

Thermal Oil / Hot Water Pump

Etabloc SYT

SI Units and Imperial Units

Type Series Booklet



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Type Series Booklet Etabloc SYT

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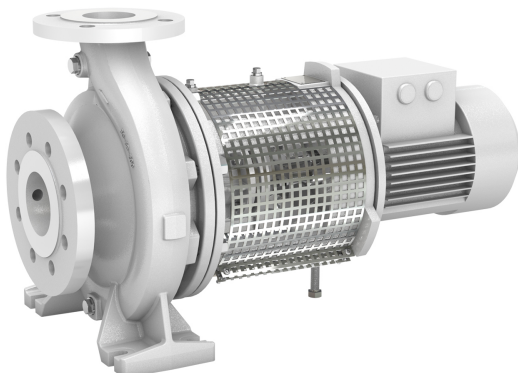
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Centrifugal Pumps with Shaft Seal

Thermal Oil Pumps / Hot Water Pumps

Etabloc SYT



Main applications

- Heat transfer systems
- Hot water circulation

Fluids handled

- Hot water
- Thermal oil, mineral
- Thermal oil, synthetic

Further information on fluids handled

Overview of fluids handled

Operating data

Table 1: Operating data (SI units)

Characteristic		Value	
		50 Hz	60 Hz
Flow rate	Q [m³/h]	≤ 280	≤ 337
Head	H [m]	≤ 68	≤ 99
Fluid temperature	T _{min.} [°C]	≥ -30	≥ -30
Thermal oil (mineral / synthetic)	T _{max.} [°C]	≤ +350	≤ +350
Hot water		≤ +180	≤ +180
Operating pressure	p [bar]	≤ 16	≤ 16

Table 2: Operating data (imperial units)

Characteristic		Value	
		50 Hz	60 Hz
Flow rate	Q [gpm]	≤ 1,232.8	≤ 1,483.77
Head	H [ft]	≤ 223.1	≤ 324.8
Fluid temperature	T _{min.} [°F]	≥ -22	≥ -22
Thermal oil (mineral / synthetic)	T _{max.} [°F]	≤ +662	≤ +662
Hot water		≤ +356	≤ +356
Operating pressure	p [psi]	≤ 232.06	≤ 232.06

Table 3: Operating properties in marine applications to DNV GL (SI units)¹⁾²⁾³⁾

Characteristic		Value		
		Class I ⁴⁾	Class II ⁵⁾	Class III ⁶⁾
Steam				
Design pressure	p [bar]	≤ 16	≤ 16	≤ 7
Design temperature	T [°C]	> 300	≤ 300	≤ 170
Thermal oil				
Design pressure	p [bar]	≤ 16	≤ 16	≤ 7
Design temperature	T [°C]	> 300	≤ 300	≤ 150
Fuel oil, lubricating oil, combustible hydraulic oil				
Design pressure	p [bar]	≤ 16	≤ 16	≤ 7
Design temperature	T [°C]	> 150	≤ 150	≤ 60
Other fluids ⁷⁾				
Design pressure	p [bar]	> 40	≤ 40	≤ 16
Design temperature	T [°C]	> 300	≤ 300	≤ 200

Table 4: Operating properties in marine applications to DNV GL (imperial units)¹⁾²⁾³⁾

Characteristic		Value		
		Class I ⁴⁾	Class II ⁵⁾	Class III ⁶⁾
Steam				
Design pressure	p [psi]	> 232.06	≤ 232.06	≤ 101.53
Design temperature	T [°F]	> 572	≤ 572	≤ 338
Thermal oil				
Design pressure	p [psi]	> 232.06	≤ 232.06	≤ 101.53
Design temperature	T [°F]	> 572	≤ 572	≤ 302
Fuel oil, lubricating oil, combustible hydraulic oil				
Design pressure	p [psi]	> 232.06	≤ 232.06	≤ 101.53
Design temperature	T [°F]	> 302	≤ 302	≤ 140
Other fluids ⁷⁾				
Design pressure	p [psi]	> 580.15	> 580.15	≤ 232.06
Design temperature	T [°F]	> 572	≤ 572	≤ 392

- ¹⁾ Loading pipes for flammable liquids on offshore supply vessels belong to the same piping class as the fuel. Class II piping suffices outside of category A engine rooms.
- ²⁾ Pipes for toxic or corrosive fluids belong to piping class I.
- ³⁾ Loading pipes for chemicals or liquefied gases are not specified in the table.
- ⁴⁾ At least one condition must be met for class I piping (design pressure or design temperature).
- ⁵⁾ Both conditions must be met for class II piping (design pressure and design temperature).
- ⁶⁾ Both conditions must be met for class III piping (design pressure and design temperature).
- ⁷⁾ Cargo oil pipes on oil tankers and open pipe outlets (drains, overflows, ventilation, boiler drain pipes, etc.), irrespective of pressure and temperature, belong to class III.

Design details

Design

- Volute casing pump
- Horizontal installation
- Vertical installation
- Back pull-out design
- Single-stage
- Ratings to EN 733

Pump casing

- Radially split volute casing
- Replaceable casing wear rings
- Volute casing with integrally cast pump feet

Shaft seal

- KSB single mechanical seal
- To EN 12756

Impeller type

- Closed radial impeller with multiply curved vanes

Bearings

- Product-lubricated carbon plain bearings
- Grease-lubricated radial ball bearings in the motor housing

Static sealing elements

- Between volute casing and discharge cover
- Between discharge cover and bearing housing
- Between bearing housing and seal cover

Designation

Table 5: Designation example

Position																																				
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37
E	T	B	Y	0	5	0	-	0	3	2	-	1	6	0	-	S	G	S	D	B	0	8	A	2	1	1	0	0	2	-	-	B	P	D	2	E
See name plate and data sheet																									See data sheet							-				

Table 6: Designation key

Position	Code	Description
1-4	Pump type	
	ETBY	Etabloc SYT
5-16	Size, e.g.	
	050	Nominal suction nozzle diameter [mm]
	032	Nominal discharge nozzle diameter [mm]
	160	Nominal impeller diameter [mm]
17	Pump casing material	
	S	Nodular cast iron EN-GJS-400-15
18	Impeller material	
	C	Stainless steel 1.4408 / A743CF8M
	G	Cast iron EN-GJL-250 / A48CL35
19	Design	
	D	DNV
	S	Standard
	X	Non-standard (BT3D, BT3)
20	Casing cover	
	D	Casing cover for Etabloc SYT (dead-end arrangement)
21	Shaft seal type	
	B	Dead-end arrangement, only for Etabloc SYT
22-23	Seal code, single mechanical seal	
	08	AQ1V7GG NU028MO-4EYS
	66	Q7Q7EGG NU028MO-4EYS
24	Scope of supply	
	A	Pump only (Fig. 0)
	D	Pump, motor
	E	Back pull-out unit
25	Shaft unit	
	2	Shaft unit 25
26-29	Motor rating P_N [kW]	
	0075	7.50
	...	...
	1320	132.00
30	Number of motor poles	
31-32	Explosion protection	
	ex	With explosion-proof motor
	--	Without explosion-proof motor
33	Product generation	
	B	Etabloc SYT 2014
34-37	Design	
	-	Fixed speed version, without PumpDrive
	PD2	Variable speed version, with PumpDrive 2
	PD2E	Variable speed version, with PumpDrive 2 Eco

Materials

Table 7: Overview of available materials

Part No. (⇒ Page 28)	Designation	Material
102	Volute casing	Nodular cast iron EN-GJS-400-15/536 Gr. 60-40-18
161	Casing cover	Nodular cast iron EN-GJS-400-15/536 Gr. 60-40-18
210	Shaft	Chrome steel 1.4021 + QT800
230	Impeller	Grey cast iron EN-GJL-250/A48 Cl. 35B
		Chrome steel 1.4408/A743 Gr. CF8M
310	Plain bearing	Carbon
341	Drive lantern	Grey cast iron EN-GJL-250/A48 Cl. 35B
350	Bearing housing	Nodular cast iron EN-GJS-400-15/536 Gr. 60-40-18
411.10/.15	Sealing elements	BU9593/HDR
502.01	Casing wear ring, suction side	Grey cast iron EN-GJL-250/CI
502.02	Casing wear ring, discharge side	Grey cast iron EN-GJL-250/CI
902	Studs	8.8/ 5.8
903	Plug	Steel
920	Nut	8 + A2A/8 + B633 SC1 TP
920	Impeller nut	8
		A4/AISI316

Coating and preservation

- Coating and preservation to KSB standard

Product benefits

- Designed to deliver reliable operation with mineral and synthetic thermal oils up to 350 °C/662 °F
- Maximum operating reliability ensured by KSB mechanical seal with multi-spring arrangement and reliable venting during pump operation
- Safety barriers: Special contour ensures reliable removal of leakage at the mechanical seal; confined sealing elements and effective heat barrier
- Individual requirements are met with maximum efficiency, and operating costs are reduced: impeller trimming, variable speed operation / intelligent control by KSB frequency inverters and KSB motors up to IE5, maximum hydraulic pump efficiency and low NSPHreq
- Wide range of applications through compliance with EN PN16 and ASME, ATEX-compliant version, carbon plain bearings, various marine versions and fan impeller for efficient cooling
- Great ease of maintenance due to casing wear rings and back pull-out design enabling the casing to remain in the piping during maintenance.

Acceptance tests and warranty

The following acceptance tests may be performed at a surcharge:

- Materials inspection and testing**
 - Test report 2.2
- Final inspection**
 - Inspection certificate 3.1 to EN 10204
- Hydraulic test**
 - The duty point of each pump is guaranteed according to ISO 9906/2B or ISO 9906/3B.
 - NPSH test
- Other inspections/tests on request

Warranties

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

Overview of product features / selection tables

Overview of variants

 Other designs on request

Table 8: Overview of variants (SI units)

Variant	102 / Volute casing	230 / Impeller	Mechanical seal	T	Main applications									
				[°C]	Chemical industry / pharmaceutical industry	Plastic processing	Timber industry / paper industry / cardboard industry	Soap industry / laundry agent industry	Food industry	Textile industry	Mineral oil industry	Bitumen industry / tar processing industry	Metal-processing industry	Aluminium industry
SG08	Nodular cast iron EN-GJS-400-15/536 Gr. 60-40-18	Grey cast iron EN-GJL-250/A48 Cl. 35B	AQ1V7GG	$\geq -30 - \leq +180^{(8)}$ / $350^{(9)}$	X	X	X	X	X	X	X	X	X	X
SC08	Nodular cast iron EN-GJS-400-15/536 Gr. 60-40-18	Chrome steel 1.4408/A743 Gr. CF8M	AQ1V7GG	$\geq -30 - \leq +180^{(8)}$ / $350^{(9)}$	X	X	X	X	X	X	X	X	X	X

Table 9: Overview of variants (imperial units)

Variant	102 / Volute casing	230 / Impeller	Mechanical seal	T	Main applications									
				[°F]	Chemical industry / pharmaceutical industry	Plastic processing	Timber industry / paper industry / cardboard industry	Soap industry / laundry agent industry	Food industry	Textile industry	Mineral oil industry	Bitumen industry / tar processing industry	Metal-processing industry	Aluminium industry
SG08	Nodular cast iron EN-GJS-400-15/536 Gr. 60-40-18	Grey cast iron EN-GJL-250/A48 Cl. 35B	AQ1V7GG	$\geq -22 - \leq +356^{(8)}$ / $+662^{(9)}$	X	X	X	X	X	X	X	X	X	X
SC08	Nodular cast iron EN-GJS-400-15/536 Gr. 60-40-18	Chrome steel 1.4408/A743 Gr. CF8M	AQ1V7GG	$\geq -22 - \leq +356^{(8)}$ / $+662^{(9)}$	X	X	X	X	X	X	X	X	X	X

Overview of fluids handled

Table 10: Excerpt from the overview of fluids handled with associated material variants (SI units)

Fluid handled	Application limits ⁽¹⁰⁾	Materials		Shaft seal	
		Casing/impeller		Single mechanical seal	
		Nodular cast iron / gray cast iron	Nodular cast iron / stainless steel	AQ1V7GG	Q7Q7EGG
		SG	SC	Code 08	Code 66
Hot water ⁽¹¹⁾	$t \leq +180\text{ °C}$ $p \leq 16\text{ bar}$	X		X	
Water/glycol mixture	$t \leq 180\text{ °C}$	X		-	X

⁸ Hot water

⁹ Thermal oil

¹⁰ The inlet pressure must not fall below atmospheric pressure.

¹¹ Low-salt and fully desalinated water to VdTÜV technical instruction leaflet / AGFW technical instruction leaflet TCN 1466 (VdTÜV) 5/15 (AGFW), edition 02.89

Fluid handled	Application limits ¹⁰⁾	Materials		Shaft seal	
		Casing/impeller		Single mechanical seal	
		Nodular cast iron/ gray cast iron	Nodular cast iron/ stainless steel	AQ1V7GG	Q7Q7EGG
		SG	SC	Code 08	Code 66
Water/glycol mixture	p ≤ 16 bar	X		-	X
Thermal oil on mineral oil basis	t ≥ -30 to +350 °C	X		X	
	p ≤ 16 bar				
Thermal oil on synthetic basis, vaporization pressure ≤ 1 bar at operating temperature ¹²⁾	t ≥ -30 to +350 °C	X		X	
	p ≤ 16 bar				

Table 11: Excerpt from the overview of fluids handled with associated material variants (imperial units)

Fluid handled	Application limits ¹⁰⁾	Materials		Shaft seal	
		Casing/impeller		Single mechanical seal	
		Nodular cast iron/ gray cast iron	Nodular cast iron/ stainless steel	AQ1V7GG	Q7Q7EGG
		SG	SC	Code 08	Code 66
Hot water ¹¹⁾	t ≤ +356 °F	X		X	
	p ≤ 232.06 psi				
Water/glycol mixture	t ≤ +356 °F	X		-	X
	p ≤ 232.06 psi				
Thermal oil on mineral oil basis	t ≥ -22 to +662 °F	X		X	
	p ≤ 232.06 psi				
Thermal oil on synthetic basis, vaporization pressure ≤ 14.5 psi at operating temperature ¹³⁾	t ≥ -22 to +662 °F	X		X	
	p ≤ 232.06 psi				

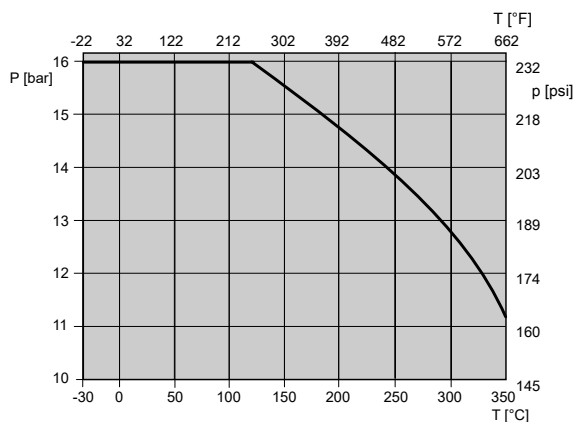
Pressure limits and temperature limits

Table 12: Test pressure limits and temperature limits depending on the material (Si units)

Material	Fluid temperature	Test pressure ¹⁴⁾
	[°C]	[bar]
S	-30 to +350	≤ 25

Table 13: Test pressure limits and temperature limits depending on the material (imperial units)

Material	Fluid temperature	Test pressure ¹⁴⁾
	[°F]	[psi]
S	-22 to +662	≤ 362.6


Fig. 1: Operating pressure limits and temperature limits

¹²⁾ For vaporization pressures > 1 bar, use an Etanorm SYT pump.

¹³⁾ For vaporization pressures > 14.5 psi, use an Etanorm SYT pump.

¹⁴⁾ The casing components are checked for leakage by means of internal pressure tests to AN 1897/75-03D00 with water.

Technical data
Table 14: Technical data (SI units)

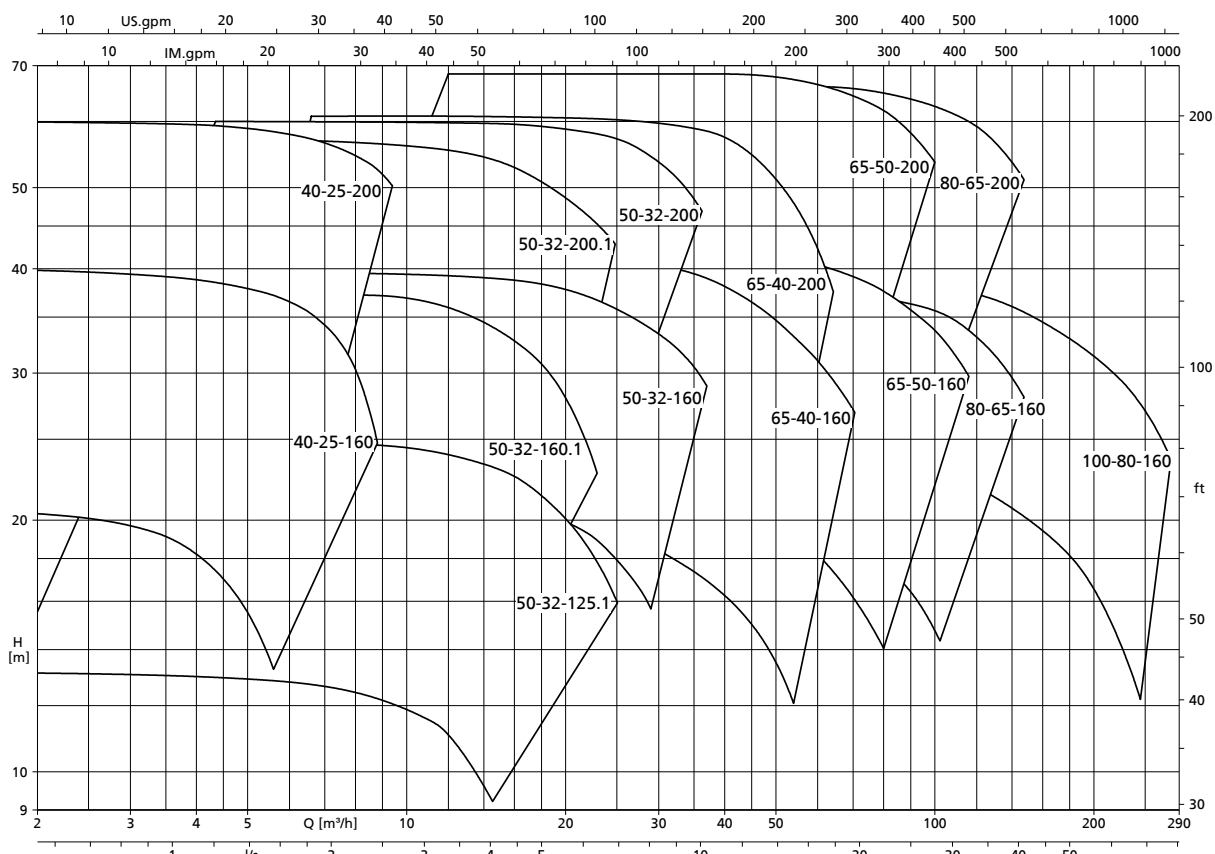
Etabloc SYT	Shaft unit	Impeller				Speed limit	
		Outlet	Inlet	Nominal diameter		Max.	Min.
			Diameter	Max.	Min.		
		[mm]					
040-025-160	25	6.0	45.2	169	130	3,600	800
040-025-200	25	6.0	45.2	209	160	3,600	800
050-032-125.1	25	6.6	52.4	139	104	3,600	800
050-032-160	25	8.5	60.6	174	136	3,600	800
050-032-160.1	25	5.7	52.7	170	136	4,400	800
050-032-200	25	7.0	62.9	209	170	3,700	800
050-032-200.1	25	5.6	54.0	204	170	3,800	800
065-040-160	25	13.0	70.0	174	128	4,400	800
065-040-200	25	9.4	69.4	209	165	3,700	800
065-050-160	25	16.9	86.9	174	128	4,400	800
065-050-200	25	13.8	83.1	219	170	3,600	800
080-065-160	25	21.0	92.0	174	132	3,900	800
080-065-200	25	17.0	99.7	219	175	3,600	800
100-080-160	25	31.6	124.0	174	138	3,600	800

Table 15: Technical data (imperial units)

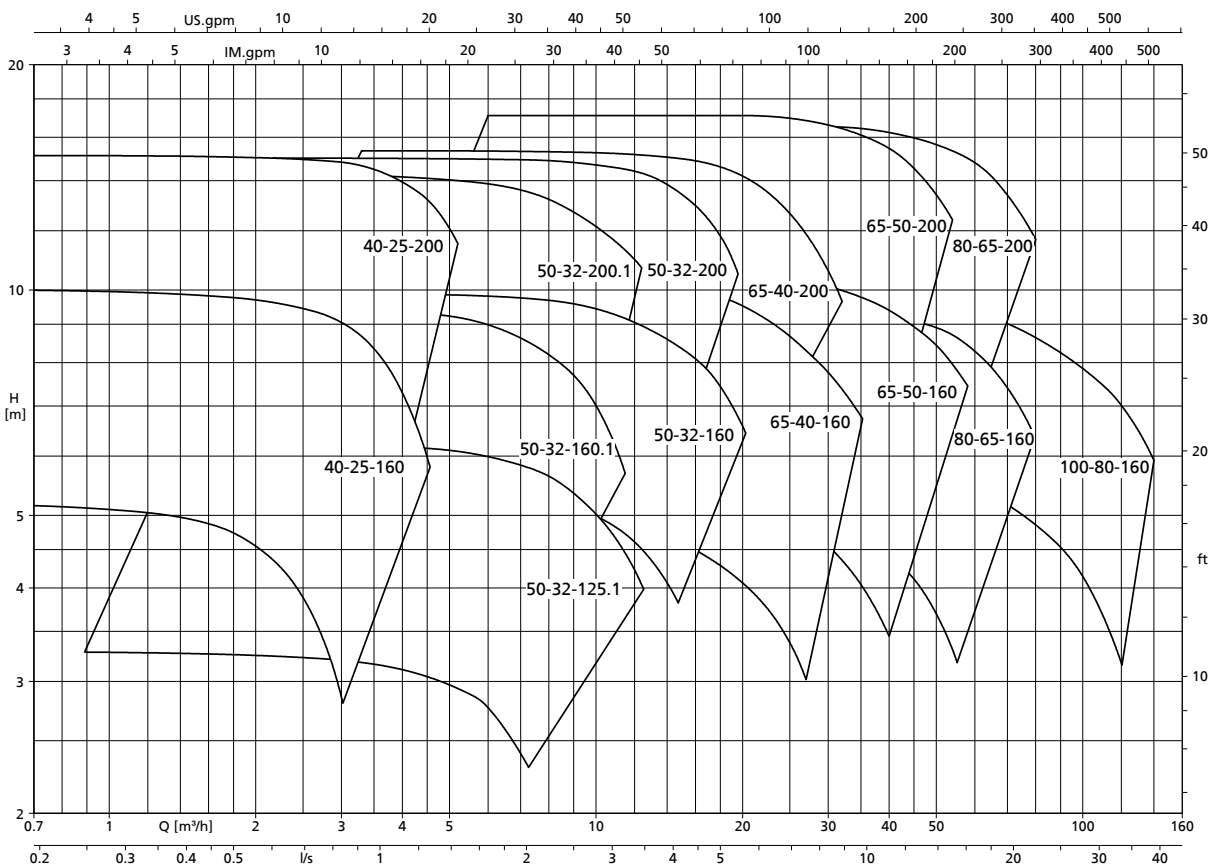
Etabloc SYT	Shaft unit	Impeller				Speed limit	
		Outlet	Inlet	Nominal diameter		Max.	Min.
			Diameter	Max.	Min.		
		[inch]					
040-025-160	25	0.236	1.78	6.65	5.12	3,600	800
040-025-200	25	0.236	1.78	8.23	6.30	3,600	800
050-032-125.1	25	0.260	2.06	5.47	4.09	3,600	800
050-032-160	25	0.335	2.39	6.85	5.35	3,600	800
050-032-160.1	25	0.224	2.07	6.69	5.35	4,400	800
050-032-200	25	0.276	2.48	8.23	6.69	3,700	800
050-032-200.1	25	0.220	2.13	8.03	6.69	3,800	800
065-040-160	25	0.512	2.76	6.85	5.04	4,400	800
065-040-200	25	0.370	2.73	8.23	6.50	3,700	800
065-050-160	25	0.665	3.42	6.85	5.04	4,400	800
065-050-200	25	0.543	3.27	8.62	6.69	3,600	800
080-065-160	25	0.827	3.62	6.85	5.20	3,900	800
080-065-200	25	0.669	3.93	8.62	6.89	3,600	800
100-080-160	25	1.244	4.88	6.85	5.43	3,600	800

Selection charts

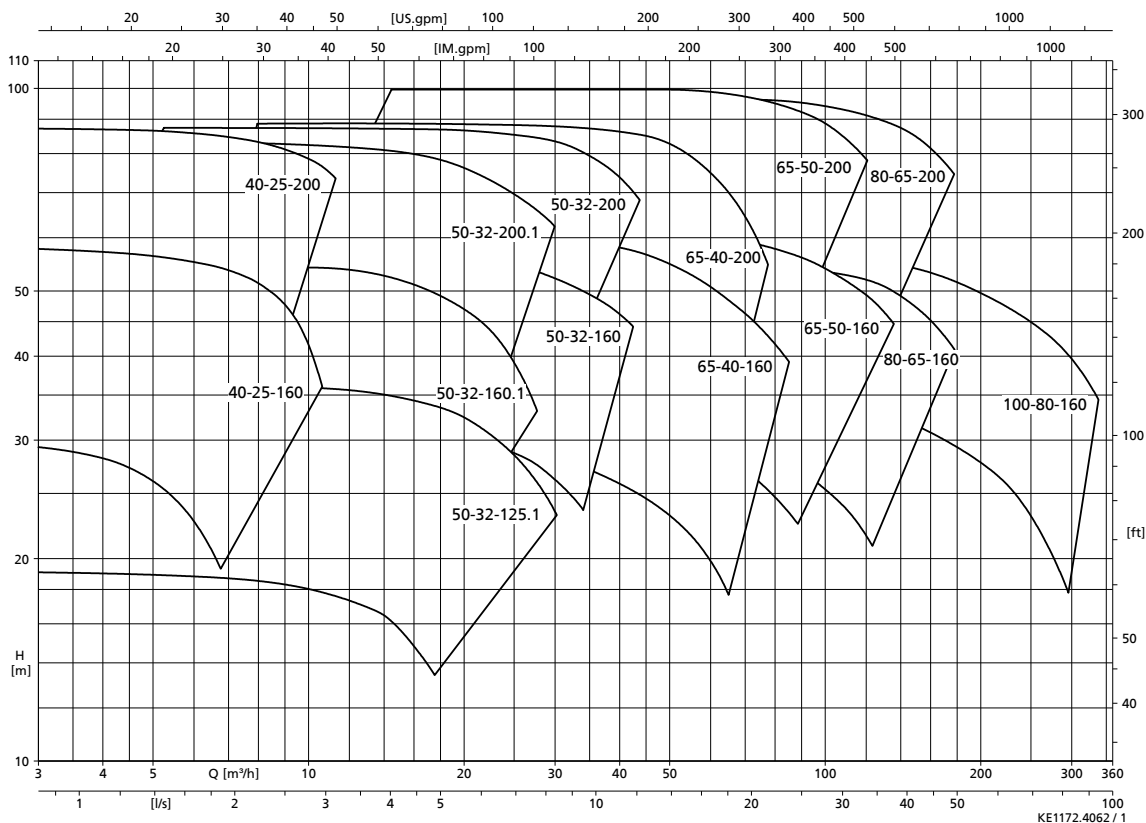
Etabloc SYT (fixed speed version), $n = 2,900$ rpm



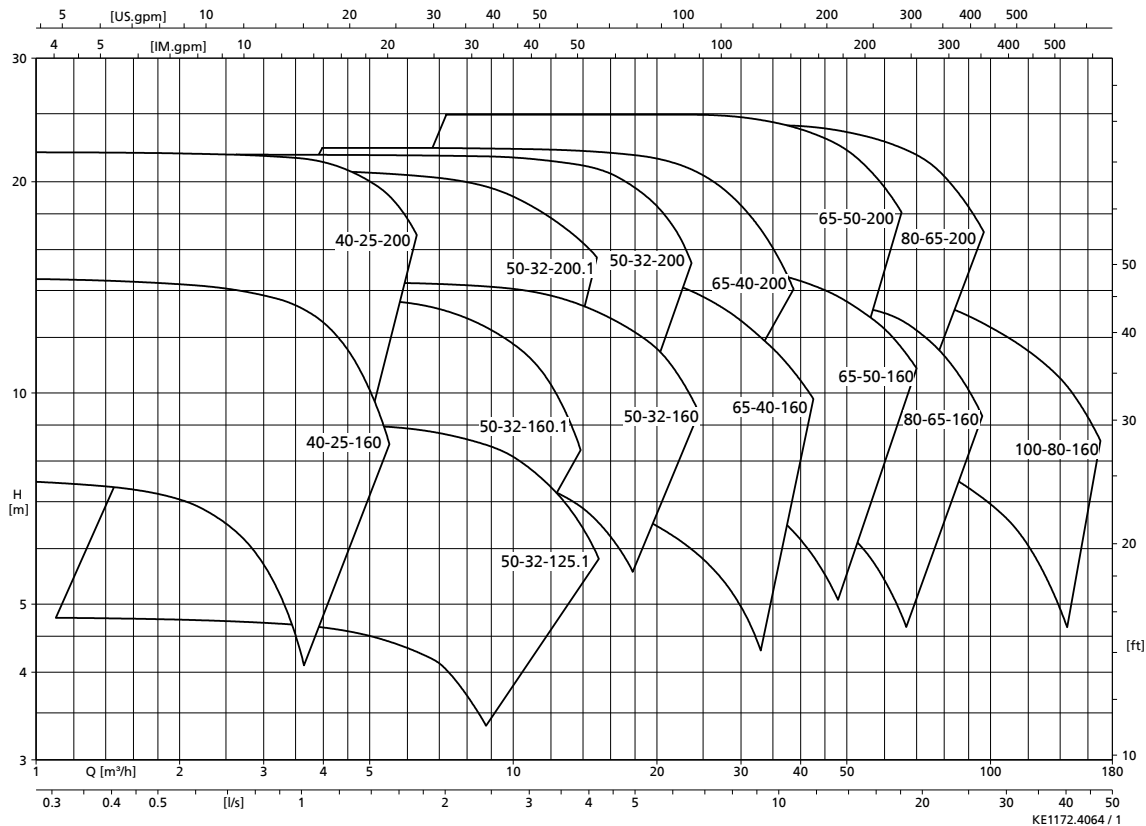
Etabloc SYT (fixed speed version), $n = 1,450$ rpm



Etabloc SYT (fixed speed version), n = 3,500 rpm



Etabloc SYT (fixed speed version), n = 1,750 rpm



Dimensions and connections

Pump set dimensions, $n=2,900 \text{ rpm}$ / $n=3,500 \text{ rpm}$

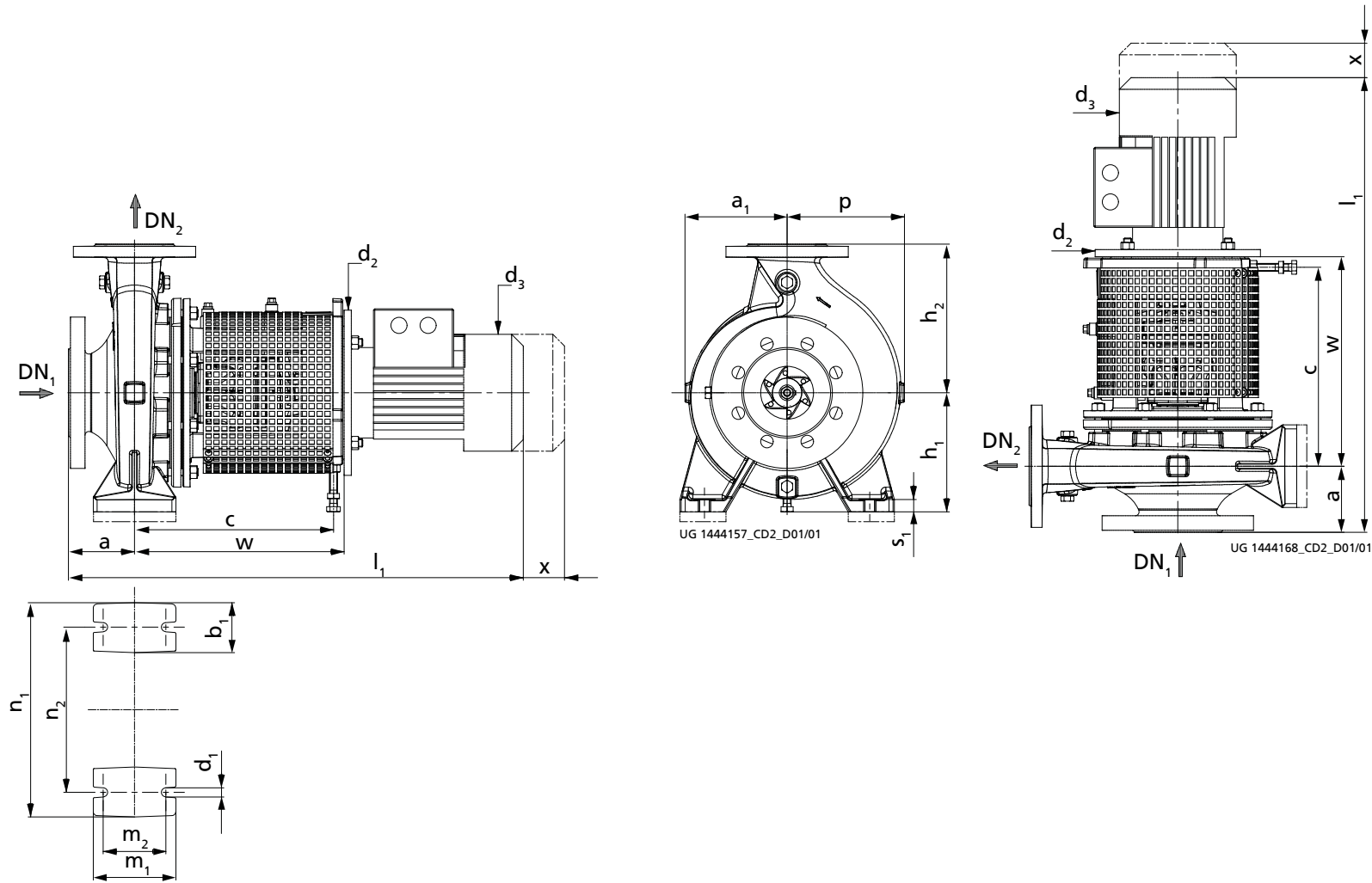


Fig. 2: Dimensions

Table 16: Dimensions, n = 2,900 rpm / n = 3,500 rpm (SI units)

Size n = 2,900 rpm n = 3,500 rpm	Motor	P		I _N	DN ₁	DN ₂	a	a ₁	b ₁	c	d ₁	d ₂	d ₃	h ₁	h ₂	l ₁	m ₁	m ₂	n ₁	n ₂	p	s ₁	w	x
		50 Hz	60 Hz	400 V																				
				50 Hz																				
		[kW]	[kW]	[~A]																				
[mm]																								
040-025-160	80M	0.75	-	1.75	40	25	80	118	50	301	14	200	162	132	160	657	100	70	240	190	118	15	322	100
040-025-160	80M	1.10	1.27	2.41	40	25	80	118	50	301	14	200	162	132	160	671	100	70	240	190	118	15	322	100
040-025-160	90S	1.50	1.75	3.15	40	25	80	118	50	301	14	200	190	132	160	684	100	70	240	190	118	15	322	100
040-025-160	90L	2.20	2.55	4.46	40	25	80	118	50	301	14	200	190	132	160	710	100	70	240	190	118	15	322	100
040-025-160	100L	-	3.45	6.09	40	25	80	118	50	301	14	250	213	132	160	744	100	70	240	190	118	15	317	100
040-025-160	112M	-	4.55	7.82	40	25	80	118	50	301	14	250	234	132	160	768	100	70	240	190	118	15	317	100
040-025-200	90S	1.50	-	3.15	40	25	80	142	50	301	14	200	190	160	180	684	100	70	240	190	142	15	322	100
040-025-200	90L	2.20	-	4.46	40	25	80	142	50	301	14	200	190	160	180	710	100	70	240	190	142	15	322	100
040-025-200	100L	3.00	3.45	6.09	40	25	80	142	50	301	14	250	213	160	180	744	100	70	240	190	142	15	317	100
040-025-200	112M	4.00	4.55	7.82	40	25	80	142	50	301	14	250	234	160	180	768	100	70	240	190	142	15	317	100
040-025-200	132S	5.50	6.30	10.49	40	25	80	142	50	324	14	300	266	160	180	833	100	70	240	190	142	15	340	100
040-025-200	132S	-	8.60	14.12	40	25	80	142	50	324	14	300	266	160	180	833	100	70	240	190	142	15	340	100
050-032-125.1	80M	0.75	-	1.75	50	32	80	116	50	301	14	200	162	112 ¹⁵⁾	140	657	100	70	190	140	116	15	322	100
050-032-125.1	80M	1.10	-	2.41	50	32	80	116	50	301	14	200	162	112 ¹⁵⁾	140	671	100	70	190	140	116	15	322	100
050-032-125.1	90S	1.50	-	3.15	50	32	80	116	50	301	14	200	190	112 ¹⁵⁾	140	684	100	70	190	140	116	15	322	100
050-032-125.1	90L	2.20	-	4.46	50	32	80	116	50	301	14	200	190	112 ¹⁵⁾	140	710	100	70	190	140	116	15	322	100
050-032-125.1	100L	-	3.45	6.09	50	32	80	116	50	301	14	250	213	112 ¹⁵⁾	140	744	100	70	190	140	116	15	317	100
050-032-125.1	112M	-	4.55	7.82	50	32	80	116	50	301	14	250	234	112 ¹⁵⁾	140	768	100	70	190	140	116	15	317	100
050-032-125.1	132S	-	6.30	10.49	50	32	80	116	50	324	14	300	266	112 ¹⁶⁾	140	833	100	70	190	140	116	15	340	100
050-032-160	90L	2.20	-	4.46	50	32	80	118	50	301	14	200	190	132	160	710	100	70	240	190	128	15	322	100
050-032-160	100L	3.00	3.45	6.09	50	32	80	118	50	301	14	250	213	132	160	744	100	70	240	190	128	15	317	100
050-032-160	112M	4.00	4.55	7.82	50	32	80	118	50	301	14	250	234	132	160	768	100	70	240	190	128	15	317	100
050-032-160	132S	-	6.30	10.49	50	32	80	118	50	324	14	300	266	132 ¹⁵⁾	160	833	100	70	240	190	128	15	340	100
050-032-160	132S	-	8.60	14.12	50	32	80	118	50	324	14	300	266	132 ¹⁵⁾	160	833	100	70	240	190	128	15	340	100
050-032-160.1	90S	1.50	-	3.15	50	32	80	116	50	301	14	200	190	132	160	684	100	70	240	190	121	15	322	100
050-032-160.1	90L	2.20	2.55	4.46	50	32	80	116	50	301	14	200	190	132	160	710	100	70	240	190	121	15	322	100
050-032-160.1	100L	3.00	3.45	6.09	50	32	80	116	50	301	14	250	213	132	160	744	100	70	240	190	121	15	317	100
050-032-160.1	112M	4.00	4.55	7.82	50	32	80	116	50	301	14	250	234	132	160	768	100	70	240	190	121	15	317	100
050-032-160.1	132S	-	6.30	10.49	50	32	80	116	50	324	14	300	266	132 ¹⁵⁾	160	833	100	70	240	190	121	15	340	100
050-032-160.1	132S	-	8.60	14.12	50	32	80	116	50	324	14	300	266	132 ¹⁵⁾	160	833	100	70	240	190	121	15	340	100

¹⁵ Pump feet shimmed 20 mm¹⁶ Pump feet shimmed 40 mm

Size n = 2,900 rpm n = 3,500 rpm	Motor	P		I _N	DN ₁	DN ₂	a	a ₁	b ₁	c	d ₁	d ₂	d ₃	h ₁	h ₂	l ₁	m ₁	m ₂	n ₁	n ₂	p	s ₁	w	x
		50 Hz	60 Hz	400 V																				
				50 Hz																				
		[kW]	[kW]	[~A]																				
[mm]																								
050-032-160.1	160M	-	12.6	20.41	50	32	80	116	50	356	14	300	325	132 ¹⁷⁾	160	1,000	100	70	240	190	121	15	374	100
050-032-200	112M	4.00	-	7.82	50	32	80	142	50	301	14	250	234	160	180	768	100	70	240	190	143	18	317	100
050-032-200	132S	5.50	-	10.49	50	32	80	142	50	324	14	300	266	160	180	833	100	70	240	190	143	18	340	100
050-032-200	132S	7.50	8.60	14.12	50	32	80	142	50	324	14	300	266	160	180	833	100	70	240	190	143	18	340	100
050-032-200	160M	11.0	12.6	20.41	50	32	80	142	50	356	14	350	325	160 ¹⁵⁾	180	1,000	100	70	240	190	143	18	374	100
050-032-200	160M	-	17.3	27.25	50	32	80	142	50	356	14	350	325	160 ¹⁵⁾	180	1,000	100	70	240	190	143	18	374	100
050-032-200.1	100L	3.00	-	6.09	50	32	80	142	50	301	14	250	213	160	180	744	100	70	240	190	142	18	317	100
050-032-200.1	112M	4.00	-	7.82	50	32	80	142	50	301	14	250	234	160	180	768	100	70	240	190	142	18	317	100
050-032-200.1	132S	5.50	6.30	10.49	50	32	80	142	50	324	14	300	266	160	180	833	100	70	240	190	142	18	340	100
050-032-200.1	132S	7.50	8.60	14.12	50	32	80	142	50	324	14	300	266	160	180	833	100	70	240	190	142	18	340	100
050-032-200.1	160M	-	12.6	20.41	50	32	80	142	50	356	14	350	325	160 ¹⁵⁾	180	1,000	100	70	240	190	142	18	374	100
050-032-200.1	160M	-	17.3	27.25	50	32	80	142	50	356	14	350	325	160 ¹⁵⁾	180	1,000	100	70	240	190	142	18	374	100
065-040-160	100L	3.00	-	6.09	65	40	80	119	50	301	14	250	213	132	160	744	100	70	240	190	134	15	317	100
065-040-160	112M	4.00	-	7.82	65	40	80	119	50	301	14	250	234	132	160	768	100	70	240	190	134	15	317	100
065-040-160	132S	5.50	6.30	10.49	65	40	80	119	50	324	14	300	266	132 ¹⁵⁾	160	833	100	70	240	190	134	15	340	100
065-040-160	132S	7.50	8.60	14.12	65	40	80	119	50	324	14	300	266	132 ¹⁵⁾	160	833	100	70	240	190	134	15	340	100
065-040-160	160M	-	12.6	20.41	65	40	80	119	50	356	14	350	325	132 ¹⁸⁾	160	1,000	100	70	240	190	134	15	374	100
065-040-160	160M	-	17.3	27.25	65	40	80	119	50	356	14	350	325	132 ¹⁸⁾	160	1,000	100	70	240	190	134	15	374	100
065-040-200	132S	5.50	-	10.49	65	40	100	142	50	324	14	300	266	160	180	853	100	70	265	212	155	18	340	100
065-040-200	132S	7.50	-	14.12	65	40	100	142	50	324	14	300	266	160	180	853	100	70	265	212	155	18	340	100
065-040-200	160M	11.0	12.6	20.41	65	40	100	142	50	356	14	350	325	160 ¹⁵⁾	180	1,020	100	70	265	212	155	18	374	100
065-040-200	160M	15.0	17.3	27.25	65	40	100	142	50	356	14	350	325	160 ¹⁵⁾	180	1,020	100	70	265	212	155	18	374	100
065-040-200	160L	18.5	21.3	33.38	65	40	100	142	50	356	14	350	325	160 ¹⁵⁾	180	1,026	100	70	265	212	155	18	374	100
065-040-200	180M	22.0	24.5	39.52	65	40	100	142	50	356	14	350	370	160 ¹⁵⁾	180	1,084	100	70	265	212	155	18	374	100
065-050-160	132S	5.50	-	10.49	65	50	100	128	50	324	14	300	266	160	180	853	100	70	265	212	149	18	340	100
065-050-160	132S	7.50	-	14.12	65	50	100	128	50	324	14	300	266	160	180	853	100	70	265	212	149	18	340	100
065-050-160	160M	11.0	12.6	20.41	65	50	100	128	50	356	14	350	325	160 ¹⁵⁾	180	1,020	100	70	265	212	149	18	374	100
065-050-160	160M	-	17.3	27.25	65	50	100	128	50	356	14	350	325	160 ¹⁵⁾	180	1,020	100	70	265	212	149	18	374	100
065-050-160	160L	-	21.3	33.38	65	50	100	128	50	356	14	350	325	160 ¹⁵⁾	180	1,026	100	70	265	212	149	18	374	100
065-050-160	180M	-	24.5	39.52	65	50	100	128	50	356	14	350	370	160 ¹⁵⁾	180	1,084	100	70	265	212	149	18	374	100

¹⁷ Pump feet shimmed 50 mm

¹⁸ Pump feet shimmed 30 mm

Size n = 2,900 rpm n = 3,500 rpm	Motor	P		I _N	DN ₁	DN ₂	a	a ₁	b ₁	c	d ₁	d ₂	d ₃	h ₁	h ₂	l ₁	m ₁	m ₂	n ₁	n ₂	p	s ₁	w	x
		50 Hz	60 Hz	400 V																				
				50 Hz																				
		[kW]	[kW]	[~A]																				
065-050-200	160M	11.0	-	20.41	65	50	100	144	50	356	14	350	325	160 ¹⁵⁾	200	1,020	100	70	265	212	163	18	374	100
065-050-200	160M	15.0	-	27.25	65	50	100	144	50	356	14	350	325	160 ¹⁵⁾	200	1,020	100	70	265	212	163	18	374	100
065-050-200	160L	18.5	-	33.38	65	50	100	144	50	356	14	350	325	160 ¹⁵⁾	200	1,026	100	70	265	212	163	18	374	100
065-050-200	180M	22.0	24.5	39.52	65	50	100	144	50	356	14	350	370	160 ¹⁵⁾	200	1,084	100	70	265	212	163	18	374	100
080-065-160	132S	7.50	-	14.12	80	65	100	132	65	324	14	300	266	160	200	853	125	95	280	212	160	18	340	100
080-065-160	160M	11.0	-	20.41	80	65	100	132	65	356	14	350	325	160 ¹⁵⁾	200	1,020	125	95	280	212	160	18	374	100
080-065-160	160M	15.0	17.3	27.25	80	65	100	132	65	356	14	350	325	160 ¹⁵⁾	200	1,020	125	95	280	212	160	18	374	100
080-065-160	160L	-	21.3	33.38	80	65	100	132	65	356	14	350	325	160 ¹⁵⁾	200	1,026	125	95	280	212	160	18	374	100
080-065-160	180M	-	24.5	39.52	80	65	100	132	65	356	14	350	370	160 ¹⁵⁾	200	1,084	125	95	280	212	160	18	374	100
080-065-200	160M	15.0	-	27.25	80	65	100	155	65	356	14	350	325	180	225	1,020	125	95	320	250	178	18	374	140
080-065-200	160L	18.5	-	33.38	80	65	100	155	65	356	14	350	325	180	225	1,026	125	95	320	250	178	18	374	140
080-065-200	180M	22.0	24.5	39.52	80	65	100	155	65	356	14	350	370	180	225	1,084	125	95	320	250	178	18	374	140
100-080-160	160M	15.0	-	27.25	100	80	125	138	65	356	14	350	325	180	225	1,045	125	95	320	250	174	18	374	140
100-080-160	160L	18.5	-	33.38	100	80	125	138	65	356	14	350	325	180	225	1,051	125	95	320	250	174	18	374	140
100-080-160	180M	22.0	24.5	39.52	100	80	125	138	65	356	14	350	370	180	225	1,109	125	95	320	250	174	18	374	140

Table 17: Dimensions, n = 2,900 rpm / n = 3,500 rpm (imperial units)

Size n = 2,900 rpm n = 3,500 rpm	Motor	P		I _N	DN ₁	DN ₂	a	a ₁	b ₁	c	d ₁	d ₂	d ₃	h ₁	h ₂	l ₁	m ₁	m ₂	n ₁	n ₂	p	s ₁	w	x
		50 Hz	60 Hz	400 V																				
				[hp]																				
040-025-160	80M	1.01	-	1.75	NPS 11/2	NPS 1	3.15	4.65	1.97	11.85	0.55	7.87	6.38	5.20	6.30	25.87	3.94	2.76	9.45	7.48	4.65	0.59	12.68	3.94
040-025-160	80M	1.48	1.70	2.41	NPS 11/2	NPS 1	3.15	4.65	1.97	11.85	0.55	7.87	6.38	5.20	6.30	26.42	3.94	2.76	9.45	7.48	4.65	0.59	12.68	3.94
040-025-160	90S	2.01	2.35	3.15	NPS 11/2	NPS 1	3.15	4.65	1.97	11.85	0.55	7.87	7.48	5.20	6.30	26.93	3.94	2.76	9.45	7.48	4.65	0.59	12.68	3.94
040-025-160	90L	2.95	3.42	4.46	NPS 11/2	NPS 1	3.15	4.65	1.97	11.85	0.55	7.87	7.48	5.20	6.30	27.95	3.94	2.76	9.45	7.48	4.65	0.59	12.68	3.94
040-025-160	100L	-	4.63	6.09	NPS 11/2	NPS 1	3.15	4.65	1.97	11.85	0.55	9.84	8.39	5.20	6.30	29.29	3.94	2.76	9.45	7.48	4.65	0.59	12.48	3.94
040-025-160	112M	-	6.10	7.82	NPS 11/2	NPS 1	3.15	4.65	1.97	11.85	0.55	9.84	9.21	5.20	6.30	30.24	3.94	2.76	9.45	7.48	4.65	0.59	12.48	3.94
040-025-200	90S	2.01	-	3.15	NPS 11/2	NPS 1	3.15	5.59	1.97	11.85	0.55	7.87	7.48	6.30	7.09	26.93	3.94	2.76	9.45	7.48	5.59	0.59	12.68	3.94
040-025-200	90L	2.95	-	4.46	NPS 11/2	NPS 1	3.15	5.59	1.97	11.85	0.55	7.87	7.48	6.30	7.09	27.95	3.94	2.76	9.45	7.48	5.59	0.59	12.68	3.94
040-025-200	100L	4.02	4.63	6.09	NPS 11/2	NPS 1	3.15	5.59	1.97	11.85	0.55	9.84	8.39	6.30	7.09	29.29	3.94	2.76	9.45	7.48	5.59	0.59	12.48	3.94
040-025-200	112M	5.36	6.10	7.82	NPS 11/2	NPS 1	3.15	5.59	1.97	11.85	0.55	9.84	9.21	6.30	7.09	30.24	3.94	2.76	9.45	7.48	5.59	0.59	12.48	3.94
040-025-200	132S	7.38	8.45	10.49	NPS 11/2	NPS 1	3.15	5.59	1.97	12.76	0.55	11.81	10.47	6.30	7.09	32.80	3.94	2.76	9.45	7.48	5.59	0.59	13.39	3.94
040-025-200	132S	-	11.53	14.12	NPS 11/2	NPS 1	3.15	5.59	1.97	12.76	0.55	11.81	10.47	6.30	7.09	32.80	3.94	2.76	9.45	7.48	5.59	0.59	13.39	3.94

Size n = 2,900 rpm n = 3,500 rpm	Motor	P		I _N	DN ₁	DN ₂	a	a ₁	b ₁	c	d ₁	d ₂	d ₃	h ₁	h ₂	l ₁	m ₁	m ₂	n ₁	n ₂	p	s ₁	w	x
		50 Hz	60 Hz	400 V																				
				50 Hz																				
		[hp]	[hp]	[~A]																				
		[inch]																						
050-032-125.1	80M	1.01	-	1.75	NPS 2	NPS 11/4	3.15	4.57	1.97	11.85	0.55	7.87	6.38	4.41 ⁽¹⁹⁾	5.51	25.87	3.94	2.76	7.48	5.51	4.57	0.59	12.68	3.94
050-032-125.1	80M	1.48	-	2.41	NPS 2	NPS 11/4	3.15	4.57	1.97	11.85	0.55	7.87	6.38	4.41 ⁽¹⁹⁾	5.51	26.42	3.94	2.76	7.48	5.51	4.57	0.59	12.68	3.94
050-032-125.1	90S	2.01	-	3.15	NPS 2	NPS 11/4	3.15	4.57	1.97	11.85	0.55	7.87	7.48	4.41 ⁽¹⁹⁾	5.51	26.93	3.94	2.76	7.48	5.51	4.57	0.59	12.68	3.94
050-032-125.1	90L	2.95	-	4.46	NPS 2	NPS 11/4	3.15	4.57	1.97	11.85	0.55	7.87	7.48	4.41 ⁽¹⁹⁾	5.51	27.95	3.94	2.76	7.48	5.51	4.57	0.59	12.68	3.94
050-032-125.1	100L	-	4.63	6.09	NPS 2	NPS 11/4	3.15	4.57	1.97	11.85	0.55	9.84	8.39	4.41 ⁽¹⁹⁾	5.51	29.29	3.94	2.76	7.48	5.51	4.57	0.59	12.48	3.94
050-032-125.1	112M	-	6.10	7.82	NPS 2	NPS 11/4	3.15	4.57	1.97	11.85	0.55	9.84	9.21	4.41 ⁽¹⁹⁾	5.51	30.24	3.94	2.76	7.48	5.51	4.57	0.59	12.48	3.94
050-032-125.1	132S	-	8.45	10.49	NPS 2	NPS 11/4	3.15	4.57	1.97	12.76	0.55	11.81	10.47	4.41 ⁽²⁰⁾	5.51	32.80	3.94	2.76	7.48	5.51	4.57	0.59	13.39	3.94
050-032-160	90L	2.95	-	4.46	NPS 2	NPS 11/4	3.15	4.65	1.97	11.85	0.55	7.87	7.48	5.20 ⁽²⁰⁾	6.30	27.95	3.94	2.76	9.45	7.48	5.04	0.59	12.68	3.94
050-032-160	100L	4.02	4.63	6.09	NPS 2	NPS 11/4	3.15	4.65	1.97	11.85	0.55	9.84	8.39	5.20	6.30	29.29	3.94	2.76	9.45	7.48	5.04	0.59	12.48	3.94
050-032-160	112M	5.36	6.10	7.82	NPS 2	NPS 11/4	3.15	4.65	1.97	11.85	0.55	9.84	9.21	5.20	6.30	30.24	3.94	2.76	9.45	7.48	5.04	0.59	12.48	3.94
050-032-160	132S	-	8.45	10.49	NPS 2	NPS 11/4	3.15	4.65	1.97	12.76	0.55	11.81	10.47	5.20 ⁽¹⁹⁾	6.30	32.80	3.94	2.76	9.45	7.48	5.04	0.59	13.39	3.94
050-032-160	132S	-	11.53	14.12	NPS 2	NPS 11/4	3.15	4.65	1.97	12.76	0.55	11.81	10.47	5.20 ⁽¹⁹⁾	6.30	32.80	3.94	2.76	9.45	7.48	5.04	0.59	13.39	3.94
050-032-160.1	90S	2.01	-	3.15	NPS 2	NPS 11/4	3.15	4.57	1.97	11.85	0.55	7.87	7.48	5.20	6.30	26.93	3.94	2.76	9.45	7.48	4.76	0.59	12.68	3.94
050-032-160.1	90L	2.95	3.42	4.46	NPS 2	NPS 11/4	3.15	4.57	1.97	11.85	0.55	7.87	7.48	5.20	6.30	27.95	3.94	2.76	9.45	7.48	4.76	0.59	12.68	3.94
050-032-160.1	100L	4.02	4.63	6.09	NPS 2	NPS 11/4	3.15	4.57	1.97	11.85	0.55	9.84	8.39	5.20	6.30	29.29	3.94	2.76	9.45	7.48	4.76	0.59	12.48	3.94
050-032-160.1	112M	5.36	6.10	7.82	NPS 2	NPS 11/4	3.15	4.57	1.97	11.85	0.55	9.84	9.21	5.20	6.30	30.24	3.94	2.76	9.45	7.48	4.76	0.59	12.48	3.94
050-032-160.1	132S	-	8.45	10.49	NPS 2	NPS 11/4	3.15	4.57	1.97	12.76	0.55	11.81	10.47	5.20 ⁽¹⁹⁾	6.30	32.80	3.94	2.76	9.45	7.48	4.76	0.59	13.39	3.94
050-032-160.1	132S	-	11.53	14.12	NPS 2	NPS 11/4	3.15	4.57	1.97	12.76	0.55	11.81	10.47	5.20 ⁽¹⁹⁾	6.30	32.80	3.94	2.76	9.45	7.48	4.76	0.59	13.39	3.94
050-032-160.1	160M	-	16.90	20.41	NPS 2	NPS 11/4	3.15	4.57	1.97	14.02	0.55	11.81	12.80	5.20 ⁽²¹⁾	6.30	39.37	3.94	2.76	9.45	7.48	4.76	0.59	14.72	3.94
050-032-200	112M	5.36	-	7.82	NPS 2	NPS 11/4	3.15	5.59	1.97	11.85	0.55	9.84	9.21	6.30	7.09	30.24	3.94	2.76	9.45	7.48	5.63	0.71	12.48	3.94
050-032-200	132S	7.38	-	10.49	NPS 2	NPS 11/4	3.15	5.59	1.97	12.76	0.55	11.81	10.47	6.30	7.09	32.80	3.94	2.76	9.45	7.48	5.63	0.71	13.39	3.94
050-032-200	132S	10.06	11.53	14.12	NPS 2	NPS 11/4	3.15	5.59	1.97	12.76	0.55	11.81	10.47	6.30	7.09	32.80	3.94	2.76	9.45	7.48	5.63	0.71	13.39	3.94
050-032-200	160M	14.75	16.90	20.41	NPS 2	NPS 11/4	3.15	5.59	1.97	14.02	0.55	13.78	12.80	6.30 ⁽¹⁹⁾	7.09	39.37	3.94	2.76	9.45	7.48	5.63	0.71	14.72	3.94
050-032-200	160M	-	23.20	27.25	NPS 2	NPS 11/4	3.15	5.59	1.97	14.02	0.55	13.78	12.80	6.30 ⁽¹⁹⁾	7.09	39.37	3.94	2.76	9.45	7.48	5.63	0.71	14.72	3.94
050-032-200.1	100L	4.02	-	6.09	NPS 2	NPS 11/4	3.15	5.59	1.97	11.85	0.55	9.84	8.39	6.30	7.09	29.29	3.94	2.76	9.45	7.48	5.59	0.71	12.48	3.94
050-032-200.1	112M	5.36	-	7.82	NPS 2	NPS 11/4	3.15	5.59	1.97	11.85	0.55	9.84	9.21	6.30	7.09	30.24	3.94	2.76	9.45	7.48	5.59	0.71	12.48	3.94
050-032-200.1	132S	7.38	8.45	10.49	NPS 2	NPS 11/4	3.15	5.59	1.97	12.76	0.55	11.81	10.47	6.30	7.09	32.80	3.94	2.76	9.45	7.48	5.59	0.71	13.39	3.94
050-032-200.1	132S	10.06	11.53	14.12	NPS 2	NPS 11/4	3.15	5.59	1.97	12.76	0.55	11.81	10.47	6.30	7.09	32.80	3.94	2.76	9.45	7.48	5.59	0.71	13.39	3.94
050-032-200.1	160M	-	16.90	20.41	NPS 2	NPS 11/4	3.15	5.59	1.97	14.02	0.55	13.78	12.80	6.30 ⁽¹⁹⁾	7.09	39.37	3.94	2.76	9.45	7.48	5.59	0.71	14.72	3.94

¹⁹ Pump feet shimmed 0.79 inch

²⁰ Pump feet shimmed 1.57 inch

²¹ Pump feet shimmed 1.97 inch

Size n = 2,900 rpm n = 3,500 rpm	Motor	P		I _N	DN ₁	DN ₂	a	a ₁	b ₁	c	d ₁	d ₂	d ₃	h ₁	h ₂	l ₁	m ₁	m ₂	n ₁	n ₂	p	s ₁	w	x
		50 Hz	60 Hz																					
				400 V																				
		[hp]	[hp]	[~A]																				
050-032-200.1	160M	-	23.20	27.25	NPS 2	NPS 11/4	3.15	5.59	1.97	14.02	0.55	13.78	12.80	6.30 ⁽¹⁹⁾	7.09	39.37	3.94	2.76	9.45	7.48	5.59	0.71	14.72	3.94
065-040-160	100L	4.02	-	6.09	NPS 2	NPS 11/13	3.15	4.69	1.97	11.85	0.55	9.84	8.39	5.20	6.30	29.29	3.94	2.76	9.45	7.48	5.28	0.59	12.48	3.94
065-040-160	112M	5.36	-	7.82	NPS 2	NPS 11/13	3.15	4.69	1.97	11.85	0.55	9.84	9.21	5.20	6.30	30.24	3.94	2.76	9.45	7.48	5.28	0.59	12.48	3.94
065-040-160	132S	7.38	8.45	10.49	NPS 2 1/2	NPS 11/13	3.15	4.69	1.97	12.76	0.55	11.81	10.47	5.20 ⁽¹⁹⁾	6.30	32.80	3.94	2.76	9.45	7.48	5.28	0.59	13.39	3.94
065-040-160	132S	10.06	11.53	14.12	NPS 2 1/2	NPS 11/13	3.15	4.69	1.97	12.76	0.55	11.81	10.47	5.20 ⁽¹⁹⁾	6.30	32.80	3.94	2.76	9.45	7.48	5.28	0.59	13.39	3.94
065-040-160	160M	-	16.90	20.41	NPS 2 1/2	NPS 11/13	3.15	4.69	1.97	14.02	0.55	13.78	12.80	5.20 ⁽²²⁾	6.30	39.37	3.94	2.76	9.45	7.48	5.28	0.59	14.72	3.94
065-040-160	160M	-	23.20	27.25	NPS 2 1/2	NPS 11/13	3.15	4.69	1.97	14.02	0.55	13.78	12.80	5.20 ⁽²²⁾	6.30	39.37	3.94	2.76	9.45	7.48	5.28	0.59	14.72	3.94
065-040-200	132S	7.38	-	10.49	NPS 2 1/2	NPS 11/13	3.94	5.59	1.97	12.76	0.55	11.81	10.47	6.30	7.09	33.58	3.94	2.76	10.43	8.35	6.10	0.71	13.39	3.94
065-040-200	132S	10.06	-	14.12	NPS 2 1/2	NPS 11/13	3.94	5.59	1.97	12.76	0.55	11.81	10.47	6.30	7.09	33.58	3.94	2.76	10.43	8.35	6.10	0.71	13.39	3.94
065-040-200	160M	14.75	16.90	20.41	NPS 2 1/2	NPS 11/13	3.94	5.59	1.97	14.02	0.55	13.78	12.80	6.30 ⁽¹⁹⁾	7.09	40.16	3.94	2.76	10.43	8.35	6.10	0.71	14.72	3.94
065-040-200	160M	20.12	23.20	27.25	NPS 2 1/2	NPS 11/13	3.94	5.59	1.97	14.02	0.55	13.78	12.80	6.30 ⁽¹⁹⁾	7.09	40.16	3.94	2.76	10.43	8.35	6.10	0.71	14.72	3.94
065-040-200	160L	24.81	28.56	33.38	NPS 2 1/2	NPS 11/13	3.94	5.59	1.97	14.02	0.55	13.78	12.80	6.30 ⁽¹⁹⁾	7.09	40.39	3.94	2.76	10.43	8.35	6.10	0.71	14.72	3.94
065-040-200	180M	29.50	32.85	39.52	NPS 2 1/2	NPS 11/13	3.94	5.59	1.97	14.02	0.55	13.78	14.57	6.30 ⁽¹⁹⁾	7.09	42.68	3.94	2.76	10.43	8.35	6.10	0.71	14.72	3.94
065-050-160	132S	7.38	-	10.49	NPS 2 1/2	NPS 2	3.94	5.04	1.97	12.76	0.55	11.81	10.47	6.30	7.09	33.58	3.94	2.76	10.43	8.35	5.87	0.71	13.39	3.94
065-050-160	132S	10.06	-	14.12	NPS 2 1/2	NPS 2	3.94	5.04	1.97	12.76	0.55	11.81	10.47	6.30	7.09	33.58	3.94	2.76	10.43	8.35	5.87	0.71	13.39	3.94
065-050-160	160M	14.75	16.90	20.41	NPS 2 1/2	NPS 2	3.94	5.04	1.97	14.02	0.55	13.78	12.80	6.30 ⁽¹⁹⁾	7.09	40.16	3.94	2.76	10.43	8.35	5.87	0.71	14.72	3.94
065-050-160	160M	-	23.20	27.25	NPS 2 1/2	NPS 2	3.94	5.04	1.97	14.02	0.55	13.78	12.80	6.30 ⁽¹⁹⁾	7.09	40.16	3.94	2.76	10.43	8.35	5.87	0.71	14.72	3.94
065-050-160	160L	-	28.56	33.38	NPS 2 1/2	NPS 2	3.94	5.04	1.97	14.02	0.55	13.78	12.80	6.30 ⁽¹⁹⁾	7.09	40.39	3.94	2.76	10.43	8.35	5.87	0.71	14.72	3.94
065-050-160	180M	-	32.85	39.52	NPS 2 1/2	NPS 2	3.94	5.04	1.97	14.02	0.55	13.78	14.57	6.30 ⁽¹⁹⁾	7.09	42.68	3.94	2.76	10.43	8.35	5.87	0.71	14.72	3.94
065-050-200	160M	14.75	-	20.41	NPS 2 1/2	NPS 2	3.94	5.67	1.97	14.02	0.55	13.78	12.80	6.30 ⁽¹⁹⁾	7.87	40.16	3.94	2.76	10.43	8.35	6.42	0.71	14.72	3.94
065-050-200	160M	20.12	-	27.25	NPS 2 1/2	NPS 2	3.94	5.67	1.97	14.02	0.55	13.78	12.80	6.30 ⁽¹⁹⁾	7.87	40.16	3.94	2.76	10.43	8.35	6.42	0.71	14.72	3.94
065-050-200	160L	24.81	-	33.38	NPS 2 1/2	NPS 2	3.94	5.67	1.97	14.02	0.55	13.78	12.80	6.30 ⁽¹⁹⁾	7.87	40.39	3.94	2.76	10.43	8.35	6.42	0.71	14.72	3.94
065-050-200	180M	29.50	32.85	39.52	NPS 2 1/2	NPS 2	3.94	5.67	1.97	14.02	0.55	13.78	14.57	6.30 ⁽¹⁹⁾	7.87	42.68	3.94	2.76	10.43	8.35	6.42	0.71	14.72	3.94
080-065-160	132S	10.06	-	14.12	NPS 3	NPS 2 1/2	3.94	5.20	2.56	12.76	0.55	11.81	10.47	6.30	7.87	33.58	4.92	3.74	11.02	8.35	6.30	0.71	13.39	3.94
080-065-160	160M	14.75	-	20.41	NPS 3	NPS 2 1/2	3.94	5.20	2.56	14.02	0.55	13.78	12.80	6.30 ⁽¹⁹⁾	7.87	40.16	4.92	3.74	11.02	8.35	6.30	0.71	14.72	3.94
080-065-160	160M	20.12	23.20	27.25	NPS 3	NPS 2 1/2	3.94	5.20	2.56	14.02	0.55	13.78	12.80	6.30 ⁽¹⁹⁾	7.87	40.16	4.92	3.74	11.02	8.35	6.30	0.71	14.72	3.94
080-065-160	160L	-	28.56	33.38	NPS 3	NPS 2 1/2	3.94	5.20	2.56	14.02	0.55	13.78	12.80	6.30 ⁽¹⁹⁾	7.87	40.39	4.92	3.74	11.02	8.35	6.30	0.71	14.72	3.94
080-065-160	180M	-	32.85	39.52	NPS 3	NPS 2 1/2	3.94	5.20	2.56	14.02	0.55	13.78	14.57	6.30 ⁽¹⁹⁾	7.87	42.68	4.92	3.74	11.02	8.35	6.30	0.71	14.72	3.94
080-065-200	160M	20.12	-	27.25	NPS 3	NPS 2 1/2	3.94	6.10	2.56	14.02	0.55	13.78	12.80	7.09	8.86	40.16	4.92	3.74	12.60	9.84	7.01	0.71	14.72	5.51
080-065-200	160L	24.81	-	33.38	NPS 3	NPS 2 1/2	3.94	6.10	2.56	14.02	0.55	13.78	12.80	7.09	8.86	40.39	4.92	3.74	12.60	9.84	7.01	0.71	14.72	5.51

²² Pump feet shimmed 1.18 inch

Size n = 2,900 rpm n = 3,500 rpm	Motor	P		I _N	DN ₁	DN ₂	a	a ₁	b ₁	c	d ₁	d ₂	d ₃	h ₁	h ₂	l ₁	m ₁	m ₂	n ₁	n ₂	p	s ₁	w	x
		50 Hz	60 Hz	400 V																				
				50 Hz																				
		[hp]	[hp]	[~A]																				
080-065-200	180M	29.50	32.85	39.52	NPS 3	NPS 2 1/2	3.94	6.10	2.56	14.02	0.55	13.78	14.57	7.09	8.86	42.68	4.92	3.74	12.60	9.84	7.01	0.71	14.72	5.51
100-080-160	160M	20.12	-	27.25	NPS 4	NPS 3	4.92	5.43	2.56	14.02	0.55	13.78	12.80	7.09	8.86	41.14	4.92	3.74	12.60	9.84	6.85	0.71	14.72	5.51
100-080-160	160L	24.81	-	33.38	NPS 4	NPS 3	4.92	5.43	2.56	14.02	0.55	13.78	12.80	7.09	8.86	41.38	4.92	3.74	12.60	9.84	6.85	0.71	14.72	5.51
100-080-160	180M	29.50	32.85	39.52	NPS 4	NPS 3	4.92	5.43	2.56	14.02	0.55	13.78	14.57	7.09	8.86	43.66	4.92	3.74	12.60	9.84	6.85	0.71	14.72	5.51

Pump set dimensions, $n=1,450 \text{ rpm} / n=1,750 \text{ rpm}$

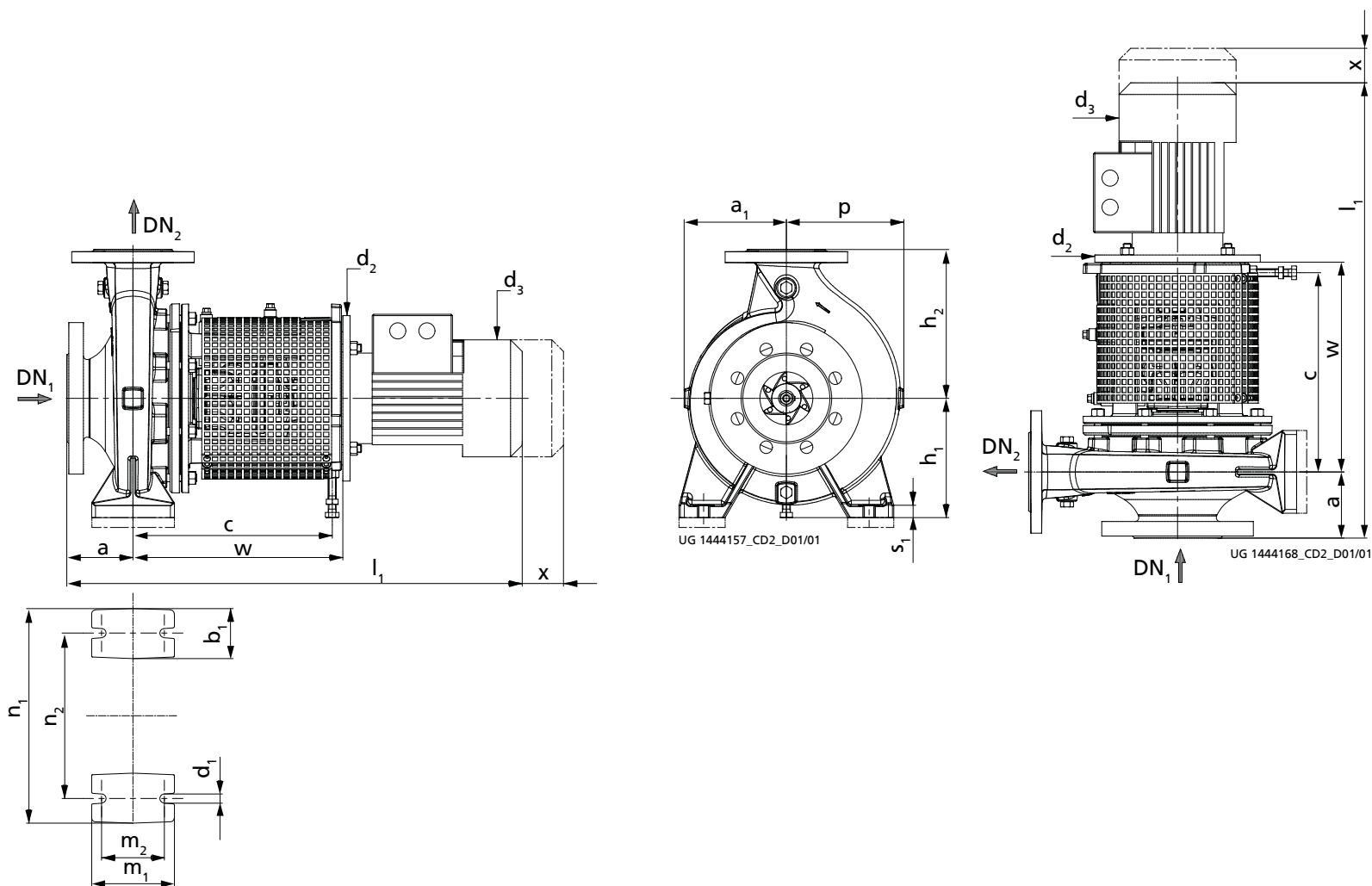


Fig. 3: Dimensions

Table 18: Dimensions, n = 1,450 rpm / n = 1,750 rpm (SI units)

Size n = 1,450 rpm n = 1,750 rpm	Motor	P		I _N	DN ₁	DN ₂	a	a ₁	b ₁	c	d ₁	d ₂	d ₃	h ₁	h ₂	l ₁	m ₁	m ₂	n ₁	n ₂	p	s ₁	w	x
		50 Hz	60 Hz	400 V																				
				50 Hz																				
		[kW]	[kW]	[~A]																				
[mm]																								
040-025-160	80M	-	0.63	1.46	40	25	80	118	50	301	14	200	162	132	160	657	100	70	240	190	118	15	322	100
040-025-160	90S	1.10	1.27	2.51	40	25	80	118	50	301	14	200	190	132	160	684	100	70	240	190	118	15	322	100
040-025-200	80M	0.55	0.63	1.46	40	25	80	142	50	301	14	200	162	160	180	657	100	70	240	190	142	15	322	100
040-025-200	80M	-	0.86	1.67	40	25	80	142	50	301	14	200	162	160	180	657	100	70	240	190	142	15	322	100
040-025-200	90S	-	1.27	2.51	40	25	80	142	50	301	14	200	190	160	180	684	100	70	240	190	142	15	322	100
050-032-125.1	80M	0.55	0.63	1.46	50	32	80	116	50	301	14	200	162	112 ²³⁾	140	657	100	70	190	140	116	15	322	100
050-032-125.1	90S	1.10	1.27	2.51	50	32	80	116	50	301	14	200	190	112 ²³⁾	140	684	100	70	190	140	116	15	322	100
050-032-160	80M	0.55	0.63	1.46	50	32	80	118	50	301	14	200	162	132	160	657	100	70	240	190	128	15	322	100
050-032-160	80M	0.75	0.86	1.67	50	32	80	118	50	301	14	200	162	132	160	657	100	70	240	190	128	15	322	100
050-032-160	90S	-	1.27	2.51	50	32	80	118	50	301	14	200	190	132	160	684	100	70	240	190	128	15	322	100
050-032-160.1	80M	0.55	0.63	1.46	50	32	80	116	50	301	14	200	162	132	160	657	100	70	240	190	121	15	322	100
050-032-160.1	80M	-	0.86	1.67	50	32	80	116	50	301	14	200	162	132	160	657	100	70	240	190	121	15	322	100
050-032-200	80M	0.55	-	1.46	50	32	80	142	50	301	14	200	162	160	180	657	100	70	240	190	143	18	322	100
050-032-200	80M	0.75	-	1.67	50	32	80	142	50	301	14	200	162	160	180	657	100	70	240	190	143	18	322	100
050-032-200	90S	1.10	1.27	2.51	50	32	80	142	50	301	14	200	190	160	180	684	100	70	240	190	143	18	322	100
050-032-200	90L	-	1.75	3.32	50	32	80	142	50	301	14	200	190	160	180	710	100	70	240	190	143	18	322	100
050-032-200	100L	-	2.55	4.67	50	32	80	142	50	301	14	250	213	160	180	744	100	70	240	190	143	18	317	100
050-032-200.1	80M	0.55	0.63	1.46	50	32	80	142	50	301	14	200	162	160	180	657	100	70	240	190	142	18	322	100
050-032-200.1	80M	0.75	0.86	1.67	50	32	80	142	50	301	14	200	162	160	180	657	100	70	240	190	142	18	322	100
050-032-200.1	90S	-	1.27	2.51	50	32	80	142	50	301	14	200	190	160	180	684	100	70	240	190	142	18	322	100
050-032-200.1	90L	-	1.75	3.32	50	32	80	142	50	301	14	200	190	160	180	710	100	70	240	190	142	18	322	100
065-040-160	80M	0.55	-	1.46	65	40	80	119	50	301	14	200	162	132	160	657	100	70	240	190	134	15	322	100
065-040-160	80M	0.75	0.86	1.67	65	40	80	119	50	301	14	200	162	132	160	657	100	70	240	190	134	15	322	100
065-040-160	90S	1.10	1.27	2.51	65	40	80	119	50	301	14	200	190	132	160	684	100	70	240	190	134	15	322	100
065-040-160	90L	-	1.75	3.32	65	40	80	119	50	301	14	200	190	132	160	710	100	70	240	190	134	15	322	100
065-040-160	100L	-	2.55	4.67	65	40	80	119	50	301	14	250	213	132	160	744	100	70	240	190	134	15	317	100
065-040-200	80M	0.75	-	1.67	65	40	100	142	50	301	14	200	162	160	180	677	100	70	265	212	155	18	322	100
065-040-200	90S	1.10	-	2.51	65	40	100	142	50	301	14	200	190	160	180	704	100	70	265	212	155	18	322	100
065-040-200	90L	1.50	1.75	3.32	65	40	100	142	50	301	14	200	190	160	180	730	100	70	265	212	155	18	322	100
065-040-200	100L	-	2.55	4.67	65	40	100	142	50	301	14	250	213	160	180	764	100	70	265	212	155	18	317	100
065-040-200	100L	-	3.45	6.18	65	40	100	142	50	301	14	250	213	160	180	799	100	70	265	212	155	18	317	100

²³ Pump feet shimmed 20 mm

Size n = 1,450 rpm n = 1,750 rpm	Motor	P		I _N	DN ₁	DN ₂	a	a ₁	b ₁	c	d ₁	d ₂	d ₃	h ₁	h ₂	l ₁	m ₁	m ₂	n ₁	n ₂	p	s ₁	w	x
		50 Hz	60 Hz	400 V																				
				50 Hz																				
		[kW]	[kW]	[~A]																				
[mm]																								
065-050-160	80M	0.75	-	1.67	65	50	100	128	50	301	14	200	162	160	180	677	100	70	265	212	149	18	322	100
065-050-160	90S	1.10	1.27	2.51	65	50	100	128	50	301	14	200	190	160	180	704	100	70	265	212	149	18	322	100
065-050-160	90L	1.50	1.75	3.32	65	50	100	128	50	301	14	200	190	160	180	730	100	70	265	212	149	18	322	100
065-050-160	100L	-	2.55	4.67	65	50	100	128	50	301	14	250	213	160	180	764	100	70	265	212	149	18	317	100
065-050-160	100L	-	3.45	6.18	65	50	100	128	50	301	14	250	213	160	180	799	100	70	265	212	149	18	317	100
065-050-200	90L	1.50	-	3.32	65	50	100	144	50	301	14	200	190	160	200	730	100	70	265	212	163	18	322	100
065-050-200	100L	2.20	2.55	4.67	65	50	100	144	50	301	14	250	213	160	200	764	100	70	265	212	163	18	317	100
065-050-200	100L	3.00	3.45	6.18	65	50	100	144	50	301	14	250	213	160	200	799	100	70	265	212	163	18	317	100
065-050-200	112M	-	4.55	8.23	65	50	100	144	50	301	14	250	234	160	200	788	100	70	265	212	163	18	317	100
065-050-200	132S	-	6.30	11.32	65	50	100	144	50	324	14	300	266	160	200	853	100	70	265	212	163	18	340	100
080-065-160	90S	1.10	-	2.51	80	65	100	132	65	301	14	200	190	160	200	704	125	95	280	212	160	18	322	100
080-065-160	90L	1.50	1.75	3.32	80	65	100	132	65	301	14	200	190	160	200	730	125	95	280	212	160	18	322	100
080-065-160	100L	2.20	2.55	4.67	80	65	100	132	65	301	14	250	213	160	200	764	125	95	280	212	160	18	317	100
080-065-160	100L	-	3.45	6.18	80	65	100	132	65	301	14	250	213	160	200	799	125	95	280	212	160	18	317	100
080-065-160	112M	-	4.55	8.23	80	65	100	132	65	301	14	250	234	160	200	788	125	95	280	212	160	18	317	100
080-065-160	132S	-	6.30	11.32	80	65	100	132	65	324	14	300	266	160	200	853	125	95	280	212	160	18	340	100
080-065-200	100L	2.20	-	4.67	80	65	100	155	65	301	14	250	213	180	225	764	125	95	320	250	178	18	317	140
080-065-200	100L	3.00	3.45	6.18	80	65	100	155	65	301	14	250	213	180	225	799	125	95	320	250	178	18	317	140
080-065-200	112M	4.00	4.55	8.23	80	65	100	155	65	301	14	250	234	180	225	788	125	95	320	250	178	18	317	140
080-065-200	132S	-	6.30	11.32	80	65	100	155	65	324	14	300	266	180	225	853	125	95	320	250	178	18	340	140
080-065-200	132M	-	8.60	14.70	80	65	100	155	65	324	14	300	298	180	225	881	125	95	320	250	178	18	340	140
100-080-160	90L	1.50	-	3.32	100	80	125	138	65	301	14	200	190	180	225	755	125	95	320	250	174	18	322	140
100-080-160	100L	2.20	-	4.67	100	80	125	138	65	301	14	250	213	180	225	789	125	95	320	250	174	18	317	140
100-080-160	100L	3.00	3.45	6.18	100	80	125	138	65	301	14	250	213	180	225	824	125	95	320	250	174	18	317	140
100-080-160	112M	-	4.55	8.23	100	80	125	138	65	301	14	250	234	180	225	813	125	95	320	250	174	18	317	140
100-080-160	132S	-	6.30	11.32	100	80	125	138	65	324	14	300	266	180	225	878	125	95	320	250	174	18	340	140

Table 19: Dimensions, n = 1,450 rpm / n = 1,750 rpm (imperial units)

Size n = 1,450 rpm n = 1,750 rpm	Motor	P		I _N	DN ₁	DN ₂	a	a ₁	b ₁	c	d ₁	d ₂	d ₃	h ₁	h ₂	l ₁	m ₁	m ₂	n ₁	n ₂	p	s ₁	w	x
		50 Hz	60 Hz	400 V																				
				50 Hz																				
		[hp]	[hp]	[~A]																				
[inch]																								
040-025-160	80M	-	0.84	1.46	NPS 11/2	NPS 1	3.15	4.65	1.97	11.85	0.55	7.87	6.38	5.20	6.30	25.87	3.94	2.76	9.45	7.48	4.65	0.59	12.68	3.94
040-025-160	90S	1.48	1.70	2.51	NPS 11/2	NPS 1	3.15	4.65	1.97	11.85	0.55	7.87	7.48	5.20	6.30	26.93	3.94	2.76	9.45	7.48	4.65	0.59	12.68	3.94
040-025-200	80M	0.74	0.84	1.46	NPS 11/2	NPS 1	3.15	5.59	1.97	11.85	0.55	7.87	6.38	6.30	7.09	25.87	3.94	2.76	9.45	7.48	5.59	0.59	12.68	3.94
040-025-200	80M	-	1.15	1.67	NPS 11/2	NPS 1	3.15	5.59	1.97	11.85	0.55	7.87	6.38	6.30	7.09	25.87	3.94	2.76	9.45	7.48	5.59	0.59	12.68	3.94
040-025-200	90S	-	1.70	2.51	NPS 11/2	NPS 1	3.15	5.59	1.97	11.85	0.55	7.87	7.48	6.30	7.09	26.93	3.94	2.76	9.45	7.48	5.59	0.59	12.68	3.94
050-032-125.1	80M	0.74	0.84	1.46	NPS 2	NPS 11/4	3.15	4.57	1.97	11.85	0.55	7.87	6.38	4.4 ²⁴⁾	5.51	25.87	3.94	2.76	7.48	5.51	4.57	0.59	12.68	3.94
050-032-125.1	90S	1.48	1.70	2.51	NPS 2	NPS 11/4	3.15	4.57	1.97	11.85	0.55	7.87	7.48	4.4 ²⁴⁾	5.51	26.93	3.94	2.76	7.48	5.51	4.57	0.59	12.68	3.94
050-032-160	80M	0.74	0.84	1.46	NPS 2	NPS 11/4	3.15	4.65	1.97	11.85	0.55	7.87	6.38	5.20	6.30	25.87	3.94	2.76	9.45	7.48	5.04	0.59	12.68	3.94
050-032-160	80M	1.01	1.15	1.67	NPS 2	NPS 11/4	3.15	4.65	1.97	11.85	0.55	7.87	6.38	5.20	6.30	25.87	3.94	2.76	9.45	7.48	5.04	0.59	12.68	3.94
050-032-160	90S	-	1.70	2.51	NPS 2	NPS 11/4	3.15	4.65	1.97	11.85	0.55	7.87	7.48	5.20	6.30	26.93	3.94	2.76	9.45	7.48	5.04	0.59	12.68	3.94
050-032-160.1	80M	0.74	0.84	1.46	NPS 2	NPS 11/4	3.15	4.57	1.97	11.85	0.55	7.87	6.38	5.20	6.30	25.87	3.94	2.76	9.45	7.48	4.76	0.59	12.68	3.94
050-032-160.1	80M	-	1.15	1.67	NPS 2	NPS 11/4	3.15	4.57	1.97	11.85	0.55	7.87	6.38	5.20	6.30	25.87	3.94	2.76	9.45	7.48	4.76	0.59	12.68	3.94
050-032-200	80M	0.74	-	1.46	NPS 2	NPS 11/4	3.15	5.59	1.97	11.85	0.55	7.87	6.38	6.30	7.09	25.87	3.94	2.76	9.45	7.48	5.63	0.71	12.68	3.94
050-032-200	80M	1.01	-	1.67	NPS 2	NPS 11/4	3.15	5.59	1.97	11.85	0.55	7.87	6.38	6.30	7.09	25.87	3.94	2.76	9.45	7.48	5.63	0.71	12.68	3.94
050-032-200	90S	1.48	1.70	2.51	NPS 2	NPS 11/4	3.15	5.59	1.97	11.85	0.55	7.87	7.48	6.30	7.09	26.93	3.94	2.76	9.45	7.48	5.63	0.71	12.68	3.94
050-032-200	90L	-	2.35	3.32	NPS 2	NPS 11/4	3.15	5.59	1.97	11.85	0.55	7.87	7.48	6.30	7.09	27.95	3.94	2.76	9.45	7.48	5.63	0.71	12.68	3.94
050-032-200	100L	-	3.42	4.67	NPS 2	NPS 11/4	3.15	5.59	1.97	11.85	0.55	9.84	8.39	6.30	7.09	29.29	3.94	2.76	9.45	7.48	5.63	0.71	12.48	3.94
050-032-200.1	80M	0.74	0.84	1.46	NPS 2	NPS 11/4	3.15	5.59	1.97	11.85	0.55	7.87	6.38	6.30	7.09	25.87	3.94	2.76	9.45	7.48	5.59	0.71	12.68	3.94
050-032-200.1	80M	1.01	1.15	1.67	NPS 2	NPS 11/4	3.15	5.59	1.97	11.85	0.55	7.87	6.38	6.30	7.09	25.87	3.94	2.76	9.45	7.48	5.59	0.71	12.68	3.94
050-032-200.1	90S	-	1.70	2.51	NPS 2	NPS 11/4	3.15	5.59	1.97	11.85	0.55	7.87	7.48	6.30	7.09	26.93	3.94	2.76	9.45	7.48	5.59	0.71	12.68	3.94
050-032-200.1	90L	-	2.35	3.32	NPS 2	NPS 11/4	3.15	5.59	1.97	11.85	0.55	7.87	7.48	6.30	7.09	27.95	3.94	2.76	9.45	7.48	5.59	0.71	12.68	3.94
065-040-160	80M	0.74	-	1.46	NPS 2 1/2	NPS 11/2	3.15	4.69	1.97	11.85	0.55	7.87	6.38	5.20	6.30	25.87	3.94	2.76	9.45	7.48	5.28	0.59	12.68	3.94
065-040-160	80M	1.01	1.15	1.67	NPS 2 1/2	NPS 11/2	3.15	4.69	1.97	11.85	0.55	7.87	6.38	5.20	6.30	25.87	3.94	2.76	9.45	7.48	5.28	0.59	12.68	3.94
065-040-160	90S	1.48	1.70	2.51	NPS 2 1/2	NPS 11/2	3.15	4.69	1.97	11.85	0.55	7.87	7.48	5.20	6.30	26.93	3.94	2.76	9.45	7.48	5.28	0.59	12.68	3.94
065-040-160	90L	-	2.35	3.32	NPS 2 1/2	NPS 11/2	3.15	4.69	1.97	11.85	0.55	7.87	7.48	5.20	6.30	27.95	3.94	2.76	9.45	7.48	5.28	0.59	12.68	3.94
065-040-160	100L	-	3.42	4.67	NPS 2 1/2	NPS 11/2	3.15	4.69	1.97	11.85	0.55	9.84	8.39	5.20	6.30	29.29	3.94	2.76	9.45	7.48	5.28	0.59	12.48	3.94
065-040-200	80M	1.01	-	1.67	NPS 2 1/2	NPS 11/2	3.94	5.59	1.97	11.85	0.55	7.87	6.38	6.30	7.09	26.65	3.94	2.76	10.43	8.35	6.10	0.71	12.68	3.94
065-040-200	90S	1.48	-	2.51	NPS 2 1/2	NPS 11/2	3.94	5.59	1.97	11.85	0.55	7.87	7.48	6.30	7.09	27.72	3.94	2.76	10.43	8.35	6.10	0.71	12.68	3.94
065-040-200	90L	2.01	2.35	3.32	NPS 2 1/2	NPS 11/2	3.94	5.59	1.97	11.85	0.55	7.87	7.48	6.30	7.09	28.74	3.94	2.76	10.43	8.35	6.10	0.71	12.68	3.94
065-040-200	100L	-	3.42	4.67	NPS 2 1/2	NPS 11/2	3.94	5.59	1.97	11.85	0.55	9.84	8.39	6.30	7.09	30.08	3.94	2.76	10.43	8.35	6.10	0.71	12.48	3.94
065-040-200	100L	-	4.63	6.18	NPS 2 1/2	NPS 11/2	3.94	5.59	1.97	11.85	0.55	9.84	8.39	6.30	7.09	31.46	3.94	2.76	10.43	8.35	6.10	0.71	12.48	3.94

²⁴ Pump feet shimmed 0.79 inch

Size n = 1,450 rpm n = 1,750 rpm	Motor	P		I _N	DN ₁	DN ₂	a	a ₁	b ₁	c	d ₁	d ₂	d ₃	h ₁	h ₂	l ₁	m ₁	m ₂	n ₁	n ₂	p	s ₁	w	x
		50 Hz	60 Hz	400 V																				
				50 Hz																				
		[hp]	[hp]	[~A]																				
[inch]																								
065-050-160	80M	1.01	-	1.67	NPS 2 1/2	NPS 2	3.94	5.04	1.97	11.85	0.55	7.87	6.38	6.30	7.09	26.65	3.94	2.76	10.43	8.35	5.87	0.71	12.68	3.94
065-050-160	90S	1.48	1.70	2.51	NPS 2 1/2	NPS 2	3.94	5.04	1.97	11.85	0.55	7.87	7.48	6.30	7.09	27.72	3.94	2.76	10.43	8.35	5.87	0.71	12.68	3.94
065-050-160	90L	2.01	2.35	3.32	NPS 2 1/2	NPS 2	3.94	5.04	1.97	11.85	0.55	7.87	7.48	6.30	7.09	28.74	3.94	2.76	10.43	8.35	5.87	0.71	12.68	3.94
065-050-160	100L	-	3.42	4.67	NPS 2 1/2	NPS 2	3.94	5.04	1.97	11.85	0.55	9.84	8.39	6.30	7.09	30.08	3.94	2.76	10.43	8.35	5.87	0.71	12.48	3.94
065-050-160	100L	-	4.63	6.18	NPS 2 1/2	NPS 2	3.94	5.04	1.97	11.85	0.55	9.84	8.39	6.30	7.09	31.46	3.94	2.76	10.43	8.35	5.87	0.71	12.48	3.94
065-050-200	90L	2.01	-	3.32	NPS 2 1/2	NPS 2	3.94	5.67	1.97	11.85	0.55	7.87	7.48	6.30	7.87	28.74	3.94	2.76	10.43	8.35	6.42	0.71	12.68	3.94
065-050-200	100L	2.95	3.42	4.67	NPS 2 1/2	NPS 2	3.94	5.67	1.97	11.85	0.55	9.84	8.39	6.30	7.87	30.08	3.94	2.76	10.43	8.35	6.42	0.71	12.48	3.94
065-050-200	100L	4.02	4.63	6.18	NPS 2 1/2	NPS 2	3.94	5.67	1.97	11.85	0.55	9.84	8.39	6.30	7.87	31.46	3.94	2.76	10.43	8.35	6.42	0.71	12.48	3.94
065-050-200	112M	-	6.10	8.23	NPS 2 1/2	NPS 2	3.94	5.67	1.97	11.85	0.55	9.84	9.21	6.30	7.87	31.02	3.94	2.76	10.43	8.35	6.42	0.71	12.48	3.94
065-050-200	132S	-	8.45	11.32	NPS 2 1/2	NPS 2	3.94	5.67	1.97	12.76	0.55	11.81	10.47	6.30	7.87	33.58	3.94	2.76	10.43	8.35	6.42	0.71	13.39	3.94
080-065-160	90S	1.48	-	2.51	NPS 3	NPS 2 1/2	3.94	5.20	2.56	11.85	0.55	7.87	7.48	6.30	7.87	27.72	4.92	3.74	11.02	8.35	6.30	0.71	12.68	3.94
080-065-160	90L	2.01	2.35	3.32	NPS 3	NPS 2 1/2	3.94	5.20	2.56	11.85	0.55	7.87	7.48	6.30	7.87	28.74	4.92	3.74	11.02	8.35	6.30	0.71	12.68	3.94
080-065-160	100L	2.95	3.42	4.67	NPS 3	NPS 2 1/2	3.94	5.20	2.56	11.85	0.55	9.84	8.39	6.30	7.87	30.08	4.92	3.74	11.02	8.35	6.30	0.71	12.48	3.94
080-065-160	100L	-	4.63	6.18	NPS 3	NPS 2 1/2	3.94	5.20	2.56	11.85	0.55	9.84	8.39	6.30	7.87	31.46	4.92	3.74	11.02	8.35	6.30	0.71	12.48	3.94
080-065-160	112M	-	6.10	8.23	NPS 3	NPS 2 1/2	3.94	5.20	2.56	11.85	0.55	9.84	9.21	6.30	7.87	31.02	4.92	3.74	11.02	8.35	6.30	0.71	12.48	3.94
080-065-160	132S	-	8.45	11.32	NPS 3	NPS 2 1/2	3.94	5.20	2.56	12.76	0.55	11.81	10.47	6.30	7.87	33.58	4.92	3.74	11.02	8.35	6.30	0.71	13.39	3.94
080-065-200	100L	2.95	-	4.67	NPS 3	NPS 2 1/2	3.94	6.10	2.56	11.85	0.55	9.84	8.39	7.09	8.86	30.08	4.92	3.74	12.60	9.84	7.01	0.71	12.48	5.51
080-065-200	100L	4.02	4.63	6.18	NPS 3	NPS 2 1/2	3.94	6.10	2.56	11.85	0.55	9.84	8.39	7.09	8.86	31.46	4.92	3.74	12.60	9.84	7.01	0.71	12.48	5.51
080-065-200	112M	5.36	6.10	8.23	NPS 3	NPS 2 1/2	3.94	6.10	2.56	11.85	0.55	9.84	9.21	7.09	8.86	31.02	4.92	3.74	12.60	9.84	7.01	0.71	12.48	5.51
080-065-200	132S	-	8.45	11.32	NPS 3	NPS 2 1/2	3.94	6.10	2.56	12.76	0.55	11.81	10.47	7.09	8.86	33.58	4.92	3.74	12.60	9.84	7.01	0.71	13.39	5.51
080-065-200	132M	-	11.53	14.7	NPS 3	NPS 2 1/2	3.94	6.10	2.56	12.76	0.55	11.81	11.73	7.09	8.86	34.69	4.92	3.74	12.60	9.84	7.01	0.71	13.39	5.51
100-080-160	90L	2.01	-	3.32	NPS 4	NPS 3	4.92	5.43	2.56	11.85	0.55	7.87	7.48	7.09	8.86	29.72	4.92	3.74	12.60	9.84	6.85	0.71	12.68	5.51
100-080-160	100L	2.95	-	4.67	NPS 4	NPS 3	4.92	5.43	2.56	11.85	0.55	9.84	8.39	7.09	8.86	31.06	4.92	3.74	12.60	9.84	6.85	0.71	12.48	5.51
100-080-160	100L	4.02	4.63	6.18	NPS 4	NPS 3	4.92	5.43	2.56	11.85	0.55	9.84	8.39	7.09	8.86	32.44	4.92	3.74	12.60	9.84	6.85	0.71	12.48	5.51
100-080-160	112M	-	6.10	8.23	NPS 4	NPS 3	4.92	5.43	2.56	11.85	0.55	9.84	9.21	7.09	8.86	32.01	4.92	3.74	12.60	9.84	6.85	0.71	12.48	5.51
100-080-160	132S	-	8.45	11.32	NPS 4	NPS 3	4.92	5.43	2.56	12.76	0.55	11.81	10.47	7.09	8.86	34.57	4.92	3.74	12.60	9.84	6.85	0.71	13.39	5.51

Connections

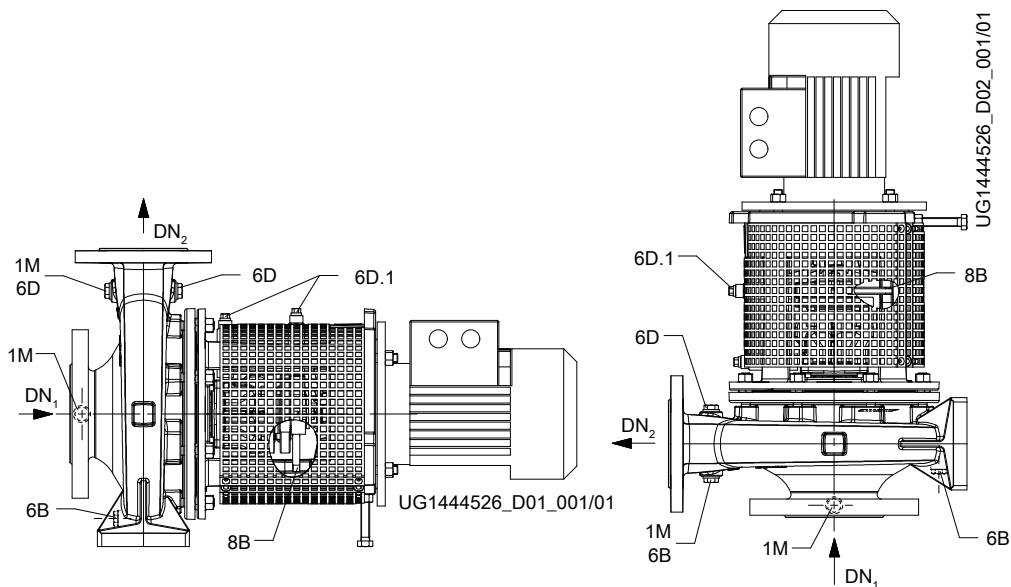


Fig. 4: Etabloc SYT connections by installation type

Table 20: Connections

Connection	Variant	Configuration	Position
1M	Connection for pressure gage	Drilled and closed	Suction flange / discharge flange
6B	Fluid drain	Drilled and closed	Volute casing
6D, 6D.1	Fluid priming and venting	Drilled and closed	Volute casing / bearing housing
8B	Leakage drain	Drilled	Seal cover

Table 21: Etabloc SYT connections

Etabloc SYT	Connection		
	Volute casing	Bearing housing / seal cover	
	1M, 6B, 6D	6D.1	8B
040-025-160	G 1/4	G 1/8	R 1/8
040-025-200	G 1/4	G 1/8	R 1/8
050-032-125.1	G 1/4	G 1/8	R 1/8
050-032-160	G 1/4	G 1/8	R 1/8
050-032-160.1	G 1/4	G 1/8	R 1/8
050-032-200	G 1/4	G 1/8	R 1/8
050-032-200.1	G 1/4	G 1/8	R 1/8
065-040-160	G 1/4	G 1/8	R 1/8
065-040-200	G 1/4	G 1/8	R 1/8
065-050-160	G 1/4	G 1/8	R 1/8
065-050-200	G 1/4	G 1/8	R 1/8
080-065-160	G 3/8	G 1/8	R 1/8
080-065-200	G 3/8	G 1/8	R 1/8
100-080-160	G 3/8	G 1/8	R 1/8

Flange design

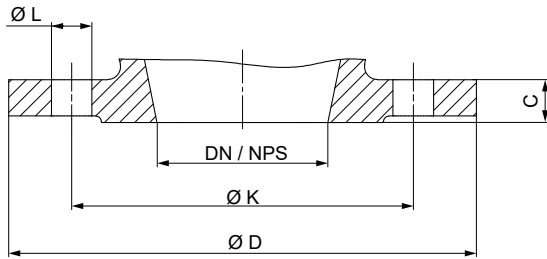


Fig. 5: Flange dimensions

Table 22: Flange dimensions (SI units)

DN / NPS	Standard					
	EN 1092-2			ASME B 16.1		
	PN 16			Class 125		
	Ø K	Ø D	Number and Ø of holes (Ø L)	Ø K	Ø D	Number and Ø of holes (Ø L)
	[mm]					
25 / NPS 1	85	115	4 × Ø14	79.2	115	4 × Ø15.7
32 / NPS 1 1/4	100	140	4 × Ø19	88.9	140	4 × Ø15.7
40 / NPS 1 1/2	110	150	4 × Ø19	98.6	150	4 × Ø15.7
50 / NPS 2	125	165	4 × Ø19	120.7	165	4 × Ø19.1
65 / NPS 2 1/2	145	185	4 × Ø19	139.7	185	4 × Ø19.1
80 ²⁵⁾ / NPS 3	160	200 / 229 ²⁶⁾	8 × Ø19	152.4	200 / 229 ²⁶⁾	4 × Ø19.1
100 / NPS 4	180	230	8 × Ø19	190.5	230	8 × Ø19.1

Table 23: Flange dimensions (imperial units)

DN / NPS	Standard					
	EN 1092-2			ASME B 16.1		
	PN 16			Class 125		
	Ø K	Ø D	Number and Ø of holes (Ø L)	Ø K	Ø D	Number and Ø of holes (Ø L)
	[inch]					
25 / NPS 1	3.35	4.53	4 × Ø0.55	3.12	4.53	4 × Ø0.62
32 / NPS 1 1/4	3.94	5.51	4 × Ø0.75	3.5	5.51	4 × Ø0.62
40 / NPS 1 1/2	4.33	5.91	4 × Ø0.75	3.88	5.91	4 × Ø0.62
50 / NPS 2	4.92	6.50	4 × Ø0.75	4.75	6.50	4 × Ø3/4
65 / NPS 2 1/2	5.71	7.28	4 × Ø0.75	5.5	7.28	4 × Ø3/4
80 ²⁷⁾ / NPS 3	6.30	7.87 / 9.02 ²⁸⁾	8 × Ø0.75	6	7.87 / 9.02 ²⁸⁾	4 × Ø3/4
100 / NPS 4	7.09	9.06	8 × Ø0.75	7.5	9.06	8 × Ø3/4

Table 24: NPS for DN 80 flange drilled to ASME table

Etabloc SYT	Bearing housing	Material	
		SG / SC	
		DN 1	DN 2
		ASME 125	ASME 125
080-065-160	25	NPS 4	NPS 2 1/2
080-065-200	25	NPS 4	NPS 2 1/2

²⁵ DN 80 flange NPS 3 drilled to NPS 4 (Etabloc SYT 080-065-160 / 080-065-200), see "NPS for DN 80 flange drilled to ASME" table.

²⁶ Suction-side DN 80 flange (Etabloc SYT 080-065-160 / 080-065-200), see "NPS for DN 80 flange drilled to ASME" table.

²⁷ DN 80 flange NPS 3 drilled to NPS 4 (Etabloc SYT 080-065-160 / 080-065-200) (⇒ Table 24)

²⁸ Suction-side DN 80 flange (Etabloc SYT 080-065-160 / 080-065-200) (⇒ Table 24)

Table 25: Flange design by material

Material	Standard	Nominal size	Pressure class
S	EN 1092-2	DN 25 - DN 100	PN 16
	Drilled to ASME B16.1 ²⁹⁾	DN 25 - DN 100	Class 125

Installation types

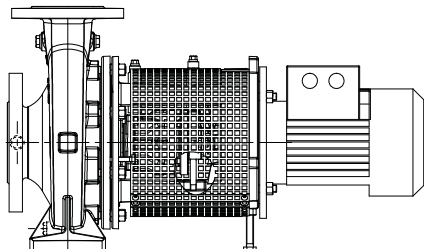


Fig. 6: Horizontal installation, Etabloc SYT

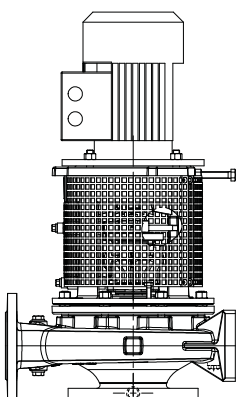


Fig. 7: Vertical installation, Etabloc SYT

Scope of supply

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

- Pump
- Drive

²⁹ DN 80 machined like DN 100

General assembly drawings

Etabloc SYT exploded view

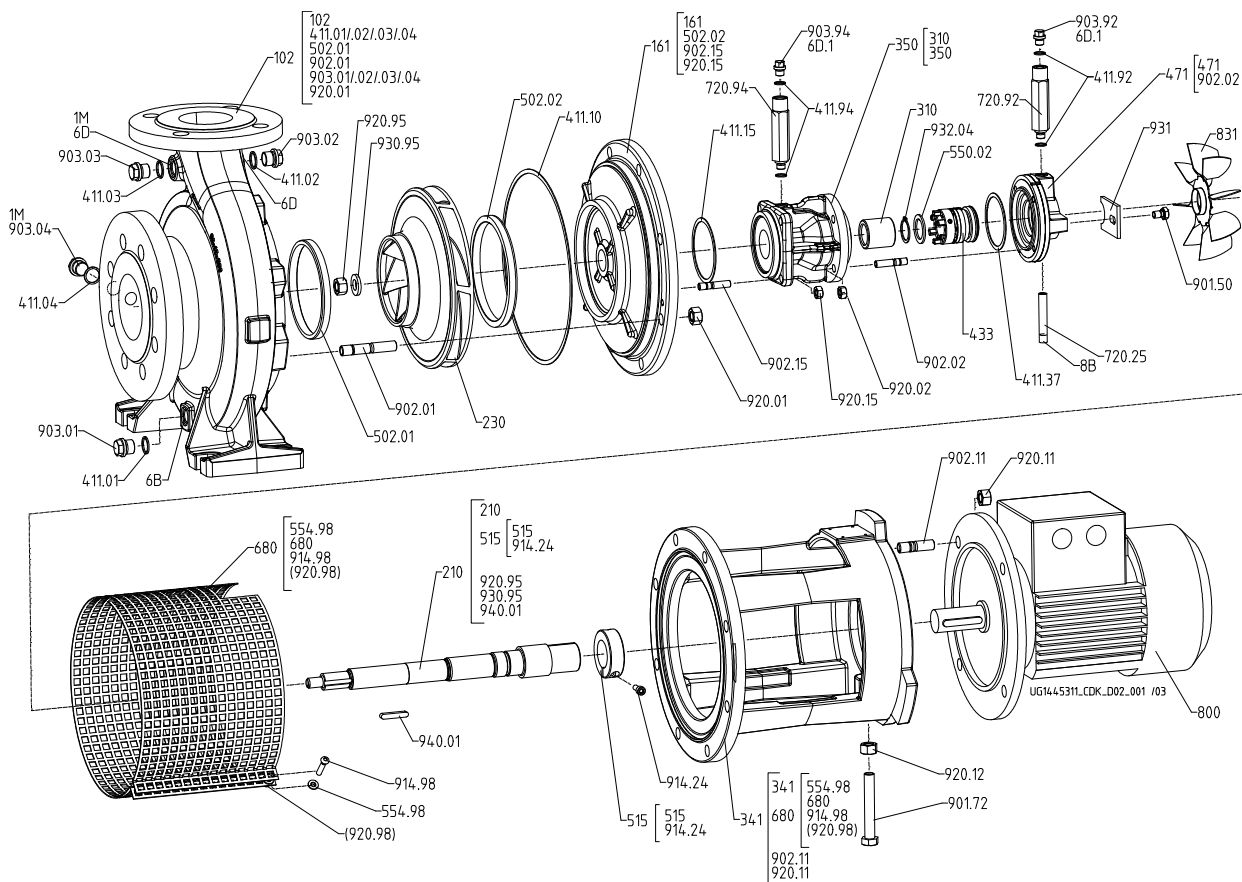


Fig. 8: Etabloc SYT exploded view

[Supplied in packaging units only

() Not available as individual spare part

Table 26: List of components

Part No.	Description	Part No.	Description
102	Volute casing	720.25/.92/.94	Spacer
161	Casing cover	800	Motor
210	Shaft	831	Fan impeller
230	Impeller	901.50/.72	Hexagon head bolt
310	Plain bearing	902.01/.02/.11/.15	Stud
341	Drive lantern	903.01/.02/.03/.04/.92/.94	Screw plug
350	Bearing housing	914.24	Hexagon socket head cap screw
411.01/.02/.03/.04/.10/.15/.37/.92/.94	Joint ring	914.98	Pan head screw
433	Mechanical seal	920.01/.02/.11/.12/.15/.95	Hexagon nut
471	Seal cover	920.98	Blind rivet nut
502.01/.02	Casing wear ring	930.95	Nord-Lock washer
515	Taper lock ring	931	Lockwasher
550.02	Disc	932.04	Circlip
554.98	Washer	940.01	Key
680	Guard		

Glossary

Back pull-out design

The complete back pull-out unit can be pulled out without having to remove the pump casing from the piping.



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