

In-line Pump

Type Series Booklet
Omega SL

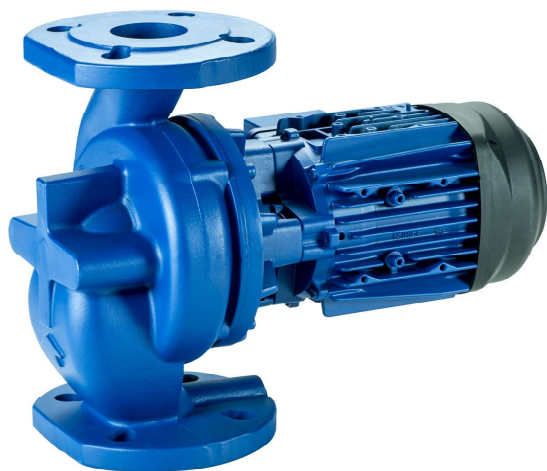
50 Hz



Heating / Air-conditioning / Ventilation

In-line Pumps

Omega SL



Main applications

- Heating systems
- Air-conditioning systems
- Cooling circuits
- Water supply systems
- Service water supply systems
- Industrial recirculation systems
- Swimming pools

Fluids handled

- Fluids not chemically or mechanically aggressive to the materials

Further information on fluids handled

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Operating data

Operating properties

Characteristic		Value
Flow rate	Q [m³/h]	95
	Q [l/s]	26,3
Head	H [m]	21
Fluid temperature	T [°C]	-15 to +120
Operating pressure	p [bar]	≤ 10

Designation

Example: OMSL032-032-100 GGWAV11D2

Designation key

Code	Description
OMSL	Type series
	OMSL Omega SL
032	Nominal suction nozzle diameter [mm]
032	Nominal discharge nozzle diameter [mm]
100	Nominal impeller diameter [mm]
G	Casing material
G	Grey cast iron
B	Bronze
G	Impeller material if different from casing material
G	Grey cast iron
B	Bronze
P	Polysulphone
W	Additional code
P	Model with casing cover made of polysulphone
W	WRAS-approved for drinking water
X	Special design
A	Casing cover
A	Conical seal chamber
V	Sealing system
V	Conical seal chamber with vent
11	Seal code
11	Mechanical seal material BQ1EGG
D	Scope of supply
D	Pump with motor
2	Shaft unit
2	SU 12
4	SU 14
6	SU 16

Further information on the designation

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Design details

Design

- Close-coupled design/in-line design
- Single-stage
- Horizontal/vertical installation
- Rigid connection between pump and motor

Pump casing

- Radially split volute casing
- In-line design

Impeller type

- Closed radial impeller

Shaft seal

- Mechanical seal

Type of construction IM V1

Enclosure IP55

Thermal class F

Efficiency class IE3

Mode of operation Continuous operation S1

Bearings

- Radial ball bearing in the motor housing
- Grease lubrication

Drive

- Surface-cooled DP standard squirrel-cage motor
- Winding Up to 1.1 kW, 220-240 V single-phase / 380-420 V three-phase
From 1.8 kW 380-420 V

Automation

Automation options:

- PumpDrive

Materials

Overview of available materials

Part No.	Description	Material	Material variant			
			GG	GP	BB	BP
102	Volute casing	Grey cast iron EN-GJL 150 / EN-GJL 200	X	X	-	-
		Bronze CC491K	-	-	X	X
230	Impeller	Grey cast iron EN-GJL-150	X	-	-	-
		Bronze G-CuSn10Zn	-	-	X	-
		Polysulphone PSU-GF30	-	X	-	X
341	Drive lantern	Aluminium AC-46500	X	X	X	X
412.50	O-ring	EPDM	X	X	X	X
554.03	Washer	CW508L	X	X	X	X
580	Cap, conical	Polyamide 66	X	X	X	X
		Polysulphone PSU-GF30	○ ¹⁾	○ ¹⁾	○ ¹⁾	○ ¹⁾
914.21	Hexagon socket head cap screw	A4	X	X	X	X

¹⁾ Optional

Coating and preservation

- Coating and preservation to DP standard

Product benefits

- Improved efficiency and $NPSH_{req}$ by experimentally verified hydraulic design of impellers (vanes)
- Low energy costs through compliance with Commission Regulation 547/2012 (minimum efficiency index $MEI \geq 0.4$)
- Operating costs reduced by trimming the impeller diameter to match the specified duty point
- Little wear, low vibration levels and excellent smooth running characteristics thanks to good suction performance and virtually cavitation-free operation across a wide operating range
- Casing sealed reliably – even in varying operating conditions – by confined casing gasket
- Large variety of materials for perfectly matching the pump to the fluid handled. Large range of materials for many applications available as standard.
- Low-noise low-vibration motors specially designed for Omega SL. Also available as 2-pole motors.

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

- Minimum efficiency index: see data sheet
- The benchmark for the most efficient water pumps is $MEI \geq 0.70$.
- Year of construction: see data sheet
- Manufacturer's name or trade mark, commercial registration number and place of manufacture: see data sheet or order documentation
- Product's type and size identifier: see data sheet
- Hydraulic pump efficiency (%) with trimmed impeller: see data sheet
- Pump performance curves, including efficiency characteristics: see documented characteristic curve
- The efficiency of a pump with a trimmed impeller is usually lower than that of a pump with full impeller diameter. Trimming of the impeller will adapt the pump to a fixed duty point, leading to reduced energy consumption. The minimum efficiency index (MEI) is based on the full impeller diameter.
- Operation of this water pump with variable duty points may be more efficient and economic when controlled, for example, by the use of a variable speed drive that matches the pump duty to the system.

Pressure limits and temperature limits

Pressure limits and temperature limits as a function of material variant

Material variant	Fluid temperature ⁴⁾	Test pressure ⁵⁾	Operating pressure
	[°C]	[bar]	[bar]
GG, GP	-15 to +120	≤ 15	≤ 10
BB, BP	-15 to +120	≤ 15	≤ 10

⁴⁾ For hot water heating systems to DIN 4752, Section 4.5, application limits must be observed.

⁵⁾ The casing components are checked for leakage by means of internal pressure tests to AN 1897/75-03D00 with water.

Technical data

Technical data of the motor

n = 2900 rpm

Size	Motor			[kg]
	[kW]	U [V]	I [A]	
025-025-063	0,25	3x 380-420	0,76	8,4
025-025-063	0,25	1x 220-240	2	8,7
025-025-071	0,12	3x 380-420	0,48	8,7
025-025-071	0,12	1x 220-240	1,2	8,7
025-025-071	0,25	3x 380-420	0,76	8
025-025-071	0,25	1x 220-240	2	8,7
025-025-080	0,25	3x 380-420	0,76	8,7
025-025-080	0,25	1x 220-240	2	9
025-025-080	0,37	3x 380-420	0,92	8,7
025-025-085	0,18	3x 380-420	0,6	10
025-025-105	0,37	3x 380-420	0,92	11
032-032-063	0,25	3x 380-420	0,76	7,8
032-032-071	0,25	3x 380-420	0,76	8,7
032-032-080	0,25	3x 380-420	0,76	8,7
032-032-080	0,25	1x 220-240	2	9
032-032-080	0,37	3x 380-420	0,92	8,7
032-032-100	0,25	3x 380-420	0,76	14,9
032-032-100	0,25	1x 220-240	2	14,9
032-032-105	0,55	3x 380-420	1,6	16,1
032-032-105	0,55	1x 220-240	4,2	16,4
032-032-125	0,75	3x 380-420	1,6	16,6
032-032-125	0,75	1x 220-240	4,75	18,7
040-040-060	0,25	3x 380-420	0,76	14,9
040-040-060	0,25	1x 220-240	2	15,2
040-040-060	0,37	3x 380-420	0,92	14,9
040-040-090	0,55	3x 380-420	1,6	22
040-040-090	0,55	1x 220-240	4,2	19
040-040-090	0,75	3x 380-420	1,6	18,3
040-040-100	0,75	3x 380-420	1,6	18,9
040-040-100	0,75	1x 220-240	4,75	21,4
040-040-100	1,1	3x 380-420	2,25	18,9
050-050-090	0,55	3x 380-420	1,6	18
050-050-090	0,55	1x 220-240	4,2	18,6
050-050-100	0,75	3x 380-420	1,6	20

Size	Motor			[kg]
	[kW]	U [V]	I [A]	
050-050-110	1,1	3x 380-420	2,25	24,7
050-050-110	1,1	1x 220-240	6,9	24,8
050-050-125	1,8	3x 380-420	3,4	31,24
065-065-100	1,1	3x 380-420	2,25	32
065-065-100	1,1	1x 220-240	6,9	32
065-065-115	1,8	3x 380-420	3,4	35
065-065-125	3,0	3x 380-420	5,6	39
080-080-105	1,1	3x 380-420	2,25	36
080-080-105	1,1	1x 220-240	6,9	36
080-080-115	1,8	3x 380-420	3,4	38,5
080-080-125	3,0	3x 380-420	5,6	43

n = 1450 rpm

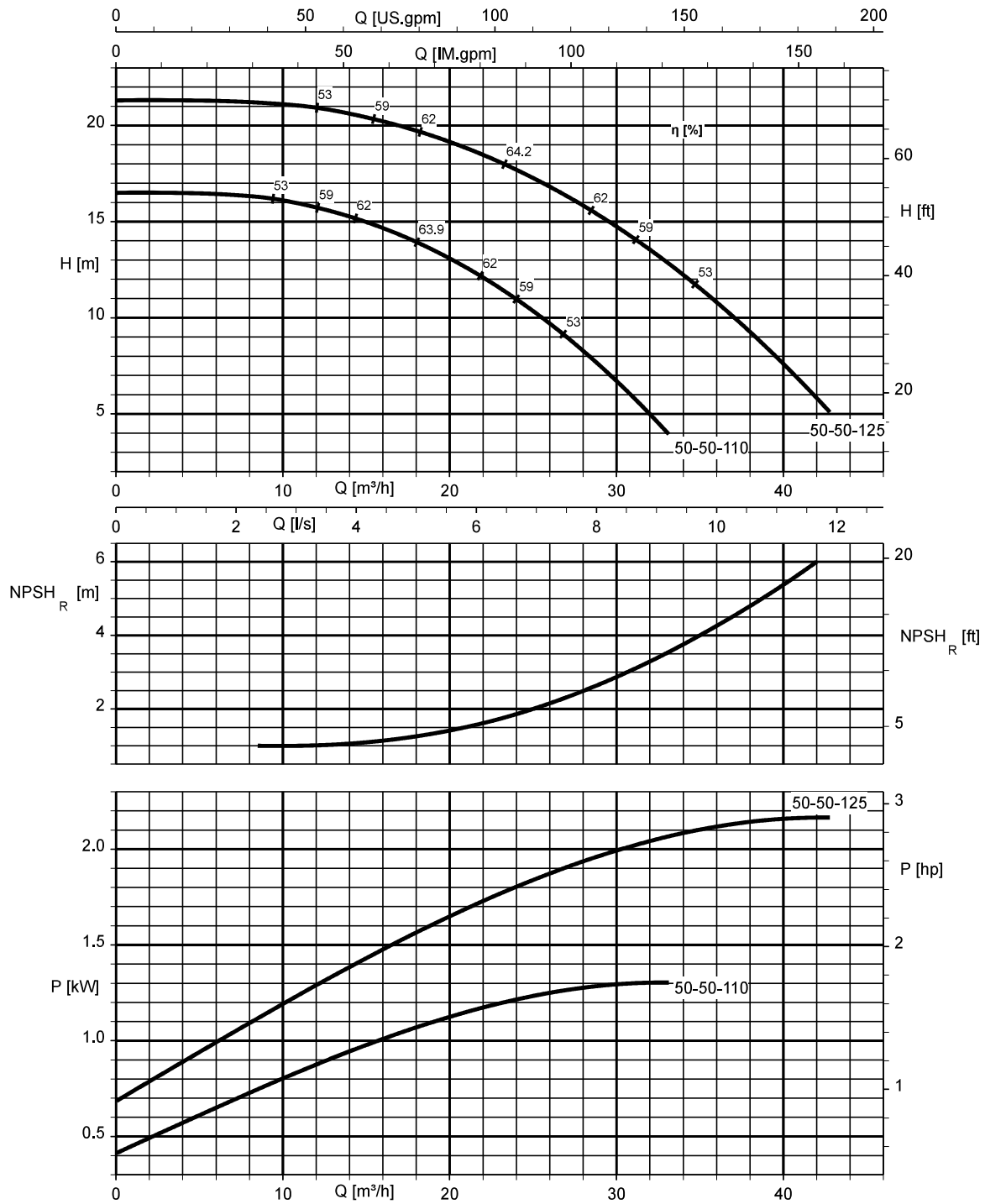
Size	Motor			[kg]
	[kW]	U [V]	I [A]	
025-025-080	0,12	3x 380-420	0,48	8,5
025-025-080	0,12	1x 220-240	1,2	8,8
032-032-080	0,12	3x 380-420	0,48	8,0
032-032-080	0,12	1x 220-240	1,2	8,5
032-032-125	0,12	3x 380-420	0,48	14,6
032-032-125	0,12	1x 220-240	1,2	15,0
040-040-100	0,12	3x 380-420	0,48	17,0
040-040-100	0,12	1x 220-240	1,2	17,3
050-050-100	0,12	3x 380-420	0,48	17,0
050-050-100	0,12	1x 220-240	1,2	17,4
050-050-125	0,18	3x 380-420	0,66	20,8
050-050-125	0,18	1x 220-240	1,6	21,4
050-050-160	0,75	3x 380-420	1,71	35,0
050-050-160	0,75	1x 220-240	5,75	31,0
065-065-125	0,37	3x 380-420	1,25	30,0
065-065-125	0,37	1x 220-240	3,2	30,0
080-080-125	0,37	3x 380-420	1,25	33,5
080-080-125	0,37	1x 220-240	3,2	34,0

Technical data of the pump

Overview

Size	Shaft unit	Impeller diameter	Speed limit	
			Minimum	Maximum
		[mm]	[rpm]	[rpm]
025-025-63	SU 12	63	500	3000
025-025-71	SU 12	71	500	3000
025-025-80	SU 12	80	500	3000
025-025-85	SU 12	85	500	3000
025-025-105	SU 12	105	500	3000
032-032-63	SU 12	63	500	3000
032-032-71	SU 12	71	500	3000
032-032-80	SU 12	80	500	3000
032-032-100	SU 12	80	500	3000
032-032-105	SU 12	105	500	3000
032-032-125	SU 12	125	500	3000
040-040-60	SU 12	80	500	3000
040-040-90	SU 12	90	500	3000
040-040-100	SU 12	98	500	3000
040-040-100	SU 14	98	500	3000
050-050-90	SU 12	90	500	3000
050-050-100	SU 12	98	500	3000
050-050-110	SU 14	109	500	3000
050-050-125	SU 12	125	500	3000
050-050-125	SU 16	125	500	3000
050-050-160	SU 14	159	500	3000
050-050-160	SU 16	159	500	3000
065-065-100	SU 14	100	500	3000
065-065-115	SU 16	113	500	3000
065-065-125	SU 12	125	500	3000
065-065-125	SU 16	125	500	3000
080-080-105	SU 14	100	500	3000
080-080-115	SU 16	112	500	3000
080-080-125	SU 12	126,5	500	3000
080-080-125	SU 16	126,5	500	3000

Omega SL 050-050-125, n = 2900 rpm



K1159.452/79/0

Dimensions and connections

Connections

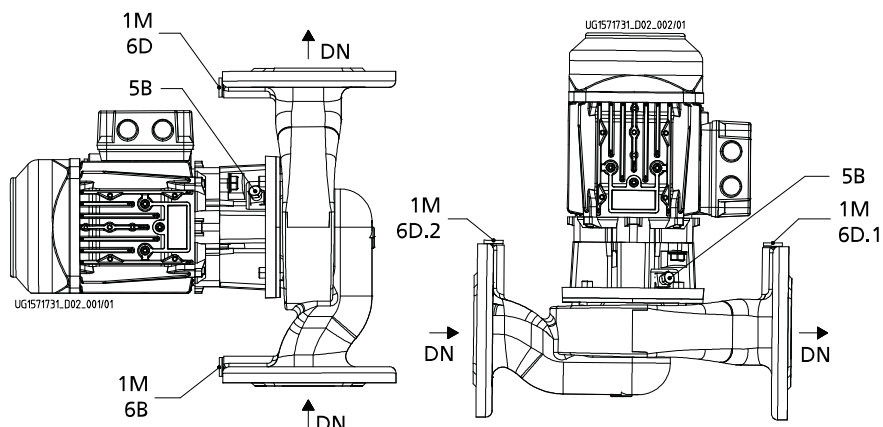


Fig. 1: Connections

Connection types

Connection	Description	Configuration	Position
1M	Pressure gauge connection	Drilled and closed, or pressure sensor for PumpMeter (if selected)	Suction flange and discharge flange
5B	Vent connection for the mechanical seal chamber	Plugged with vent plug	Casing cover
6B	Fluid drain	Drilled and closed	Volute casing
6D, 6D.1, 6D.2	Fluid priming and venting	Drilled and closed	Volute casing

Connection

Size	1M, 6B, 6D, 6D.1, 6D.2
032-032-100	G ¼
032-032-105	G ¼
032-032-125	G ¼
040-040-60	G ¼
040-040-90	G ¼
040-040-100	G ¼
050-050-90	G ¼
050-050-100	G ¼

Size	1M, 6B, 6D, 6D.1, 6D.2
050-050-110	G ¼
050-050-125	G ¼
050-050-160	G ¼
065-065-100	G ¼
065-065-115	G ¼
065-065-125	G ¼
080-080-105	G ¼
080-080-115	G ¼
080-080-125	G ¼

Pump set dimensions

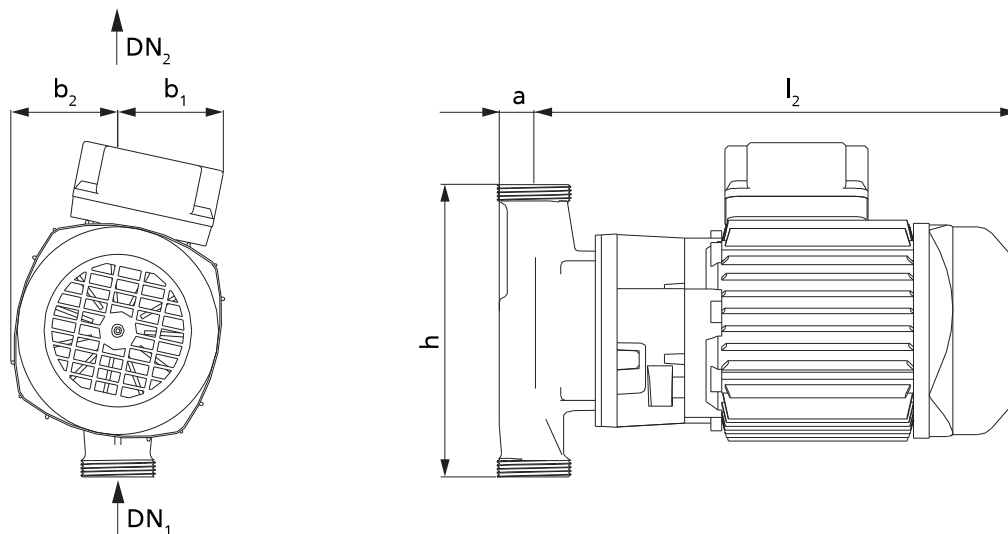


Fig. 2: Dimensions of screw-ended pump set, size < 032-032-100

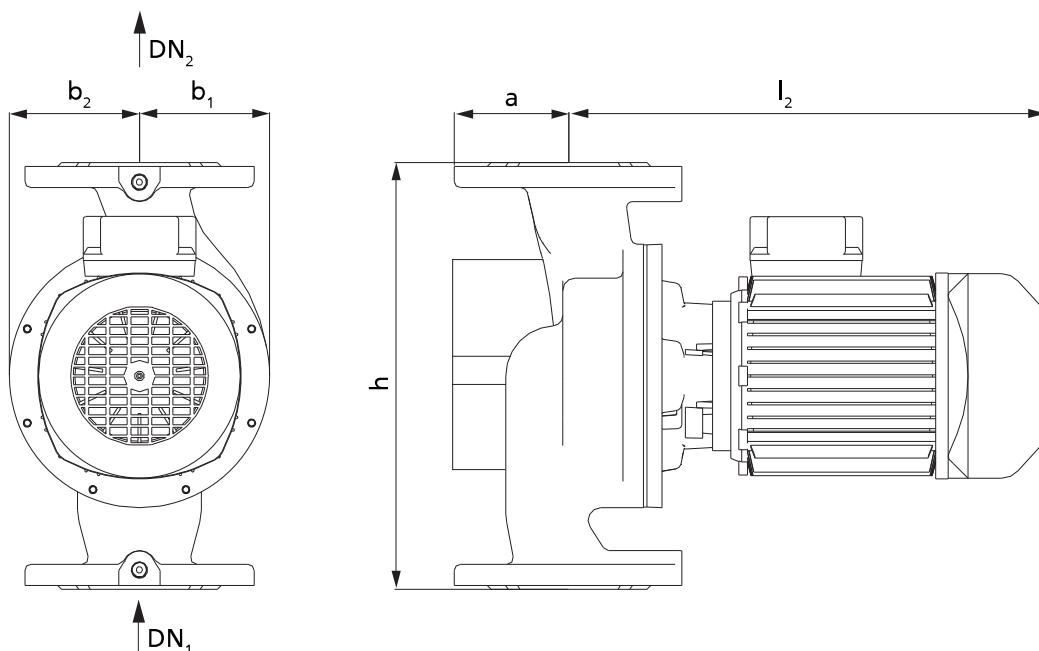


Fig. 3: Dimensions of flanged pump set, size ≥ 032-032-100

Dimensions, n = 2900 rpm

Size	Motor	DN	Connection Thread	a	h	b ₁	b ₂	l ₂
	[kW]			[mm]	[mm]	[mm]	[mm]	
025-025-063	0,25	25	G 1 ½	30	180	67	68	266
025-025-071	0,25	25	G 1 ½	30	180	67	68	266
025-025-080	0,37	25	G 1 ½	30	180	67	68	315
025-025-080	0,25	25	G 1 ½	30	180	67	68	266
025-025-085	0,18	25	G 1 ½	35	200	80	84	287
025-025-105	0,37	25	G 1 ½	35	200	80	84	287
032-032-063	0,25	32	G 2	30	180	67	68	266
032-032-071	0,25	32	G 2	30	180	67	68	266
032-032-080	0,37	32	G 2	30	180	67	68	315

Size	Motor	DN	Connection Thread	a	h	b ₁	b ₂	l ₂
	[kW]			[mm]	[mm]	[mm]	[mm]	[mm]
032-032-080	0,25	32	G 2	30	180	67	68	266
032-032-100	0,25	32	-	70	220	72	70	280
032-032-105	0,55	32	-	70	260	88	80	302
032-032-125	0,75	32	-	70	260	88	80	302
040-040-060	0,37	40	-	70	250	75	75	295
040-040-060	0,25	40	-	70	250	75	75	270
040-040-090	0,75	40	-	75	250	75	75	315
040-040-090	0,55	40	-	75	250	75	75	395
040-040-100	0,75	40	-	75	250	75	75	315
040-040-100	1,10	40	-	75	250	75	75	325
050-050-090	0,55	50	-	85	280	86	85	280
050-050-100	0,75	50	-	85	280	86	85	290
050-050-110	1,10	50	-	85	280	94	85	325
050-050-125	1,80	50	-	85	280	94	85	355
065-065-100	1,10	65	-	95	340	105	105	360
065-065-115	1,80	65	-	95	340	105	105	390
065-065-125	3,00	65	-	95	340	105	105	405
080-080-105	1,10	80	-	105	360	130	105	325
080-080-115	1,80	80	-	105	360	130	105	360
080-080-125	3,00	80	-	105	360	130	105	380

Dimensions, n = 1450 rpm

Size	Motor	DN	Connection Thread	a	h	b ₁	b ₂	l ₂
	[kW]			[mm]	[mm]	[mm]	[mm]	[mm]
025-025-080	0,12	25	G 1 ½	30	180	67	68	266
032-032-080	0,12	32	G 2	30	180	67	68	266
032-032-125	0,12	32	G 2	70	260	88	80	302
040-040-100	0,12	40	-	75	250	75	75	295
050-050-100	0,12	50	-	85	280	86	85	280
050-050-125	0,18	50	-	85	280	94	85	280
050-050-160	0,75	50	-	87	340	155	105	355
065-065-125	0,37	65	-	95	340	105	105	311
080-080-125	0,37	80	-	105	360	130	105	275