

MAGNETICALLY DRIVEN SPIRAL CASED CENTRIFUGAL PUMP SHM

Flow rate up to 65 m³/h (2900 rpm)

Head up to 27 m (2900 rpm)

Drive rating 0.18–7.5 kW

Operating temperature PP up to 80 °C
 PVDF up to 110 °C

Fluid viscosity max. 160 mPas (cP)

Fluid density 1.9 kg/dm³

Explosion protection (ATEX) on request!



Features

- hermetically sealed hydraulics with smooth running due to impeller shaft with double bearings
- wide performance range up to 7.5 kW
- reliable power transmission due to powerful magnet system
- unfilled PVDF versions for demanding applications
- high availability due to modular system
- compact design

Priming

- The pump is not self-priming.

Tests

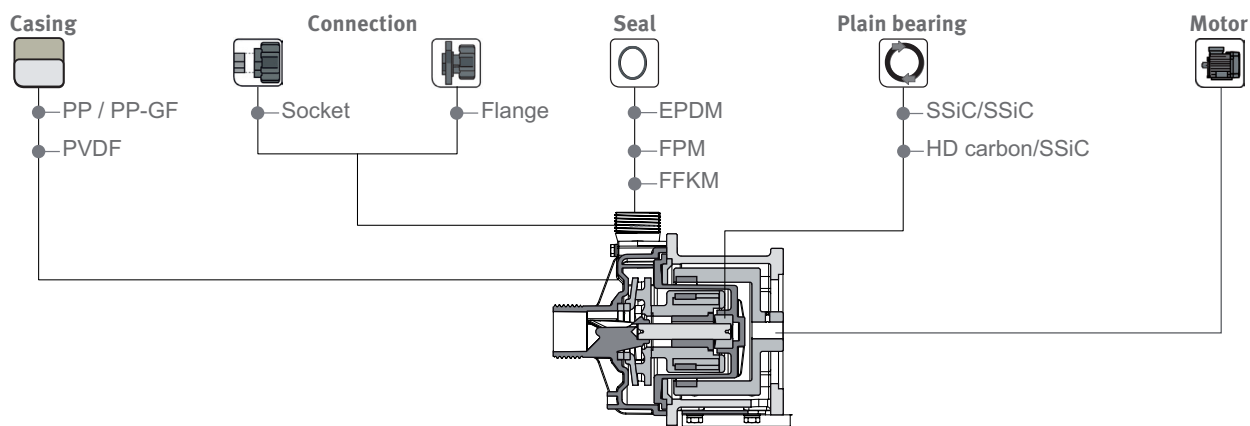
- Hydraulic acceptance test in accordance with DIN EN ISO 9906

www.asv-stuebbe.com/produkte/pumpen



Magnetically driven spiral cased centrifugal pump SHM

Variants



		Type	SHM20-15	SHM40-40S	SHM40-40L	SHM50-40S	SHM50-40L	SHM65-50
		Connection suction side / pressure side	DN 20-15	DN 40-40		DN 50-40		DN 65-50
Head, flow rate								
50 Hz	H _{max} (m)*		7.4	11.8	15.8	24.4	27.9	26.5
	Q _{max} (l/min)*		83.3	236.7	321.7	485.0	600.0	1095.0
	Q _{max} (m³/h)*		5.0	14.2	19.3	29.1	36.0	65.7
60 Hz	H _{max} (m)*		11.0	17.0	25.1	33.9	40.3	37.1
	Q _{max} (l/min)*		100.0	283.3	371.7	580.0	688.3	1195.0
	Q _{max} (m³/h)*		6.0	17.0	22.3	34.8	41.3	71.7
Casing								
	PP/PP-GF**		•	•	•	•	•	•
	PVDF		•	•	•	•	•	•
Connection								
	Union DIN 8063		•	•	•	•	•	•
	Flange DIN EN 1092			•	•	•	•	•
	Flange ANSI			•	•	•	•	•
Seal								
	EPDM		•	•	•	•	•	•
	FPM		•	•	•	•	•	•
	FFKM (flange)		•	•	•	•	•	•
	FFKM (union)		•	•	•	•	•	•
Plain bearing								
	SSiC/SSiC		•	•	•	•	•	•
	HD carbon/SSiC		•	•	•	•	•	•
Motor								
	2900 rpm							
	0.18 kW		•					
	0.25 kW		•					
	0.37 kW			•				
	0.55 kW			•				
	0.75 kW			•	•			
	1.10 kW				•			
	1.50 kW				•	•		
	2.20 kW					•	•	
	3.00 kW					•	•	
	4.00 kW						•	•
	5.50 kW							•
	7.50 kW							•

* H = Head, Q = Flow rate ** Casing glass fibre reinforced

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Application

- for conveying neutral, aggressive, crystallizing, groundwater endangering, toxic acids, alkalines or mixed solutions without solid particles, provided that the pump components coming into contact with the fluids are resistant at the operating temperature according to the ASV resistance guide.

ASV resistance guide

www.asv-stuebbe.de/pdf_resistance/300051.pdf

Type of priming

- not self-priming

Testing

- according to DIN EN ISO 9906

Pressure connection

SHM 20-15:

- standard union DIN 8063

SHM 40-40 to 65-50:

- adapter for union DIN 8063 or
- adapter for flange according to DIN EN 1092 and/or flange according to ANSI

Material with medium contact

Sliding bearings:

- SSiC/SSiC
- HD carbon/SSiC (dry-running protection)

Hydraulics:

- PP (casing glass fibre reinforced) or PVDF

Seals:

- EPDM, FPM, FFKM

Material without medium contact

Metallic components

- acid-resistant due to 2-component protective paint

Connecting screws:

- stainless steel (1.4301)

Motor (standard version)

Voltage (0.18–2.20 kW):

- 230/400 V, 50 Hz

Voltage (3.00–7.50 kW):

- 400/690 V, 50 Hz

Protection type:

- IP 55 as standard
- IP56 and IP65 available on request

Paintwork:

- RAL 7016 acid resistant

Suitable for operation connected to a frequency changer.

Integrated PTC resistor

Motor (options)

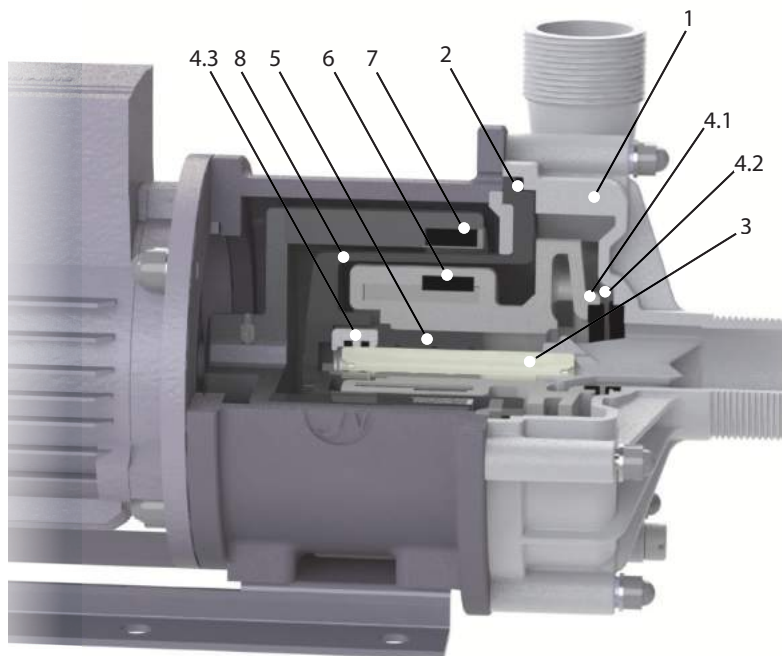
- frequency changer
- temperature sensor
- insulation for the tropics
- separate fan
- anti-condensation heater (from 3.0 kW)

Accessories

- pressure and temperature sensor PTM: ideal as a dry run protection device for pumps and for process monitoring
- self-priming container for self-priming

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Sectional drawing

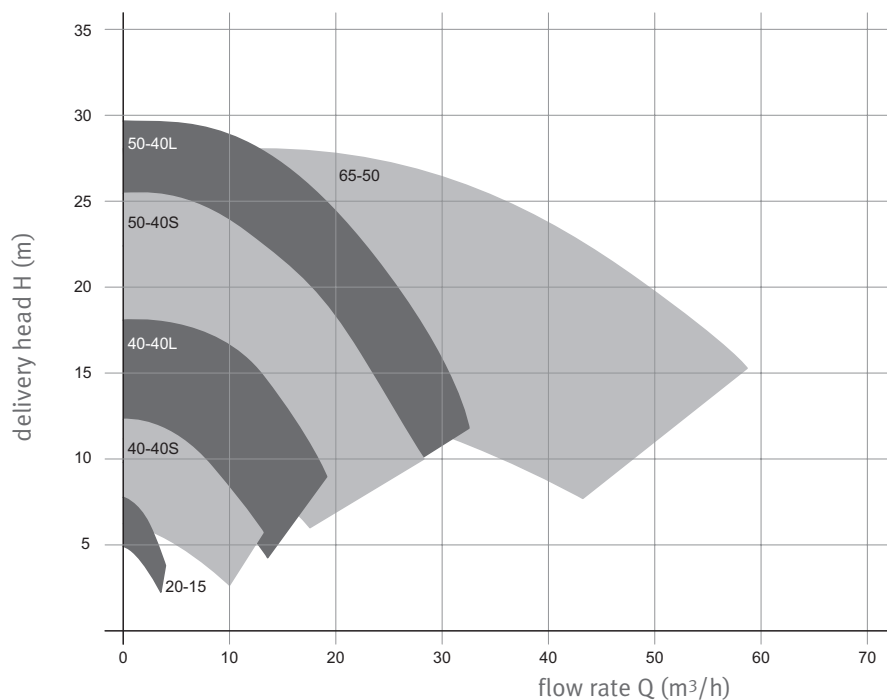


Item	Description
1	Spiral casing
2	O-ring seal
3	Impeller shaft
4.1	Axial bearing (impeller)
4.2	Axial bearing (spiral casing)
4.3	Axial bearing (rear cover)
5	Bearing bush
6	Impeller with magnet
7	Bell housing with drive magnet
8	Rear cover

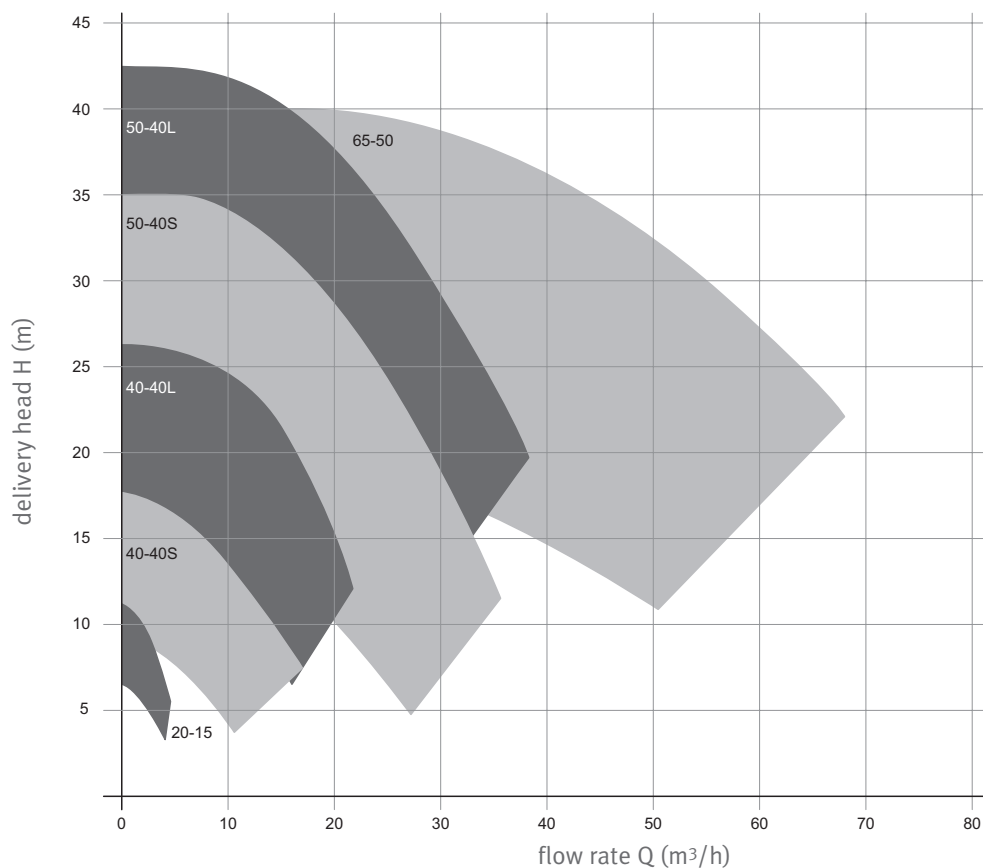
Magnetically driven spiral cased centrifugal pump SHM

Characteristic curves (fluid H₂O)

3000 rpm 50 Hz



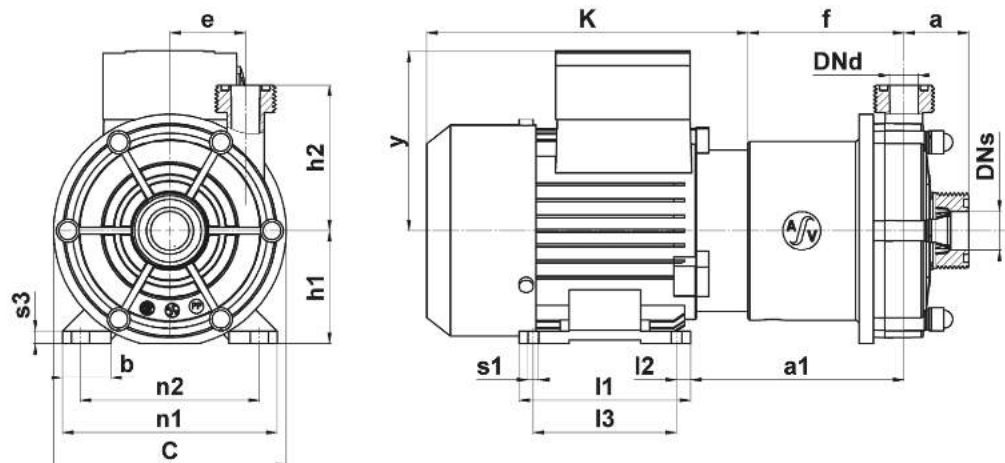
3600 rpm 60 Hz



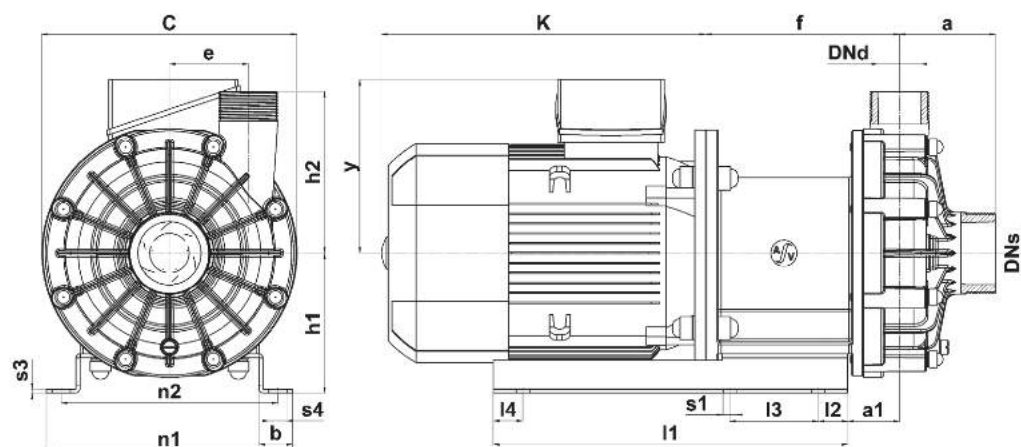
Magnetically driven spiral cased centrifugal pump SHM

Dimensions

Pump / motor dimensions for SHM 20-15



Pump / motor dimensions for SHM 40-40 to SHM 65-50



Pump dimensions

Pump type		20-15	40-40S	40-40L	50-40S	50-40L	65-50
a	PP	35.5	81	97	83	83	97.5
	PVDF	35.5	81	97	83	83	95
a1	PP	119	43	45	48	48	52.5
	PVDF	119	43	45	48	48	52
b	PP	27	33	33	58	58	34
	PVDF	27	33	33	58	58	34
e	PP	41	55	73	81	81	80
	PVDF	41	53.5	73	78.5	78.5	78.5
h1	PP	63	95	115	120	120	142
	PVDF	63	95	115	120	120	142
h2	PP	81	124	137	153.5	153.5	164
	PVDF	81	124	137	153.5	153.5	164
l1	PP	96	200	210	300	300	360
	PVDF	96	200	210	300	300	360
l2	PP	8	20	36	20	20	30
	PVDF	8	20	36	20	20	30
l3	PP	80	98	130	200	200	90
	PVDF	80	98	130	200	200	90
l4	PP	-	-	-	-	-	30
	PVDF	-	-	-	-	-	30
n1	PP	120	140	160	266	266	250
	PVDF	120	140	160	266	266	250
n2	PP	100	110	130	207	207	220
	PVDF	100	110	130	207	207	220
s1	PP	7	12	12	13.5	13.5	13.5
	PVDF	7	12	12	13.5	13.5	13.5
s3	PP	7	3	3	3	3	4
	PVDF	7	3	3	3	3	4
s4	PP	-	-	-	35.5	35.5	18.5
	PVDF	-	-	-	35.5	35.5	18.5

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Dimensions

Motor dimensions

Size / motor (kW)			0.18	0.25	0.37	0.55	0.75	0.75	1.10	1.50	1.50	2.20	3.00	4.00	4.00	5.50	7.50
20-15			•	•													
40-40S					•	•	•										
40-40L								•	•	•							
50-40S											•	•	•				
50-40L												•	•	•			
65-50															•	•	•
Motor-relevant dimensions	C		130	130	188	188	188	222	222	222	259	259	259	259	259	259	259
	f	PP	87	87	140	140	150	150	150	160	163	163	173	173	197	217	217
		PVDF	87	87	140	140	150	150	150	160	162.5	162.5	172.5	172.5	196.5	216.5	216.5
	K		180	180	210	210	252	252	287	297	297	337	371	354	354	385	385
	y		101	101	111	111	121	121	121	126	126	126	166	177	177	202	202

max. sound pressure level LpA for 2-pole motors 50Hz/60Hz in dB(A)

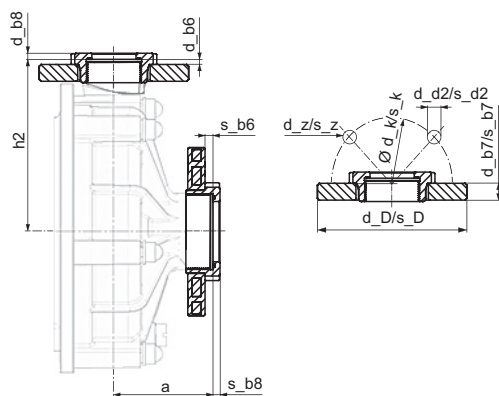
Motor rating (kW)	0.18		0.25		0.37		0.55		0.75		1.10		1.50		2.20		3.00		4.00		5.50		7.50	
	50 Hz	60 Hz	50 Hz	60 Hz	50 Hz	60 Hz	50 Hz	60 Hz	50 Hz	60 Hz	50 Hz	60 Hz	50 Hz	60 Hz	50 Hz	60 Hz	50 Hz	60 Hz	50 Hz	60 Hz	50 Hz	60 Hz	50 Hz	60 Hz
20-15	50	52	50	52																				
40-40S					59	61	59	61	61	63														
40-40L									61	63	61	63	65	67										
50-40S													65	67	66	68	68	70						
50-40L															66	68	68	70	70	72				
65-50																			70	72	70	72	70	72

Determination of the sound power by sound intensity measurement (DIN EN ISO 9614-2) and determination of the work-related emission values (sound pressure level) LpA according to DIN EN ISO 11203

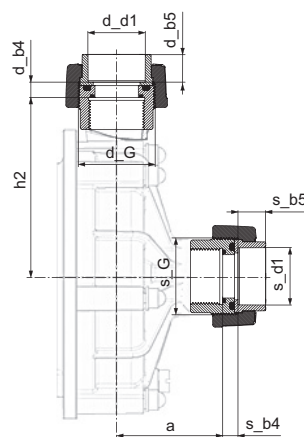
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Dimensions

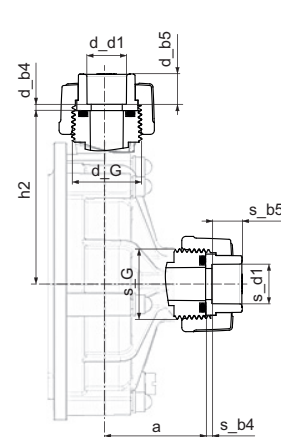
Connection adapter SHM 40-40 – SHM65-50



SHM 40-40 – SHM65-50



SHM 20-15



Pump type			20-15	40-40S	40-40L	50-40S	50-40L	65-50
DNs (mm)			20	40	40	50	50	65
s_d1 (mm)			25	50	50	63	63	75
s_G (inch)			1 1/4	2 1/4	2 1/4	2 3/4	2 3/4	3 1/2
suction side	s_b4	PP	3	13	13	13	13	17
		PVDF	3	13	13	13	13	14
	s_b5	PP	16	23.5	23.5	27.5	27.5	30
		PVDF	16	23.5	23.5	27.5	27.5	31
	s_b6		–	7.5	7.5	5.5	5.5	8.5
	s_b7	PP/steel (DIN)	–	17.5	17.5	19	19	19
		PP/steel (ANSI)	–	18	18	18	18	18.5
	s_b8		–	4.5	4.5	6.5	6.5	7.5
	s_D	PP/steel (DIN)	–	151	151	166	166	186
		PP/steel (ANSI)	–	133	133	160	160	180
	s_d2	PP/steel (DIN)	–	18	18	18	18	18
		PP/steel (ANSI)	–	16	16	20	20	19
	s_k	PP/steel (DIN)	–	110	110	125	125	145
		PP/steel (ANSI)	–	98	98	121	121	140
	s_z		–	4	4	4	4	4

Pump type			20-15	40-40S	40-40L	50-40S	50-40L	65-50
DNd (mm)			15	40	40	40	40	50
d_d1 (mm)			20	50	50	50	50	63
d_G (inch)			1	2 1/4	2 1/4	2 1/4	2 1/4	2 3/4
Pressure side	d_b4		3	13	13	13	13	13
	d_b5		14.5	23.5	23.5	23.5	23.5	27.5
	d_b6		–	7.5	7.5	7.5	7.5	5.5
	d_b7	PP/steel (DIN)	–	17.5	17.5	17.5	17.5	19
		PP/steel (ANSI)	–	18	18	18	18	18
	d_b8		–	4.5	4.5	4.5	4.5	6.5
	d_D	PP/steel (DIN)	–	151	151	151	151	166
		PP/steel (ANSI)	–	133	133	133	133	160
	d_d2	PP/steel (DIN)	–	18	18	18	18	18
		PP/steel (ANSI)	–	16	16	16	16	20
	d_k	PP/steel (DIN)	–	110	110	110	110	125
		PP/steel (ANSI)	–	98	98	98	98	121
	d_z		–	4	4	4	4	4