

# Technical Data

Pump Name

EVMSG45 12-0F5HQ1BEG E/45

Customer	Date	2024-06-14	Company
Contact	Item no.		Issued by
Phone	Project		Phone
E-mail	Project ID	Proiect redenumit 2024-06-14 17:13:34	E-mail

## Requested data

1	Pump type	VERTICAL MULTISTAGE PUMP	Fluid	Water
2	Number of pumps / Reserve	1 / 0	Liquid temperature	°C
3	Flow	m³/h	Kin. viscosity	mm²/s
4	Head	m	Vapour pressure	bar
5	Geodetic head	m	PH value	
6	Inlet pressure (pin)	bar	Density	kg/m³
7	Available system NPSH		Solids	Weight %
8	Ambient temperature	°C		

## Pump

9	Pump Name	EVMSG45 12-0F5HQ1BEG 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
13	No. of Stage	12		Min.	mm	141
14	Connection	Suction side	Flow	Operating	m³/h	
15	Connection	Discharge side		Max-	m³/h	60
16	Max Working Pressure	bar		35	Min-	m³/h
17	Shut-off head	bar	31.53	Head	Operating	m
18	Total weight	kg	See the table of "Dimensions".		- (Qmax.)	m
19	Shaft power	kW			- (Qmin.)	m
20			Max. Shaft Power at max. impeller	kW	44.99	
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 12-0/45_400_Three Phase	Phases	3~	
30	Specific design	IE3 / 50 Hz / Pole pairs 1	Frame size	225	
31	Rated power	kW	45	Weight	kg
32	Number of poles	2	Electric voltage	V	400
33	Speed	rpm	2960	Electric current	A
34	Degree of protection	IP56			
35					

## Remarks

# Performance Curve

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## Requested data

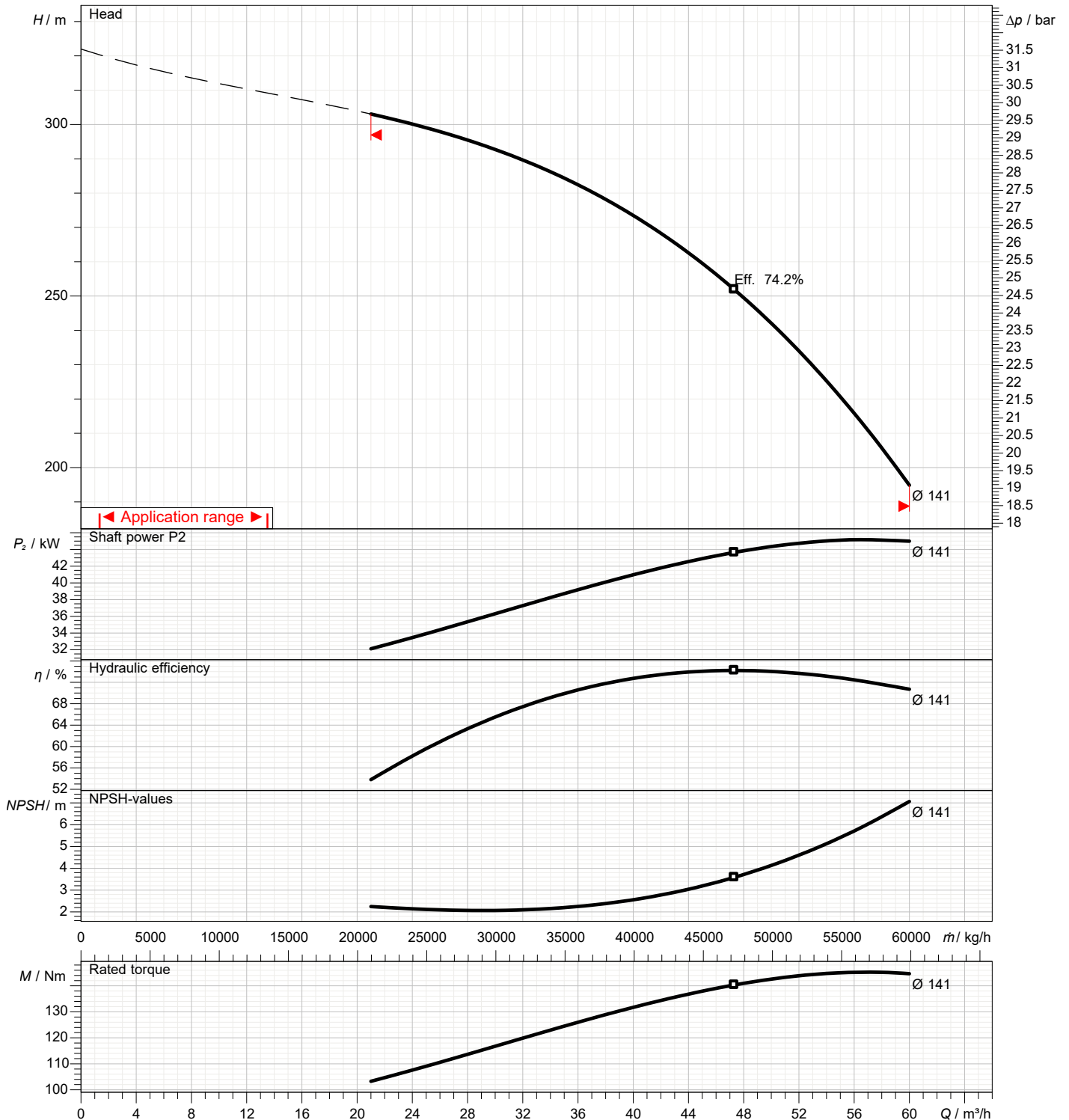
1	Flow	m³/h	
2	Head	m	
3	Geodetic head	m	

## Pump

Operating flow	m³/h		Frequency	Hz	50
Operating head	m		Number of poles		2
Impeller diameter designed	mm	141	Speed	rpm	2970

Test standard: ISO 9906:2012 - Grade3B

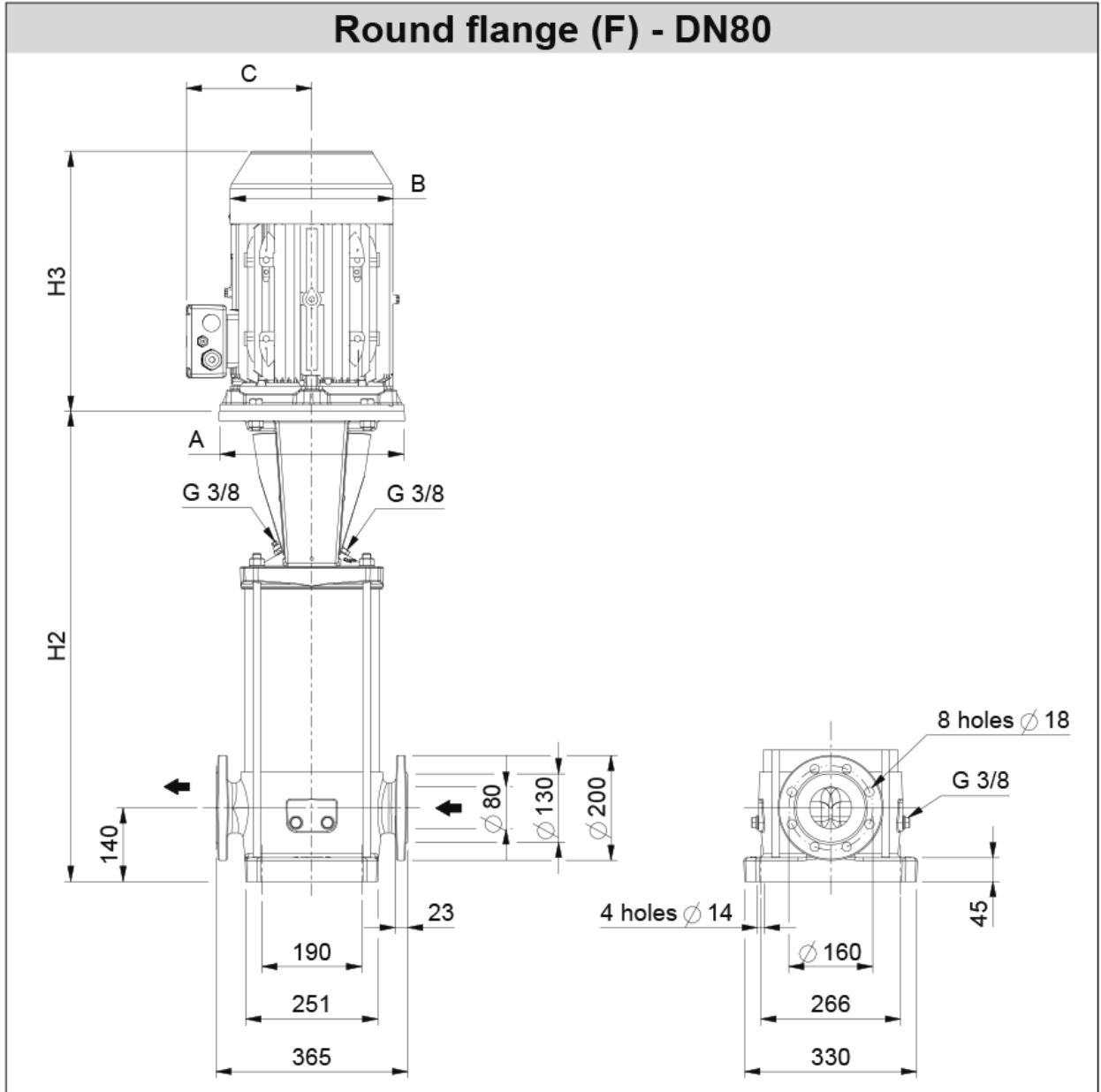
Water; 20°C; 998.3kg/m³; 1mm²/s



# Dimensions

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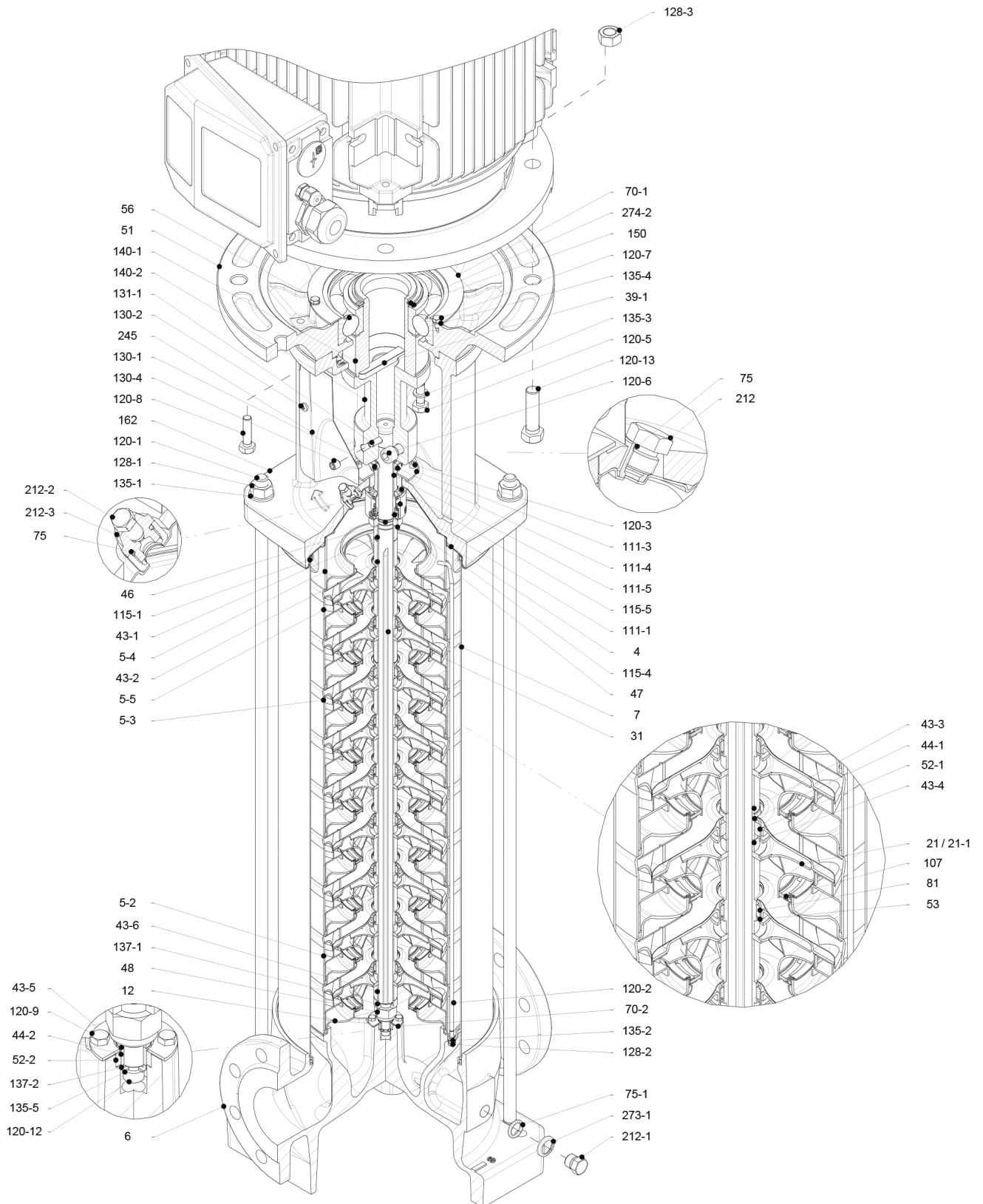
Dimensions in		mm					
1	A	Dia450					
2	B	449					
3	C	335					
4	H2	1489					
5	H2+H3	2255					
6	Weight P&M (kg)	533.2					
7							
8							
9							
10							
11							
12							
13							
14							
15							

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# Construction

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# Construction

Pump Name **EVMSG45 12-0F5HQ1BEG E/45**

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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	above 25 bar 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)			12
31	Shaft	EN 1.4301 (AISI 304)			1
39-1	Coupling key	above 37 kW 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	above 37 kW 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	above 37 kW 6315 ZZ C3			1
70-1	Ring for ball bearing	above 37 kW 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)	above 37 kW Galvanized steel 8.8 strength class ISO 898/1	M10x30	ISO 4017	4
120-6	Screw (pump coupling)	above 37 kW Galvanized steel 8.8 strength class ISO 898/1	M12x30	ISO 4762	2
120-7	Screw (ball bearing)	above 37 kW Galvanized steel 8.8 strength class ISO 898/1	M6x10	ISO 4017	3
120-8	Screw (motor adapter)	above 37 kW 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	MEC 200-225 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)	MEC 160-180-200-225 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)	above 37 kW Galvanized steel	M10x10	ISO 4026	1
131-1	Pin for shaft	above 5.5 kW 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)	above 37 kW Galvanized steel	Ø10.2	UNI 1751	4
135-4	Washer (ball bearing)	above 37 kW 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	above 37 kW Carbon Steel			1
140-2	Coupling	above 37 kW Carbon Steel			1
150	Spacer (snap ring)	above 37 kW Carbon Steel			1
162	Motor bracket	up to 30 kW 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)	above 37 kW Carbon Steel TC80	Ø75	UNI 7435	1

\* EPDM (standard)  
FPM (option)

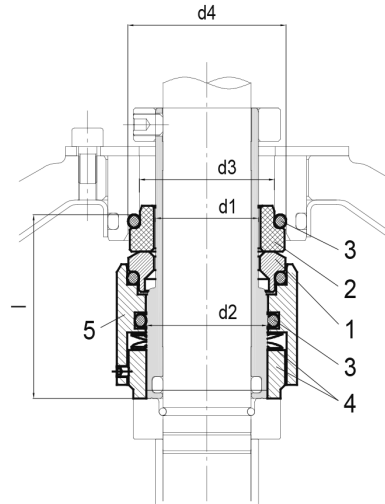
\*\* see CONSTRUCTION 3/3

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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