

SHM MAGNETICALLY DRIVEN SPIRAL CASED CENTRIFUGAL PUMP DATASHEET



Nominal size DN 15 - 50

Head (H) up to 27 m

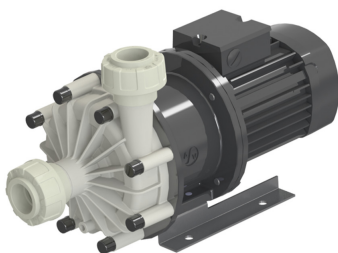
Flow rate (Q) up to 65 m³/h

Drive rating up to 7,5 kW

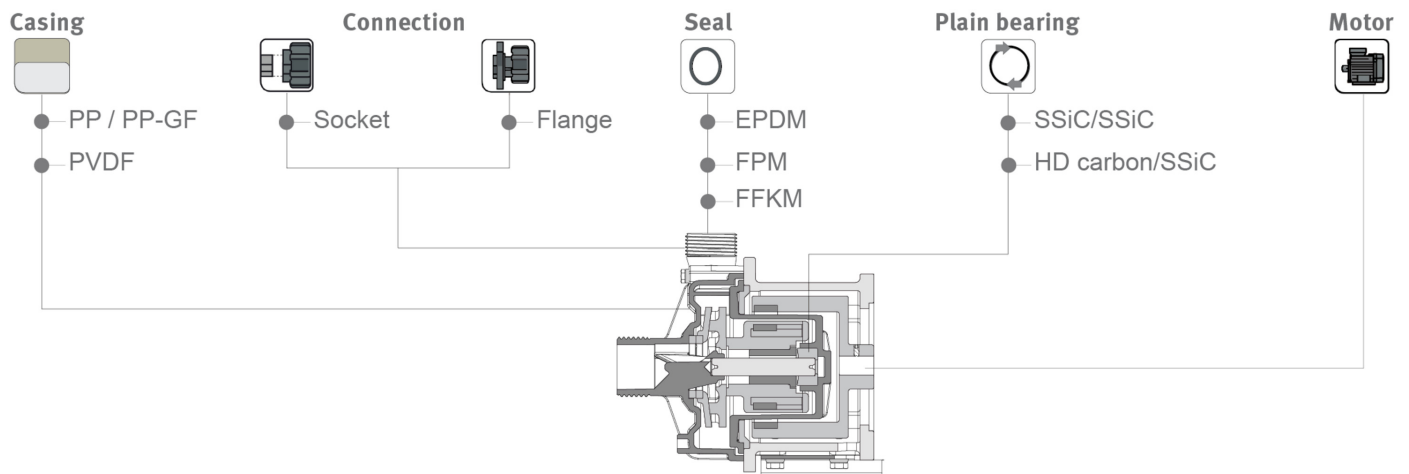
Characteristics

- Magnetically coupled pump with a wide range of performance up to 7.5 kW
- hermetically sealed hydraulic part
- reliable coupling by strong magnet systems
- compact design
- PVDF-Versions for demanding applications
- good availability due to modular design

<https://www.stuebbe.com/en/products-and-systems/pumps/>



Pictogram



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} (m ³ /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} (m ³ /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

SHM Magnetically driven spiral cased centrifugal pump

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.
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
STÜBBE resistance guide	- www.stuebbe.com/pdf_resistance/300051.pdf
ATEX-compliant	- EX protection (ATEX) on request
Type of priming	- not self-priming
Material with medium contact	- Sliding bearings: SSiC/SSiC , HD carbon/SSiC (dry-running protection) - Hydraulics: PP (casing glass fibre reinforced) or PVDF
Housing material (with medium contact)	- PVDF - PP
Material sealing element (in contact with medium)	- EPDM - FPM - FFKM
Material without medium contact	- Metallic components : acid-resistant due to 2-component protective paint
Material screws (without medium contact)	- 1.4301
Head (H)	- up to 27 m
Flow rate (Q)	- up to 65 m ³ /h
Viscosity	- max. 160 mPas (cP)
Media density	- max. 1,9 kg/dm ³
Operating temperature	- PP 60°C - PVDF 90°C
Drive rating	- up to 7,5 kW
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

SHM Magnetically driven spiral cased centrifugal pump

Motor (options)

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

Testing

- according to DIN EN ISO 9906

Accessories

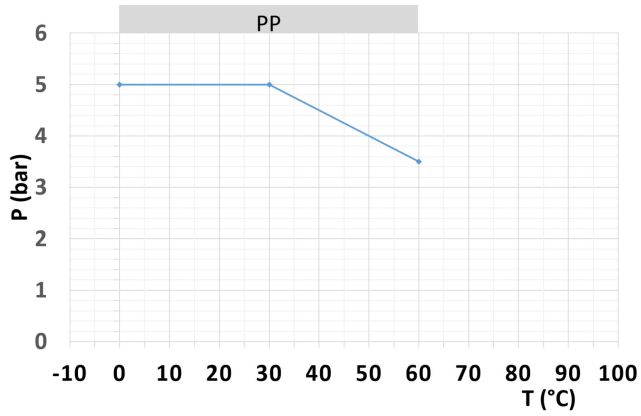
- pressure and temperature sensor PTM: ideal as a dry run protection device for pumps and for process monitoring
- Container for self-priming

Weblink Product

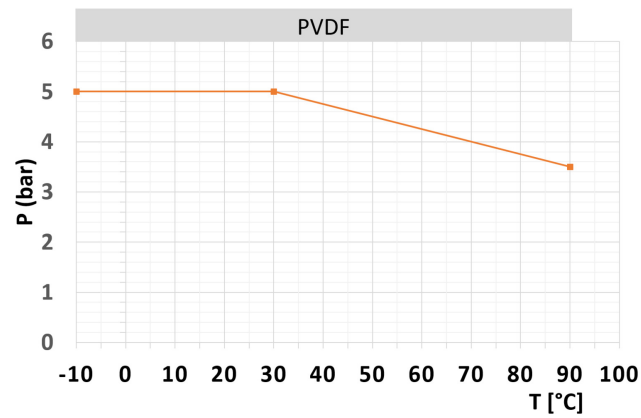
- <https://www.stuebbe.com/en/products-and-systems/pumps/>

SHM Magnetically driven spiral cased centrifugal pump

Pressure and temperature diagram PP



Pressure and temperature diagram PVDF



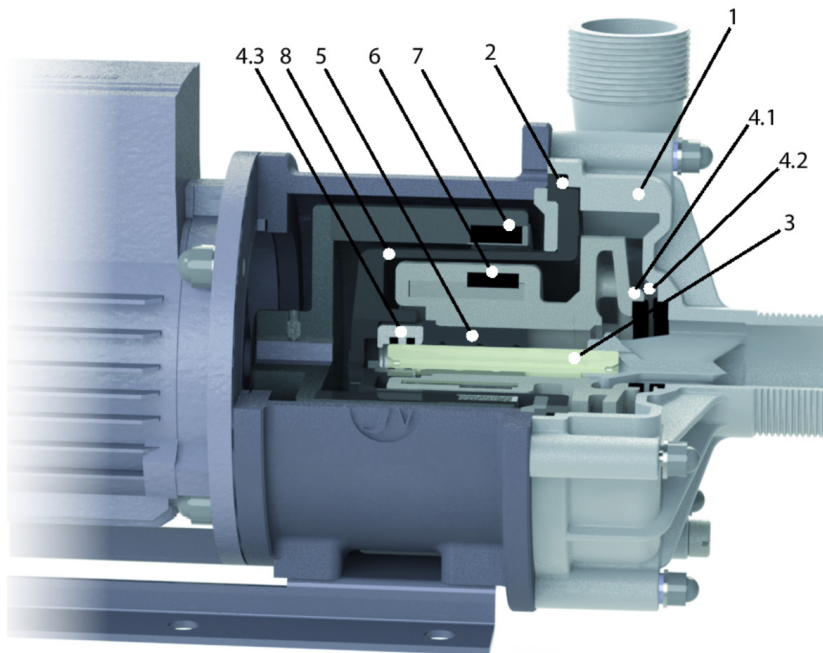
P = Operating pressure

T = Temperature

The pressure/temperature limits of the materials are valid for the stated nominal pressures and a service life of 25 years. These values are guide values for flow medium types which do not negatively impact the physical and chemical characteristics of the valve material. It may be necessary to take diminution factors into consideration.

SHM Magnetically driven spiral cased centrifugal pump

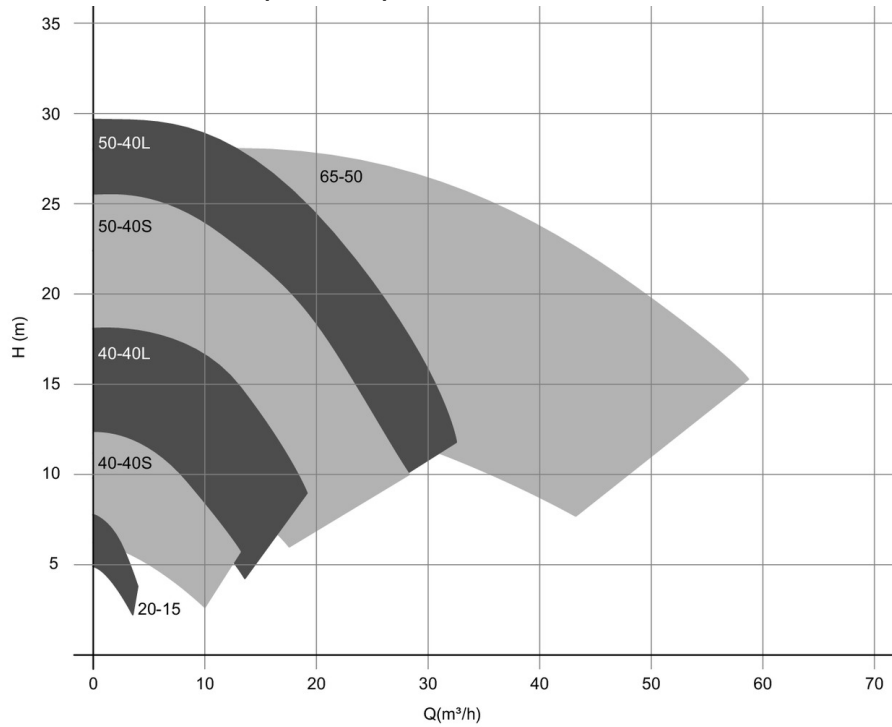
Sectional drawing



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

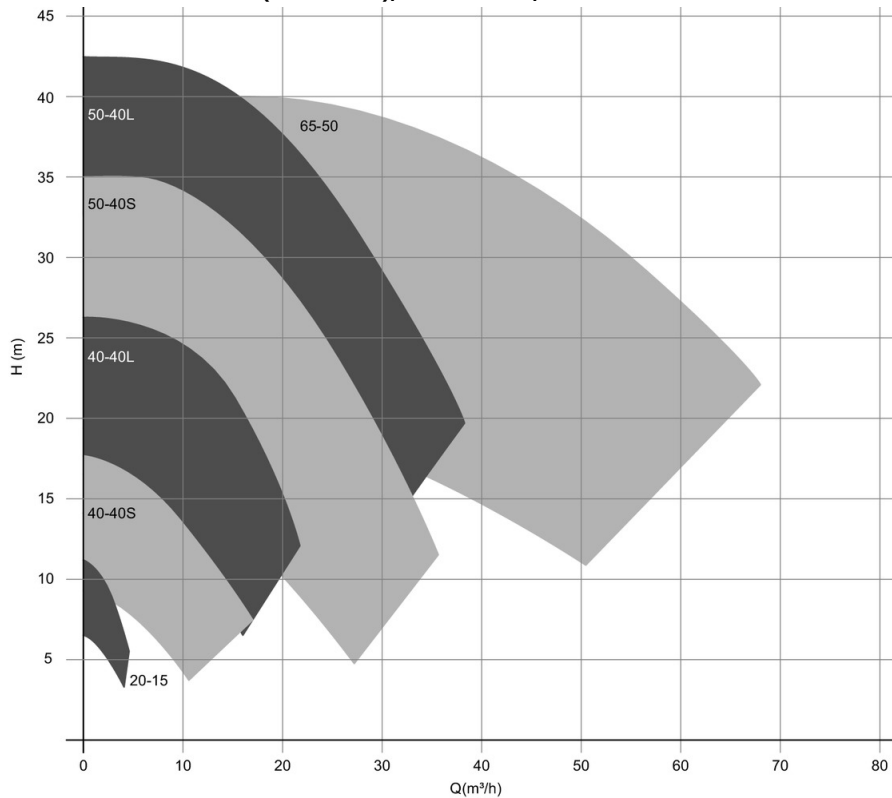
SHM Magnetically driven spiral cased centrifugal pump

Characteristic curves (fluid H₂O), 3000 min⁻¹, 50 Hz



delivery head H, flow rate Q

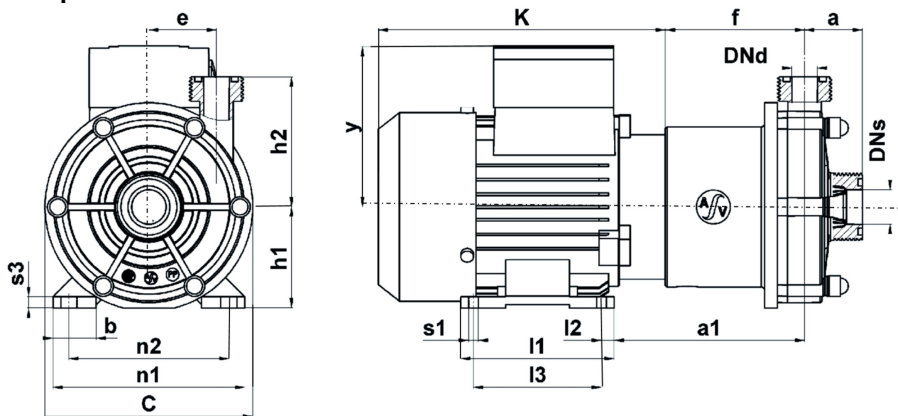
Characteristic curves (fluid H₂O), 3600 min⁻¹, 60 Hz



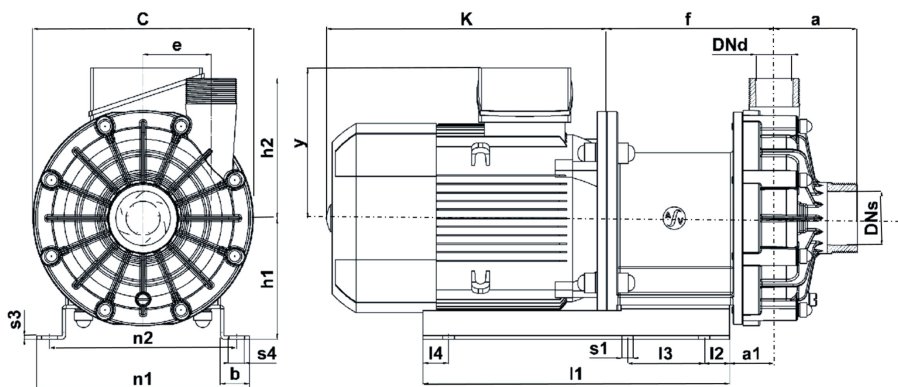
delivery head H, flow rate Q

SHM Magnetically driven spiral cased centrifugal pump

Pump / motor dimensions for SHM 20-15



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



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		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		63	95	115	120	120	142
h2	PP	81	124	137	153,5	153,5	164
	PVDF	80	124	134	151,5	151,5	163,5
l1		96	200	210	300	300	360
l2		8	20	36	20	20	30
l3		80	98	130	200	200	90
l4		-	-	-	-	-	30
n1		120	140	160	266	266	250
n2		100	110	130	207	207	220
s1		7	12	12	13,5	13,5	13,5
s3		7	3	3	3	3	4
s4		-	-	-	35,5	35,5	18,5

SHM Magnetically driven spiral cased centrifugal pump

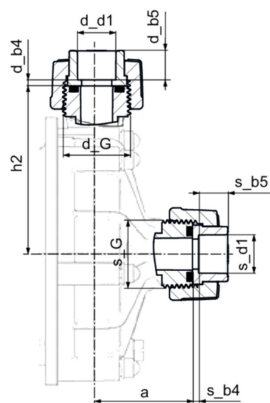
Motor size

Motor (kW)/ Size	0,18	0,25	0,37	0,55	0,75	0,75	1,1	1,5	1,5	2,2	3	4	4	5,5	7,5
20-15	.	.													
40-40S			.	.	.										
40-40L						.	.	.							
50-40S									.	.	.				
50-40L									.	.	.				
65-50													.	.	.
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
	PVDF	87	87	140	140	150	150	150	160	162,5	162,5	172,5	172,5	196,5	216,5
K		180	180	210	210	252	252	287	297	297	337	371	354	354	385
y		101	101	111	111	121	121	121	126	126	126	166	177	177	202

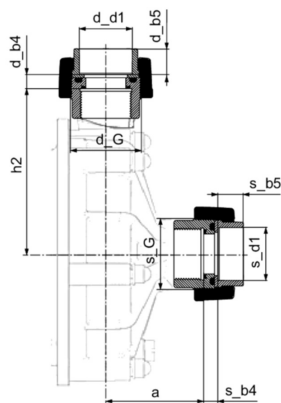
SHM Magnetically driven spiral cased centrifugal pump

Connections pressure / suction side

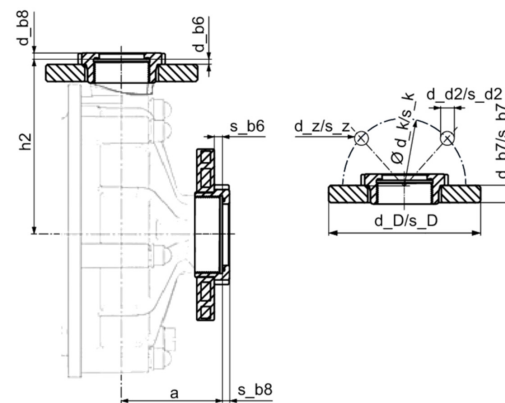
SHM20-15



SHM 40-40 - SHM 65-50



SHM 40-40 - SHM 65-50



type of pump suction side

		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 (Zoll)		1 1/4	2 1/4	2 1/4	2 3/4	2 3/4	3 1/2
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

type of pump pressure side

		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 (Zoll)		1	2 1/4	2 1/4	2 1/4	2 1/4	2 3/4
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

SHM Magnetically driven spiral cased centrifugal pump

Maximum sound pressure level LpA, 2-pole motor 50Hz

Motor (kW)/ Size	0,18	0,25	0,37	0,55	0,75	1,1	1,5	2,2	3	4	5,5	7,5
20-15	50	50										
40-40S			59	59	61							
40-40L					61	61	65					
50-40S							65	66	68			
50-40L								66	68	70		
65-50										70	70	70

Maximum sound pressure level LpA, 2-pole motor 60Hz

Motor (kW)/ Size	0,21	0,29	0,43	0,55	0,63	1,27	1,75	2,55	3	4	6,3	8,6
20-15	52	52										
40-40S			61	61	63							
40-40L					63	63	67					
50-40S							67	68	70			
50-40L								68	70	72		
65-50										72	72	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