

# Technical Data

Pump Name

CMD 3.00 T

|          |            |                                       |           |
|----------|------------|---------------------------------------|-----------|
| Customer | Date       | 2024-06-13                            | Company   |
| Contact  | Item no.   |                                       | Issued by |
| Phone    | Project    |                                       | Phone     |
| E-mail   | Project ID | Proiect redenumit 2024-06-13 13:12:02 | 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 <sup>3</sup> /h    |                   | Kin. viscosity     | mm <sup>2</sup> /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 <sup>3</sup> 998.3  |
| 7 | Available system NPSH     |                   | Solids             | Weight % 0               |
| 8 | Ambient temperature °C    | 20                |                    |                          |

## Pump

|    |                           |                                |                                   |                             |
|----|---------------------------|--------------------------------|-----------------------------------|-----------------------------|
| 9  | Pump Name                 | CMD 3.00 T                     | Frequency                         | Hz 50                       |
| 10 | Design                    | CENTRIFUGAL PUMPS              | Installation type                 | STANDARD                    |
| 11 | Manufacturer              | EBARA                          | Impeller Diameter                 | Max. mm 120                 |
| 12 | Speed rpm                 | 2850                           |                                   | Designed mm 120             |
| 13 | No. of Stage              | 1                              |                                   | Min. mm 120                 |
| 14 | Connection Suction side   | UNI ISO 228                    | Flow                              | Operating m <sup>3</sup> /h |
| 15 | Connection Discharge side | UNI ISO 228                    |                                   | Max- m <sup>3</sup> /h 60   |
| 16 | Max Working Pressure bar  | 6                              |                                   | Min- m <sup>3</sup> /h 18   |
| 17 | Shut-off head bar         | 1.56                           | Head                              | Operating m                 |
| 18 | Total weight kg           | See the table of "Dimensions". |                                   | - (Qmax.) m 10.4            |
| 19 | Shaft power kW            |                                |                                   | - (Qmin.) m 16.1            |
| 20 |                           |                                | Max. Shaft Power at max. impeller | kW 2.38                     |
| 21 | Required pump NPSH m      |                                | Efficiency                        | %                           |

## Materials

|    |          |                          |  |  |
|----|----------|--------------------------|--|--|
| 22 | Impeller | Cast iron                |  |  |
| 23 | Casing   | Cast iron                |  |  |
| 24 | Shaft    | AISI 303 (wet extension) |  |  |
| 25 |          |                          |  |  |
| 26 |          |                          |  |  |
| 27 |          |                          |  |  |

## Motor

|    |                      |                                 |                  |       |
|----|----------------------|---------------------------------|------------------|-------|
| 28 | Manufacturer         | EPE Standard                    | Insulation class | F     |
| 29 | Type                 | TEFC_CMD 3.00 T_230_Three Phase | Phases           | 3~    |
| 30 | Specific design      | IE3 / 50 Hz / Pole pairs 1      | Frame size       |       |
| 31 | Rated power kW       | 2.2                             | Weight           | kg    |
| 32 | Number of poles      | 2                               | Electric voltage | V 230 |
| 33 | Speed rpm            | 2800                            | Electric current | A 8.2 |
| 34 | Degree of protection | IP 44                           |                  |       |
| 35 |                      |                                 |                  |       |

## Remarks

# Performance Curve

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## Requested data

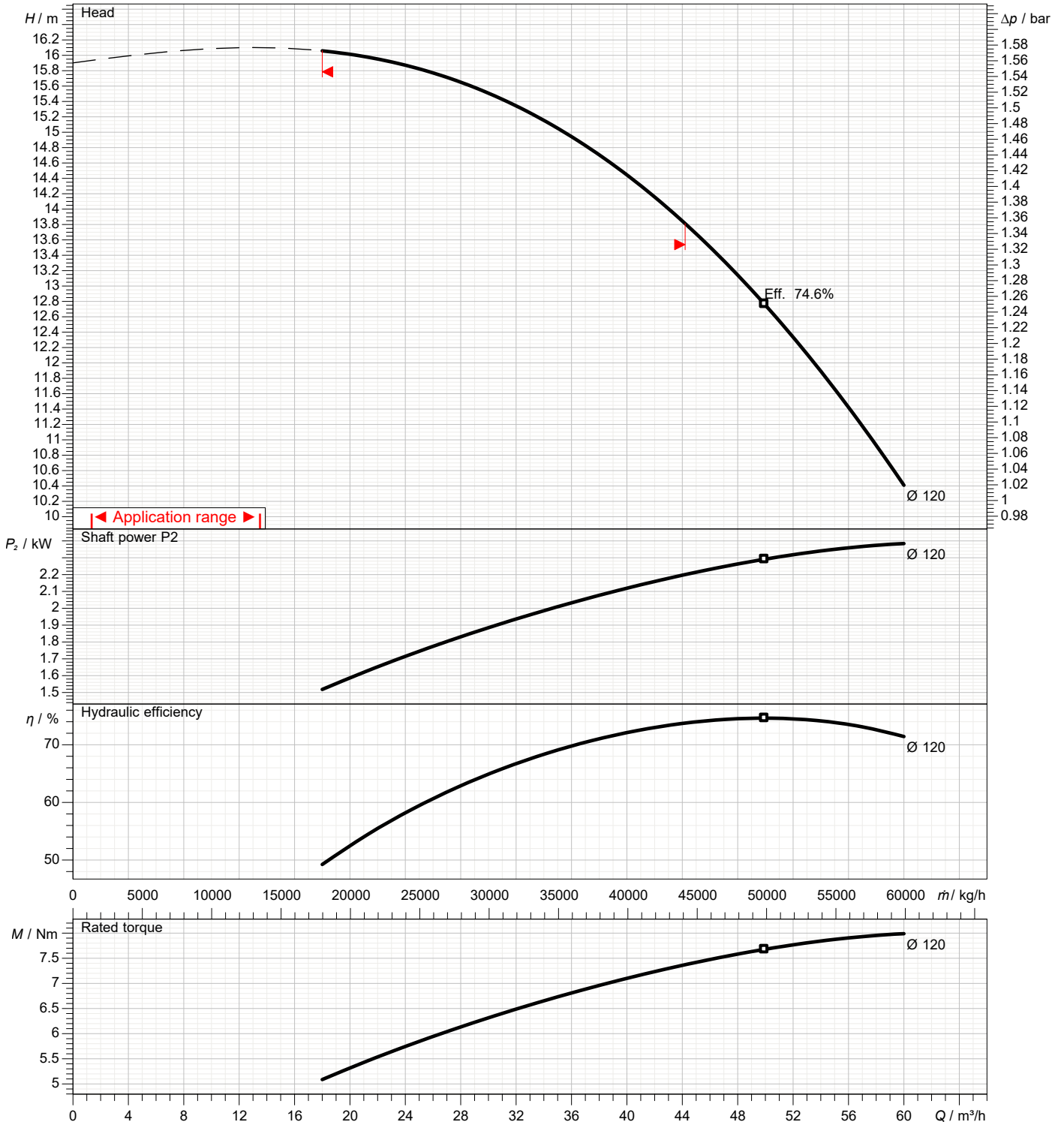
|   |               |      |  |
|---|---------------|------|--|
| 1 | Flow          | m³/h |  |
| 2 | Head          | m    |  |
| 3 | Geodetic head | m    |  |

## Pump

|                            |      |     |                 |     |      |
|----------------------------|------|-----|-----------------|-----|------|
| Operating flow             | m³/h |     | Frequency       | Hz  | 50   |
| Operating head             | m    |     | Number of poles |     | 2    |
| Impeller diameter designed | mm   | 120 | Speed           | rpm | 2850 |

Test standard: ISO 9906:2012 - Grade3B

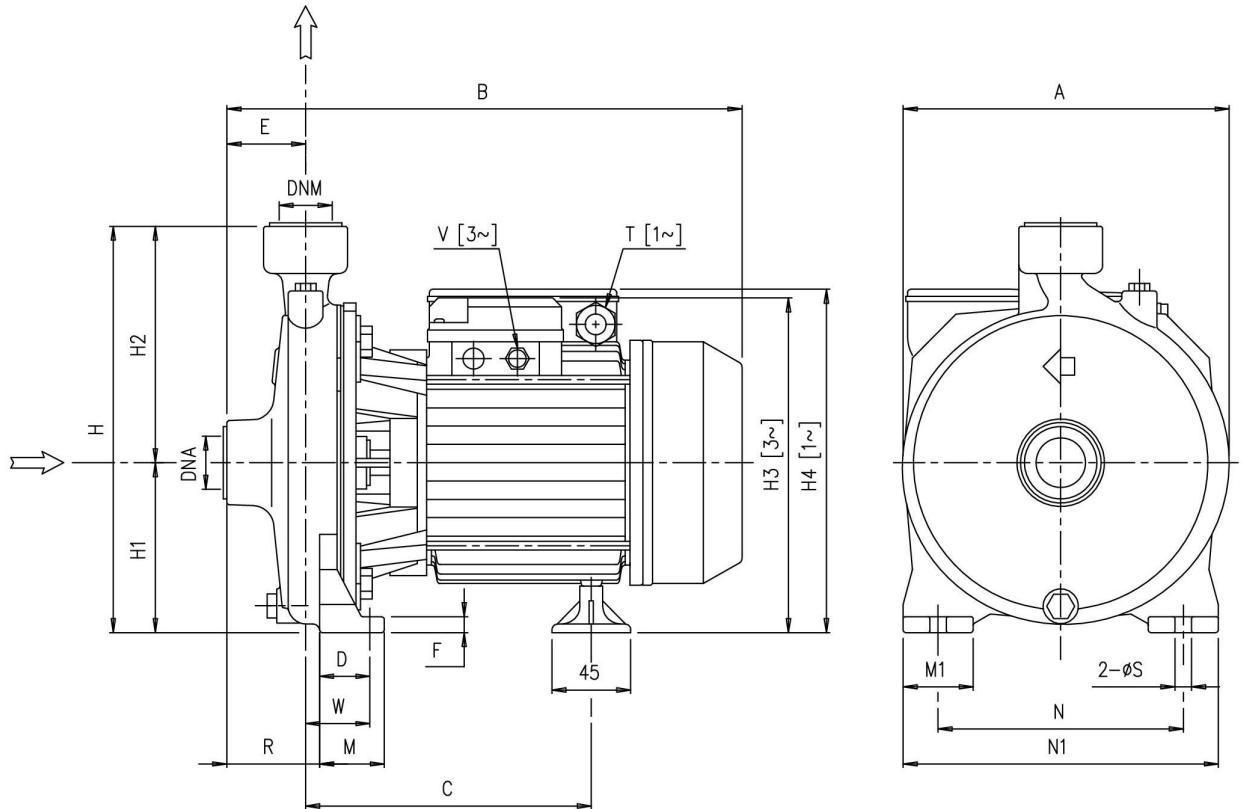
Water; 20°C; 998.3kg/m³; 1mm²/s



# Dimensions

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[1~] Single phase  
 [3~] Three phase

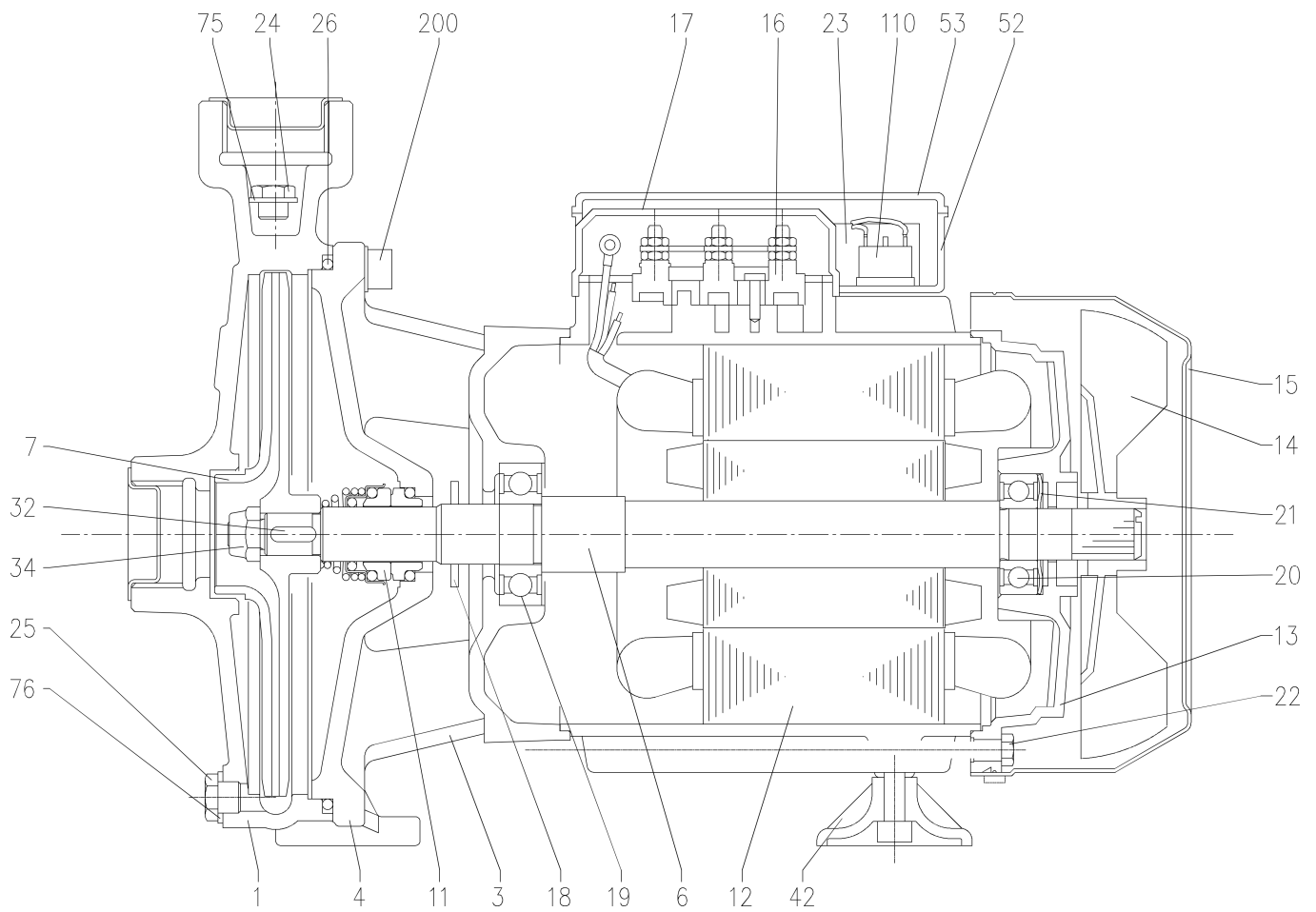
| Dimensions in |     | mm      |            |         |  |  |  |  |
|---------------|-----|---------|------------|---------|--|--|--|--|
| 1             | A   | 213     | N1         | 200     |  |  |  |  |
| 2             | B   | 409.8   | R          | 100.5   |  |  |  |  |
| 3             | C   | 222.8   | S          | 9.5     |  |  |  |  |
| 4             | D   | 36.8    | V          | M20X1.5 |  |  |  |  |
| 5             | DNA | G 2 1/2 | W          | 69.3    |  |  |  |  |
| 6             | DNM | G 2 1/2 | Weight P&M | 23.9 kg |  |  |  |  |
| 7             | E   | 68      |            |         |  |  |  |  |
| 8             | F   | 12      |            |         |  |  |  |  |
| 9             | H   | 271.5   |            |         |  |  |  |  |
| 10            | H1  | 111.5   |            |         |  |  |  |  |
| 11            | H2  | 160     |            |         |  |  |  |  |
| 12            | H3  | 225.5   |            |         |  |  |  |  |
| 13            | M   | 45      |            |         |  |  |  |  |
| 14            | M1  | 40      |            |         |  |  |  |  |
| 15            | N   | 160     |            |         |  |  |  |  |

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# Construction

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| E-mail   | Project ID Proiect redenumit 2024-06-13 13:12:02 | E-mail    |



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# Construction

Pump Name CMD 3.00 T

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| Customer | Date       | 2024-06-13                            | Company   |
| Contact  | Item no.   |                                       | Issued by |
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| N°  | PART NAME               | MATERIAL   | DIMENSIONS       | STANDARD      | Q.TY      |   |
|-----|-------------------------|--|------------------|---------------|-----------|---|
| 1   | Casing                  | Cast iron  |                  |               | 1         |   |
| 3   | Motor bracket           | Cast iron  |                  |               | 1         |   |
| 4   | Casing cover            | AISI 304   |                  |               | 1         |   |
| 6   | Shaft with rotor        | [1]  |                  |               | 1         |   |
| 7   | Impeller                | [2]  |                  |               | 1         |   |
| 11  | Mechanical seal         | [5] Carbon/Ceramic/NBR   |                  |               | 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 board          | -  |                  |               | 1         |   |
| 17  | Terminal box cover      | [3] Aluminium  |                  |               | 1         |   |
| 18  | Splash ring             | NBR  | D35x19.5x2.5     | EBARA DRAWING | 1         |   |
| 19  | Pump side ball bearing  | -  |                  |               | 1         |   |
| 20  | Fan side ball bearing   | -  |                  |               | 1         |   |
| 21  | Adjusting ring          | Steel C70  |                  |               | 1         |   |
| 22  | Tie rod                 | Fe 42 Galvanized   |                  |               | 4         |   |
| 23  | Capacitor               | [4] -  |                  |               | 1         |   |
| 24  | Priming plug            | CMD 1.50; 2.00;<br>3.00; 4.00<br>other models                        | Brass            | G 1/4"        | UNI 338   | 1 |
|     |                         |  |                  | G 1/8"        |           |   |
| 25  | Drain plug              | CMD 1.50; 2.00;<br>3.00; 4.00<br>other models                        | Brass            | G 1/4"        | UNI 338   | 1 |
|     |                         |  |                  | G 1/8"        |           |   |
| 26  | O-ring                  | NBR  |                  |               | 1         |   |
| 32  | Key                     | AISI 316   |                  |               | 1         |   |
| 34  | Impeller nut            | other models<br>CMB 4.00; 5.50                                       | AISI 304         | M10           | UNI 7474  | 1 |
|     |                         |  |                  | M12x1.25      |           | 1 |
| 42  | Foot                    | PP   |                  |               | 1         |   |
| 52  | Capacitor box           | [4] ABS class V-0  |                  |               | 1         |   |
| 53  | Capacitor box cover     | [4] ABS class V-0  |                  |               | 1         |   |
| 75  | Washer                  | CMD 1.50; 2.00;<br>3.00; 4.00<br>other models                        | Aluminium        | 13.5x19x1.5   |           | 1 |
|     |                         |  |                  | 10x16x1.5     |           | 1 |
| 76  | Washer                  | CMD 1.50; 2.00;<br>3.00; 4.00<br>other models                        | Aluminium        | 13.5x19x1.5   |           | 1 |
|     |                         |  |                  | 10x16x1.5     |           | 1 |
| 110 | Protector               | [4] -  |                  |               | 1         |   |
| 200 | Screw                   | CMD 1.50; 2.00;<br>3.00; 4.00<br>CMB 1.50; 2.00;<br>3.00<br>CMA 1.50 | Zn Steel Cl. 8.8 | M8x25         | ISO 898-1 | 4 |
|     |                         |  |                  | M8x22         |           |   |
|     |                         |  |                  | M10x35        |           |   |

[1] Material: AISI303 (wet extension) for version CMA, CMB 1.50-2.00-3.00, CMD 1.50-2.00-3.00  
AISI304 (wet extension) for version CMB 4.00-5.50, CMD 4.00

[2] Material: Brass for version: CMA, CMB 2.00-3.00-4.00-5.50  
Cast iron for version: CMB 1.50, CMD

[3] Only for three phase

[4] Only for single phase

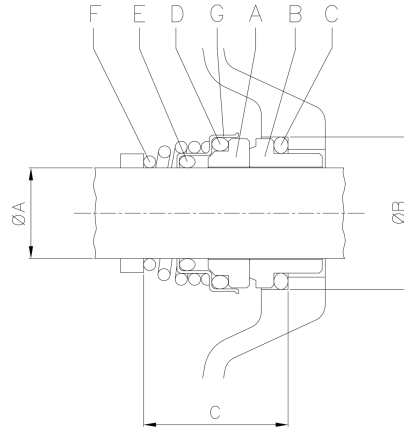
[5] See **CONSTRUCTION 3**

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# Construction

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|----------|--|-----------|
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| Pump type    |             | Dimensions mm |      |    |
|--------------|-------------|---------------|------|----|
| Single phase | Three phase | Ø A           | Ø B  | C  |
| CMA 1.50 M   | CMA 1.50 T  | 18            | 30.9 | 32 |
| CMA 2.00 M   | CMA 2.00 T  | 18            | 30.9 | 32 |
| -            | CMA 3.00 T  | 18            | 30.9 | 32 |
| CMB 1.50 M   | CMB 1.50 T  | 18            | 30.9 | 32 |
| CMB 2.00 M   | CMB 2.00 T  | 18            | 30.9 | 32 |
| -            | CMB 3.00 T  | 18            | 30.9 | 32 |
| CMD 1.50 M   | CMD 1.50 T  | 18            | 30.9 | 32 |
| CMD 2.00 M   | CMD 2.00 T  | 18            | 30.9 | 32 |
| -            | CMD 3.00 T  | 18            | 30.9 | 32 |
| -            | CMD 4.00 T  | 18            | 30.9 | 32 |

| REF | PART NAME            | MATERIAL        |
|-----|----------------------|-----------------|
| A   | Rotary seal ring     | ceramic         |
| B   | Stationary seal ring | carbon graphite |
| C   | O Ring               | NBR             |
| D   | O Ring               | NBR             |
| E   | O Ring               | NBR             |
| F   | Self driving spring  | AISI 316        |
| G   | Frame                | AISI 304        |