

Self-priming Pump

Etaprime L

Type Series Booklet



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Type Series Booklet Etaprime L

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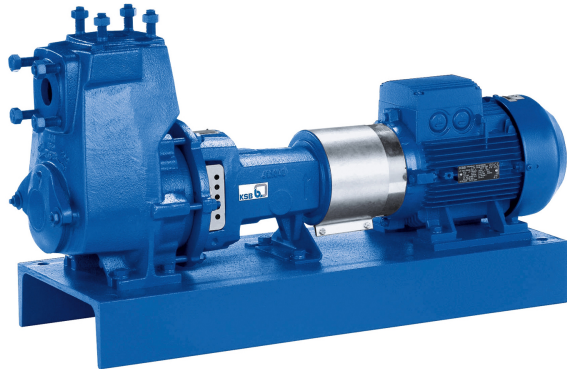
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Self-priming Pump

Volute Casing Pumps

Etaprime L



Main applications

- Spray irrigation systems
- Service water supply systems
- Drainage
- Drainage systems
- Fire-fighting systems
- Lowering groundwater levels
- Domestic water supply
- Air-conditioning systems
- Cooling circuits
- Swimming pools
- Water supply systems

Fluids handled

- Drinking water
- Swimming pool water (0.4 to 1.4 mg/l free chlorine, max. 0.6 mg/l combined chlorine, pH value 6.9 to 7.7, water hardness 10 to 30 °dH, max. salt content 7 g/l)
- Fire-fighting water
- Seawater
- River, lake and groundwater
- Brackish water
- Condensate
- Brine
- Oil
- Service water

- Cleaning agents
- Cooling water

Operating data

Operating properties

Characteristic		Value	
		50 Hz	60 Hz
Flow rate	Q [m³/h]	≤ 180	≤ 150
	Q [l/s]	≤ 50	≤ 41
Head	H [m]	≤ 85	≤ 105
Fluid temperature	T [°C]	-30 to +90	
Operating pressure	p [bar]	≤ 10	
Static suction lift	H _{Geo} [m]	≤ 9	

Designation

Example: ETPL080-080-200 GCXI10D3

Designation key

Code	Description
ETPL	Type series
	ETPL Etaprime L
080	Nominal suction nozzle diameter [mm]
080	Nominal discharge nozzle diameter [mm]
200	Nominal impeller diameter [mm]
G	Casing material
	C Stainless steel
	G Grey cast iron
C	Impeller material if different from casing material
	C Stainless steel
	G Grey cast iron
X	Design
	- Standard X Special design
I	Sealing system
	I Single mechanical seal
	D Double mechanical seal in back-to-back arrangement T Double mechanical seal in tandem arrangement
10	Seal code
	01 Q1Q1VGG
	08 AQ1VGG ¹⁾
	09 U3U3VGG
	10 Q1Q1X4GG
11 BQ1EGG	
D	Scope of supply
	A Pump (without motor)
	B Pump with baseplate
	C Pump with baseplate, coupling and coupling guard D Pump with baseplate, coupling, coupling guard and motor
3	Shaft unit
	1 SU 17
	2 SU 25 3 SU 35

1) BQVGG for shaft unit 17

Further information on the designation

(⇒ Page 28)

Design details

Design

- Volute casing pump
- Back pull-out design (from size 40-40-140)
- Horizontal installation
- Self-priming
- Single-stage
- Single-entry

Pump casing

- Radially split volute casing
- Volute casing with integrally cast pump feet (from pump size 40-40-140)

Impeller type

- Open multi-channel impeller

Bearings

- Floating bearings: deep groove ball bearings

Shaft seal

- The shaft is fitted with a replaceable shaft sleeve in the shaft seal area (from pump size 40-40-140).
- Single and double mechanical seals to EN 12756

Bearings used

Standard bearings

Version	Bearing bracket	Rolling element bearing	
		Pump end	Drive end
Standard bearings (grease lubrication)	SU 17	3203 C3	6203 2RS
	SU 25	6305 2Z C3	6305 2Z C3
	SU 35	6307 2Z C3	6307 2Z C3
Standard bearings (oil lubrication)	SU 17	-	-
	SU 25	6305 C3	6305 C3
	SU 35	6307 C3	6307 C3

Lubrication:

- Grease lubrication
- Oil lubrication

Drive


- KSB IEC frame standardised IE3 motor (from 0.75 kW)
- 230/400 V up to 2.2 kW and 400/690 V from 3 kW
- 60 Hz winding, 440 - 480 V
- Type of construction B3
- IP55 enclosure
- Thermal class F with temperature sensor, 3 PTC thermistors
- Mode of operation: continuous operation S1

Product benefits

- Maintenance-free mechanical seal ensures operating reliability
- Easy to dismantle due to back pull-out design; no need to remove the pump casing from the piping
- Good suction performance, self-priming up to 9 m suction lift, also suitable for applications with relatively poor inlet conditions (i.e. low or negative inlet pressure) and for handling fluids with entrained gas.
- Optimised hydraulic components for high efficiency help reduce energy consumption

Certifications

Overview

Label	Effective in:	Note
	All countries	Certified quality management to ISO 9001

Overview of fluids handled

Table of fluids handled and associated material combinations

X = standard

Fluid handled	Temperature	Materials			Shaft seal							Mechanical seal design code	Comments
		Casing / impeller			Mechanical seal								
		Grey cast iron/grey cast iron	Grey cast iron/ Cr-Ni-Mo cast steel	CrNiMo cast steel/ CrNiMo cast steel	Q1Q1VGG	AQ1VGG ²⁾ BQVGG ³⁾	U3U3VGG	Q1Q1X4GG	BQ1EGG ²⁾	Q12Q1M1GG			
											Design code		
[°C]	G	GC	C	01	8	9	10	11	70 ⁴⁾				
Water													
Industrial waste water													Analysis of the fluid handled required
Ammonia water (ammonia solution)	≤ 40; conc. ≤ 10 %	X							X				Tandem seal Q1Q1EGG required. Quench liquid: used suitable water.
Brackish water	≤ 25			X				X				10	
Fire-fighting water ⁵⁾	≤ 60		X					X				10	
Condensate ²⁾	≤ 90	X							X			11	
Condensate, not conditioned	≤ 90			X					X			11	
Cooling water (without antifreeze) ⁵⁾	≤ 60	X						X				10	Open circuit: CL 10 required
Cooling water pH ≥ 7.5 (with antifreeze) ⁵⁾⁶⁾	≥ -30 p ≤ 10 bar ≤ 90	X							X			11	Open circuit: CL 11 required
Slightly contaminated water ⁵⁾	≤ 60	X						X				10	
Seawater	≤ 25			X				X				10	
Surface water ⁵⁾	≤ 40	X				X						8	Analysis of the fluids handled required
Pure water ⁷⁾	≤ 60	X							X			11	
Untreated water ⁵⁾	≤ 60	X						X				10	
Swimming pool water (fresh water) ⁵⁾	≤ 60	X						X				10	Also applies to requirements as per DIN 19643
Dam water ⁵⁾	≤ 60	X						X				10	If solids are contained, contact KSB.
Drinking water	≤ 60			X								11	
Partly desalinated water ²⁾	≤ 90	X							X			11	
Fully desalinated water	≤ 90			X					X			11	Requirements for ultra-pure water cannot be met.
Fully desalinated water as boiler feed water ²⁾	≤ 90	X							X			11	
Refrigerants, cooling brines													
Cooling brine; inorganic, pH value > 7.5, inhibited	≥ -30 ≤ 25	X							X			11	
Water with antifreeze, pH value > 7.5 ⁵⁾⁶⁾	≥ -30 ≤ 90	X							X			11	
Oils/emulsions													
Drilling/grinding emulsion	≤ 60	X						X				9	
Oil-water emulsion	≤ 60	X						X				9	
Cleaning agents													
Lyes for bottle rinsers ⁸⁾	≤ 90	X									X	10	EPDM only if oil-free

 2) Treatment to VdTÜV 1466; additional requirement: O₂ ≤ 0.02 mg/l

3) Only applies to shaft unit 17.

4) Special mechanical seal design

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

6) Antifreeze on ethylene glycol basis with inhibitors. Content: 20 % to 50 % (e.g. Antifrogen N)

7) No ultra-pure water! Conductivity at 25 °C: ≤ 800 µS/cm

Fluid handled	Temperature	Materials			Shaft seal							Mechanical seal design code	Comments
		Casing / impeller			Mechanical seal								
		Grey cast iron/grey cast iron	Grey cast iron/ Cr-Ni-Mo cast steel	CrNiMo cast steel/ CrNiMo cast steel	Q1Q1VGG	AQ1VGG ²⁾	BQVGG ³⁾	UBU3VGG	Q1Q1X4GG	BQ1EGG ²⁾	Q12Q1M1GG		
[°C]	G	GC	C	01	8	9	10	11	70 ⁴⁾				
Acids													
Acetic acid	≤ 60; conc. ≤ 5 % ≤ 60; conc. ≤ 10 %			X						X		11	
Alum, potassium aluminium sulphate up to 3 %	≤ 80			X	X							01	

Overview of type series

Available sizes and designs

Size	Shaft unit	Etaprime L		Etaprime B	
		G	GC, C	G	GC, C
032-032-100	17	S / T	-	S / T	-
032-032-120	17	S / T	S / T	S / T	S / T
040-040-110	17	S / T	S / T	S / T	S / T
040-040-140	25	S / T / B	S / T / B	S / T / B	S / T / B
050-050-130	25	S / T / B	S / T / B	S / T / B	S / T / B
050-050-160	25	S / T / B	S / T / B	S / T / B	S / T / B
065-065-150	25	S / T / B	S / T / B	S / T / B	S / T / B
065-065-180	35	S / T / B	S / T / B	S / T / B	S / T / B
080-080-170	35	S / T / B	S / T / B	S / T / B	S / T / B
080-080-190	35	S / T / B	-	S / T / B	-
080-080-200	35	S / T / B	S / T / B	S / T / B	S / T / B
100-100-240.1	35	S / T / B	-	S / T / B	-
100-100-240	35	S / T / B	-	-	-
125-125-260	35	S / T / B	-	-	-

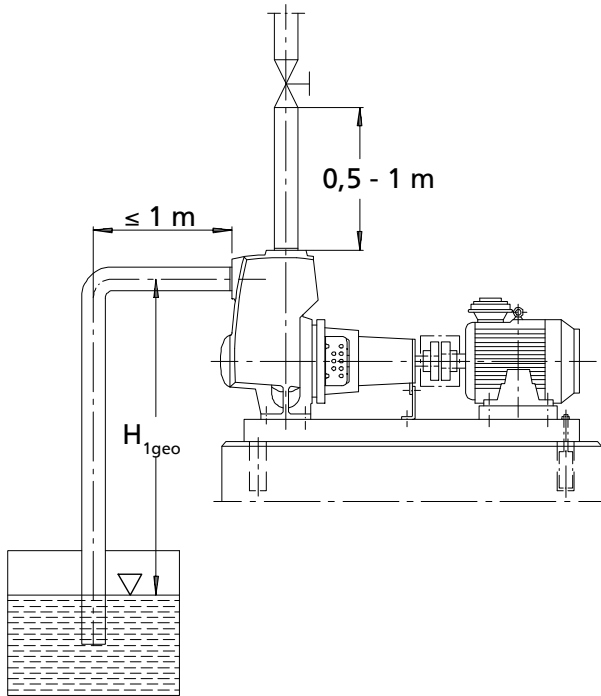
- E = Single mechanical seal (standard design)
- T = Available with double mechanical seal in tandem arrangement
- B = Available with double mechanical seal in back-to-back arrangement
- = Size not available

Priming time

For a 1-metre horizontal length of the suction line and DN suction line = DN pump, the priming times are as follows.

When handling gaseous fluids, fluids which tend to froth or water with a temperature $T > 60\text{ °C}$, the pump will not be self-priming. In such cases, a check valve must be installed in the suction line.

-
- 2) Treatment to VdTÜV 1466; additional requirement: $O_2 \leq 0.02\text{ mg/l}$
 - 3) Only applies to shaft unit 17.
 - 4) Special mechanical seal design
 - 8) With 2 % sodium hydroxide



Distances of suction line and discharge line

Size ⁹⁾	Shaft unit	Priming time [sec] at a speed $n = 3500$ rpm at a static suction lift H_{1geo} of ... m					
		2 m	4 m	5 m	6 m	7 m	8 m
065-065-180	35	20	40	65	90	105	150
080-080-170		30	80	105	130	165	220
080-080-190		30	55	75	100	125	160
080-080-200		25	40	55	80	125	160
100-100-240.1		25	60	85	115	145	180
100-100-240		25	70	85	100	155	360

Size ⁹⁾	Shaft unit	Priming time [sec] at a speed $n = 1450$ rpm at a static suction lift H_{1geo} of ... m							
		1 m	2 m	3 m	4 m	5 m	6 m	7 m	8 m
025-025-100	17	130	-	-	-	-	-	-	-
032-032-120		100	210	-	-	-	-	-	-
040-040-110		120	-	-	-	-	-	-	-
040-040-140	25	130	-	-	-	-	-	-	-
050-050-130		210	410	-	-	-	-	-	-
050-050-160		210	430	-	-	-	-	-	-
065-065-150		190	350	540	-	-	-	-	-
065-065-180	35	90	140	220	370	-	-	-	-
080-080-170		110	180	280	480	-	-	-	-
080-080-190		100	110	200	310	-	-	-	-
080-080-200		70	110	190	270	320	420	-	-
100-100-240.1		130	150	220	300	440	-	-	-
100-100-240		110	160	270	480	-	-	-	-
125-125-260		60	70	110	160	200	330	430	610

Size ⁹⁾	Shaft unit	Priming time [sec] at a speed $n = 2900$ rpm at a static suction lift H_{1geo} of ... m					
		2 m	4 m	5 m	6 m	7 m	8 m
025-025-100	17	40	145	415	-	-	-
032-032-120		30	90	135	190	255	360
040-040-110		60	100	215	420	-	-
040-040-140	25	30	70	125	220	355	600
050-050-130		50	120	195	260	345	440
050-050-160		30	70	105	170	265	430
065-065-150		60	120	165	260	375	570
065-065-180	35	30	50	75	100	145	200
080-080-170		50	100	135	180	225	310
080-080-190		40	70	105	160	185	240
080-080-200		30	50	75	105	155	200
100-100-240.1		30	70	95	120	150	190
100-100-240		35	70	85	110	160	-
125-125-260	35	80	105	130	160	190	

Size ⁹⁾	Shaft unit	Priming time [sec] at a speed $n = 1750$ rpm at a static suction lift H_{1geo} of ... m							
		1 m	2 m	3 m	4 m	5 m	6 m	7 m	8 m
025-025-100	17	70	170	-	-	-	-	-	-
032-032-120		80	150	260	-	-	-	-	-
040-040-110		90	180	-	-	-	-	-	-
040-040-140	25	80	150	200	-	-	-	-	-
050-050-130		130	240	380	-	-	-	-	-
050-050-160		130	260	480	-	-	-	-	-
065-065-150		140	260	350	430	-	-	-	-
065-065-180	35	80	110	170	220	330	-	-	-
080-080-170		90	130	200	320	480	-	-	-
080-080-190		80	100	130	160	210	390	-	-
080-080-200		60	100	160	230	280	350	-	-
100-100-240.1		90	110	140	210	260	400	-	-
100-100-240		80	100	140	200	300	-	-	-
125-125-260		50	60	80	115	170	220	300	400

Size ⁹⁾	Shaft unit	Priming time [sec] at a speed $n = 3500$ rpm at a static suction lift H_{1geo} of ... m					
		2 m	4 m	5 m	6 m	7 m	8 m
025-025-100	17	30	85	135	-	-	-
032-032-120		20	60	105	140	175	250
040-040-110		30	85	125	200	265	470
040-040-140	25	25	50	85	120	145	230
050-050-130		30	90	140	190	245	300
050-050-160		25	55	75	150	215	280
065-065-150		40	80	125	170	225	370

Pressure limits

Size	Discharge pressure $p_2^{10)$ [bar]	Test pressure ¹¹⁾ [bar]
All sizes	10,0	15,0

⁹⁾ Stainless steel variant not available for all pump sizes.

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

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

Materials

A1 = default material variant

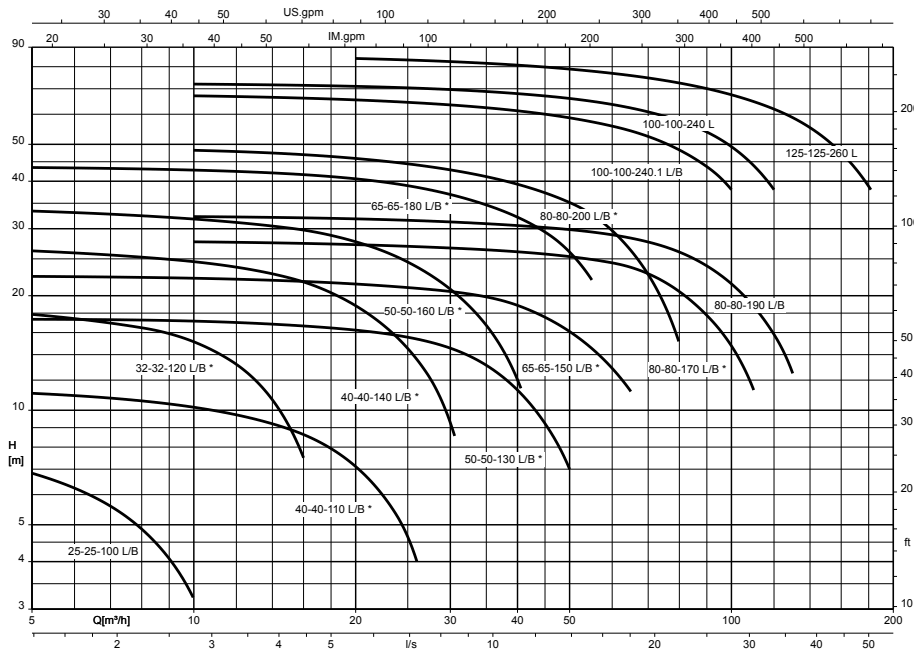
A2 = optional material variant

Part No.	Description		Material variants		
			G	GC	C
102	Volute casing	Grey cast iron EN-GJL-250	A1	A1	-
		Stainless steel 1.4408	-	-	A1
161	Casing cover	Grey cast iron EN-GJL-250	A1	A1	-
		Stainless steel 1.4408	-	-	A1
210	Shaft for shaft units 25 and 35	Tempered steel C45+N	A1	A1	-
		Duplex stainless steel 1.4462	A2	A2	A1
	Shaft for shaft unit 17	Stainless steel 1.4571	A1	A1	A1
230	Impeller	Grey cast iron EN-GJL-250	A1	-	-
		Stainless steel 1.4408	-	A1	A1
330	Bearing bracket for shaft units 25 and 35	Grey cast iron EN-GJL-250	A1	A1	A1
350	Bearing housing for shaft unit 17	Grey cast iron EN-GJL-250	A1	A1	-
		Stainless steel 1.4408	-	-	A1
412	O-ring	EPDM 80 peroxide ¹²⁾	A1	A1	A1
523	Shaft sleeve (not for shaft unit 17)	Stainless steel 1.4571	A1	A1	A1

¹²⁾ FKM 80 on request

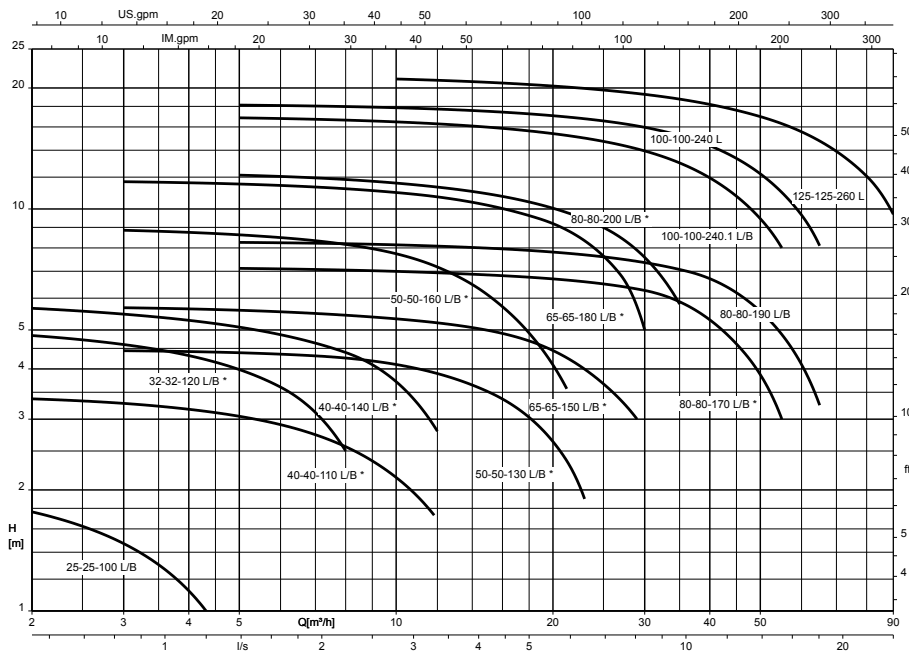
Selection charts

Etaprime L/B, n = 2900 rpm



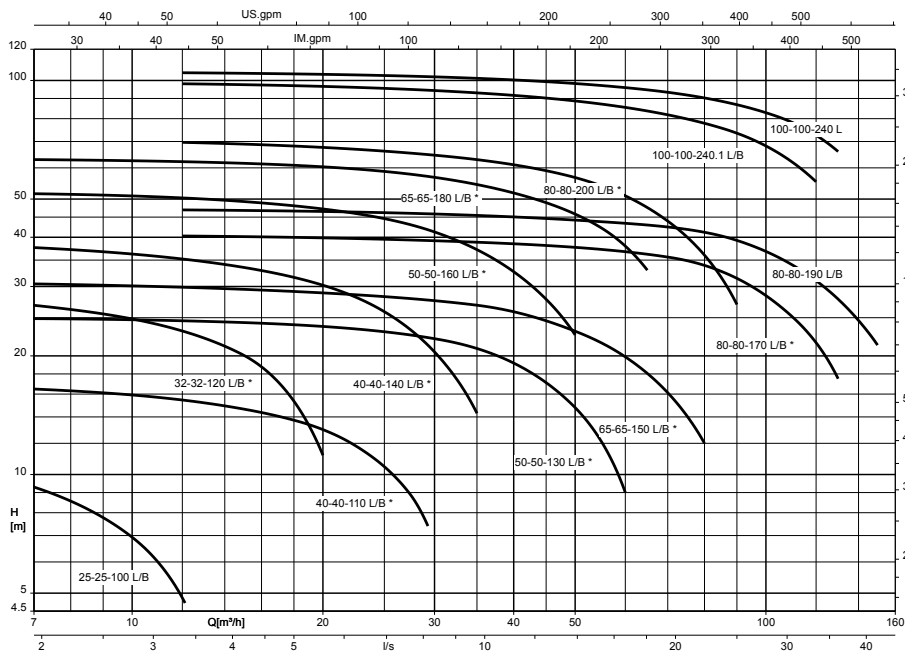
* Also available in stainless steel material variant

Etaprime L/B, n = 1450 rpm



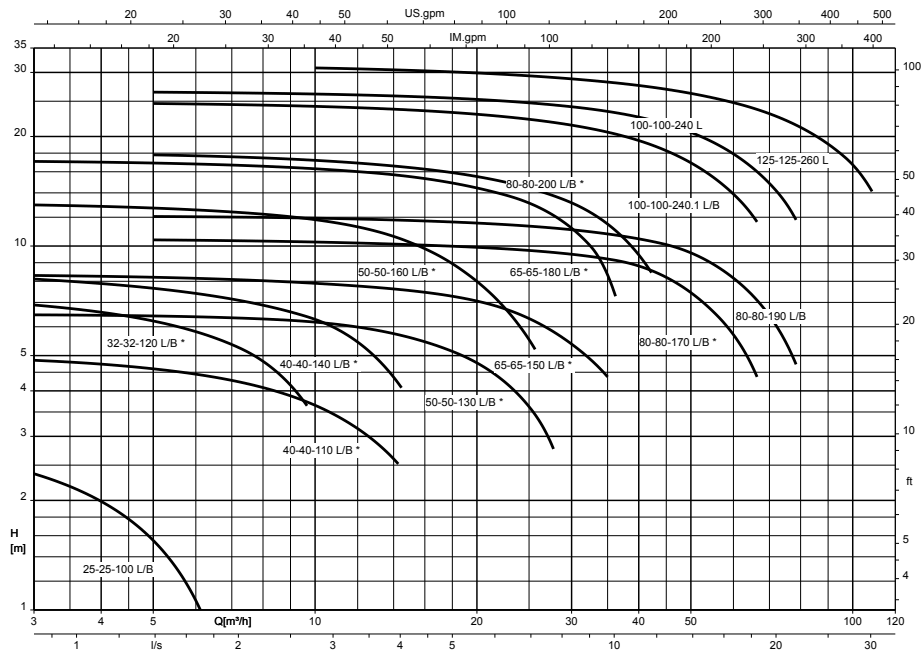
* Also available in stainless steel material variant

Etaprime L/B, n = 3500 rpm



* Also available in stainless steel material variant

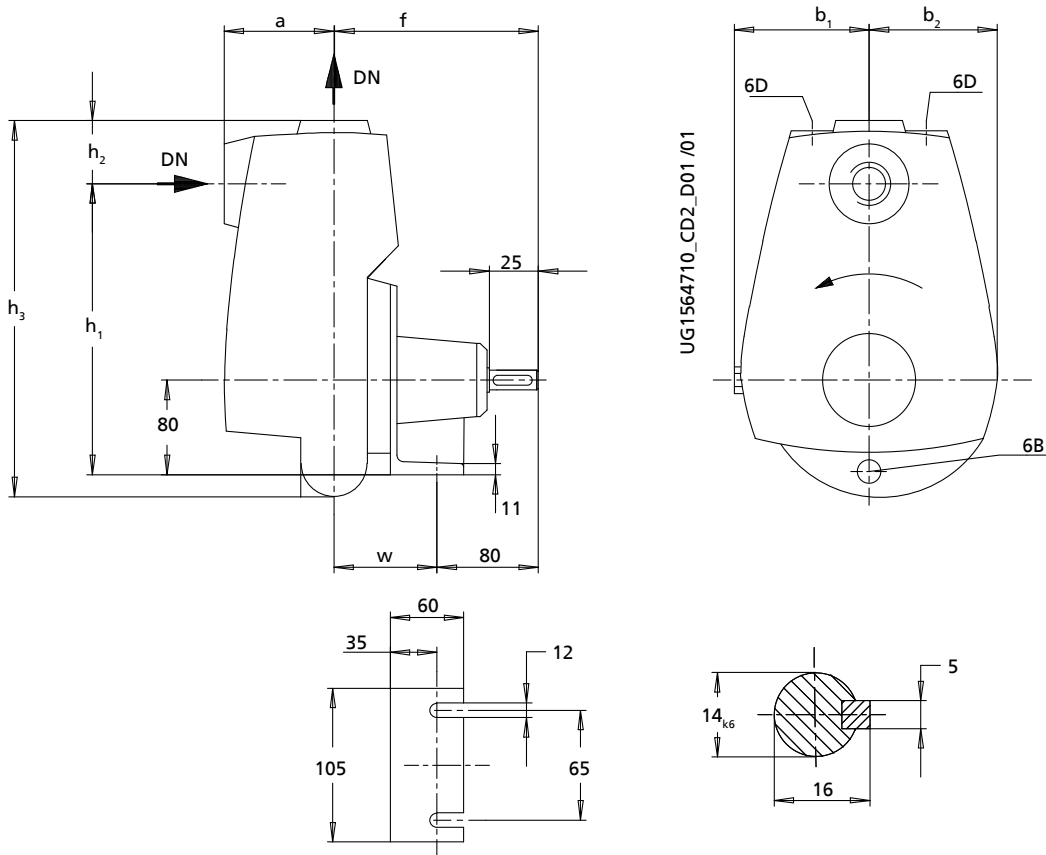
Etaprime L/B, n = 1750 rpm



* Also available in stainless steel material variant

Dimensions and connections

Sizes 025-025-100 to 040-040-110 (shaft unit 17) – pump



Dimensions of sizes 025-025-100 to 040-040-110 (shaft unit 17) – pump

6B	Fluid drain	6D	Fluid priming and venting
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Connections

Size	6 B ¹³⁾	6D ¹³⁾
025-025-100	G 1/8	G 3/8
032-032-120	G 1/8	G 3/8
040-040-110	G 1/8	G 3/8

Pump dimensions [mm]

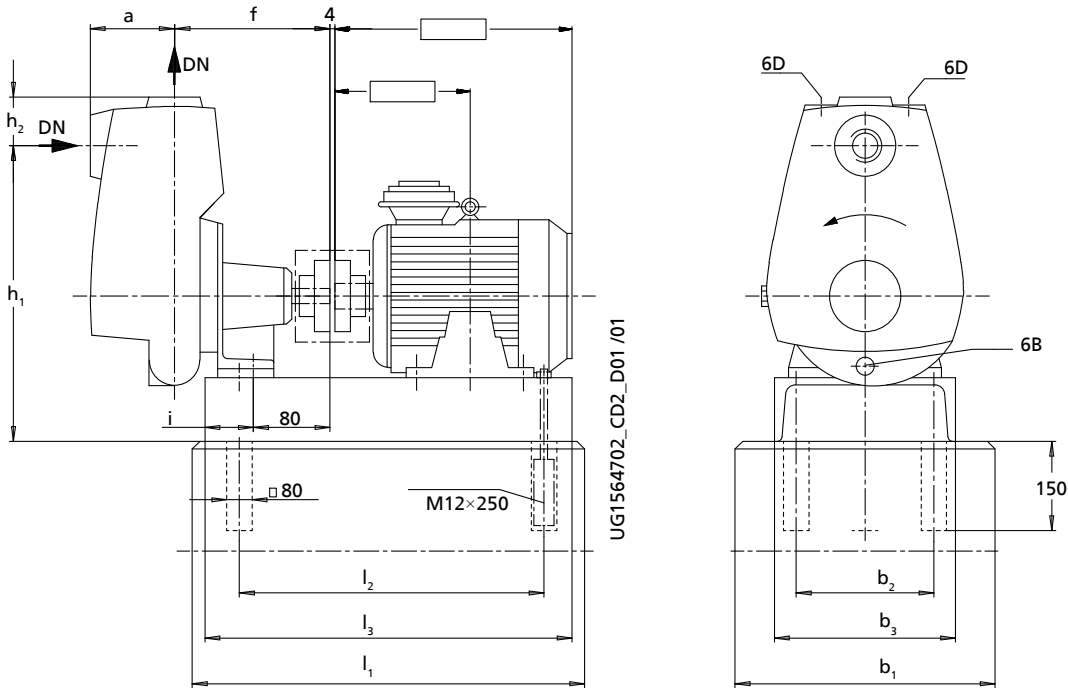
Size	Connection		Pump							
	Standard	Optional	a	b_1	b_2	f	h_1	h_2	h_3	w
	DN ¹⁴⁾	DN ¹⁵⁾								
020-025-100	Rp 1	NPT 1	70	104	95	169	220	38	265	89
032-032-120	Rp 1 1/4	NPT 1 1/4	95	118	95	165	229	46	286	85
040-040-110	Rp 1 1/2	NPT 1 1/2	105	118	110	171	235	55	312	91

¹³⁾ G = ISO 228/1

¹⁴⁾ Standard connection to ISO 7/1

¹⁵⁾ Optional connection to ASME B1.20.1

Sizes 025-025-100 to 040-040-110 (shaft unit 17) – pump set



Dimensions of sizes 025-025-100 to 040-040-110 (shaft unit 17) – pump set

6B	Fluid drain	6D	Fluid priming and venting
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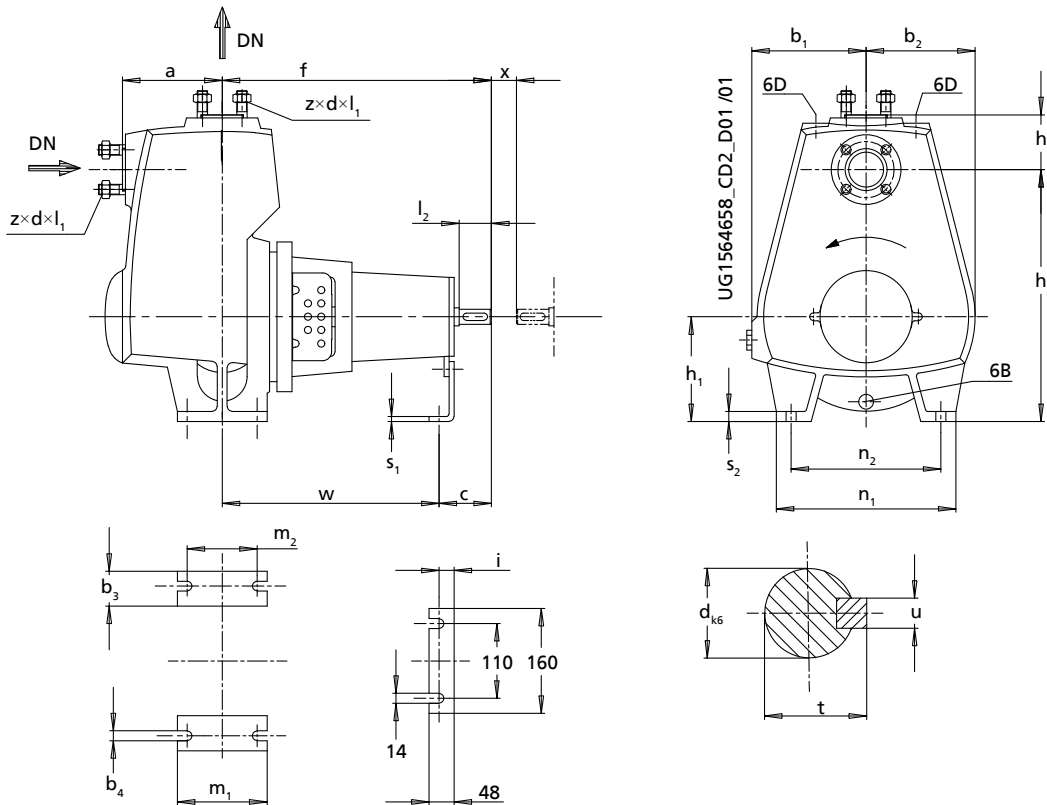
Pump set dimensions [mm]

Size	n				P _N	IEC motor	Connection		Pump set										
	1450	1750	2900	3500			Standard	Optional	a	f	h ₁	h ₂	b ₁	b ₂	b ₃	i	l ₁	l ₂	l ₃
025-025-100	X	X	-	-	0,37	71	Rp 1	NPT 1	70	169	295	38	350	160	200	41,5	570	360	420
025-025-100	X	X	-	-	0,55	80M	Rp 1	NPT 1	70	169	295	38	350	160	200	41,5	570	360	420
025-025-100	-	-	X	-	0,55	71	Rp 1	NPT 1	70	169	295	38	350	160	200	41,5	570	360	420
025-025-100	-	-	-	X	0,75	80M	Rp 1	NPT 1	70	169	295	38	350	160	200	41,5	570	360	420
025-025-100	-	-	-	X	1,10	80M	Rp 1	NPT 1	70	169	295	38	350	160	200	41,5	570	360	420
032-032-120	X	X	-	-	0,37	71	R 1 1/4	NPT 1 1/4	95	165	304	46	350	160	200	41,5	570	360	420
032-032-120	X	X	-	-	0,55	80M	R 1 1/4	NPT 1 1/4	95	165	304	46	350	160	200	41,5	570	360	420
032-032-120	-	-	X	-	1,10	80M	R 1 1/4	NPT 1 1/4	95	165	304	46	350	160	200	41,5	570	360	420
032-032-120	-	-	-	X	2,20	90L	R 1 1/4	NPT 1 1/4	95	165	314	46	350	160	200	41,5	570	360	420
040-040-110	X	X	-	-	0,37	71	Rp 1 1/2	NPT 1 1/2	105	171	310	55	350	160	200	41,5	570	360	420
040-040-110	X	X	-	-	0,55	80M	Rp 1 1/2	NPT 1 1/2	105	171	310	55	350	160	200	41,5	570	360	420
040-040-110	-	-	X	-	1,10	80M	Rp 1 1/2	NPT 1 1/2	105	171	310	55	350	160	200	41,5	570	360	420
040-040-110	-	-	-	X	1,50	90S	Rp 1 1/2	NPT 1 1/2	105	171	320	55	350	160	200	41,5	570	360	420

16) Standard connection to ISO 7/1

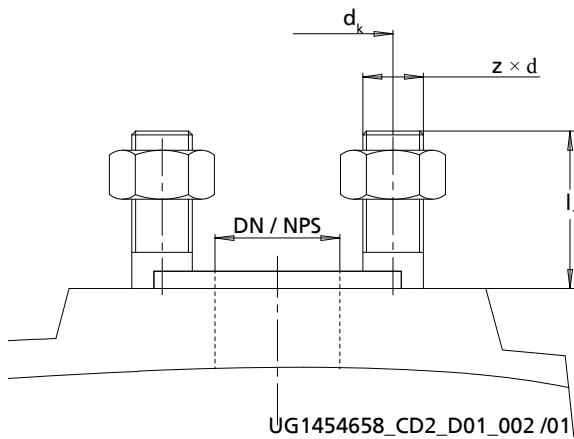
17) Optional connection to ASME B1.20.1

Sizes 040-040-140 to 125-125-260 (shaft unit 25 / 35) – pump



Dimensions of sizes 040-040-140 to 125-125-260 (shaft unit 25 / 35) – pump

6B	Fluid drain	6D	Fluid priming and venting
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Flange dimensions

Connections

Size	6B ¹⁸⁾	6D ¹⁸⁾
040-040-140	G 3/8	G 3/8
050-050-130	G 3/8	G 3/8
050-050-160	G 3/8	G 3/8
065-065-150	G 3/8	G 3/8
065-065-180	G 3/8	G 3/8
080-080-170	G 1/2	G 1/2
080-080-190	G 1/2	G 1/2
080-080-200	G 1/2	G 1/2
100-100-240.1	G 1/2	G 1/2
100-100-240	G 1/2	G 1/2
125-125-260	G 1/2	G 1/2

Flange dimensions [mm]

Flanged connection	DN	d _k	z	d	l ₁
Standard:	40	110	4	M16	40
▪ Drilled to EN 1092-1 (material variant C)	50	125	4	M16	40
▪ Drilled to EN 1092-2 (material variant G / GC)	65	145	4	M16	40
	80	160	8	M16	45
	100	180	8	M16	45

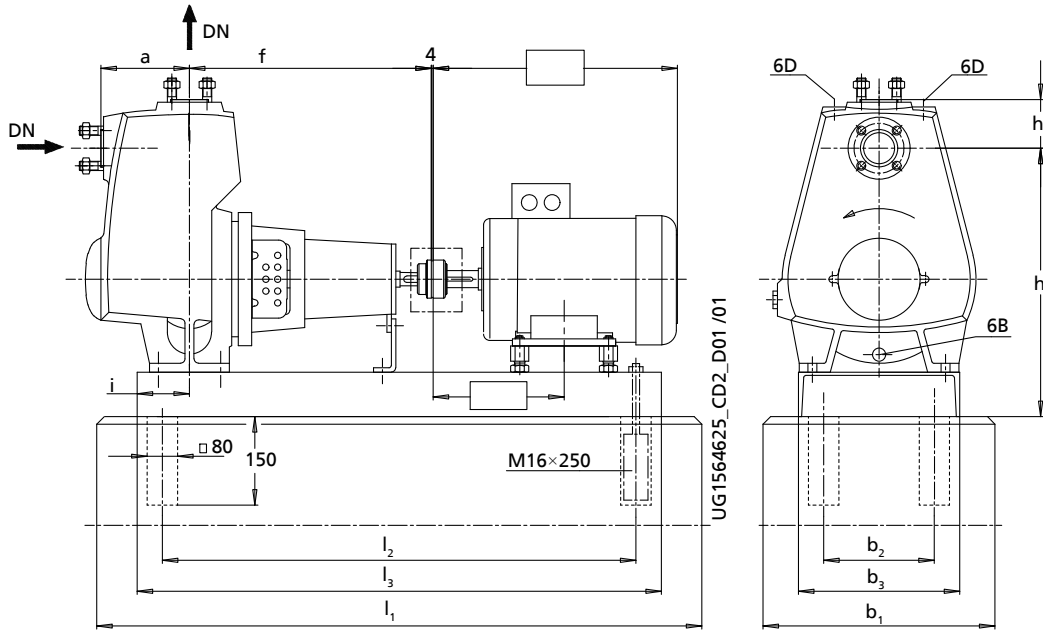
¹⁸⁾ G = ISO 228/1

Flanged connection	DN	d _k	z	d	l ₁
	125	210	8	M16	45
Optional:	NPS 1 1/2	98,6	4	UNC 1/2-13	40
▪ Drilled to ASME B16.1 (material variant G / GC)	NPS 2	120,7	4	UNC 5/8-11	40
▪ Drilled to ASME B16.5 (material variant C)	NPS 2 1/2	139,7	4	UNC 5/8-11	40
	NPS 3	152,4	4	UNC 5/8-11	40
	NPS 4	190,5	8	UNC 5/8-11	45
	NPS 5	215,9	8	UNC 3/4-10	45

Pump dimensions [mm]

Size	Pump																						
	DN	a	b ₁	b ₂	b ₃	b ₄	c	d _{K6}	f	h ₁	h ₂	h ₃	i	l ₂	m ₁	m ₂	n ₁	n ₂	s ₁	s ₂	t	u	w
040-040-140	40	115	115	128	57	16	100	24	370	112	284	73	23	50	100	70	220	160	4	13	27	8	270
050-050-130	50	130	138	128	55	16	100	24	370	132	317	78	23	50	100	70	250	190	4	17	27	8	270
050-050-160	50	130	145	126	55	16	100	24	370	132	327	75	23	50	100	70	250	190	4	17	27	8	270
065-065-150	65	140	155	149	55	16	100	24	370	160	370	85	25	50	125	95	270	212	6	20	27	8	270
065-065-180	65	140	158	138	55	16	130	32	490	160	376	89	23	80	125	95	270	212	4	18	35	10	360
080-080-170	80	156	173	168	65	18	130	32	490	160	380	104	23	80	140	106	310	240	4	18	35	10	360
080-080-190	80	170	188	181	65	20	130	32	490	180	420	107	24	80	160	120	345	280	6	22	35	10	360
080-080-200	80	154	172	152	65	20	130	32	490	160	378	107	24	80	140	100	285	220	4	22	35	10	360
100-100-240.1	100	182	203	178	68	20	130	32	478	200	457	127	24	80	140	100	330	260	6	18	35	10	348
100-100-240	100	182	203	178	68	20	130	32	478	200	457	127	24	80	140	100	330	260	6	18	35	10	348
125-125-260	125	204	227	197	70	20	130	32	478	200	486	142	24	80	140	100	340	270	6	18	35	10	348

Sizes 040-040-140 to 125-125-260 (shaft unit 25 / 35) – pump set with coupling



Dimensions of sizes 040-040-140 to 125-125-260 (shaft unit 25 / 35) – pump set with coupling

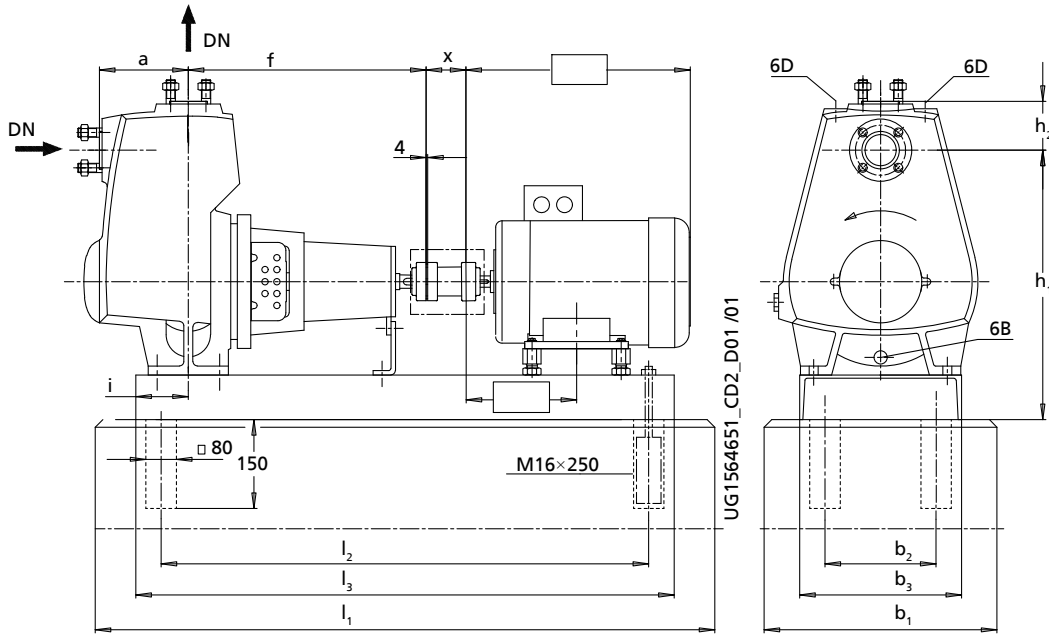
6B	Fluid drain	6D	Fluid priming and venting
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Pump set dimensions [mm]

Size	n				P _N	Motor	Pump set											
	1450	1750	2900	3500			DN	a	f	h ₁	h ₂	b ₁	b ₂	b ₃	i	l ₁	l ₂	l ₃
	[rpm]				[kW]													
040-040-140	X	X	-	-	1,50	90L	40	115	370	384	73	450	240	300	100	950	740	800
040-040-140	-	-	X	-	2,20	90L	40	115	370	384	73	450	240	300	100	950	740	800
040-040-140	-	-	X	-	3,00	100L	40	115	370	384	73	450	240	300	100	950	740	800
040-040-140	-	-	-	X	4,00	112M	40	115	370	384	73	450	240	300	100	1050	840	900
040-040-140	-	-	-	X	5,50	132S	40	115	370	404	73	450	240	300	100	1050	840	900
050-050-130	X	X	-	-	1,50	90L	50	130	370	417	78	450	240	300	100	950	740	800
050-050-130	-	-	X	-	2,20	90L	50	130	370	417	78	450	240	300	100	950	740	800
050-050-130	-	-	X	-	3,00	100L	50	130	370	417	78	450	240	300	100	950	740	800
050-050-130	-	-	-	X	4,00	112M	50	130	370	417	78	450	240	300	100	1050	840	900
050-050-160	X	X	-	-	1,50	90L	50	130	370	427	75	450	240	300	112	950	740	800
050-050-160	-	-	X	-	4,00	112M	50	130	370	427	75	450	240	300	112	1050	840	900
050-050-160	-	-	X	X	5,50	132S	50	130	370	427	75	450	240	300	112	1150	940	1000
050-050-160	-	-	-	X	7,50	132S	50	130	370	427	75	450	240	300	112	1150	940	1000
065-065-150	X	X	-	-	1,50	90L	65	140	370	470	85	450	240	300	112	950	740	800
065-065-150	-	-	X	-	4,00	112M	65	140	370	470	85	450	240	300	112	1050	840	900
065-065-150	-	-	X	X	5,50	132S	65	140	370	470	85	450	240	300	112	1150	940	1000
065-065-150	-	-	-	X	7,50	132S	65	140	370	470	85	450	240	300	112	1150	940	1000
065-065-180	X	X	-	-	2,20	100L	65	140	490	476	89	500	280	350	112	1270	1060	1120
065-065-180	-	-	X	-	5,50	132S	65	140	490	476	89	500	280	350	112	1270	1060	1120
065-065-180	-	-	X	-	7,50	132S	65	140	490	476	89	500	280	350	112	1270	1060	1120
065-065-180	-	-	-	X	11,00	160M	65	140	490	476	89	500	280	350	112	1270	1060	1120
080-080-170	X	X	-	-	2,20	100L	80	156	490	480	104	500	280	350	120	1270	1060	1120
080-080-170	-	-	X	-	7,50	132S	80	156	490	480	104	500	280	350	120	1270	1060	1120

Size	n				P _N [kW]	Motor	Pump set											
	1450	1750	2900	3500			DN	a	f	h ₁	h ₂	b ₁	b ₂	b ₃	i	l ₁	l ₂	l ₃
	[rpm]																	
080-080-170	-	-	-	X	11,00	160M	80	156	490	480	104	500	280	350	120	1270	1060	1120
080-080-170	-	-	-	X	15,00	160M	80	156	490	480	104	500	280	350	120	1270	1060	1120
080-080-190	X	X	-	-	2,20	100L	80	170	490	520	107	500	280	350	130	1270	1060	1120
080-080-190	X	X	-	-	3,00	100L	80	170	490	520	107	500	280	350	130	1270	1060	1120
080-080-190	-	-	X	-	11,00	160M	80	170	490	520	107	500	280	350	130	1400	1190	1250
080-080-190	-	-	-	X	15,00	160M	80	170	490	520	107	500	280	350	130	1400	1190	1250
080-080-190	-	-	-	X	18,50	160L	80	170	490	520	107	500	280	350	130	1400	1190	1250
080-080-200	X	X	-	-	2,20	100L	80	154	490	478	107	500	280	350	120	1270	1060	1120
080-080-200	-	-	X	-	11,00	160M	80	154	490	478	107	500	280	350	120	1400	1190	1250
080-080-200	-	-	-	X	15,00	160M	80	154	490	478	107	500	280	350	120	1400	1190	1250
080-080-200	-	-	-	X	18,50	160L	80	154	490	478	107	500	280	350	120	1400	1190	1250
100-100-240.1	X	X	-	-	2,20	100L	100	182	478	557	127	500	280	350	120	1270	1060	1120
100-100-240.1	X	X	-	-	3,00	100L	100	182	478	557	127	500	280	350	120	1270	1060	1120
100-100-240.1	X	X	-	-	4,00	112M	100	182	478	557	127	500	280	350	120	1270	1060	1120
100-100-240.1	-	-	X	-	15,00	160M	100	182	478	557	127	500	280	350	120	1270	1060	1120
100-100-240.1	-	-	-	X	18,50	160L	100	182	478	557	127	500	280	350	120	1400	1190	1250
100-100-240.1	-	-	-	X	22,00	180M	100	182	478	567	127	550	320	400	120	1400	1190	1250
100-100-240.1	-	-	-	X	30,00	200L	100	182	478	567	127	550	320	400	120	1400	1190	1250
100-100-240	X	X	-	-	3,00	100L	100	182	478	557	127	500	280	350	120	1270	1060	1120
100-100-240	X	X	-	-	4,00	112M	100	182	478	557	127	500	280	350	120	1270	1060	1120
100-100-240	X	X	-	-	5,50	132S	100	182	478	557	127	500	280	350	120	1270	1060	1120
100-100-240	-	-	X	-	22,00	180M	100	182	478	567	127	550	320	400	120	1400	1190	1250
100-100-240	-	-	-	X	30,00	200L	100	182	478	567	127	550	320	400	120	1400	1190	1250
100-100-240	-	-	-	X	37,00	200L	100	182	478	567	127	550	320	400	120	1400	1190	1250
125-125-260	X	X	-	-	5,50	132S	125	204	478	586	142	500	280	350	120	1270	1060	1120
125-125-260	X	X	-	-	7,50	132M	125	204	478	586	142	500	280	350	120	1270	1060	1120
125-125-260	X	X	-	-	11,00	160M	125	204	478	596	142	550	320	400	120	1400	1190	1250
125-125-260	-	-	X	-	30,00	200L	125	204	478	596	142	550	320	400	120	1400	1190	1250
125-125-260	-	-	-	X	37,00	200L	125	204	478	596	142	550	320	400	120	1400	1190	1250

Sizes 040-040-140 to 125-125-260 (shaft unit 25 / 35) – pump set with spacer-type coupling



Dimensions of sizes 040-040-140 to 125-125-260 (shaft unit 25 / 35) – pump set with spacer-type coupling

6B	Fluid drain	6D	Fluid priming and venting
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Pump set dimensions [mm]

Size	n				P _N	Motor	Pump set												
	1450	1750	2900	3500			DN	a	f	h ₁	h ₂	b ₁	b ₂	b ₃	i	l ₁	l ₂	l ₃	x
	[rpm]				[kW]														
040-040-140	X	X	-	-	1,50	90L	40	115	370	384	73	450	240	300	100	1050	840	900	100
040-040-140	-	-	X	-	2,20	90L	40	115	370	384	73	450	240	300	100	1050	840	900	100
040-040-140	-	-	X	-	3,00	100L	40	115	370	384	73	450	240	300	100	1050	840	900	100
040-040-140	-	-	-	X	4,00	112M	40	115	370	384	73	450	240	300	100	1150	940	1000	100
040-040-140	-	-	-	X	5,50	132S	40	115	370	404	73	450	240	300	100	1150	940	1000	100
050-050-130	X	X	-	-	1,50	90L	50	130	370	417	78	450	240	300	100	1050	840	900	100
050-050-130	-	-	X	-	2,20	90L	50	130	370	417	78	450	240	300	100	1050	840	900	100
050-050-130	-	-	X	-	3,00	100L	50	130	370	417	78	450	240	300	100	1050	840	900	100
050-050-130	-	-	-	X	4,00	112M	50	130	370	417	78	450	240	300	100	1150	940	1000	100
050-050-160	X	X	-	-	1,50	90L	50	130	370	427	75	450	240	300	112	1050	840	900	100
050-050-160	-	-	X	-	4,00	112M	50	130	370	427	75	450	240	300	112	1150	940	1000	100
050-050-160	-	-	X	X	5,50	132S	50	130	370	427	75	500	280	350	112	1270	1060	1120	100
050-050-160	-	-	-	X	7,50	132S	50	130	370	427	75	500	280	350	112	1270	1060	1120	100
065-065-150	X	X	-	-	1,50	90L	65	140	370	470	85	450	240	300	112	1050	840	900	100
065-065-150	-	-	X	-	4,00	112M	65	140	370	470	85	450	240	300	112	1150	940	1000	100
065-065-150	-	-	X	X	5,50	132S	65	140	370	470	85	500	280	350	112	1270	1060	1120	100
065-065-150	-	-	-	X	7,50	132S	65	140	370	470	85	500	280	350	112	1270	1060	1120	100
065-065-180	X	X	-	-	2,20	100L	65	140	490	476	89	500	280	350	112	1400	1190	1250	140
065-065-180	-	-	X	-	5,50	132S	65	140	490	476	89	500	280	350	112	1400	1190	1250	140
065-065-180	-	-	X	-	7,50	132S	65	140	490	476	89	500	280	350	112	1400	1190	1250	140
065-065-180	-	-	-	X	11,00	160M	65	140	490	476	89	500	280	350	112	1400	1190	1250	140
080-080-170	X	X	-	-	2,20	100L	80	156	490	480	104	500	280	350	120	1400	1190	1250	140
080-080-170	-	-	X	-	7,50	132S	80	156	490	480	104	500	280	350	120	1400	1190	1250	140

Size	n				P _N	Motor	Pump set												
	1450	1750	2900	3500			DN	a	f	h ₁	h ₂	b ₁	b ₂	b ₃	i	l ₁	l ₂	l ₃	x
	[rpm]						[kW]												
080-080-170	-	-	-	X	11,00	160M	80	156	490	480	104	500	280	350	120	1400	1190	1250	140
080-080-170	-	-	-	X	15,00	160M	80	156	490	480	104	500	280	350	120	1400	1190	1250	140
080-080-190	X	X	-	-	2,20	100L	80	170	490	520	107	550	280	350	120	1400	1190	1250	140
080-080-190	X	X	-	-	3,00	100L	80	170	490	520	107	550	280	350	120	1400	1190	1250	140
080-080-190	-	-	X	-	11,00	160M	80	170	490	530	107	550	320	400	130	1570	1360	1420	140
080-080-190	-	-	-	X	15,00	160M	80	170	490	530	107	550	320	400	130	1570	1360	1420	140
080-080-190	-	-	-	X	18,50	160L	80	170	490	530	107	550	320	400	130	1570	1360	1420	140
080-080-200	X	X	-	-	2,20	100L	80	154	490	478	107	500	280	350	120	1400	1190	1250	140
080-080-200	-	-	X	-	11,00	160M	80	154	490	488	107	550	320	400	120	1570	1360	1420	140
080-080-200	-	-	-	X	15,00	160M	80	154	490	488	107	550	320	400	120	1570	1360	1420	140
080-080-200	-	-	-	X	18,50	160L	80	154	490	488	107	550	320	400	120	1570	1360	1420	140
100-100-240.1	X	X	-	-	2,20	100L	100	182	478	557	127	500	280	350	120	1400	1190	1250	140
100-100-240.1	X	X	-	-	3,00	100L	100	182	478	557	127	500	280	350	120	1400	1190	1250	140
100-100-240.1	X	X	-	-	4,00	112M	100	182	478	557	127	500	280	350	120	1400	1190	1250	140
100-100-240.1	-	-	X	-	15,00	160M	100	182	478	557	127	500	280	350	120	1400	1190	1250	140
100-100-240.1	-	-	X	-	18,50	160L	100	182	478	567	127	550	320	400	120	1570	1360	1420	140
100-100-240.1	-	-	-	X	22,00	180M	100	182	478	567	127	550	320	400	120	1570	1360	1420	140
100-100-240.1	-	-	-	X	30,00	200L	100	182	478	567	127	550	320	400	120	1570	1360	1420	140
100-100-240	X	X	-	-	3,00	100L	100	182	478	557	127	500	280	350	120	1400	1190	1250	140
100-100-240	X	X	-	-	4,00	112M	100	182	478	557	127	500	280	350	120	1400	1190	1250	140
100-100-240	X	X	-	-	5,50	132S	100	182	478	557	127	500	280	350	120	1400	1190	1250	140
100-100-240	-	-	X	-	22,00	180M	100	182	478	567	127	550	320	400	120	1570	1360	1420	140
100-100-240	-	-	X	-	30,00	200L	100	182	478	567	127	550	320	400	120	1570	1360	1420	140
100-100-240	-	-	-	X	37,00	200L	100	182	478	567	127	550	320	400	120	1570	1360	1420	140
125-125-260	X	X	-	-	5,50	132S	125	204	478	596	142	550	320	400	120	1570	1360	1420	140
125-125-260	X	X	-	-	7,50	132M	125	204	478	596	142	550	320	400	120	1570	1360	1420	140
125-125-260	X	X	-	-	11,00	160M	125	204	478	596	142	550	320	400	120	1570	1360	1420	140
125-125-260	-	-	X	-	30,00	200L	125	204	478	596	142	550	320	400	120	1570	1360	1420	140
125-125-260	-	-	X	-	37,00	200L	125	204	478	596	142	550	320	400	120	1570	1360	1420	140

Flange connections

Threaded connections, shaft unit 17

Size	Shaft unit	Material variant			
		G/GC/C			
		Connection pipe thread to			
		ISO 7-1 PN10		ASME B1.20.1 PN10	
025-025-100	17	Rp 1	X	NPT 1	o
032-032-120		Rp 1 1/4	X	NPT 1 1/4	o
040-040-110		Rp 1 1/2	X	NPT 1 1/2	o

Flanged connections¹⁹⁾ shaft units 25, 35

Size	Shaft unit	Nominal size to		Material variant			
				G/GC		C	
				Flange dimensions to			
				EN 1092-2		EN 1092-1	
				Drilled to			
EN 1092	ASME	EN 1092-2 PN16	ASME B16.1 CL125	EN 1092-1 PN16	ASME B16.5 CL150		
040-040-110	25	DN 40	NPS 1 1/2	X	o	X	o
050-050-130		DN 50	NPS 2	X	o	X	o
050-050-160		DN 50	NPS 2	X	o	X	o
065-065-150		DN 65	NPS 2 1/2	X	o	X	o
065-065-180	35	DN 65	NPS 2 1/2	X	o	X	o
080-080-170		DN 80	NPS 3	X	o	X	o
080-080-190		DN 80	NPS 3	X	o	-	-
080-080-200		DN 80	NPS 3	X	o	X	o
100-100-240.1		DN 100	NPS 4	X	o	-	-
100-100-240		DN 100	NPS 4	X	o	-	-
125-125-260		DN 125	NPS 5	X	o	-	-

Symbols key

Symbol	Description
X	Standard
o	Option

¹⁹⁾ Type RF (Raised Face)

Interchangeability of Etaprime L and Etaprime B pump components

Components featuring the same number in a column are interchangeable.

Interchangeability of Etaprime L and Etaprime B pump components and interchangeability of components among each other

Size	Shaft unit	Description								
		Volute casing	Casing cover	Shaft	Impeller	Radial ball bearing	Radial ball bearing	Bearing housing	Mechanical seal	Shaft sleeve
		Part No.								
		102	161	210	230	321.01	321.02	350	433.01	523
025-025-100	17	○*	✗	1	○*	1	2	1	1*	✗
032-032-120		○*	✗	1	○*	1	2	1	1*	✗
040-040-110		○*	✗	1	○*	1	2	1	1*	✗
040-040-140	25	○*	○*	2	○*	✗	3	✗	2*	1*
050-050-130		○*	○*	2	○*	✗	3	✗	2*	1*
050-050-160		○*	1*	2	○*	✗	3	✗	2*	1*
065-065-150	35	○*	1*	2	○*	✗	3	✗	2*	1*
065-065-180		○*	○*	3	○*	✗	4	✗	3*	2*
080-080-170		○*	○*	3	○*	✗	4	✗	3*	2*
080-080-190		○*	○*	3	○*	✗	4	✗	3*	2*
080-080-200		○*	○*	3	○*	✗	4	✗	3*	2*
100-100-240.1		1*	○*	3	○*	✗	4	✗	3*	2*
100-100-240 ²⁰⁾		1	○	3	○	✗	4	✗	3	2
125-125-260 ²⁰⁾		○	○	3	○	✗	4	✗	3	2

Symbols key

Symbol	Description
*	Component interchangeable with Etaprime B
○	Components differ
✗	Component not fitted

Scope of supply

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

- Pump

Drive

- Electric motor

Coupling

- Flexible coupling with or without spacer

Contact guard

- Coupling guard

Baseplate

- Channel section steel or folded steel plate

Optional:

- Cast baseplate (to ISO 3661)

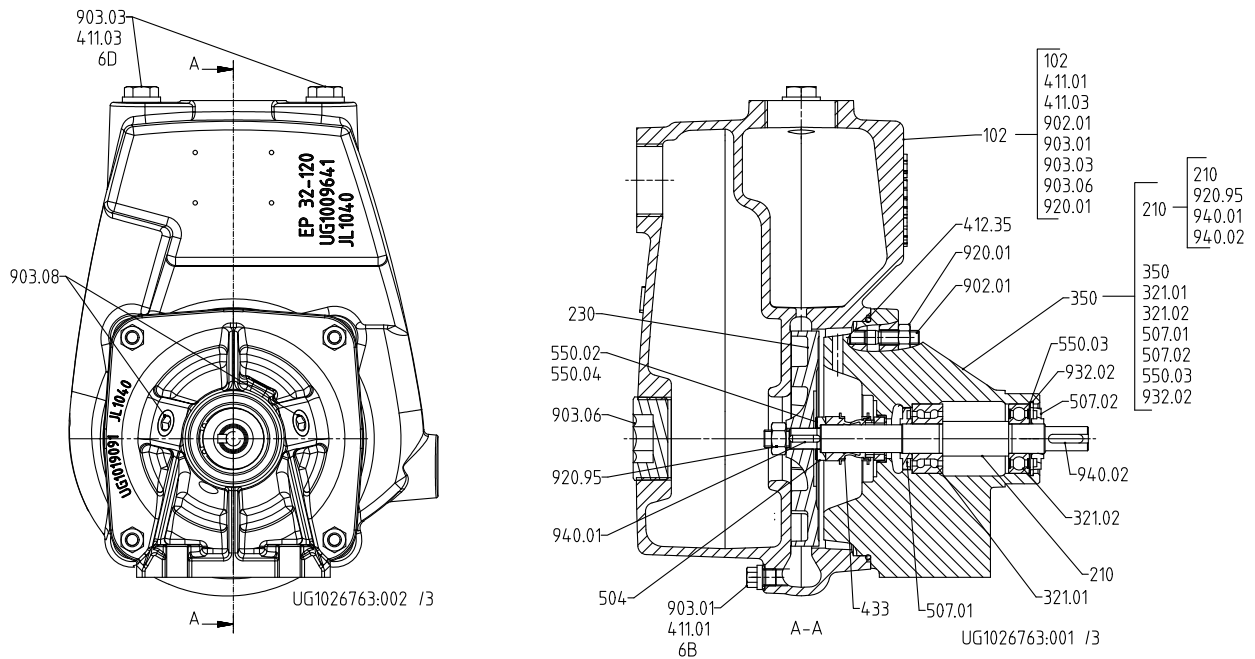
Special accessories

- As required

²⁰⁾ Not available as Etaprime B

Sectional drawing and list of components

Etaprime G and C, threaded connection, with bearing housing (SU 17)

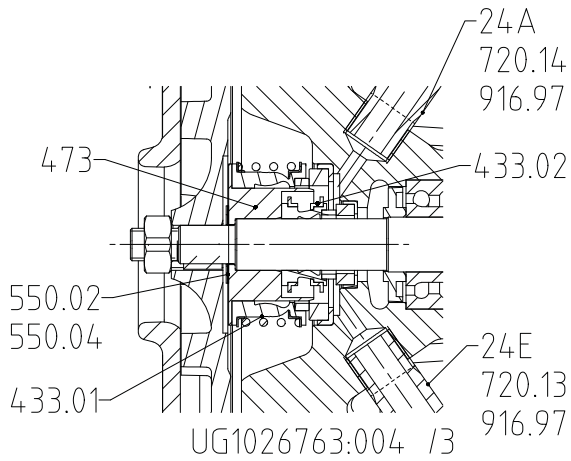


Model with single mechanical seal

[Supplied in packaging units only]

List of components

Part No.	Description
102	Volute casing
210	Shaft
230	Impeller
321.01/02	Radial ball bearing
350	Bearing housing
411.01/03	Joint ring
412.35	O-ring
433	Mechanical seal
504	Spacer ring
507.01/02	Thrower
550.02/03/04	Disc
902.01	Stud
903.01/03/06/08	Screw plug
920.01/95	Nut
932.02	Circlip
940.01/02	Key
Auxiliary connections:	
6 B	Fluid drain
6 D	Fluid priming and venting

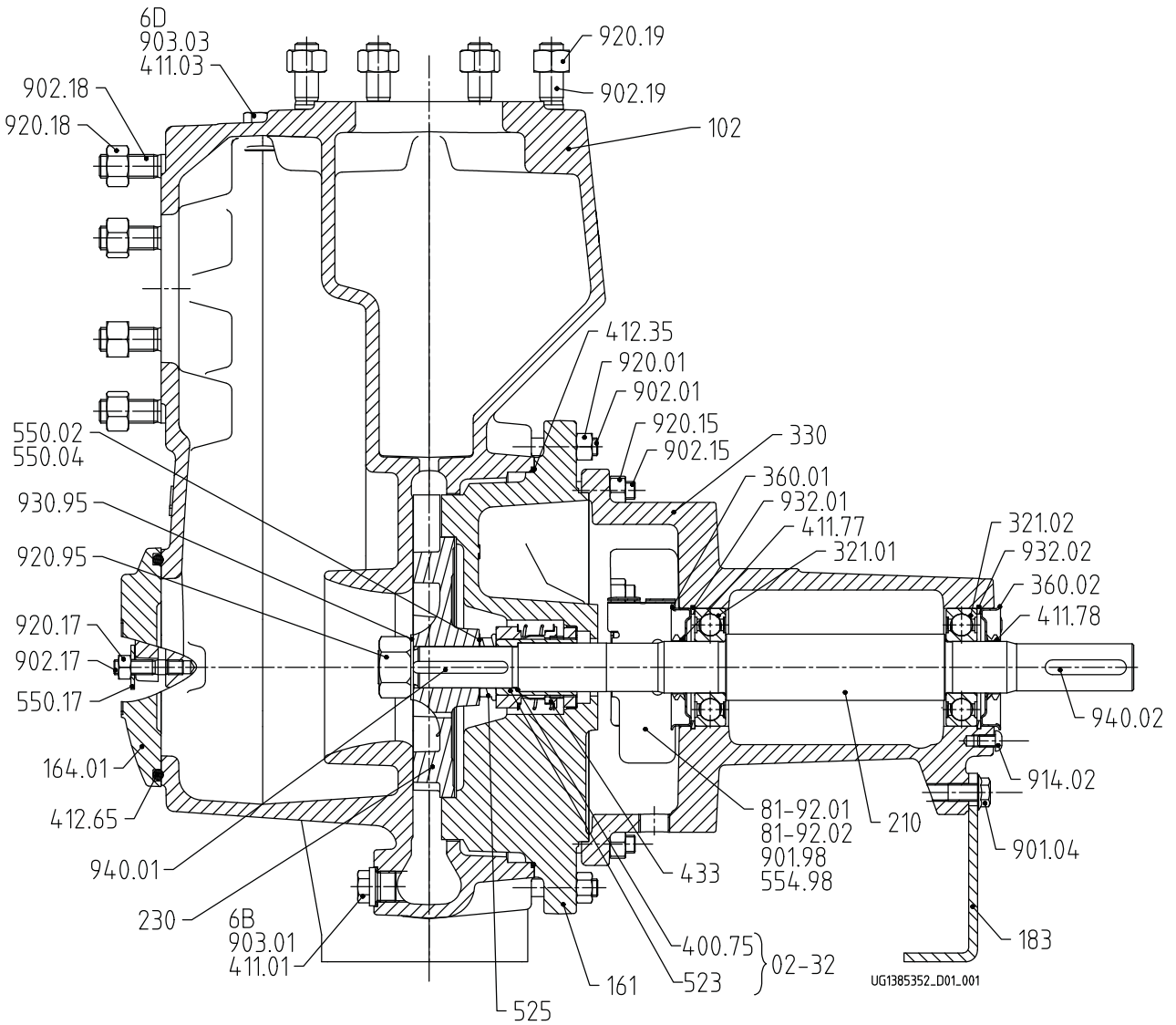


Model with double mechanical seal in tandem arrangement (SU 17)

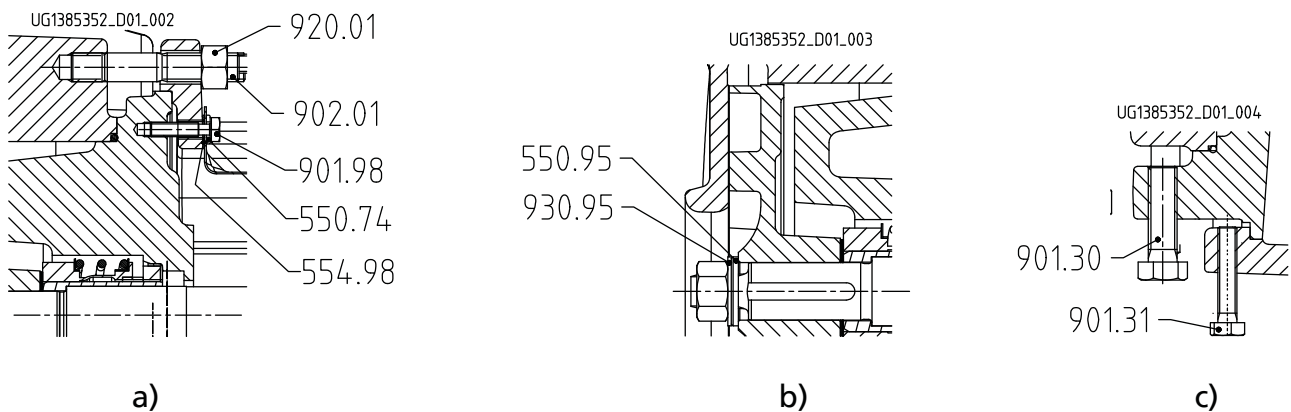
List of components

Part number	Description
433.01/02	Mechanical seal
473	Primary ring carrier
550.02/04	Disc
720.13/14	Barrel nipple
916.97	Plug
Auxiliary connections:	
24A	Quench liquid outlet
24E	Quench liquid inlet

Etaprime G and C, flanged connection, with bearing bracket/grease lubrication (SU 25 and SU 35)



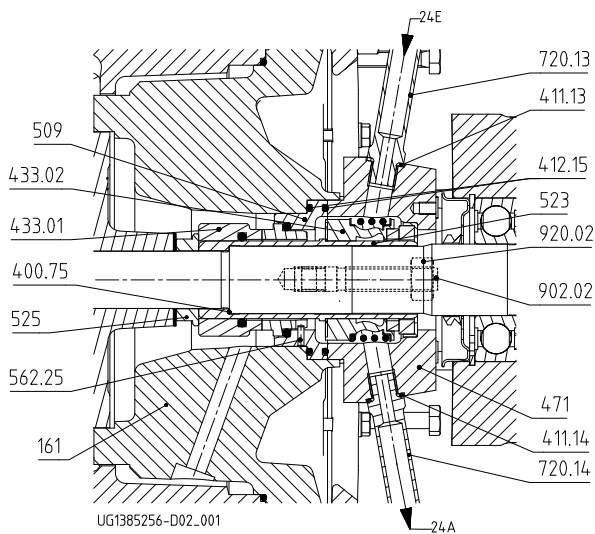
Model with single mechanical seal



a) Clamped casing cover, b) impeller fastening elements for shaft unit 25, c) position of forcing screws

List of components

Part number	Description	Part number	Description
102	Volute casing	550.95 ²¹⁾	Disc
161	Casing cover	554.98	Lock washer
164.01	Inspection cover	81-92.01/02	Cover plate
183	Support foot	901.04/30/31/98	Hexagon head bolt
210	Shaft	902.01/15/17/18/19	Stud
230	Impeller	903.01/03	Screw plug
321.01/02	Radial ball bearing	914.02	Pan head screw
330	Bearing bracket	920.01/05/15/17/18/19/95	Nut
360.01/02	Bearing cover	930.95	Safety device
400.75	Gasket	932.01/02	Circlip
411.01/03/77/78	Joint ring	940.01/02	Key
412.35/65	O-ring		
433	Mechanical seal		
523	Shaft sleeve	Auxiliary connections:	
525 ²²⁾	Spacer sleeve	6B	Fluid drain
550.02/04/17/74	Disc	6D	Fluid priming and venting



Model with double mechanical seal in tandem arrangement (SU 25/35)

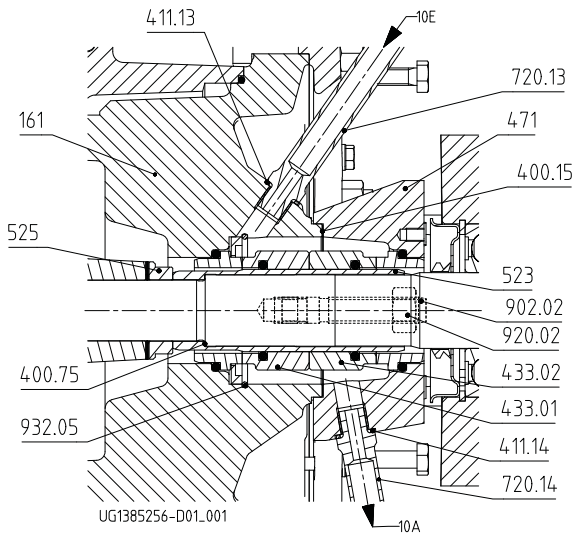
List of components

Part number	Description
161	Casing cover
400.75	Gasket
412.15	O-ring
411.13/14	Joint ring
433.01/02	Mechanical seal
471	Seal cover
509	Intermediate ring
523	Shaft sleeve
525 ²⁴⁾	Spacer sleeve
562.25	Parallel pin
720.13/14	Fitting
902.02	Stud
920.02	Hexagon nut
Auxiliary connections:	

21) For SU 25 only; shaft unit see data sheet.

22) For SU 35 only; shaft unit see data sheet.

Part number	Description
24A	Quench liquid outlet
24E	Quench liquid inlet



Model with double mechanical seal in back-to-back arrangement (SU 25/35)

List of components

Part No.	Description
161	Casing cover
400.15 ²³⁾ /.75	Gasket
411.13/.14	Joint ring
433.01/.02	Mechanical seal
471	Seal cover
523	Shaft sleeve
525 ²⁴⁾	Spacer sleeve
720.13/.14	Fitting
902.02	Stud
920.02	Hexagon nut
932.05	Circlip
Auxiliary connections:	
10A	Barrier fluid outlet
10E	Barrier fluid inlet

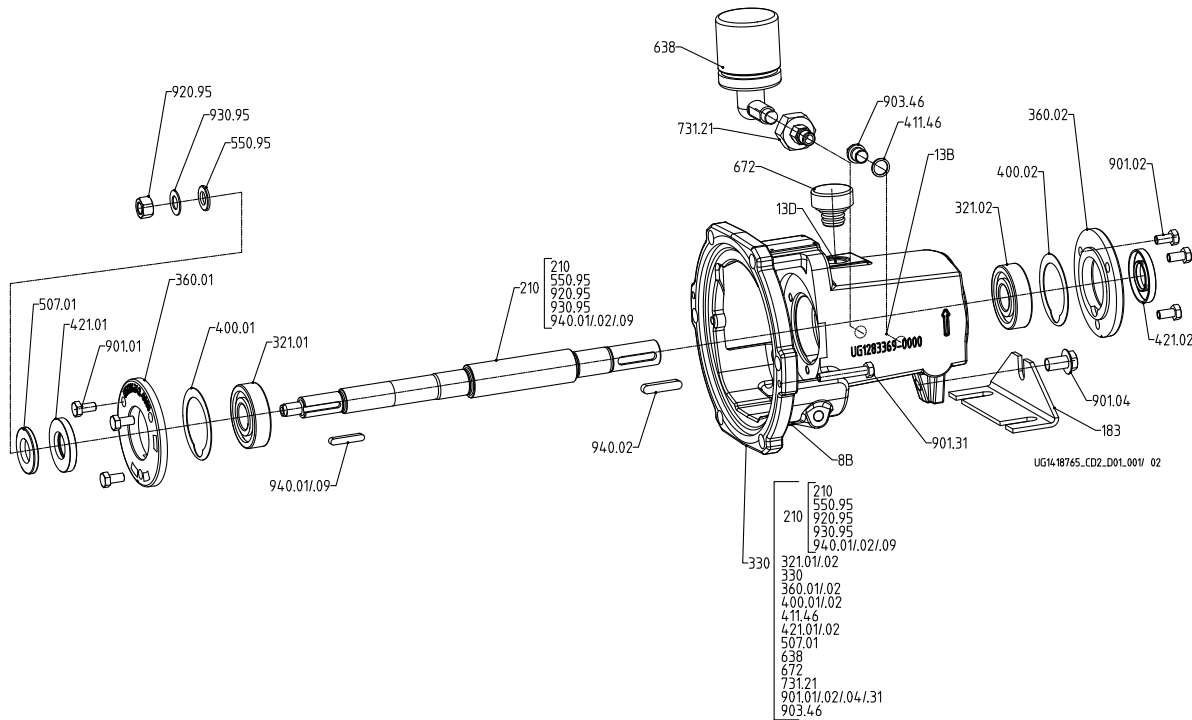
²³⁾ For shaft unit 25: joint ring 411.15 (shaft unit see data sheet)

²⁴⁾ For SU 35 only; shaft unit see data sheet.

Etaprime G and C, flanged connection, with bearing bracket/oil lubrication (SU 25 and SU 35)

Design of pump and mechanical seal as described in (⇒ Page 24) .

Difference: oil-lubricated bearing bracket instead of grease-lubricated bearing bracket.



Model with oil lubrication and constant level oiler

[Supplied in packaging units only]

List of components²⁵⁾

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 ²⁶⁾	Key
421.01/02	Lip seal	Connections:	
507.01	Thrower	8B	Leakage drain
550.95 ²⁷⁾	Disc	13B	Oil drain
638	Constant level oiler	13D	Oil filling and venting

²⁵⁾ Some individual components might not be applicable, depending on the size and shaft material.

²⁶⁾ For shaft units 55 and 60 only

²⁷⁾ For shaft unit 25 only

Detailed designation

Designation example

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

Designation key

Position	Code	Description
1-4	Pump type	
	ETPL	Etaprime with bearing bracket
5-16	Size	
	080	Nominal suction nozzle diameter [mm]
	080	Nominal discharge nozzle diameter [mm]
	200	Nominal impeller diameter [mm]
17	Pump casing material	
	G	Cast iron
	C	Stainless steel
18	Impeller material if different from casing material	
	G	Cast iron
	C	Stainless steel
19	Special design	
	.28)	Standard
	X	Special design
20	Seal options	
	I	Single mechanical seal
	D	Double mechanical seal in back-to-back arrangement
	T	Double mechanical seal in tandem arrangement
21-22	Seal code	
	01	Q1Q1VGG
	08	AQ1VGG ²⁹⁾
	09	U3U3VGG
	10	Q1Q1X4GG
	11	BQ1EGG
23	Scope of supply	
	A	Pump only (Fig. 0)
	B	Pump, baseplate
	C	Pump, baseplate, coupling, coupling guard
	D	Pump, baseplate, coupling, coupling guard, motor
24	Shaft unit	
	1	Shaft unit 17
	2	Shaft unit 25
	3	Shaft unit 35
25-28	Motor rating	
	0011	1,1 kW
	0075	7,5 kW
	0185	18,5 kW
29	Number of poles	
	2	2 poles
	4	4 poles
30-31	Explosion protection	
	.28)	Without explosion-proof motor
	ex	Explosion-proof motor
32	Product generation	
	B	Product generation Global Etaprime

²⁸⁾ Blank

²⁹⁾ BQVGG for shaft unit 17



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