

Thermoplastic centrifugal pump Type SHB



Design:

- Horizontal, single-stage pump with single flow spiral casing.
- Close coupled design.

Size:

- SHB 15 - 80 up to SHB 50 - 180

Technical design:

- Pump head directly flanged to the motor by means of a wafer flange fitting
- Housing and impeller made of PP, PE-HD or PVDF
- Stainless steel screws (1.4301)

Technical data

Flow rate Q (2900 rpm)	up to 50 m ³ /h
Head H (2900 rpm)	up to 42 m
Operating temperatures	PP max. 80°C
	PE-HD max. 60°C
	PVDF max. 110°C
Connections	DN 15 to DN 50
Motor output	up to 7,5 kW

- Closed radial impeller
- Impeller mounting independent of the rotational direction, with fluid-tight encapsulation
- Stainless steel shaft to mount the pump impeller
- Thermoplastic shaft protection sleeve
- Mechanical seal, single or double acting
- Corrosion protection by a 2C paint coat

Actuator:

- Three-phase motor acc. to IEC
- Voltage 230/400 - 400/690 V, 50/60 Hz
- Design IM B34/B35, depending on size
- Protection type IP 55
- Rotational speed n= 1450 rpm or 2900 rpm
- Fast pump installation into the pipeline system, alignment of pump and motor not required

Options/Accessories:

- ASV pump monitor
- Self-priming container for self-priming (Not self-priming as standard)
- Circulation

Application

- Chemical plants
- Water treatment
- Process engineering



Utilisation

- For transportation of neutral or aggressive fluids provided that the components coming into contact with the medium are resistant at the operating temperature according to the ASV resistance guide.

Fluid viscosity

- Maximal up to 160 mPas (cP)

Examinations

- DIN EN ISO 9906

Suction

- The pump is not self-priming. The fluid has to run freely into the pump.
- The pump can only selfprime with an additionally installed ASV self-priming tank.
- Documentation of the tanks are available on request.

Performance data

- see characteristic curves

Structural design

- The close coupled thermoplastic pump SHB from ASV is a single-stage, single flow pump in a spiral casing of horizontal design.
- Pump head directly flanged to the motor by means of a wafer flange fitting; standardised motor (IEC standard).
- The ASV close coupled motor pump can be easily integrated in the pipeline system.
- The hydraulic system of the close coupled motor pump from ASV is manufactured from only a few solid thermoplastic components to ensure its high operating reliability. Corrosion - and wear - resistant plastics, such as polypropylene (PP), polyethylene (PE-HD) or polyvinylidene fluoride (PVDF) are used for this purpose.

Impeller

- Closed radial impeller.
- The impeller is fitted to allow both rotational directions by means of an embedded metal hub and feather key connection between impeller and shaft.
- The impeller mounting is sealed by means of a plastic impeller hub cap with an O ring inserted.

Shaft

- The especially bending resistant stainless steel pump shaft guarantees fault-free operation and creates optimum operating conditions for the mechanical seal.
- The shaft designed either as a plug-type shaft or with a coupling, is connected to the pump drive motor.

Shaft protection sleeve

PP, PE-HD or PVDF, depending on the conveyed fluid.

Shaft sealing

- The shaft is sealed by a single or double mechanical seal.
- Circulation, flushing, quench or sealing liquid depending on the individual application.

- Sliding bearing material: silicon carbide against silicon carbide (SiC/SiC). O-rings and liner made of FPM or CSM, metal components as standard made of stainless steel (V4A) or Hastelloy as an option. This combination is extremely reliable and covers a wide range of applications.
- Materials in different combinations are also available.

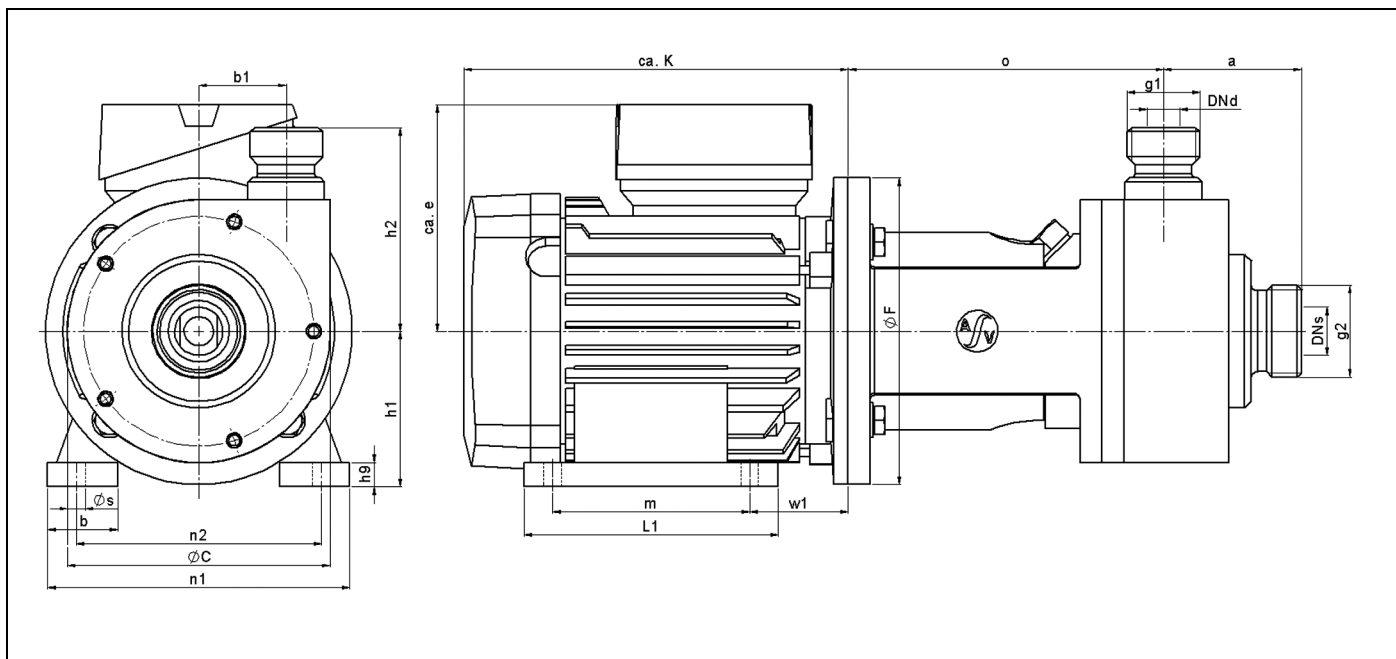
Painting

All metal components not made of stainless steel are corrosion protected by multiple coating with a high-quality 2C protection lacquer.

Screws

- stainless steel as standard (1.4301)

Dimensions SHB 15-80 up to 21-125



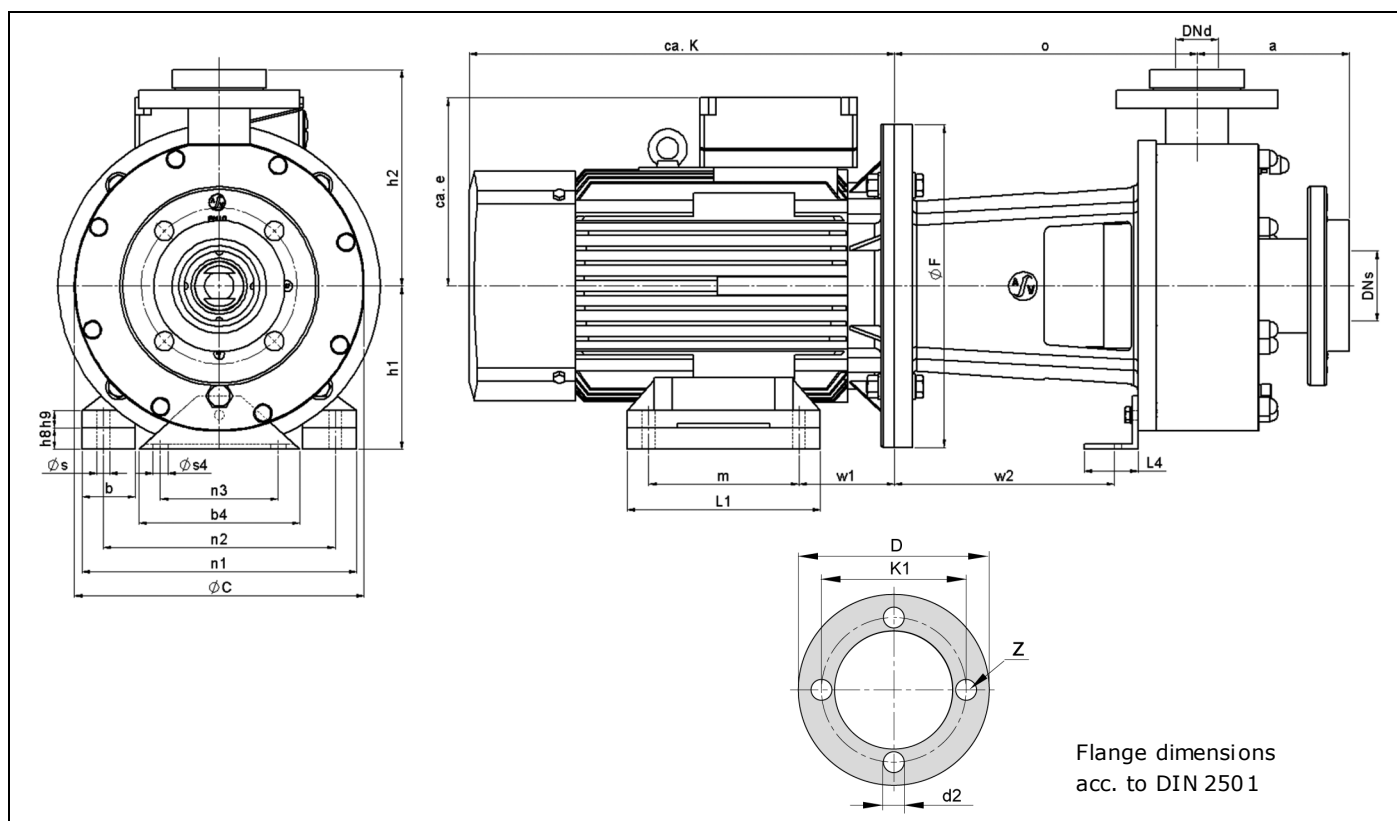
Dimensions: Threaded socket

Type	Pressure connection		Suction connection		Dimensions (mm)			
	DNd	g1	DN _s	g2	a	b1	ØC	h2
SHB								
15 - 80	15	1"	20	1 1/4"	63	40	120	93
20 - 100	20	1 1/4"	25	1 1/2"	63	50	138	102
25 - 125	25	1 1/2"	32	2"	60	58	160	112

Type	Motor output	Rotat. speed	Motor size	e	b	ØF	h1	h9	K	L1	m
	kW	rpm		mm	mm	mm	mm	mm	mm	mm	mm
SHB											
15-80	0,37	2900	71	109	26	140	71	8	215	110	90
15-80	0,55	2900	71	109	26	140	71	8	215	110	90
20-100	0,55	2900	71	109	26	140	71	8	215	110	90
20-100	0,75	2900	80	114	35	120	80	9	247	125	100
25-125	1,10	1450	90S	130	40	160	90	10	265	125	100
25-125	1,10	2900	80	114	35	160	80	9	247	125	100
25-125	1,50	2900	90S	130	40	160	90	10	265	125	100

Type	Motor output	Rotat. speed	n1	n2	o	Øs	w1	Motor size	Pump Weight	Motor Weight	Weight
	kW	rpm	mm	mm	mm	mm	mm		~kg	~kg	~kg
SHB											
15-80	0,37	2900	150	112	144	7	45	71	3,2	6	9,2
15-80	0,55	2900	150	112	144	7	45	71	3,2	6,5	9,7
20-100	0,55	2900	150	112	144	7	45	71	3,6	6,5	10,1
20-100	0,75	2900	165	125	154	10	50	80	3,9	8,7	12,6
25-125	1,1	1450	180	140	168	10	56	90S	5,2	12	17,2
25-125	1,1	2900	165	125	168	10	50	80	5,2	9,5	14,7
25-125	1,5	2900	180	140	168	10	56	90S	5,2	11,8	17

Dimensions SHB 32-125 up to 50-180



Dimensions: Threaded socket

Type	Pressure connection		Suction connection		Dimensions (mm)		
SHB	DNd	g1	DNs	g2	a	ϕC	h2
32-125	32	2"	50	2 3/4"	97	224	153,5
40-125	40	2 1/4"	65	3 1/2"	97,5	224	154
32-180	32	2"	50	2 3/4"	106	270	176,5
40-180	40	2 1/4"	65	3 1/2"	106	270	177,5

Dimensions: Flange connection

Type	Pressure connection				Suction connection				Dimensions (mm)		
SHB	DNd	d2d	K1d	Zd	DNs	d2s	K1s	Zs	a	ϕC	h2
32-125	32	18	100	4	50	18	125	4	132	224	177,5
40-125	40	18	110	4	65	18	145	4	133,5	224	177,5
32-180	32	18	100	4	50	18	125	4	141	270	200,5
40-180	40	18	110	4	65	18	145	4	142	270	201
50-180	50	18	125	4	80	18	160	8	146	300	223

Type	Motor output	Rotat. speed	Motor size	b	b4	e	ϕF	h1	h8	h9	K	L1	L4	m	n1	n2	n3
SHB	kW	rpm		mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm
32 - 125	1,1	1450	90S	40	-	120	200	115	25	14	265	130	-	100	178	140	-
32 - 125	1,5	2900	90S	40	-	120	200	115	25	14	265	130	-	100	178	140	-
32 - 125	2,2	2900	90L	40	-	120	200	115	25	14	290	155	-	125	178	140	-
32 - 125	3	2900	100L	45	-	127	250	127	27	15	325	175	-	140	192	160	-
32 - 125	4	2900	112M	50	-	137	250	127	15	18	340	180	-	140	224	190	-
40 - 125	1,5	1450	90L	40	-	120	200	115	25	14	290	155	-	125	178	140	-
40 - 125	1,5	2900	90S	40	-	120	200	115	25	14	265	130	-	100	178	140	-

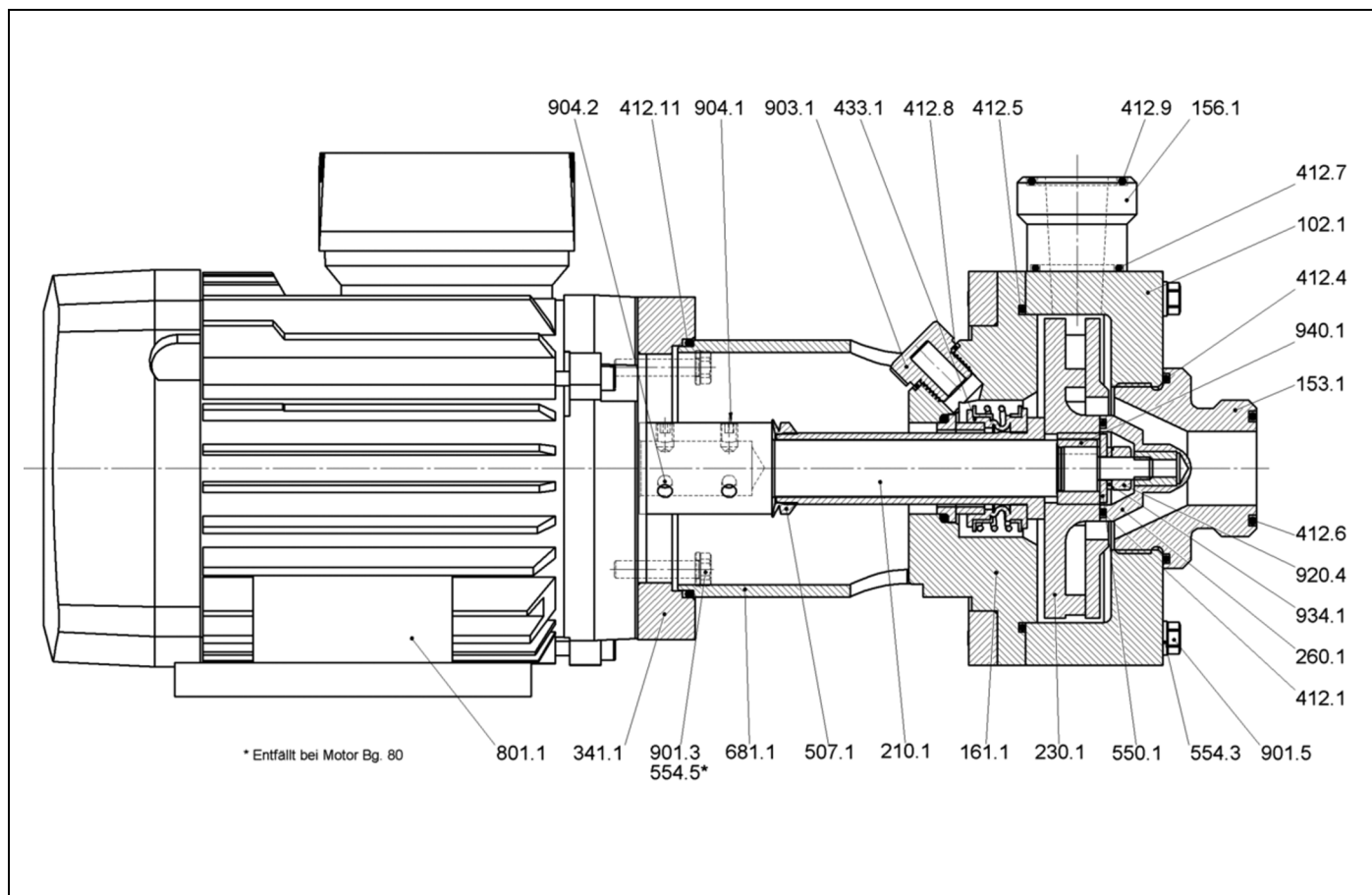


Type	Motor output	Rotat. speed	Motor size	b	b4	e	øF	h1	h8	h9	K	L1	L4	m	n1	n2	n3
40 - 125	2,2	2900	90L	40	-	120	200	115	25	14	290	155	-	125	178	140	-
40 - 125	3	2900	100L	45	-	127	250	127	27	15	325	175	-	140	192	160	-
40 - 125	4	2900	112M	50	-	137	250	127	15	18	340	180	-	140	224	190	-
32 - 180	1,5	1450	90L	40	101	140	200	136	46	14	290	155	40	125	178	140	70
32 - 180	1,5	2900	90S	40	101	140	200	136	46	14	265	130	40	100	178	140	70
32 - 180	2,2	2900	90L	40	101	140	200	136	46	14	290	155	40	125	178	140	70
32 - 180	3	2900	100L	45	101	160	250	136	36	15	325	175	40	140	192	160	70
32 - 180	4	2900	112M	50	101	178	250	136	24	18	340	180	40	140	224	190	70
32 - 180	5,5	2900	132S	50	150	206	300	152	20	16	403	180	50	140	256	216	110
32 - 180	7,5	2900	132S	50	150	206	300	152	20	16	403	180	50	140	256	216	110
40 - 180	1,5	1450	90L	40	101	140	200	136	46	14	290	155	40	125	178	140	70
40 - 180	2,2	1450	100L	45	101	160	250	136	36	15	325	175	40	140	192	160	70
40 - 180	3	2900	100L	45	101	160	250	136	36	15	325	175	40	140	192	160	70
40 - 180	4	2900	112M	50	101	178	250	136	24	18	340	180	40	140	224	190	70
40 - 180	5,5	2900	132S	50	150	206	300	152	20	16	403	180	50	140	256	216	110
40 - 180	7,5	2900	132S	50	150	206	300	152	20	16	403	180	50	140	256	216	110
50 - 180	2,2	1450	100L	45	150	160	250	152	52	15	325	175	50	140	192	160	110
50 - 180	3	1450	100L	45	150	160	250	152	52	11	325	175	50	140	192	160	110
50 - 180	4	1450	112M	50	150	178	250	152	40	18	340	180	50	140	224	190	110
50 - 180	4	2900	112M	50	150	178	250	152	40	18	340	180	50	140	224	190	110
50 - 180	5,5	2900	132S	50	150	206	300	152	20	16	403	180	50	140	256	216	110
50 - 180	7,5	2900	132S	50	150	206	300	152	20	16	403	180	50	140	256	216	110

Type	Motor output	Rotat. speed	Motor size	o	øS	øS4	w1	w2	Pumpen-Weight	Motor Weight	Weight
SHB	kW	rpm		mm	mm	mm	mm	mm	~kg	~kg	~kg
32 - 125	1,1	1450	90S	200	10	-	56	-	16,3	12	28,3
32 - 125	1,5	2900	90S	200	10	-	56	-	16,3	11,8	28,1
32 - 125	2,2	2900	90L	200	10	-	56	-	16,3	13,5	29,8
32 - 125	3	2900	100L	210	12	-	63	-	18,4	21	39,4
32 - 125	4	2900	112M	210	12	-	70	-	18,4	28	46,4
40 - 125	1,5	1450	90L	202,5	10	-	56	-	16,7	13,8	30,5
40 - 125	1,5	2900	90S	202,5	10	-	56	-	16,7	11,8	28,5
40 - 125	2,2	2900	90L	202,5	10	-	56	-	16,7	13,5	30,2
40 - 125	3	2900	100L	212,5	12	-	63	-	18,8	21	39,8
40 - 125	4	2900	112M	212,5	12	-	70	-	18,8	28	46,8
32 - 180	1,5	1450	90L	249	10	12	56	177,5	25,8	13,8	39,6
32 - 180	1,5	2900	90S	249	10	12	56	177,5	25,8	11,8	37,6
32 - 180	2,2	2900	90L	249	10	12	56	177,5	25,8	13,5	39,3
32 - 180	3	2900	100L	259	12	12	63	187,5	27,2	21	48,2
32 - 180	4	2900	112M	259	12	12	70	187,5	27,2	28	55,2
32 - 180	5,5	2900	132S	279	12	14	89	207,5	31,3	39	70,3
32 - 180	7,5	2900	132S	279	12	14	89	207,5	31,3	44,5	75,8
40 - 180	1,5	1450	90L	252	10	12	56	177,5	26,2	13,8	40
40 - 180	2,2	1450	100L	262	12	12	63	187,5	27,6	20,8	48,4
40 - 180	3	2900	100L	262	12	12	63	187,5	27,6	21	48,6
40 - 180	4	2900	112M	262	12	12	70	187,5	27,6	28	55,6
40 - 180	5,5	2900	132S	282	12	14	89	207,5	31,7	39	70,7
40 - 180	7,5	2900	132S	282	12	14	89	207,5	31,7	44,5	76,2
50 - 180	2,2	1450	100L	269	12	14	63	187,5	32,3	20,8	53,1
50 - 180	3	1450	100L	269	12	14	63	187,5	32,3	23,5	55,8
50 - 180	4	1450	112M	269	12	14	70	187,5	32,3	29,5	61,8
50 - 180	4	2900	112M	269	12	14	70	187,5	32,3	28	60,3
50 - 180	5,5	2900	132S	289	12	14	89	207,5	36,5	39	75,5
50 - 180	7,5	2900	132S	289	12	14	89	207,5	36,5	44,5	81

Sectional drawing and spare parts design.

SHB 15-80 up to 25-125

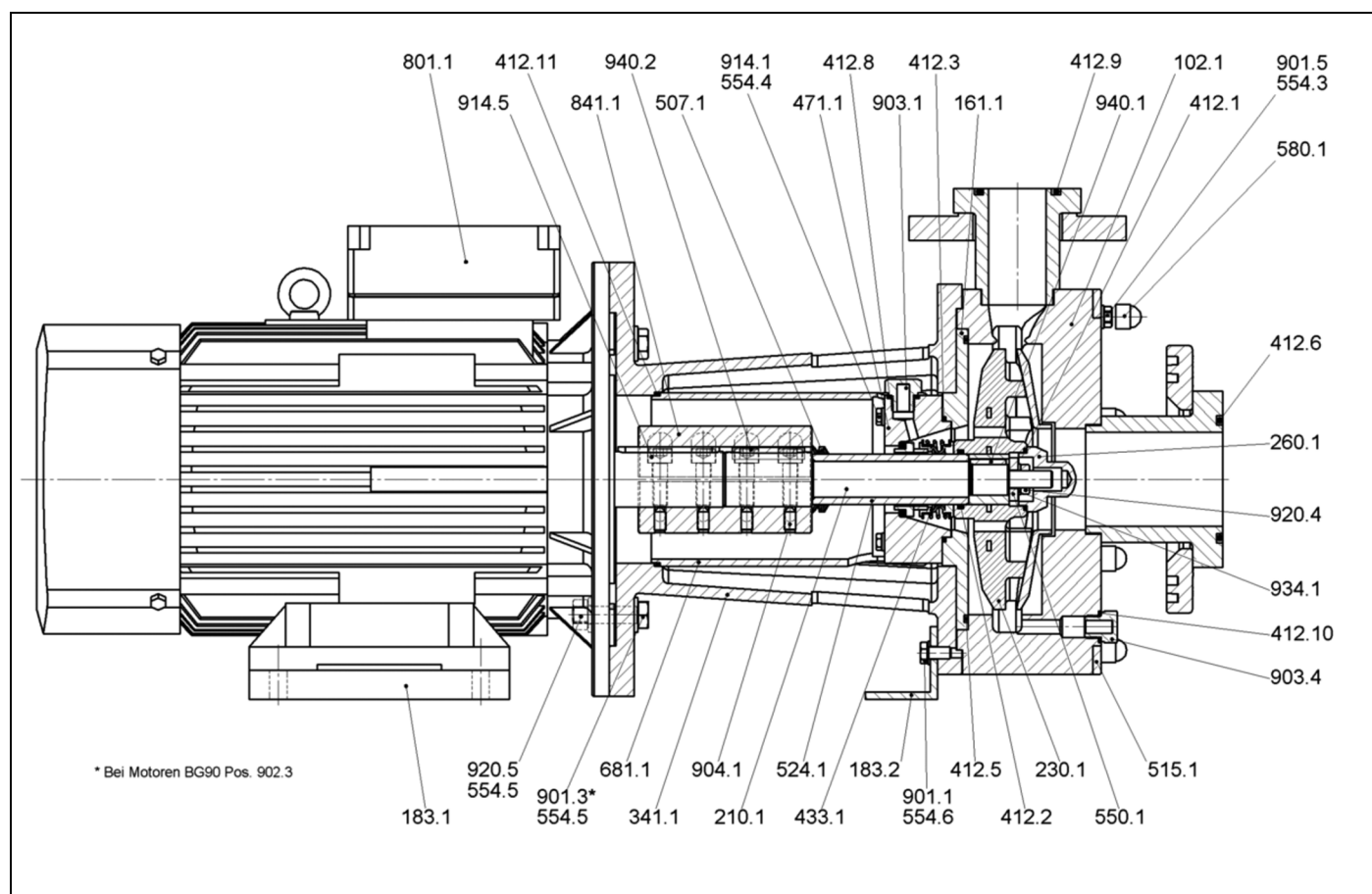


part No.	designation
102.1	spiral casing
153.1	suction socket
156.1	Pressure socket
161.1	casing cover
210.1	shaft
230.1	impeller
260.1	impeller hub cap
341.1	drive lantern
346.1	wafer type flange
412.1	O-ring
412.4	O-ring
412.5	O-ring
412.6	O-ring
412.7	O-ring
412.8	O-ring
412.9	O-ring
412.11	O-ring

part No.	designation
433.1	mechanical seal
507.1	liquid splash ring
550.1	disc
554.3	washer
554.5	washer
580.1	protection cap
681.1	coupling protection
801.1	motor
901.3	hexagon screw
901.5	hexagon screw
903.1	plug screw
904.1	headless setscrew
904.2	headless setscrew
920.4	hexagon nut
934.1	spring washer
940.1	key

Sectional drawing and spare parts design.

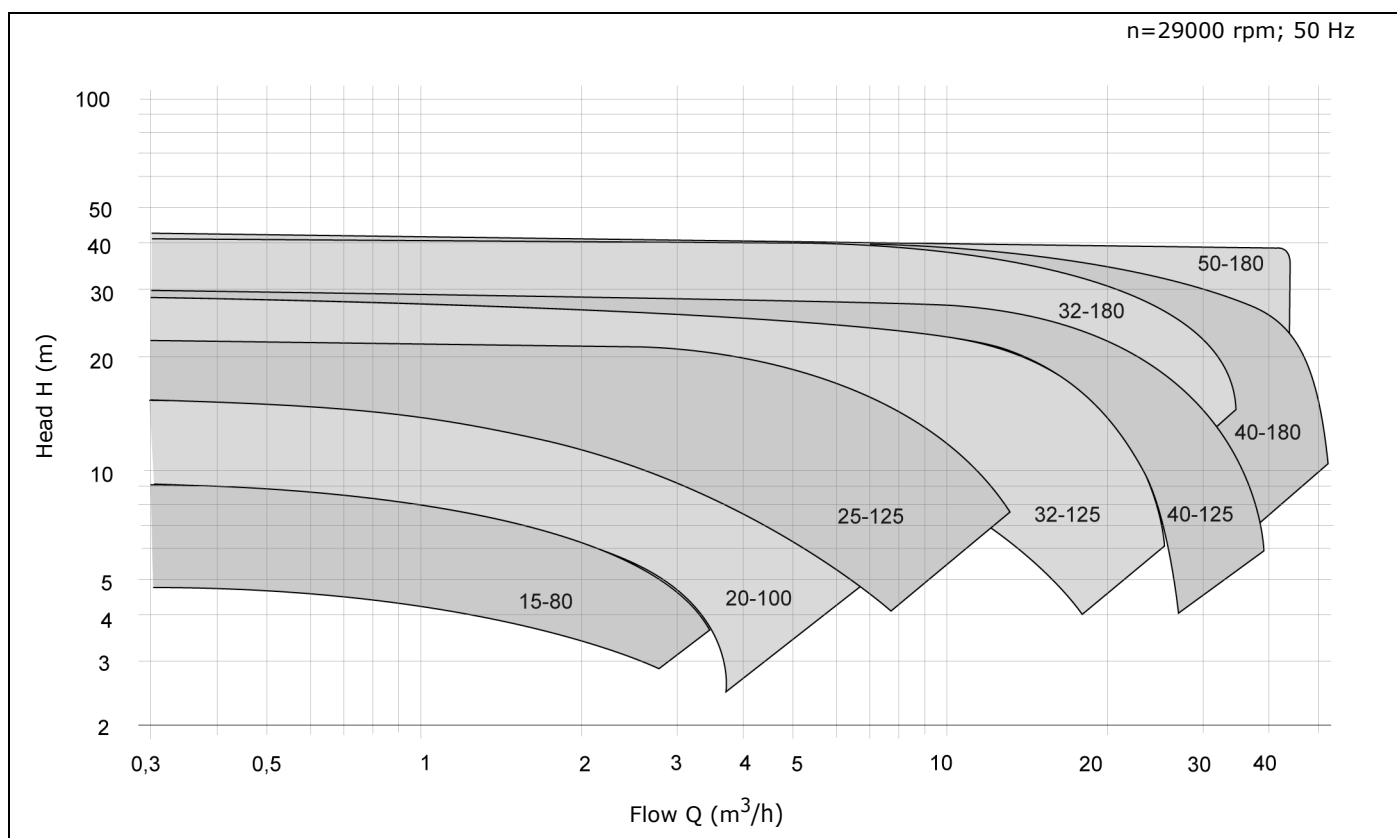
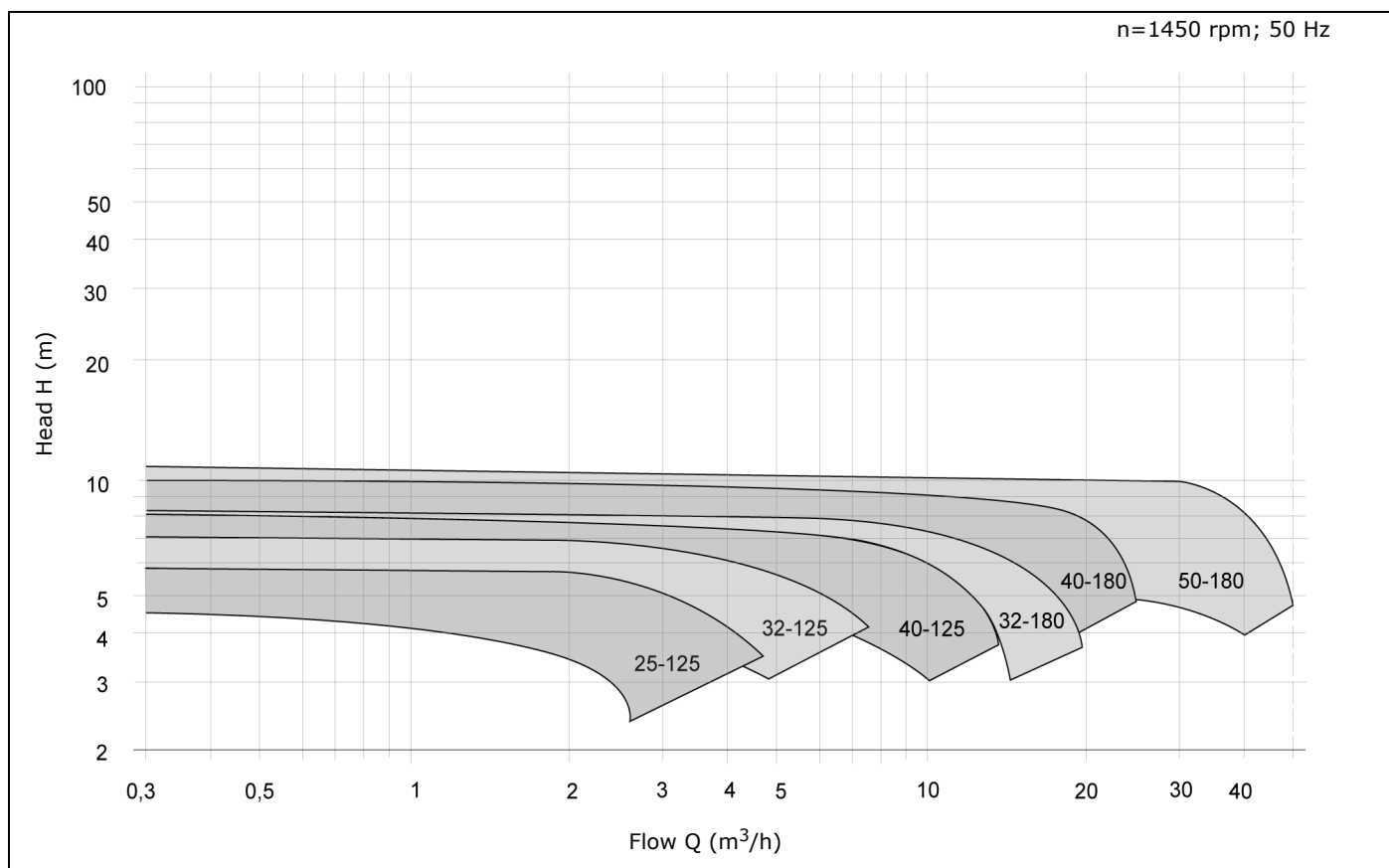
SHB 32-125 to 50 -180



Part No.	Designation
102.1	Spiral casing
161.1	Casing cover
183.1	distance plate
183.2	Support foot
210.1	Shaft
230.1	Impeller
260.1	Impeller hub cap
341.1	Drive lantern
346.1	Intermediate flange
412.1	O-ring
412.5	O-ring
412.6	O-ring
412.8	O-ring
412.9	O-ring
412.10	O-ring
412.11	O-ring
433.1	Mechanical seal
507.1	Liquid splash ring
550.1	Disk
554.3	Washer

Part No.	Designation
554.5	Washer
580.1	Protection cap
681.1	Coupling protection
801.1	Motor
841.1	Coupling
901.3	Hexagon screw
901.5	Hexagon screw
902.3	Stud bolt
903.1	Plug screw
903.4	Plug screw (option)
904.1	Headless setscrew
914.4	Cheese head screw
914.5	Cheese head screw
920.1	Hexagon nut
920.4	Hexagon nut
920.5	Hexagon nut
934.1	Spring washer
940.1	Key
940.2	Key

Characteristic curves



Subject to technical modifications