	-	-	-	-
125-100-250	✗	-	-	-	-	-	-	-	-	-	-	✗	✗	✗	✗	✗
125-100-250	-	✗	-	-	-	-	-	✗	✗	✗	✗	✗	✗	-	-	-
125-100-250	-	-	✗	-	-	-	-	✗	✗	✗	-	-	-	-	-	-
125-100-315	-	✗	-	-	-	-	-	-	✗	✗	✗	✗	✗	-	-	-
125-100-315	-	-	✗	-	-	-	-	-	✗	✗	-	-	-	-	-	-
125-100-400	-	✗	-	-	-	-	-	-	-	-	✗	✗	✗	✗	✗	✗
150-125-200	✗	-	-	-	-	-	-	-	-	-	-	✗	✗	✗	✗	✗
150-125-200	-	✗	-	-	-	-	✗	✗	✗	✗	✗	✗	✗	-	-	-
150-125-200	-	-	✗	-	-	-	-	✗	✗	-	-	-	-	-	-	-
150-125-250	-	✗	-	-	-	-	-	-	✗	✗	✗	✗	✗	-	-	-
150-125-250	-	-	✗	-	-	-	-	-	✗	✗	-	-	-	-	-	-
150-125-315	-	✗	-	-	-	-	-	-	-	-	✗	✗	✗	✗	✗	-
150-125-400	-	✗	-	-	-	-	-	-	-	-	✗	✗	✗	✗	✗	✗
200-150-200	-	✗	-	-	-	-	-	✗	✗	✗	✗	✗	✗	-	-	-
200-150-200	-	-	✗	-	-	-	-	-	✗	✗	-	-	-	-	-	-
200-150-250	-	✗	-	-	-	-	-	-	✗	✗	✗	✗	✗	-	-	-
200-150-250	-	-	✗	-	-	-	-	-	✗	✗	✗	-	-	-	-	-
200-150-315	-	✗	-	-	-	-	-	-	-	-	✗	✗	✗	✗	✗	✗
200-150-400	-	✗	-	-	-	-	-	-	-	-	✗	✗	✗	✗	✗	✗

Pressure limits and temperature limits

Test pressure limits and temperature limits

Table 21: Pressure limits and temperature limits as a function of material variant (SI units)

Material variant	Fluid temperature[23)24)]	Test pressure[25)]
	[°C]	[bar]
GG, GC	-30 to +140	21
GB	-30 to +140	21
SG, SB, SC	-30 to +140	25
BB	-30 to +140	15
CC	-30 to +140	21

Table 22: Pressure limits and temperature limits as a function of material variant (imperial units)

Material variant	Fluid temperature[23)26)]	Test pressure[25)]
	[°F]	[psi]
GG, GC	-22 to +284	304.6
GB	-22 to +284	304.6
SG, SB, SC	-22 to +284	362.59
BB	-22 to +284	217.56
CC	-22 to +284	304.6

Operating pressure limits and temperature limits

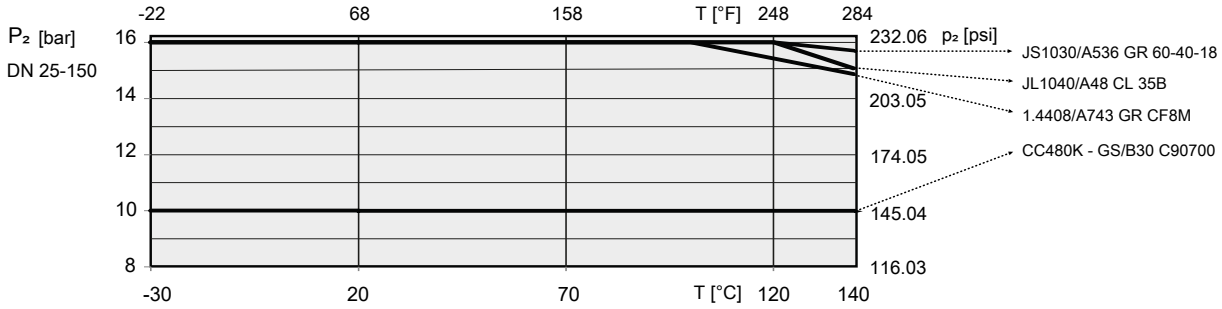

Fig. 1: Pump pressure limits and temperature limits DN 25 - DN 150

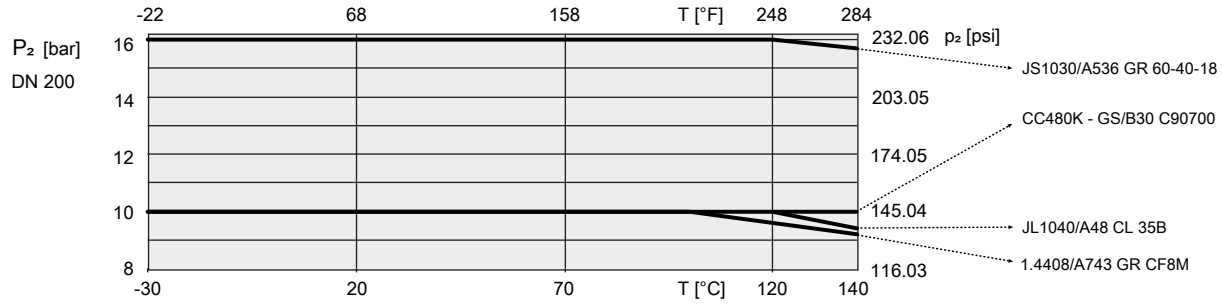

Fig. 2: Pump pressure limits and temperature limits DN 200

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23 For hot water heating systems to DIN 4752, Section 4.5, application limits must be observed.
24 For fluid temperatures >140 °C use Etanorm SYT.
25 The casing components have been checked for leakage by means of internal pressure tests to ZN 1650 with water.
26 For fluid temperatures >284 °F use Etanorm SYT.

Technical data

Etabloc

Table 23: Technical data (SI units)

Size	Shaft unit	Impeller					Speed limit	
		Impeller outlet width	Free passage	Impeller inlet diameter	Nominal impeller diameter		Maximum	Minimum
					Maximum	Minimum		
		[mm]					[rpm]	
040-025-160	WS_25	6.0	5.7	45.2	169	135	3600	500
040-025-200	WS_25	6.0	5.7	45.2	209	165	3600	500
050-032-125.1	WS_25	6.8	6.0	52.4	139	104	3600	500
050-032-160.1	WS_25	5.7	5.4	52.7	170	135	4400	500
050-032-200.1	WS_25	5.6	5.3	54.0	204	168	3800	500
050-032-250.1	WS_25	5.5	5.2	58.3	254	200	3600	500
050-032-125	WS_25	9.8	5.7	63.4	139	104	3600	500
050-032-160	WS_25	8,5	5,8	60.6	174	132	3600	500
050-032-200	WS_25	7.0	6.7	62.9	209	170	3700	500
050-032-250	WS_25	7.5	7.1	62.6	261	205	3600	500
065-040-125	WS_25	14.0	9.6	73.9	139	104	3600	500
065-040-160	WS_25	13.0	11.5	70.0	174	128	4400	500
065-040-200	WS_25	9.4	8.9	69.4	209	160	3700	500
065-040-250	WS_25	8.4	8.0	74.1	260	195	3600	500
065-040-315	WS_35	7.5	7.1	75.3	326	260	3000	500
065-050-125	WS_25	19.9	11.6	87.9	142	112	4500	500
065-050-160	WS_25	16.9	11.6	86.9	174	128	4400	500
065-050-200	WS_25	13.8	11.9	83.6	219	170	3600	500
065-050-250	WS_25	10,5	10,0	84.0	260	215	3600	500
065-050-315	WS_35	10,0	9.5	87.0	323	265	3000	500
080-065-125	WS_25	25.8	12.9	99.0	141	109	3900	500
080-065-160	WS_25	21.0	12.2	91.9	174	132	3900	500
080-065-200	WS_25	17.0	13.3	99.7	219	165	3600	500
080-065-250	WS_35	15.1	14.3	101.0	260	215	3600	500
080-065-315	WS_35	13.7	14.0	108.2	320	245	3000	500
100-080-160	WS_25	31.6	15.1	124.0	174	138	3600	500
100-080-200	WS_35	24.5	15.2	115.3	219	165	3600	500
100-080-250	WS_35	19.0	15.8	115.1	269	215	3600	500
100-080-315	WS_35	18.7	17.8	115.6	334	265	3000	500
100-080-400	WS_55	15,0	14,3	129,9	398	315	1900	500
125-100-160	WS_35	37.6	16.4	135.4	185	162	3600	500
125-100-200	WS_35	32.5	17.9	142.0	219	170	3600	500
125-100-250	WS_35	27.0	18.8	145.0	269	210	3600	500
125-100-315	WS_35	23.0	19.9	142.1	334	250	3000	500
125-100-400	WS_55	18.0	17.1	142.8	401	317	1900	500
150-125-200	WS_35	40.7	21.1	159.2	224	182	3600	500
150-125-250	WS_35	37.0	22.4	162.4	269	218	2000	500
150-125-315	WS_55	30.9	22,6	162.3	334	270	1900	500
150-125-400	WS_55	25.9	20.9	162.4	419	330	1800	500
200-150-200	WS_35	59.5	25.2	179.4	224	188	2100	500
200-150-250	WS_35	48.8	23.0	191.0	269	220	1800	500
200-150-315	WS_55	39.7	26.9	191.5	334	264	1800	500
200-150-400	WS_55	33.0	23.8	191.4	419	330	1800	500

Table 24: Technical data (imperial units)

Size	Shaft unit	Impeller					Speed limit	
		Impeller outlet width	Free passage	Impeller inlet diameter	Nominal impeller diameter		Maximum	Minimum
					Maximum	Minimum		
		[inch]					[rpm]	
040-025-160	WS_25	0.24	0.22	1.78	6.65	5.31	3600	500
040-025-200	WS_25	0.24	0.22	1.78	8.23	6.50	3600	500
050-032-125.1	WS_25	0.27	0.24	2.06	5.47	4.09	3600	500
050-032-160.1	WS_25	0.22	0.21	2.07	6.69	5.31	4400	500
050-032-200.1	WS_25	0.22	0.21	2.13	8.03	6.61	3800	500
050-032-250.1	WS_25	0.22	0.20	2.30	10.00	7.87	3600	500
050-032-125	WS_25	0.39	0.22	2.50	5.47	4.09	3600	500
050-032-160	WS_25	0.33	0.23	2.39	6.85	5.20	3600	500
050-032-200	WS_25	0.28	0.26	2.48	8.23	6.69	3700	500
050-032-250	WS_25	0.30	0.28	2.46	10.28	8.07	3600	500
065-040-125	WS_25	0.55	0.38	2.91	5.47	4.09	3600	500
065-040-160	WS_25	0.51	0.45	2.76	6.85	5.04	4400	500
065-040-200	WS_25	0.37	0.35	2.73	8.23	6.30	3700	500
065-040-250	WS_25	0.33	0.31	2.92	10.24	7.68	3600	500
065-040-315	WS_35	0.30	0.28	2.96	12.83	10.24	3000	500
065-050-125	WS_25	0.78	0.46	3.46	5.59	4.41	4500	500
065-050-160	WS_25	0.67	0.46	3.42	6.85	5.04	4400	500
065-050-200	WS_25	0.54	0.47	3.29	8.62	6.69	3600	500
065-050-250	WS_25	0.41	0.39	3.31	10.24	8.46	3600	500
065-050-315	WS_35	0.39	0.37	3.43	12.72	10.43	3000	500
080-065-125	WS_25	1.02	0.51	3.90	5.55	4.29	3900	500
080-065-160	WS_25	0.83	0.48	3.62	6.85	5.20	3900	500
080-065-200	WS_25	0.67	0.52	3.93	8.62	6.50	3600	500
080-065-250	WS_35	0.59	0.56	3.98	10.24	8.46	3600	500
080-065-315	WS_35	0.54	0.55	4.26	12.60	9.65	3000	500
100-080-160	WS_25	1.24	0.59	4.88	6.85	5.43	3600	500
100-080-200	WS_35	0.96	0.60	4.54	8.62	6.50	3600	500
100-080-250	WS_35	0.75	0.62	4.53	10.59	8.46	3600	500
100-080-315	WS_35	0.74	0.70	4.55	13.15	10.43	3000	500
100-080-400	WS_55	0.59	0.56	5.11	15.67	12.40	1900	500
125-100-160	WS_35	1.48	0.65	5.33	7.28	6.38	3600	500
125-100-200	WS_35	1.28	0.70	5.59	8.62	6.69	3600	500
125-100-250	WS_35	1.06	0.74	5.71	10.59	8.27	3600	500
125-100-315	WS_35	0.91	0.78	5.59	13.15	9.84	3000	500
125-100-400	WS_55	0.71	0.67	5.62	15.79	12.48	1900	500
150-125-200	WS_35	1.60	0.83	6.27	8.82	7.17	3600	500
150-125-250	WS_35	1.46	0.88	6.39	10.59	8.58	2000	500
150-125-315	WS_55	1.22	0.89	6.39	13.15	10.63	1900	500
150-125-400	WS_55	1.02	0.82	6.39	16.50	12.99	1800	500
200-150-200	WS_35	2.34	0.99	7.06	8.82	7.40	2100	500
200-150-250	WS_35	1.92	0.91	7.52	10.59	8.66	1800	500
200-150-315	WS_55	1.56	1.06	7.54	13.15	10.39	1800	500
200-150-400	WS_55	1.30	0.94	7.54	16.50	12.99	1800	500

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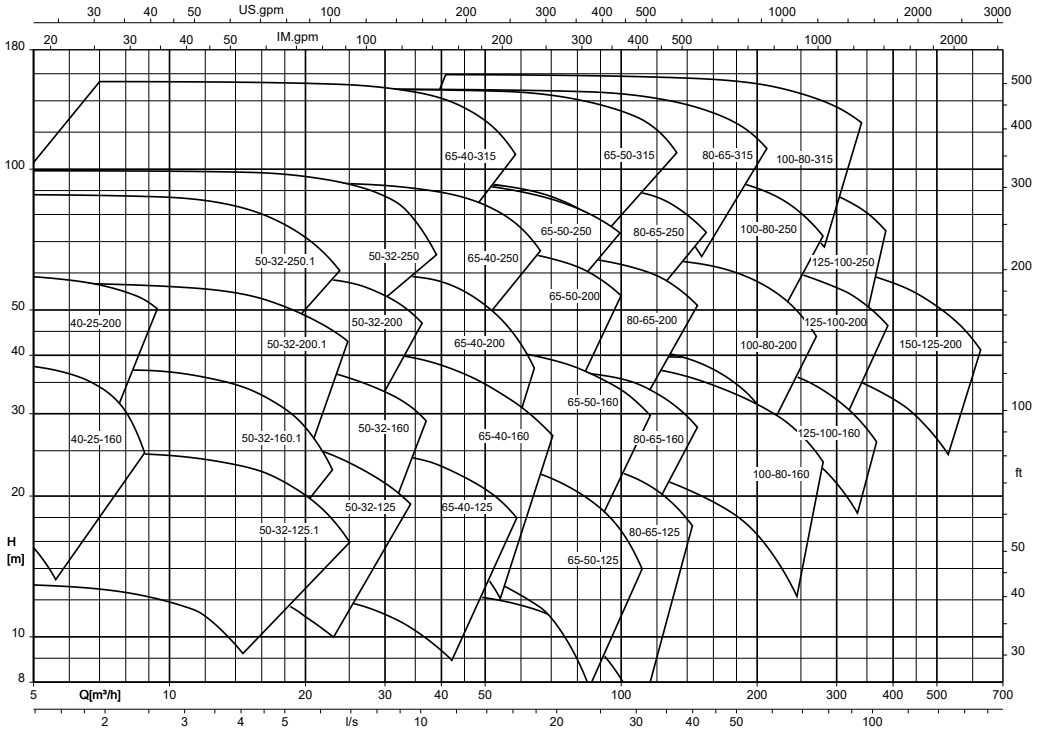
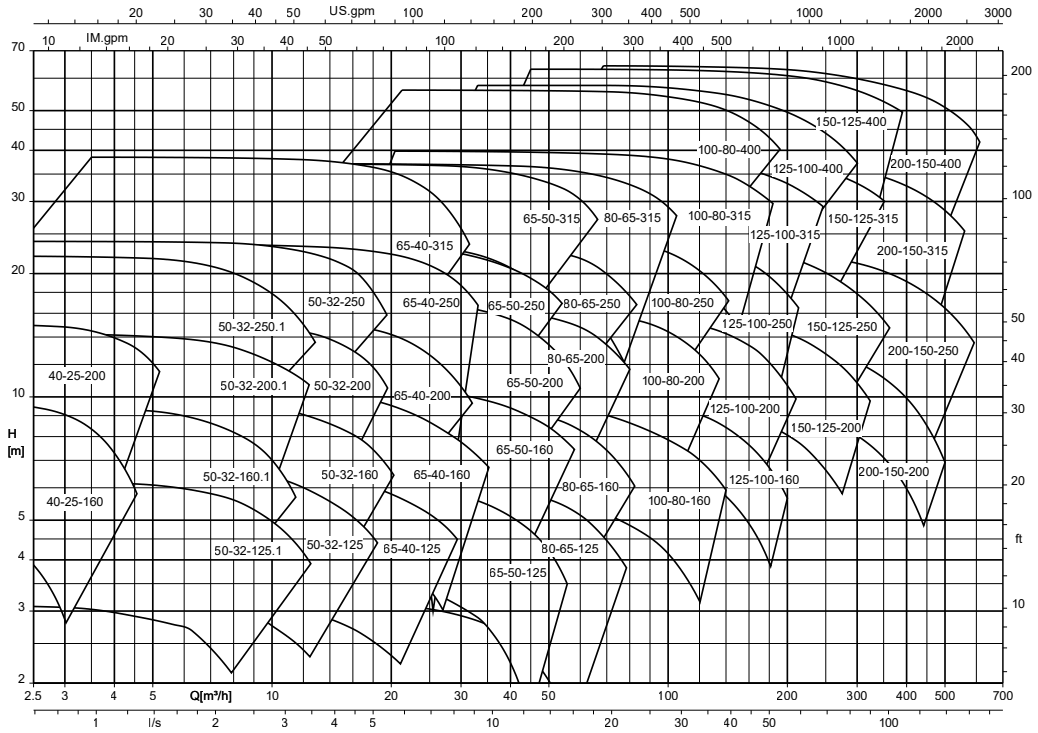
Selection charts

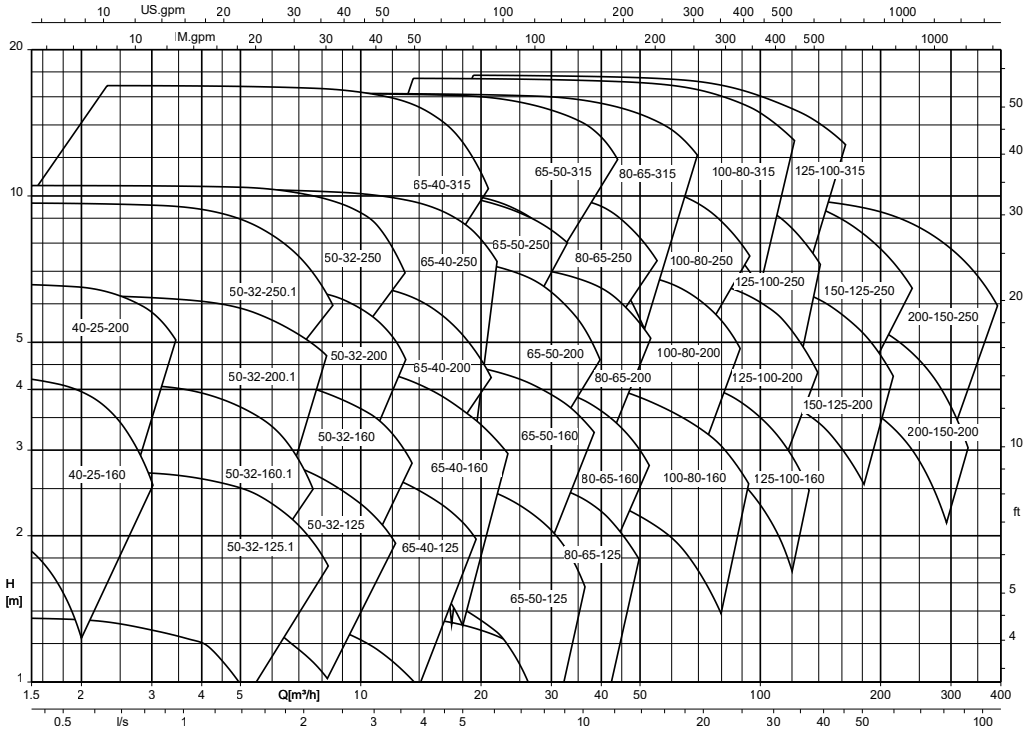
Etabloc, n = 2900 rpm (fixed speed version)



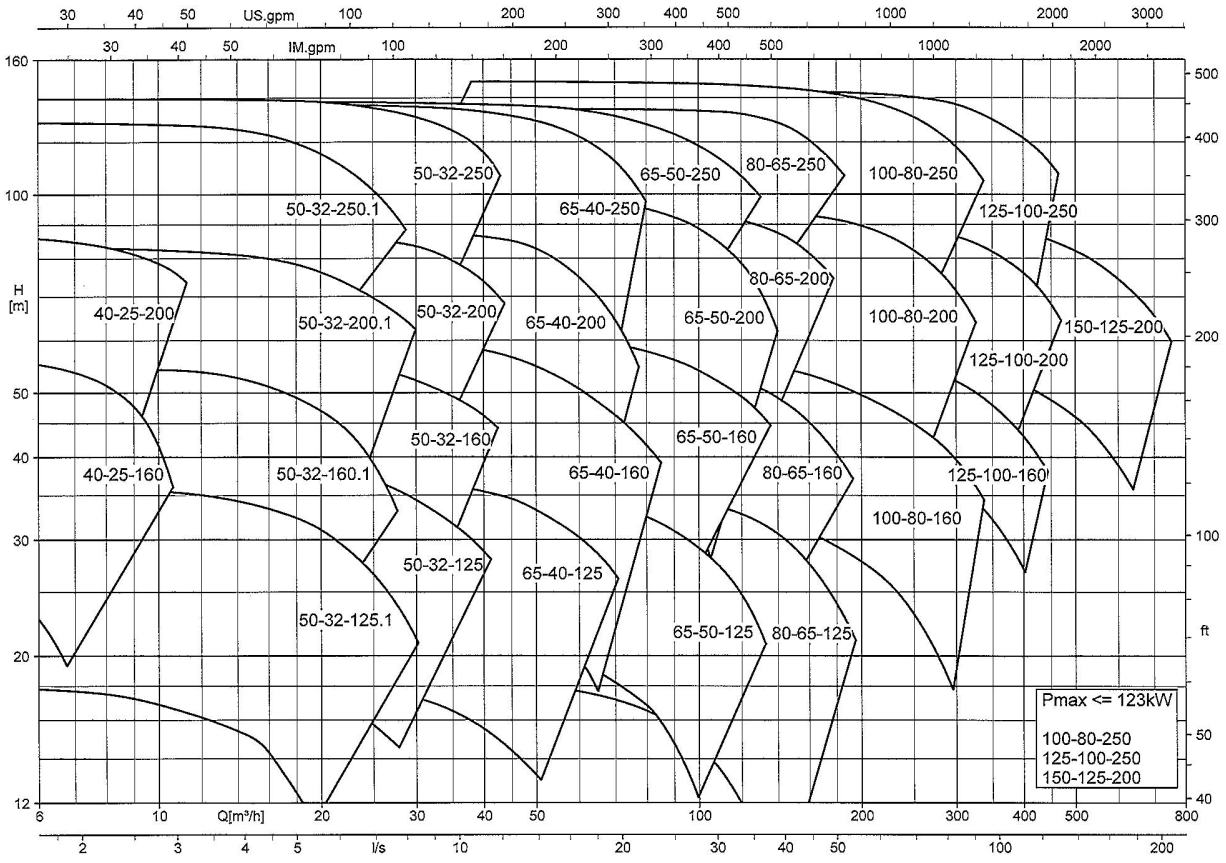
Etabloc, n = 1450 rpm (fixed speed version)



Etabloc, n = 960 rpm (fixed speed version)



Etabloc, n = 3500 rpm (fixed speed version)



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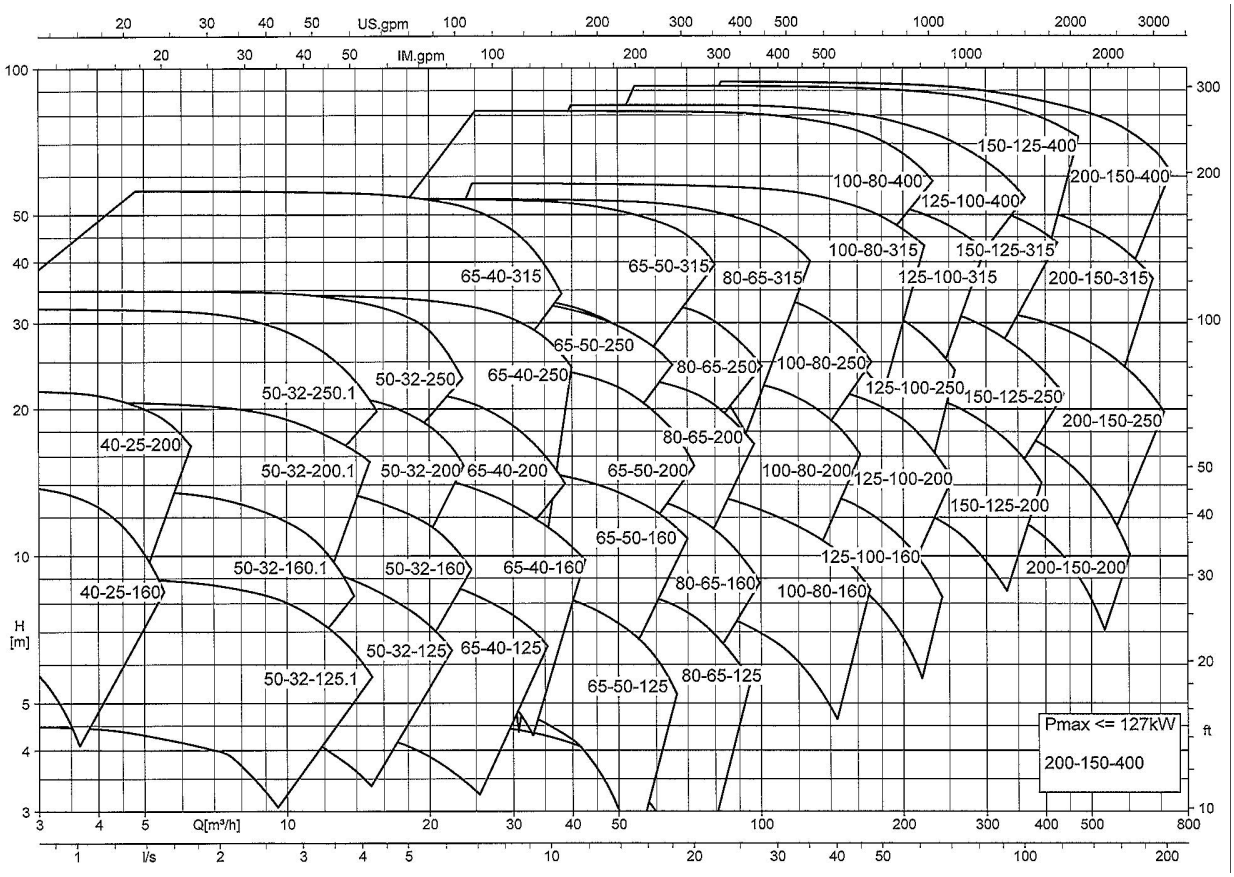
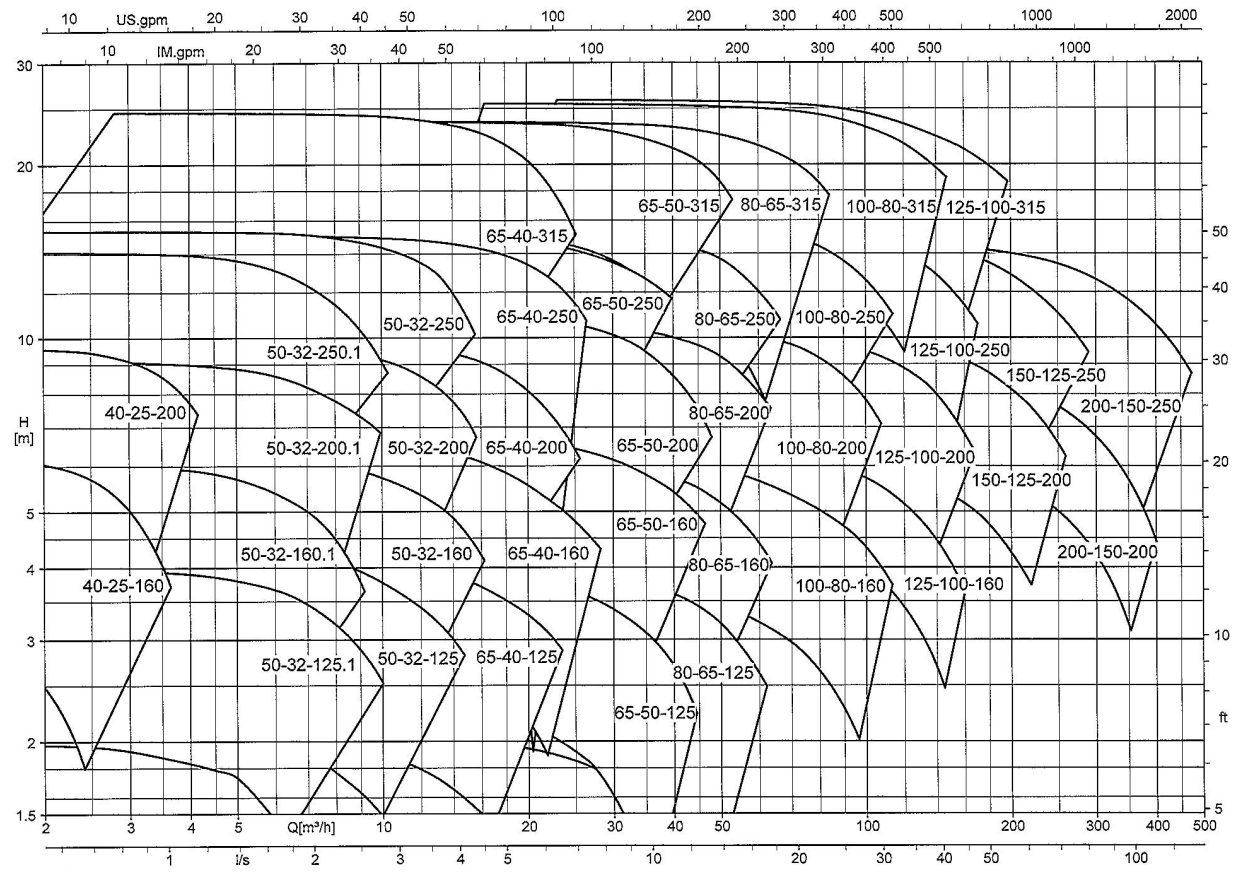
Etabloc, n = 1750 rpm (fixed speed version)



Etabloc, n = 1160 rpm (fixed speed version)



Connections

Single mechanical seal in A-type cover (AV), API Plan[27] 03 / Single mechanical seal in A-type cover with internal circulation (IA), API Plan[27]: 01

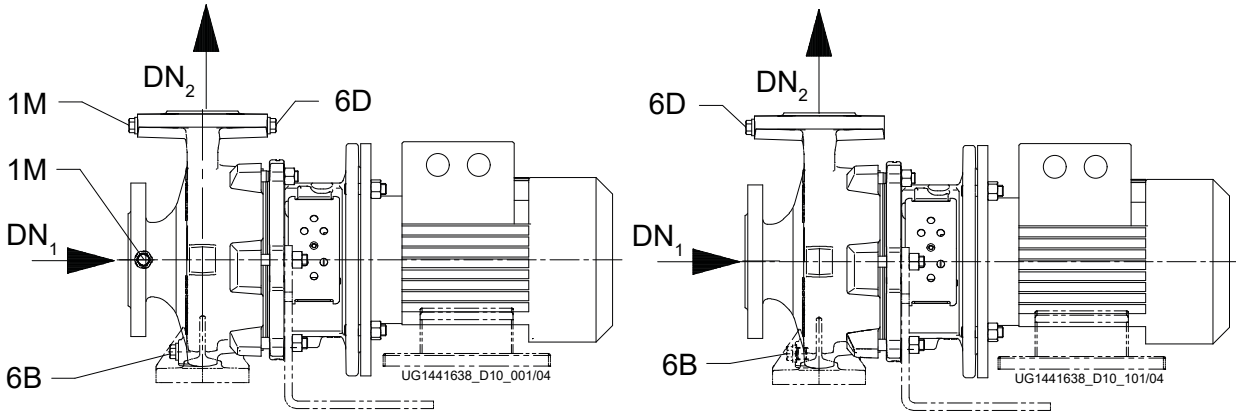


Fig. 3: Left: Version with pressure gage connection; right: Version without pressure gage connection

Single mechanical seal in A-type cover with external circulation (EA), API Plan[27]: 11

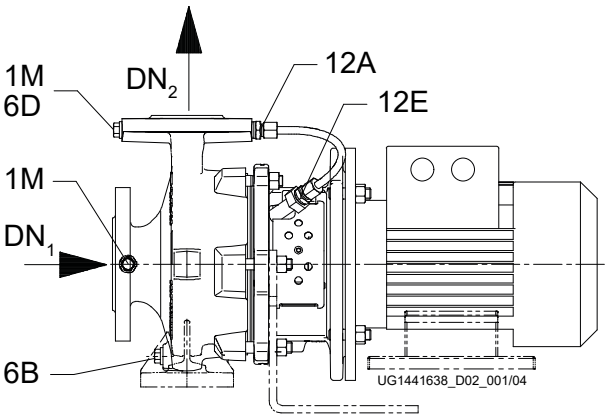


Fig. 4: Version with pressure gage connection

Single mechanical seal in A-type cover with external flushing (FA), API Plan[27]: 32

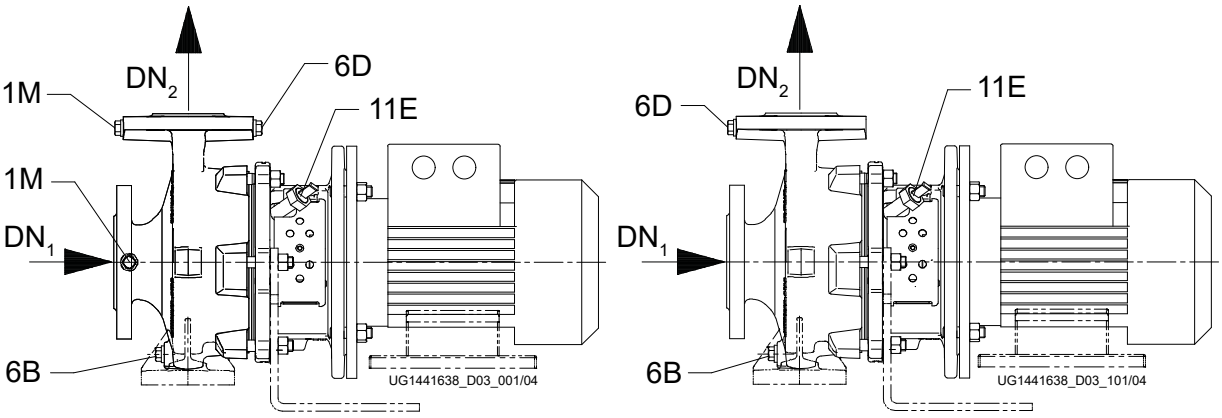


Fig. 5: Left: Version with pressure gage connection; right: Version without pressure gage connection

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27 API Plans indicate the operating principle. Some design details, e.g. piping plans or connection features, may deviate from the API requirements.

Single mechanical seal in A-type cover (AV) with discharge nozzle turned by 90°, API Plan[27]: 03

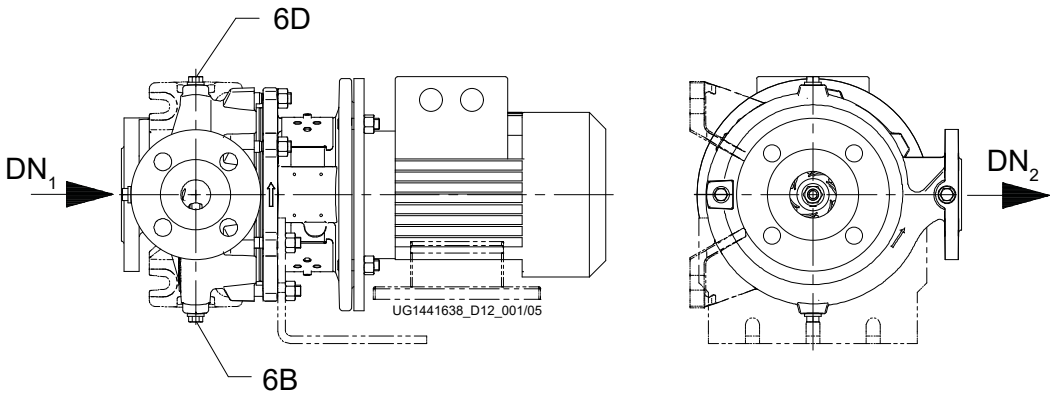

Fig. 6: Version without pressure gage connection

Single mechanical seal in A-type cover with venting if vertically installed (AV), API Plan[27]: 03

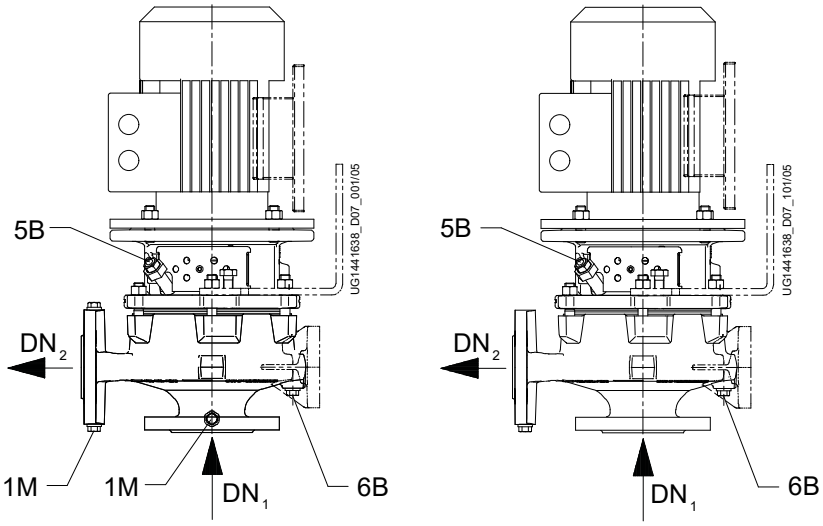

Fig. 7: Left: Version with pressure gage connection; right: Version without pressure gage connection

Single mechanical seal in A-type cover with external flushing (FA) and venting if vertically installed, API Plan[27]: 32

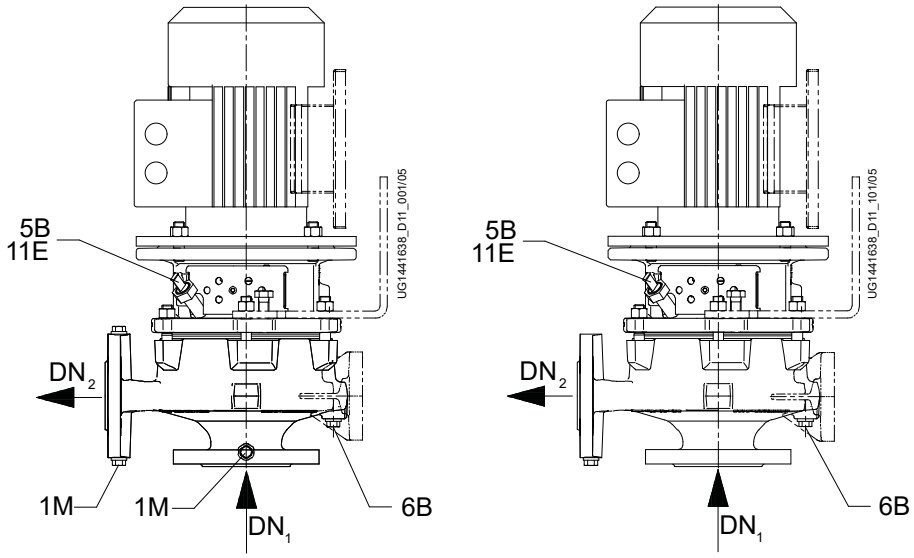

Fig. 8: Left: Version with pressure gage connection; right: Version without pressure gage connection

Double mechanical seal in back-to-back arrangement, API Plan[27]: 53A

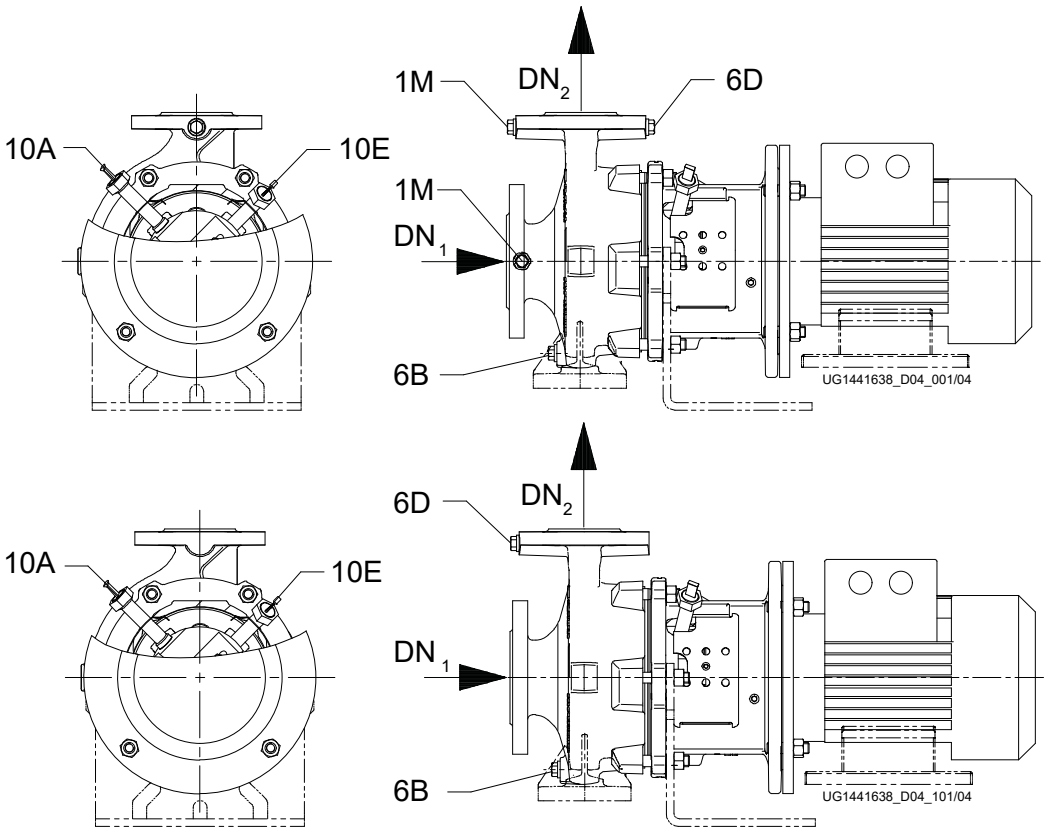

Fig. 9: Top: Version with pressure gage connection; bottom: Version without pressure gage connection

Double mechanical seal in tandem arrangement (TI), API Plan[27]: 52 / 55

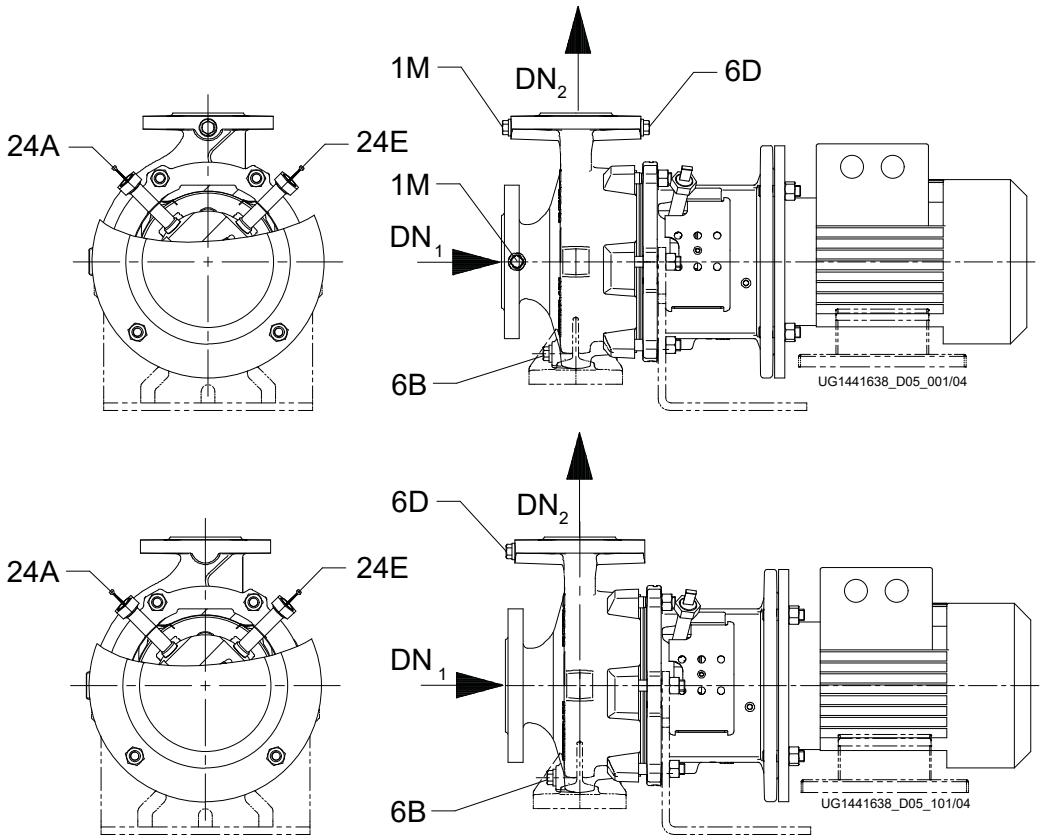

Fig. 10: Top: Version with pressure gage connection; bottom: Version without pressure gage connection

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Table 25: Connections, * = optional

Connection	Design	Configuration	Position
1M*	Connection for pressure gage	On pump set with pressure sensor	DN_2
1M*	Connection for pressure gage	Drilled and closed or with pressure sensor	DN_1
5B	Vent	Connection G 1/4 fitting, closed	-
6B	Fluid drain	Drilled and closed	-
6D	Fluid priming and venting	Drilled and closed	DN_2, suction side
6D*	Fluid priming and venting	Drilled and closed	DN_2, drive end
10A*	External barrier water outlet	Connection G 1/4 fitting, closed	-
10E*	External barrier water inlet	Connection G 1/4 fitting, closed	-
11E*	Flushing liquid inlet	Connection G 1/4 fitting, closed	-
12A*	Circulation liquid outlet	Drilled and connected	DN_2, drive end
12E*	Circulation liquid inlet	Drilled and connected	-
24A*	Quench fluid outlet	Connection G 1/4 fitting, closed	-
24E*	Quench fluid inlet	Connection G 1/4 fitting, closed	-

Table 26: Connections

Size	Shaft unit	Pump casing material						
		G, B, C, S						
		Connection						
		1M / 6B / 6D	5B	10A/ 10E	11E	12A	12E	24A/ 24E
040-025-160	25	G 1/4	G 1/4	G 1/4	G 1/4	G 1/4	G 1/4	G 1/4
040-025-200	25	G 1/4	G 1/4	G 1/4	G 1/4	G 1/4	G 1/4	G 1/4
050-032-125.1	25	G 1/4	G 1/4	G 1/4	G 1/4	G 1/4	G 1/4	G 1/4
050-032-160.1	25	G 1/4	G 1/4	G 1/4	G 1/4	G 1/4	G 1/4	G 1/4
050-032-200.1	25	G 1/4	G 1/4	G 1/4	G 1/4	G 1/4	G 1/4	G 1/4
050-032-250.1	25	G 1/4	G 1/4	G 1/4	G 1/4	G 1/4	G 1/4	G 1/4
050-032-125	25	G 1/4	G 1/4	G 1/4	G 1/4	G 1/4	G 1/4	G 1/4
050-032-160	25	G 1/4	G 1/4	G 1/4	G 1/4	G 1/4	G 1/4	G 1/4
050-032-200	25	G 1/4	G 1/4	G 1/4	G 1/4	G 1/4	G 1/4	G 1/4
050-032-250	25	G 1/4	G 1/4	G 1/4	G 1/4	G 1/4	G 1/4	G 1/4
065-040-125	25	G 1/4	G 1/4	G 1/4	G 1/4	G 1/4	G 1/4	G 1/4
065-040-160	25	G 1/4	G 1/4	G 1/4	G 1/4	G 1/4	G 1/4	G 1/4
065-040-200	25	G 1/4	G 1/4	G 1/4	G 1/4	G 1/4	G 1/4	G 1/4
065-040-250	25	G 1/4	G 1/4	G 1/4	G 1/4	G 1/4	G 1/4	G 1/4
065-040-315	35	G 1/4	G 1/4	G 1/4	G 1/4	G 1/4	G 1/4	G 1/4
065-050-125	25	G 1/4	G 1/4	G 1/4	G 1/4	G 1/4	G 1/4	G 1/4
065-050-160	25	G 1/4	G 1/4	G 1/4	G 1/4	G 1/4	G 1/4	G 1/4
065-050-200	25	G 1/4	G 1/4	G 1/4	G 1/4	G 1/4	G 1/4	G 1/4
065-050-250	25	G 1/4	G 1/4	G 1/4	G 1/4	G 1/4	G 1/4	G 1/4
065-050-315	35	G 1/4	G 1/4	G 1/4	G 1/4	G 1/4	G 1/4	G 1/4
080-065-125	25	G 3/8	G 1/4	G 1/4	G 1/4	G 3/8	G 1/4	G 1/4
080-065-160	25	G 3/8	G 1/4	G 1/4	G 1/4	G 3/8	G 1/4	G 1/4
080-065-200	25	G 3/8	G 1/4	G 1/4	G 1/4	G 3/8	G 1/4	G 1/4
080-065-250	35	G 3/8	G 1/4	G 1/4	G 1/4	G 3/8	G 1/4	G 1/4
080-065-315	35	G 3/8	G 1/4	G 1/4	G 1/4	G 3/8	G 1/4	G 1/4
100-080-160	25	G 3/8	G 1/4	G 1/4	G 1/4	G 3/8	G 1/4	G 1/4
100-080-200	35	G 3/8	G 1/4	G 1/4	G 1/4	G 3/8	G 1/4	G 1/4
100-080-250	35	G 3/8	G 1/4	G 1/4	G 1/4	G 3/8	G 1/4	G 1/4
100-080-315	35	G 3/8	G 1/4	G 1/4	G 1/4	G 3/8	G 1/4	G 1/4
100-080-400	55	G 3/8	G 1/4	G 1/4	G 1/4	G 3/8	G 1/4	G 1/4
125-100-160	35	G 1/2	G 1/4	G 1/4	G 1/4	G 1/2	G 1/4	G 1/4
125-100-200	35	G 1/2	G 1/4	G 1/4	G 1/4	G 1/2	G 1/4	G 1/4
125-100-250	35	G 1/2	G 1/4	G 1/4	G 1/4	G 1/2	G 1/4	G 1/4
125-100-315	35	G 1/2	G 1/4	G 1/4	G 1/4	G 1/2	G 1/4	G 1/4
125-100-400	55	G 1/2	G 1/4	G 1/4	G 1/4	G 1/2	G 1/4	G 1/4
150-125-200	35	G 1/2	G 1/4	G 1/4	G 1/4	G 1/2	G 1/4	G 1/4

Size	Shaft unit	Pump casing material						
		G, B, C, S						
		Connection						
		1M / 6B / 6D	5B	10A/ 10E	11E	12A	12E	24A/ 24E
150-125-250	35	G 1/2	G 1/4	G 1/4	G 1/4	G 1/2	G 1/4	G 1/4
150-125-315	55	G 1/2	G 1/4	G 1/4	G 1/4	G 1/2	G 1/4	G 1/4
150-125-400	55	G 1/2	G 1/4	G 1/4	G 1/4	G 1/2	G 1/4	G 1/4
200-150-200	35	G 1/2	G 1/4	G 1/4	G 1/4	G 1/2	G 1/4	G 1/4
200-150-250	35	G 1/2	G 1/4	G 1/4	G 1/4	G 1/2	G 1/4	G 1/4
200-150-315	55	G 1/2	G 1/4	G 1/4	G 1/4	G 1/2	G 1/4	G 1/4
200-150-400	55	G 1/2	G 1/4	G 1/4	G 1/4	G 1/2	G 1/4	G 1/4

Discharge nozzle positions

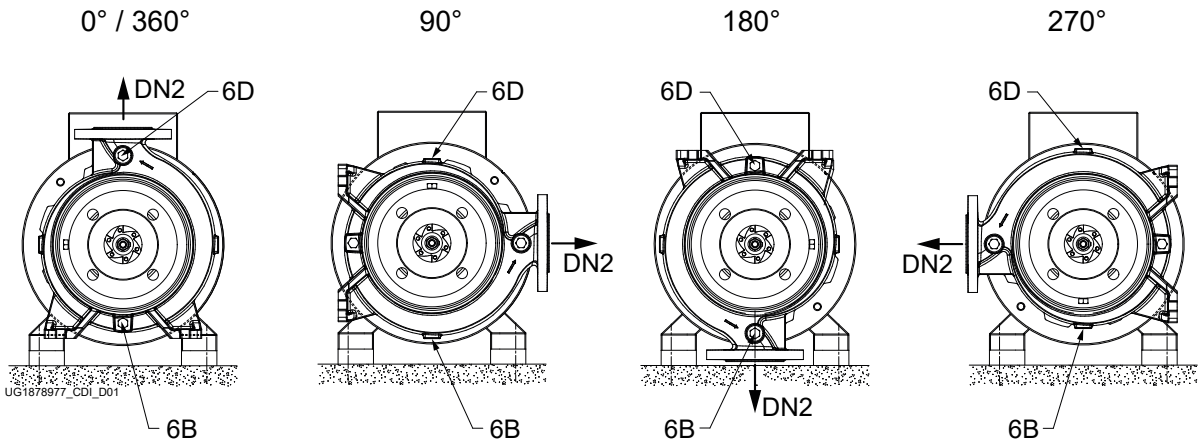

Fig. 11: Nozzle positions

Table 27: Overview

Nozzle position	Material variant				Installation		Possible options	
Discharge nozzle	GG, GB, GC	BB	CC	SG, SB, SC	Horizontal	Vertical	PumpDrive	PumpMeter
0°	✗	✗	✗	✗	✗	✗	✗	✗
90°	✗	-	✗	-	✗	✗	✗	-
180°	✗	✗	✗	✗	✗	✗	✗	✗
270°	✗	-	✗	-	✗	✗	✗	-

Flange design

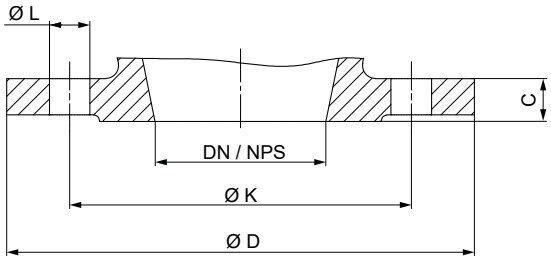

Fig. 12: Flange dimensions

Flange dimensions to EN 1092-1, EN 1092-3

Table 28: Flange dimensions (SI units)

Nominal size	Standard								
	EN 1092-3			EN 1092-1					
	Material variant of volute casing								
	B			C					
	PN 10			PN 10			PN 16		
	Ø D	Ø K	Number x Ø L	Ø D	Ø K	Number x Ø L	Ø D	Ø K	Number x Ø L
	[mm]								
25	115	85	4 × Ø 14	-	-	-	115	85	4 × Ø 14
32	140	100	4 × Ø 18	-	-	-	140	100	4 × Ø 18
40	150	110	4 × Ø 18	-	-	-	150	110	4 × Ø 18
50	165	125	4 × Ø 18	-	-	-	165	125	4 × Ø 18
65	185	145	4 × Ø 18	-	-	-	185	145	4 × Ø 18
80 (DN_1)[28]	229	160	8 × Ø 18	-	-	-	230	160	8 × Ø 18
80 (DN_2)[29]	200	160	8 × Ø 18	-	-	-	200	160	8 × Ø 18
100	229	180	8 × Ø 18	-	-	-	230	180	8 × Ø 18
125	254	210	8 × Ø 18	-	-	-	255	210	8 × Ø 18
150	285	240	8 × Ø 22	-	-	-	285	240	8 × Ø 22
200	343	295	8 × Ø 22	345	295	8 × Ø 22	-	-	-

Table 29: Flange dimensions (imperial units)

Nominal size	Standard								
	EN 1092-3			EN 1092-1					
	Material variant of volute casing								
	B			C					
	PN 10			PN 10			PN 16		
	Ø D	Ø K	Number x Ø L	Ø D	Ø K	Number x Ø L	Ø D	Ø K	Number x Ø L
	[inch]								
25	4.53	3.35	4 × Ø 0.55	-	-	-	4.53	3.35	4 × Ø 0.55
32	5.51	3.94	4 × Ø 0.71	-	-	-	5.51	3.94	4 × Ø 0.71
40	5.91	4.33	4 × Ø 0.71	-	-	-	5.91	4.33	4 × Ø 0.71
50	6.50	4.92	4 × Ø 0.71	-	-	-	6.50	4.92	4 × Ø 0.71
65	7.28	5.71	4 × Ø 0.71	-	-	-	7.28	5.71	4 × Ø 0.71
80 (DN_1)[28]	9.02	6.30	8 × Ø 0.71	-	-	-	9.06	6.30	8 × Ø 0.71
80 (DN_2)[29]	7.87	6.30	8 × Ø 0.71	-	-	-	7.87	6.30	8 × Ø 0.71
100	9.02	7.09	8 × Ø 0.71	-	-	-	9.06	7.09	8 × Ø 0.71
125	10.00	8.27	8 × Ø 0.71	-	-	-	10.04	8.27	8 × Ø 0.71
150	11.22	9.45	8 × Ø 0.87	-	-	-	11.22	9.45	8 × Ø 0.87
200	13.50	11.61	8 × Ø 0.87	13.58	11.61	8 × Ø 0.87	-	-	-

28 Suction flange; suction line NPS 4 must be used.
29 Discharge flange

Flange dimensions to EN 1092-2

Table 30: Flange dimensions (SI units)

Nominal size	Standard								
	EN 1092-2								
	Material variant of volute casing								
	G						S		
	PN 10			PN 16			PN 16		
	Ø D	Ø K	Number x Ø L	Ø D	Ø K	Number x Ø L	Ø D	Ø K	Number x Ø L
	[mm]								
25	-	-	-	115	85	4 × Ø 14	115	85	4 × Ø 14
32	-	-	-	140	100	4 × Ø 19	140	100	4 × Ø 19
40	-	-	-	150	110	4 × Ø 19	150	110	4 × Ø 19
50	-	-	-	165	125	4 × Ø 19	165	125	4 × Ø 19
65	-	-	-	185	145	4 × Ø 19	185	145	4 × Ø 19
80 (DN_1)[28]	-	-	-	229	160	8 × Ø 19	229	160	8 × Ø 19
80 (DN_2)[29]	-	-	-	200	160	8 × Ø 19	200	160	8 × Ø 19
100	-	-	-	229	180	8 × Ø 19	229	180	8 × Ø 19
125	-	-	-	254	210	8 × Ø 19	254	210	8 × Ø 19
150	-	-	-	285	240	8 × Ø 23	285	240	8 × Ø 23
200	343	295	8 × Ø 23	-	-	-	343	295	12 × Ø 23

Table 31: Flange dimensions (imperial units)

Nominal size	Standard								
	EN 1092-2								
	Material variant of volute casing								
	G						S		
	PN 10			PN 16			PN 16		
	Ø D	Ø K	Number x Ø L	Ø D	Ø K	Number x Ø L	Ø D	Ø K	Number x Ø L
	[inch]								
25	-	-	-	4.53	3.35	4 × Ø 0.55	4.53	3.35	4 × Ø 0.55
32	-	-	-	5.51	3.94	4 × Ø 0.75	5.51	3.94	4 × Ø 0.75
40	-	-	-	5.91	4.33	4 × Ø 0.75	5.91	4.33	4 × Ø 0.75
50	-	-	-	6.50	4.92	4 × Ø 0.75	6.50	4.92	4 × Ø 0.75
65	-	-	-	7.28	5.71	4 × Ø 0.75	7.28	5.71	4 × Ø 0.75
80 (DN_1)[28]	-	-	-	9.02	6.30	8 × Ø 0.75	9.02	6.30	8 × Ø 0.75
80 (DN_2)[29]	-	-	-	7.87	6.30	8 × Ø 0.75	7.87	6.30	8 × Ø 0.75
100	-	-	-	9.02	7.09	8 × Ø 0.75	9.02	7.09	8 × Ø 0.75
125	-	-	-	10.00	8.27	8 × Ø 0.75	10.00	8.27	8 × Ø 0.75
150	-	-	-	11.22	9.45	8 × Ø 0.91	11.22	9.45	8 × Ø 0.91
200	13.50	11.61	8 × Ø 0.91	-	-	-	13.50	11.61	12 × Ø 0.91

Flange drilled to: ASME B 16.1, Class 125, ASME B 16.5, Class 150

Table 32: Flange dimensions (SI units)

Nominal size	Standard					
	ASME B 16.1, Class 125, ASME B 16.5, Class 150					
	Material variant of volute casing					
	B, G, S			C		
	Ø D	Ø K	Number x Ø L	Ø D	Ø K	Number x Ø L
	[mm]					
25/ NPS 1	115	79	4 × Ø 15.7	115	79.2	4 × Ø 15.9
32/ NPS 1 1/4	140	89	4 × Ø 15.7	140	88.9	4 × Ø 15.9
40/ NPS 1 1/2	150	98	4 × Ø 15.7	150	98.6	4 × Ø 15.9
50/ NPS 2	165	121	4 × Ø 19.1	165	120.7	4 × Ø 19.1
65/ NPS 2 1/2	185	140	4 × Ø 19.1	185	139.7	4 × Ø 19.1

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Nominal size	Standard					
	ASME B 16.1, Class 125, ASME B 16.5, Class 150					
	Material variant of volute casing					
	B, G, S			C		
	Ø D	Ø K	Number x Ø L	Ø D	Ø K	Number x Ø L
	[mm]					
80/ NPS 3 (DN_1)[28]	229	191	8 × Ø 19.1	230	190.5	8 × Ø 19.1
80/ NPS 3 (DN_2)[29]	200	152	4 × Ø 19.1	200	152.4	4 × Ø 19.1
100/ NPS 4	229	191	8 × Ø 19.1	230	190.5	8 × Ø 19.1
125/ NPS 5	254	216	8 × Ø 22.4	255	215.9	8 × Ø 22.2
150/ NPS 6	285	241	8 × Ø 22.4	285	241.3	8 × Ø 22.2
200/ NPS 8	345	299	8 × Ø 22.4	345	298.5	8 × Ø 22.2

Table 33: Flange dimensions (imperial units)

Nominal size	Standard					
	ASME B 16.1, Class 125, ASME B 16.5, Class 150					
	Material variant of volute casing					
	B, G, S			C		
	Ø D	Ø K	Number x Ø L	Ø D	Ø K	Number x Ø L
	[inch]					
25/ NPS 1	4.53	3.11	4 × Ø 5/8	4.53	3.12	4 × Ø 5/8
32/ NPS 1 1/4	5.51	3.50	4 × Ø 5/8	5.51	3.50	4 × Ø 5/8
40/ NPS 1 1/2	5.91	3.86	4 × Ø 5/8	5.91	3.88	4 × Ø 5/8
50/ NPS 2	6.50	4.76	4 × Ø 3/4	6.50	4.75	4 × Ø 3/4
65/ NPS 2 1/2	7.28	5.51	4 × Ø 3/4	7.28	5.50	4 × Ø 3/4
80/ NPS 3 (DN_1)[28]	9.02	7.52	8 × Ø 3/4	9.06	7.50	8 × Ø 3/4
80/ NPS 3 (DN_2)[29]	7.87	5.98	4 × Ø 3/4	7.87	6.00	4 × Ø 3/4
100/ NPS 4	9.02	7.52	8 × Ø 3/4	9.06	7.50	8 × Ø 3/4
125/ NPS 5	10.00	8.50	8 × Ø 7/8	10.04	8.50	8 × Ø 7/8
150/ NPS 6	11.22	9.49	8 × Ø 7/8	11.22	9.50	8 × Ø 7/8
200/ NPS 8	13.58	11.77	8 × Ø 7/8	13.58	11.75	8 × Ø 7/8

Table 34: Flange design by materials

Material variant	Standard	Nominal size	Pressure class
GG, GB, GC	EN 1092-2	DN 25 - DN 150	PN 16
		DN 200	PN 10
	Drilled to ASME B16.1 [30]	DN 25 - DN 200	Class 125 [31]
SG, SB, SC	EN 1092-2	DN 25 - DN 200	PN 16
	Drilled to ASME B16.1 [30]	DN 25 - DN 200	Class 125 [31]
BB	EN 1092-3	DN 25 - DN 200	PN 10
	Drilled to ASME B16.1 [30]	DN 25 - DN 200	Class 125 [32]
CC	EN 1092-1	DN 25 - DN 150	PN 16
		DN 200	PN 10
	Drilled to ASME B16.5[30]	DN 25 - DN 200	Class 150

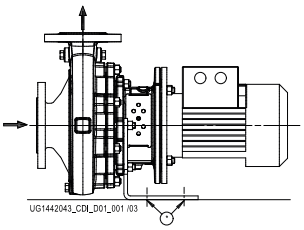
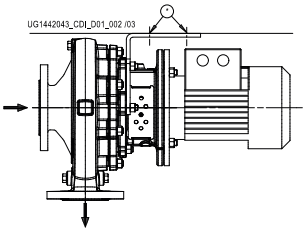
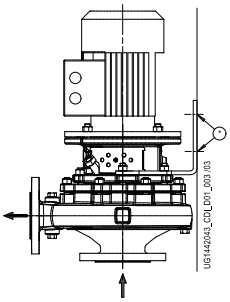
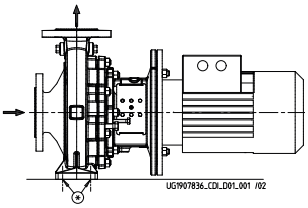
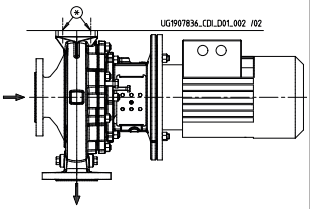
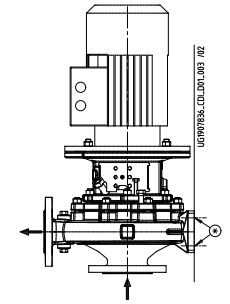
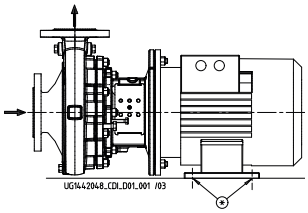
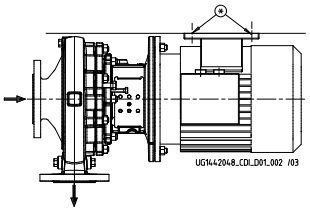
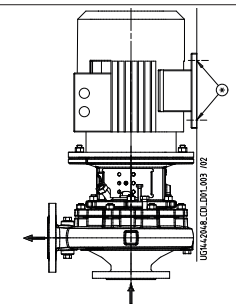
30 Suction-side DN 80 machined like DN 100
31 Nozzle drilled to Class 125 with pressure class PN 16
32 Nozzle drilled to Class 125 with pressure class PN 10

Installation types

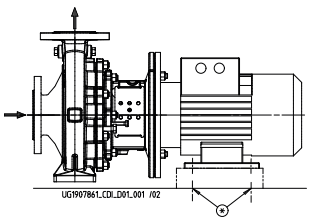
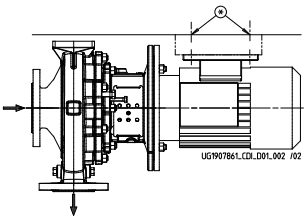
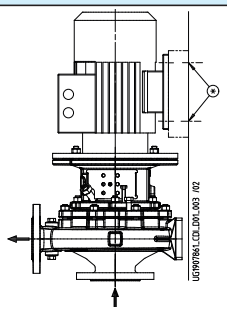
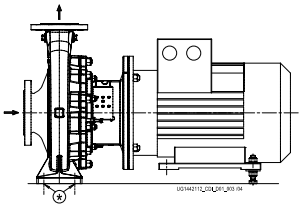
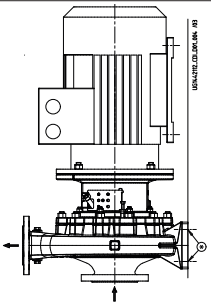
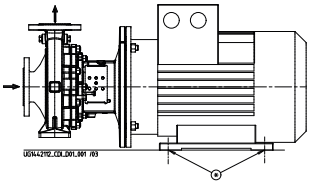
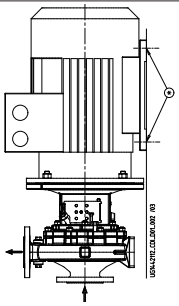
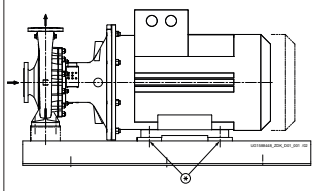
Table 35: Symbols key

Symbol	Description
*	Symbolizes areas in which the pump set is connected to the foundation.
A	PumpDrive, motor-mounted
B	PumpDrive, wall-mounted
C	PumpDrive, cabinet-mounted
O	Without PumpDrive

Table 36: Overview of installation types

IEC motor	Pump foot provided[33]	Fastening	Installation types incl. PumpDrive variants		
			Horizontal installation, floor-mounted	Horizontal installation, ceiling-mounted	Vertical installation
71 to 112	No	Support foot[34] or suspended in the piping			
			A ● B ● C ● O	B ● C ● O	A ● B ● C ● O
	Yes	Volute casing foot[34] or suspended in the piping			
			A ● B ● C ● O	B ● C ● O	A ● B ● C ● O
132 to 180	No	Motor foot[34]			
			A ● B ● C ● O	B ● C ● O	A ● B ● C ● O

33 Volute casing with integrally cast pump feet (not for pump casing material G, WS25-WS35, motor size ≤ 180)
34 Shims may be required. The required shims are **not** included in KSB's scope of supply.

IEC motor	Pump foot provided[33]	Fastening	Installation types incl. PumpDrive variants		
			Horizontal installation, floor-mounted	Horizontal installation, ceiling-mounted	Vertical installation
132 to 180	Yes	Motor foot[34]			
			A • B • C • O	B • C • O	A • B • C • O
200 to 315	Yes	Pump foot[34]; motor foot supported but not fastened		Not available	
			200 to 225: A • B • C • O 250 to 315: O	-	200 to 225: A • B • C • O 250 to 315: O
		Motor foot[34]; pump foot supported[34] but not fastened		Not available	
			200 to 225: A • B • C • O 250 to 315: O	-	200 to 225: A • B • C • O 250 to 315: O
250 to 315	Yes	Pump set on baseplate; motor fastened, shims under pump		Not available	Not available
			O	-	-

Scope of supply

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

- Pump
- Drive
- PumpDrive
- PumpMeter

Recommended spare parts stock

Table 37: Quantity of spare parts for recommended spare parts stock for commissioning

Part No.	Designation	Number of pumps									
		1	2	3	4	5	6	7	8	9	10 and more
433	Mechanical seal	1	1	1	2	2	2	2	3	3	25 %
433.01/.02	Mechanical seal[35)]	1	1	1	2	2	2	2	3	3	25 %
400.10	Gasket	2	4	6	8	8	9	9	12	12	150 %
400.75	Gasket	2	4	6	8	8	9	9	12	12	150 %
400.15	Gasket[35)]	2	4	6	8	8	9	9	12	12	150 %
411.15	Joint ring[35)]	2	4	6	8	8	9	9	12	12	150 %
412.15	O-ring[35)]	2	4	6	8	8	9	9	12	12	150 %

Table 38: Quantity of spare parts for recommended spare parts stock for 2 years' operation to DIN 24296

Part No.	Designation	Number of pumps									
		1	2	3	4	5	6	7	8	9	10 and more
210	Shaft	1	1	1	1	2	2	2	2	2	20 %
230	Impeller	1	1	1	1	2	2	2	2	2	20 %
433	Mechanical seal	1	1	1	2	2	2	2	3	3	25 %
433.01/.02	Mechanical seal[35)]	1	1	1	2	2	2	2	3	3	25 %
502.01/.02	Casing wear ring[36)] (set)	1	2	2	2	3	3	3	4	4	50 %
523	Shaft sleeve	1	2	2	2	3	3	3	4	4	50 %
400.10	Gasket	2	4	6	8	8	9	9	12	12	150 %
400.75	Gasket	2	4	6	8	8	9	9	12	12	150 %
400.15	Gasket[35)]	2	4	6	8	8	9	9	12	12	150 %
411.15	Joint ring[35)]	2	4	6	8	8	9	9	12	12	150 %
412.15	O-ring[35)]	2	4	6	8	8	9	9	12	12	150 %

1173.53/02-EN-US

35 For double mechanical seal
36 If fitted

General assembly drawings

Version with single mechanical seal and bolted casing cover

Table 39: This view applies to the following pump sizes:

040-025-200	050-032-200.1	050-032-200	065-040-200	065-050-200	080-065-200	100-80-250	125-100-250	150-125-250	200-150-250
	050-032-250.1	050-032-250	065-040-250	065-050-250	080-065-250	100-80-315	125-100-315	150-125-315	200-150-315
			065-040-315	065-050-315	080-065-315	100-80-400	125-100-400	150-125-400	200-150-400

Supplied in packaging units only

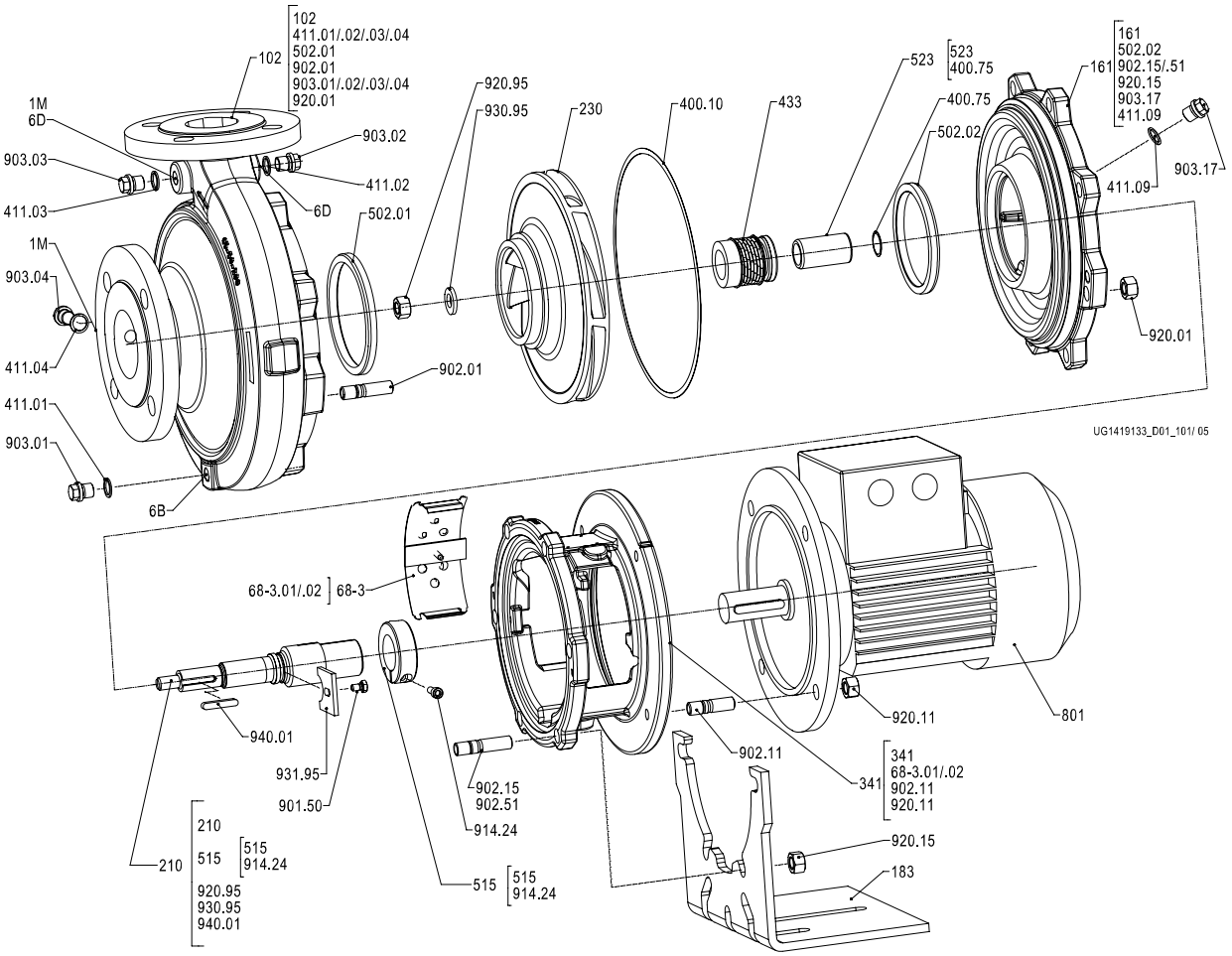


Fig. 13: Version with single mechanical seal and bolted casing cover, without pump foot

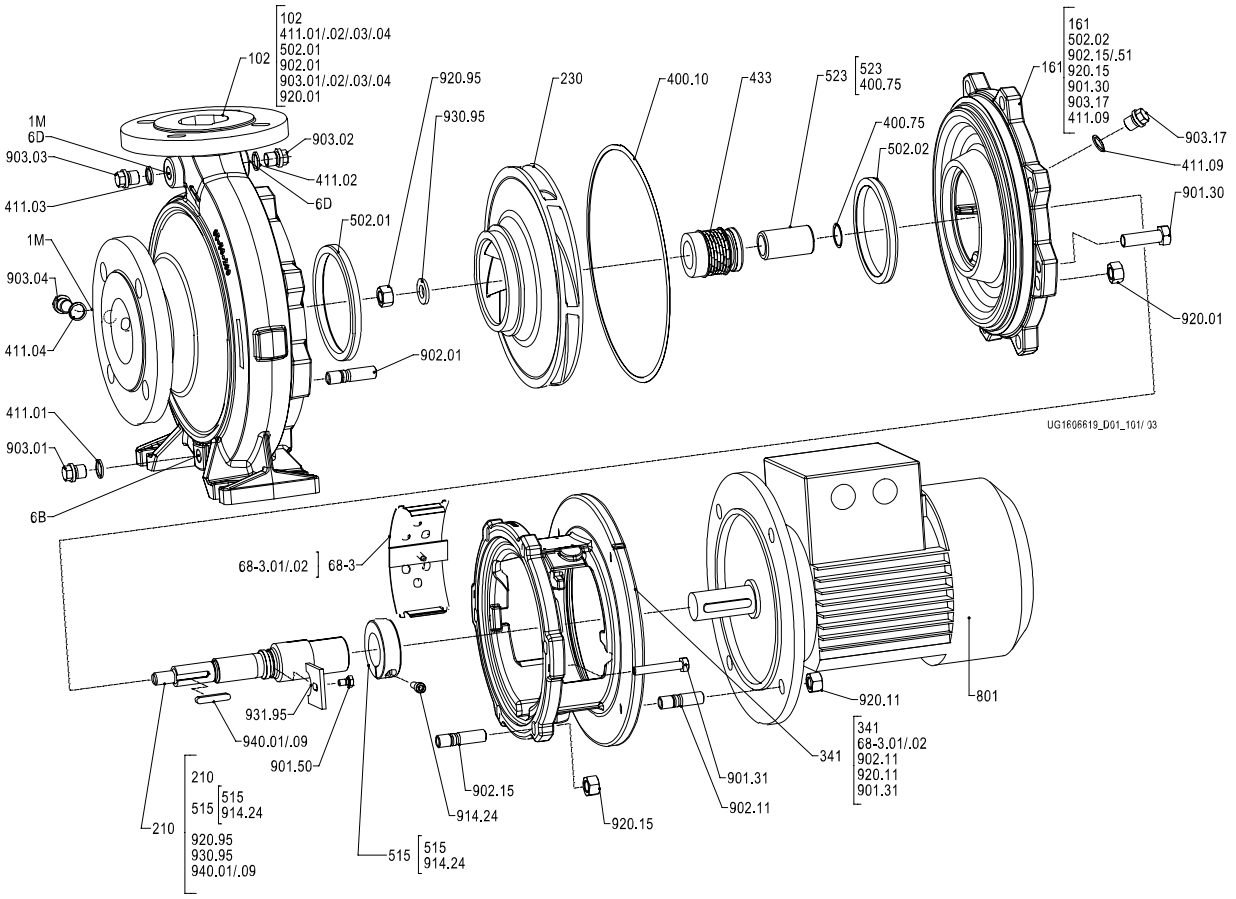


Fig. 14: Version with single mechanical seal and bolted casing cover, with pump foot

Table 40: List of components[37)]

Part No.	Description	Part No.	Description
102	Volute casing	515	Locking ring
146	Intermediate lantern	523	Shaft sleeve
161	Casing cover	68-3.01/.02	Cover plate
183	Support foot	801	Flanged motor
210	Shaft	901.30[38)]/.31[38)]/.50	Hexagon head bolt
230	Impeller	902.01/.06/.11/.15/.50/.51	Stud
341	Drive lantern	903.01/.02/.03/.04/.08[39)]/.17	Screw plug
400.10/.75	Gasket	914.24	Hexagon socket head cap screw
411.01/.02/.03/.04/.08/.09	Joint ring	920.01/.06/.11/.15/.95	Nut
433	Mechanical seal	930.95	Lock washer
502.01/.02	Casing wear ring	940.01/09[40)]	Key

Table 41: Connections

Part No.	Description	Part No.	Description
1M	Connection for pressure gage	6D	Fluid priming and venting
6B	Fluid drain		

37 Some individual components might not be applicable, depending on the pump size and material.
38 Not available for version without pump foot
39 Not shown in the drawing
40 For shaft unit 55 only

1173.53/02-EN-US

Version with single mechanical seal and clamped casing cover

Table 42: This view applies to the following pump sizes:

040-025-160	050-032-125.1	050-032-125	065-040-125	065-050-125	080-065-125	100-80-160	125-100-160	150-125-200	200-150-200
	050-032-160.1	050-032-160	065-040-160	065-050-160	080-065-160	100-80-200	125-100-200		

Supplied in packaging units only

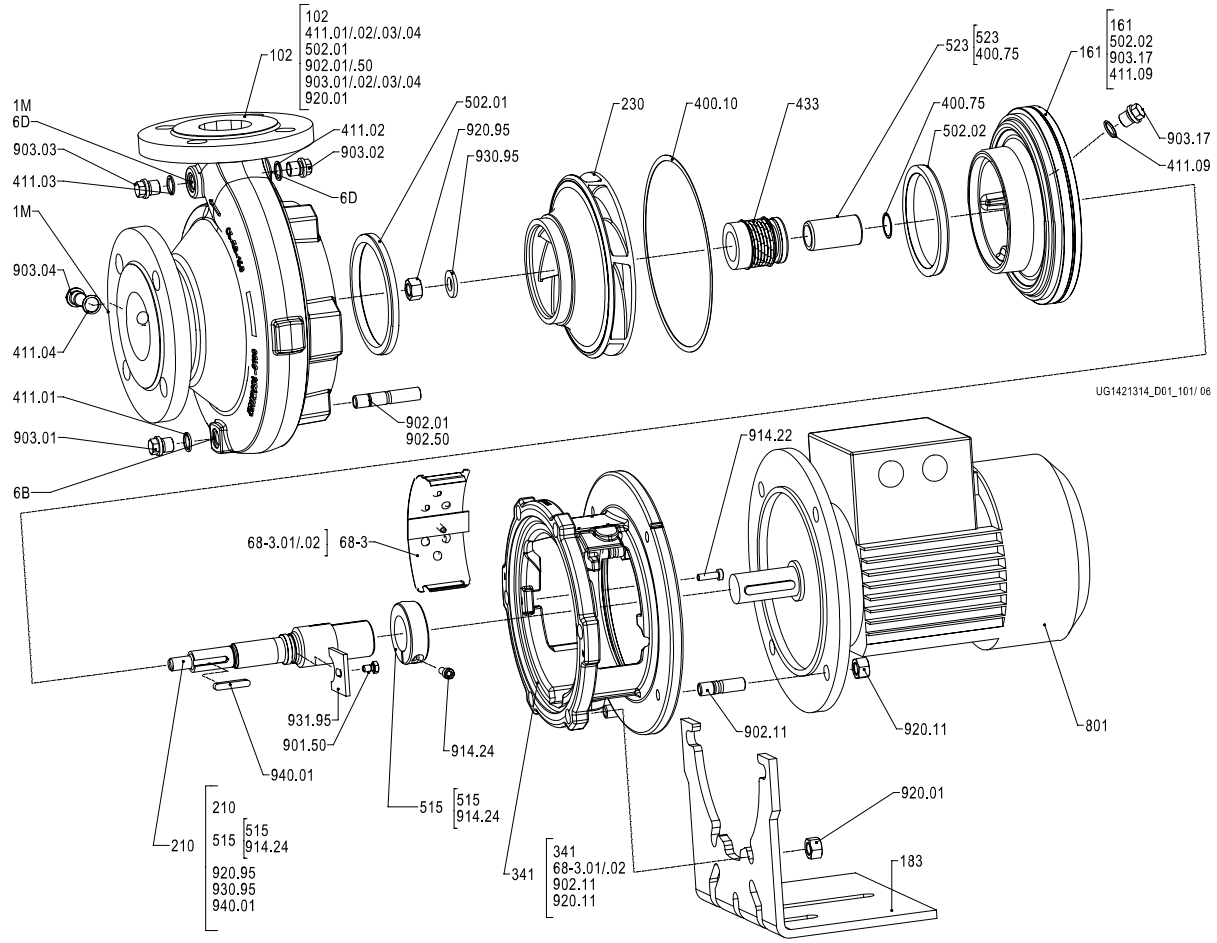


Fig. 15: Version with single mechanical seal and clamped casing cover, without pump foot

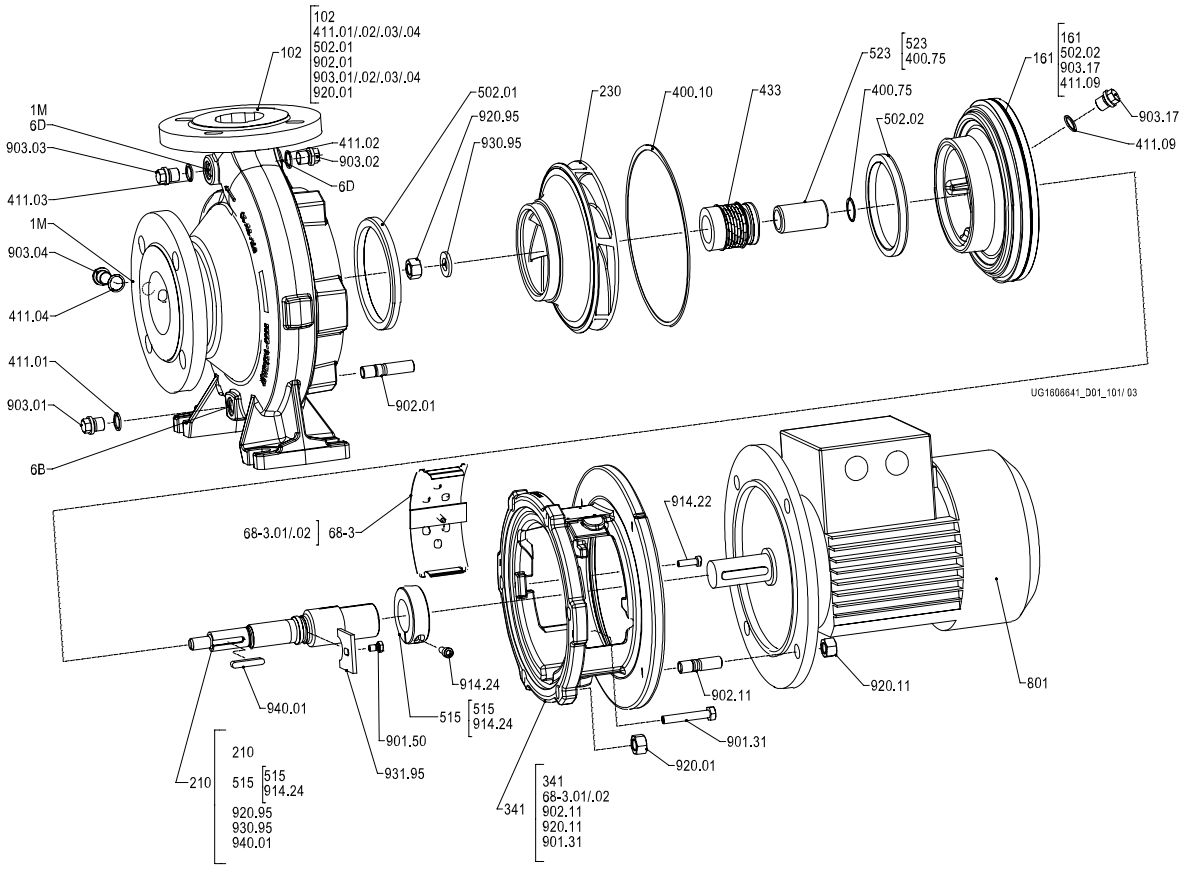


Fig. 16: Version with single mechanical seal and clamped casing cover, with pump foot

Table 43: List of components[41)]

Part No.	Description	Part No.	Description
102	Volute casing	515	Locking ring
146	Intermediate lantern	523	Shaft sleeve
161	Casing cover	68-3.01/.02	Cover plate
183	Support foot	801	Flanged motor
210	Shaft	901.31[42)]/.50	Hexagon head bolt
230	Shaft	902.01/.06/.11/.15/.50/.51	Stud
341	Drive lantern	903.01/.02/.03/.04/.08/.17	Screw plug
400.10/.75	Gasket	914.22/.24	Hexagon socket head cap screw
411.01/.02/.03/.04/.08/.09	Joint ring	920.01/.06/.11/.15/.95	Hexagon nut
433	Mechanical seal	930.95	Lock washer
502.01/.02[43)]	Casing wear ring	940.01	Key

Table 44: Connections

Part No.	Description	Part No.	Description
1M	Connection for pressure gage	6D	Fluid priming and venting
6B	Fluid drain		

41 Some individual components might not be applicable, depending on the pump size and material.
42 Not available for version without pump foot
43 Not with sizes 40-25-160, 50-32-125, 50-32-125.1, 50-32-160.1 and 65-40-125

Version with double mechanical seal in back-to-back arrangement

Supplied in packaging units only

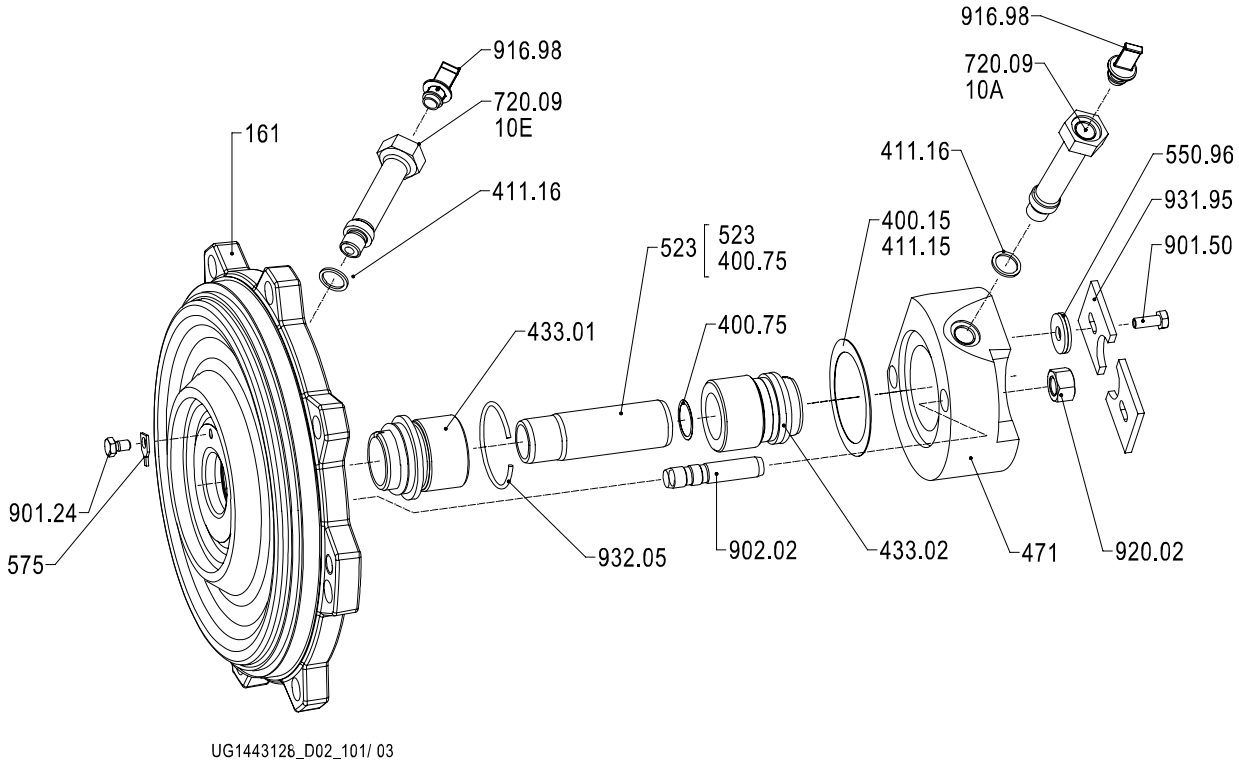


Fig. 17: Version with double mechanical seal in back-to-back arrangement

Table 45: List of components[44)]

Part No.	Description	Part No.	Description
161	Casing cover	575	Strip
400.15/.75	Gasket	720.09	Fitting
411.15/.16	Joint ring	901.24/.50	Hexagon head bolt
433.01/.02	Mechanical seal	902.02	Stud
471	Seal cover	916.98	Plug
523	Shaft sleeve	920.02	Hexagon nut
550.96	Disc	931.95	Lock washer
562.02	Parallel pin[45)]	932.05	Circlip

Table 46: Auxiliary connections

Part No.	Description	Part No.	Description
10A	External barrier water outlet	10E	External barrier water inlet

44 Some individual components might not be applicable, depending on the pump size and material.

45 Only for shaft units 35 and 55, replaces parts 575 and 901.24

Version with double mechanical seal in tandem arrangement

Supplied in packaging units only

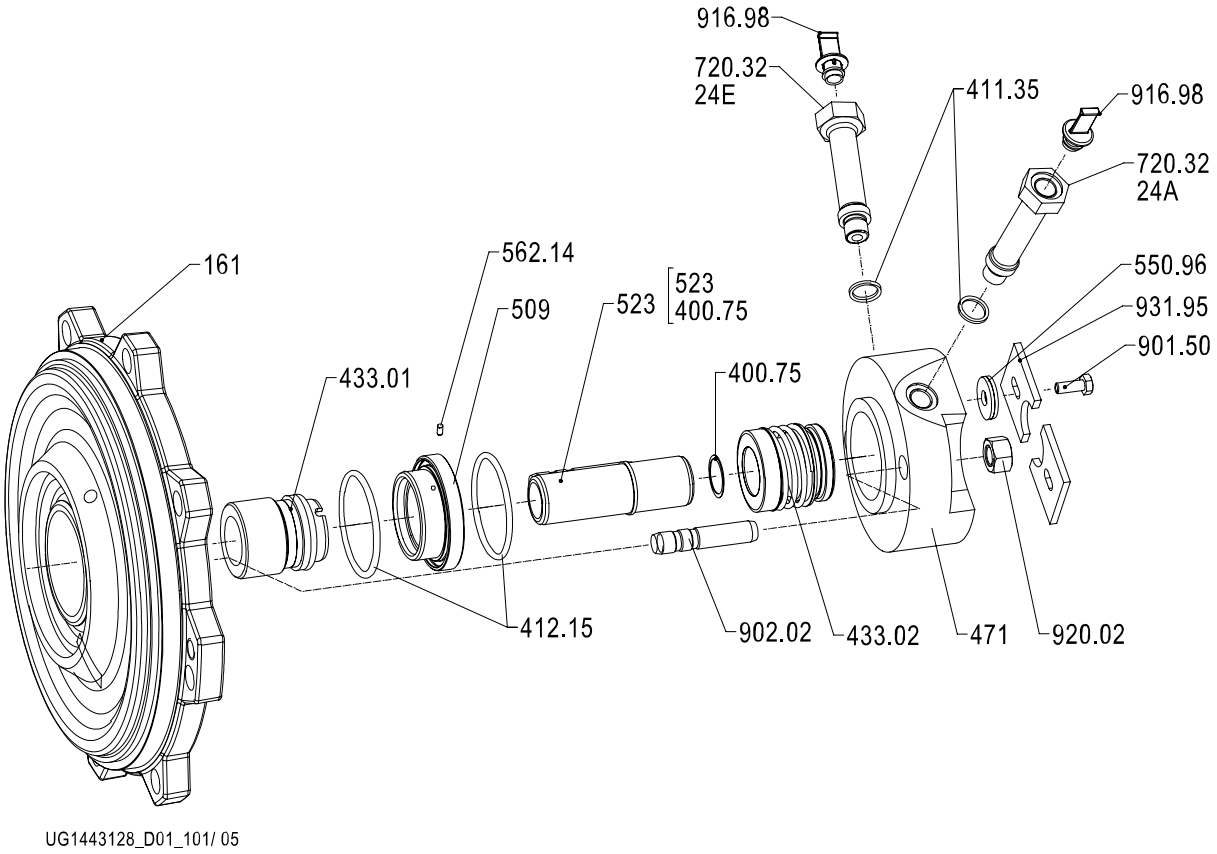


Fig. 18: Version with double mechanical seal in tandem arrangement

Table 47: List of components[46)]

Part No.	Description	Part No.	Description
161	Casing cover	550.96	Disc
400.75	Gasket	562.14	Parallel pin
411.35	Joint ring	720.32	Fitting
412.15	O-ring	901.50	Hexagon head bolt
433.01/.02	Mechanical seal	902.02	Stud
471	Seal cover	916.98	Plug
509	Intermediate ring	920.02	Hexagon nut
523	Shaft sleeve	931.95	Lock washer

Table 48: Auxiliary connections

Part No.	Description	Part No.	Description
24A	Quench liquid outlet	24E	Quench liquid inlet

46 Some individual components might not be applicable, depending on the pump size and material.

Glossary

ACS

French drinking water regulations (ACS = Attestation de Conformité Sanitaire)

Mech. seal

Mechanical seal

SU

Shaft unit

UBA

German drinking water regulations to German Environment Agency

WRAS

Approved by all water suppliers in the UK (WRAS = Water regulations advisory scheme)

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