

# Technical Data

Pump Name

3M 50-160/156

Customer	Date	2024-06-20	Company
Contact	Item no.		Issued by
Phone	Project		Phone
E-mail	Project ID	Proiect redenumit 2024-06-20 10:03:09	E-mail

## Requested data

1	Pump type	CENTRIFUGAL PUMPS	Fluid	Water
2	Number of pumps / Reserve	1 / 0	Liquid temperature	°C 20
3	Flow	m³/h	Kin. viscosity	mm²/s 1.005
4	Head	m	Vapour pressure	bar 0.0234
5	Geodetic head	m	PH value	
6	Inlet pressure (pin)	bar	Density	kg/m³ 998.3
7	Available system NPSH		Solids	Weight % 0
8	Ambient temperature	°C 20		

## Pump

9	Pump Name	3M 50-160/156	Frequency	Hz	60
10	Design	CENTRIFUGAL PUMPS	Installation type		STANDARD
11	Manufacturer	EBARA	Impeller Diameter	Max.	mm 166
12	Speed	rpm 3480		Designed	mm 166
13	No. of Stage	1		Min.	mm 166
14	Connection	Suction side DIN 2532	Flow	Operating	m³/h
15	Connection	Discharge side DIN 2532		Max-	m³/h 86
16	Max Working Pressure	bar 10		Min-	m³/h 30
17	Shut-off head	bar 5.63	Head	Operating	m
18	Total weight	kg See the table of "Dimensions".		- (Qmax.)	m 39.0
19	Shaft power	kW		- (Qmin.)	m 56.2
20			Max. Shaft Power at max. impeller	kW	12.77
21	Required pump NPSH	m	Efficiency	%	

## Materials

22	Impeller	AISI 304		
23	Casing	AISI 304		
24	Shaft	AISI 304		
25				
26				
27				

## Motor

28	Manufacturer	EPE Standard	Insulation class	F
29	Type	TEFC_3M 50-160/156_380_Three Phase	Phases	3~
30	Specific design	IE2 / 60 Hz / Pole pairs 1	Frame size	
31	Rated power	kW 15	Weight	kg
32	Number of poles	2	Electric voltage	V 380
33	Speed	rpm 3500	Electric current	A 27.1
34	Degree of protection	IP 55		
35				

## Remarks

# Performance Curve

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## Requested data

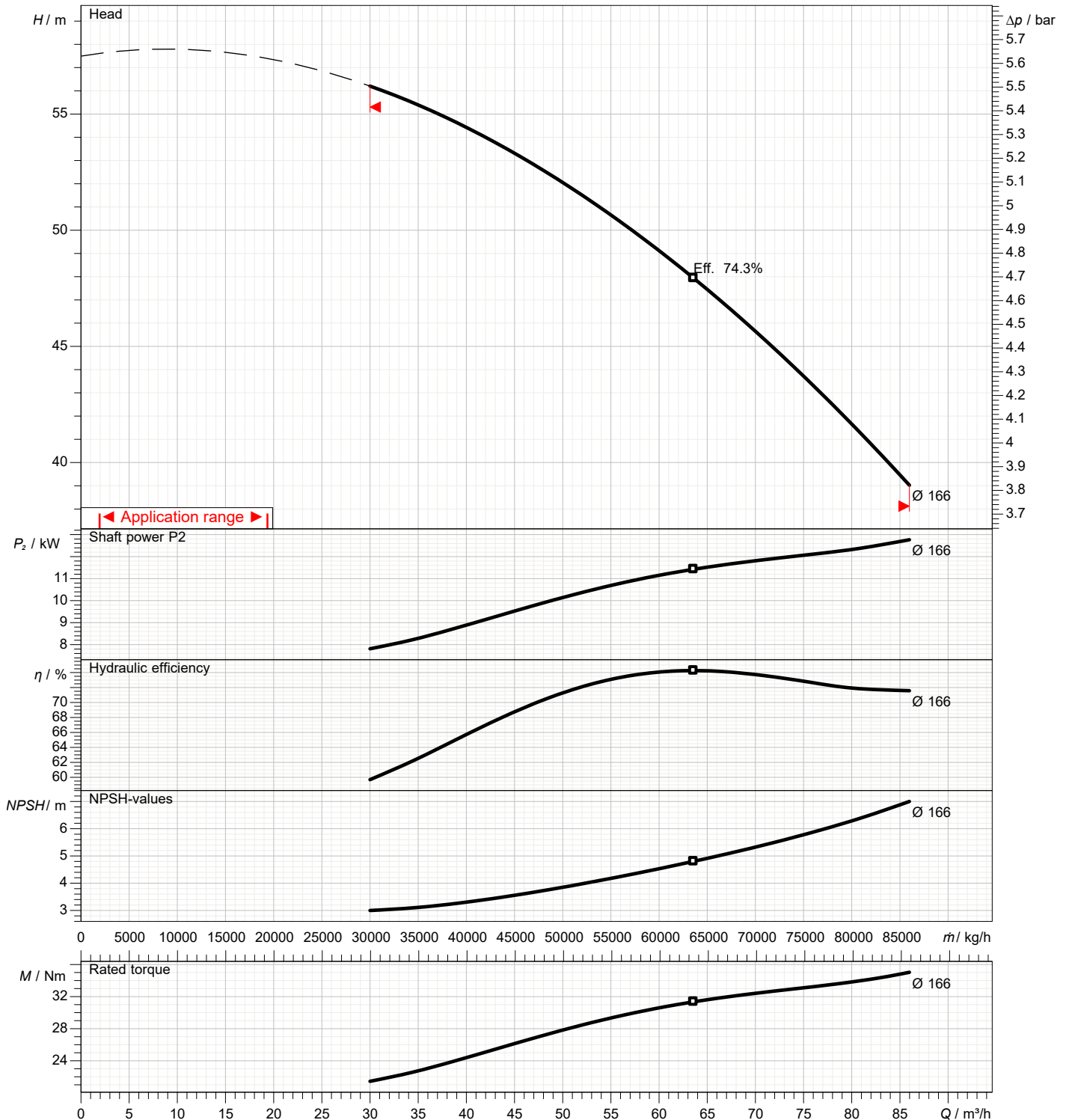
1	Flow	m³/h	
2	Head	m	
3	Geodetic head	m	

## Pump

Operating flow	m³/h		Frequency	Hz	60
Operating head	m		Number of poles		2
Impeller diameter designed	mm	166	Speed	rpm	3480

Test standard: ISO 9906:2012 - Grade3B

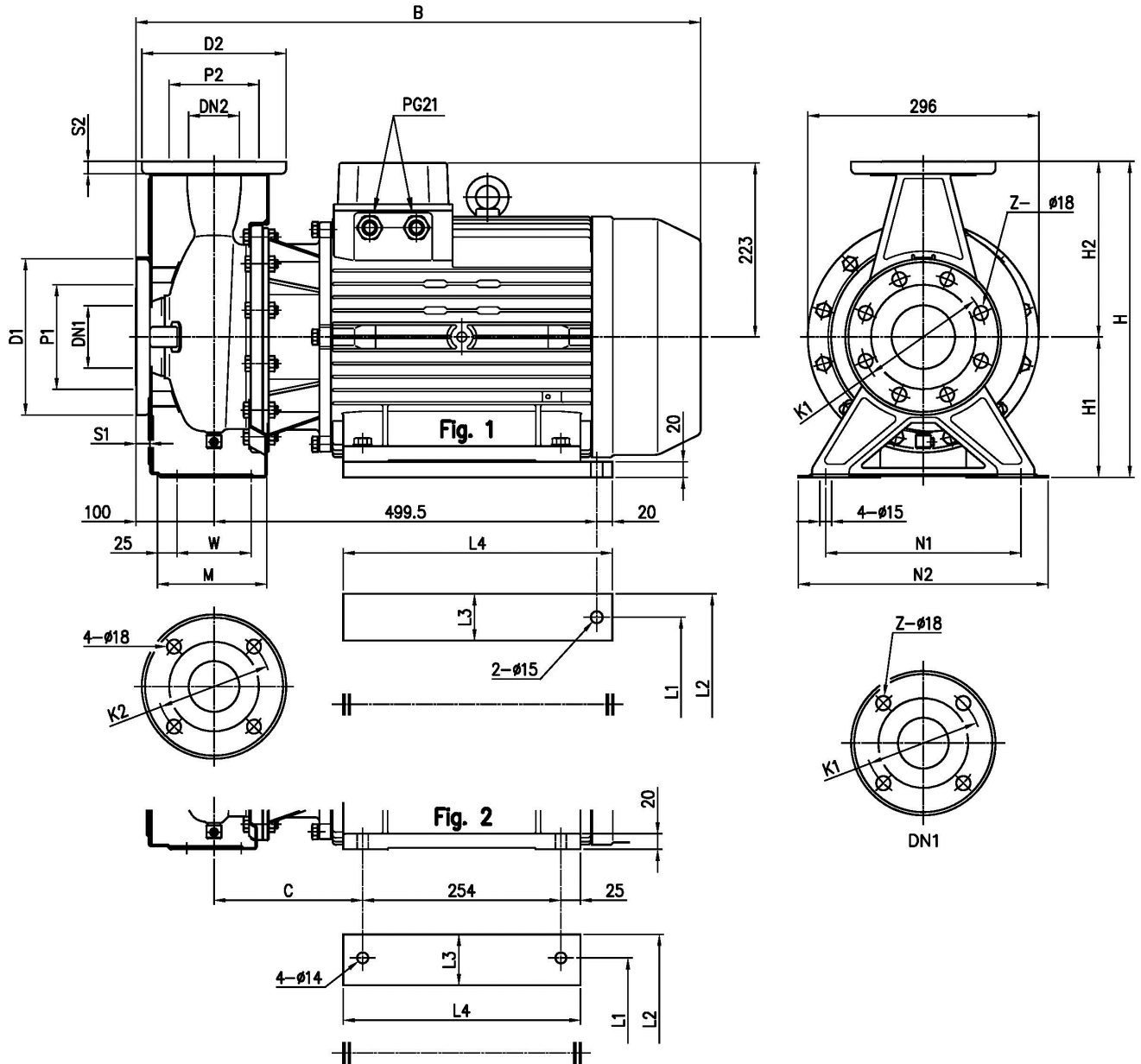
Water; 20°C; 998.3kg/m³; 1mm²/s



# Dimensions

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Dimensions in		mm		
1	B	723	L2	318
2	C	190.5	L3	64
3	Dia D1	185	L4	304
4	Dia D2	165	M	115
5	Dia DN1	65	N1	212
6	Dia DN2	50	N2	265
7	Dia K1	145	S1	16
8	Dia K2	125	S2	16
9	Dia P1	115	W	70
10	Dia P2	95	Weight P&M	82,6 kg
11	Fig	2	Z	4
12	H	340		
13	H1	160		
14	H2	180		
15	L1	254		

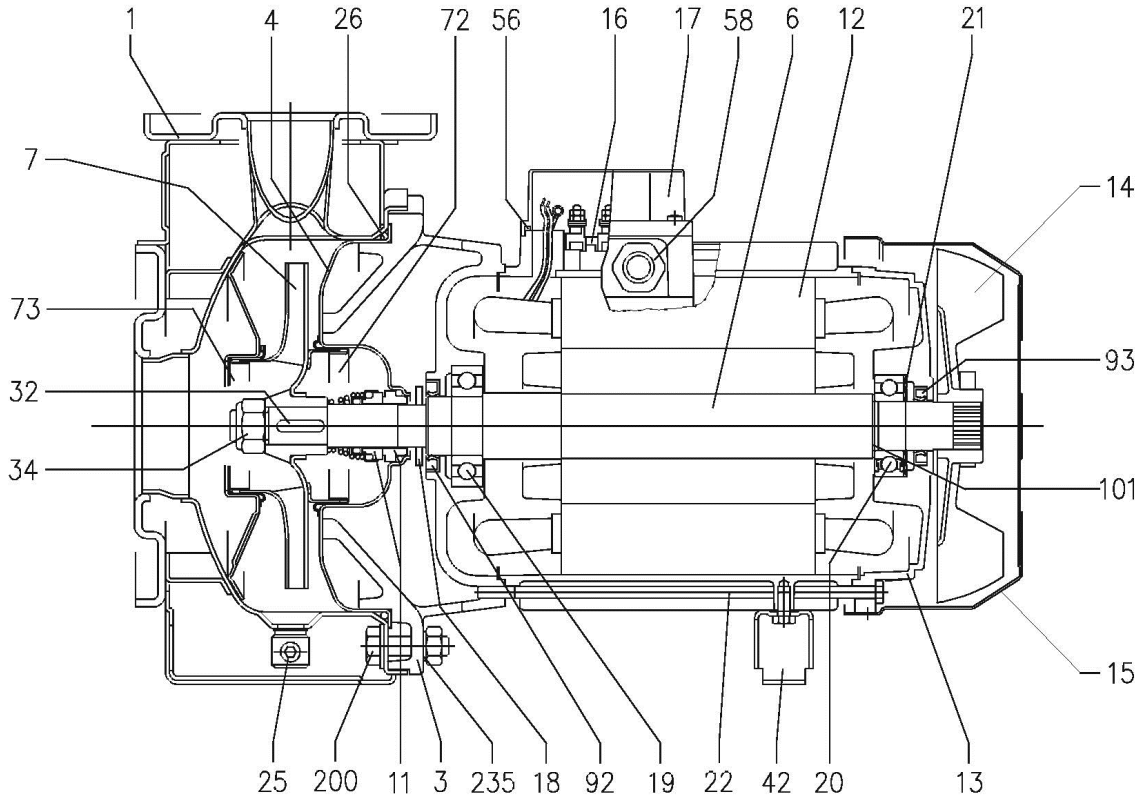
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# Construction

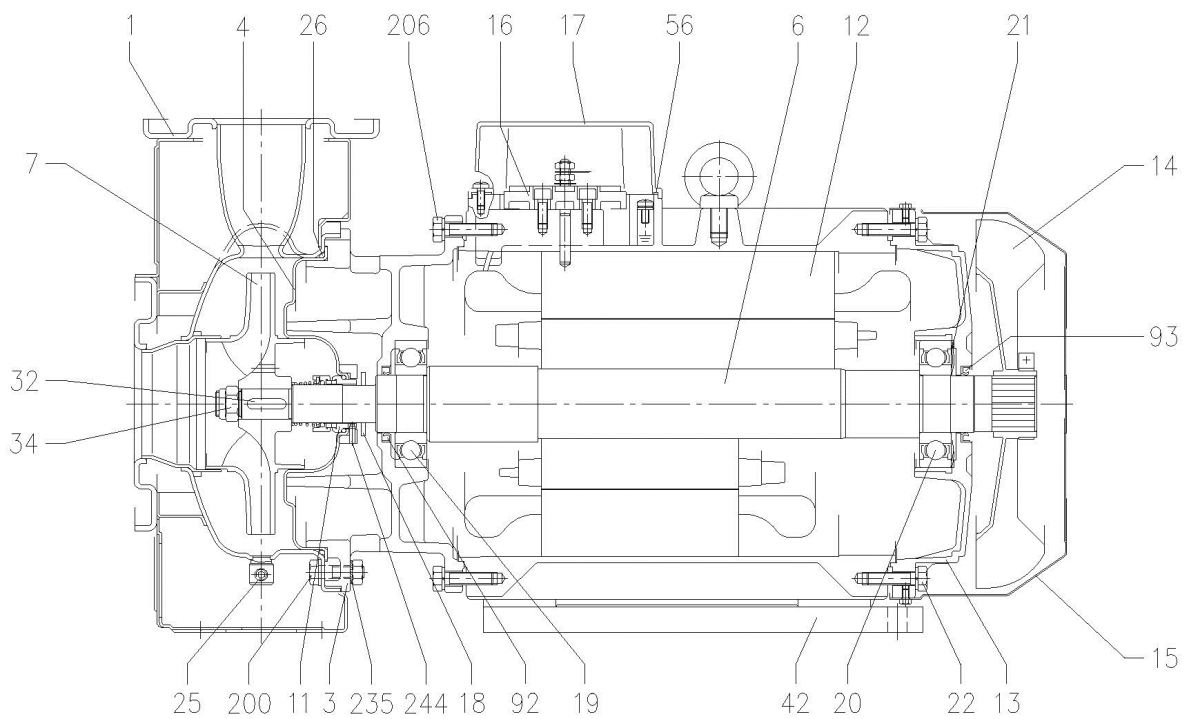
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## UP TO 11 kW



## 15 kW AND ABOVE



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# Construction

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N°	PART NAME	MATERIAL		DIMENSIONS	STANDARD	Q.TY
		3M	3LM			
1	Casing	EN 1.4301 (AISI 304)	EN 1.4404 (AISI 316L)			1
3	Motor bracket [3]	-	-			1
4	Casing cover	EN 1.4301 (AISI 304)	EN 1.4404 (AISI 316L)			1
6	Shaft with rotor-Part in contact with liquid	EN 1.4301 (AISI 304)	EN 1.4404 (AISI 316L)			1
7	Impeller	EN 1.4301 (AISI 304)	EN 1.4404 (AISI 316L)			1
11	Mechanical seal [5]	-	-			1
12	Motor frame with stator	-	-			1
13	Motor cover	Aluminium				1
14	Fan	PA				1
15	Fan cover	Fe P04 Zincate				1
16	Terminal	-				1
17	Terminal box cover	Aluminium (three phase version)				1
18	Splash ring	NBR	-	40x21.5x3	EBARA DRAWING	[6]
19	Bearing	-	-			1
20	Bearing [7]	-	-			1
21	Adjusting ring	Steel C70				1
22	Tie rod	Fe 42 Zincate		M5 M6 M8	EBARA DRAWING	4
25	Drain plug	EN 1.4401 (AISI 316) / PTFE		R 1/8" L=8	DIN 906	1
26	O-ring	NBR/FPM/EPDM	FPM/EPDM	158.11x5.34 183.52x5.34 227.96x5.34	OR 6625 OR 6720 OR 6895	1
32	Key	EN 1.4401 (AISI 316)		6x6x25	UNI 6604	1
34	Impeller nut	A.270 EN ISO 35062		M16x1.5	UNI 7474	1
42	Foot	Aluminium / Zincate steel			EBARA DRAWING	1
56	Box gasket	NBR				1
58	Fastening nut	-				1
72	Casing ring [1]	EN 1.4301 (AISI 304)	EN 1.4404 (AISI 316L)			1
73	Casing ring	EN 1.4301 (AISI 304)	EN 1.4404 (AISI 316L)			1
92	Lip seal	-	-	25x40x7 30x47x7 40x55x7	DIN 3760 without spring	1
93	Lip seal	-	-	25x40x7 30x47x7 40x55x7	DIN 3760 without spring	1
101	Snap ring (only for 9.2 - 11 - 15 kW)	Carbon tool steels TC 80		Ø 40	UNI 7435	1
200	Screw	Stainless steel A2 70 class ISO 3506/1		M 8x30 M 10x35	UNI 5739 UNI 5739	8 [2]
235	Washer	EN 1.4301 (AISI 304)		M8.4x17 M10.5x21	UNI 6592	8 [2]

[1] For versions 32-200/5.56, 32-200/7.56, 40-200/5.5, 40-200/9.26, 40-200/156, 50-160/9.26, 50-160/156

[2] Quantity =10 for 32-160, 40-160, 50-125

Quantity =12 for 32-200, 40-200, 50-160

[3] Aluminium EN 1706 AC 46000 D for version, 40-200/9.26, 40-200/156, 50-160/9.26, 50-160/156

Cast iron EN-GJL-200-EN 1561 for other versions.

[4] See **MECHANICAL SEAL**, "O-ring" column, see CONSTRUCTION 3

[5] See **MECHANICAL SEAL**, see CONSTRUCTION 3

[6] Quantity =1, not for L version

[7] See **BEARINGS**, CONSTRUCTION 3

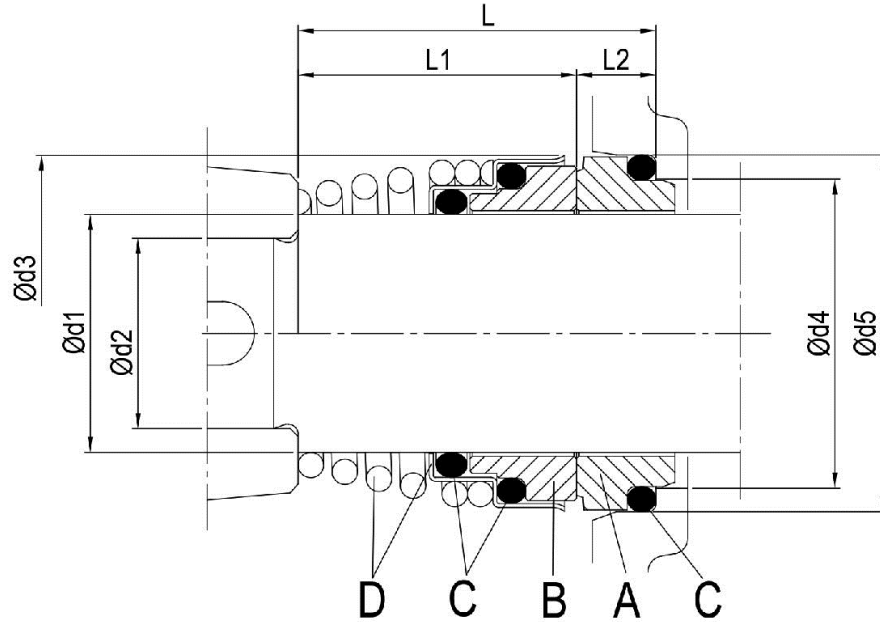
[8] CF8M – EN 1.4408 (AISI316) material for 65-125 up to 65-200

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Pump type	Dimensions [mm]								Material Standard			
	d1	d2	d3	d4	d5	L	L1	L2	A Stationary seal ring	B Rotary seal ring	C O-ring	D Frame + spring
32-125/160/200 40-125/160/200 50-125/160 65-125 65-160/7.56-9.26-116	22	19	38	31	37	37.5	27.5	10	Carbon	Ceramic	NBR	EN 1.4301 (AISI 304)