

Technical data

Pump name

3M 32-160/1.5

| | | | |
|----------|------------|------------|-----------|
| Customer | Date | 2021-05-13 | 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 m ³ /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/m ³ 998.3 |
| 7 | Available system NPSH | | Solids | Weight % 0 |
| 8 | Ambient temperature °C | 20 | | |

Pump

| | | | | |
|----|---------------------------|--------------------------------|-----------------------------------|-----------------------------|
| 9 | Pump name | 3M 32-160/1.5 | Frequency | Hz 50 |
| 10 | Design | CENTRIFUGAL PUMPS | Installation type | STANDARD |
| 11 | Manufacturer | EBARA | Impeller Diameter | Max. mm 151 |
| 12 | Speed rpm | 2900 | | Designed mm 151 |
| 13 | No. of Stage | 1 | | Min. mm 151 |
| 14 | Connection Suction side | DIN 2532 | Flow | Operating m ³ /h |
| 15 | Connection Discharge side | DIN 2532 | | Max- m ³ /h 20 |
| 16 | Max Working Pressure kPa | 1000 | | Min- m ³ /h 6 |
| 17 | Shut-off head kPa | 288.91 | Head | Operating m |
| 18 | Total weight kg | See the table of "Dimensions". | | - (Qmax.) m 17.0 |
| 19 | Shaft power kW | | | - (Qmin.) m 28.0 |
| 20 | | | Max. Shaft Power at max. impeller | kW 1.57 |
| 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_3M32-160/1.5_400_Three Phase | Phases | 3~ |
| 30 | Specific design | IE3 / 50 Hz / Pole pairs 1 | Frame size | |
| 31 | Rated power kW | 1.5 | Weight | kg |
| 32 | Number of poles | 2 | Electric voltage | V 400 |
| 33 | Speed rpm | 2900 | Electric current | A 3.3 |
| 34 | Degree of protection | IP 55 | | |
| 35 | | | | |

Remarks

Performance curve

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Requested data

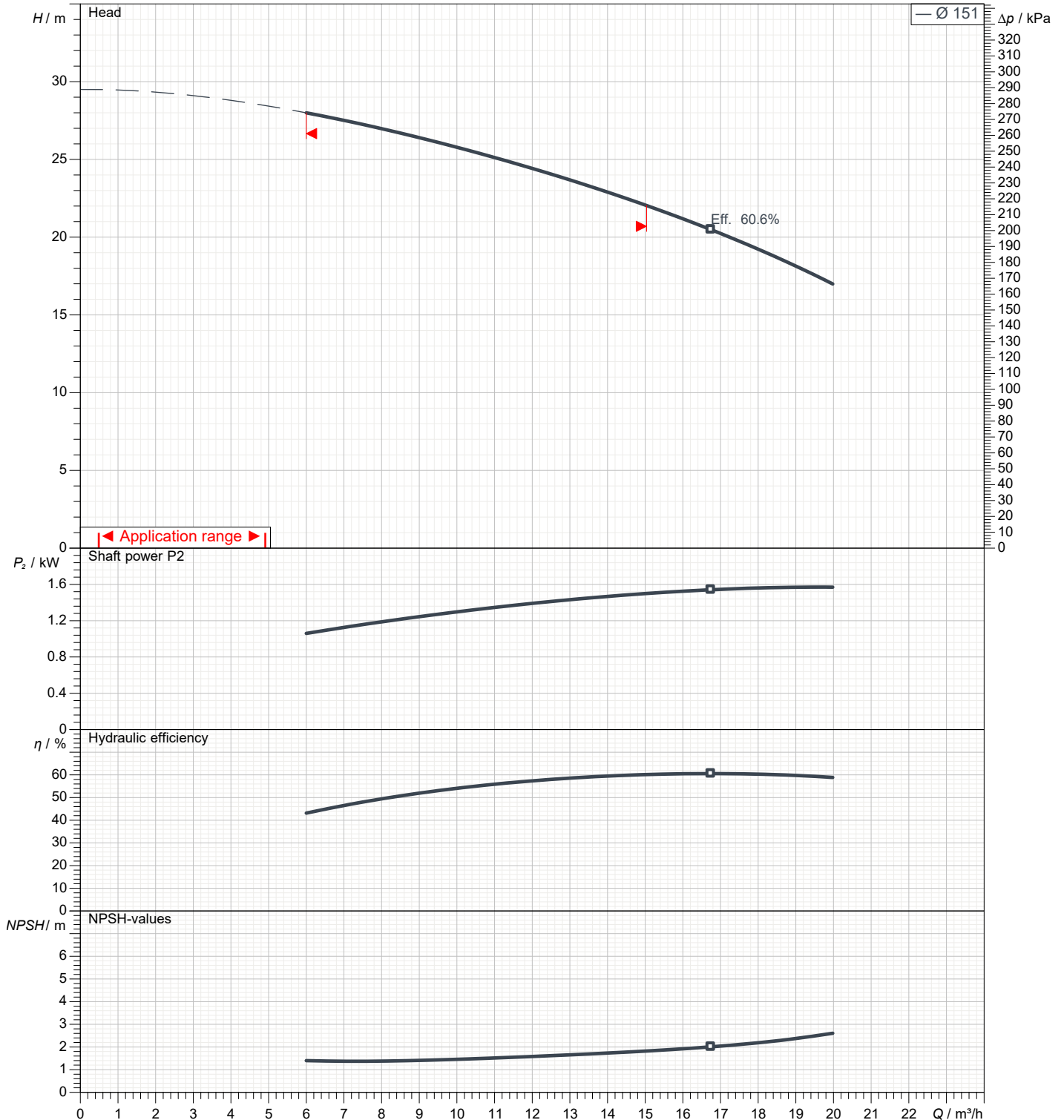
| | | | |
|---|---------------|-------------------|--|
| 1 | Flow | m ³ /h | |
| 2 | Head | m | |
| 3 | Geodetic head | m | |

Pump

| | | | | | |
|----------------------------|-------------------|-----|-----------------|-----|------|
| Operating Flow | m ³ /h | | Frequency | Hz | 50 |
| Operating Head | m | | Number of poles | | 2 |
| Impeller Diameter Designed | mm | 151 | Speed | rpm | 2900 |

Test standard: ISO 9906:2012 - Grade3B

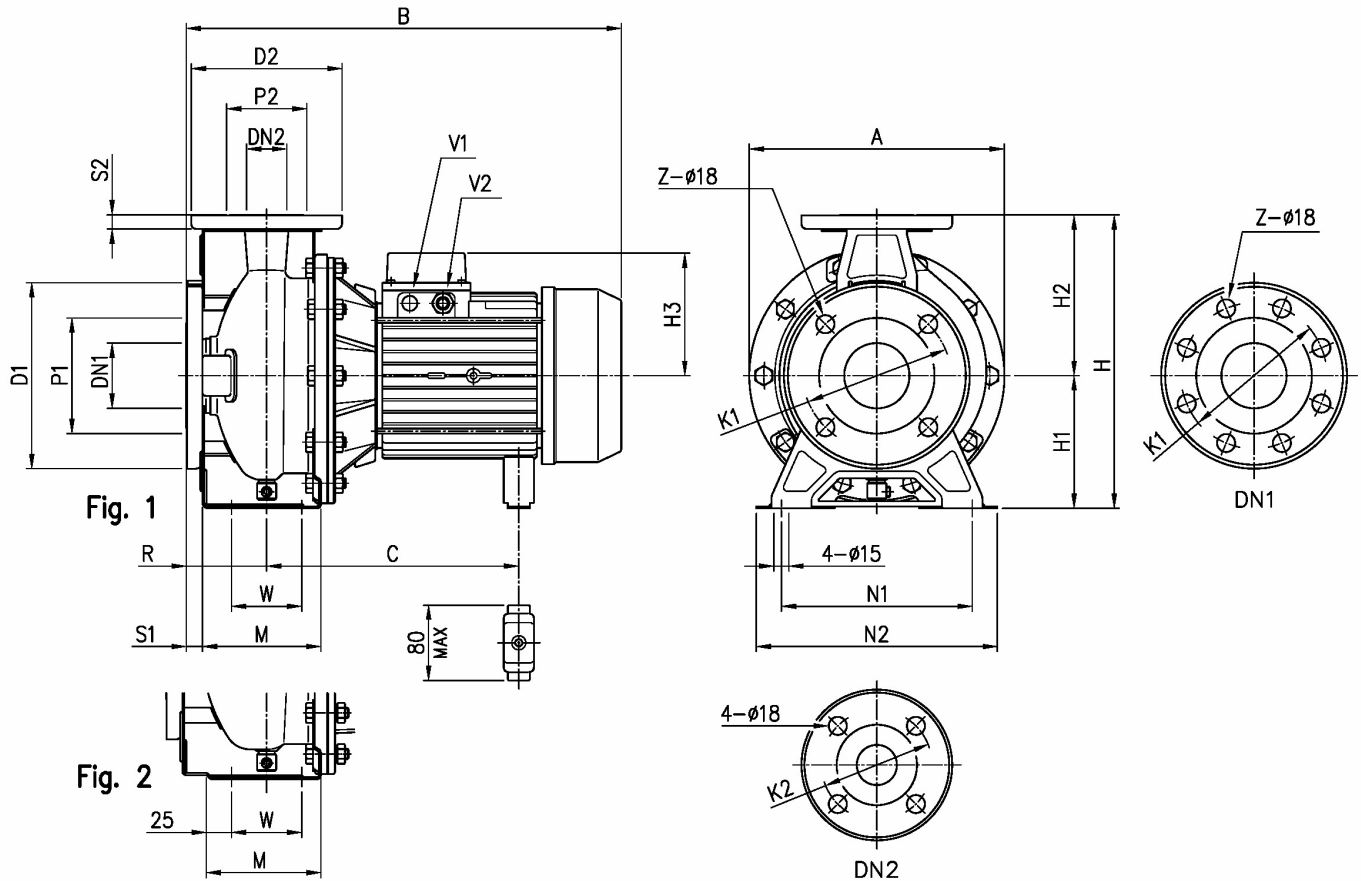
Water; 20°C; 998.3kg/m³; 1cSt



Dimensions

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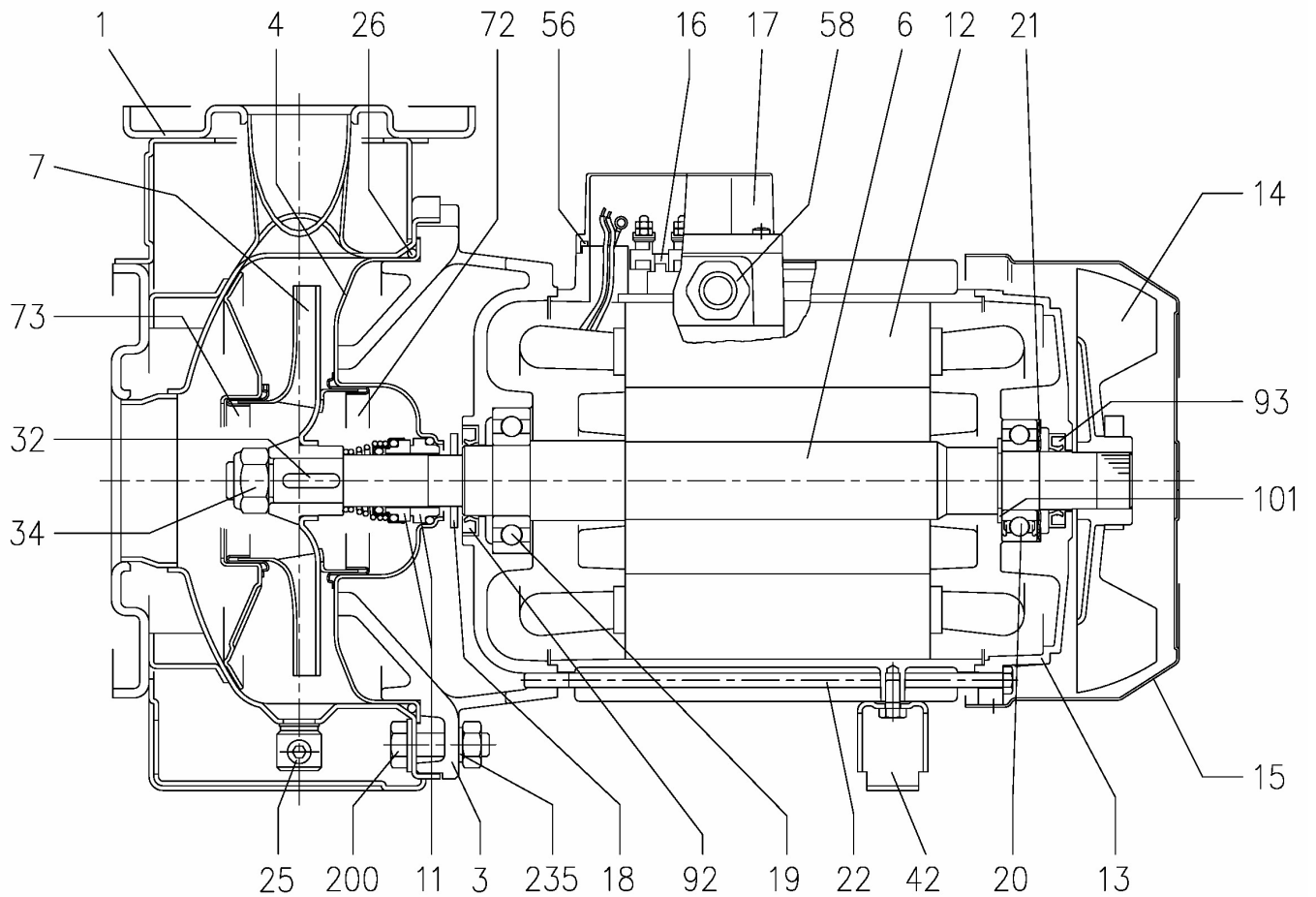
| Dimensions in | | mm | | | | | | |
|---------------|---------|-----|------------|---------|--|--|--|--|
| 1 | A | 254 | H3 | 119 | | | | |
| 2 | B | 431 | M | 118 | | | | |
| 3 | C | 232 | N1 | 190 | | | | |
| 4 | Dia D1 | 165 | N2 | 240 | | | | |
| 5 | Dia D2 | 140 | R | 80 | | | | |
| 6 | Dia DN1 | 50 | S1 | 16 | | | | |
| 7 | Dia DN2 | 32 | S2 | 14 | | | | |
| 8 | Dia K1 | 125 | V2 | PG 13,5 | | | | |
| 9 | Dia K2 | 100 | W | 70 | | | | |
| 10 | Dia P1 | 95 | Weight P&M | 27 kg | | | | |
| 11 | Dia P2 | 75 | Z | 4 | | | | |
| 12 | Fig | 1 | | | | | | |
| 13 | H | 292 | | | | | | |
| 14 | H1 | 132 | | | | | | |
| 15 | H2 | 160 | | | | | | |

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Construction

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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 | | [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 15 kW and above | NBR / | 40x21.5x3 50x29.5x3 | EBARA DRAWING | 1 | |
| 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 15 kW and above | EN 1.4401 (AISI 316) | | A 6x6x25 A 8x7x30 | UNI 6604 | 1 |
| 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 | [4] | |
| | | 40-160, 40-200, 50-125, 50-160, 50-200, 65-125, 65-160, 65-200 | | M 10x35 | | | |
| | | | | | | | |
| 235 | Washer | 32-125, 40-125 | EN 1.4301 (AISI 304) | 8.4x17 | UNI 6592 | [4] | |
| | | 40-160, 40-200, 50-125, 50-160, 50-200, 65-125, 65-160, 65-201 | | 10.5x21 | | | |
| 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

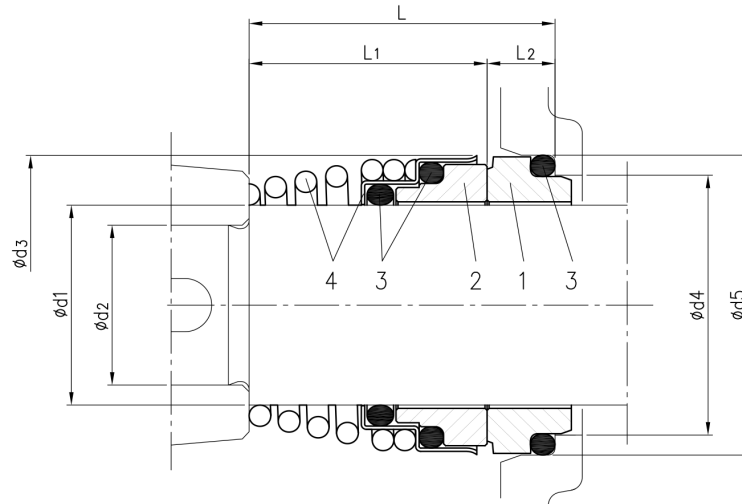
[9] Cast iron EN-GJL-200-EN 1561 for 32-200/3 and models with 15, 18.5, 22 kW motor
Aluminum AL-EN-1706-AC-46000-D for all the others.

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Construction

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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 | 22 | 19 | 38 | 31 | 37 | 37.5 | 27.5 | 10 | Carbon | Ceramic | NBR | EN 1.4401 (AISI 316) |
| | 40-125/160/200 | | | | | | | | | | | | |
| | 50-125/160/200 | | | | | | | | | | | | |
| | 65-125 | | | | | | | | | | | | |
| | 65-160/7.5-9.2-11 | | | | | | | | | | | | |
| 65-160/15 | 30 | 24 | 46 | 39 | 45 | 42.5 | 32.5 | 10 | | | | | |
| 65-200 | | | | | | | | | | | | | |