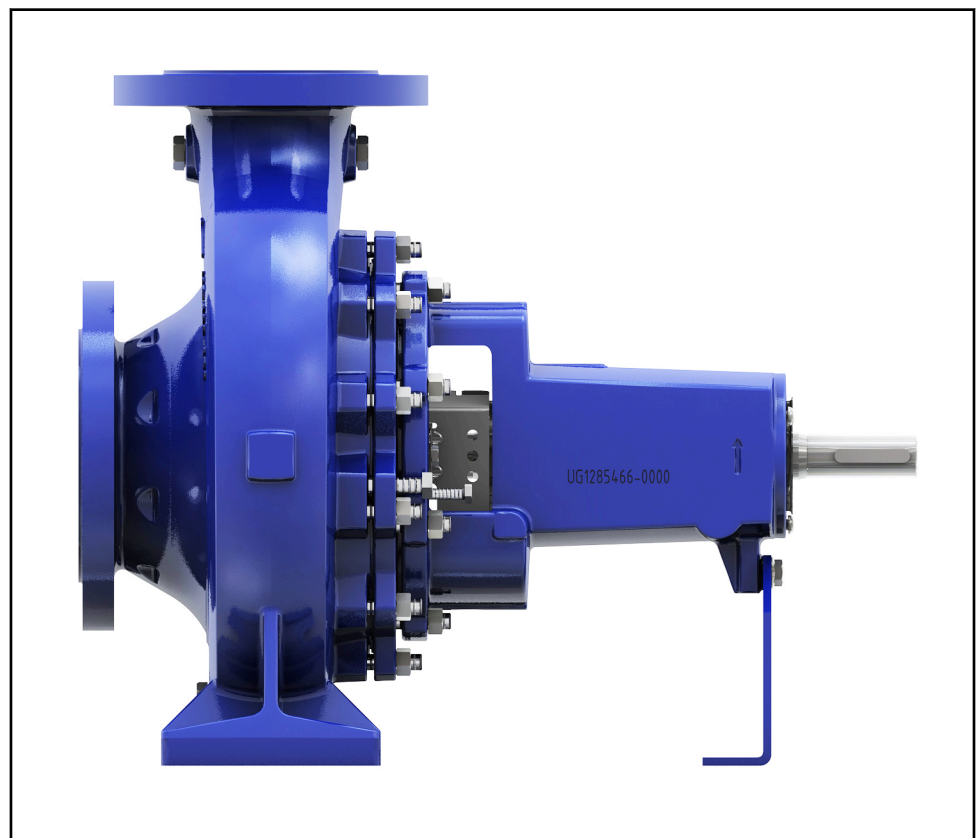


Standardised Water Pump

Etanorm

Type Series Booklet



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Type Series Booklet Etanorm

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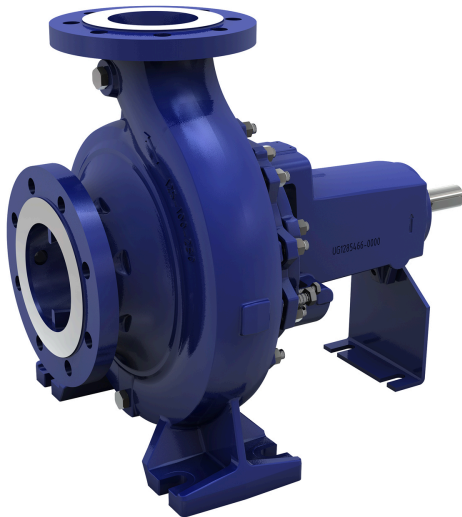
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Centrifugal Pumps with Shaft Seal

Standardised Water Pumps

Etanorm



Main applications

Pump for handling clean or aggressive fluids which are neither chemically nor 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

Operating data

Operating properties

Characteristic	Value	Value	
		50 Hz	60 Hz
Flow rate	Q m ³ /h	≤ 640	≤ 740
Head	H [m]	≤ 160	≤ 160
Fluid temperature	T [°C]	-30 to +140	
Operating pressure	p [bar]	≤ 16	

Materials per country

- A = Europe, Middle East, North Africa
 - A1 = Default material variant
 - A2 = Optional material variant
- B = India
 - B1 = Default material variant
 - B2 = Optional material variant
- C = South Africa
 - C1 = Default material variant
 - C2 = Optional material variant
- D = China
 - D1 = Default material variant
 - D2 = Optional material variant

Designation

Example: ETN 050-032-160 GBXAA10GD2 PD2E M

Designation key

Code	Description
ETN	Etanorm type series
050	Nominal suction nozzle diameter [mm]
032	Nominal discharge nozzle diameter [mm]
160	Nominal impeller diameter [mm]
G	Casing material
G	= cast iron
B	= bronze
S	= nodular cast iron
C	= stainless steel
B	Impeller material if different from casing material
G	= cast iron
C	= stainless steel
B, I	= bronze
X	Additional code
X	= special design
FX	= fire-fighting pump
A	Type of seal
A	= conical cover
C	= cylindrical cover
A	Operating mode
A	= conical cover without internal circulation
10	Shaft seal
10	= Q1 Q1 X4GG
G	Bearing bracket
G	= grease lubrication
D	Scope of supply

Code	Description
	D = pump, complete
2	Shaft unit
	2 = shaft unit 25, LS standard bearing bracket
PD2E ¹⁾	Drive type series
M ¹⁾	PumpMeter

Code	Description	Region
LR	Reinforced	A, B, C, D
PS	Bearing pedestal	C

Further information on the designation

(⇒ Page 38)

Design details

Design

- Volute casing pump
- Horizontal installation
- Back pull-out design
- Single-stage
- Dimensions and ratings to EN 733
- Requirements to 2009/125/EC Directive

Pump casing

- Radially split volute casing
- Volute casing with integrally cast pump feet²⁾
- Replaceable casing wear rings (optional for casing material C)

Impeller type

- Closed radial impeller with multiply curved vanes

Shaft seal

Shaft seal

Shaft seal design	Region
Gland packing	A, B, C
Single mechanical seals to EN 12756	A, B, C, D
Double mechanical seals to EN 12756	A, C
Shaft equipped with replaceable shaft protecting sleeve in the shaft seal area	A, B, C, D

Bearings

Bearings

Bearing design	Region
Standard bearings	A, B, C, D
– Floating bearings: deep groove ball bearings	
Reinforced bearings	A, B, C, D
– Floating bearings: deep groove ball bearings	
Bearings with bearing pedestal	C
– Floating bearings: deep groove ball bearings	

Example: WS_25_LS

Bearing bracket designation

Code	Description	Region
WS	Bearing bracket, standardised water pump	A, B, C, D
25	Size code ³⁾	A, B, C, D
LS	Standard	A, B, C, D

1) Valid only for Etanorm with automation system

2) Depending on the size, pumps with bearing pedestal have integrally cast pump feet.

3) Based on dimensions of seal chamber and shaft end

Bearings used

Standard bearings

Version	Bearing bracket	Rolling element bearings		
		Pump end	Drive end	Region
Standard bearings (grease lubrication)	WS_25_LS	6305 2Z C3	6305 2Z C3	A, B, C, D
	WS_35_LS	6307 2Z C3	6307 2Z C3	A, B, C, D
	WS_55_LS	6311 2Z C3	6311 2Z C3	A, B, C
Standard bearings (oil lubrication)	WS_25_LS	6305 C3	6305 C3	A, B, C
	WS_35_LS	6307 C3	6307 C3	A, B, C
	WS_55_LS	6311 C3	6311 C3	A, B, C
Reinforced bearings (grease lubrication)	WS_50_LR	6310 2Z C3	6310 2Z C3	A, B, C, D
	WS_60_LR	6312 2Z C3	6312 2Z C3	A, B, C
Reinforced bearings (oil lubrication)	WS_50_LR	6310 C3	6310 C3	A, B, C
	WS_60_LR	6312 C3	6312 C3	A, B, C
Standard bearing pedestal (grease lubrication)	WS_25_PS	6305 2Z C3	6305 2Z C3	C
	WS_35_PS	6307 2Z C3	6307 2Z C3	C
	WS_55_PS	6311 2Z C3	6311 2Z C3	C
Standard bearing pedestal (oil lubrication)	WS_25_PS	6305 C3	6305 C3	C
	WS_35_PS	6307 C3	6307 C3	C
	WS_55_PS	6311 C3	6311 C3	C

Lubrication

Type of lubrication	Region
Grease lubrication	A, B, C, D
Oil lubrication	A, B, C

Automation

Automation options:

Automation systems	Region
PumpMeter	A, C ⁴⁾ , D ⁴⁾
PumpDrive	A, C ⁴⁾ , D ⁴⁾

Coating and preservation

Coating and preservation

Design	Region
Coating and preservation to KSB standard	A, B, C, D

Product benefits

- Improved efficiency and $NPSH_{req}$ by experimentally verified hydraulic design of impellers (vanes)
- Low energy costs through compliance with future requirements of Commission Regulation 547/2012 (minimum efficiency index $MEI \geq 0.4$)
- Operating costs reduced by trimming the 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 for perfectly matching the pump to the fluid handled. Large range of materials for many applications available as standard.

- Extended selection chart with additional pump sizes for small flow rates
- Easy to dismantle with forcing screws provided at the interface of casing cover and bearing bracket lantern

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 $MEI \geq 0.70$.
- 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 identifier: 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 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.
- 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 $MEI = 0.7$ (0.4) for the pump based on the model shown in the Figure are available at: <http://www.europump.org/efficiencycharts>

⁴⁾ On request

Acceptance tests/warranty

Overview of acceptance tests / warranty

Acceptance tests / warranty	Region
Materials testing	
▪ Test report 2.2 on request	A, B, C, D
Final inspection	
▪ Inspection certificate 3.1 to EN 10204 on request	A, B, C, D
Hydraulic test against surcharge	
▪ The duty point of each pump with a delivery address or final destination in Europe is guaranteed in accordance with ISO 9906/2B.	A
▪ The duty point of each pump with a delivery address or final destination outside of Europe is guaranteed in accordance with ISO 9906/2B and ISO 9906/3B.	B, C, D
▪ NPSH test	A, B, C, D
Other inspections/tests on request	A, B, C, D
Warranty	
▪ Warranties are given within the scope of the valid delivery conditions.	A, B, C, D

Overview of fluids handled

Table of fluids handled and associated material combinations

X = standard

Fluid handled	Temperature [°C]	Casing/impeller materials							Shaft seal Mechanical seal							Variant code		Comments
		Grey cast iron/ grey cast iron	Grey cast iron/ tin bronze	Nodular cast iron/ grey cast iron	Tin bronze/ tin bronze	CrNiMo cast steel/ CrNiMo cast steel	RT-P	Pure graphite	U3BEGG	Q1Q1EGG	U3U3VGG	Q1Q1X4GG	BQ1EGG	Q12Q1M1GG	Gland packing ⁹⁾	Mechanical seal		
		G	GB	SG	BB	C	1	3	6	7	9	10	11	12				
Water																		
Brackish water ⁶⁾	≤ 25	-	-	-	X	-	X	-	-	-	-	X	-	-	1	10	CrNiMo cast steel can be used.	
Fire-fighting water ⁷⁾	≤ 60	-	X	-	-	-	X	-	-	-	-	X	-	-	1	10	Contact KSB for supply to VdS guideline.	
Heating water ⁸⁾	≤ 110	X	-	-	-	-	X	-	-	-	-	X	-	-	1	11	If used as a circulating pump to DIN 4752; p max. ≤ 10 bar. If ductile material has been specified: "S"	
Heating water	≤ 140	X	-	-	-	-	-	X	X	-	-	-	-	-	3	6		
Heating water	≥ 110	X	-	-	-	-	X	-	-	-	-	X	-	-	1	10		
Condensate	≤ 110	X	-	-	-	-	X	-	-	-	-	X	-	-	1	11		
Condensate, not conditioned	≤ 110	-	-	-	-	X	X	-	-	-	-	X	-	-	1	11		
Cooling water (without antifreeze)	≤ 60	X	-	-	-	-	X	-	-	-	-	X	-	-	1	10	Open loop: use GB 1 / GB 10	
Cooling water pH ≥ 7.5 (with antifreeze ⁹⁾)	≥ 30	X	-	-	-	-	X	-	-	-	-	X	-	-	1	11	Open loop: use GB	
Cooling water pH ≥ 7.5 (with antifreeze ⁹⁾)	≤ 60	X	-	-	-	-	X	-	-	X	-	-	-	-	1	7	Open loop: use GB	
Cooling water pH ≥ 7.5 (with antifreeze ⁹⁾)	≥ 60	X	-	-	-	-	X	-	-	X	-	-	-	-	1	7		
Cooling water pH ≥ 7.5 (with antifreeze ⁹⁾)	≤ 110	X	-	-	-	-	X	-	-	X	-	-	-	-	1	7		
Slightly contaminated water	≤ 60	X	-	-	-	-	X	-	-	-	-	X	-	-	1	10		
Seawater	≤ 25	-	-	-	X	-	X	-	-	-	-	X	-	-	1	10	CrNiMo cast steel can be used.	
Pure water ¹⁰⁾	≤ 60	X	-	-	-	-	X	-	-	-	-	X	-	-	1	11		
Raw water	≤ 60	X	-	-	-	-	X	-	-	-	-	X	-	-	1	10		
Swimming pool water (fresh water)	≤ 60	X	-	-	-	-	X	-	-	-	-	X	-	-	1	10	Also applies to requirements as per DIN 19643	
Swimming pool water ¹¹⁾ : filtration	≤ 40	-	X	-	-	-	-	-	-	-	-	X	-	-	1	10	Variant GB Shaft C45+N, shaft sleeve CrNiMo steel, nut A4/AISI 316, key A2, casing wear ring (suction and discharge side) grey cast iron JL 1040/ CI	
Swimming pool water ¹¹⁾ : water features; without turbulences and/or air content	≤ 40	-	X	-	-	-	-	-	-	-	-	X	-	-	1	10	Variant GB Shaft C45+N, shaft sleeve CrNiMo steel, nut A4/ AISI 316, key A2, casing wear ring (suction and discharge side) CC495K-GS	
Swimming pool water ¹¹⁾ : water features; with turbulences and/or air content	≤ 40	-	-	-	X	-	-	-	-	-	-	X	-	-	1	10	Variant B Shaft 1.4571, shaft sleeve CrNiMo steel, nut A4/ AISI 316, key A2, casing wear ring (suction and discharge side) CC495K-GS	
Swimming pool water (seawater)	≤ 40	-	-	-	X	-	X	-	-	-	-	X	-	-	1	10	CrNiMo cast steel for t ≤ 25 °C	
Dam water	≤ 60	-	X	-	-	-	X	-	-	-	-	X	-	-	1	10	If solids are contained, contact KSB.	
Drinking water ¹²⁾	≤ 60	-	X	-	-	-	X	-	-	-	-	X	-	-	1	11		
Partly desalinated water	≤ 110	X	-	-	-	-	X	-	-	-	-	X	-	-	1	11		
Fully desalinated water	≤ 110	-	-	-	-	X	X	-	-	-	-	X	-	-	1	11	Purity requirements cannot be met.	
Fully desalinated water as boiler feed water	≤ 110	X	-	-	-	-	X	-	-	-	-	X	-	-	1	11		
Refrigerants, cooling brines																		
Cooling brine; inorganic, pH value > 7.5, inhibited	≥ 30	X	-	-	-	-	X	-	-	-	-	X	-	-	1	11		
Cooling brine; inorganic, pH value > 7.5, inhibited	≤ 25	X	-	-	-	-	X	-	-	-	-	X	-	-	1	11		
Water with antifreeze, pH value ≥ 7.5	≥ 30	X	-	-	-	-	X	-	-	-	-	X	-	-	1	11		
Water with antifreeze, pH value ≥ 7.5	≤ 60	X	-	-	-	-	X	-	-	X	-	-	-	-	1	7		
Water with antifreeze, pH value ≥ 7.5	≥ 60	X	-	-	-	-	X	-	-	X	-	-	-	-	1	7		
Water with antifreeze, pH value ≥ 7.5	≤ 110	X	-	-	-	-	X	-	-	X	-	-	-	-	1	7		
Oils/emulsions																		
Diesel oil, extra light fuel oil	≤ 60	-	-	X	-	-	-	-	-	-	-	X	-	-	-	10	GG possible, unless specific standards have to be observed	
Lubricating oil, turbine oil, does not apply to SF-D oils (hardly flammable)	≤ 80	-	-	X	-	-	-	-	-	-	-	X	-	-	-	10	If specified "without internal primer" contact KSB. GG possible, unless specific standards have to be observed	
Drilling/grinding emulsion	≤ 60	X	-	-	-	-	-	-	-	X	-	-	-	-	1	9		
Oil-water emulsion	≤ 60	X	-	-	-	-	-	-	-	X	-	-	-	-	1	9		
Brewery applications																		

5) Na: p1 ≤ 0,5 bar; Nb: p1 > 0,5 bar
6) For components made of bronze: ammonia (NH3) ≤ 5 mg/kg, free from hydrogen sulphide (H2S); no limitation of Cl content required in this case. Please contact KSB if limits are exceeded.
7) General evaluation criteria for results of water analysis: pH value ≥ 7; chlorides content (Cl) ≤ 250 mg/kg. Chlorine (Cl2) ≤ 0.6 mg/kg.
8) Treatment to VdTUV 1466; additional requirement: O2 < 0.02 mg/l
9) Antifreeze on ethylene glycol basis with inhibitors. Content: > 20 % to 50 % (e.g. Antifrogen N)
10) No ultra-pure water! Conductivity at 25 °C: ≤ 800 µS/cm, neutral with regard to chemical corrosion
11) For France, observe the applicable rules as per ministerial order dated 18 January 2002.
12) For France, ACS approval is required.

Fluid handled	Temperature [°C]	Casing/impeller materials										Shaft seal Mechanical seal						Variant code	Comments
		Grey cast iron/ grey cast iron	Grey cast iron/ tin bronze	Nodular cast iron/ grey cast iron	Tin bronze/ tin bronze	CrNiMo cast steel/ CrNiMo cast steel	RT-P	Pure graphite	U3BEGG	Q1Q1EGG	U3U3VGG	Q1Q1X4GG	BQ1EGG	Q12Q1M1GG	Gland packing ⁵⁾	Mechanical seal			
		G	GB	SG	BB	C	1	3	6	7	9	10	11	12					
Beer mash	≤ 100	X	-	-	-	-	-	-	-	-	-	-	-	X	-	12	If there is a risk of the pump running dry due to excessive emptying of the tank, an Etanorm with double seal in tandem arrangement must be used.		
Beer wort	≤ 100	X	-	-	-	-	-	-	-	-	-	-	-	X	-	12			

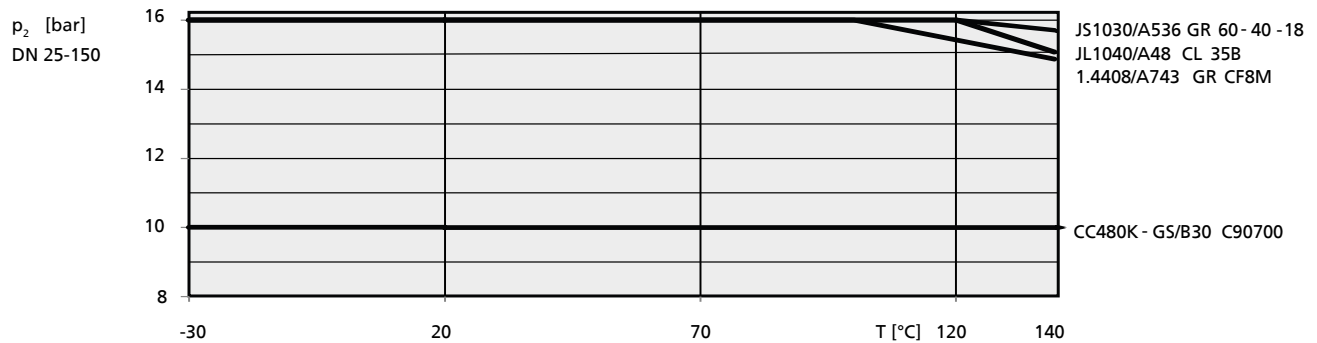
Pressure and temperature limits

Pressure and temperature limits of the pump

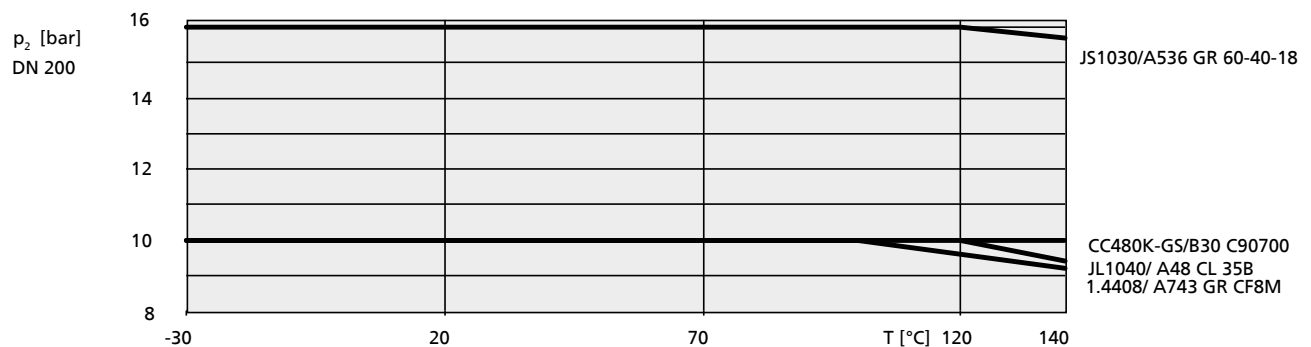
Pressure and temperature limits of the pump

Material variant	Fluid temperature ¹³⁾¹⁴⁾	Discharge pressure p ₂	Test pressure ¹⁵⁾	Region
G	-30 °C to +140 °C	16 bar	Up to 21 bar	A, B, C, D
GB, GC	-30 °C to +140 °C	16 bar	Up to 21 bar	A, B, C, D
GI	-30 °C to +140 °C	16 bar	Up to 21 bar	B
S, SB, SC	-30 °C to +140 °C	16 bar	Up to 25 bar	A
B	-30 °C to +140 °C	10 bar	Up to 13 bar	A
C	-30 °C to +140 °C	16 bar	Up to 21 bar	A, B, C, D

Pressure and temperature limits of pump with flanges to EN 1092-1, 1092-2 and 1092-3



Pump pressure and temperature limits DN 25 - DN 150



Pump pressure and temperature limits DN 200

5) Na: p₁ ≤ 0,5 bar; Nb: p₁ > 0,5 bar

13) For hot water heating systems to DIN 4752, Section 4.5, application limits must be observed.

14) For fluid temperatures >140 °C use Etanorm SYT.

15) The casing components are checked for leakage by means of internal pressure tests to AN 1897/75-03D00 with water.

Materials

Overview of available materials for Europe

Part No.	Description		Material variant								
			G	GB	GC	GI	B	S	SB	SC	C
102	Volute casing	Grey cast iron EN-GJL-250/ A 48 CL 35B	A1	A1	A1	-	-	-	-	-	-
		Bronze CC480K-GS/ B30 C90700	-	-	-	-	A1	-	-	-	-
		Nodular cast iron EN-GJS-400-15/ A536 GR 60-40-18	-	-	-	-	-	A1	A1	A1	-
		Stainless steel 1.4408/ A743 Gr CF8 M	-	-	-	-	-	-	-	-	A1
161	Casing cover, conical	Grey cast iron EN-GJL-250/ A 48 CL 35B	A1	A1	A1	-	-	-	-	-	-
		Bronze CC480K-GS/ B30 C90700	-	-	-	-	A1	-	-	-	-
		Nodular cast iron EN-GJS-400-15/ A536 GR 60-40-18	-	-	-	-	-	A1	A1	A1	-
		Stainless steel 1.4408/ A743 Gr CF8 M	-	-	-	-	-	-	-	-	A1
161	Casing cover, cylindrical	Grey cast iron EN-GJL-250/ A 48 CL 35B	A2	A2	A2	-	-	-	-	-	-
		Stainless steel 1.4408/ A743 Gr CF8 M	-	-	-	-	-	-	-	-	A2
		Bronze CC480K-GS/ B30 C90700	-	-	-	-	A2	-	-	-	-
210	Shaft	Tempered steel C45+N	A1	A1	A1	-	-	A1	A1	A1	-
		Chrome steel 1.4057+QT800	A2	A2	A2	-	-	A2	A2	A2	-
		Duplex stainless steel 1.4462/ UNS S31803	A2	A2	A2	-	A1	A2	A2	A2	A1
230	Impeller	Grey cast iron EN-GJL-250/ A 48 CL 35B	A1	-	-	-	-	A1	-	-	-
		Bronze CC480K-GS/ B30 C90700	-	A1	-	-	A1	-	A1	-	-
		Stainless steel 1.4408/ A743 Gr CF8 M	-	-	A1	-	-	-	-	A1	A1
330	Bearing bracket	Grey cast iron EN-GJL-250/ A 48 CL 35B	A1	A1	A1	-	A1	A1	A1	A1	
400	Sealing elements	DPAF, asbestos-free	A1	A1	A1	-	A1	A1	A1	A1	
502.01	Casing wear ring, suction side	Grey cast iron EN-GJL-250/ CI	A1	A1	A1	-	-	A1	A1	A1	-
		Stainless steel (CrNiMoST) ¹⁶⁾	A2	-	A2	-	-	-	-	-	A2
		Bronze CC495K-GS	-	A2	-	-	A1	-	A2	-	-
502.02	Casing wear ring, discharge side	Grey cast iron EN-GJL-250/ CI ¹⁶⁾	A1	A1	A1	-	-	A1	A1	A1	-
		Stainless steel (CrNiMoST)	A2	-	A2	-	-	-	-	-	A2
		Bronze CC495K-GS ¹⁶⁾	-	A2	-	-	A1	-	A2	-	-
523	Shaft sleeve ¹⁷⁾	Stainless steel (CrNiMoST)	A1	A1	A1	-	A1	A1	A1	A1	
524	Shaft protecting sleeve ¹⁸⁾	Stainless steel (CrNiMoST) ¹⁶⁾	-	-	-	-	A1	-	-	-	A1
902	Studs	Steel 8.8	A1	A1	A1	-	-	A1	A1	A1	-
		A4-70/ A193 Gr B8M CL2	A2	A2	A2	-	A1	A2	A2	A2	A1
903	Plug	Steel	A1	A1	A1	-	-	A1	A1	A1	-
		CC 493K-GS	-	-	-	-	A1	-	-	-	-
		A4/ AISI 316	A2	A2	A2	-	-	A2	A2	A2	A1
920	Nut	8+A2A/ 8+B633 SC1 TP3	A1	A1	A1	-	-	A1	A1	A1	-
		A4/ AISI 316	A2	A2	A2	-	A1	A2	A2	A2	A1
920.95	Impeller nut	A4/ AISI 316	A2	A1	A1	-	A1	A2	A1	A1	A1
		Steel 8	A1	-	-	-	-	A1	-	-	-

Overview of materials available for India

Part No.	Description		Material variant								
			G	GB	GC	GI	B	S	SB	SC	C
102	Volute casing	Grey cast iron JL1040 / A 48 CL 35B	B1	B1	B1	B1	-	-	-	-	-
230	Impeller	Grey cast iron JL1040 / A 48 CL 35B	B1	-	-	-	-	-	-	-	-
		Bronze CC480K-GS/ B30 C90700	-	B1	-	-	-	-	-	-	-
		Bronze IS318 LTB2	-	-	-	B1	-	-	-	-	-

¹⁶⁾ Material group CRNIMO ST (WSZ 7605). Possible materials: 1.4401, 1.4404; 1.4408; 1.4571; AISI 316; AISI 316Ti; A743 GR CF8M; A479 TYPE 316L

¹⁷⁾ For pump sets with mechanical seal

¹⁸⁾ Pump sets with gland packing

Part No.	Description		Material variant								
			G	GB	GC	GI	B	S	SB	SC	C
		Stainless steel 1.4408 / A743 Gr CF8 M	-	-	B1	-	-	-	-	-	-
161	Casing cover, conical	Grey cast iron JL 1040 / A 48 CL 35B	B2	B2	B2	B2	-	-	-	-	-
161	Casing cover, cylindrical	Grey cast iron JL 1040 / A 48 CL 35B	B1	B1	B1	B1	-	-	-	-	-
210	Shaft	IS 5517 45C8	B1	B1	B1	B1	-	-	-	-	-
		A276 TP 410 COND H	B2	B2	B2	B2	-	-	-	-	-
502.01	Casing wear ring, suction side	Grey cast iron JL 1040 / A 48 CL 35B	B1	-	-	-	-	-	-	-	-
		Bronze IS318 LTB4	-	B1	-	B1	-	-	-	-	-
		Stainless steel (CrNiMoST) ¹⁹⁾	-	-	B1	-	-	-	-	-	-
502.02	Casing wear ring, discharge side	Grey cast iron JL 1040 / A 48 CL 35B	B1	-	-	-	-	-	-	-	-
		Bronze IS318 LTB4	-	B1	-	B1	-	-	-	-	-
		Stainless steel (CrNiMoST) ¹⁹⁾	-	-	B1	-	-	-	-	-	-
523	Shaft sleeve ¹⁷⁾	Stainless steel (CrNiMoST) ¹⁹⁾	B1	B1	B1	B1	-	-	-	-	-
524	Shaft protecting sleeve ¹⁸⁾	A276 TP 410 COND H	B1	B1	B1	B1	-	-	-	-	-
920.95	Impeller nut	A4/ AISI 316	B1	B1	B1	B1	-	-	-	-	-
330	Bearing bracket	Grey cast iron JL1040 / A 48 CL 35B	B1	B1	B1	B1	-	-	-	-	-
400	Sealing elements	DPAF, asbestos-free	B1	B1	B1	B1	-	-	-	-	-
		CrNi steel / carbon CrNi graphite 1F	B2	B2	B2	B2	-	-	-	-	-
902	Studs	Steel 8.8	B1	B1	B1	B1	-	-	-	-	-
920	Nut	8+A2A/ 8+B633 SC1 TP3	B1	B1	B1	B1	-	-	-	-	-
903	Plug	Steel	B1	B1	B1	B1	-	-	-	-	-

Overview of materials available for South Africa

Part No.	Description		Material variant								
			G	GB	GC	GI	B	S	SB	SC	C
102	Volute casing	Grey cast iron JL1040 / A 48 CL 35B	C1	C1	C1	-	-	-	-	-	-
		Stainless steel 1.4408 / A743 Gr CF8 M	-	-	-	-	-	-	-	-	C1
161	Casing cover, conical	Grey cast iron JL1040 / A 48 CL 35B	C1	C1	C1	-	-	-	-	-	-
		Stainless steel 1.4408/ A743 Gr CF8 M	-	-	-	-	-	-	-	-	C1
161	Casing cover, cylindrical	Grey cast iron JL1040 / A 48 CL 35B	C1	C1	C1	-	-	-	-	-	-
		Stainless steel 1.4408/ A743 Gr CF8 M	-	-	-	-	-	-	-	-	C1
210	Shaft	Tempered steel C45+N	C1	C1	C1	-	-	-	-	-	-
		A276 Type 316	C2	C2	C2	-	-	-	-	-	C1
		Chrome steel 1.4057+QT800	C2	C2	C2	-	-	-	-	-	-
230	Impeller	Grey cast iron JL1040 / A 48 CL 35B	C1	-	-	-	-	-	-	-	-
		Bronze CC480K-GS/ B30 C90700	-	C1	-	-	-	-	-	-	-
		Stainless steel 1.4408 / A743 Gr CF8 M	-	-	C1	-	-	-	-	-	C1
330	Bearing bracket	Grey cast iron JL1040 / A 48 CL 35B	C1	C1	C1	-	-	-	-	-	C1
331	Bearing pedestal	Grey cast iron JL1040 / A 48 CL 35B	C1	C1	C1	-	-	-	-	-	-
400	Sealing elements	KLINGERSIL C4243	C1	C1	C1	-	-	-	-	-	C1
502.01	Casing wear ring, suction side	Grey cast iron JL1040 / A 48 CL 35B	C1	C1	C1	-	-	-	-	-	-
		Stainless steel (CrNiMoST)	-	-	C2	-	-	-	-	-	C2
		Bronze CC495K-GS	-	C2	-	-	-	-	-	-	-
502.02	Casing wear ring, discharge side	Grey cast iron JL1040 / A 48 CL 35B	C1	C1	C1	-	-	-	-	-	-
		Stainless steel (CrNiMoST)	-	-	C2	-	-	-	-	-	C2
		Bronze CC495K-GS	-	C2	-	-	-	-	-	-	-
523	Shaft sleeve ¹⁷⁾	Stainless steel (CrNiMoST)	C1	C1	C1	-	-	-	-	-	C1
524	Shaft protecting sleeve ¹⁸⁾	Stainless steel (CrNiMoST)	-	-	-	-	-	-	-	-	C1
		Chrome steel 1.4122HV500+80	C1	C1	C1	-	-	-	-	-	-
902	Studs	Steel 8.8	C1	C1	C1	-	-	-	-	-	-
		A4-70/A193 GR B8M CL2	C2	C2	C2	-	-	-	-	-	C1
903	Plug	Steel	C1	C1	C1	-	-	-	-	-	-
		A4/AISI 316	C2	C2	C2	-	-	-	-	-	C1
920	Nut	8+A2A/ 8+B633 SC1 TP3	C1	C1	C1	-	-	-	-	-	-

¹⁹⁾ Material group CRNIMO ST (WSZ 7605). Possible materials: 1.4401, 1.4404; 1.4408, 1.4571, AISI 316, AISI 316TI, A743 GR CF8M, A479 TYPE 316L

Part No.	Description		Material variant									
			G	GB	GC	GI	B	S	SB	SC	C	
920.95	Impeller nut	A4/AISI 316	C2	C2	C2	-	-	-	-	-	-	C1
		A4/ AISI 316	C2	C1	C1	-	-	-	-	-	-	C1
		Steel 8	C1	-	-	-	-	-	-	-	-	-

Overview of available materials for China

Part No.	Description		Material variant									
			G	GB	GC	GI	B	S	SB	SC	C	
102	Volute casing	Grey cast iron JL1040 / A 48 CL 35B	D1	D1	D1	-	-	-	-	-	-	-
		Stainless steel 1.4408 / A743 Gr CF8 M	-	-	-	-	-	-	-	-	-	D1
161	Casing cover, conical	Grey cast iron JL1040 / A 48 CL 35B	D1	D1	D1	-	-	-	-	-	-	-
		Stainless steel 1.4408/ A743 Gr CF8 M	-	-	-	-	-	-	-	-	-	D1
210	Shaft	Tempered steel C45+N	D1	D1	D1	-	-	-	-	-	-	-
		Duplex stainless steel 1.4462/ UNS S31803	D2	D2	D2	-	-	-	-	-	-	D1
230	Impeller	Grey cast iron JL1040 / A 48 CL 35B	D1	-	-	-	-	-	-	-	-	-
		Stainless steel 1.4408 / A743 Gr CF8 M	-	-	D1	-	-	-	-	-	-	D1
330	Bearing bracket	Grey cast iron JL1040 / A 48 CL 35B	D1	D1	D1	-	-	-	-	-	-	D1
400	Sealing elements	DPAF, asbestos-free	D1	D1	D1	-	-	-	-	-	-	D1
502.01	Casing wear ring, suction side	Grey cast iron JL1040 / A 48 CL 35B	D1	D1	D1	-	-	-	-	-	-	-
		Stainless steel (CrNiMoST)	D2	D2	D2	-	-	-	-	-	-	D2
502.02	Casing wear ring, discharge side	Grey cast iron JL1040 / A 48 CL 35B	D1	D1	D1	-	-	-	-	-	-	-
		Stainless steel (CrNiMoST)	D2	D2	D2	-	-	-	-	-	-	D2
523	Shaft sleeve ¹⁷⁾	Stainless steel (CrNiMoST)	D1	D1	D1	-	-	-	-	-	-	D1
902	Studs	Steel 8.8	D1	D1	D1	-	-	-	-	-	-	-
		A4-70/A193 GR B8M CL2	D2	D2	D2	-	-	-	-	-	-	D1
903	Plug	Steel	D1	D1	D1	-	-	-	-	-	-	-
		A4/ AISI 316	D2	D2	D2	-	-	-	-	-	-	D1
920	Nut	8+A2A/ 8+B633 SC1 TP3	D1	D1	D1	-	-	-	-	-	-	-
		A4/ AISI 316	D2	D2	D2	-	-	-	-	-	-	D1
920.95	Impeller nut	A4/ AISI 316	D2	D2	D1	-	-	-	-	-	-	D1
		Steel 8	D1	D1	-	-	-	-	-	-	-	-

Availability of pump sizes per material variant

Available material variants

Size	G	GB	GC	GI	B	S	SB	SC	C
040-025-160	X	X	X	X	-	X	X	X	X
040-025-200	X	X	X	X	-	X	X	X	X
050-032-125.1	X	X	X	X	X	X	X	X	X
050-032-160.1	X	X	X	X	X	X	X	X	X
050-032-200.1	X	X	X	X	X	X	X	X	X
050-032-250.1	X	X	X	X	-	-	-	-	X
050-032-125	X	X	X	X	-	-	-	-	X
050-032-160	X	X	X	X	X	X	X	X	X
050-032-200	X	X	X	X	X	X	X	X	X
050-032-250	X	X	X	X	-	X	X	X	X
065-040-125	X	X	X	X	-	-	-	-	X
065-040-160	X	X	X	X	X	X	X	X	X
065-040-200	X	X	X	X	X	X	X	X	X
065-040-250	X	X	X	X	X	X	X	X	X
065-040-315	X	X	X	X	-	X	X	X	X
065-050-125	X	X	X	X	-	-	-	-	X
065-050-160	X	X	X	X	X	X	X	X	X
065-050-200	X	X	X	X	X	X	X	X	X
065-050-250	X	X	X	X	X	X	X	X	X
065-050-315	X	X	X	X	-	X	X	X	X
080-065-125	X	X	X	X	-	-	-	-	X
080-065-160	X	X	X	X	X	X	X	X	X
080-065-200	X	X	X	X	X	X	X	X	X
080-065-250	X	X	X	X	X	X	X	X	X
080-065-315	X	X	X	X	-	X	X	X	X
100-080-160	X	X	X	X	X	X	X	X	X
100-080-200	X	X	X	X	X	X	X	X	X
100-080-250	X	X	X	X	X	X	X	X	X
100-080-315	X	X	X	X	-	X	X	X	X
100-080-400	X	X	X	X	-	-	-	-	X
125-100-160	X	X	X	X	X	X	X	X	X
125-100-200	X	X	X	X	X	X	X	X	X
125-100-250	X	X	X	X	X	X	X	X	X
125-100-315	X	X	X	X	X	X	X	X	X
125-100-400	X	X	X	X	-	-	-	-	X
150-125-200	X	X	X	X	X	X	X	X	X
150-125-250	X	X	X	X	X	X	X	X	X
150-125-315	X	X	X	X	X	X	X	X	X
150-125-400	X	X	X	X	-	X	X	X	X
200-150-200	X	X	X	X	-	-	-	-	X
200-150-250	X	X	X	X	X	-	-	-	X
200-150-315	X	X	X	X	X	X	X	X	X
200-150-400	X	X	X	X	X	X	X	X	X

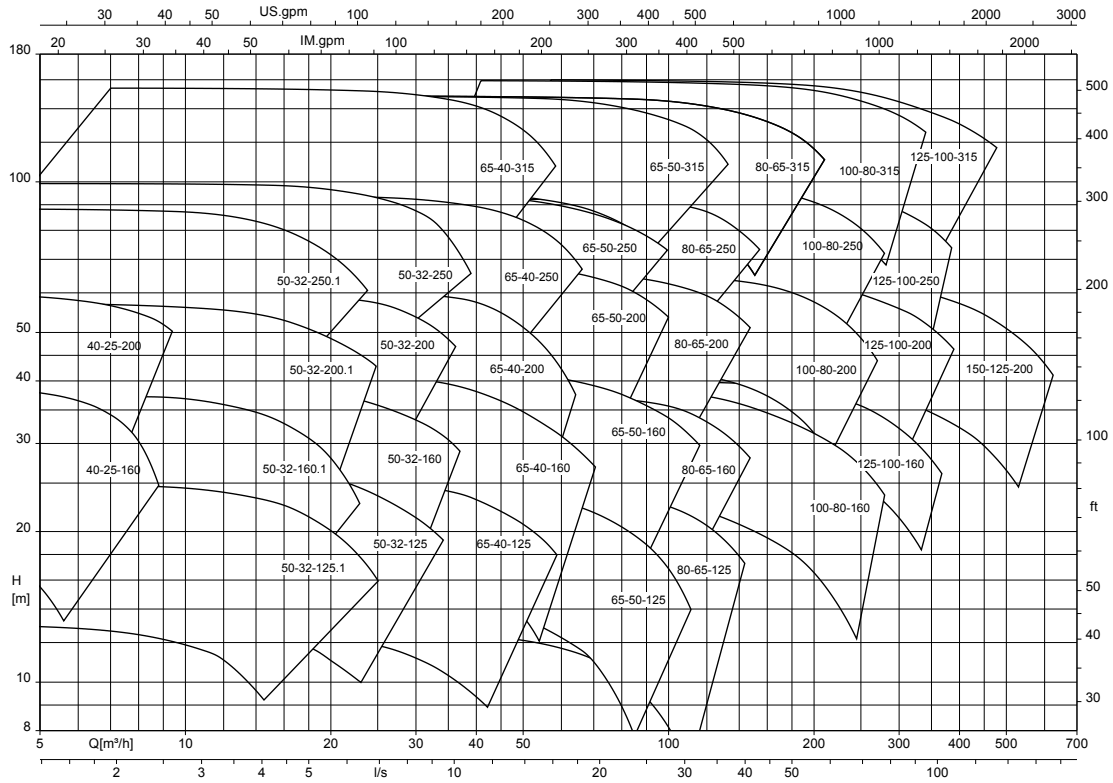
Technical data

Technical data

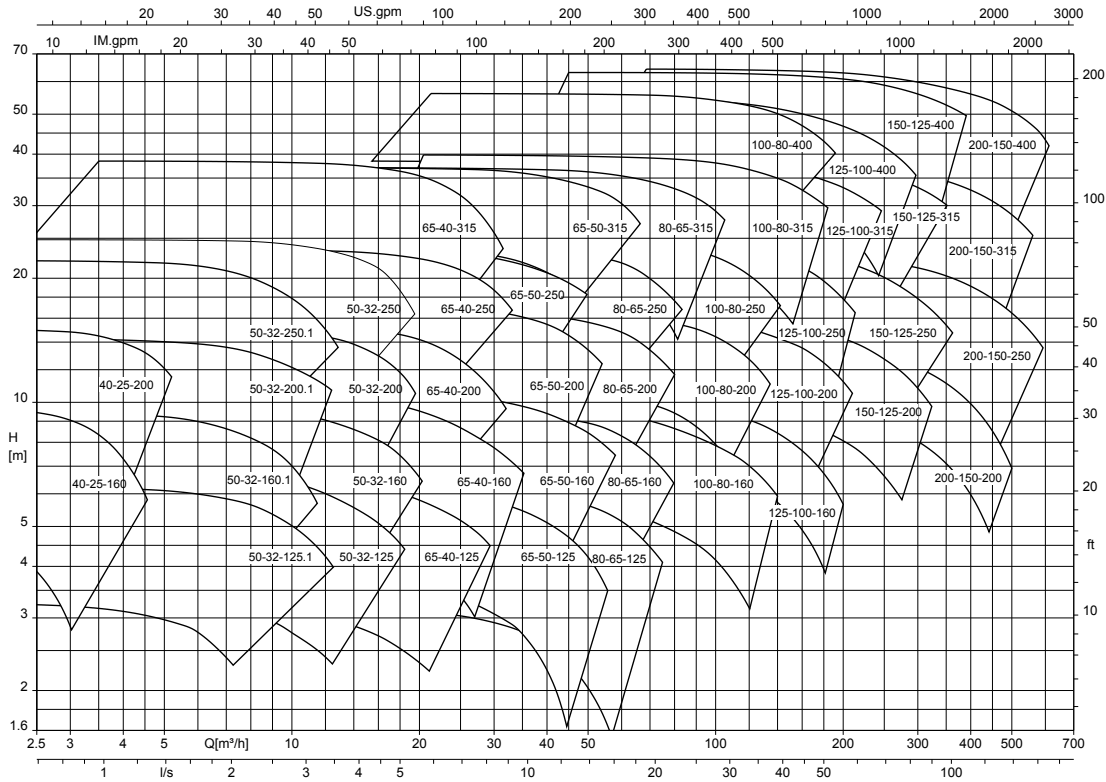
Sizes	Bearing bracket			Impeller					Speed limit	
	LS	LR	PS	Impeller outlet width	Free passage diameter	Impeller inlet diameter	Impeller diameter		Maximum	Minimum
							Maximum	Minimum		
	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[rpm]	[rpm]		
040-025-160	WS_25_LS	-	WS_25_PS	6,0	5,7	44,0	169	130	3500	500
040-025-200	WS_25_LS	-	WS_25_PS	6,0	5,7	44,0	209	160	3500	500
050-032-125.1	WS_25_LS	-	WS_25_PS	6,0	6,0	52,0	139	104	4300	500
050-032-160.1	WS_25_LS	-	WS_25_PS	10,0	5,4	63,0	170	136	4400	500
050-032-200.1	WS_25_LS	-	WS_25_PS	7,0	5,3	62,0	204	170	3800	500
050-032-250.1	WS_25_LS	-	WS_25_PS	13,0	5,2	70,0	254	200	3000	500
050-032-125	WS_25_LS	-	WS_25_PS	7,0	5,7	52,0	139	104	4200	500
050-032-160	WS_25_LS	-	WS_25_PS	6,0	5,8	54,0	174	136	3500	500
050-032-200	WS_25_LS	-	WS_25_PS	9,0	6,7	63,0	209	170	3700	500
050-032-250	WS_25_LS	-	WS_25_PS	14,0	7,1	74,0	261	209	3000	500
065-040-125	WS_25_LS	-	WS_25_PS	9,0	9,6	69,0	139	104	4000	500
065-040-160	WS_25_LS	-	WS_25_PS	20,0	11,5	88,0	174	128	4400	500
065-040-200	WS_25_LS	-	WS_25_PS	17,0	8,9	87,0	209	165	3700	500
065-040-250	WS_25_LS	-	WS_25_PS	14,0	8,0	83,0	260	200	3000	500
065-040-315	WS_35_LS	-	WS_35_PS	26,0	7,1	99,0	326	260	2300	500
065-040-315	-	WS_50_LR	-	26,0	7,1	99,0	326	260	3000	500
065-050-125	WS_25_LS	-	WS_25_PS	6,0	11,6	58,0	142	112	4500	500
065-050-160	WS_25_LS	-	WS_25_PS	8,0	11,6	63,0	174	128	4400	500
065-050-200	WS_25_LS	-	WS_25_PS	8,0	11,9	73,0	219	170	3400	500
065-050-250	WS_25_LS	-	WS_25_PS	8,0	10,0	75,0	260	215	3000	500
065-050-315	WS_35_LS	-	WS_35_PS	11,0	9,5	84,0	323	265	2400	500
065-050-315	-	WS_50_LR	-	11,0	9,5	84,0	323	265	3000	500
080-065-125	WS_25_LS	-	WS_25_PS	10,0	12,9	86,0	141	130	4000	500
080-065-160	WS_25_LS	-	WS_25_PS	21,0	12,2	92,0	174	132	3900	500
080-065-200	WS_25_LS	-	WS_25_PS	17,0	13,3	100	219	175	3000	500
080-065-250	WS_35_LS	-	WS_35_PS	15,0	14,3	101	260	215	3000	500
080-065-315	WS_35_LS	-	WS_35_PS	32,0	14,0	124	320	260	2400	500
080-065-315	-	WS_60_LR	-	32,0	14,0	124	320	260	3000	500
100-080-160	WS_25_LS	-	WS_25_PS	25,0	15,1	115	174	154	3500	500
100-080-200	WS_35_LS	-	WS_35_PS	19,0	15,2	115	219	180	3500	500
100-080-250	WS_35_LS	-	WS_35_PS	38,0	15,8	135	269	215	2900	500
100-080-315	WS_35_LS	-	WS_35_PS	33,0	17,8	142	334	269	1900	500
100-080-315	-	WS_60_LR	-	33,0	17,8	142	334	269	3000	500
100-080-400	WS_55_LS	-	WS_55_PS	14,0	14,3	107	398	330	1900	500
125-100-160	WS_35_LS	-	WS_35_PS	19,0	16,4	115	185	177	3600	500
125-100-200	WS_35_LS	-	WS_35_PS	15,0	17,9	129	219	179	3300	500
125-100-250	WS_35_LS	-	WS_35_PS	27,0	18,8	145	269	210	2500	500
125-100-315	WS_35_LS	-	WS_35_PS	23,0	19,9	142	334	270	1800	500
125-100-315	-	WS_60_LR	-	23,0	19,9	142	334	270	3000	500
125-100-400	WS_55_LS	-	WS_55_PS	18,0	17,1	142	401	329	1900	500
150-125-200	WS_35_LS	-	WS_35_PS	41,0	21,1	160	224	205	2600	500
150-125-250	WS_35_LS	-	WS_35_PS	37,0	22,4	162	269	218	2000	500
150-125-315	WS_55_LS	-	WS_55_PS	31,0	22,6	162	334	270	2300	500
150-125-400	WS_55_LS	-	WS_55_PS	26,0	20,9	162	419	330	1800	500
200-150-200	WS_35_LS	-	WS_35_PS	60,0	25,2	179	224	215	2300	500
200-150-250	WS_35_LS	-	WS_35_PS	49,0	23,0	191	269	220	1800	500
200-150-315	WS_55_LS	-	WS_55_PS	40,0	26,9	192	334	264	2100	500
200-150-400	WS_55_LS	-	WS_55_PS	33,0	23,8	191	419	330	1800	500

Selection charts

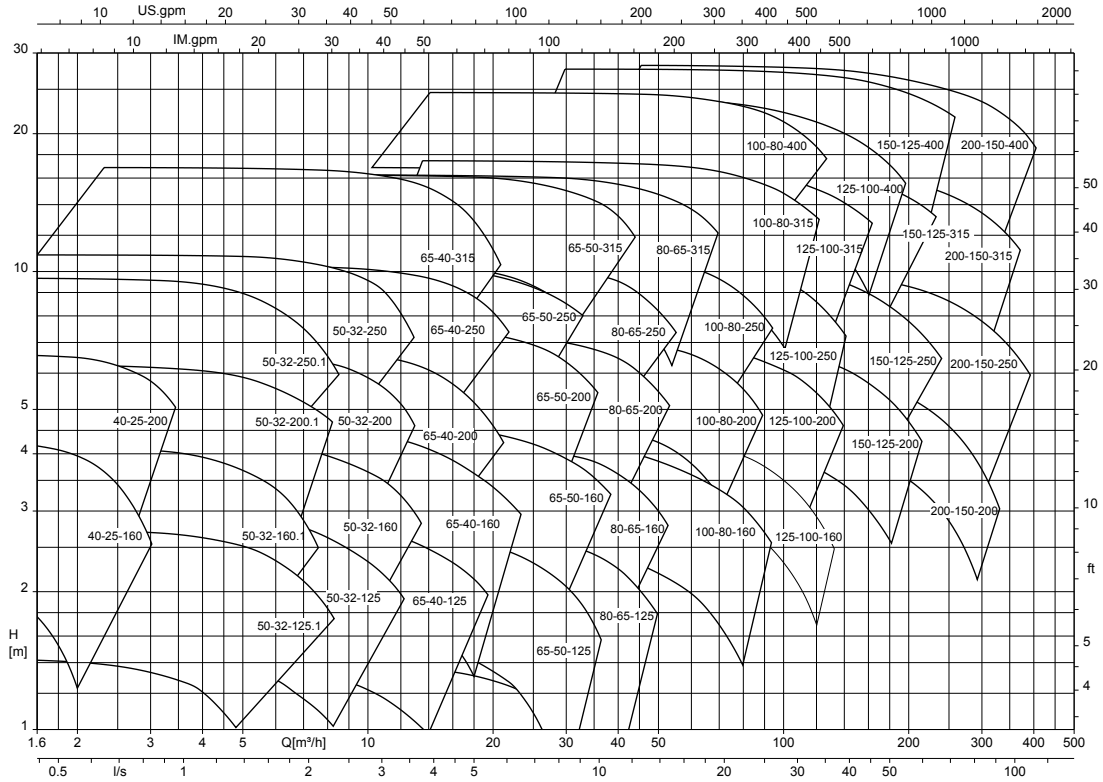
Etanorm, n = 2900 rpm



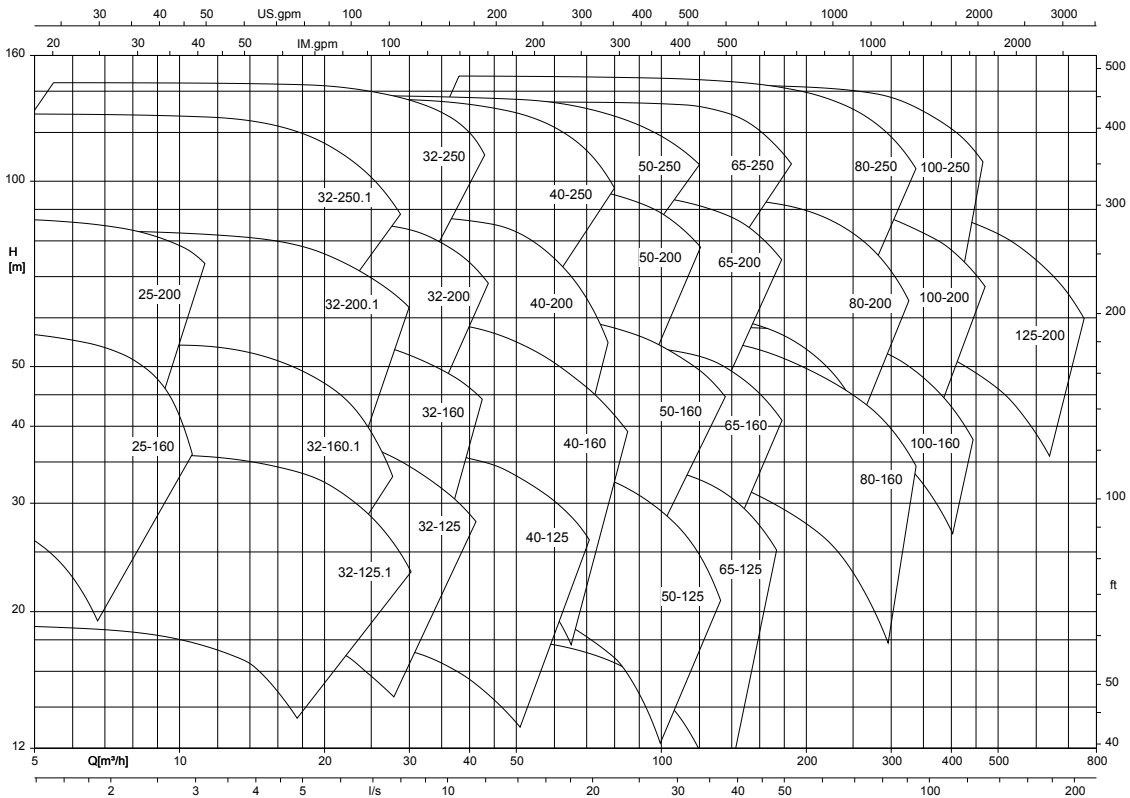
Etanorm, n = 1450 rpm



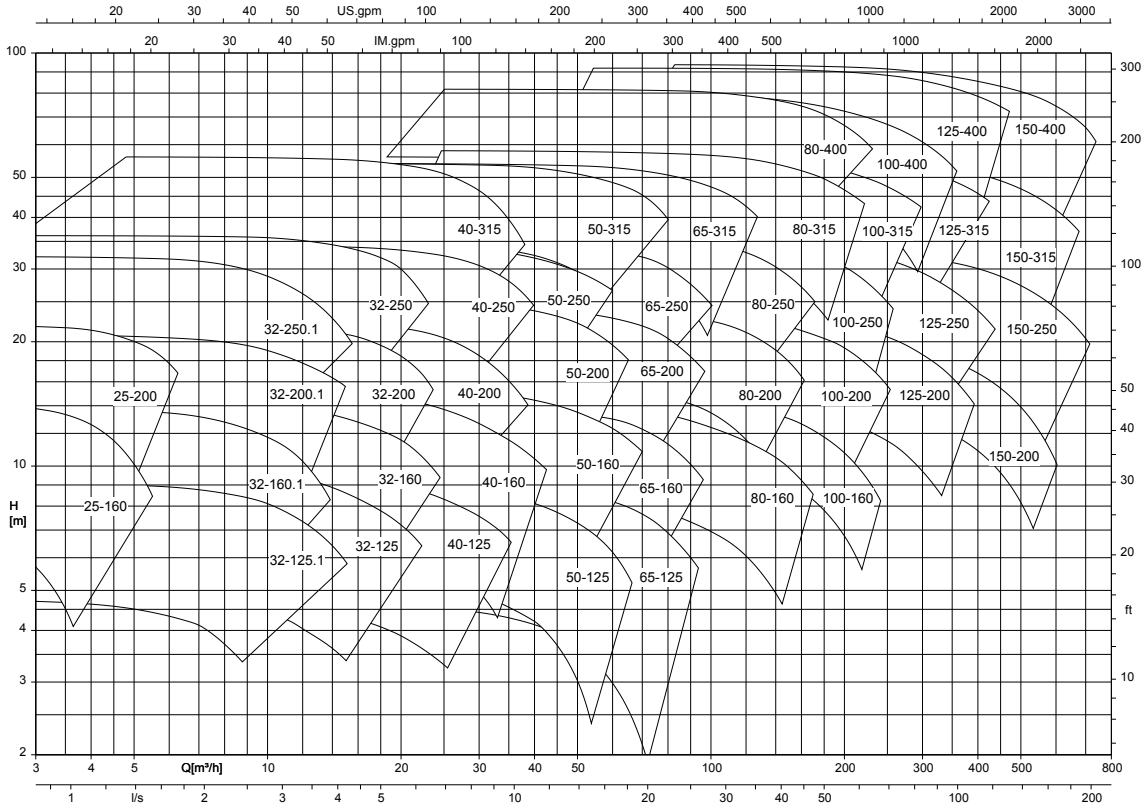
Etanorm, n = 960 rpm



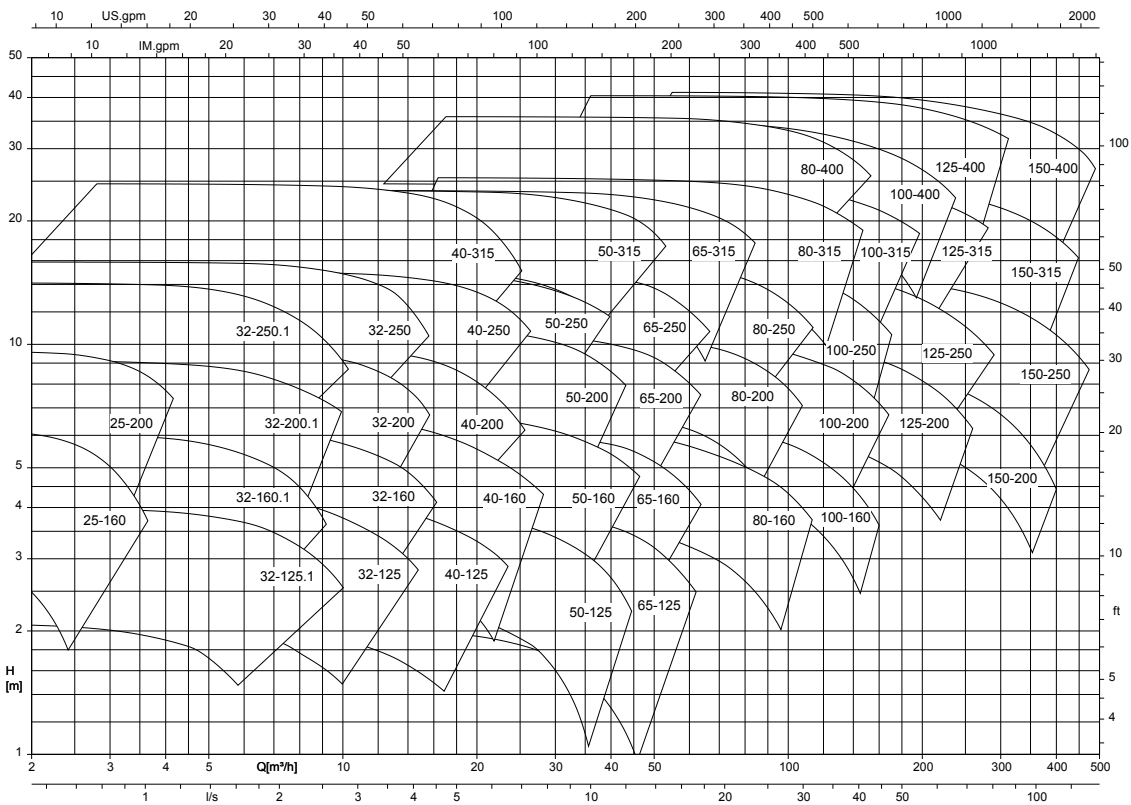
Etanorm, n = 3500 rpm



Etanorm, n = 1750 rpm

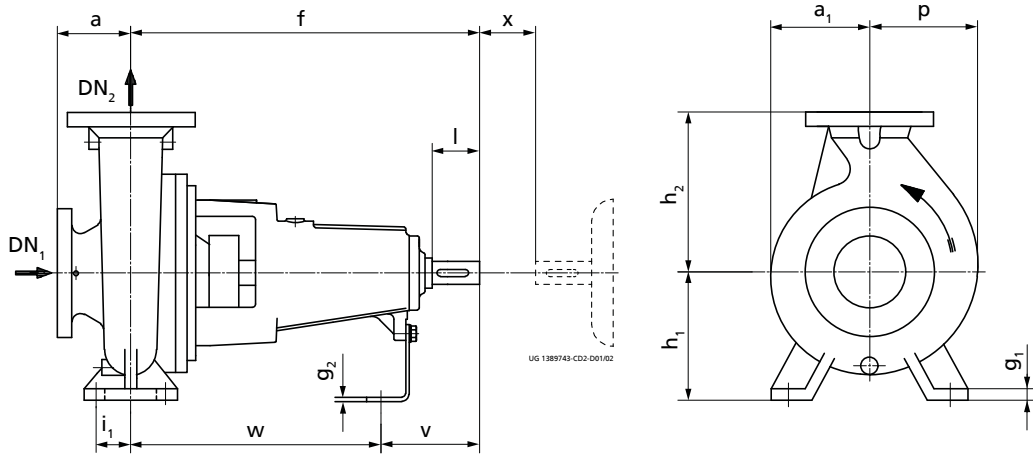


Etanorm, n = 1160 rpm

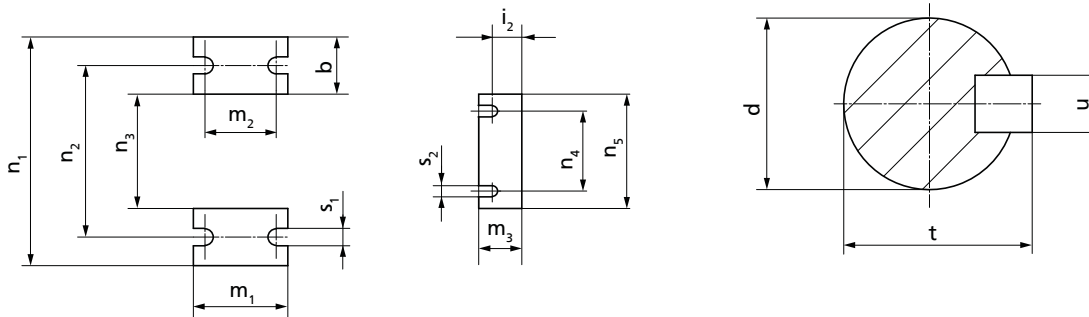


Dimensions

Pump with bearing bracket



Pump dimensions



Dimensions of shaft end and pump feet

Dimensions of pump with bearing bracket [mm]

Size	Bearing bracket	Bearing bracket	DN ₁ ²⁰⁾	DN ₂ ²⁰⁾	a ₂₀₎	a ₁	b ₂₀₎	d ₂₀₎	f ₂₀₎	g ₁	g ₂	h ₁ ₂₀₎	h ₂ ₂₀₎	i ₁	i ₂	l ₂₀₎	m ₁ ₂₀₎	m ₂
040-025-160	WS_25_LS	-	40	25	80	118	50	24	360	15	4	132	160	35	23	50	100	70
040-025-200	WS_25_LS	-	40	25	80	142	50	24	360	15	4	160	180	35	23	50	100	70
050-032-125.1	WS_25_LS	-	50	32	80	116	50	24	360	15	4	112	140	35	23	50	100	70
050-032-160.1	WS_25_LS	-	50	32	80	116	50	24	360	15	4	132	160	35	23	50	100	70
050-032-200.1	WS_25_LS	-	50	32	80	142	50	24	360	18	4	160	180	35	23	50	100	70
050-032-250.1	WS_25_LS	-	50	32	100	168	65	24	360	18	6	180	225	47,5	25	50	125	95
050-032-125	WS_25_LS	-	50	32	80	115	50	24	360	15	4	112	140	35	23	50	100	70
050-032-160	WS_25_LS	-	50	32	80	118	50	24	360	15	4	132	160	35	23	50	100	70
050-032-200	WS_25_LS	-	50	32	80	142	50	24	360	18	4	160	180	35	23	50	100	70
050-032-250	WS_25_LS	-	50	32	100	169	65	24	360	18	6	180	225	47,5	25	50	125	95
065-040-125	WS_25_LS	-	65	40	80	117	50	24	360	15	4	112	140	35	23	50	100	70
065-040-160	WS_25_LS	-	65	40	80	119	50	24	360	15	4	132	160	35	23	50	100	70
065-040-200	WS_25_LS	-	65	40	100	142	50	24	360	18	4	160	180	35	23	50	100	70
065-040-250	WS_25_LS	-	65	40	100	169	65	24	360	18	6	180	225	47,5	25	50	125	95
065-040-315	WS_35_LS	-	65	40	125	207	65	32	470	18	6	225	250	47,5	24	80	125	95
065-040-315	-	WS_50_LR	65	40	125	207	65	32	500 ²¹⁾	18	6	225	250	47,5	26	80	125	95
065-050-125	WS_25_LS	-	65	50	100	117	50	24	360	18	4	132	160	35	23	50	100	70
065-050-160	WS_25_LS	-	65	50	100	128	50	24	360	18	4	160	180	35	23	50	100	70
065-050-200	WS_25_LS	-	65	50	100	144	50	24	360	18	4	160	200	35	23	50	100	70
065-050-250	WS_25_LS	-	65	50	100	170	65	24	360	18	6	180	225	47,5	25	50	125	95
065-050-315	WS_35_LS	-	65	50	125	207	65	32	470	18	6	225	280	47,5	24	80	125	95
065-050-315	-	WS_50_LR	65	50	125	207	65	32	500 ²¹⁾	18	6	225	280	47,5	26	80	125	95
080-065-125	WS_25_LS	-	80	65	100	117	65	24	360	18	4	160	180	47,5	23	50	125	95
080-065-160	WS_25_LS	-	80	65	100	132	65	24	360	18	4	160	200	47,5	23	50	125	95
080-065-200	WS_25_LS	-	80	65	100	155	65	24	360	18	6	180	225	47,5	25	50	125	95

20) Dimensions to EN 733

21) Dimensions differ from those specified in EN 733

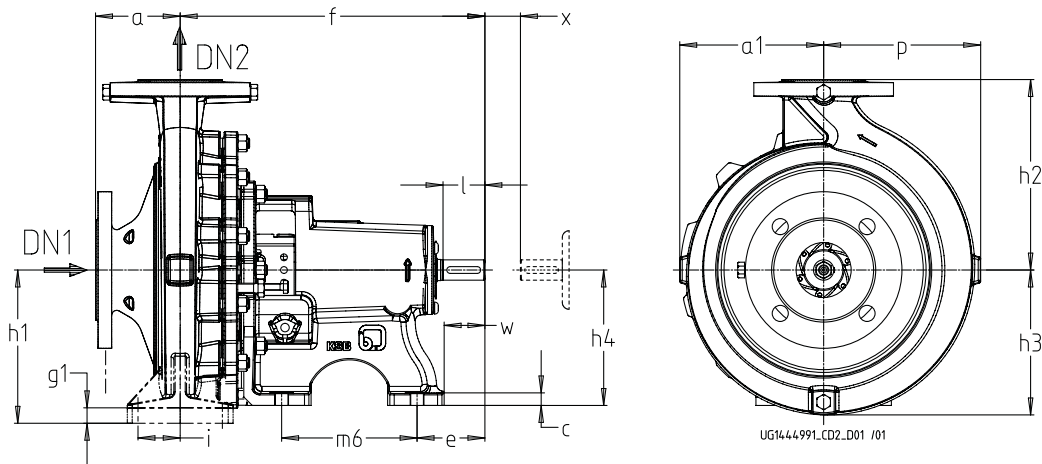
Size	Bearing bracket	Bearing bracket	DN ₁ ²⁰⁾	DN ₂ ²⁰⁾	a ²⁰⁾	a ₁	b ²⁰⁾	d ²⁰⁾	f ²⁰⁾	g ₁	g ₂	h ₁ ²⁰⁾	h ₂ ²⁰⁾	i ₁	i ₂	l ²⁰⁾	m ₁ ²⁰⁾	m ₂
080-065-250	WS_35_LS	-	80	65	100	179	80	32	470	20	6	200	250	60	24	80	160	120
080-065-315	WS_35_LS	-	80	65	125	209	80	32	470	20	6	225	280	60	24	80	160	120
080-065-315	-	WS_60_LR	80	65	125	209	80	42 ²¹⁾	530 ²¹⁾	20	6	225	280	60	26	110	160	120
100-080-160	WS_25_LS	-	100	80	125	138	65	24	360	18	6	180	225	47,5	25	50	125	95
100-080-200	WS_35_LS	-	100	80	125	159	65	32	470	18	4	180	250	47,5	22	80	125	95
100-080-250	WS_35_LS	-	100	80	125	183	80	32	470	18	6	200	280	60	24	80	160	120
100-080-315	WS_35_LS	-	100	80	125	218	80	32	470	20	6	250	315	60	24	80	160	120
100-080-315	-	WS_60_LR	100	80	125	218	80	42 ²¹⁾	530 ²¹⁾	20	6	250	315	60	26	110	160	120
100-080-400	WS_55_LS	-	100	80	125	257	80	42	530	20	6	280	355	60	25	110	160	120
125-100-160	WS_35_LS	-	125	100	125	178	80	32	470	18	6	200	280	60	24	80	160	120
125-100-200	WS_35_LS	-	125	100	125	173	80	32	470	18	6	200	280	60	24	80	160	120
125-100-250	WS_35_LS	-	125	100	140	188	80	32	470	18	6	225	280	60	24	80	160	120
125-100-315	WS_35_LS	-	125	100	140	225	80	32	470	18	6	250	315	60	24	80	160	120
125-100-315	-	WS_60_LR	125	100	140	225	80	42 ²¹⁾	530 ²¹⁾	18	6	250	315	60	26	110	160	120
125-100-400	WS_55_LS	-	125	100	140	255	100	42	530	20	6	280	355	75	25	110	200	150
150-125-200	WS_35_LS	-	150	125	140	189	80	32	470	20	6	250	315	60	24	80	160	120
150-125-250	WS_35_LS	-	150	125	140	226	80	32	470	20	6	250	355	60	24	80	160	120
150-125-315	WS_55_LS	-	150	125	140	243	100	42	530	20	6	280	355	75	25	110	200	150
150-125-400	WS_55_LS	-	150	125	140	277	100	42	530	20	6	315	400	75	25	110	200	150
200-150-200	WS_35_LS	-	200	150	160	240	100	32	470	20	6	280	400	75	24	80	200	150
200-150-250	WS_35_LS	-	200	150	160	230	100	32	470	20	6	280	400	75	24	80	200	150
200-150-315	WS_55_LS	-	200	150	160	255	100	42	530	20	6	280	400	75	25	110	200	150
200-150-400	WS_55_LS	-	200	150	160	289	100	42	530	20	6	315	450	75	25	110	200	150

Dimensions of pump with bearing bracket, continued [mm]

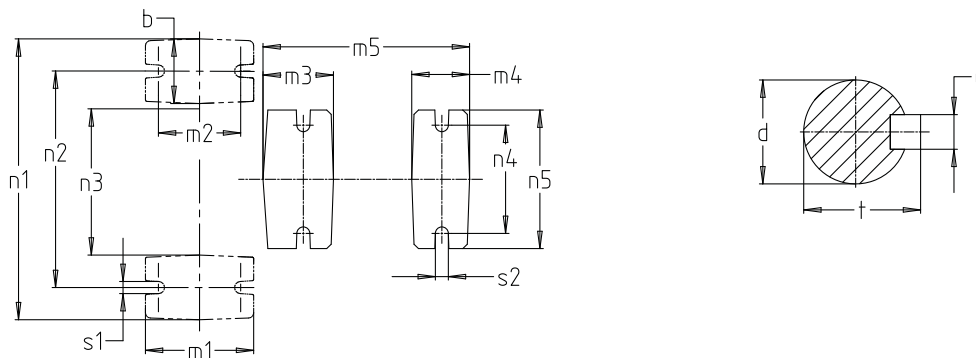
Size	Bearing bracket	Bearing bracket	DN ₁ ²⁰⁾	DN ₂ ²⁰⁾	m ₃ ²⁰⁾	n ₁ ²⁰⁾	n ₂ ²⁰⁾	n ₃ ²⁰⁾	n ₄	n ₅	p	s ₁ ²⁰⁾	s ₂ ²⁰⁾	t	u	v	w ²⁰⁾	x ²⁰⁾
040-025-160	WS_25_LS	-	40	25	48	240	190	140	110	160	118	14	14	27	8	100	260	100
040-025-200	WS_25_LS	-	40	25	48	240	190	140	110	160	142	14	14	27	8	100	260	100
050-032-125.1	WS_25_LS	-	50	32	48	190	140	90	110	160	116	14	14	27	8	100	260	100
050-032-160.1	WS_25_LS	-	50	32	48	240	190	140	110	160	121	14	14	27	8	100	260	100
050-032-200.1	WS_25_LS	-	50	32	48	240	190	140	110	160	142	14	14	27	8	100	260	100
050-032-250.1	WS_25_LS	-	50	32	48	320	250	190	110	160	168	14	14	27	8	100	260	100
050-032-125	WS_25_LS	-	50	32	48	190	140	90	110	160	115	14	14	27	8	100	260	100
050-032-160	WS_25_LS	-	50	32	48	240	190	140	110	160	128	14	14	27	8	100	260	100
050-032-200	WS_25_LS	-	50	32	48	240	190	140	110	160	143	14	14	27	8	100	260	100
050-032-250	WS_25_LS	-	50	32	48	320	250	190	110	160	178	14	14	27	8	100	260	100
065-040-125	WS_25_LS	-	65	40	48	210	160	110	110	160	117	14	14	27	8	100	260	100
065-040-160	WS_25_LS	-	65	40	48	240	190	140	110	160	134	14	14	27	8	100	260	100
065-040-200	WS_25_LS	-	65	40	48	265	212	165	110	160	155	14	14	27	8	100	260	100
065-040-250	WS_25_LS	-	65	40	48	320	250	190	110	160	179	14	14	27	8	100	260	100
065-040-315	WS_35_LS	-	65	40	48	345	280	215	110	160	207	14	14	35	10	130	340	100
065-040-315	-	WS_50_LR	65	40	48	345	280	215	110	160	207	14	14	35	10	130	370	100
065-050-125	WS_25_LS	-	65	50	48	240	190	140	110	160	130	14	14	27	8	100	260	100
065-050-160	WS_25_LS	-	65	50	48	265	212	165	110	160	149	14	14	27	8	100	260	100
065-050-200	WS_25_LS	-	65	50	48	265	212	165	110	160	163	14	14	27	8	100	260	100
065-050-250	WS_25_LS	-	65	50	48	320	250	190	110	160	186	14	14	27	8	100	260	100
065-050-315	WS_35_LS	-	65	50	48	345	280	215	110	160	215	14	14	35	10	130	340	100
065-050-315	-	WS_50_LR	65	50	48	345	280	215	110	160	215	14	14	35	10	130	370	100
080-065-125	WS_25_LS	-	80	65	48	280	212	150	110	160	150	14	14	27	8	100	260	100
080-065-160	WS_25_LS	-	80	65	48	280	212	150	110	160	160	14	14	27	8	100	260	100
080-065-200	WS_25_LS	-	80	65	48	320	250	190	110	160	178	14	14	27	8	100	260	140
080-065-250	WS_35_LS	-	80	65	48	360	280	200	110	160	199	19	14	35	10	130	340	140
080-065-315	WS_35_LS	-	80	65	48	400	315	240	110	160	229	19	14	35	10	130	340	140
080-065-315	-	WS_60_LR	80	65	48	400	315	240	110	160	229	19	14	45	12	160	370	140
100-080-160	WS_25_LS	-	100	80	48	320	250	190	110	160	174	14	14	27	8	100	260	140
100-080-200	WS_35_LS	-	100	80	48	345	280	215	110	160	188	19	14	35	10	130	340	140
100-080-250	WS_35_LS	-	100	80	48	400	315	240	110	160	209	19	14	35	10	130	340	140
100-080-315	WS_35_LS	-	100	80	48	400	315	240	110	160	242	19	14	35	10	130	340	140
100-080-315	-	WS_60_LR	100	80	48	400	315	240	110	160	242	19	14	45	12	160	370	140
100-080-400	WS_55_LS	-	100	80	48	435	355	275	110	160	280	19	14	45	12	160	370	140
125-100-160	WS_35_LS	-	125	100	48	360	280	200	110	160	225	19	14	35	10	130	340	140
125-100-200	WS_35_LS	-	125	100	48	360	280	200	110	160	212	19	14	35	10	130	340	140
125-100-250	WS_35_LS	-	125	100	48	400	315	240	110	160	219	19	14	35	10	130	340	140
125-100-315	WS_35_LS	-	125	100	48	400	315	240	110	160	255	19	14	35	10	130	340	140
125-100-315	-	WS_60_LR	125	100	48	400	315	240	110	160	255	19	14	45	12	160	370	140
125-100-400	WS_55_LS	-	125	100	48	500	400	300	110	160	283	24	14	45	12	160	370	140
150-125-200	WS_35_LS	-	150	125	48	400	315	240	110	160	242	19	14	35	10	130	340	140
150-125-250	WS_35_LS	-	150	125	48	400	315	240	110	160	275	19	14	35	10	130	340	140
150-125-315	WS_55_LS	-	150	125	48	500	400	300	110	160	280	24	14	45	12	160	370	140
150-125-400	WS_55_LS	-	150	125	48	500	400	300	110	160	309	24	14	45	12	160	370	140
200-150-200	WS_35_LS	-	200	150	48	550	450	350	110	160	316	24	14	35	10	130	340	140
200-150-250	WS_35_LS	-	200	150	48	500	400	300	110	160	300	24	14	35	10	130	340	140
200-150-315	WS_55_LS	-	200	150	48	550	450	350	110	160	304	24	14	45	12	160	370	140
200-150-400	WS_55_LS	-	200	150	48	550	450	350	110	160	331	24	14	45	12	160	370	140

20) Dimensions to EN 733

Pump with bearing pedestal



Dimensions of pump with bearing pedestal



Dimensions of bearing pedestal, shaft end and pump feet

Dimensions of pump with bearing pedestal [mm]

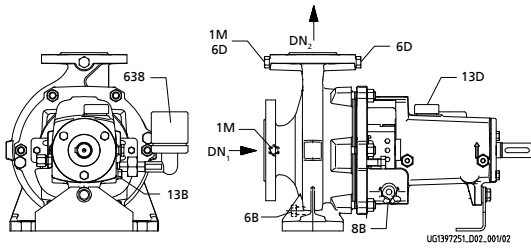
Size	Bearing bracket	DN ₁	DN ₂	a	a ₁	b	c	d	e	f	g ₁	h ₁	h ₂	h ₃	h ₄	i	l	m ₁	m ₂
040-025-160	WS_25_PS	40	25	80	118	-	14	24	80	360	-	-	160	106	160	-	50	-	-
040-025-200	WS_25_PS	40	25	80	142	-	14	24	80	360	-	-	180	137	160	-	50	-	-
050-032-125	WS_25_PS	50	32	80	115	-	14	24	80	360	-	-	140	104	160	-	50	-	-
050-032-125.1	WS_25_PS	50	32	80	116	-	14	24	80	360	-	-	140	104	160	-	50	-	-
050-032-160.1	WS_25_PS	50	32	80	116	-	14	24	80	360	-	-	160	110	160	-	50	-	-
050-032-200.1	WS_25_PS	50	32	80	142	-	14	24	80	360	-	-	180	137	160	-	50	-	-
050-032-250.1	WS_25_PS	50	32	100	168	-	14	24	80	360	-	-	225	166	160	-	50	-	-
050-032-160	WS_25_PS	50	32	80	118	-	14	24	80	360	-	-	160	115	160	-	50	-	-
050-032-200	WS_25_PS	50	32	80	142	-	14	24	80	360	-	-	180	137	160	-	50	-	-
050-032-250	WS_25_PS	50	32	100	169	-	14	24	80	360	-	-	225	166	160	-	50	-	-
065-040-125	WS_25_PS	65	40	80	117	-	14	24	80	360	-	-	140	106	160	-	50	-	-
065-040-160	WS_25_PS	65	40	80	119	-	14	24	80	360	-	-	160	119	160	-	50	-	-
065-040-200	WS_25_PS	65	40	100	142	-	14	24	80	360	-	-	180	141	160	-	50	-	-
065-040-250	WS_25_PS	65	40	100	169	-	14	24	80	360	-	-	225	166	160	-	50	-	-
065-040-315	WS_35_PS	65	40	125	207	-	20	32	110	470	-	-	250	203	200	-	80	-	-
065-050-125	WS_25_PS	65	50	100	117	-	14	24	80	360	-	-	160	112	160	-	50	-	-
065-050-160	WS_25_PS	65	50	100	128	-	14	24	80	360	-	-	180	133	160	-	50	-	-
065-050-200	WS_25_PS	65	50	100	144	-	14	24	80	360	-	-	200	150	160	-	50	-	-
065-050-250	WS_25_PS	65	50	100	170	-	14	24	80	360	-	-	225	171	160	-	50	-	-
065-050-315	WS_35_PS	65	50	125	207	-	20	32	110	470	-	-	280	203	200	-	80	-	-
080-065-125	WS_25_PS	80	65	100	117	-	14	24	80	360	-	-	180	126	160	-	50	-	-
080-065-160	WS_25_PS	80	65	100	132	-	14	24	80	360	-	-	200	139	160	-	50	-	-
080-065-200	WS_25_PS	80	65	100	155	-	14	24	80	360	-	-	225	161	160	-	50	-	-
080-065-250	WS_35_PS	80	65	100	179	-	20	32	110	470	-	-	250	184	200	-	80	-	-
080-065-315	WS_35_PS	80	65	125	209	-	20	32	110	470	-	-	280	213	200	-	80	-	-
100-080-160	WS_25_PS	100	80	125	138	-	14	24	80	360	-	-	225	153	160	-	50	-	-
100-080-200	WS_35_PS	100	80	125	159	-	20	32	110	470	-	-	250	169	200	-	80	-	-

Size	Bearing bracket	DN ₁	DN ₂	a	a ₁	b	c	d	e	f	g ₁	h ₁	h ₂	h ₃	h ₄	i	l	m ₁	m ₂
100-080-250	WS_35_PS	100	80	125	183	-	20	32	110	470	-	-	280	192	200	-	80	-	-
100-080-315	WS_35_PS	100	80	125	218	-	20	32	110	470	-	-	315	227	200	-	80	-	-
100-080-400	WS_55_PS	100	80	125	257	80	22	42	110	530	20	280	355	-	250	60	110	160	120
125-100-160	WS_35_PS	125	100	125	178	-	20	32	110	470	-	-	280	198	200	-	80	-	-
125-100-200	WS_35_PS	125	100	125	173	-	20	32	110	470	-	-	280	189	200	-	80	-	-
125-100-250	WS_35_PS	125	100	140	188	-	20	32	110	470	-	-	280	200	200	-	80	-	-
125-100-315	WS_35_PS	125	100	140	225	-	20	32	110	470	-	-	315	236	200	-	80	-	-
125-100-400	WS_55_PS	125	100	140	255	100	22	42	110	530	20	280	355	-	250	75	110	200	150
150-125-200	WS_35_PS	150	125	140	189	-	20	32	110	470	-	-	315	212	200	-	80	-	-
150-125-250	WS_35_PS	150	125	140	226	-	20	32	110	470	-	-	355	248	200	-	80	-	-
150-125-315	WS_55_PS	150	125	140	243	100	22	42	110	530	20	280	355	-	250	75	110	200	150
150-125-400	WS_55_PS	150	125	140	277	100	22	42	110	530	20	315	400	-	250	75	110	200	150
200-150-200	WS_35_PS	200	150	160	240	100	20	32	110	470	20	280	400	-	200	75	80	200	150
200-150-250	WS_35_PS	200	150	160	230	100	20	32	110	470	20	280	400	-	200	75	80	200	150
200-150-315	WS_55_PS	200	150	160	255	100	22	42	110	530	20	280	400	-	250	75	110	200	150
200-150-400	WS_55_PS	200	150	160	289	100	22	42	110	530	20	315	450	-	250	75	110	200	150

Dimensions of pump with bearing pedestal, continued [mm]

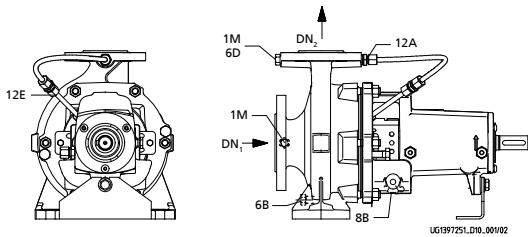
Size	Bearing bracket	DN ₁	DN ₂	m ₃	m ₄	m ₅	m ₆	n ₁	n ₂	n ₃	n ₄	n ₅	p	s ₁	s ₂	t	u	w	x
040-025-160	WS_25_PS	40	25	56	64	216	160	-	-	-	125	160	118	-	15	27	8	48	100
040-025-200	WS_25_PS	40	25	56	64	216	160	-	-	-	125	160	142	-	15	27	8	48	100
050-032-125	WS_25_PS	50	32	56	64	216	160	-	-	-	125	160	115	-	15	27	8	48	100
050-032-125.1	WS_25_PS	50	32	56	64	216	160	-	-	-	125	160	116	-	15	27	8	48	100
050-032-160.1	WS_25_PS	50	32	56	64	216	160	-	-	-	125	160	121	-	15	27	8	48	100
050-032-200.1	WS_25_PS	50	32	56	64	216	160	-	-	-	125	160	142	-	15	27	8	48	100
050-032-250.1	WS_25_PS	50	32	56	64	216	160	-	-	-	125	160	168	-	15	27	8	48	100
050-032-160	WS_25_PS	50	32	56	64	216	160	-	-	-	125	160	128	-	15	27	8	48	100
050-032-200	WS_25_PS	50	32	56	64	216	160	-	-	-	125	160	143	-	15	27	8	48	100
050-032-250	WS_25_PS	50	32	56	64	216	160	-	-	-	125	160	178	-	15	27	8	48	100
065-040-125	WS_25_PS	65	40	56	64	216	160	-	-	-	125	160	117	-	15	27	8	48	100
065-040-160	WS_25_PS	65	40	56	64	216	160	-	-	-	125	160	134	-	15	27	8	48	100
065-040-200	WS_25_PS	65	40	56	64	216	160	-	-	-	125	160	155	-	15	27	8	48	100
065-040-250	WS_25_PS	65	40	56	64	216	160	-	-	-	125	160	179	-	15	27	8	48	100
065-040-315	WS_35_PS	65	40	58	80	271	210	-	-	-	160	200	207	-	19	35	10	70	100
065-050-125	WS_25_PS	65	50	56	64	216	160	-	-	-	125	160	130	-	15	27	8	48	100
065-050-160	WS_25_PS	65	50	56	64	216	160	-	-	-	125	160	149	-	15	27	8	48	100
065-050-200	WS_25_PS	65	50	56	64	216	160	-	-	-	125	160	163	-	15	27	8	48	100
065-050-250	WS_25_PS	65	50	56	64	216	160	-	-	-	125	160	186	-	15	27	8	48	100
065-050-315	WS_35_PS	65	50	58	80	271	210	-	-	-	160	200	215	-	19	35	10	70	100
080-065-125	WS_25_PS	80	65	56	64	216	160	-	-	-	125	160	150	-	15	27	8	48	100
080-065-160	WS_25_PS	80	65	56	64	216	160	-	-	-	125	160	160	-	15	27	8	48	100
080-065-200	WS_25_PS	80	65	56	64	216	160	-	-	-	125	160	178	-	15	27	8	48	140
080-065-250	WS_35_PS	80	65	58	80	271	210	-	-	-	160	200	199	-	19	35	10	70	140
080-065-315	WS_35_PS	80	65	58	80	271	210	-	-	-	160	200	229	-	19	35	10	70	140
100-080-160	WS_25_PS	100	80	56	64	216	160	-	-	-	125	160	174	-	15	27	8	48	140
100-080-200	WS_35_PS	100	80	58	80	271	210	-	-	-	160	200	188	-	19	35	10	70	140
100-080-250	WS_35_PS	100	80	58	80	271	210	-	-	-	160	200	209	-	19	35	10	70	140
100-080-315	WS_35_PS	100	80	58	80	271	210	-	-	-	160	200	242	-	19	35	10	70	140
100-080-400	WS_55_PS	100	80	68	90	323	250	435	355	275	200	250	280	19	19	45	12	65	140
125-100-160	WS_35_PS	125	100	58	80	271	210	-	-	-	160	200	225	-	19	35	10	70	140
125-100-200	WS_35_PS	125	100	58	80	271	210	-	-	-	160	200	212	-	19	35	10	70	140
125-100-250	WS_35_PS	125	100	58	80	271	210	-	-	-	160	200	219	-	19	35	10	70	140
125-100-315	WS_35_PS	125	100	58	80	271	210	-	-	-	160	200	255	-	19	35	10	70	140
125-100-400	WS_55_PS	125	100	68	90	323	250	500	400	300	200	250	283	24	19	45	12	65	140
150-125-200	WS_35_PS	150	125	58	80	271	210	-	-	-	160	200	242	-	19	35	10	70	140
150-125-250	WS_35_PS	150	125	58	80	271	210	-	-	-	160	200	275	-	19	35	10	70	140
150-125-315	WS_55_PS	150	125	68	90	323	250	500	400	300	200	250	280	24	19	45	12	65	140
150-125-400	WS_55_PS	150	125	68	90	323	250	500	400	300	200	250	309	24	19	45	12	65	140
200-150-200	WS_35_PS	200	150	58	80	271	210	550	450	350	160	200	316	24	19	35	10	70	140
200-150-250	WS_35_PS	200	150	58	80	271	210	500	400	300	160	200	300	24	19	35	10	70	140
200-150-315	WS_55_PS	200	150	68	90	323	250	550	450	350	200	250	304	24	19	45	12	65	140
200-150-400	WS_55_PS	200	150	68	90	323	250	550	450	350	200	250	331	24	19	45	12	65	140

Connections



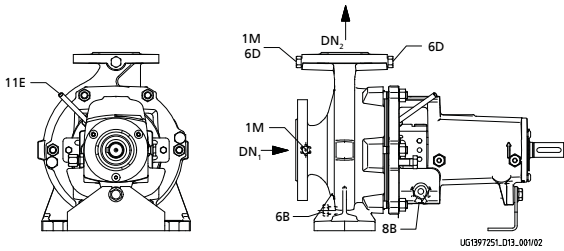
Version with constant level oiler

P1	Na – Gland packing with internal barrier fluid
P2	Nb – Gland packing without barrier fluid
A	Single mechanical seal, A-type cover
IA	Single mechanical seal, A-type cover with internal circulation



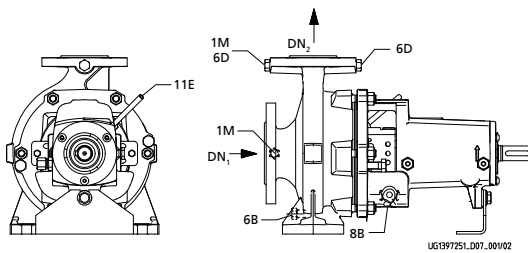
Grease-lubricated version

EA	External circulation, A-type cover
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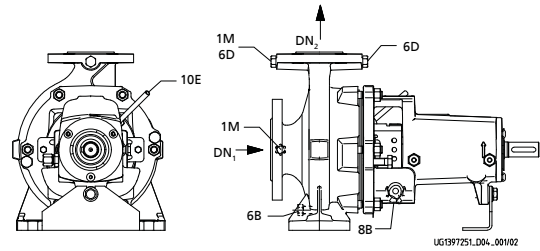
Grease-lubricated version

FA	External flushing, A-type cover
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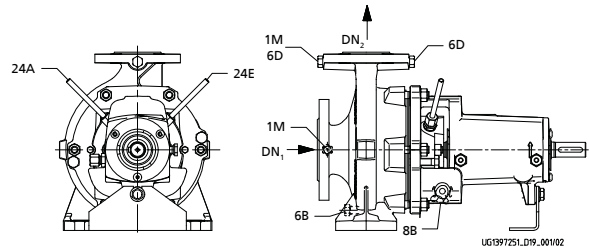
Grease-lubricated version

P4	VSH – Gland packing, external flushing liquid
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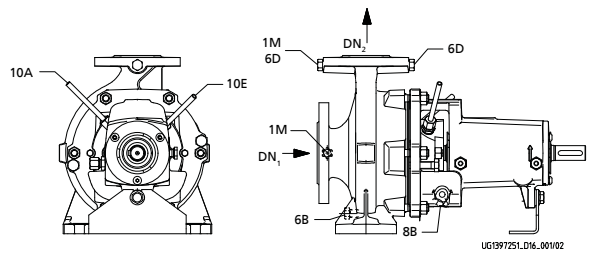
Grease-lubricated version

P3	Nc – Gland packing, external barrier fluid
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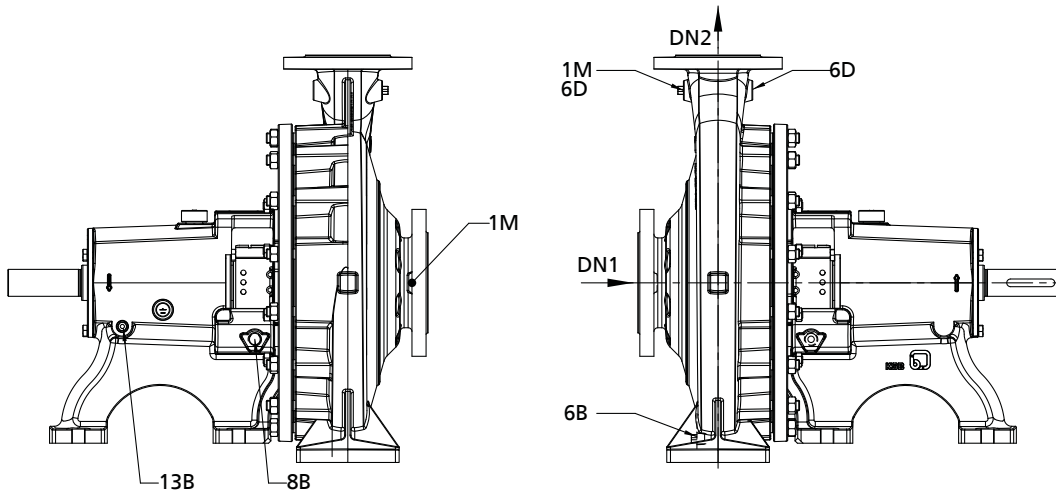
Grease-lubricated version

T1	Double mechanical seal in tandem arrangement with internal circulation
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Grease-lubricated version

DB	Double mechanical seal in back-to-back arrangement
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Version with bearing pedestal

Connections

Connection	Design	Configuration	Position	Region
1M	Pressure gauge connection	On pump set with pressure sensor	DN ₂	A, B, C, D
6B	Fluid drain	Drilled and closed	-	A, B, C, D
6D	Fluid filling and venting	Drilled and closed	DN ₂ , suction side	A, C, D
8B	Leakage drain	Drilled and closed ²²⁾	-	A, B, C, D
1M optional	Pressure gauge connection	Drilled and closed or with pressure sensor	DN ₁	A, B, C, D
6D optional	Fluid filling and venting	Drilled and closed	DN ₂ , drive end	A, B, C, D
10A	External barrier fluid outlet	DN 8 pipe closed	-	A, B, C
10E	External barrier fluid inlet	DN 8 pipe closed	-	A, B, C
11E	Flushing liquid inlet	DN 8 pipe closed	-	A, B, C
12A	Circulation liquid outlet	Drilled and connected	-	A, B, C
12E	Circulation liquid inlet	Drilled and connected	-	A, B, C
13B	Oil drain	Drilled and closed	-	A, B, C
13D	Oil filling and venting	Drilled and closed	-	A, B, C
24A	Quench liquid outlet	DN 8 pipe closed	-	A, B, C
24E	Quench liquid inlet	DN 8 pipe closed	-	A, B, C

Connections for Europe / South Africa / China

Size	Bearing bracket	Casing material											
		G, B	C, S	G, B, C, S	G, B, C, S	G, B, C, S	G, B	C, S	G, B, C, S	G, B, C, S	G, B, C, S	G, B, C, S	
		Connection											
		1M.1_6D / 1M.2 / 6B / 6D	8B	10A / 10E	11E	12A		12E	13B	13D	24A / 24E		
040-025-160	25	Rc 1/4	G 1/4	G 1/2	DN 8	DN 8	Rc 1/4	G 1/4	DN 8	G 1/4	DN 20	DN 8	
040-025-200	25	Rc 1/4	G 1/4	G 1/2	DN 8	DN 8	Rc 1/4	G 1/4	DN 8	G 1/4	DN 20	DN 8	
050-032-125.1	25	Rc 1/4	G 1/4	G 1/2	DN 8	DN 8	Rc 1/4	G 1/4	DN 8	G 1/4	DN 20	DN 8	
050-032-160.1	25	Rc 1/4	G 1/4	G 1/2	DN 8	DN 8	Rc 1/4	G 1/4	DN 8	G 1/4	DN 20	DN 8	
050-032-200.1	25	Rc 1/4	G 1/4	G 1/2	DN 8	DN 8	Rc 1/4	G 1/4	DN 8	G 1/4	DN 20	DN 8	
050-032-250.1	25	Rc 1/4	G 1/4	G 1/2	DN 8	DN 8	Rc 1/4	G 1/4	DN 8	G 1/4	DN 20	DN 8	
050-032-125	25	Rc 1/4	G 1/4	G 1/2	DN 8	DN 8	Rc 1/4	G 1/4	DN 8	G 1/4	DN 20	DN 8	
050-032-160	25	Rc 1/4	G 1/4	G 1/2	DN 8	DN 8	Rc 1/4	G 1/4	DN 8	G 1/4	DN 20	DN 8	
050-032-200	25	Rc 1/4	G 1/4	G 1/2	DN 8	DN 8	Rc 1/4	G 1/4	DN 8	G 1/4	DN 20	DN 8	

²²⁾ For bearing bracket LS only

Size	Bearing bracket	Casing material										
		G, B	C, S	G, B, C, S	G, B, C, S	G, B, C, S	G, B	C, S	G, B, C, S	G, B, C, S	G, B, C, S	G, B, C, S
		Connection										
		1M.1_6D / 1M.2 / 6B / 6D		8B	10A/ 10E	11E	12A		12E	13B	13D	24A/ 24E
050-032-250	25	Rc 1/4	G 1/4	G 1/2	DN 8	DN 8	Rc 1/4	G 1/4	DN 8	G 1/4	DN 20	DN 8
065-040-125	25	Rc 1/4	G 1/4	G 1/2	DN 8	DN 8	Rc 1/4	G 1/4	DN 8	G 1/4	DN 20	DN 8
065-040-160	25	Rc 1/4	G 1/4	G 1/2	DN 8	DN 8	Rc 1/4	G 1/4	DN 8	G 1/4	DN 20	DN 8
065-040-200	25	Rc 1/4	G 1/4	G 1/2	DN 8	DN 8	Rc 1/4	G 1/4	DN 8	G 1/4	DN 20	DN 8
065-040-250	25	Rc 1/4	G 1/4	G 1/2	DN 8	DN 8	Rc 1/4	G 1/4	DN 8	G 1/4	DN 20	DN 8
065-040-315	35	Rc 1/4	G 1/4	G 1/2	DN 8	DN 8	Rc 1/4	G 1/4	DN 8	G 1/4	DN 20	DN 8
065-040-315	50	Rc 1/4	G 1/4	--	DN 8	DN 8	Rc 1/4	G 1/4	DN 8	G 3/8	DN 20	DN 8
065-050-125	25	Rc 1/4	G 1/4	G 1/2	DN 8	DN 8	Rc 1/4	G 1/4	DN 8	G 1/4	DN 20	DN 8
065-050-160	25	Rc 1/4	G 1/4	G 1/2	DN 8	DN 8	Rc 1/4	G 1/4	DN 8	G 1/4	DN 20	DN 8
065-050-200	25	Rc 1/4	G 1/4	G 1/2	DN 8	DN 8	Rc 1/4	G 1/4	DN 8	G 1/4	DN 20	DN 8
065-050-250	25	Rc 1/4	G 1/4	G 1/2	DN 8	DN 8	Rc 1/4	G 1/4	DN 8	G 1/4	DN 20	DN 8
065-050-315	35	Rc 1/4	G 1/4	G 1/2	DN 8	DN 8	Rc 1/4	G 1/4	DN 8	G 1/4	DN 20	DN 8
065-050-315	50	Rc 1/4	G 1/4	--	DN 8	DN 8	Rc 1/4	G 1/4	DN 8	G 3/8	DN 20	DN 8
080-065-125	25	Rc 3/8	G 3/8	G 1/2	DN 8	DN 8	Rc 3/8	G 3/8	DN 8	G 1/4	DN 20	DN 8
080-065-160	25	Rc 3/8	G 3/8	G 1/2	DN 8	DN 8	Rc 3/8	G 3/8	DN 8	G 1/4	DN 20	DN 8
080-065-200	25	Rc 3/8	G 3/8	G 1/2	DN 8	DN 8	Rc 3/8	G 3/8	DN 8	G 1/4	DN 20	DN 8
080-065-250	35	Rc 3/8	G 3/8	G 1/2	DN 8	DN 8	Rc 3/8	G 3/8	DN 8	G 1/4	DN 20	DN 8
080-065-315	35	Rc 3/8	G 3/8	G 1/2	DN 8	DN 8	Rc 3/8	G 3/8	DN 8	G 1/4	DN 20	DN 8
080-065-315	60	Rc 3/8	G 3/8	--	DN 8	DN 8	Rc 3/8	G 3/8	DN 8	G 3/8	DN 20	DN 8
100-080-160	25	Rc 3/8	G 3/8	G 1/2	DN 8	DN 8	Rc 3/8	G 3/8	DN 8	G 1/4	DN 20	DN 8
100-080-200	35	Rc 3/8	G 3/8	G 1/2	DN 8	DN 8	Rc 3/8	G 3/8	DN 8	G 1/4	DN 20	DN 8
100-080-250	35	Rc 3/8	G 3/8	G 1/2	DN 8	DN 8	Rc 3/8	G 3/8	DN 8	G 1/4	DN 20	DN 8
100-080-315	35	Rc 3/8	G 3/8	G 1/2	DN 8	DN 8	Rc 3/8	G 3/8	DN 8	G 1/4	DN 20	DN 8
100-080-315	60	Rc 3/8	G 3/8	--	DN 8	DN 8	Rc 3/8	G 3/8	DN 8	G 3/8	DN 20	DN 8
100-080-400	55	Rc 3/8	G 3/8	G 1/2	DN 8	DN 8	Rc 3/8	G 3/8	DN 8	G 1/4	DN 20	DN 8
125-100-160	35	Rc 1/2	G 1/2	G 1/2	DN 8	DN 8	Rc 1/2	G 1/2	DN 8	G 1/4	DN 20	DN 8
125-100-200	35	Rc 1/2	G 1/2	G 1/2	DN 8	DN 8	Rc 1/2	G 1/2	DN 8	G 1/4	DN 20	DN 8
125-100-250	35	Rc 1/2	G 1/2	G 1/2	DN 8	DN 8	Rc 1/2	G 1/2	DN 8	G 1/4	DN 20	DN 8
125-100-315	35	Rc 1/2	G 1/2	G 1/2	DN 8	DN 8	Rc 1/2	G 1/2	DN 8	G 1/4	DN 20	DN 8
125-100-315	60	Rc 1/2	G 1/2	--	DN 8	DN 8	Rc 1/2	G 1/2	DN 8	G 3/8	DN 20	DN 8
125-100-400	55	Rc 1/2	G 1/2	G 1/2	DN 8	DN 8	Rc 1/2	G 1/2	DN 8	G 1/4	DN 20	DN 8
150-125-200	35	Rc 1/2	G 1/2	G 1/2	DN 8	DN 8	Rc 1/2	G 1/2	DN 8	G 1/4	DN 20	DN 8
150-125-250	35	Rc 1/2	G 1/2	G 1/2	DN 8	DN 8	Rc 1/2	G 1/2	DN 8	G 1/4	DN 20	DN 8
150-125-250	60	Rc 1/2	G 1/2	--	DN 8	DN 8	Rc 1/2	G 1/2	DN 8	G 3/8	DN 20	DN 8
150-125-315	55	Rc 1/2	G 1/2	G 1/2	DN 8	DN 8	Rc 1/2	G 1/2	DN 8	G 1/4	DN 20	DN 8
150-125-400	55	Rc 1/2	G 1/2	G 1/2	DN 8	DN 8	Rc 1/2	G 1/2	DN 8	G 1/4	DN 20	DN 8
200-150-200	35	Rc 1/2	G 1/2	G 1/2	DN 8	DN 8	Rc 1/2	G 1/2	DN 8	G 1/4	DN 20	DN 8
200-150-250	35	Rc 1/2	G 1/2	G 1/2	DN 8	DN 8	Rc 1/2	G 1/2	DN 8	G 1/4	DN 20	DN 8
200-150-250	60	Rc 1/2	G 1/2	--	DN 8	DN 8	Rc 1/2	G 1/2	DN 8	G 3/8	DN 20	DN 8
200-150-315	55	Rc 1/2	G 1/2	G 1/2	DN 8	DN 8	Rc 1/2	G 1/2	DN 8	G 1/4	DN 20	DN 8
200-150-400	55	Rc 1/2	G 1/2	G 1/2	DN 8	DN 8	Rc 1/2	G 1/2	DN 8	G 1/4	DN 20	DN 8

Connections for India

Size	Bearing bracket	Casing material										
		G	C	G, C	G, C	G, C	G	C	G, C	G, C	G, C	G, C
		Connection										
		1M.1_6D / 1M.2 / 6B / 6D		8B	10A/ 10E	11E	12A		12E	13B	13D	24A/ 24E
040-025-160	25	G 1/4	1/4-18 NPT	1/2-14 NPT	DN 8	DN 8	G 1/4	1/4-18 NPT	DN 8	G 1/4	DN 20	DN 8
040-025-200	25	G 1/4	1/4-18 NPT	1/2-14 NPT	DN 8	DN 8	G 1/4	1/4-18 NPT	DN 8	G 1/4	DN 20	DN 8
050-032-125.1	25	G 1/4	1/4-18 NPT	1/2-14 NPT	DN 8	DN 8	G 1/4	1/4-18 NPT	DN 8	G 1/4	DN 20	DN 8
050-032-160.1	25	G 1/4	1/4-18 NPT	1/2-14 NPT	DN 8	DN 8	G 1/4	1/4-18 NPT	DN 8	G 1/4	DN 20	DN 8
050-032-200.1	25	G 1/4	1/4-18 NPT	1/2-14 NPT	DN 8	DN 8	G 1/4	1/4-18 NPT	DN 8	G 1/4	DN 20	DN 8
050-032-250.1	25	G 1/4	1/4-18 NPT	1/2-14 NPT	DN 8	DN 8	G 1/4	1/4-18 NPT	DN 8	G 1/4	DN 20	DN 8
050-032-125	25	G 1/4	1/4-18 NPT	1/2-14 NPT	DN 8	DN 8	G 1/4	1/4-18 NPT	DN 8	G 1/4	DN 20	DN 8
050-032-160	25	G 1/4	1/4-18 NPT	1/2-14 NPT	DN 8	DN 8	G 1/4	1/4-18 NPT	DN 8	G 1/4	DN 20	DN 8
050-032-200	25	G 1/4	1/4-18 NPT	1/2-14 NPT	DN 8	DN 8	G 1/4	1/4-18 NPT	DN 8	G 1/4	DN 20	DN 8
050-032-250	25	G 1/4	1/4-18 NPT	1/2-14 NPT	DN 8	DN 8	G 1/4	1/4-18 NPT	DN 8	G 1/4	DN 20	DN 8
065-040-125	25	G 1/4	1/4-18 NPT	1/2-14 NPT	DN 8	DN 8	G 1/4	1/4-18 NPT	DN 8	G 1/4	DN 20	DN 8

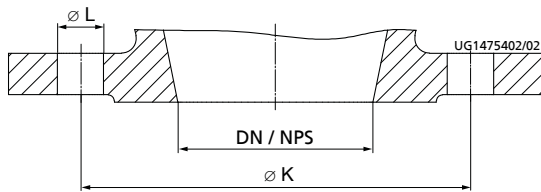
Size	Bearing bracket	Casing material										
		G	C	G, C	G, C	G, C	G	C	G, C	G, C	G, C	G, C
		Connection										
		1M.1_6D / 1M.2 / 6B / 6D	8B	10A/ 10E	11E	12A		12E	13B	13D	24A/ 24E	
065-040-160	25	G 1/4	1/4-18 NPT	1/2-14 NPT	DN 8	DN 8	G 1/4	1/4-18 NPT	DN 8	G 1/4	DN 20	DN 8
065-040-200	25	G 1/4	1/4-18 NPT	1/2-14 NPT	DN 8	DN 8	G 1/4	1/4-18 NPT	DN 8	G 1/4	DN 20	DN 8
065-040-250	25	G 1/4	1/4-18 NPT	1/2-14 NPT	DN 8	DN 8	G 1/4	1/4-18 NPT	DN 8	G 1/4	DN 20	DN 8
065-040-315	35	G 1/4	1/4-18 NPT	1/2-14 NPT	DN 8	DN 8	G 1/4	1/4-18 NPT	DN 8	G 1/4	DN 20	DN 8
065-040-315	50	G 1/4	1/4-18 NPT	--	DN 8	DN 8	G 1/4	1/4-18 NPT	DN 8	G 3/8	DN 20	DN 8
065-050-125	25	G 1/4	1/4-18 NPT	1/2-14 NPT	DN 8	DN 8	G 1/4	1/4-18 NPT	DN 8	G 1/4	DN 20	DN 8
065-050-160	25	G 1/4	1/4-18 NPT	1/2-14 NPT	DN 8	DN 8	G 1/4	1/4-18 NPT	DN 8	G 1/4	DN 20	DN 8
065-050-200	25	G 1/4	1/4-18 NPT	1/2-14 NPT	DN 8	DN 8	G 1/4	1/4-18 NPT	DN 8	G 1/4	DN 20	DN 8
065-050-250	25	G 1/4	1/4-18 NPT	1/2-14 NPT	DN 8	DN 8	G 1/4	1/4-18 NPT	DN 8	G 1/4	DN 20	DN 8
065-050-315	35	G 1/4	1/4-18 NPT	1/2-14 NPT	DN 8	DN 8	G 1/4	1/4-18 NPT	DN 8	G 1/4	DN 20	DN 8
065-050-315	50	G 1/4	1/4-18 NPT	--	DN 8	DN 8	G 1/4	1/4-18 NPT	DN 8	G 3/8	DN 20	DN 8
080-065-125	25	G 3/8	3/8-18 NPT	1/2-14 NPT	DN 8	DN 8	G 3/8	3/8-18 NPT	DN 8	G 1/4	DN 20	DN 8
080-065-160	25	G 3/8	3/8-18 NPT	1/2-14 NPT	DN 8	DN 8	G 3/8	3/8-18 NPT	DN 8	G 1/4	DN 20	DN 8
080-065-200	25	G 3/8	3/8-18 NPT	1/2-14 NPT	DN 8	DN 8	G 3/8	3/8-18 NPT	DN 8	G 1/4	DN 20	DN 8
080-065-250	35	G 3/8	3/8-18 NPT	1/2-14 NPT	DN 8	DN 8	G 3/8	3/8-18 NPT	DN 8	G 1/4	DN 20	DN 8
080-065-315	35	G 3/8	3/8-18 NPT	1/2-14 NPT	DN 8	DN 8	G 3/8	3/8-18 NPT	DN 8	G 1/4	DN 20	DN 8
080-065-315	60	G 3/8	3/8-18 NPT	--	DN 8	DN 8	G 3/8	3/8-18 NPT	DN 8	G 3/8	DN 20	DN 8
100-080-160	25	G 3/8	3/8-18 NPT	1/2-14 NPT	DN 8	DN 8	G 3/8	3/8-18 NPT	DN 8	G 1/4	DN 20	DN 8
100-080-200	35	G 3/8	3/8-18 NPT	1/2-14 NPT	DN 8	DN 8	G 3/8	3/8-18 NPT	DN 8	G 1/4	DN 20	DN 8
100-080-250	35	G 3/8	3/8-18 NPT	1/2-14 NPT	DN 8	DN 8	G 3/8	3/8-18 NPT	DN 8	G 1/4	DN 20	DN 8
100-080-315	35	G 3/8	3/8-18 NPT	1/2-14 NPT	DN 8	DN 8	G 3/8	3/8-18 NPT	DN 8	G 1/4	DN 20	DN 8
100-080-315	60	G 3/8	3/8-18 NPT	--	DN 8	DN 8	G 3/8	3/8-18 NPT	DN 8	G 3/8	DN 20	DN 8
100-080-400	55	G 3/8	3/8-18 NPT	1/2-14 NPT	DN 8	DN 8	G 3/8	3/8-18 NPT	DN 8	G 1/4	DN 20	DN 8
125-100-160	35	G 1/2	1/2-14 NPT	1/2-14 NPT	DN 8	DN 8	G 1/2	1/2-14 NPT	DN 8	G 1/4	DN 20	DN 8
125-100-200	35	G 1/2	1/2-14 NPT	1/2-14 NPT	DN 8	DN 8	G 1/2	1/2-14 NPT	DN 8	G 1/4	DN 20	DN 8
125-100-250	35	G 1/2	1/2-14 NPT	1/2-14 NPT	DN 8	DN 8	G 1/2	1/2-14 NPT	DN 8	G 1/4	DN 20	DN 8
125-100-315	35	G 1/2	1/2-14 NPT	1/2-14 NPT	DN 8	DN 8	G 1/2	1/2-14 NPT	DN 8	G 1/4	DN 20	DN 8
125-100-315	60	G 1/2	1/2-14 NPT	--	DN 8	DN 8	G 1/2	1/2-14 NPT	DN 8	G 3/8	DN 20	DN 8
125-100-400	55	G 1/2	1/2-14 NPT	1/2-14 NPT	DN 8	DN 8	G 1/2	1/2-14 NPT	DN 8	G 1/4	DN 20	DN 8
150-125-200	35	G 1/2	1/2-14 NPT	1/2-14 NPT	DN 8	DN 8	G 1/2	1/2-14 NPT	DN 8	G 1/4	DN 20	DN 8
150-125-250	35	G 1/2	1/2-14 NPT	1/2-14 NPT	DN 8	DN 8	G 1/2	1/2-14 NPT	DN 8	G 1/4	DN 20	DN 8
150-125-250	60	G 1/2	1/2-14 NPT	--	DN 8	DN 8	G 1/2	1/2-14 NPT	DN 8	G 3/8	DN 20	DN 8
150-125-315	55	G 1/2	1/2-14 NPT	1/2-14 NPT	DN 8	DN 8	G 1/2	1/2-14 NPT	DN 8	G 1/4	DN 20	DN 8
150-125-400	55	G 1/2	1/2-14 NPT	1/2-14 NPT	DN 8	DN 8	G 1/2	1/2-14 NPT	DN 8	G 1/4	DN 20	DN 8
200-150-200	35	G 1/2	1/2-14 NPT	1/2-14 NPT	DN 8	DN 8	G 1/2	1/2-14 NPT	DN 8	G 1/4	DN 20	DN 8
200-150-250	35	G 1/2	1/2-14 NPT	1/2-14 NPT	DN 8	DN 8	G 1/2	1/2-14 NPT	DN 8	G 1/4	DN 20	DN 8
200-150-250	60	G 1/2	1/2-14 NPT	--	DN 8	DN 8	G 1/2	1/2-14 NPT	DN 8	G 3/8	DN 20	DN 8
200-150-315	55	G 1/2	1/2-14 NPT	1/2-14 NPT	DN 8	DN 8	G 1/2	1/2-14 NPT	DN 8	G 1/4	DN 20	DN 8
200-150-400	55	G 1/2	1/2-14 NPT	1/2-14 NPT	DN 8	DN 8	G 1/2	1/2-14 NPT	DN 8	G 1/4	DN 20	DN 8

Flange design

Flange design by materials

Material variant	Standard	Nominal diameter	Pressure class	Region
G, GB, GC	EN 1092-2	DN 25 - DN 150	PN 16	A, B, C, D
		DN 200	PN 10	
S, SB, SC	EN 1092-2	DN 25 - DN 200	PN 16	A
		Drilled to ASME B16.1 ²³⁾	Class 125 ²⁴⁾	A
B	EN 1092-3	DN 25 - DN 200	PN 10	A
		Drilled to ASME B16.1 ²³⁾	Class 125 ²⁵⁾	A
C	EN 1092-1	DN 25 - DN 150	PN 16	A, B, C, D
		DN 200	PN 10	
		Drilled to ASME B16.5 ²³⁾	Class 150	A, B

Flange dimensions



Flange dimensions

Flange dimensions to EN 1092-1, EN 1092-2, EN 1092-3

Flange dimensions [mm]

Nominal size	Standard											
	EN 1092-3			EN 1092-1				EN 1092-2				
	Material											
	B		C				G				S	
	PN 10		PN 10		PN 16		PN 10		PN 16		PN 16	
	Ø K	Number and Ø of holes (Ø L)	Ø K	Number and Ø of holes (Ø L)	Ø K	Number and Ø of holes (Ø L)	Ø K	Number and Ø of holes (Ø L)	Ø K	Number and Ø of holes (Ø L)	Ø K	Number and Ø of holes (Ø L)
25	85	4 × Ø14	-	-	85	4 × Ø14	-	-	85	4 × Ø14	85	4 × Ø14
32	100	4 × Ø18	-	-	100	4 × Ø18	-	-	100	4 × Ø19	100	4 × Ø19
40	110	4 × Ø18	-	-	110	4 × Ø18	-	-	110	4 × Ø19	110	4 × Ø19
50	125	4 × Ø18	-	-	125	4 × Ø18	-	-	125	4 × Ø19	125	4 × Ø19
65	145	4 × Ø18	-	-	145	4 × Ø18	-	-	145	4 × Ø19	145	4 × Ø19
80	160	8 × Ø18	-	-	160	8 × Ø18	-	-	160	8 × Ø19	160	8 × Ø19
100	180	8 × Ø18	-	-	180	8 × Ø18	-	-	180	8 × Ø19	180	8 × Ø19
125	210	8 × Ø18	-	-	210	8 × Ø18	-	-	210	8 × Ø19	210	8 × Ø19
150	240	8 × Ø22	-	-	240	8 × Ø22	-	-	240	8 × Ø23	240	8 × Ø23
200	295	8 × Ø22	295	8 × Ø22	-	-	295	8 × Ø23	-	-	295	12 × Ø23

²³⁾ Suction-side DN 80 machined like DN 100

²⁴⁾ Nozzle drilled to Class 125 with pressure class PN 16

²⁵⁾ Nozzle drilled to Class 125 with pressure class PN 10

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

Flange dimensions [mm]

Nominal size	Standard	
	ASME B 16.1 or ASME B 16.5	
	Material	
	B, C, G, S	
	Class 125 or Class 150	
	Ø K	Number and Ø of holes (Ø L)
25/ NPS 1	79,2	4 × Ø15,7
32/ NPS 1 1/4	88,9	4 × Ø15,7
40/ NPS 1 1/2	98,6	4 × Ø15,7
50/ NPS 2	120,7	4 × Ø19,1
65/ NPS 2 1/2	139,7	4 × Ø19,1
80 ²⁶⁾ / NPS 3	152,4	4 × Ø19,1
100/ NPS 4	190,5	8 × Ø19,1
125/ NPS 5	215,9	8 × Ø22,4
150/ NPS 6	241,3	8 × Ø22,4
200/ NPS 8	298,5	8 × Ø22,4

NPS for DN 80 flange drilled to ASME

Size	Bearing bracket	Material variant							
		G, GB, GC		B		S, SB, SC		C	
		DN 1 ASME 125	DN 2 ASME 125	DN 1 ASME 125	DN 2 ASME 125	DN 1 ASME 125	DN 2 ASME 125	DN 1 ASME 125	DN 2 ASME 125
080-065-125	25	NPS 4	NPS 2 1/2	-	-	-	-	NPS 4	NPS 2 1/2
080-065-160	25	NPS 4	NPS 2 1/2	NPS 4	NPS 2 1/2	NPS 4	NPS 2 1/2	NPS 4	NPS 2 1/2
080-065-200	25	NPS 4	NPS 2 1/2	NPS 4	NPS 2 1/2	NPS 4	NPS 2 1/2	NPS 4	NPS 2 1/2
080-065-250	35	NPS 4	NPS 2 1/2	NPS 4	NPS 2 1/2	NPS 4	NPS 2 1/2	NPS 4	NPS 2 1/2
080-065-315	35	NPS 4	NPS 2 1/2	-	-	NPS 4	NPS 2 1/2	NPS 4	NPS 2 1/2

Scope of supply

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

Scope of supply

Scope of supply	Region
Pump	A, B, C, D
Baseplate	A, B, C, D
Coupling	A, B, C, D
Coupling guard	A, B, C, D
Motor	A, C, D

²⁶⁾ On sizes 080-065-125, 080-065-160, 080-065-200, 080-065-250, 080-065-315 flanges DN 80 (NPS 3) are drilled to NPS 4. Also see the table on NPS for DN 80.

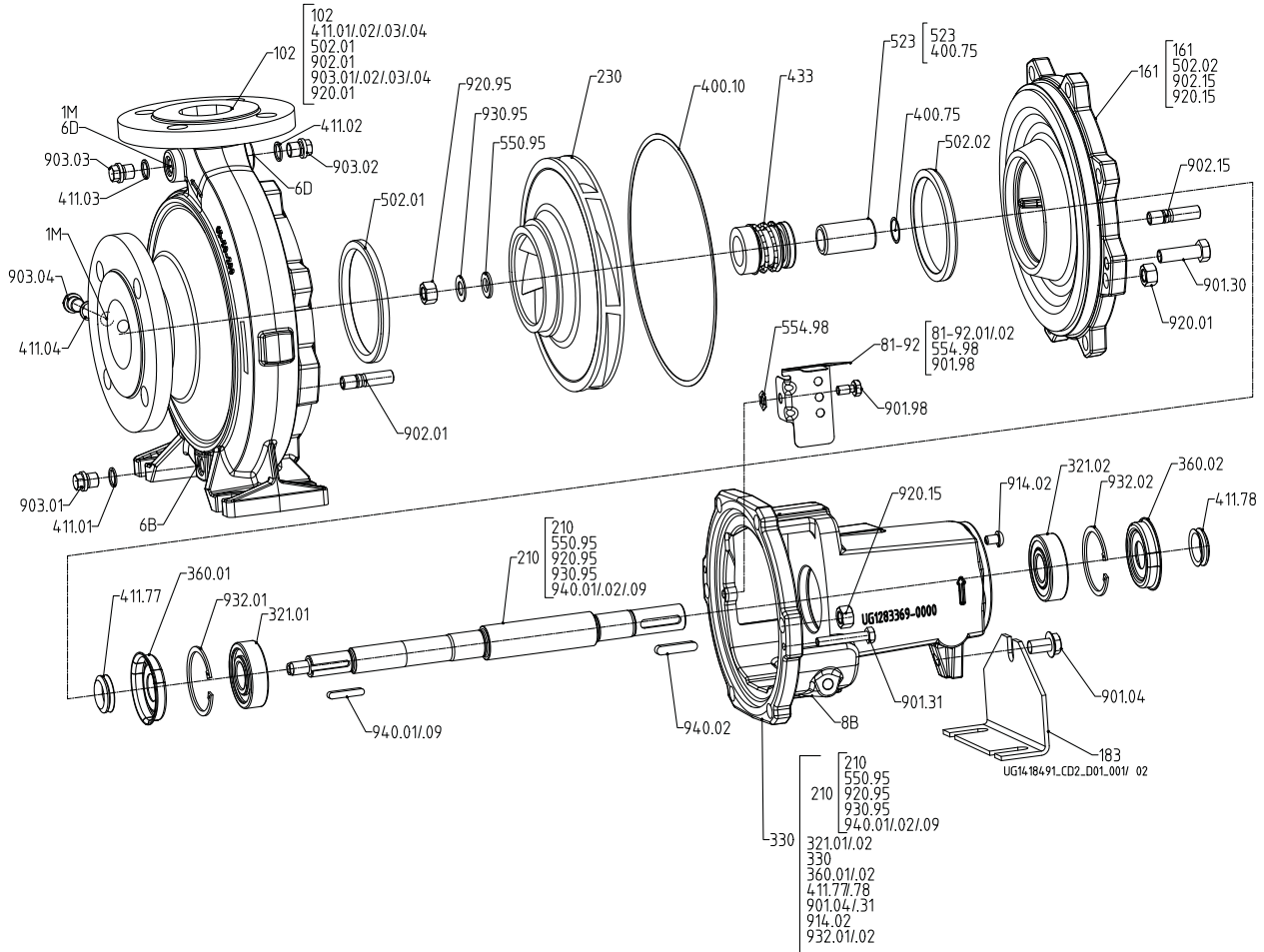
General assembly drawings

Standardised mechanical seal and bolted casing cover

This view applies to the following pump sizes:

040-025-200	050-32-200.1	065-040-200	065-050-200	080-065-200	100-080-250	125-100-250	150-125-250	200-150-250
	050-32-250.1	065-040-250	065-050-250	080-065-250	100-080-315	125-100-315	150-125-315	200-150-315
	050-32-200	065-040-315	065-050-315	080-065-315	100-080-400	125-100-400	150-125-400	200-150-400
	050-32-250							

[Supplied in packaging units only



Pump set with standardised mechanical seal and bolted casing cover

List of components

Part No.	Description	Part No.	Description
102	Volute casing	554.98	Lock washer
161	Casing cover	81-92.01/02	Cover plate
183	Support foot	901.04/.30/.31/.98	Hexagon head bolt
210	Shaft	902.01/.15	Stud
230	Impeller	903.01/.02/.03/.04	Screw plug
321.01/02	Deep groove ball bearing	914.02	Round-head screw
330	Bearing bracket	920.01/.15/.95	Hexagon nut
360.01/02	Bearing cover	930.95	Spring washer
400.10/.75	Gasket	932.01/.02	Circlip
411.01/02/03/04	Joint ring ²⁷⁾	940.01/02/09 ²⁸⁾	Key

Part No.	Description	Part No.	Description
411.77/78	Axial seal ring	Connections:	
433	Mechanical seal	1M	Connection for pressure gauge
502.01/02	Casing wear ring ²⁹⁾	6B	Fluid drain
523	Shaft sleeve	6D	Fluid priming and venting
550.95 ³⁰⁾	Disc	8B	Leakage drain

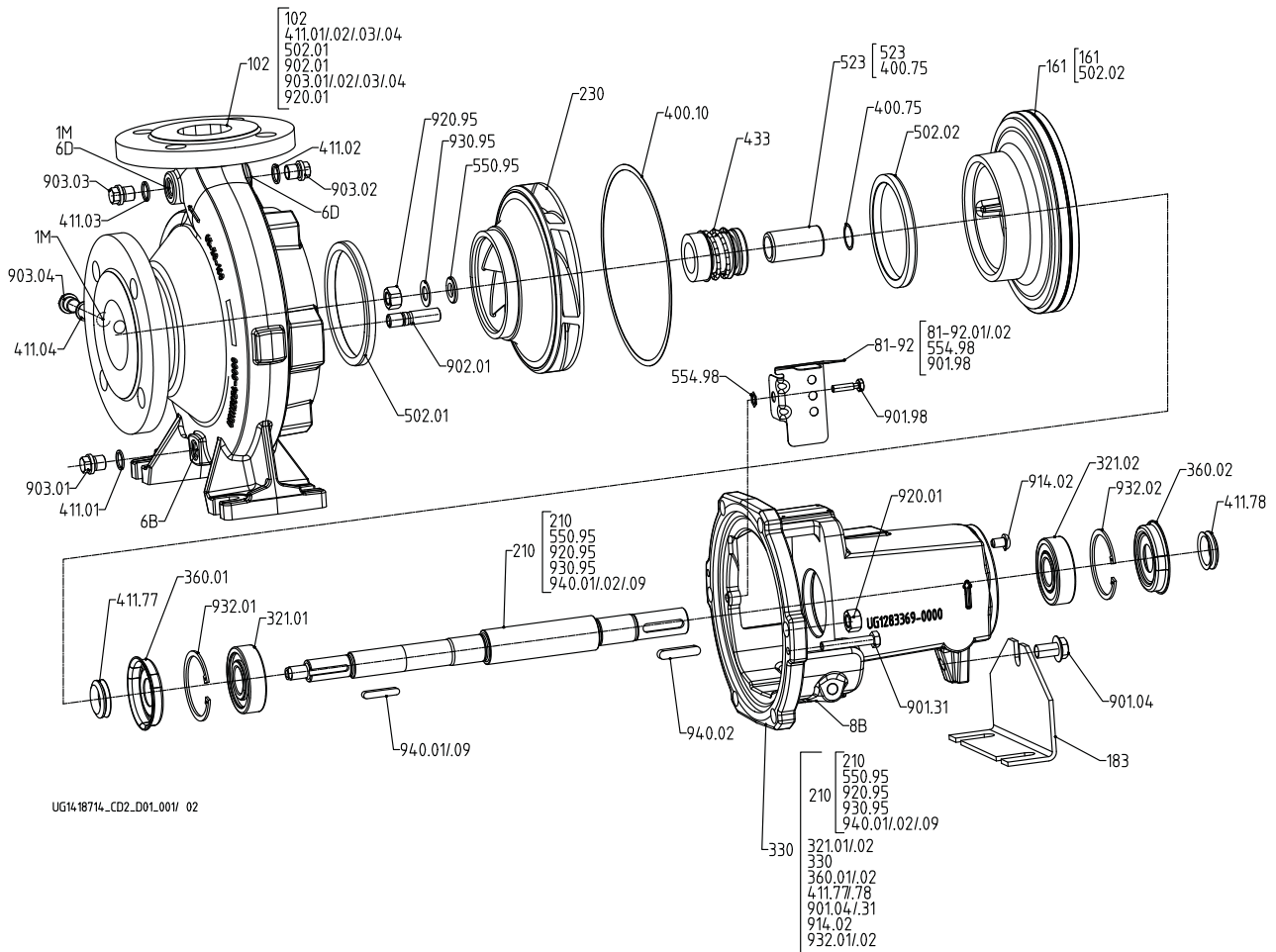
27) For casing materials S and C only
 28) For shaft units 55 and 60 only
 29) Optional for casing material C
 30) For shaft unit 25 only

Standardised mechanical seal and clamped casing cover

This view applies to the following pump sizes:

- | | | | | | | | | |
|-------------|--------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|
| 040-025-160 | 050-32-125.1 | 065-040-125 | 065-050-125 | 080-065-125 | 100-080-160 | 125-100-160 | 150-125-200 | 200-150-200 |
| | 050-32-160.1 | 065-040-160 | 065-050-160 | 080-065-160 | 100-080-200 | 125-100-200 | | |
| | 050-32-125 | | | | | | | |
| | 050-32-160 | | | | | | | |

[Supplied in packaging units only



Pump set with standardised mechanical seal and clamped casing cover

List of components

Part No.	Description	Part No.	Description
102	Volute casing	554.98	Lock washer
161	Casing cover	81-92.01/02	Cover plate
183	Support foot	901.04/.30/.31/.98	Hexagon head bolt
210	Shaft	902.01/.15	Stud
230	Impeller	903.01/.02/.03/.04	Screw plug
321.01/02	Deep groove ball bearing	914.02	Round-head screw
330	Bearing bracket	920.01/.95	Hexagon nut
360.01/02	Bearing cover	930.95	Spring washer
400.10/75	Gasket	932.01/02	Circlip
411.01/02/.03/.04	Joint ring ³¹⁾	940.01/02/.09 ³²⁾	Key

31) For casing materials S and C only

Part No.	Description	Part No.	Description
411.77/78	Axial seal ring	Connections:	
433	Mechanical seal	1M	Connection for pressure gauge
502.01/02 ³³⁾	Casing wear ring ³⁴⁾	6B	Fluid drain
523	Shaft sleeve	6D	Fluid priming and venting
550.95 ³⁵⁾	Disc	8B	Leakage drain

³²⁾ For shaft units 55 and 60 only

³³⁾ Not on sizes 040-025-160, 050-32-125.1, 050-32-160.1, 050-32-125, 050-32-160, 065-040-125

³⁴⁾ Optional for casing material C

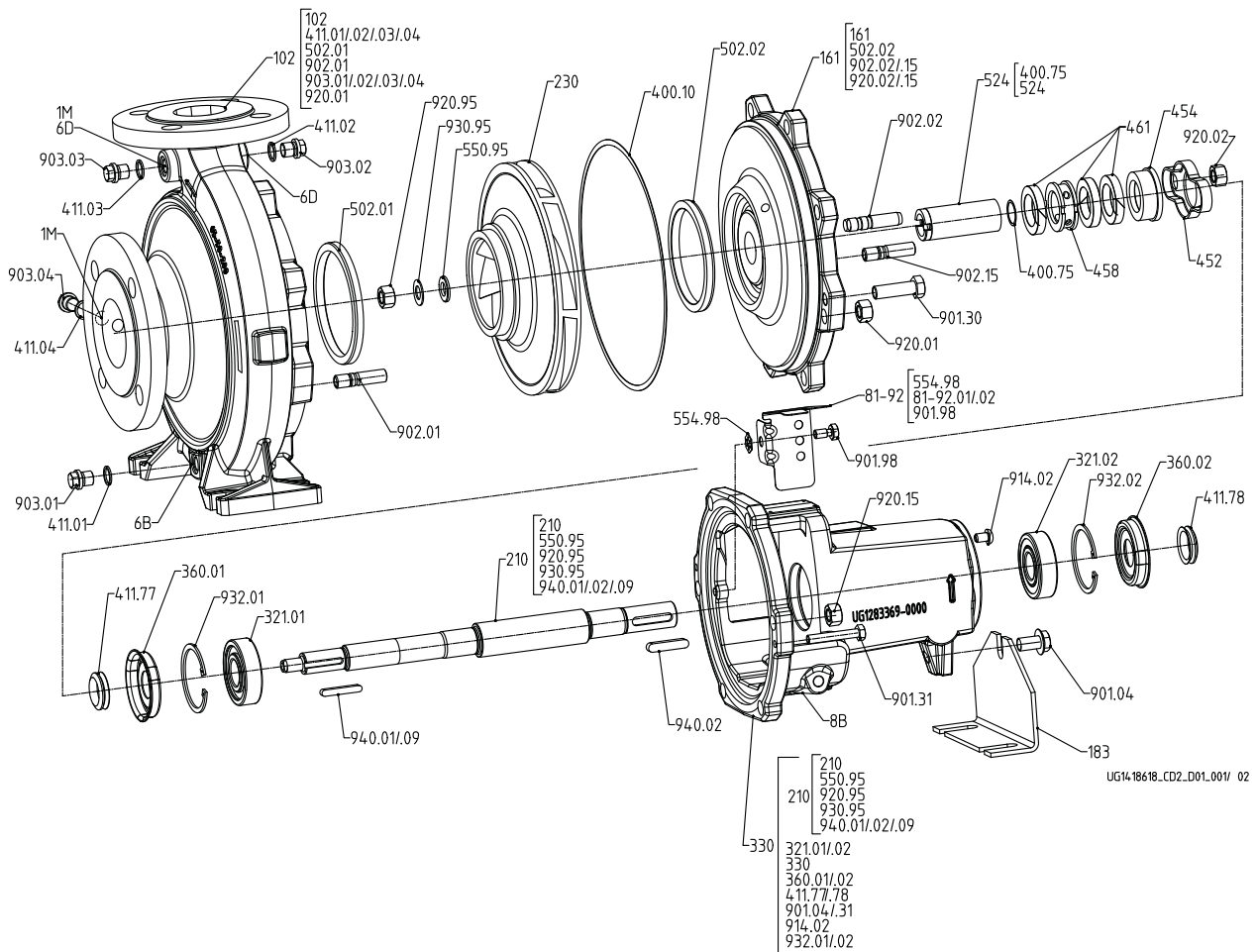
³⁵⁾ For shaft unit 25 only

Gland packing and bolted casing cover

This view applies to the following pump sizes:

040-025-200	050-32-200.1	065-040-200	065-050-200	080-065-200	100-080-250	125-100-250	150-125-250	200-150-250
	050-32-250.1	065-040-250	065-050-250	080-065-250	100-080-315	125-100-315	150-125-315	200-150-315
	050-32-200	065-040-315	065-050-315	080-065-315	100-080-400	125-100-400	150-125-400	200-150-400
	050-32-250							

[Supplied in packaging units only



Pump set with gland packing and bolted casing cover

List of components

Part No.	Description	Part No.	Description
102	Volute casing	550.95 ³⁶⁾	Disc
161	Casing cover	554.98	Lock washer
183	Support foot	81-92.01/02	Cover plate
210	Shaft	901.04/30/98	Hexagon head bolt
230	Impeller	902.01/02/15	Stud
321.01/02	Deep groove ball bearing	903.01/02/03/04	Screw plug
330	Bearing bracket	914.02	Round-head screw
360.01/02	Bearing cover	920.01/02/15/95	Hexagon nut
400.10/75	Gasket	930.95	Spring washer

36) For shaft unit 25 only

Part No.	Description	Part No.	Description
411.01/02/03/04	Joint ring ³⁷⁾	932.01/02	Circlip
411.77/78	Axial seal ring	940.01/02/09 ³⁸⁾	Key
452	Gland follower		
454	Stuffing box ring	Connections:	
458	Lantern ring	1M	Connection for pressure gauge
461	Gland packing	6B	Fluid drain
502.01/02	Casing wear ring ³⁹⁾	6D	Fluid priming and venting
524	Shaft protecting sleeve	8B	Leakage drain

³⁷⁾ For casing material C only

³⁸⁾ For shaft units 55 and 60 only

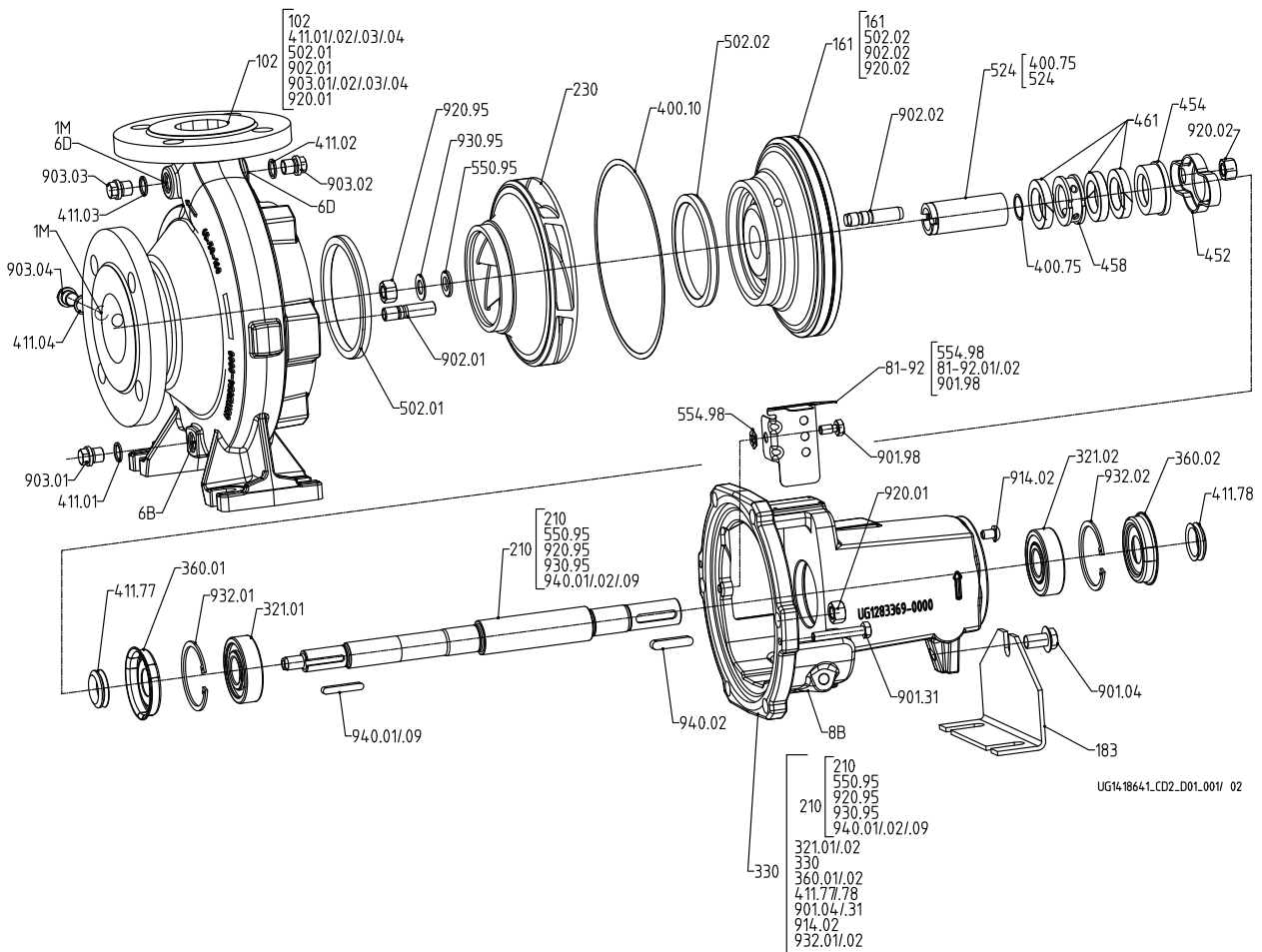
³⁹⁾ Optional for casing material C

Gland packing and clamped casing cover

This view applies to the following pump sizes:

- | | | | | | | | | |
|-------------|--------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|
| 040-025-160 | 050-32-125.1 | 065-040-125 | 065-050-125 | 080-065-125 | 100-080-160 | 125-100-160 | 150-125-200 | 200-150-200 |
| | 050-32-160.1 | 065-040-160 | 065-050-160 | 080-065-160 | 100-080-200 | 125-100-200 | | |
| | 050-32-125 | | | | | | | |
| | 050-32-160 | | | | | | | |

[Supplied in packaging units only



Pump set with gland packing and clamped casing cover

List of components

Part No.	Description	Part No.	Description
102	Volute casing	550.95 ⁴⁰⁾	Disc
161	Casing cover	554.98	Lock washer
183	Support foot	81-92.01/02	Cover plate
210	Shaft	901.04/30/98	Hexagon head bolt
230	Impeller	902.01/02	Stud
321.01/02	Deep groove ball bearing	903.01/02/03/04	Screw plug
330	Bearing bracket	914.02	Round-head screw
360.01/02	Bearing cover	920.01/02/15/95	Hexagon nut
400.10/75	Gasket	930.95	Spring washer
411.01/02/03/04	Joint ring ⁴¹⁾	932.01/02	Circlip

40) For shaft unit 25 only

Part No.	Description	Part No.	Description
411.77.78	Axial seal ring	940.01/.02/.09 ⁴²⁾	Key
452	Gland follower		
454	Stuffing box ring	Connections:	
458	Lantern ring	1M	Connection for pressure gauge
461	Gland packing	6B	Fluid drain
502.01/.02 ⁴³⁾	Casing wear ring ⁴⁴⁾	6D	Fluid priming and venting
524	Shaft protecting sleeve	8B	Leakage drain

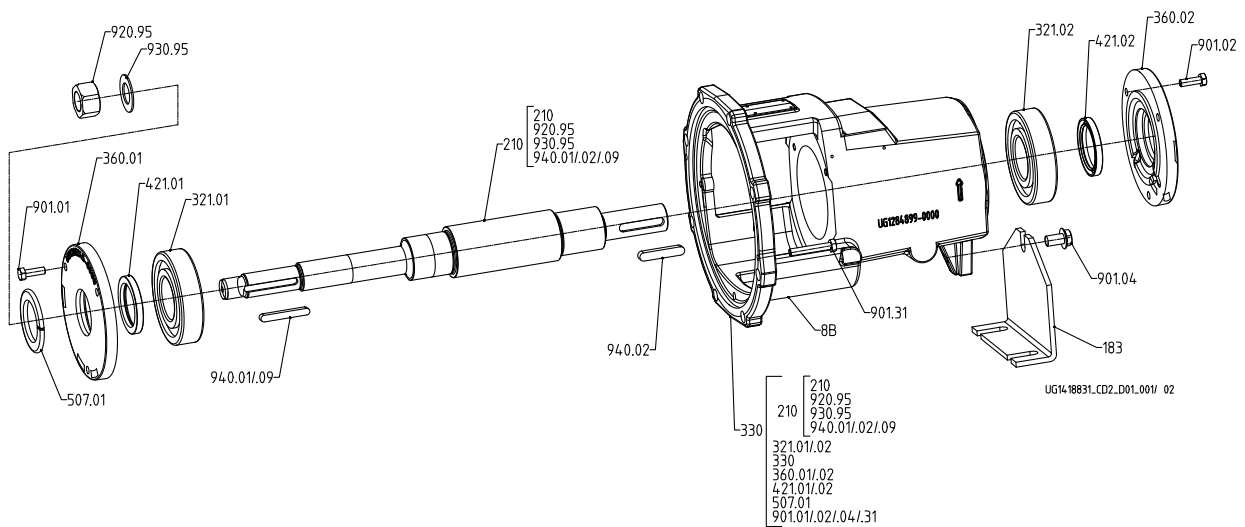
41) For casing material C only

42) For shaft units 55 and 60 only

43) Not on sizes 040-025-160, 050-32-125.1, 050-32-160.1, 050-32-125, 050-32-160, 065-040-125

44) Optional for casing material C

Reinforced bearings



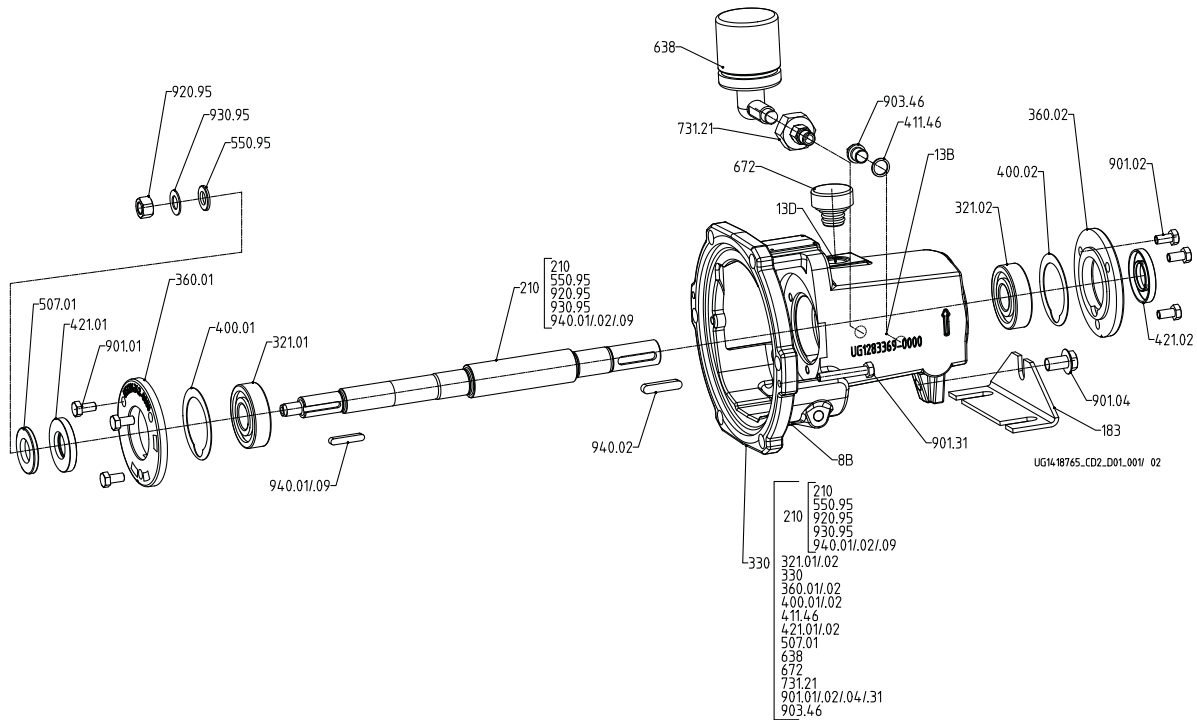
Version with reinforced bearings (shaft units 50 and 60)

List of components⁴⁵⁾

Part No.	Description	Part No.	Description
183	Support foot	901.01/.02/.04/.31	Hexagon head bolt
210	Shaft	920.95	Hexagon nut
330	Bearing bracket	930.95	Spring washer
321.01/.02	Deep groove ball bearing	940.01/.02/.09 ⁴⁶⁾	Key
360.01/.02	Bearing cover		
400 ⁴⁷⁾	Gasket		
421.01/.02	Lip seal	Connections:	
507.01	Thrower	8B	Leakage drain

45) Some individual components may not be applicable, depending on the size and material.
 46) For shaft unit 60 only
 47) For oil-lubricated pump sets only

Oil lubrication with constant level oiler



Version with oil lubrication and constant level oiler

List of components⁴⁸⁾

Part No.	Description	Part No.	Description
183	Support foot	672	Vent
210	Shaft	731.21	Pipe union
330	Bearing bracket	901.01/.02/.04/.31	Hexagon head bolt
321.01/.02	Deep groove ball bearing	903.46	Screw plug
360.01/.02	Bearing cover	920.95	Hexagon nut
400.01/.02	Gasket	930.95	Spring washer
411.46	Joint ring	940.01/.02/.09 ⁴⁹⁾	Key
421.01/.02	Lip seal	Connections:	
507.01	Thrower	8B	Leakage drain
550.95 ⁵⁰⁾	Disc	13B	Oil drain
638	Constant level oiler	13D	Oil filling and venting
642 ⁵¹⁾	Oil level sight glass		

48) Some individual components may not be applicable, depending on the size and material.

49) For shaft units 55 and 60 only

50) For shaft unit 25 only

51) Always supplied with constant level oiler and oil level sight glass for region B.

Complete product code

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
E	T	N		0	4	0	-	0	2	5	-	2	0	0		S	G		A	A	1	1	G	B	2	1	3	2	0	2	B	P	2	E
See name plate and data sheet																							See data sheet											

Key to the designation

Position	Code	Description
1-4	Pump type	
	ETN	Etanorm
	ETNF	Etanorm fire-fighting pump
5-16	Size	
	040	Nominal suction nozzle diameter [mm]
	025	Nominal discharge nozzle diameter [mm]
	200	Nominal impeller diameter [mm]
17	Pump casing material	
	G	JL1040/A48CL35
	S	JS 1030
	C	1.4408/A743CF8M
18	Impeller material	
	G	JL1040/A48CL35
	C	1.4408/A743CF8M
	B	CC480K-GS/B30 C90700
19	Special design	
	.52)	Standard
	V	Fire-fighting variant to VDS
	A	Fire-fighting variant to APSAD
	M	Fire-fighting variant to FM
	N	Fire-fighting variant, non-listed
20	Special design	
	A	Conical cover for single mechanical seal
	C	Cylindrical cover for version with gland packing or double mechanical seal
21	Seal code	
	P	Version with gland packing
	B	Dead-end arrangement (for Etanorm SYT only)
	I	Internal circulation (conical cover only)
	E	External circulation
	F	External flushing
	D	Back-to-back arrangement
	T	Tandem arrangement with internal circulation
A	Conical cover without internal circulation	
22-23	Seal code	
	1A	P1 gland packing variant with internal barrier fluid (Na), material RT/P ⁵³⁾ (for hot water of up to 120 °C)
	1B	P2 gland packing variant without barrier fluid (Nb), material RT/P (for hot water of up to 120 °C) ⁵⁴⁾
	1C	P3 gland packing variant with external barrier fluid (Nc), material RT/P (for hot water of up to 110 °C)
	1D	P4 gland packing variant with external flushing liquid (VSH), material RT/P (for hot water of up to 110 °C)
	3B	P2 gland packing variant without barrier fluid (Nb), material BUP901/B5 (for hot water of up to 140 °C)
4A	P1 gland packing variant with internal barrier fluid (Na), material BU5426 (for drinking water to ACS)	

⁵²⁾ Blank

⁵³⁾ For region B style 3116 is used instead.

⁵⁴⁾ For region B style 3116 is used instead (for hot water of up to 140 °C).

Position	Code	Description
	4B	P2 gland packing variant without barrier fluid (Nb), material BU5426 (for drinking water to ACS)
	5A	P1 gland packing variant with internal barrier fluid (Na), material HE1727 (surface treatment technology)
	5B	P2 gland packing variant without barrier fluid (Nb), material HE1727 (surface treatment technology)
	01	1 (ZN1181) Q1Q1VGG
	06	RMG13G606 U3BEGG (shaft unit 25, 35)
	07	1A (ZN1181) Q1Q1EGG
	08	M32N69 (SYT) AQ1VGG
	09	MG13G60 U3U3VGG
	10	1 (ZN1181) Q1Q1X4GG
	11	1 (ZN1181) BQ1EGG-WA (WA = drinking water)
	12	M37GN83 Q12Q1M1GG
	13	1 (ZN1181) BQ1VGG
	14	KMB13S2G9 Q1Q1KY7G
	15	M7G49 Q1Q1K9GG/G
	16	MG1S20 BVPGG
	17	M7N Q1BVGG
	18	MG12G6-E1 Q1Q1EGG/G MG12G6-E1 Q1Q1EGG/G
	19	HN400N Q1Q1M1GG MG12G6-E1 Q1Q1EGG/G
	20	M37GN85 Q12Q1M1GG1 MG12G6-E1 Q1Q1EGG/G
	23	M37GN92 Q12Q1M1GG1 MG12G6-E1 Q1Q1EGG/G
	21	M7G49 Q1Q1K9GG/G M7G49 Q1Q1K9GG/G
	24	M7G49 Q1Q1K9GG/G M7N Q1BVGG
	22	M32N69 AQ1EGG (shaft unit 55)
	25	M32N67 (SYT) AQ1VGG M32N67 AQ1VGG
	24	Bearing bracket
	G	Grease lubrication
	O	Oil lubrication
	Y	Version for heat transfer fluid
25	Scope of supply	
	A	Pump only (Fig. 0)
	B	Pump, baseplate
	C	Pump, baseplate, coupling, coupling guard
	D	Pump, baseplate, coupling, coupling guard, motor
26	Shaft unit	
	2	Shaft unit 25, bearing bracket LS standard
	3	Shaft unit 35, bearing bracket LS standard
	4	Shaft unit 50, bearing bracket LR reinforced
	5	Shaft unit 55, bearing bracket LS standard
	6	Shaft unit 60, bearing bracket LR reinforced
27-30	Motor rating	
	1 3 2 0	132 kW
	0 0 7 5	7.5 kW
	0 0 0 7	0.75 kW
31	Number of poles	
	2	2 poles
	4	4 poles
	6	6 poles
	8	8 poles
32	Product generation	
	B	Product generation Etanorm 2013
33-35	PumpDrive	
	P2	PumpDrive 2nd generation
	P2E	PumpDrive 2nd generation, Eco



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