

# Technical data

Pump name

3D 32-160/2.2M

|          |                   |           |
|----------|-------------------|-----------|
| Customer | Date 23-June-2020 | Company   |
| Contact  | Item no.          | Issued by |
| Phone    | Project           | Phone     |
| E-mail   | Project ID        | E-mail    |

## Requested data

|   |                           |                  |                    |              |
|---|---------------------------|------------------|--------------------|--------------|
| 1 | Pump type                 | CENTRIFUGAL PUMP | Fluid              | Water, clean |
| 2 | Number of pumps / Reserve | 1 / 0            | Liquid temperature | K 293        |
| 3 | Flow m³/h                 | 0                | Kin. viscosity     | mm²/s 1      |
| 4 | Head m                    | 0                | Vapour pressure    | kPa 2.2      |
| 5 | Geodetic head m           | 0                | PH value           | 7            |
| 6 | Inlet pressure (pin) kPa  | 10               | Density            | kg/m³ 1000   |
| 7 | Available system NPSH     | 0                | Solids             | Weight % 0   |
| 8 | Ambient temperature       | K 290            |                    |              |

## Pump

|    |                           |                                |                                   |                  |
|----|---------------------------|--------------------------------|-----------------------------------|------------------|
| 9  | Pump name                 | 3D 32-160/2.2M                 | Frequency                         | Hz 50            |
| 10 | Design                    | CENTRIFUGAL PUMP               | Installation type                 | STANDARD         |
| 11 | Manufacturer              | EPE                            | Impeller                          | Max. mm 166      |
| 12 | Speed 1/min               | 2900                           | Diameter                          | Designed mm 166  |
| 13 | No. of Stage              | 1                              |                                   | Min. mm 166      |
| 14 | Connection Suction side   | EN 1092-2                      | Flow                              | Operating m³/h   |
| 15 | Connection Discharge side | EN 1092-2                      |                                   | Max- m³/h 20     |
| 16 | Max Working Pressure kPa  | 1000                           |                                   | Min- m³/h 6      |
| 17 | Shut-off head kPa         | 359.40                         | Head                              | Operating m      |
| 18 | Total weight kg           | See the table of "Dimensions". |                                   | - (Qmax.) m 25.5 |
| 19 | Shaft power kW            |                                |                                   | - (Qmin.) m 35.4 |
| 20 |                           |                                | Max. Shaft Power at max. impeller | kW 2.25          |
| 21 | Required pump NPSH m      |                                | Efficiency                        | %                |

## Materials

|    |          |                          |  |  |
|----|----------|--------------------------|--|--|
| 22 | Impeller | AISI 304                 |  |  |
| 23 | Casing   | Cast iron                |  |  |
| 24 | Shaft    | AISI 304 (wet extension) |  |  |
| 25 |          |                          |  |  |
| 26 |          |                          |  |  |
| 27 |          |                          |  |  |

## Motor

|    |                      |                                      |                  |        |
|----|----------------------|--------------------------------------|------------------|--------|
| 28 | Manufacturer         | EPE Standard                         | Insulation class | F      |
| 29 | Type                 | TEFC_3D 32-160/2.2M_230_Single Phase | Phases           | 1~     |
| 30 | Specific design      | - / 50 Hz / Pole pairs 1             | Frame size       |        |
| 31 | Rated power kW       | 2.2                                  | Weight           | kg 0   |
| 32 | Number of poles      | 2                                    | Electric voltage | V 230  |
| 33 | Speed 1/min          | 2900                                 | Electric current | A 13.3 |
| 34 | Degree of protection | IP 55                                |                  |        |
| 35 |                      |                                      |                  |        |

## Remarks

# Performance curve

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## Requested data

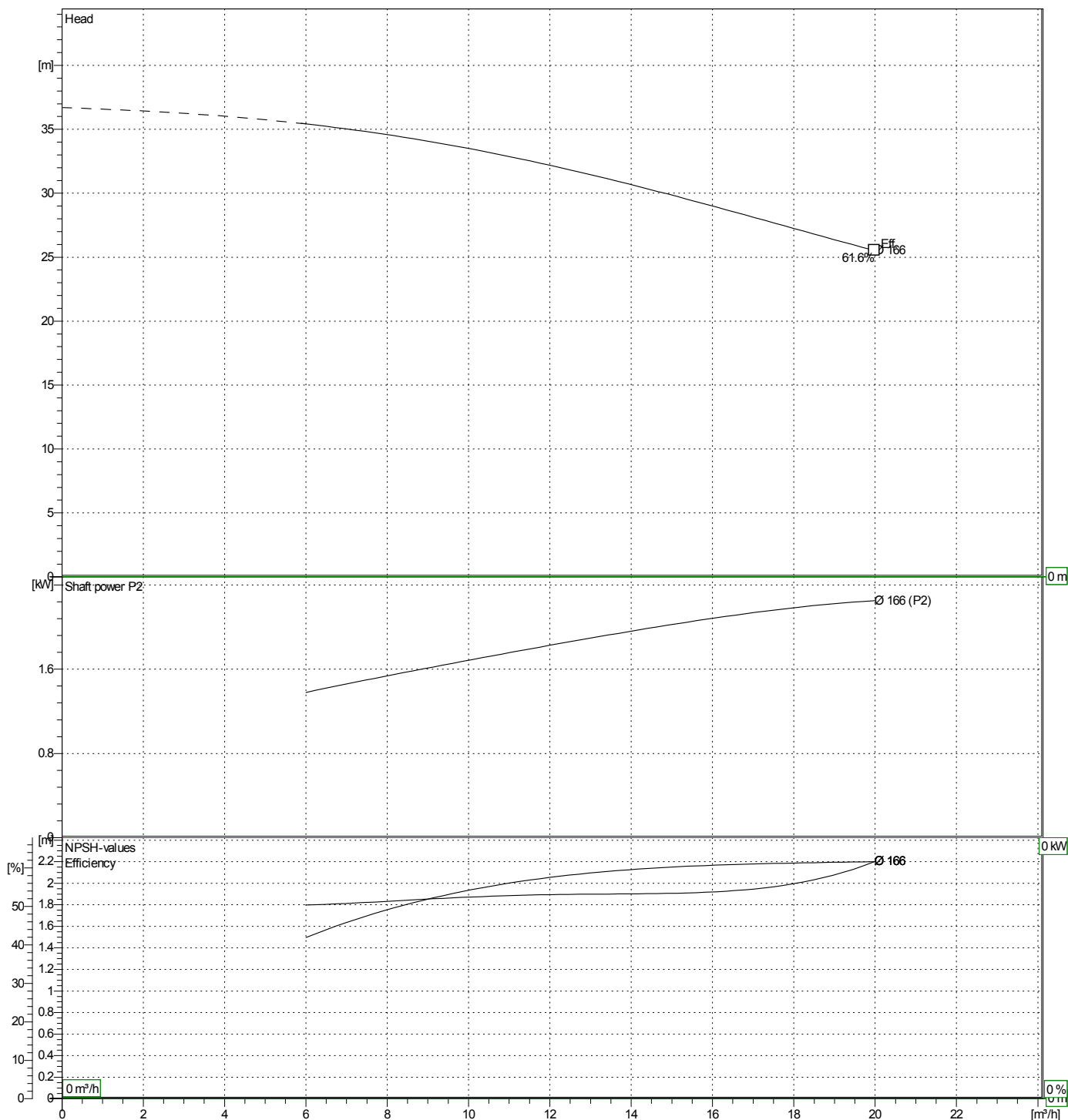
|   |               |      |   |
|---|---------------|------|---|
| 1 | Flow          | m³/h | 0 |
| 2 | Head          | m    | 0 |
| 3 | Geodetic head | m    | 0 |

## Pump

|                   |             |                 |       |    |
|-------------------|-------------|-----------------|-------|----|
| Operating Flow    | m³/h        | Frequency       | Hz    | 50 |
| Operating Head    | m           | Number of poles | 2     |    |
| Impeller Diameter | Designed mm | Speed           | 1/min |    |

Test standard: ISO 9906:2012 - Grade3B

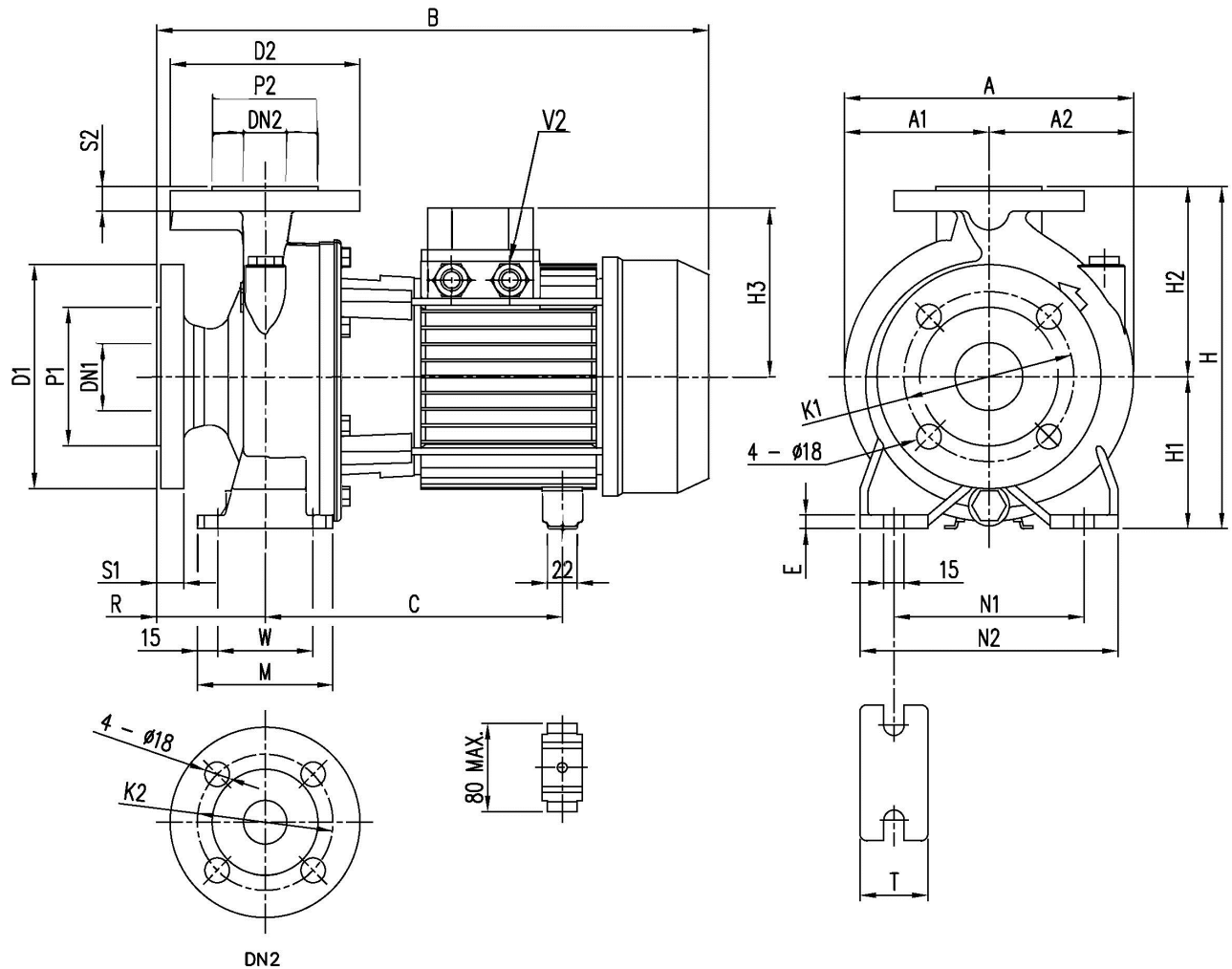
Water, clean [100%] ; 293K; 998.3kg/m³; 1mm²/s



# Dimensions

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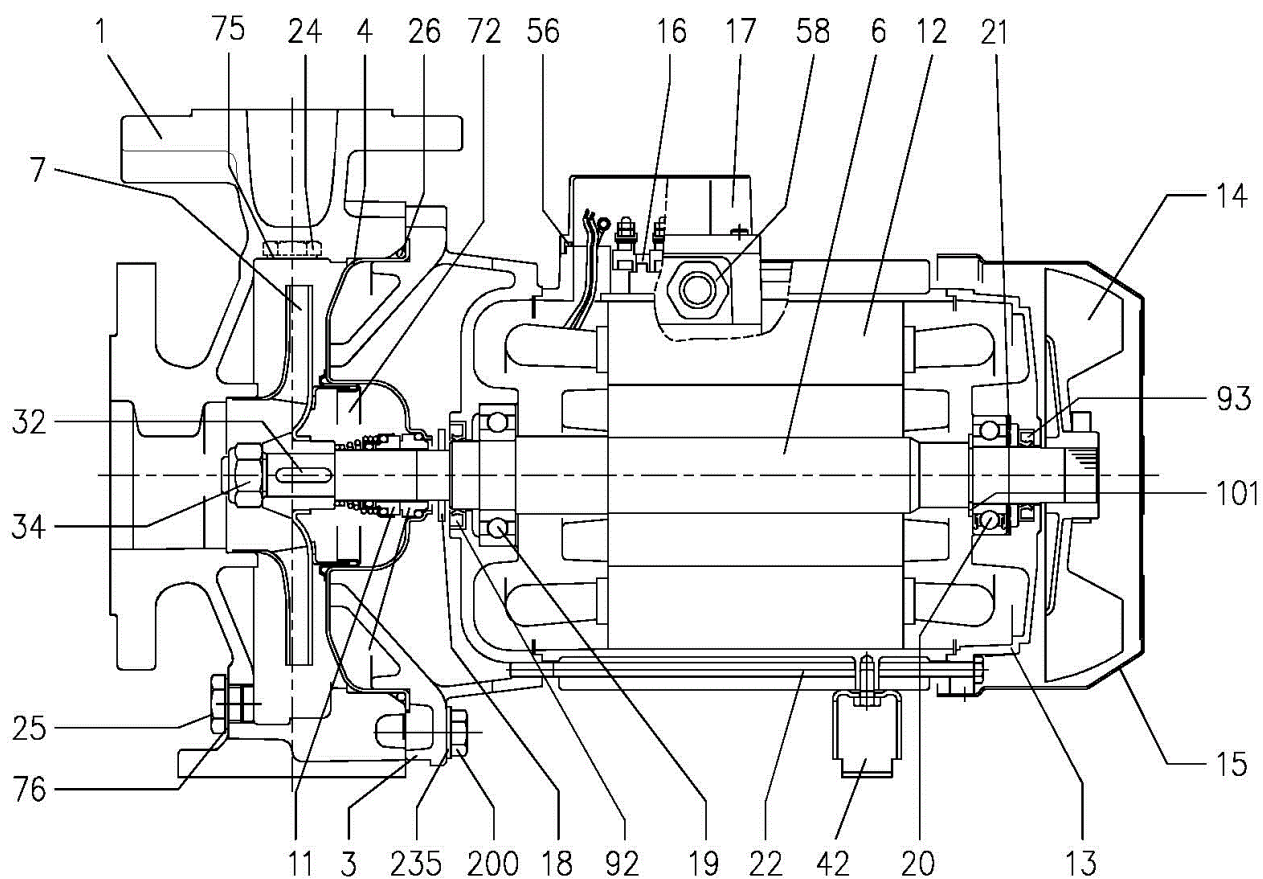


| Dimensions in mm |         |         |    |         |                 |               |  |
|------------------|---------|---------|----|---------|-----------------|---------------|--|
| 1                | A       | 254     | E  | 10      | W<br>Weight P&M | 70<br>35.7 kg |  |
| 2                | A1      | 127     | H  | 292     |                 |               |  |
| 3                | A2      | 127     | H1 | 132     |                 |               |  |
| 4                | B       | 408     | H2 | 160     |                 |               |  |
| 5                | C       | 219+230 | H3 | 141     |                 |               |  |
| 6                | Dia D1  | 165     | M  | 100     |                 |               |  |
| 7                | Dia D2  | 140     | N1 | 190     |                 |               |  |
| 8                | Dia DN1 | 50      | N2 | 240     |                 |               |  |
| 9                | Dia DN2 | 32      | R  | 80      |                 |               |  |
| 10               | Dia K1  | 125     | S1 | 20      |                 |               |  |
| 11               | Dia K2  | 100     | S2 | 18      |                 |               |  |
| 12               | Dia P1  | 102     | T  | 50      |                 |               |  |
| 13               | Dia P2  | 78      | V2 | M20X1,5 |                 |               |  |

# (1/3) Construction

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# (2/3) Construction

Pump name 3D 32-160/2.2M

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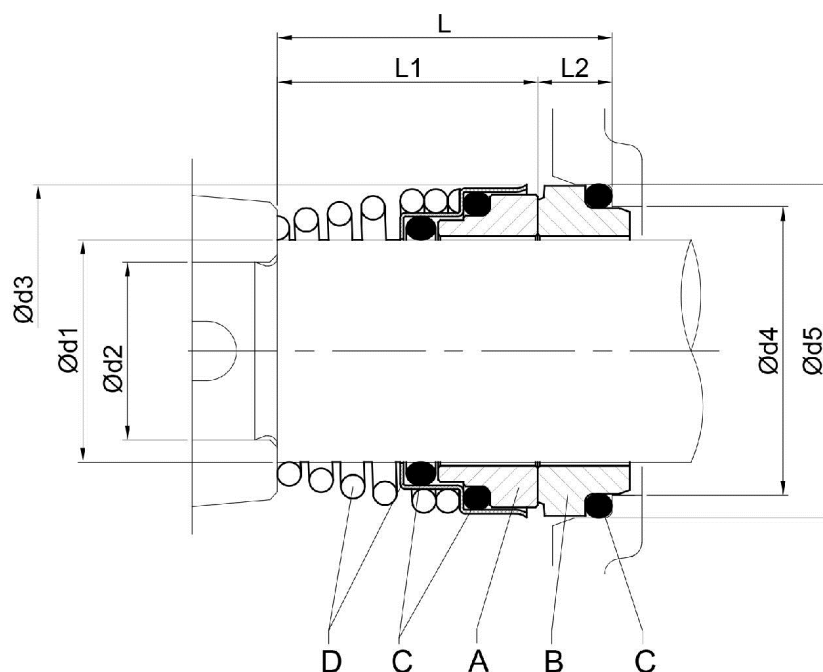
| N°  | PART NAME                                                                                                                                             | MATERIAL                               | DIMENSIONS                                | STANDARD                      | Q.TY          |
|-----|-------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------|-------------------------------------------|-------------------------------|---------------|
| 1   | Casing                                                                                                                                                | Cast iron EN-GJL-250-EN 1561           |                                           |                               | 1             |
| 3   | Motor bracket [1]                                                                                                                                     | -                                      |                                           |                               | 1             |
| 4   | Casing cover                                                                                                                                          | EN 1.4301 (AISI 304)                   |                                           |                               | 1             |
| 6   | Shaft with rotor - Wet extension                                                                                                                      | EN 1.4301 (AISI 304)                   |                                           |                               | 1             |
| 7   | Impeller [2]                                                                                                                                          | -                                      |                                           |                               | 1             |
| 11  | Mechanical seal [3]                                                                                                                                   | -                                      |                                           |                               | 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                                    | 40x21.5x2                                 | EBARA DRAWING                 | 1             |
| 19  | Bearing [10]                                                                                                                                          | -                                      |                                           |                               | 1             |
| 20  | Bearing [10]                                                                                                                                          | -                                      |                                           |                               | 1             |
| 21  | Adjusting ring                                                                                                                                        | Steel C70                              |                                           |                               | 1             |
| 22  | Tie rod<br>Up to 3 kW<br>For 4 - 5.5 - 7.5 kW<br>9.2 e 11 kW                                                                                          | Fe 42 Galvanized                       | M5<br>M6<br>M8                            | EBARA DRAWING                 | 4             |
| 24  | Priming plug                                                                                                                                          | Brass                                  | G 3/8" L=8                                |                               | 1             |
| 25  | Draing plug                                                                                                                                           | Brass                                  | G 3/8" L=8                                |                               | 1             |
| 26  | O-ring<br>32-125, 40-125<br>32-160, 40-160, 50-125, 65-125<br>32-200, 40-200, 50-160, 50-200/9.2, 50-200/11,<br>65-160/7.5, 65-160/9.2, 65-160/11 [4] | NBR/FPM/EPDM                           | 158.11x5.34<br>183.52x5.34<br>227.96x5.34 | OR 6625<br>OR 6720<br>OR 6895 | 1             |
| 32  | Key Up to 11 kW                                                                                                                                       | EN 1.4401 (AISI 316)                   | A 6x6x25                                  | UNI 6604                      | 1             |
| 34  | Impeller nut Up to 11 kW                                                                                                                              | EN 1.4301 (AISI 304)                   | M16x1.5                                   | UNI 7474                      | 1             |
| 42  | Foot                                                                                                                                                  | Aluminium / Galvanized steel           |                                           | EBARA DRAWING                 | 1             |
| 56  | Box gasket                                                                                                                                            | NBR                                    |                                           |                               | 1             |
| 58  | Cable gland                                                                                                                                           | -                                      |                                           |                               | 1             |
| 72  | Casing ring [5]                                                                                                                                       | EN 1.4301 (AISI 304)                   |                                           |                               | 1             |
| 75  | Washer                                                                                                                                                | Aluminium                              | 22x17x1.5                                 | EBARA DRAWING                 | 1             |
| 76  | Washer                                                                                                                                                | Aluminium                              |                                           |                               | 1             |
| 92  | Lip seal<br>Up to 3 kW<br>From 4 to 7.5 kW<br>From 9.2 kW to 11 kW                                                                                    | -                                      | 25x40x7<br>30x47x7<br>40x55x7             | DIN 3760<br>without spring    | 1             |
| 93  | Lip seal<br>Up to 4 kW<br>From 5.5 kW to 7.5 kW<br>From 9.2 kW to 11 kW                                                                               | -                                      | 25x40x7<br>30x47x7<br>40x55x7             | DIN 3760<br>without spring    | 1             |
| 101 | Snap ring [6]                                                                                                                                         | Carbon tool steels TC 80               | Ø 40                                      | UNI 7435                      | 1             |
| 200 | Screw<br>32-125, 40-125<br>32-160, 40-160, 50-125, 65-125<br>32-200, 40-200, 50-160, 50-200/9.2, 50-200/11,<br>65-160/7.5, 65-160/9.2, 65-160/11      | Gv. Steel 8.8 strenght class ISO 898-1 | M 8x30<br>M 10x35                         | UNI 5739                      | 8<br>10<br>12 |
| 235 | Washer<br>32-125, 40-125<br>32-160, 40-160, 50-125, 65-125<br>32-200, 40-200, 50-160, 50-200/9.2, 50-200/11,<br>65-160/7.5, 65-160/9.2, 65-160/11     | Galvanized Steel                       | 8.4x17<br>10.5x21                         | UNI 6592                      | 8<br>10<br>12 |

- [1] Cast iron EN-GJL-200-EN 1561 for 3D 32-200/3  
Aluminum AL-EN-1706-AC-46000-D for all the others
- [2] EN 1.4301 (AISI 304) for 32, 40, 50 series  
EN 1.4401 (AISI 316) for 65 series
- [3] See **CONSTRUCTION 3**
- [4] See **CONSTRUCTION 3**, "O-ring" column
- [5] Only for: 32-200, 40-200, 50-160, 50-200/9.2, 50-200/11
- [6] Only for pumps with 9.2 and 11 kW motor

# (3/3) Construction

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|----------|-------------------|-----------|
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| Pump type                                                                         | Dimensions [ mm ] |    |    |    |    |      |      |    | Material              |                                       |             |                         |
|-----------------------------------------------------------------------------------|-------------------|----|----|----|----|------|------|----|-----------------------|---------------------------------------|-------------|-------------------------|
|                                                                                   | d1                | d2 | d3 | d4 | d5 | L    | L1   | L2 | A<br>Rotary seal ring | Standard<br>B<br>Stationary seal ring | C<br>O-ring | D<br>Frame + Spring     |
| 32-125/160/200<br>40-125/160/200<br>50-125/160/200<br>65-125<br>65-160/7.5-9.2-11 | 22                | 19 | 38 | 31 | 37 | 37.5 | 27.5 | 10 | Ceramic               | Carbon                                | NBR         | EN 1.4301<br>(AISI 304) |