



## Self-priming close-coupled pumps

for pure and contaminated liquids

### Fields of application

- Water supply
- Fire-fighting systems
- Spray irrigation
- Irrigation
- Drainage
- Air-conditioning systems
- Drinking water
- Industrial water
- Cooling water
- Swimming pool water
- Seawater
- Fire-fighting water
- Brackish water
- Condensate
- Brine
- Oils
- Cleaning agents

### Operating data

	50 Hz	60 Hz
Q	up to 130 m <sup>3</sup> /h (36 l/s)	up to 150 m <sup>3</sup> /h (42 l/s)
H	up to 70 m	up to 100 m
p <sub>2</sub>	up to 10 bar <sup>1)</sup>	up to 10 bar <sup>1)</sup>
H <sub>1geo</sub>	up to 9 m	up to 9 m
t	-30 to +90 °C	-30 to +90 °C

1) see pressure limits, page 6

### Design

Horizontal volute casing pumps, single-stage, with open multi-vane impeller.  
On pump sizes 40-140 and above, the shaft is fitted with a replaceable shaft sleeve in the shaft seal area.

#### Etaprime BN

Pump and motor flanged together to form a close-coupled unit, with standardized motor to DIN 42 677.  
Pump shaft and motor shaft are rigidly connected.  
Pump connections to DIN/EN or ASME.

#### Etaprime B

Pump and motor flanged together to form a close-coupled unit, with common shaft

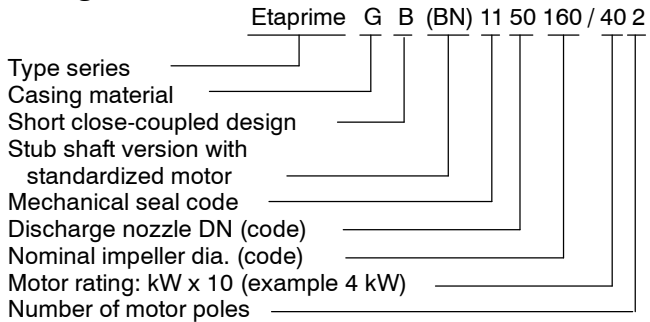
### Shaft seal

Single-acting mechanical seal to EN 12 756.  
On Etaprime BN, double-acting mechanical seals are possible.

### Certification

Certified quality management ISO 9001.

### Designation



### Drive

#### Standard version Etaprime BN

Surface-cooled KSB-IEC three-phase squirrel cage motor  
Winding 50 Hz: up to 2.2 kW: 220-240/380-420 V,  
4 kW and above: 380-420 /660-725 V,  
Winding 60 Hz: 440-480 V,  
Design: 1.1 kW IM B34 <sup>1)</sup>  
up to 4 kW IM V1

7.5 kW and above IM V15

Enclosure: IP 55  
Thermal class: F with temperature sensors:  
3 PTC thermistors

Operating mode: continuous operation S1  
or  
surface-cooled three-phase squirrel cage motor as described above, but West European brand to KSB's choice  
1) without temperature sensors, with flange C-120

#### Standard version Etaprime B

Surface-cooled KSB three-phase squirrel cage motor with longer shaft and special flange

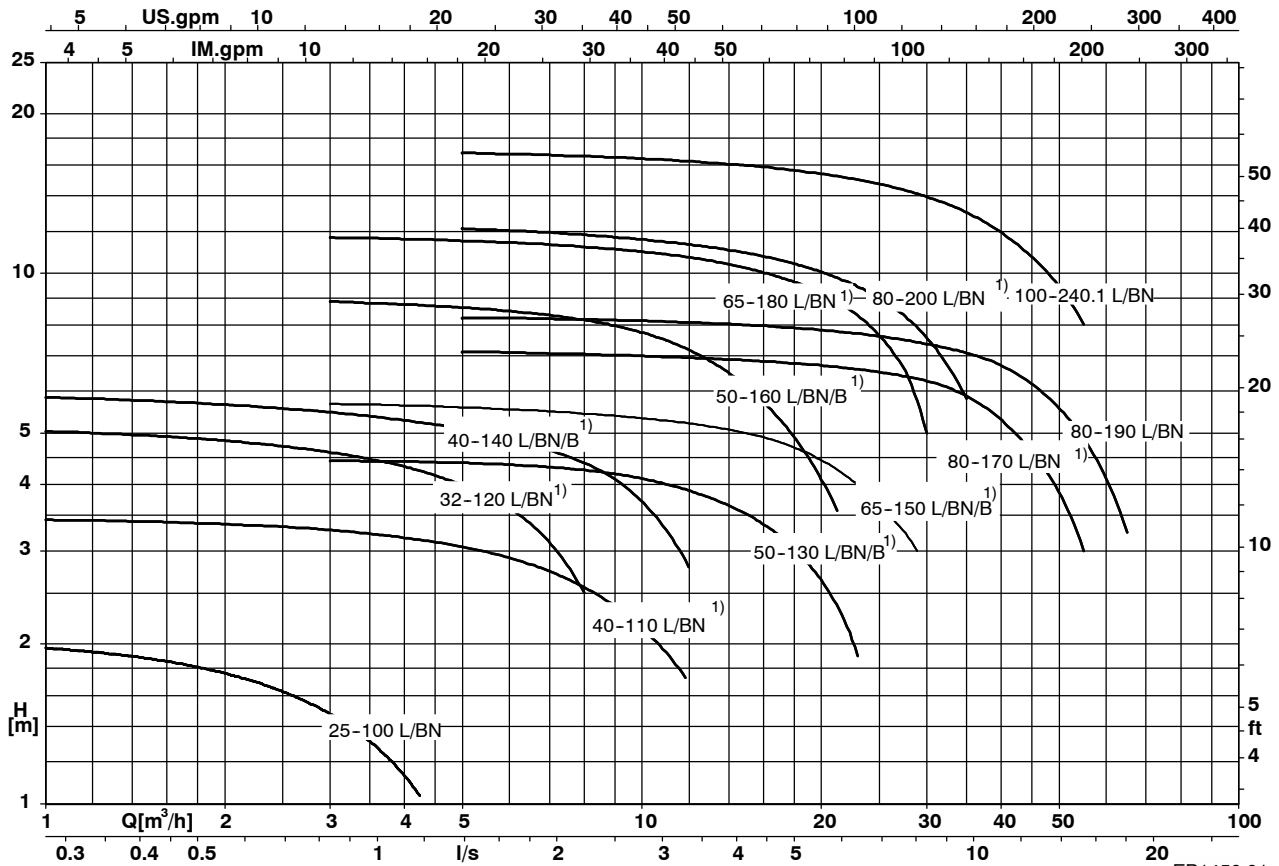
Winding: up to 2.2 kW: 230/400 V  
4 kW: 400/690 V

Design: IM B5  
Enclosure: IP 55 or IP 54  
Thermal class: F

Operating mode: continuous operation S1

Contact guard: cover plates on drive lantern to EN 294

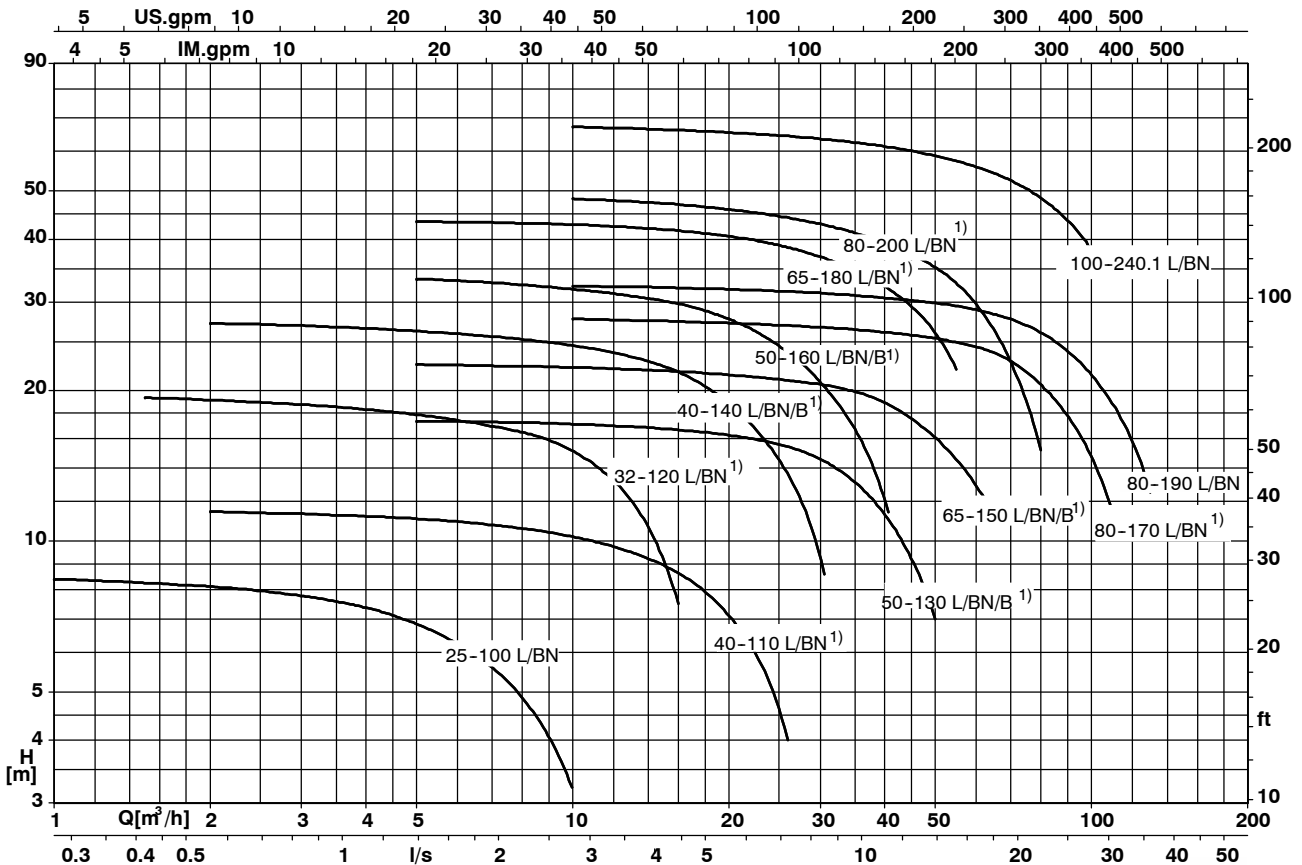
n = 1.450 1/min



- 1) lieferbar auch in Chrom-Nickel-Molybdänstahlguss
- 1) Suministrable también en Acero moldeado al Cr-Ni-Mo
- 1) also available in cast CrNiMo steel
- 1) Ook leverbaar in chroom-nikkel-molybdeenstaal
- 1) Egalement disponible en acier moulé au CrNiMo
- 1) Disponibile anche come fusione di acciaio al cromo-nichel-molibdeno

EP1450.01

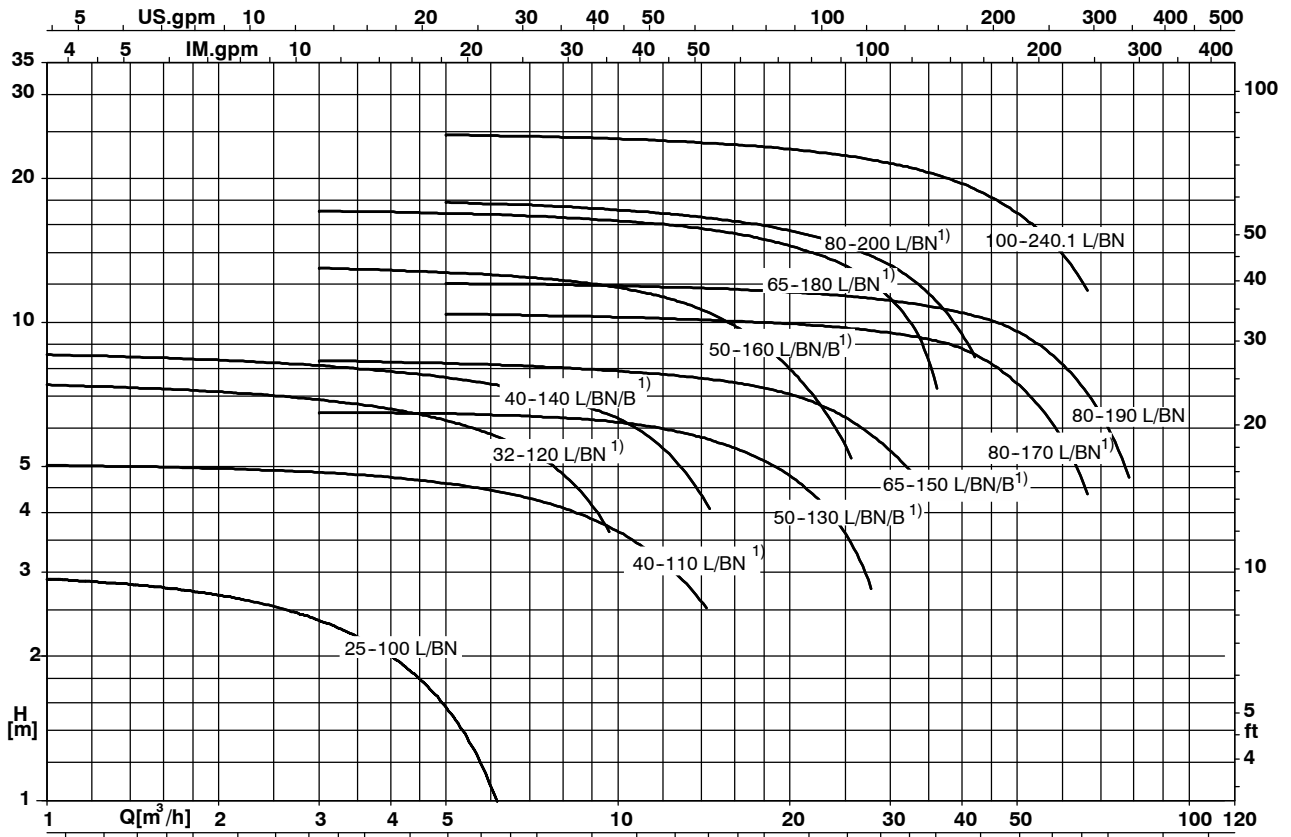
n = 2.900 1/min



- 1) lieferbar auch in Chrom-Nickel-Molybdänstahlguss
- 1) Suministrable también en Acero moldeado al Cr-Ni-Mo
- 1) also available in cast CrNiMo steel
- 1) Ook leverbaar in chroom-nikkel-molybdeenstaal
- 1) Egalement disponible en acier moulé au CrNiMo
- 1) Disponibile anche come fusione di acciaio al cromo-nichel-molibdeno

EP2900.01

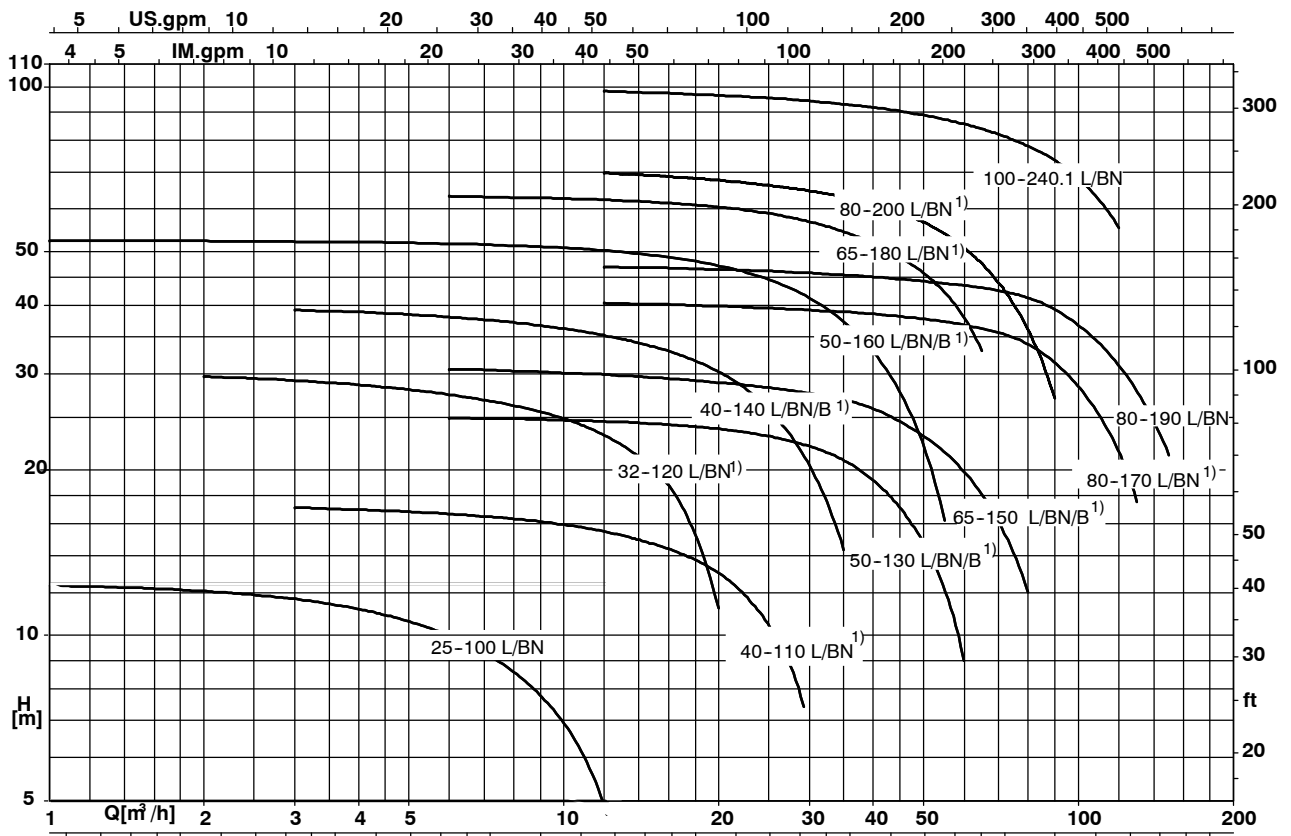
n = 1.750 1/min



- 1) lieferbar auch in Chrom-Nickel-Molybdänstahlguss
- 1) also available in cast CrNiMo steel
- 1) Egalement disponible en acier moulé au CrNiMo
- 1) Suministrable también en Acero moldeado al Cr-Ni-Mo
- 1) Ook leverbaar in chroom-nikkel-molybdeenstaal
- 1) Disponibile anche come fusione di acciaio al cromo-nichel-molibdeno

EP1750.01

n = 3.500 1/min



- 1) lieferbar auch in Chrom-Nickel-Molybdänstahlguss
- 1) also available in cast CrNiMo steel
- 1) Egalement disponible en acier moulé au CrNiMo
- 1) Suministrable también en Acero moldeado al Cr-Ni-Mo
- 1) Ook leverbaar in chroom-nikkel-molybdeenstaal
- 1) Disponibile anche come fusione di acciaio al cromo-nichel-molibdeno

EP3500.01

## Product Advantages at a Glance

### Etaprime BN

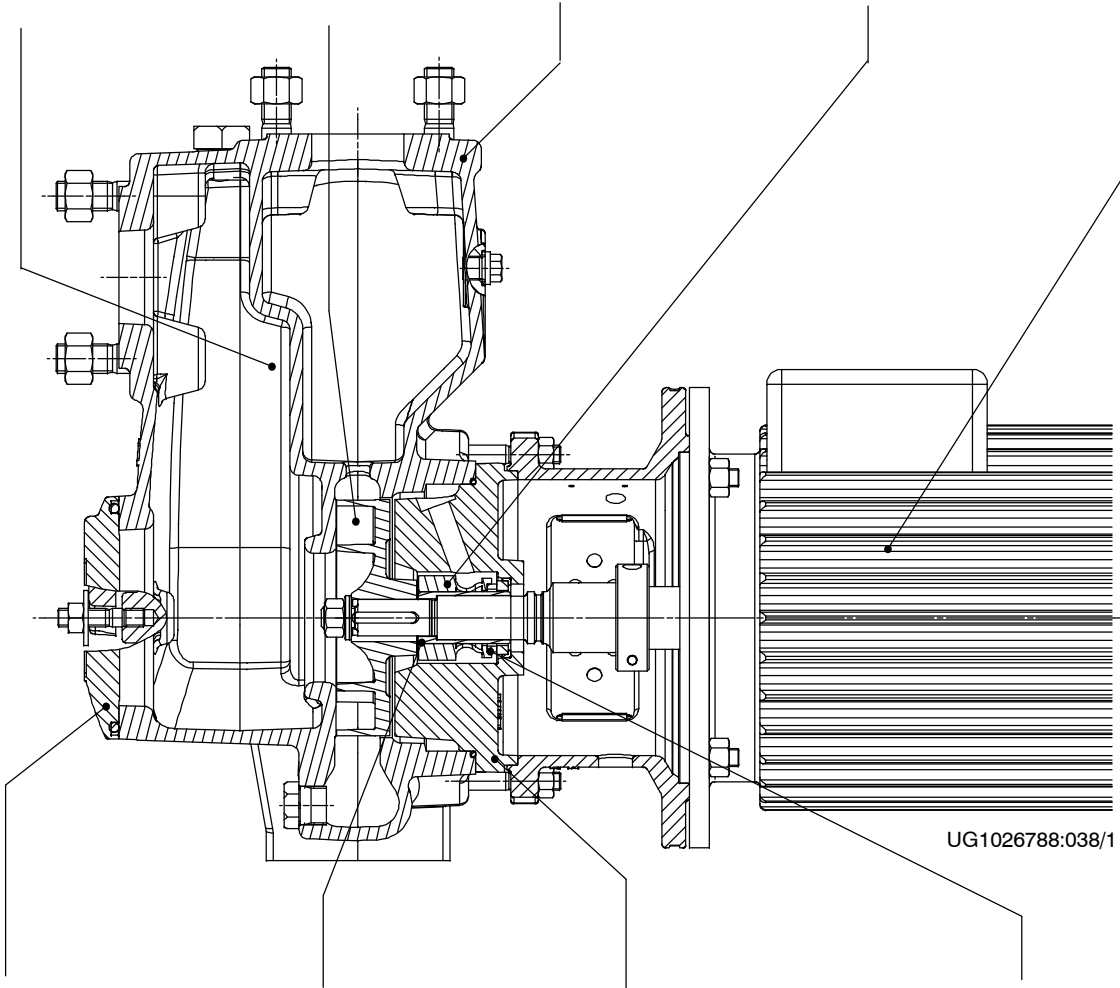
Self-priming after the pump casing has been filled with the fluid handled.

Excellent suction behaviour, self-priming up to 9 m; no foot valve required.

Unit is insensitive to the penetration of gas and air.

Double-acting mechanical seal available for tough applications

Service-friendly, sturdy KSB IEC three phase motor



Inspection cover for easy cleaning.

Shaft sleeve prevents wear on the shaft.

Back pull-out design: the casing may remain in the pipeline when the pump is dismantled.

Reliable, maintenance-free mechanical seal.

## Overview of Type Series

Sizes and types available

Pump size	Shaft unit	ETAPRIME L		ETAPRIME BN		ETAPRIME B	
		GL JL 1040	CL 1.4408	GBN JL 1040	CBN 1.4408	GB JL 1040	
25-100	17	E/T	o	E/T	o	o	o
32-120		E/T	E/T	E/T	E/T	o	o
40-110		E/T	E/T	E/T	E/T	o	o
40-140	25	E/T/B	E/T/B	E/T/B	E/T/B	E	o
50-130		E/T/B	E/T/B	E/T/B	E/T/B	E	o
50-160		E/T/B	E/T/B	E/T/B	E/T/B	E	o
65-150		E/T/B	E/T/B	E/T/B	E/T/B	E	o
65-180	35	E/T/B	E/T/B	E/T/B	E/T/B	o	o
80-170		E/T/B	E/T/B	E/T/B	E/T/B	o	o
80-190		E/T/B	o	E/T/B	o	o	o
80-200		E/T/B	E/T/B	E/T/B	E/T/B	o	o
100-240.1		E/T/B	o	E/T/B	o	o	o

- = available size  
 o = size not available  
 E = single-acting mechanical seal (standard design)  
 T = double-acting mechanical seal in TANDEM arrangement possible  
 B = double-acting mechanical seal in BACK-to-BACK arrangement possible

## Materials

Description	Etaprime GB, GBN	Etaprime CB, CBN
Volute casing	Grey cast iron JL 1040 <sup>4)</sup>	Cast chrome nickel molybdenum steel 1.4408
Casing cover	Grey cast iron JL 1040 <sup>4)</sup>	Cast chrome nickel molybdenum steel 1.4408
Shaft	Tempering steel C45+N <sup>3)</sup>	Chrome nickel molybdenum steel 1.4571
Impeller	Grey cast iron JL 1040 <sup>4)</sup>	Cast chrome nickel molybdenum steel 1.4408
Drive lantern <sup>2)</sup>	Grey cast iron JL 1040 <sup>4)</sup>	Grey cast iron <sup>5)</sup> JL 1040 <sup>4)</sup>
Shaft sleeve <sup>1)</sup>	Chrome nickel molybdenum steel 1.4571	Chrome nickel molybdenum steel 1.4571

- 1) not fitted on shaft unit 17  
 2) not fitted on Etaprime B  
 3) for shaft unit 17 = Chrome nickel molybdenum steel 1.4571  
 4) to EN 1561 = GJL-250  
 5) for shaft unit 17 = Chrome nickel molybdenum steel 1.4408  
 For shaft unit / pump size combinations see Overview of Type Series above

## Flange Connections / Pump connections

Pump size	Shaft unit	Standard connection	Special connection
25-100	17	Pipe thread	Pipe thread
32-120		Rp to ISO 7/1	NPT to ASME B1.20.1
40-110			
40-140	25	Flange to EN 1092-2, PN16, (JL 1040) to EN 1092-1, PN16, (1.4408)	Flange to ASME BE 16.1 Class 125 (to ZN 2606)
50-130			
50-160			
65-150			
65-180	35		
80-170			
80-190			
80-200			
100-240.1			

### Pressure limits

Pump size	Dis-charge pressure $p_2^{1)}$ (bar)	Test pressure $p_2^2)$ (bar)	Pump size	Dis-charge pressure $p_2^{1)}$ (bar)	Test pressure $p_2^2)$ (bar)
25-100	10.0	15.0	65-150	10.0	15.0
32-120	10.0	15.0	65-180	10.0	15.0
40-110	10.0	15.0	80-170	10.0	15.0
40-140	10.0	15.0	80-190	10.0	15.0
50-130	10.0	15.0	80-200	10.0	15.0
50-160	10.0	15.0	100-240.1	10.0	15.0

- 1) The sum of inlet pressure and head at zero flow point must not exceed the values indicated.
- 2) The casing components are checked for leakage by means of internal pressure tests to AN 1897/75-03 with water.

### Priming Time

with a horizontal length of the suction line of 1 m and suction line  $D_N = \text{pump } D_N$

ETAPRIME B / BN	Suction time [ sec ] for speed $n = 2,900/3,500$ rpm at a static suction lift $H_{1\text{geo}}$ of ... m				
	2 m	4 m	5 m	7 m	8 m
25-100	50	135	240	-	-
32-120	30	90	120	255	360
40-110	60	135	180	300	360
40-140	30	80	100	210	300
50-130	50	120	150	245	300
50-160	30	60	90	180	240
65-150	60	150	180	300	360
65-180	30	50	80	150	210
80-170	50	120	180	300	360
80-190	50	65	90	150	180
80-200	30	60	80	195	180
100-240.1	30	50	60	90	-

ETAPRIME B / BN	Suction time [ sec ] for speed $n = 1,450/1,750$ rpm at a static suction lift $H_{1\text{geo}}$ of ... m					
	1 m	2 m	4 m	5 m	7 m	8 m
25-100	120	-	-	-	-	-
32-120	150	200	-	-	-	-
40-110	140	-	-	-	-	-
40-140	120	240	-	-	-	-
50-130	200	360	-	-	-	-
50-160	180	320	-	-	-	-
65-150	180	360	-	-	-	-
65-180	160	180	360	-	-	-
80-170	150	240	420	-	-	-
80-190	120	160	300	-	-	-
80-200	80	120	240	300	-	-
100-240.1	100	140	280	400	-	-

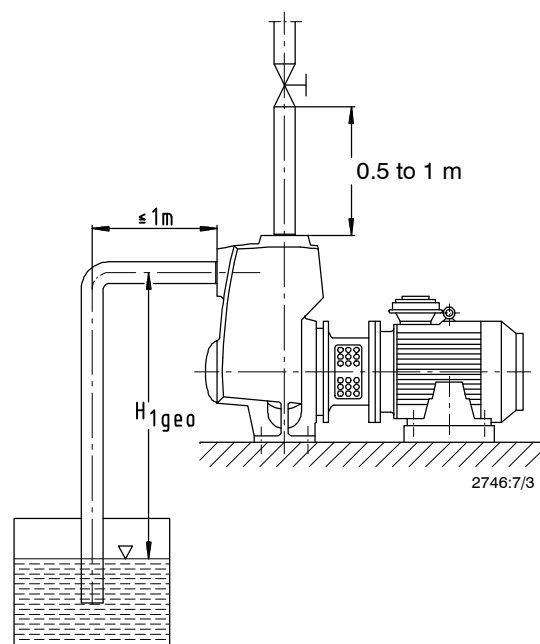
The above data refers to water at 20 °C.

**Caution** When handling fluids which liberate gas or tend to froth, **the pump will not be self-priming**. In such cases, a check valve should be installed in the suction line.

### Electrical connection values

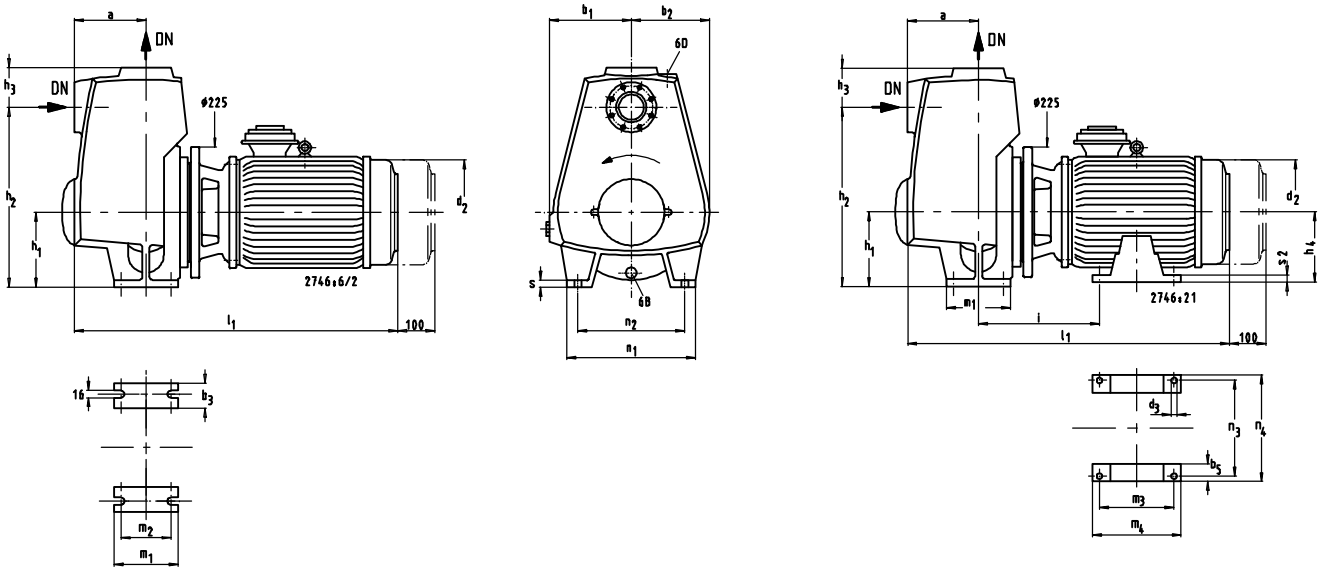
Pump size	Motor code	IEC size	50 Hz [kW]	60 Hz [kW]	50 Hz / 60 Hz ~ 400 V [A]
alle	.../ 054	80	0.6	0.6	1.4
	.../ 154	90L	1.5	1.7	3.4
	.../ 224	100L	2.2	2.5	4.9
	.../ 304	100L	3.0	3.4	6.3
	.../ 404	112M	4.0	4.6	8.3
	.../ 112	80	1.1	1.3	2.6
	.../ 222	90L	2.2	2.5	4.6
	.../ 302	100L	3.0	3.4	6.3
	.../ 402	112M	4.0	4.6	8.3
	.../ 552	132S	5.5	6.3	11.0
	.../ 752	132S	7.5	8.6	14.6
	.../ 1102	160M	11.0	12.6	20.7
	.../ 1502	160M	15.0	17.3	28.0
	.../ 1852	160L	18.5	21.3	33.0
	.../ 2202	180M	22.0	24.5	40.0
	.../ 3002	200L	30.0	34.5	54.0

- 1) The above values for current in A are for orientation only. For exact current values please refer to the motor nameplate.



Fluid handled	Application limits	Materials		Shaft seal				Reference code	Comments
		Casing/ Impeller	Mechanical seal	Mechanical seal					
				Grey cast iron/ Grey cast iron	Cast CrNiMo steel/ Cast CrNiMo steel	AG1VGG 2)	U3U3VGG		
G	C	8	9	10	11				
<b>Water</b>									
Ammonia water (salmiac)	t ≤ 40 °C; conc. ≤ 10%	X					X	GB11, GBN11	
Brackish water	t ≤ 25 °C		X			X		CB10, CBN10	
Condensate <sup>2)</sup>	t ≤ 90 °C	X					X	GB11, GBN11	
Condensate, non-conditioned	t ≤ 90 °C		X				X	CBN11	
Cooling water (no anti-freeze) <sup>1)</sup>	t ≤ 60 °C	X				X		GB10, GBN10	open circuit: CBN10 required
Cooling water pH value ≥ 7.5 (with anti-freeze) <sup>1) 3)</sup>	t ≥ -30 °C p ≤ 10 bar t ≤ 90 °C	X					X	GB11, GBN11	open circuit: CBN11 required
Dam water <sup>1)</sup>	t ≤ 60 °C	X				X		GB10, GBN10	if solids - laden: contact KSB
Drinking water <sup>1)</sup>	t ≤ 60 °C	X					X	GB11, GBN11	
Fire-fighting water <sup>1)</sup>	t ≤ 60 °C	X				X		GB10, GBN10	
Fully desalinated water	t ≤ 90 °C		X				X	CBN11	Requirements for ultra-pure water cannot be met.
Fully desalinated water as boiler feed water <sup>2)</sup>	t ≤ 90 °C	X					X	GB11, GBN11	
Partly desalinated water <sup>2)</sup>	t ≤ 90 °C	X					X	GB11, GBN11	
Pure water <sup>4)</sup>	t ≤ 60 °C	X					X	GB11, GBN11	
Seawater	t ≤ 25 °C		X			X		CBN10	
Slightly contaminated water <sup>1)</sup>	t ≤ 60 °C	X				X		GB10, GBN10	
Surface water <sup>1)</sup>	t ≤ 40 °C	X		X				GB8, GBN8	Analysis of fluid handled required.
Swimming-pool water <sup>1)</sup> (fresh water)	t ≤ 60 °C	X				X		GB10, GBN10	Also for requirements to DIN 19 643
Untreated water <sup>1)</sup>	t ≤ 60 °C	X				X		GB10, GBN10	
Waste water (industrial)									Analysis of fluid handled required.
<b>Refrigerants, cooling brines</b>									
Cooling brine, inorganic, pH value > 7.5; inhibited	t ≥ -30 °C t ≤ 25 °C	X					X	GB11, GBN11	
Water with anti-freeze, pH value ≥ 7.5 <sup>1) 3)</sup>	t ≥ -30 °C; t ≤ 90 °C	X					X	GB11, GBN11	
<b>Oils/Emulsions</b>									
Drilling/Grinding emulsion	t ≤ 60 °C	X			X			GB9, GBN9	
Oil-water emulsion	t ≤ 60 °C	X			X			GB9, GBN9	
<b>Cleaning agents</b>									
Bottle rinsing lyes	t ≤ 90 °C	X				X		GB10, GBN10	
<b>Acids</b>									
Acetic acid	t ≤ 60 °C; conc. ≤ 5 % t ≤ 60 °C; conc. ≤ 10 %		X				X	CBN11	

- 1) General criteria for results of water analysis: pH value ≥ 7; chloride (Cl) content ≤ 150 mg/kg. Chlorine (Cl<sub>2</sub>) ≤ 0.6 mg/kg. Ammonia (NH<sub>3</sub>) ≤ 5mg/kg, free from hydrogen sulphide (H<sub>2</sub>S); no limitation of Cl content required in this case.
- 2) Treatment to VdTUV 1466; additional requirement : O<sub>2</sub> ≤ 0.02 mg/l.
- 3) Antifreeze on ethylene glycol basis with inhibitors. Content: 20 % to 50 % (e.g. Antifrogen N)
- 4) No ultra-pure water! Conductivity at 25 °C: ≤ 800 µS/cm.

**Etaprime B 40-140/... - 65-150/...**  
 with motor foot from motor size 132 = 5.5 kW


Etaprime B	6 B <sup>1)</sup>	6 D <sup>1)</sup>	6 B	Förderflüssigkeit-Entleerung / Casing drain / Vidange du liquide véhiculé / Scarico del liquido convogliato / Vaciado del líquido de impulsión / aftap. pomphuis
40-140/...	R <sub>c</sub> 3/8	R <sub>c</sub> 3/4	6 D	Förderflüssigkeit-Auffüllen und Entlüften / Fluid handled-priming and venting / Remplissage et dégazage de liquide véhiculé / Riempimento e scarico del liquido convogliato / Llenado y desaireación del líquido de impulsión / vul en ontlichting
50-130/...	R <sub>c</sub> 1/2	R <sub>c</sub> 3/4		
50-160/...	R <sub>c</sub> 1/2	R <sub>c</sub> 3/4		
65-150/...	R <sub>c</sub> 1/2	R <sub>c</sub> 3/4		

 1) R<sub>c</sub> = ISO 7/1

Flange dimensions						mm	
Flange connection	DN	Dia. of bolt circle	z	d	l <sub>1</sub>		
Standard EN 1092-1 EN 1092-2	40	110	4	M 16	40		
	50	125					
	65	145					
	80	160					
Special ASME BE 16.1 Class 125 (ZN 2606)	40	98.6	4	UNC 5/8-11	40		
	50	120.7					
	65	139.7					
	80	152.4					
	100	180	8		45		
						8	

Tolerances of connecting dimensions as per EN 735

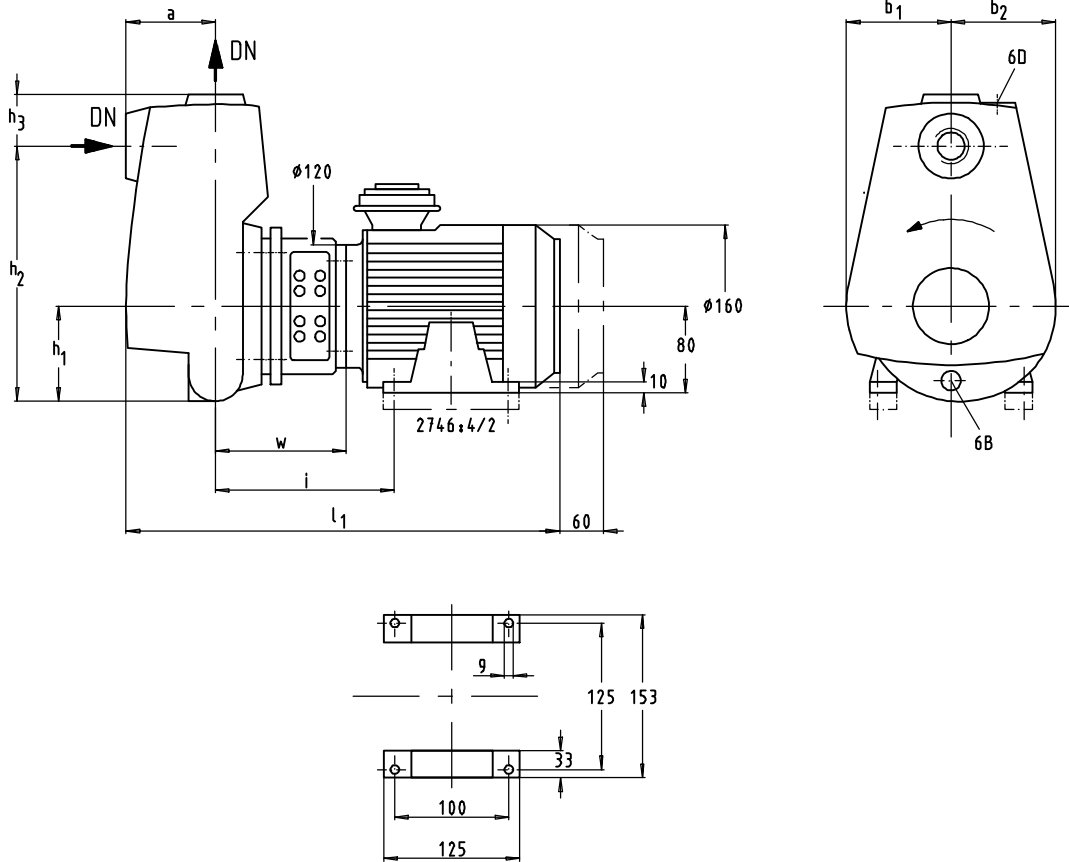
mm

Etaprime B	n = 1.450 1/min	n = 1.750 1/min	n = 2.900 1/min	n = 3.500 1/min	DN	a	b <sub>1</sub>	b <sub>2</sub>	b <sub>3</sub>	b <sub>5</sub>	d <sub>2</sub>	d <sub>3</sub>	h <sub>1</sub>	h <sub>2</sub>	h <sub>3</sub>	h <sub>4</sub>	i	l <sub>1ca</sub>	m <sub>1</sub>	m <sub>2</sub>	m <sub>3</sub>	m <sub>4</sub>	n <sub>1</sub>	n <sub>2</sub>	n <sub>3</sub>	n <sub>4</sub>	s <sub>1</sub>	s <sub>2</sub>			
																													X	X	X
40-140 / 054	X	X	X	X	40	115	128	115	57	-	170	-	112	284	73	-	-	-	460	100	70	-	-	220	160	-	-	16	-		
					/ 154	40	115	128	115	57	-	190	-	112	284	73	-	-	-	-	491	100	70	-	-	220	160	-	-	16	-
					/ 222	40	115	128	115	57	-	190	-	112	284	73	-	-	-	-	491	100	70	-	-	220	160	-	-	16	-
					/ 302	40	115	128	115	57	-	213	-	112	284	73	-	-	-	-	515	100	70	-	-	220	160	-	-	16	-
					/ 402	40	115	128	115	57	-	234	-	112	284	73	-	-	-	-	536	100	70	-	-	220	160	-	-	16	-
					/ 552 <sup>2)</sup>	40	115	128	115	57	43	266	12	112	284	73	132	202	601	100	70	140	220	220	160	216	270	16	15		
50-130 / 054	X	X	X	X	50	130	138	128	55	-	170	-	132	317	78	-	-	-	475	100	70	-	-	250	190	-	-	20	-		
					/ 154	50	130	138	128	55	-	190	-	132	317	78	-	-	-	506	100	70	-	-	250	190	-	-	20	-	
					/ 222	50	130	138	128	55	-	190	-	132	317	78	-	-	-	506	100	70	-	-	250	190	-	-	20	-	
					/ 302	50	130	138	128	55	-	213	-	132	317	78	-	-	-	530	100	70	-	-	250	190	-	-	20	-	
					/ 402	50	130	138	128	55	-	234	-	132	317	78	-	-	-	551	100	70	-	-	250	190	-	-	20	-	
						50	130	138	128	55	-	234	-	132	317	78	-	-	-	551	100	70	-	-	250	190	-	-	20	-	
50-160 / 054	X	X	X	X	50	130	145	126	55	-	170	-	132	327	75	-	-	-	475	100	70	-	-	250	190	-	-	20	-		
					/ 154	50	130	145	126	55	-	190	-	132	327	75	-	-	-	506	100	70	-	-	250	190	-	-	20	-	
					/ 402	50	130	145	126	55	-	234	-	132	327	75	-	-	-	551	100	70	-	-	250	190	-	-	20	-	
					/ 552 <sup>1)</sup>	50	130	145	126	55	43	266	12	132	327	75	132	202	616	100	70	140	220	250	190	216	270	20	15		
					/ 752 <sup>1)</sup>	50	130	145	126	55	43	266	12	132	327	75	132	202	616	100	70	140	220	250	190	216	270	20	15		
						50	130	145	126	55	43	266	12	132	327	75	132	202	616	100	70	140	220	250	190	216	270	20	15		
65-150 / 054	X	X	X	X	65	140	155	149	55	-	170	-	160	370	85	-	-	-	485	125	95	-	-	270	212	-	-	23	-		
					/ 154	65	140	155	149	55	-	190	-	160	370	85	-	-	-	516	125	95	-	-	270	212	-	-	23	-	
					/ 402	65	140	155	149	55	-	234	-	160	370	85	-	-	-	561	125	95	-	-	270	212	-	-	23	-	
					/ 552 <sup>1)2)</sup>	65	140	155	149	55	43	266	12	160	370	85	132	202	626	125	95	140	220	270	212	216	270	23	15		
					/ 752 <sup>1)2)</sup>	65	140	155	149	55	43	266	12	160	370	85	132	202	626	125	95	140	220	270	212	216	270	23	15		
						65	140	155	149	55	43	266	12	160	370	85	132	202	626	125	95	140	220	270	212	216	270	23	15		

 1)  $\Delta h_1 \geq h_4$ 

2) For these motor sizes, shims etc. will have to be fitted under the motor/pump feet.



**Etaprime BN**


Etaprime BN	6 B <sup>1)</sup>	6 D <sup>1)</sup>
25-100/...	R <sub>c</sub> 1/8	R <sub>c</sub> 3/4
32-120/...	R <sub>c</sub> 1/8	R <sub>c</sub> 3/4
40-110/...	R <sub>c</sub> 1/8	R <sub>c</sub> 3/4

6 B	Förderflüssigkeit-Entleerung / Casing drain / Vidange du liquide véhiculé / Scarico del liquido convogliato / Vaciado del líquido de impulsión / aftap. pomphuis
6 D	Förderflüssigkeit-Auffüllen und Entlüften / Fluid handled-priming and venting / Remplissage et dégazage de liquide véhiculé / Riempimento e scarico del liquido convogliato / Llenado y desaireación del líquido de impulsión / vul en ontluchting

1) R<sub>c</sub> = ISO 7/1

Tolerances of connecting dimensions as per EN 735

mm

Etaprime BN <sup>4)</sup>	n = 1.450 1/min	n = 1.750 1/min	n = 2.900 1/min	n = 3.500 1/min	Connection		a	b <sub>1</sub>	b <sub>2</sub>	h <sub>1</sub>	h <sub>2</sub>	h <sub>3</sub>	i	l <sub>1</sub> ca.	w
					Standard DN <sup>2)</sup>	Special DN <sup>3)</sup>									
25-100 / 054	X	X			Rp 1	NPT 1	70	104	95	87	227	38	152	427	102
/ 112			X	X	Rp 1	NPT 1	70	104	95	87	227	38	152	441	102
32-120 / 054	X	X			Rp 1 1/4	NPT 1 1/4	95	118	95	90	239	46	149	449	99
/ 112			X	X	Rp 1 1/4	NPT 1 1/4	95	118	95	90	239	46	149	463	99
40-110 / 054	X	X			Rp 1 1/2	NPT 1 1/2	105	118	110	101	256	55	154	464	104
/ 112			X	X	Rp 1 1/2	NPT 1 1/2	105	118	110	101	256	55	154	478	104

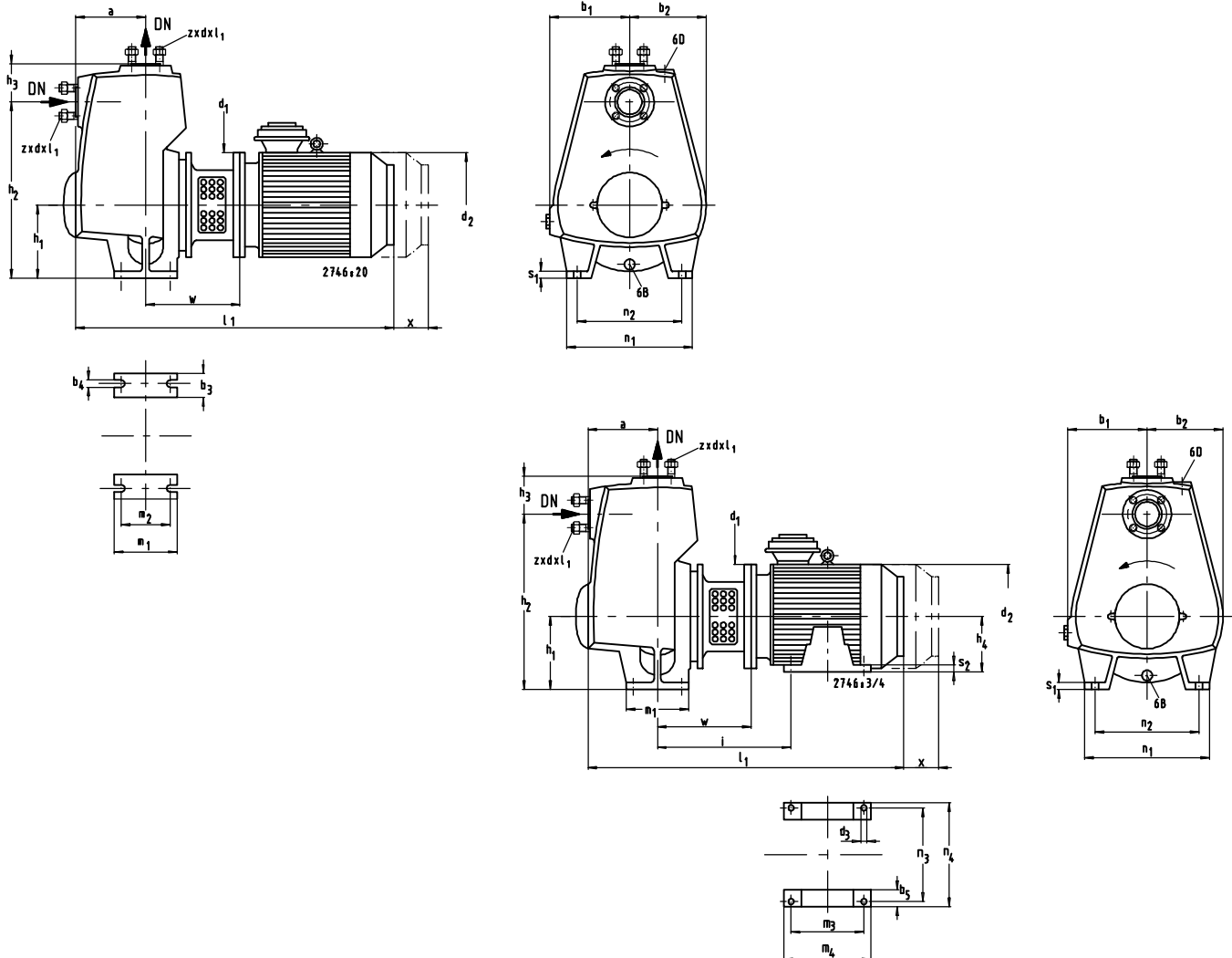
2) Standard connection to ISO 7/1

3) Special connection to ASME B1.20.1

4) For these motor sizes, 30 mm thick shims etc. must be placed under the motor feet.

**Etaprime BN**

with motor foot from motor size 132 = 5.5 kW



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6 D	Förderflüssigkeit-Auffüllen und Entlüften / Fluid handled-priming and venting / Remplissage et dégazage de liquide véhiculé / Riempimento e scarico del liquido convogliato / Llenado y desaireación del líquido de impulsión / vul en ontluchting

Etaprime BN	6 B <sup>1)</sup>	6 D <sup>1)</sup>
40-140/...	Rc 3/8	Rc 3/4
50-130/...	Rc 1/2	Rc 3/4
50-160/...	Rc 1/2	Rc 3/4
65-150/...	Rc 1/2	Rc 3/4
65-180/...	Rc 1/2	Rc 3/4
80-170/...	Rc 3/4	Rc 3/4
80-190/...	Rc 3/8	Rc 3/4
80-200/...	Rc 1/2	Rc 3/4
100-240.1/...	Rc 3/4	Rc 3/4

1) Rc = ISO 7/1

Flange dimensions					mm	
Flange connection	DN	Dia. of bolt circle	z	d	l <sub>1</sub>	
Standard EN 1092-1 EN 1092-2	40	110	4	M 16	40	
	50	125			45	
	65	145	8		40	
	80	160			45	
Special ASME BE 16.1 Class 125 (ZN 2606)	40	98.6	4	UNC 1/2-13	40	
	50	120.7		UNC 5/8-11	40	
	65	139.7			45	
	80	152.4			45	
	100	190.5		8	45	



## Interchangeability of Etaprime B/BN and Etaprime L Components and Interchangeability of Component Parts

Etaprime B/BN	Shaft unit	Description					
		Volute casing	Casing cover	Shaft 1)	Impeller	Mechanical seal	Shaft sleeve
		Part No. 102	161	210	230	433.01	523
25-100	17	O	X	1	O	1	X
32-120		O	X	1	O	1	X
40-110		O	X	1	O	1	X
40-140	25	O	O	2	O	2	1
50-130		O	O	2	O	2	1
50-160		O	O	2	O	2	1
65-150		O	O	2	O	2	1
65-180	35	O	O	3	O	3	2
80-170		O	O	3	O	3	2
80-190		O	O	3	O	3	2
80-200		O	O	3	O	3	2
100-240.1		O	O	3	O	3	2

1) only for Etaprime GBN, CBN

1	Same number means same component
1	
O	Components differ
X	Component not fitted
	Component interchangeable with Etaprime L

## Recommended Spare Parts Stock for 2 Years' Continuous Operation to DIN 24 296

Part No.	Description	Number of Pumps (incl. stand-by pumps)						
		2	3	4	5	6 and 7	8 and 9	10 and more
		Quantity of spare parts						
210 <sup>1)</sup>	Shaft	1	1	1	2	2	2	20 %
230	Impeller	1	1	1	2	2	2	20 %
400.03 <sup>2)</sup>	Gasket	1	1	2	2	2	3	25 %
412.35/.65 <sup>1)</sup>	O-ring (set)	4	6	8	8	9	10	100 %
433.01	Mechanical seal	1	1	2	2	2	3	25 %
523 <sup>2)</sup>	Shaft sleeve	2	2	2	3	3	4	50 %

1) only for Etaprime GBN, CBN

2) not fitted on shaft unit 17

Applicable shaft unit/pump size combinations see above.