

Technical Data

Pump Name

3ES 100-160/18.5

Customer	Date 09.06.2024	Company
Contact	Item no.	Issued by
Phone	Project	Phone
E-mail	Project ID	E-mail

Requested data

1	Pump type	Inline vertical	Fluid	Water
2	Number of pumps / Reserve	1 / 0	Liquid temperature °C	20
3	Flow m³/h		Kin. viscosity cSt	1.005
4	Head m		Vapour pressure kPa	2.34
5	Geodetic head m		PH value	
6	Inlet pressure (pin) kPa	0	Density kg/m³	998.3
7	Available system NPSH		Solids Weight %	0
8	Ambient temperature °C	20		

Pump

9	Pump Name	3ES 100-160/18.5	Frequency Hz	50
10	Design	Inline vertical	Installation type	with base, motor
11	Manufacturer	EBARA	Impeller Diameter	Max. mm 174
12	Speed rpm	2900		Designed mm 174
13	No. of Stage	1		Min. mm 174
14	Connection Suction side	EN 16k	Flow	Operating m³/h
15	Connection Discharge side	EN 16k		Max- m³/h 216
16	Max Working Pressure kPa	1600		Min- m³/h 78
17	Shut-off head kPa	363.23	Head	Operating m
18	Total weight kg	See the table of "Dimensions".		- (Qmax.) m 18.8
19	Shaft power kW			- (Qmin.) m 35.6
20			Max. Shaft Power at max. impeller kW	15.94
21	Required pump NPSH m		Efficiency %	

Materials

22	Impeller	AISI 316L		
23	Casing	Cast iron		
24	Shaft	AISI316L(wet extension)		
25				
26				
27				

Motor

28	Manufacturer	LAFERT	Insulation class	F
29	Type	TEFC_3ES_2_18.5_400_1	Phases	3~
30	Specific design	TEFC / 50 Hz / Pole pairs 1	Frame size	160L
31	Rated power kW	18.5	Weight kg	
32	Number of poles	2	Electric voltage V	400
33	Speed rpm	2900	Electric current A	33
34	Degree of protection	IP55		
35				

Remarks

Performance Curve

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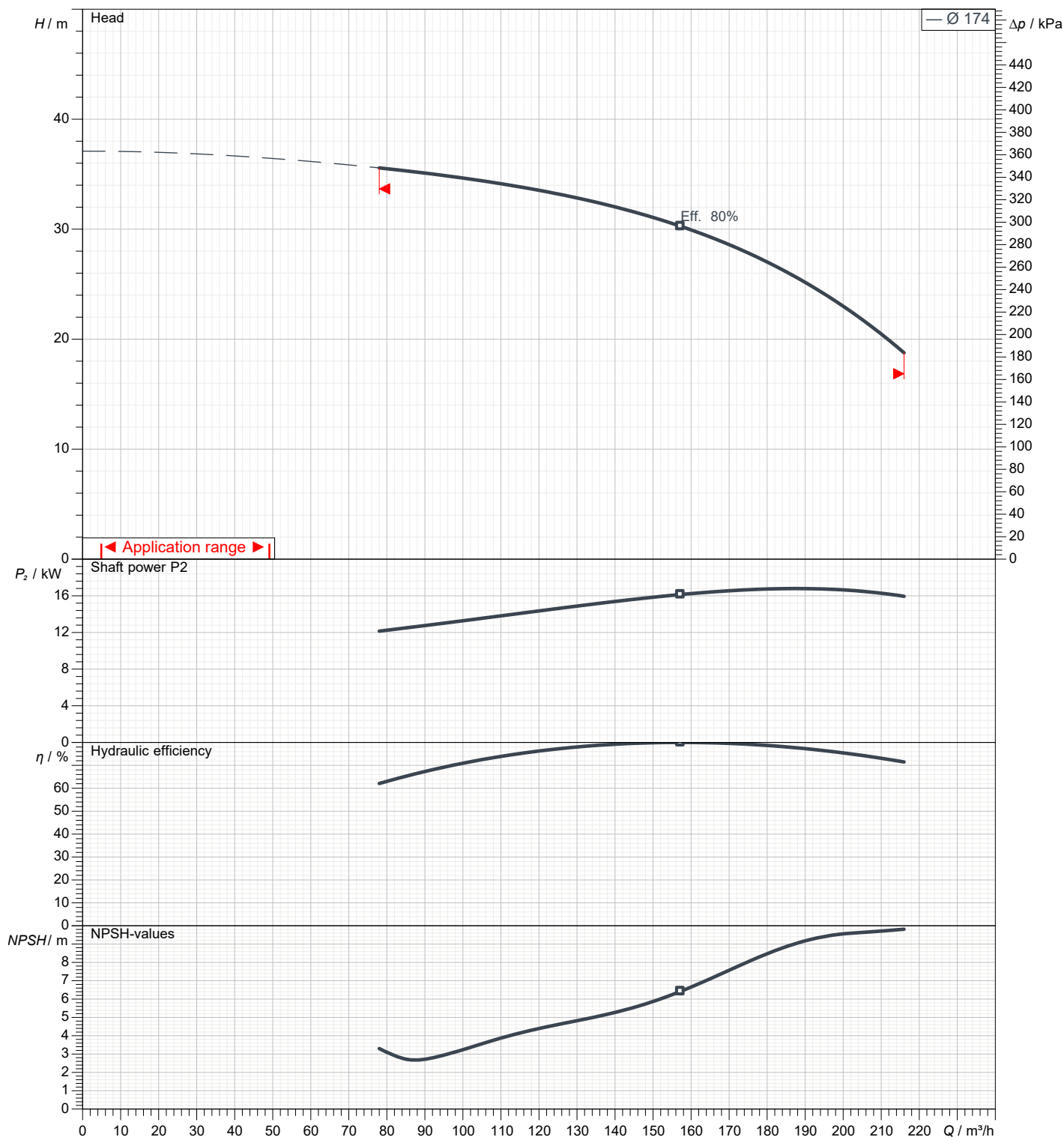
1	Flow	m³/h	
2	Head	m	
3	Geodetic head	m	

Pump

Operating flow	m³/h		Frequency	Hz	50
Operating head	m		Number of poles		2
Impeller diameter designed	mm	174	Speed	rpm	2900

Test standard: ISO 9906:2012 - Grade3B

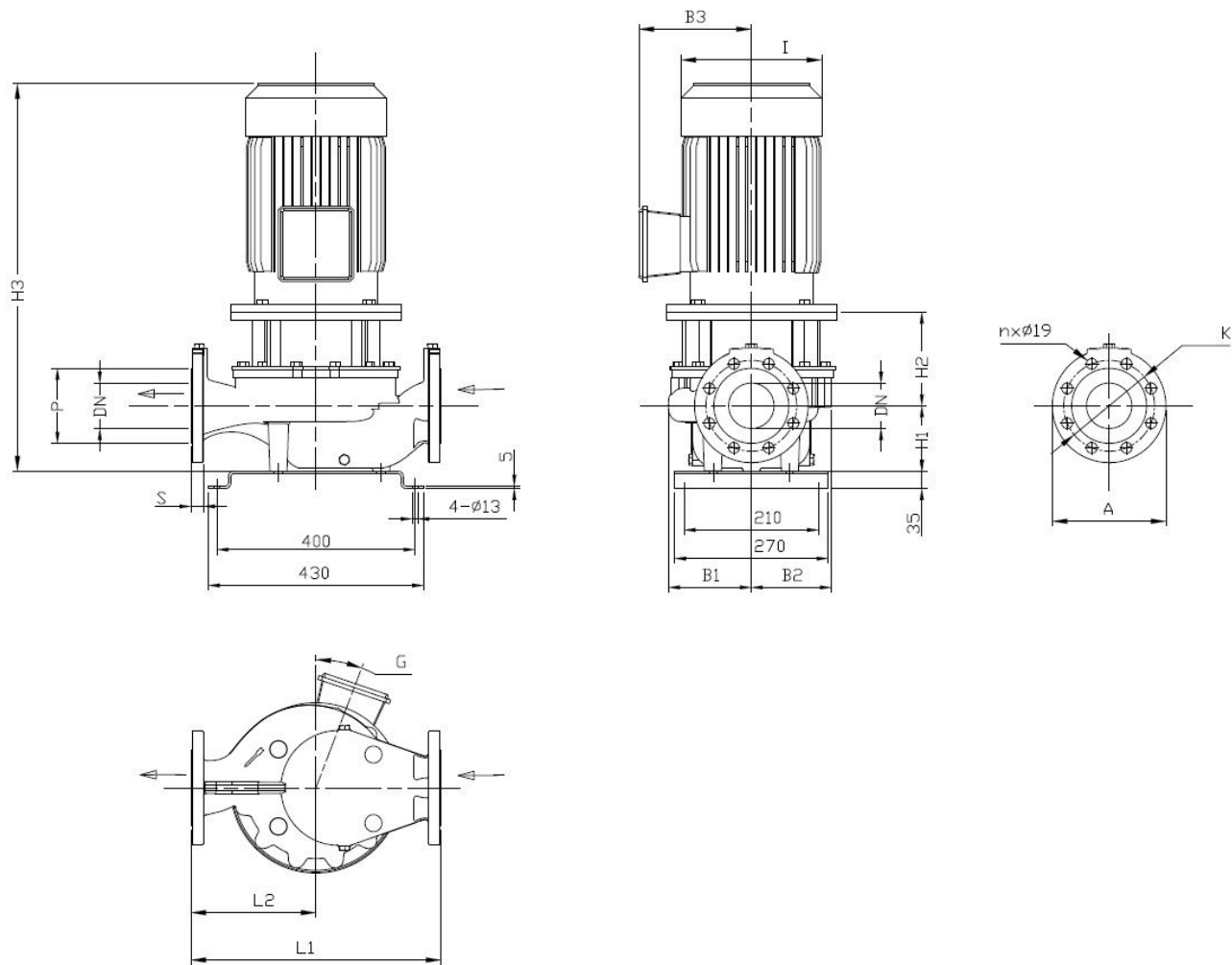
Water; 20°C; 998.3kg/m³; 1cSt



Dimensions

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Dimensions in mm								
1	A	230	Φ K	180				
2	B1	173	Φ P	156				
3	B2	141						
4	B3	238						
5	G	0						
6	H1	140						
7	H2	222						
8	H3	904						
9	I	317						
10	L1	550						
11	L2	275						
12	n	8(Num)						
13	S	24						
14	Weight P&M&B	154.7 kg						
15	Φ DN	100						

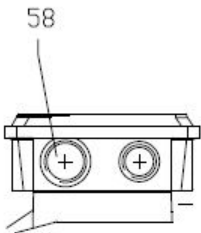
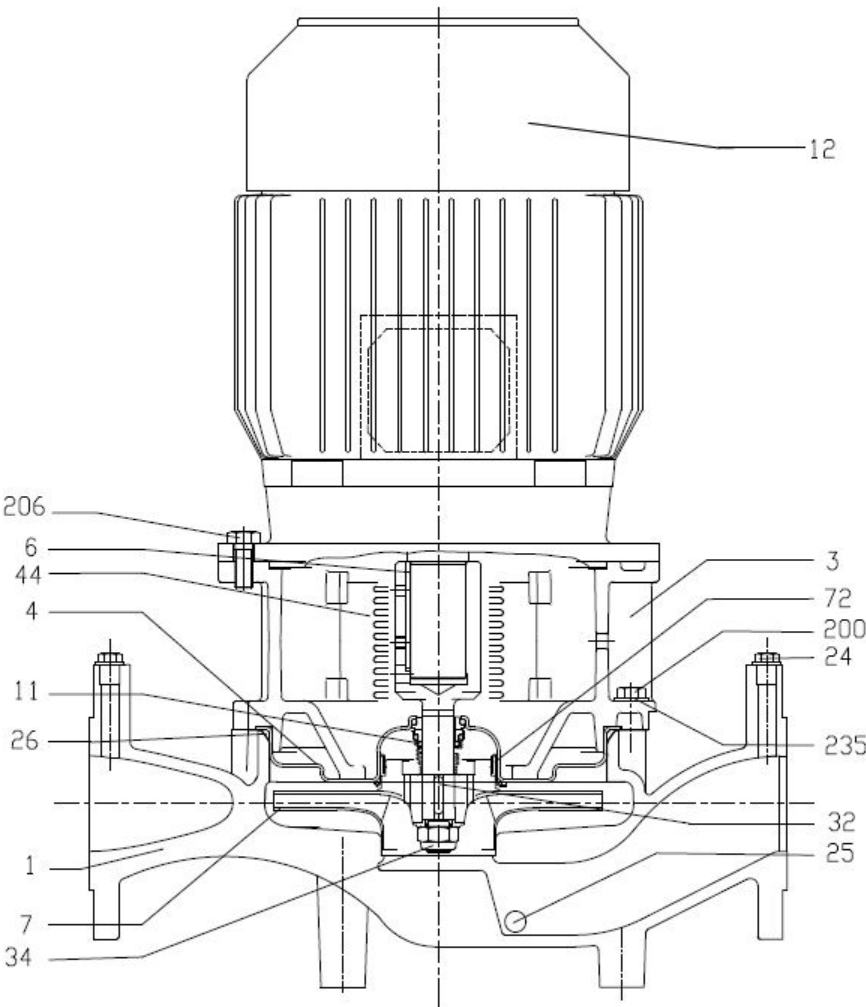
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Construction

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Construction

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No	PART NAME	MATERIAL	DIMENSIONS	STANDARD	Q.TY
1	Casing	Cast iron EN-GJL200-EN 1561			1
3	Motor bracket	Cast iron EN-GJL-200-EN 1561			1
4	Casing cover	EN 1.4301(AISI 304)			1
6	Coupling - Wet extensions	EN 1.4301(AISI 304)[7]			1
7	Impeller [1]	-			1
11	Mechanical seal [2]	-			1
12	Motor				1
24	Priming plug	Brass	G 1/4		2
25	Drain plug	Brass	G 1/4		4
					2
26	O-ring	EPDM[3]	227.96x5.34	OR 6895	1
32	Key	EN 1.4401(AISI 316)	6x6x25	UNI 6604	1
			8x7x30		
34	Impeller nut	EN 1.4301(AISI 304)	M16x1.5	UNI 7474	1
			M18x1.5		
			M20x1.5		
44	Protection	EN 1.4301(AISI 304)		EBARA	1
72	Casing ring [5]	EN 1.4301(AISI 304)			1
200	Screw	Gv. Steel 8.8 strength class ISO 898-1	M10x35	UNI 5739	12
					10
206	Screw for bracket	Gv. Steel 8.8 strength class ISO 898-1	M12x30	UNI 5739	4
			M16x35		
			M16x45		
235	Washer	Galvanized Steel	10.5x21	UNI 6592	12

[1] EN 1.4301 (AISI 304) for 50,65 series;
EN 1.4401(AISI 316) for 80,100 series

[2] See MECHANICAL SEAL pages

[3] FPM for Q1A/VGG

EPDM for Q1A/EGG, Q4Q1/EGG

[4] Except for 100-160/11kW :M20x1.5

[5] Only for: 65-200

[6] See 3DS COUPLING page

[7] EN 1.4404 (AISI 316L) for 100 series

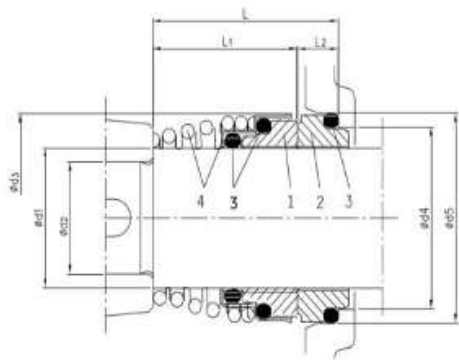
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Version	Pump type	Dimensions [mm]								Material			
		d1	d2	d3	d4	d5	L	L1	L2	1 Rotary seal ring	2 Stationary seal ring	3 Rubber	4 Frame + Spring
Standard (Q1AEGG)	32-125/160/200 50-100 65-100/0.55-0.75 40-160/200	15	12	26	21	26.9	29	22	7	Silicon Carbide	Metarialsed Carbon	EPDM	EN 1.4401 (AISI 316)
	50-125/160/200 65-100/1.1-1.5 65-125/160/200 80-100	22	19	36	31	37	37.5	27.5	10				
	80-160/9.2-11 80-160/15	30	24	46	39	45	42.5	32.5	10				
	80-200												
	100-160												