

Technical data

Pump name EVMSG45 12-2F5HQ1BEG E/45

Customer	Date 2024-06-14	Company
Contact	Item no.	Issued by
Phone	Project	Phone
E-mail	Project ID Project redenumit 2024-06-14 17:13:	E-mail

Requested data

1	Pump type	VERTICAL MULTISTAGE PUMP	Fluid	Water
2	Number of pumps / Reserve	1 / 0	Liquid temperature °C	20
3	Flow m ³ /h		Kin. viscosity mm ² /s	1.005
4	Head m		Vapour pressure bar	0.0234
5	Geodetic head m		PH value	
6	Inlet pressure (pin) bar	0	Density kg/m ³	998.3
7	Available system NPSH		Solids Weight %	0
8	Ambient temperature °C	20		

Pump

9	Pump name	EVMSG45 12-2F5HQ1BEG E/45	Frequency Hz	50
10	Design	VERTICAL MULTISTAGE PUMP	Installation type	Round flange
11	Manufacturer	EBARA	Impeller Diameter	Max. mm -
12	Speed rpm	2970		Designed mm 141 (No.10) / 128 (No.2)
13	No. of Stage	12		Min. mm -
14	Connection Suction side		Flow	Operating m ³ /h
15	Connection Discharge side			Max- m ³ /h 60
16	Max Working Pressure bar	35		Min- m ³ /h 21
17	Shut-off head bar	31.88	Head	Operating m
18	Total weight kg	See the table of "Dimensions".		- (Qmax.) m 179.5
19	Shaft power kW			- (Qmin.) m 296.3
20			Max. Shaft Power at max. impeller kW	43.30
21	Required pump NPSH m		Efficiency %	

Materials

22	Impeller	AISI 304		
23	Intermediate casing	AISI 304		
24	Bottom casing	Cast Iron EN GJL-250 EN 1561		
25	Casing cover	AISI 304		
26	Shaft	AISI 304		
27	O-ring	EPDM		

Motor

28	Manufacturer	ATB	Insulation class	F
29	Type	TEFC_EVMS45 12-2/45_400_Three Phase	Phases	3~
30	Specific design	IE3 / 50 Hz / Pole pairs 1	Frame size	225
31	Rated power kW	45	Weight kg	374
32	Number of poles	2	Electric voltage V	400
33	Speed rpm	2960	Electric current A	77
34	Degree of protection	IP56		
35				

Remarks

Performance curve

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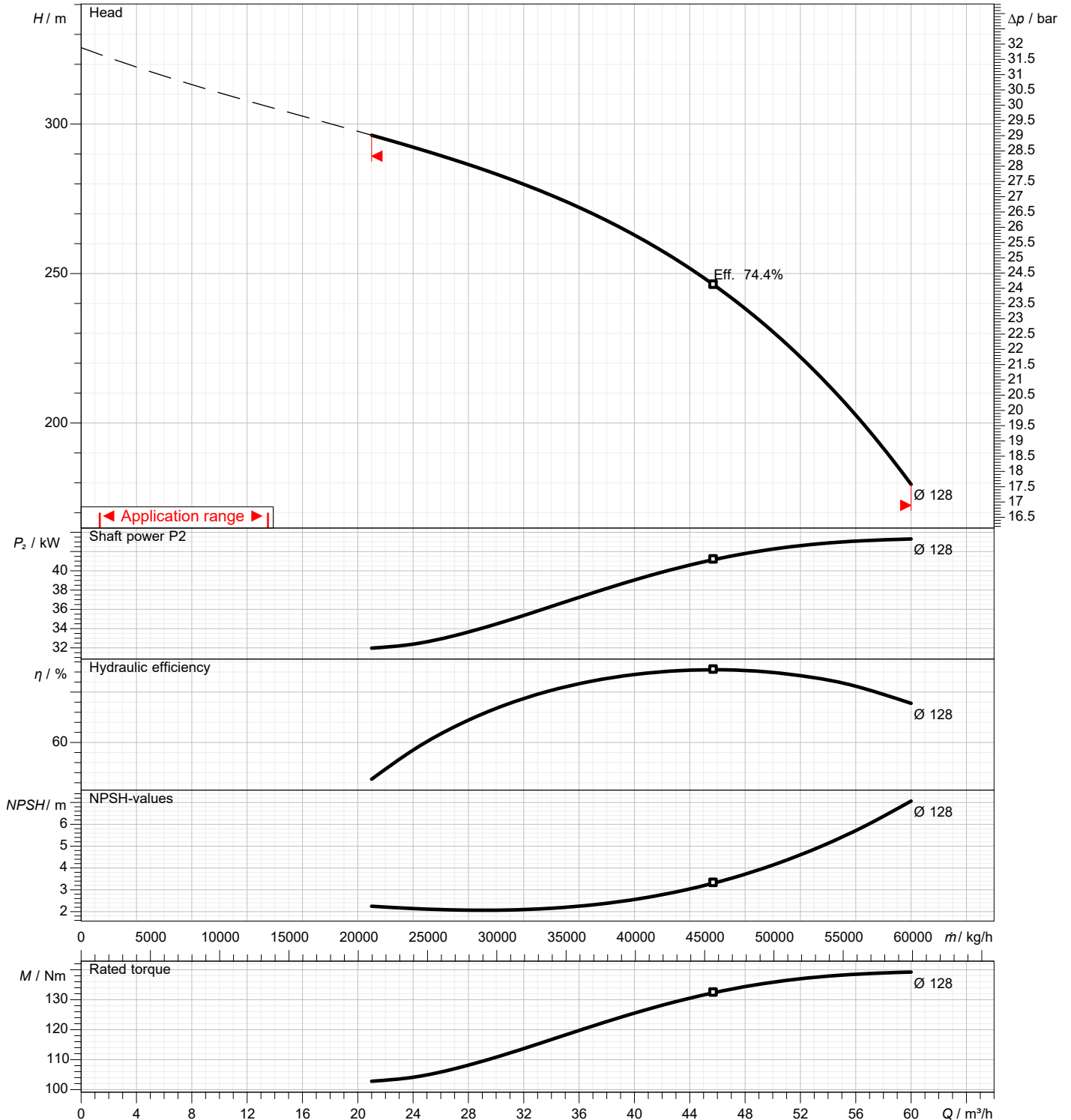
1	Flow	m³/h	
2	Head	m	
3	Geodetic head	m	

Pump

Operating flow	m³/h	Impeller Diameter Designed	mm	141 (No.10) / 128 (No.2)
Operating head	m	Frequency	Hz	50
		Speed	rpm	2970

Test standard: ISO 9906:2012 - Grade3B

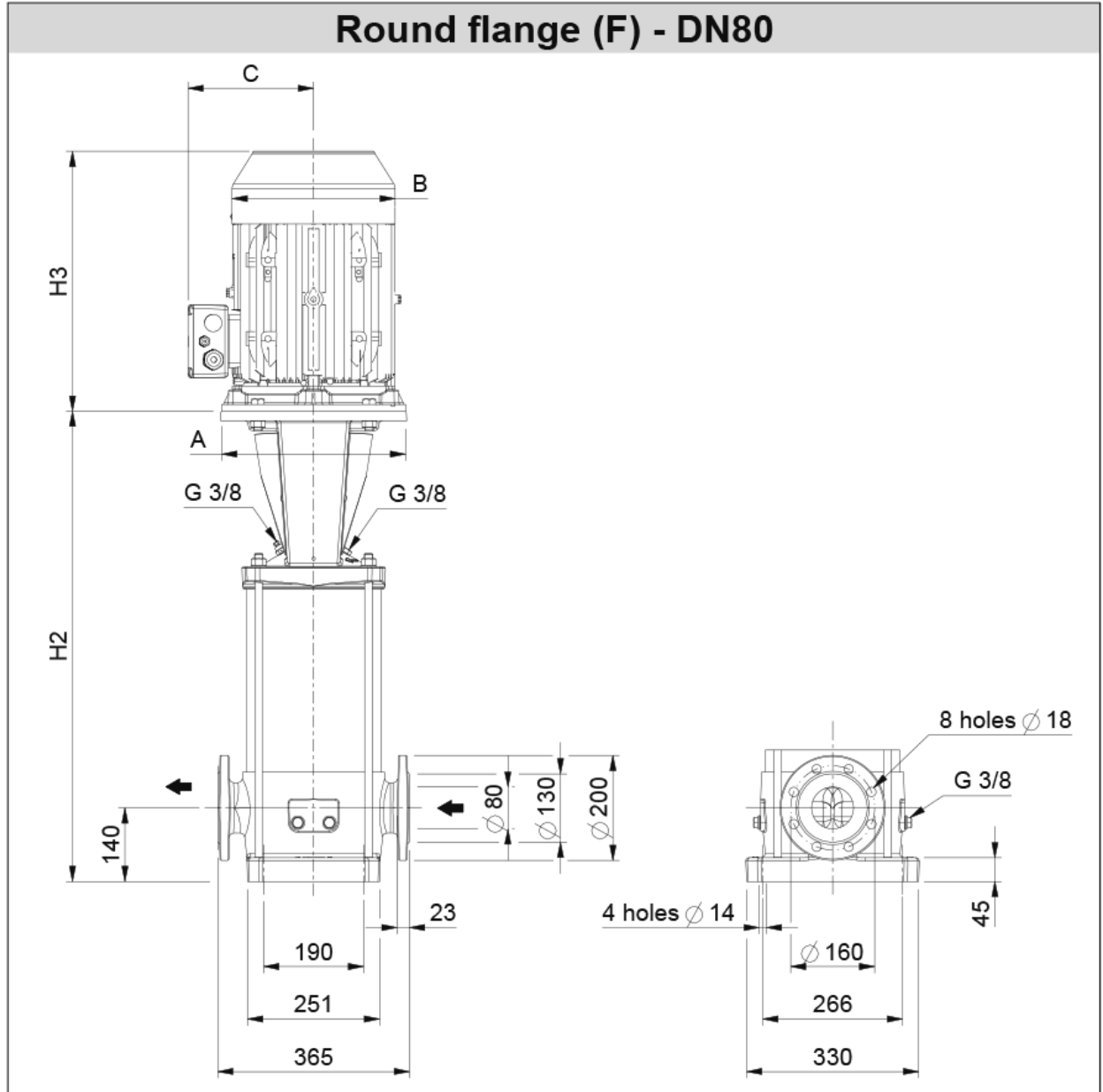
Water; 20°C; 998.3kg/m³; 1mm²/s



Dimensions

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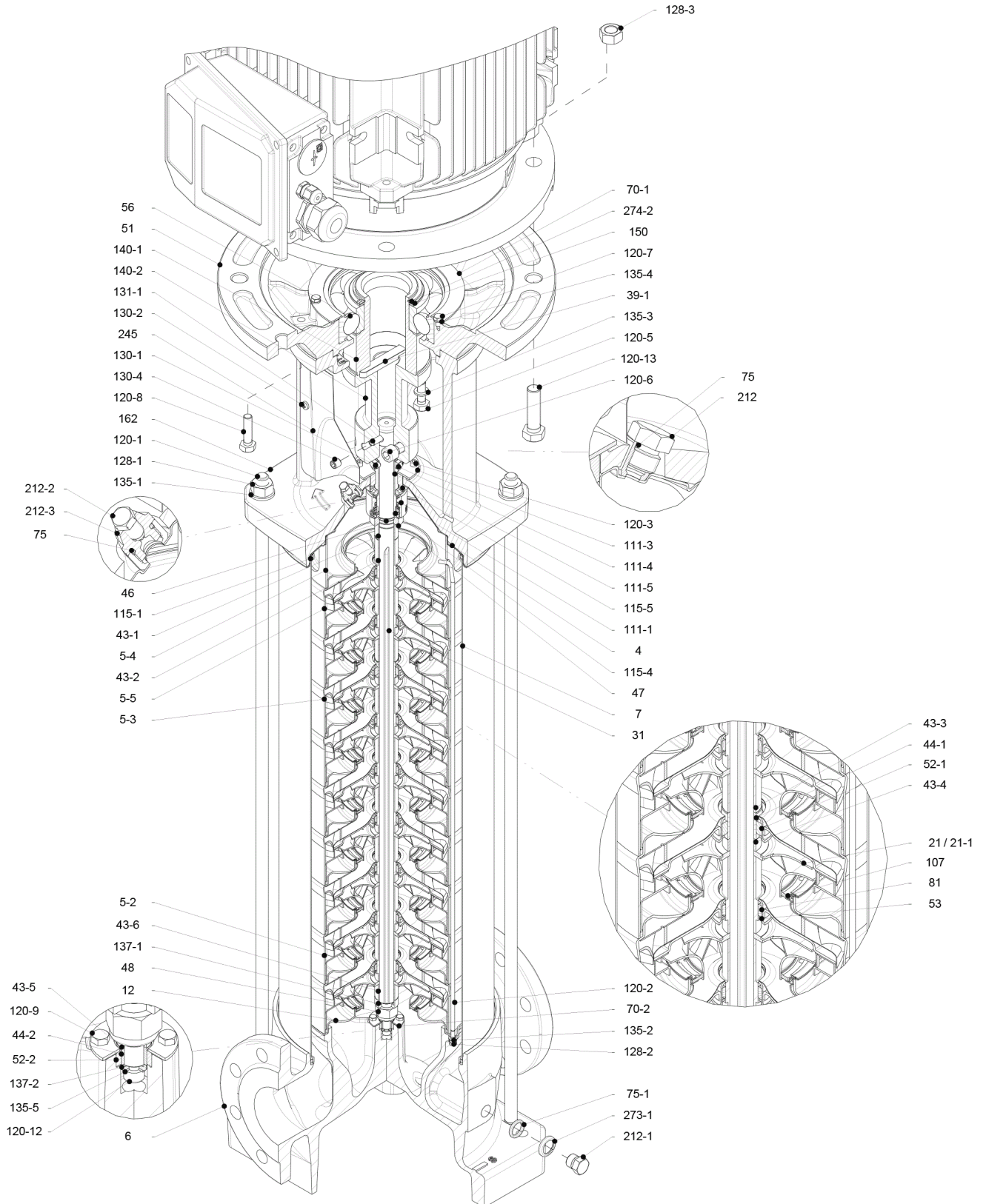
Dimensions in		mm						
1	A	Dia450						
2	B	449						
3	C	335						
4	H2	1489						
5	H2+H3	2255						
6	Weight P&M (kg)	533.2						
7								
8								
9								
10								
11								
12								
13								
14								
15								

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Construction

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Construction

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N°	PART NAME	MATERIAL EVMSG	DIMENSIONS	STANDARD	QTY
4	Casing cover	EN 1.4301 (AISI 304)			1
5-2	Intermediate casing	EN 1.4301 (AISI 304)			9
5-3	Intermediate casing with bearing	EN 1.4301 (AISI 304)			2
5-4	Discharge casing	EN 1.4301 (AISI 304)			1
5-5	Top intermediate casing	EN 1.4301 (AISI 304)			1
6	Bottom casing	Cast Iron EN GJS 400-15 EN 1563			1
7	Outer casing	EN 1.4301 (AISI 304)			1
12	Suction cover	EN 1.4301 (AISI 304)			1
21	Impeller	EN 1.4301 (AISI 304)			10
21-1	Reduced impeller	EN 1.4301 (AISI 304)			2
31	Shaft	EN 1.4301 (AISI 304)			1
39-1	Coupling key	Carbon Steel			1
43-1	Shaft sleeve (mechanical seal)	EN 1.4301 (AISI 304)			1
43-2	Shaft sleeve (intermediate)	EN 1.4301 (AISI 304)			10
43-3	Shaft sleeve (bearing)	EN 1.4301 (AISI 304)			2
43-4	Shaft sleeve (adjustment)	EN 1.4301 (AISI 304)			2
43-5	Shaft sleeve (last stage)	EN 1.4301 (AISI 304)			1
43-6	Shaft sleeve (adjustment)	EN 1.4301 (AISI 304)			1
44-1	Shaft sleeve bearing	Tungsten carbide			2
44-2	Shaft sleeve (bearing)	Tungsten carbide			1
46	Ring (mechanical seal)	EN 1.4404 (AISI 316L)			1
47	Ring holder	EN 1.4301 (AISI 304)			1
48	Impeller nut	EN 1.4301 (AISI 304) with inox insert			1
51	Motor adapter	Cast Iron EN GJL250 EN 1561			1
52-1	Sleeve bearing	Tungsten carbide			2
52-2	Bearing sleeve (bottom casing)	Tungsten carbide			1
53	Bush holder	EN 1.4301 (AISI 304)			11
56	Ball bearing	6315 ZZ C3			1
70-1	Ring for ball bearing	EN 1.4301 (AISI 304)			1
70-2	Ring for bearing sleeve	EN 1.4301 (AISI 304)			1
75	O-Ring (priming plug)	EPDM / FPM *	Ø12.37x2.62	OR 3050	2
75-1	O-Ring (drainage plug)	EPDM / FPM *			4
81	Bush	PTFE			10
107	Liner ring	EN 1.4301 (AISI 304) + PPS			12
111-1	Mechanical seal	... **			1
111-3	Mechanical seal flange	EN 1.4301 (AISI 304)			1
111-4	Seal holder	EN 1.4404 (AISI 316L)			1
111-5	Mechanical seal cartridge sleeve	EN 1.4301 (AISI 304)			1
115-1	O-Ring (outer casing)	EPDM / FPM *	Ø240.66x5.34	OR 6945	2
115-4	O-Ring (cartridge sleeve)	EPDM / FPM *	Ø23.39x3.53	OR 4093	1
115-5	O-Ring (seal flange)	EPDM / FPM *	Ø44.04x3.53	OR 4175	1
120-1	Tie rod	EN 1.4057 (AISI 431)			4
120-2	Tie rod (stage)	EN 1.4301 (AISI 304)			2
120-3	Screw (seal flange)	A2-70	M5x12	ISO 4762	4
120-5	Screw (extension coupling)	Galvanized steel 8.8 strength class ISO 898/1	M10x30	ISO 4017	4
120-6	Screw (pump coupling)	Galvanized steel 8.8 strength class ISO 898/1	M12x30	ISO 4762	2
120-7	Screw (ball bearing)	Galvanized steel 8.8 strength class ISO 898/1	M6x10	ISO 4017	3
120-8	Screw (motor adapter)	Galvanized steel 8.8 strength class ISO 898/1	M10x40	ISO 4017	4
120-9	Screw (bottom casing)	A2-70	M5x8	ISO 4017	4
120-12	Screw (shaft)	A2-70	M6x16	ISO 4762	1
120-13	Screw for motor	Galvanized steel 8.8 strength class ISO 898/1	M16x60	ISO 4014	8
128-1	Nut (tie rod)	A2-70 UNI 7323 with	M16	ISO 4032	4
128-2	Nut (casing tie rod)	A2-70	M5	ISO 4032	4
128-3	Nut (motor)	Galvanized steel	M16	ISO 4032	8
130-1	Set screw	EN 1.4301 (AISI 304)	M6x8	ISO 4026	3
130-2	Screw for coupling guard	A2-70	M5x6	UNI 7687	4
130-4	Set screw (pump coupling)	Galvanized steel	M10x10	ISO 4026	1
131-1	Pin for shaft	Carbon Steel	Ø8X50	ISO 2338	1
135-1	Washer (tie rod)	EN 1.4301 (AISI 304)	Ø16	ISO 7089	4
135-2	Washer (casing tie rod)	EN 1.4301 (AISI 304)	Ø5.1	UNI 1751	2
135-3	Washer (extension coupling)	Galvanized steel	Ø10.2	UNI 1751	4
135-4	Washer (ball bearing)	Plated carbon steel	Ø6.1	UNI 1751	3
135-5	Washer (impeller nut)	EN 1.4301 (AISI 304)			1
137-1	Impeller spacer	EN 1.4301 (AISI 304)			1
137-2	Shaft spacer	EN 1.4301 (AISI 304)			1
140-1	Extension coupling	Carbon Steel			1
140-2	Coupling	Carbon Steel			1
150	Spacer (snap ring)	Carbon Steel			1
162	Motor bracket	Cast Iron EN GJS 400-15 EN 1563			1
212	Priming plug	EN 1.4301 (AISI 304)			1
212-1	Drainage plug	EN 1.4301 (AISI 304)			4
212-2	Venting plug	EN 1.4401 (AISI 316)			1
212-3	Priming plug	EN 1.4301 (AISI 304)			1
245	Coupling guard	EN 1.4301 (AISI 304)			2
273-1	Washer (drainage plug)	EN 1.4301 (AISI 304)			4
274-2	C-type snap ring (coupling)	Carbon Steel TC80	Ø75	UNI 7435	1

* EPDM (standard)
FPM (option)

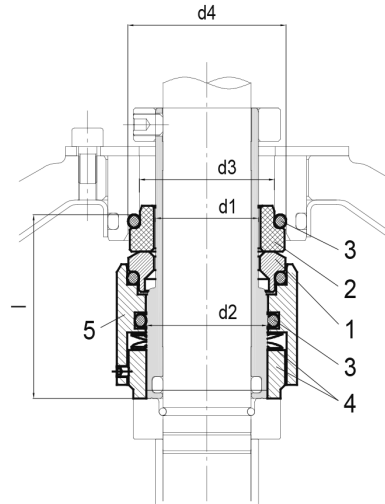
** see CONSTRUCTION 3/3

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Construction

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- Standard

Type key	Availability	Max operating pressure	Max operating temperature	Shaft seal type		Shaft seal material									
				Cartridge		1		2		3		4		5	
				Type	Code	Rotating part	Code	Stationary part	Code	Elastomers	Code	Compression spring	Collar	Code	
HQ1BEG	●	25/35 bar	- 30°C to + 140°C	Balanced	(H)	SiC	(Q1)	Carbon	(B)	EPDM	(E)	AISI 316	(G)		

Max operating pressure	d1 [mm]	d2 [mm]	d3 [mm]	d4 [mm]	l [mm]
35 bar	28	33	37	43	50