

Technical data

Pump name (*See Product description)EVM64 2-1F5/11

| | | | |
|----------|------------|-------------------------------------|-----------|
| Customer | Date | 2024-06-13 | Company |
| Contact | Item no. | | Issued by |
| Phone | Project | | Phone |
| E-mail | Project ID | Project redenumit 2024-06-13 20:42: | E-mail |

Requested data

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

Pump

| | | | | | |
|----|---------------------------|--|--------------------------------------|-----------------------------|------|
| 9 | Pump name | (*See Product description)EVM64 2-1F5/11 | Frequency Hz | 50 | |
| 10 | Design | VERTICAL PUMPS | Installation type | STANDARD | |
| 11 | Manufacturer | EBARA | Impeller Diameter | Max. mm | - |
| 12 | Speed rpm | 2930 | | Designed mm | |
| 13 | No. of Stage | 2 | | Min. mm | - |
| 14 | Connection Suction side | | Flow | Operating m ³ /h | |
| 15 | Connection Discharge side | | | Max- m ³ /h | 84 |
| 16 | Max Working Pressure bar | 16 | | Min- m ³ /h | 30 |
| 17 | Shut-off head bar | 5.20 | Head | Operating m | |
| 18 | Total weight kg | See the table of "Dimensions". | | - (Qmax.) m | 22.9 |
| 19 | Shaft power kW | | | - (Qmin.) m | 48.2 |
| 20 | | | Max. Shaft Power at max. impeller kW | 8.98 | |
| 21 | Required pump NPSH m | | Efficiency % | | |

Materials

| | | | | |
|----|---------------------|----------|--|--|
| 22 | Impeller | AISI 304 | | |
| 23 | Intermediate casing | AISI 304 | | |
| 24 | Bottom casing | ASTMCF8 | | |
| 25 | Shaft | AISI 316 | | |
| 26 | | | | |
| 27 | | | | |

Motor

| | | | | |
|----|----------------------|-------------------------------------|--------------------|------|
| 28 | Manufacturer | ETM | Insulation class | F |
| 29 | Type | TEFC_EVM64 2-1F5/11_400_Three Phase | Phases | 3~ |
| 30 | Specific design | IE3 / 50 Hz / Pole pairs 1 | Frame size | 160 |
| 31 | Rated power kW | 11 | Weight kg | 62.5 |
| 32 | Number of poles | 2 | Electric voltage V | 400 |
| 33 | Speed rpm | 2930 | Electric current A | 21.3 |
| 34 | Degree of protection | IP 55 | | |
| 35 | | | | |

Remarks

Performance curve

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Requested data

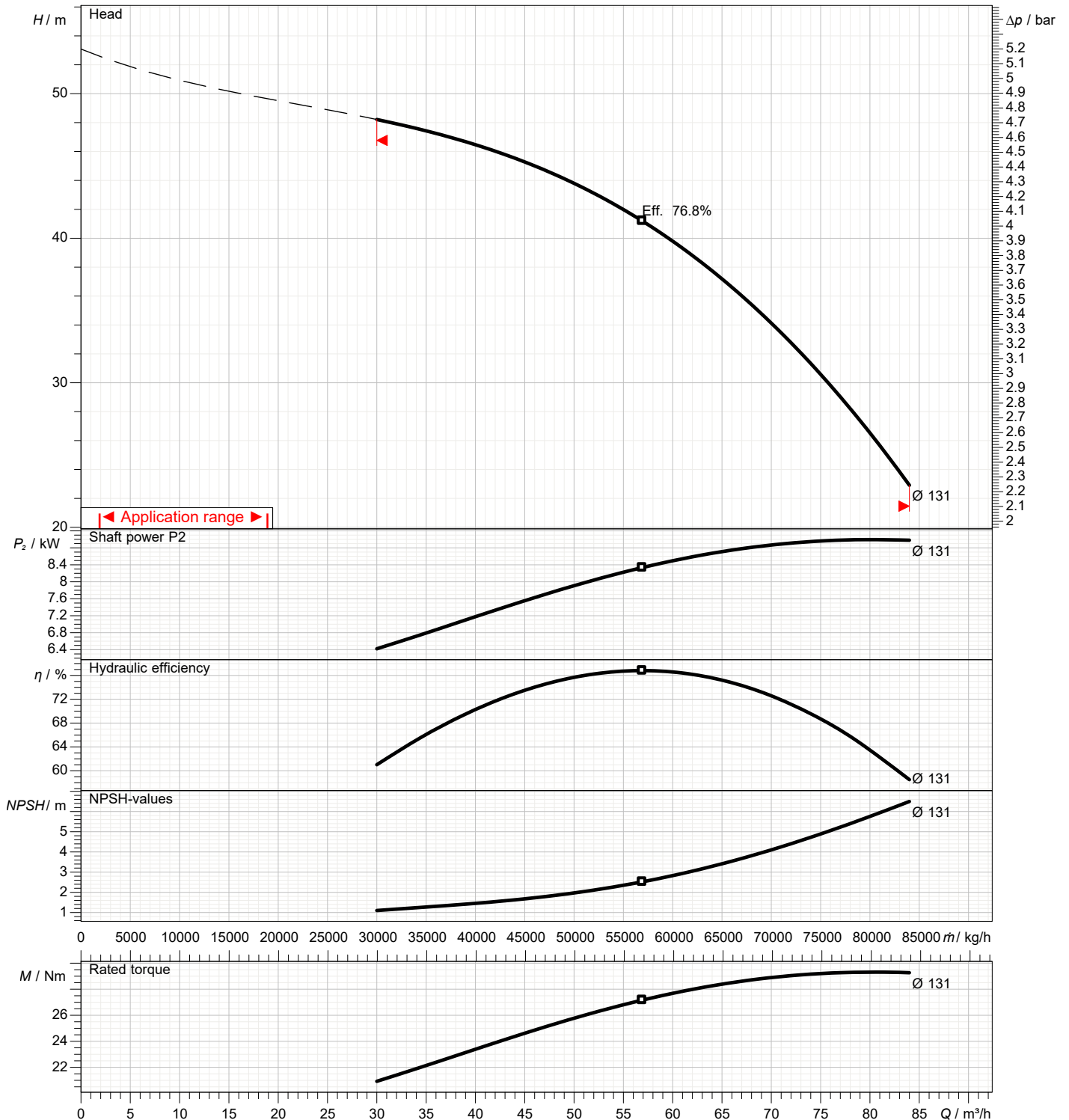
| | | | |
|---|---------------|-------------------|--|
| 1 | Flow | m ³ /h | |
| 2 | Head | m | |
| 3 | Geodetic head | m | |

Pump

| | | | | | |
|----------------|-------------------|--|----------------------------|-----|------|
| Operating flow | m ³ /h | | Impeller Diameter Designed | mm | |
| Operating head | m | | Frequency | Hz | 50 |
| | | | Speed | rpm | 2930 |

Test standard: ISO 9906:2012 - Grade3B

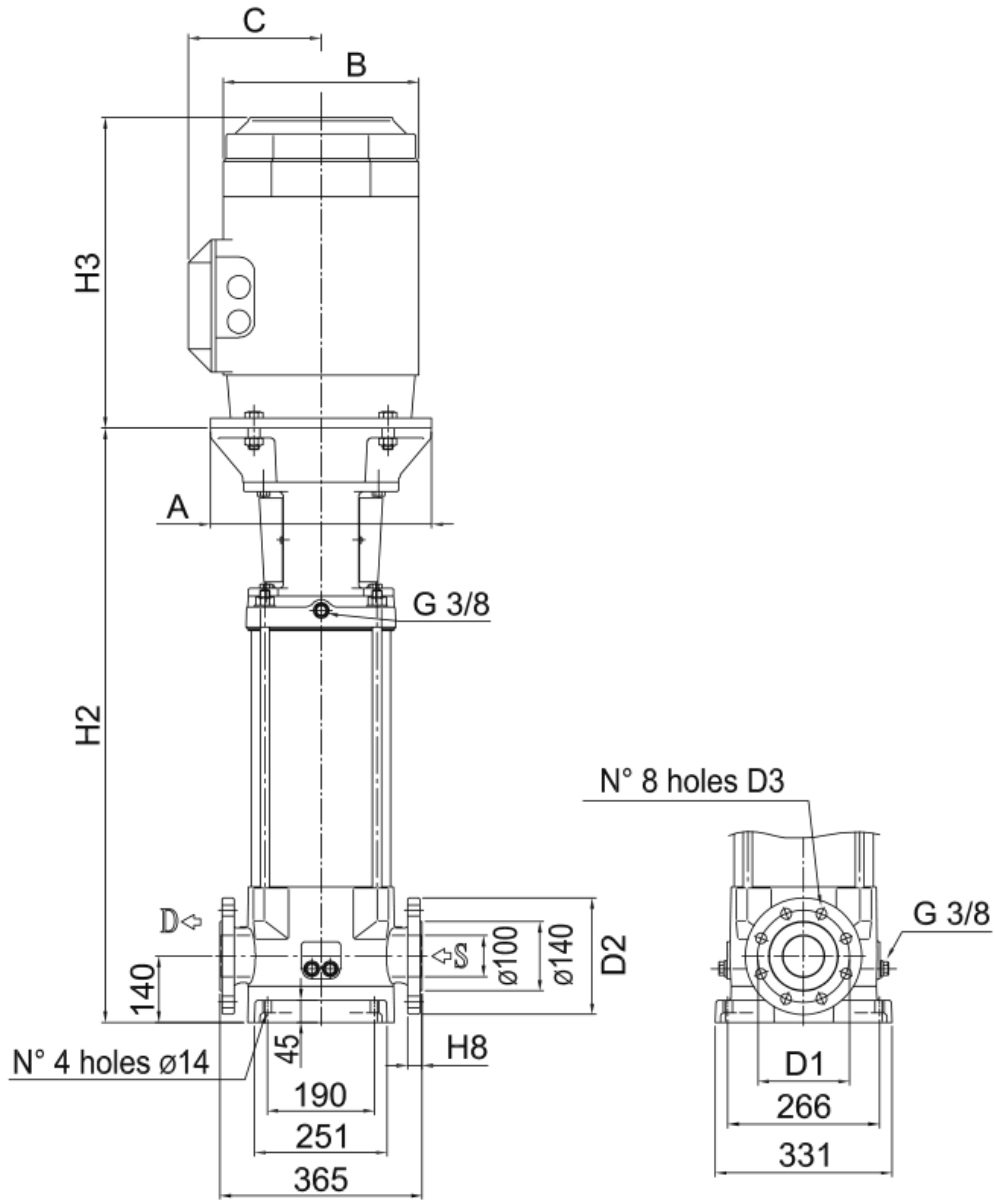
Water; 20°C; 998.3kg/m³; 1mm²/s



Dimensions

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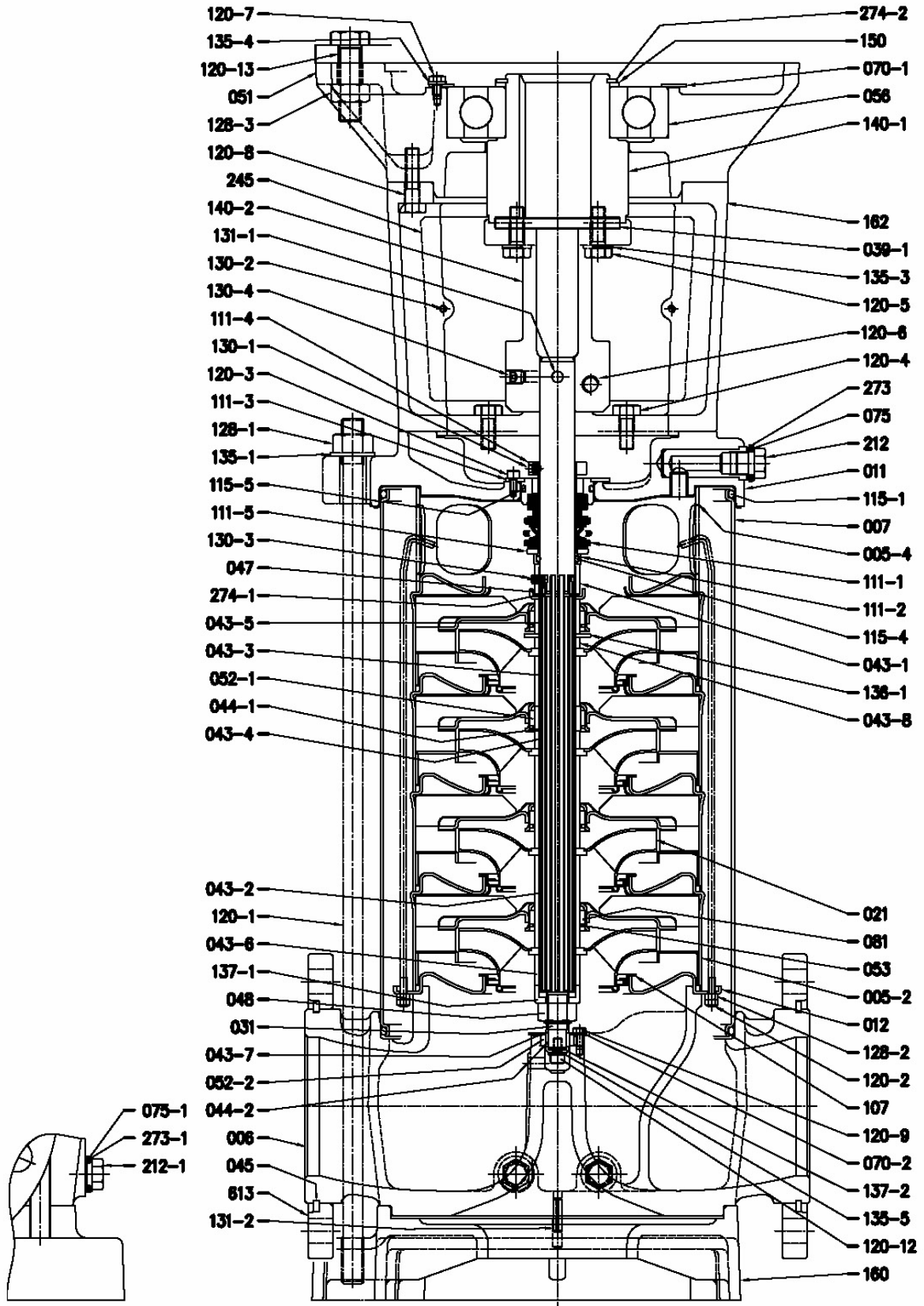
| Dimensions in | | mm | | | | | | |
|---------------|------------|--------|--|--|--|--|--|--|
| 1 | A | 350 | | | | | | |
| 2 | B | 259 | | | | | | |
| 3 | C | 180 | | | | | | |
| 4 | Dia D1 | 180 | | | | | | |
| 5 | Dia D2 | 220 | | | | | | |
| 6 | Dia D3 | 18 | | | | | | |
| 7 | H2 | 749 | | | | | | |
| 8 | H3 | 440 | | | | | | |
| 9 | H8 | 20 | | | | | | |
| 10 | Weight P&M | 156 kg | | | | | | |
| 11 | | | | | | | | |
| 12 | | | | | | | | |
| 13 | | | | | | | | |
| 14 | | | | | | | | |
| 15 | | | | | | | | |

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Construction

Pump name (*See Product description)EVM64 2-1F5/11

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(2/4) Construction

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| N° | | MATERIAL | | DIMENSIONS | STANDARD | Q.TY |
|--------|--------------------------------|---|--|-------------------------------------|--|------|
| | | EVM | EVML | | | |
| 005-2 | Intermediate casing | EN 1.4301 (AISI 304) | EN 1.4401 (AISI 316) | | | [1] |
| 005-4 | Discharge casing | EN 1.4301 (AISI 304) | EN 1.4401 (AISI 316) | | | 1 |
| 006 | Bottom casing | EN 1.4301 (AISI 304) | EN 1.4401 (AISI 316) | | | 1 |
| 007 | Outer casing | EN 1.4301 (AISI 304) | EN 1.4401 (AISI 316) | | | 1 |
| 011 | Casing cover | Cast iron + EN 1.4301 (AISI 304) | Cast iron + EN 1.4401 (AISI 316) | | | [1] |
| 012 | Suction cover | EN 1.4301 (AISI 304) | EN 1.4401 (AISI 316) | | | 1 |
| 021 | Impeller | EN 1.4301 (AISI 304) | EN 1.4401 (AISI 316) | | | [1] |
| 031 | Shaft | EN 1.4401 (AISI 316) | | | | 1 |
| 039-1 | Key | Carbon steel | | 12x8x90 | UNI 6604 | [1] |
| 043-1 | Shaft sleeve (mechanical seal) | EN 1.4301 (AISI 304) | EN 1.4401 (AISI 316) | | | 1 |
| 043-2 | Shaft sleeve (intermediate) | EN 1.4301 (AISI 304) | EN 1.4401 (AISI 316) | | | [1] |
| 043-3 | Shaft sleeve (bearing) | EN 1.4301 (AISI 304) | EN 1.4401 (AISI 316) | | | [1] |
| 043-4 | Shaft sleeve (adjustment) | EN 1.4301 (AISI 304) | EN 1.4401 (AISI 316) | | | [1] |
| 043-5 | Shaft sleeve (last stage) | EN 1.4301 (AISI 304) | EN 1.4401 (AISI 316) | | | 1 |
| 043-6 | Shaft sleeve (adjustment) | EN 1.4301 (AISI 304) | EN 1.4401 (AISI 316) | | | 1 |
| 043-7 | Shaft sleeve (bottom bearing) | EN 1.4301 (AISI 304) | EN 1.4401 (AISI 316) | | | 1 |
| 043-8 | Shaft sleeve (discharge/lower) | EN 1.4301 (AISI 304) | EN 1.4401 (AISI 316) | | | 1 |
| 044-1 | Shaft sleeve bearing | Tungsten carbide | | | | [1] |
| 044-2 | Bearing sleeve | Tungsten carbide | | | | 1 |
| 045 | Flange holder | EN 1.402 (AISI 420) | | | | 4 |
| 047 | Ring holder | EN 1.4301 (AISI 304) | EN 1.4401 (AISI 316) | | | 1 |
| 048 | Impeller nut | A2-70 UNI 7323 with inox insert | A4-70 UNI 7323 with inox insert | M16 | | 1 |
| 051 | Motor adapter | Cast iron EN-GJL-200-EN 1561 | | | | [1] |
| 052-1 | Bearing | Tungsten carbide | | | | [1] |
| 052-2 | Bearing | Tungsten carbide | | | | 1 |
| 053 | Bush holder | EN 1.4301 (AISI 304) | EN 1.4401 (AISI 316) | | | [1] |
| 056 | Ball bearing | | | | | [1] |
| 070-1 | Ring for bearing | EN 1.4301 (AISI 304) | | | | [1] |
| 070-2 | Ring for bearing | EN 1.4301 (AISI 304) | EN 1.4401 (AISI 316) | | | 1 |
| 075 | O-Ring (plug) | EPDM | FPM | | | 4 |
| 075-1 | O-Ring (plug) | EPDM | FPM | | | 4 |
| 081 | Bush | PTFE | | | | [1] |
| 107 | Liner ring | PTFE / EN 1.4401 (AISI 316) | | | | [1] |
| 111-1 | Mechanical seal | Silicon carbide / Carbon / FPM | | | | 1 |
| 111-2 | Mechanical seal cartridge | EN 1.4301 (AISI 304) | EN 1.4401 (AISI 316) | | | 1 |
| 111-3 | Mechanical seal seat | EN 1.4301 (AISI 304) | EN 1.4401 (AISI 316) | | | 1 |
| 111-4 | Seal holder | Brass OT 58 UNI 5705 | | | | 1 |
| 111-5 | Adjusting ring | EN 1.4301 (AISI 304) | EN 1.4401 (AISI 316) | | | 1 |
| 115-1 | O-Ring (outer casing) | EPDM | FPM | D.240.66x5.34 | | 2 |
| 115-4 | O-Ring (cartridge sleeve) | EPDM | FPM | D.24.99x3.53 | | 1 |
| 115-5 | O-Ring (seal cover) | EPDM | FPM | D.44.04x3.53 | | 1 |
| 120-1 | Tie-rod | Zincate steel 6.8 Strenght class ISO 898/1 | | | | 4 |
| 120-2 | Tie-rod | EN 1.4301 (AISI 304) | EN 1.4401 (AISI 316) | | | 1 |
| 120-3 | Screw (mechanical seal) | A2-70 UNI 7323 | | M5x10 | UNI 5931 | 4 |
| 120-4 | Screw (casing cover) | Zincate steel 8.8 Strenght class ISO 898/1 | | M10x25 | UNI 5739 | [1] |
| 120-5 | Screw for coupling | EVM64 1-1 EVM64 2 and higher | Zincate steel 8.8 Strenght class ISO 898/1 | M8x20 M10x30 | UNI 5931 UNI 5739 | [1] |
| 120-6 | Screw for coupling | EVM64 1-0, 1-1, 2-2 EVM64 2 and higher | Zincate steel 8.8 Strenght class ISO 898/1 | M8x20 M12x30 | UNI 5931 UNI 5931 | 2 |
| 120-7 | Screw | | Zincate steel | M6x10 | UNI 5739 | [1] |
| 120-8 | Screw | EVM64 1-0, 2-2 | Zincate steel 8.8 Strenght class ISO 898/1 | M6x10 M10x30 | UNI 5739 UNI 5739 | [1] |
| 120-9 | Screw | EVML EVM | EN 1.4301 (AISI 304) EN 1.4401 (AISI 316) | M5x8 M5x8 | UNI 5737 UNI 5739 | 4 |
| 120-12 | Screw | | EN 1.4301 (AISI 304) EN 1.4401 (AISI 316) | M6x20 | UNI 5931 | 1 |
| 120-13 | Screw | EVM64 1-1 EVM64 1-0, 2-2 EVM64 6 to 7 EVM64 2 to 5 | Zincate steel 8.8 Strenght class ISO 898/1 | M8x20 M12x30 M16x55 M16x65 | UNI 5739 UNI 5739 UNI 5737 UNI 5739 | 4 |
| 128-1 | Nut for tie rod | Zincate steel | | M16 | UNI 5588 | 4 |
| 128-2 | Nut | Carbon steel | EN 1.4401 (AISI 316) | M5 | UNI 5588 | 4 |
| 128-3 | Nut | Zincate steel | | M16 | UNI 5588 | [1] |
| 130-1 | Set screw | A2-70 UNI 7323 | | M6x8 | UNI 5923 | 3 |
| 130-2 | Screw for coupling guard | A2-70 UNI 7323 | | M5x6 | UNI 7687 | 4 |
| 130-3 | Set screw | EN 1.4301 (AISI 304) | EN 1.4401 (AISI 316) | M6X6 | UNI 5923 | 1 |
| 130-4 | Set screw | Zincate steel | | M10x10 | UNI 5923 | 1 |
| 131-1 | Pin for shaft | Carbon steel | | | | 1 |
| 131-2 | Elastic pin | Zincate steel | | 6x25 | UNI 6873 | 1 |
| 135-1 | Washer | Zincate steel | | 17x30x3 | UNI 6592 | 4 |
| 135-3 | Washer | Zincate steel | | 10.5x17.5x2.2 | UNI 1751 | [1] |
| 135-4 | Washer | Plated carbon steel | | 6.4 | UNI 1751 | [1] |
| 135-5 | Washer | EN 1.4301 (AISI 304) | EN 1.4401 (AISI 316) | D.6 | | 1 |
| 136-1 | Stopper ring | EN 1.4301 (AISI 304) | EN 1.4401 (AISI 316) | | | 1 |
| 137-1 | Impeller spacer | EN 1.4301 (AISI 304) | EN 1.4401 (AISI 316) | | | 1 |
| 137-2 | Shaft spacer | EN 1.4301 (AISI 304) | EN 1.4401 (AISI 316) | | | 1 |
| 140-1 | Motor coupling | Carbon steel | | | | [1] |
| 140-2 | Coupling (pump side) | Carbon steel | | | | [1] |
| 150 | Spacer | Carbon steel | | | | [1] |
| 160 | Base | Cast iron EN-GJL-200 EN 1561 | | | | 1 |
| 162 | Motor bracket | Cast iron EN-GJL-200-EN 1561 | | | | 1 |
| 212 | Plug | EN 1.4301 (AISI 304) | EN 1.4401 (AISI 316) | | | 1 |
| 212-1 | Plug | EN 1.4301 (AISI 304) | EN 1.4401 (AISI 316) | | | 4 |
| 245 | Coupling guard | EN 1.4301 (AISI 304) | | | | 2 |
| 273 | Plug washer | EN 1.4301 (AISI 304) | EN 1.4401 (AISI 316) | | | 1 |
| 273-1 | Plug washer | EN 1.4301 (AISI 304) | EN 1.4401 (AISI 316) | | | 4 |
| 274-1 | C-Type snap ring | EN 1.4301 (AISI 304) | EN 1.4401 (AISI 316) | D.26 | UNI 7435 | 1 |
| 274-2 | C-Type snap ring | EVM64 1-0, 2-2 EVM64 2 to 4-3 EVM64 4-0, 4-1 | Carbon steel TC80 | D.50 D.65 D.75 | UNI 7435 UNI 7435 UNI 7535 | [1] |
| 613 | Flange | Carbon steel | | | | 2 |

[1] See table on CONSTRUCTION 3

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Construction

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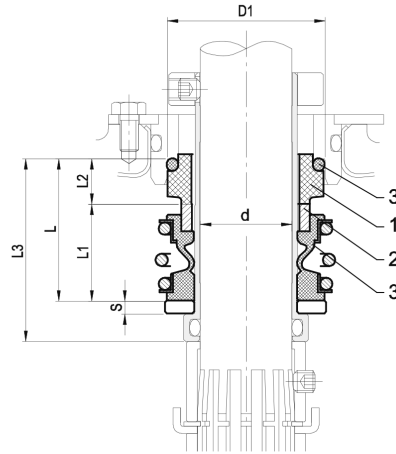
| | | | |
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| Size [mm] | Max operating pressure [bar] | d [mm] | D1 [mm] | L [mm] | L1 [mm] | L2 [mm] | L3 [mm] | S [mm] | Material | | |
|-----------|------------------------------|--------|---------|--------|---------|---------|---------|--------|------------------------|--------------------|----------|
| | | | | | | | | | 1 Stationary Seal Ring | 2 Rotary Seal Ring | 3 Rubber |
| 25 | 25 | 25 | 43 | 39 | 26.5 | 12.5 | 50 | 3.5 | Carbon graphite | Silicon carbide | FPM |