Technical Data

Pump Name 3M 65-160/11

Customer	Date 2024-01-16	Company
Contact	Item no.	Issued by
Phone	Project	Phone
E-mail	Project ID	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	cSt	1.005
4	Head m		Vapour pressure	MPa	0.00234
5	Geodetic head m		PH value		
6	Inlet pressure (pin) MPa	0	Density	kg/m³	998.3
7	Available system NPSH		Solids	Weight %	0
8	Ambient temperature °C	20			

Pump

9	Pump Name	3M 65-160/11	Frequency		Hz	50
10	Design	CENTRIFUGAL PUMPS	Installation type			STANDARD
11	Manufacturer	EBARA	Impeller Diameter	Max.	mm	168
12	Speed rpm	2900		Designed	mm	168
13	No. of Stage	1		Min.	mm	168
14	Connection Suction side	DIN 2532	Flow	Operating	m³/h	
15	Connection Discharge side	DIN 2532		Max-	m³/h	138
16	Max Working Pressure MPa	1		Min-	m³/h	42
17	Shut-off head MPa	0.40	Head	Operating	m	
18	Total weight kg	See the table of "Dimensions".		- (Qmax.)	m	20.0
19	Shaft power kW			- (Qmin.)	m	38.6
20			Max. Shaft Power at max. impeller		kW	11.01
21	Required pump NPSH m		Efficiency		%	

Materials

22	Impeller	AISI 316L		
23	Casing	AISI 304		
24	Shaft	AISI 304		
25				
26				
27				

Motor

28	Manufacturer	EPE Standard	Insulation class		F
29	Type	TEFC_3M65-160/11_400_Three Phase	Phases		3~
30	Specific design	IE3 / 50 Hz / Pole pairs 1	Frame size		
31	Rated power kW	11	Weight	kg	
32	Number of poles	2	Electric voltage	V	400
33	Speed rpm	2900	Electric current	A	21.3
34	Degree of protection	IP 55			
35					

Remarks

EBARA

Performance Curve

Pump Name 3M 65-160/11

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Requested data

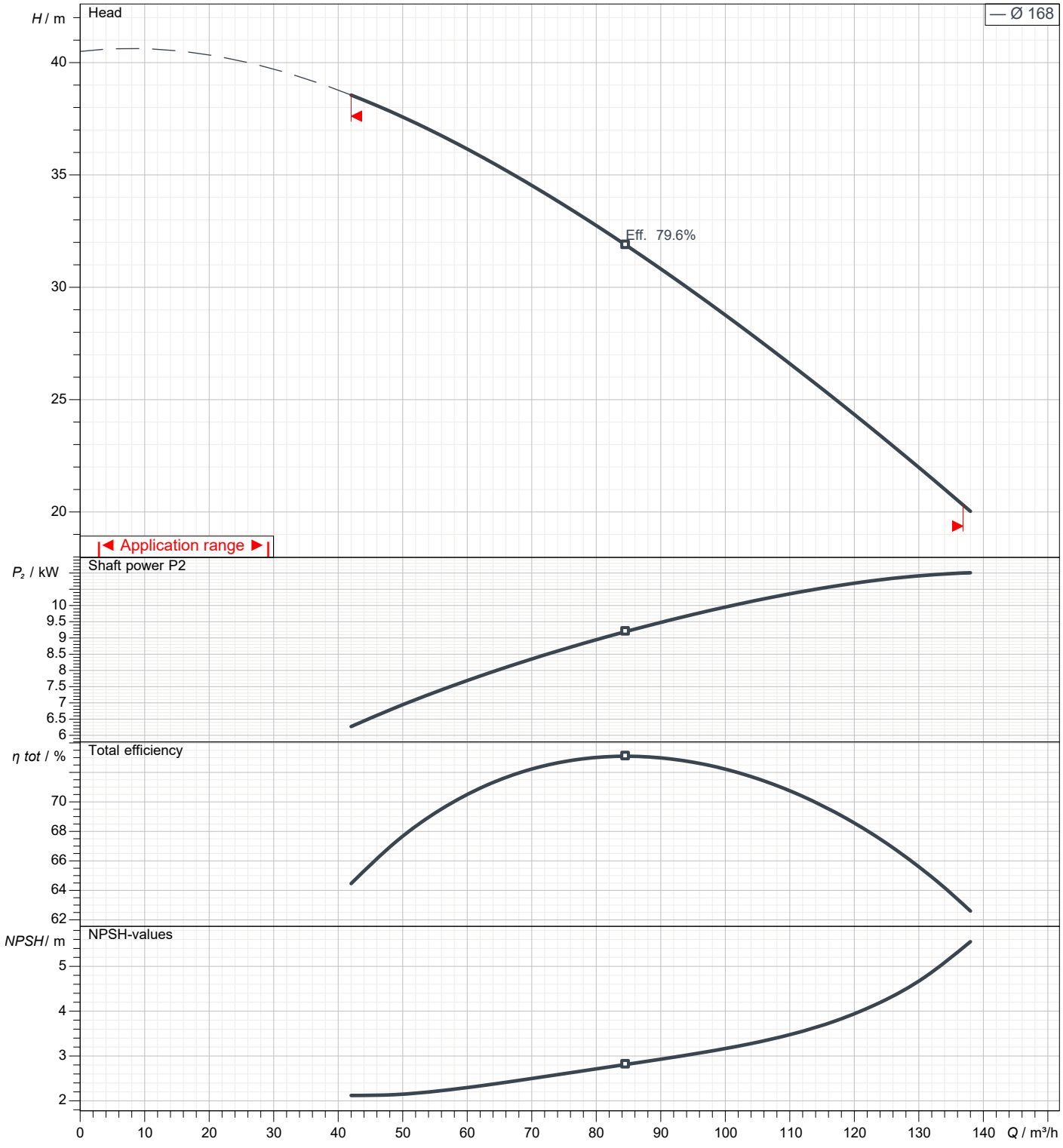
1	Flow	m³/h	
2	Head	m	
3	Geodetic head	m	

Pump

Operating flow	m³/h		Frequency	Hz	50
Operating head	m		Number of poles		2
Impeller diameter designed	mm	168	Speed	rpm	2900

Test standard: ISO 9906:2012 - Grade3B

Water; 20°C; 998.3kg/m³; 1cSt

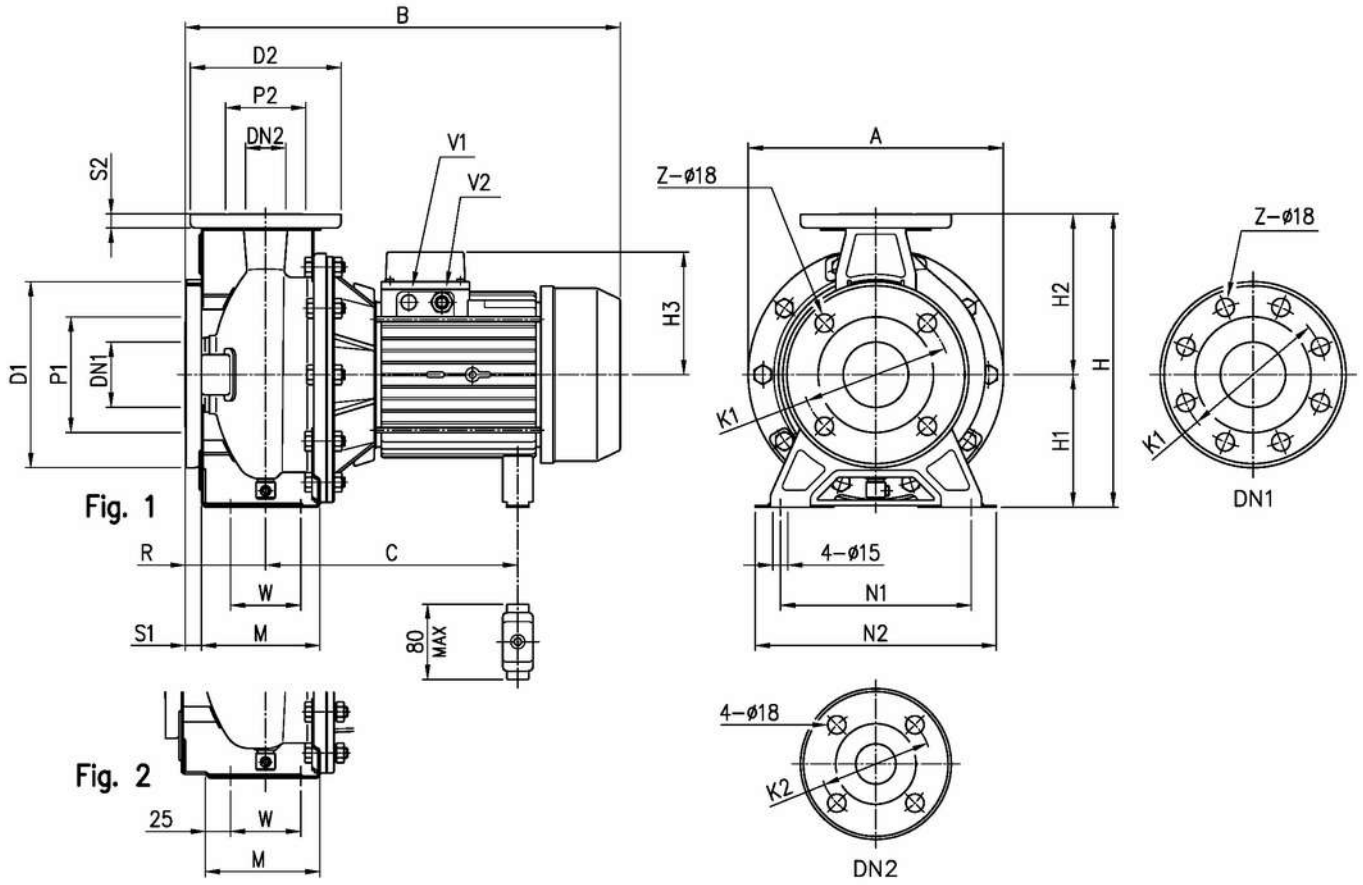


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Dimensions

Pump Name 3M 65-160/11

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Contact	Item no.	Issued by
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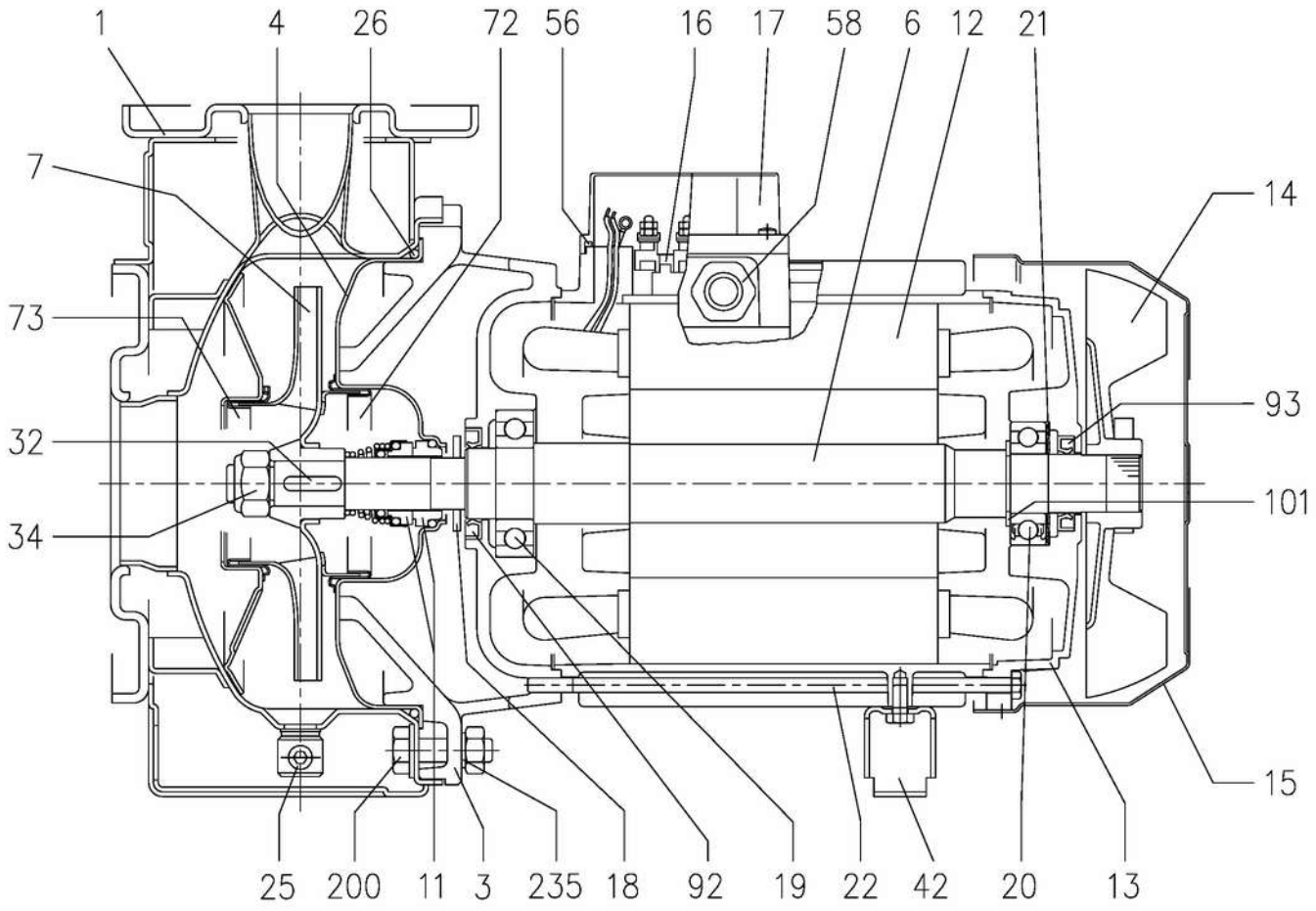
Dimensions in	mm							
1	A	296	H3	178				
2	B	595	M	140				
3	C	329	N1	212				
4	Dia D1	200	N2	280				
5	Dia D2	185	R	100				
6	Dia DN1	80	S1	18				
7	Dia DN2	65	S2	16				
8	Dia K1	160	V2	PG 21				
9	Dia K2	145	W	95				
10	Dia P1	134	Weight P&M	67.4 kg				
11	Dia P2	115	Z	8				
12	Fig	2	Z option	4				
13	H	360						
14	H1	160						
15	H2	200						

EBARA

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Construction

Pump Name 3M 65-160/11

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Construction

Pump Name 3M 65-160/11

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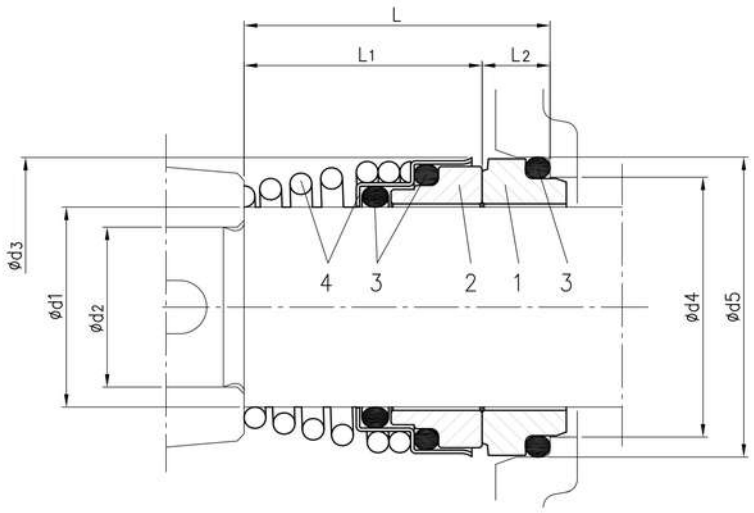
N°	PART NAME		MATERIAL 3M	MATERIAL 3LM	DIMENSIONS	STANDARD	Q.TY
1	Casing		EN 1.4301 (AISI 304)	EN 1.4404 (AISI 316L)			1
3	Motor bracket		[9]				1
4	Casing cover		EN 1.4301 (AISI 304)	EN 1.4404 (AISI 316L)			1
6	Shaft with rotor-Part in contact with liquid		EN 1.4301 (AISI 304)	EN 1.4404 (AISI 316L)			1
7	Impeller		EN 1.4301 (AISI 304)	EN 1.4404 (AISI 316L)			1
11	Mechanical seal		Carbon/Ceramic/NBR	SiC/SiC/FPM	[8]		1
12	Motor frame with stator		-				1
13	Motor cover		Aluminium				1
14	Fan		PA				1
15	Fan cover		Fe P04 Galvanized				1
16	Terminal		-				1
17	Terminal box cover		Aluminium (three phase version)				1
18	Splash ring	Up to 11 kW	NBR	/	40x21.5x3	EBARA DRAWING	1
		15 kW and above			50x29.5x3		
19	Bearing		-		See table p.324		1
20	Bearing		-		See table p.324		1
21	Adjusting ring		Steel C70				1
22	Tie rod	Up to 3 kW	Fe 42 Galvanized		M5	EBARA DRAWING	4
		For 4 - 5.5 - 7.5 kW			M6		
		9.2 e 11kW			M8		
	Screw	15 kW and above	Galvanized Steel 8.8 strenght class ISO 898-1		M10x40	UNI 5739	
25	Draing plug		EN 1.4401 (AISI 316) / PTFE		R 1/8" L=8	DIN 906	1
26	"O" ring	32-125, 40-125	NBR [7]	FPM	158.11x5.34	OR 6625	1
		32-160, 40-160, 50-125			183.52x5.34	OR 6720	
		32-200, 40-200, 50-160, 50-200, 65-160, 65-200			227.96x5.34	OR 6895	
32	Key	Up to 11 kW	EN 1.4401 (AISI 316)		A 6x6x25	UNI 6604	1
		15 kW and above			A 8x7x30		
34	Impeller nut	Up to 11kW	EN 1.4301 (AISI 304)	EN 1.4404 (AISI 316L)	M16x1.5	UNI 7474	1
		50-200/15			M18x1.5		
		15 kW and above			M20x1.5		
42	Foot		Aluminium / Galvanized steel			EBARA DRAWING	[1]
56	Box gasket		NBR				1
58	Fasting nut		-				[2]
72	Casing ring [3]		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	Up to 3kW	-	-	25x40x7	DIN 3760 without spring	1
		From 4 to 7.5 kW			30x47X7		
		From 9.2 kW to 11 kW			40x55x7		
		From 15 kW to 22 kW			45x60x7		
093	Lip seal	Up to 4 kW	-	-	25x40x7	DIN 3760 without spring	1
		From 5.5 kW to 7.5 kW			30x47X7		
		From 9.2 kW to 11 kW			40x55x7		
		From 15 kW to 22 kW			45x60x7		
101	Snap ring (only 9.2 and 11kW)		Carbon tool steels TC 80		Ø 40	UNI 7435	1
200	Screw	32-125, 40-125	Stainless steel A2 70 class ISO 3506/1		M 8x30	UNI 5739	8
		40-160, 40-200, 50-125, 50-160, 50-200, 65-125, 65-160, 65-200			M 10x35		[4]
235	Washer	32-125, 40-125	EN 1.4301 (AISI 304)		8.4x17	UNI 6592	8
		40-160, 40-200, 50-125, 50-160, 50-200, 65-125, 65-160, 65-201			10.5x21		[4]
206	Screw for bracket [5]		Galvanized Steel 8.8 strenght class ISO 898-1		M 10x40	UNI 5739	4
244	Pin [6]		-	EN 1.4301 (AISI 304)	4x15		1

[1] Quantity =0 for 65-160/15
Quantity =1 for 32-40-50 and 65 up to 11kW
Quantity =2 for 65-200/15, 65-200/18.5, 65-200/22
[2] Quantity =1 up to 11kW
Quantity =2 from 15kW to 22kW
[3] For version 32-200/3, 32-200/4, 32-200/5.5, 40-200/5.5, 40-200/7.5, 40-200/11, 50-160/5.5, 50-160/7.5, 50-200/9.2, 50-200/11, 50-200/15
[4] Quantity =10 for 32-160, 40-160, 50-125, 65-125
Quantity =12 for 32-200, 40-200, 50-160, 50-200, 65-160, 65-200
[5] For 15kW and above
[6] Only for 65-160/15 and 65-200
[7] FPM for H-HS-HW-HSW version
EPDM for E version, Q1AEGG, Q1Q1EGG, Q1U3EGG, U3CEGG, U3U3EGG (U3U3EGG not available for model 65-160/15 and 65-200)
[8] Special version: see CONSTRUCTION 3
[9] Cast iron EN-GJL-200-EN 1561 for 32-200/3 and models with 15, 18.5, 22 kW motor
Aluminum AL-EN-1706-AC-46000-D for all the others.

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Construction

Pump Name 3M 65-160/11

Customer	Date 2024-01-16	Company
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Version	Pump type	Dimensions								Material			
		d1	d2	d3	d4	d5	L	L1	L2	1 Stationary seal ring	2 Rotary seal ring	3 Rubber	4 Frame + Spring
Standard	32-125/160/200 40-125/160/200 50-125/160/200 65-125 65-160/7.5-9.2-11	22	19	38	31	37	37.5	27.5	10	Carbon	Ceramic	NBR	EN 1.4401 (AISI 316)
	65-160/15 65-200	30	24	46	39	45	42.5	32.5	10				

EBARA