

# Technical Data

Pump Name

BHSE 8160-11 5/97.0 M10

|          |            |                                       |           |
|----------|------------|---------------------------------------|-----------|
| 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                 | SUBMERSIBLE MULTISTAGE PUMPS | Fluid              | Water    |
| 2 | Number of pumps / Reserve | 1 / 0                        | Liquid temperature | °C       |
| 3 | Flow m³/h                 |                              | Kin. viscosity     | mm²/s    |
| 4 | Head m                    |                              | Vapour pressure    | bar      |
| 5 | Geodetic head m           |                              | PH value           |          |
| 6 | Inlet pressure (pin) bar  | 0                            | Density            | kg/m³    |
| 7 | Available system NPSH     |                              | Solids             | Weight % |
| 8 | Ambient temperature °C    | 20                           |                    |          |

## Pump

|    |                           |                                |                                   |                |          |
|----|---------------------------|--------------------------------|-----------------------------------|----------------|----------|
| 9  | Pump Name                 | BHSE 8160-11 5/97.0 M10        | Frequency                         | Hz             | 50       |
| 10 | Design                    | SUBMERSIBLE MULTISTAGE PUMPS   | Installation type                 |                | STANDARD |
| 11 | Manufacturer              | EBARA                          | Impeller Diameter                 | Max. mm        | 137      |
| 12 | Speed rpm                 | 2900                           |                                   | Designed mm    | 137      |
| 13 | No. of Stage              | 11                             |                                   | Min. mm        | 137      |
| 14 | Connection Suction side   |                                | Flow                              | Operating m³/h |          |
| 15 | Connection Discharge side |                                |                                   | Max- m³/h      | 150      |
| 16 | Max Working Pressure bar  |                                |                                   | Min- m³/h      | 60       |
| 17 | Shut-off head bar         | 27.25                          | Head                              | Operating m    |          |
| 18 | Total weight kg           | See the table of "Dimensions". |                                   | - (Qmax.) m    | 187.6    |
| 19 | Shaft power kW            |                                |                                   | - (Qmin.) m    | 260.2    |
| 20 |                           |                                | Max. Shaft Power at max. impeller | kW             | 94.71    |
| 21 | Required pump NPSH m      |                                | Efficiency                        | %              |          |

## Materials

|    |          |                                     |               |                 |
|----|----------|-------------------------------------|---------------|-----------------|
| 22 | Casing   | Casting iron                        | Washers       | Stainless steel |
| 23 | Impeller | Stainless steel - precision casting | Paint (Motor) | Synthetic alkyd |
| 24 | Shaft    | Stainless steel                     |               |                 |
| 25 | Stainet  | Stainless steel                     |               |                 |
| 26 | Screw    | Stainless steel                     |               |                 |
| 27 | Nuts     | Stainless steel                     |               |                 |

## Motor

|    |                      |                                                      |                  |    |
|----|----------------------|------------------------------------------------------|------------------|----|
| 28 | Manufacturer         | EBAS                                                 | Insulation class | Y  |
| 29 | Type                 | M10 130HP 380V TRIF. 50Hz                            | Phases           | 3~ |
| 30 | Specific design      | Submersible water filled type / 50 Hz / Pole pairs 1 | Frame size       | 10 |
| 31 | Rated power kW       | 96.98                                                | Weight           | kg |
| 32 | Number of poles      | 2                                                    | Electric voltage | V  |
| 33 | Speed rpm            | 2928                                                 | Electric current | A  |
| 34 | Degree of protection | IP 68                                                |                  |    |
| 35 |                      |                                                      |                  |    |

## Remarks

# Performance Curve

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## Requested data

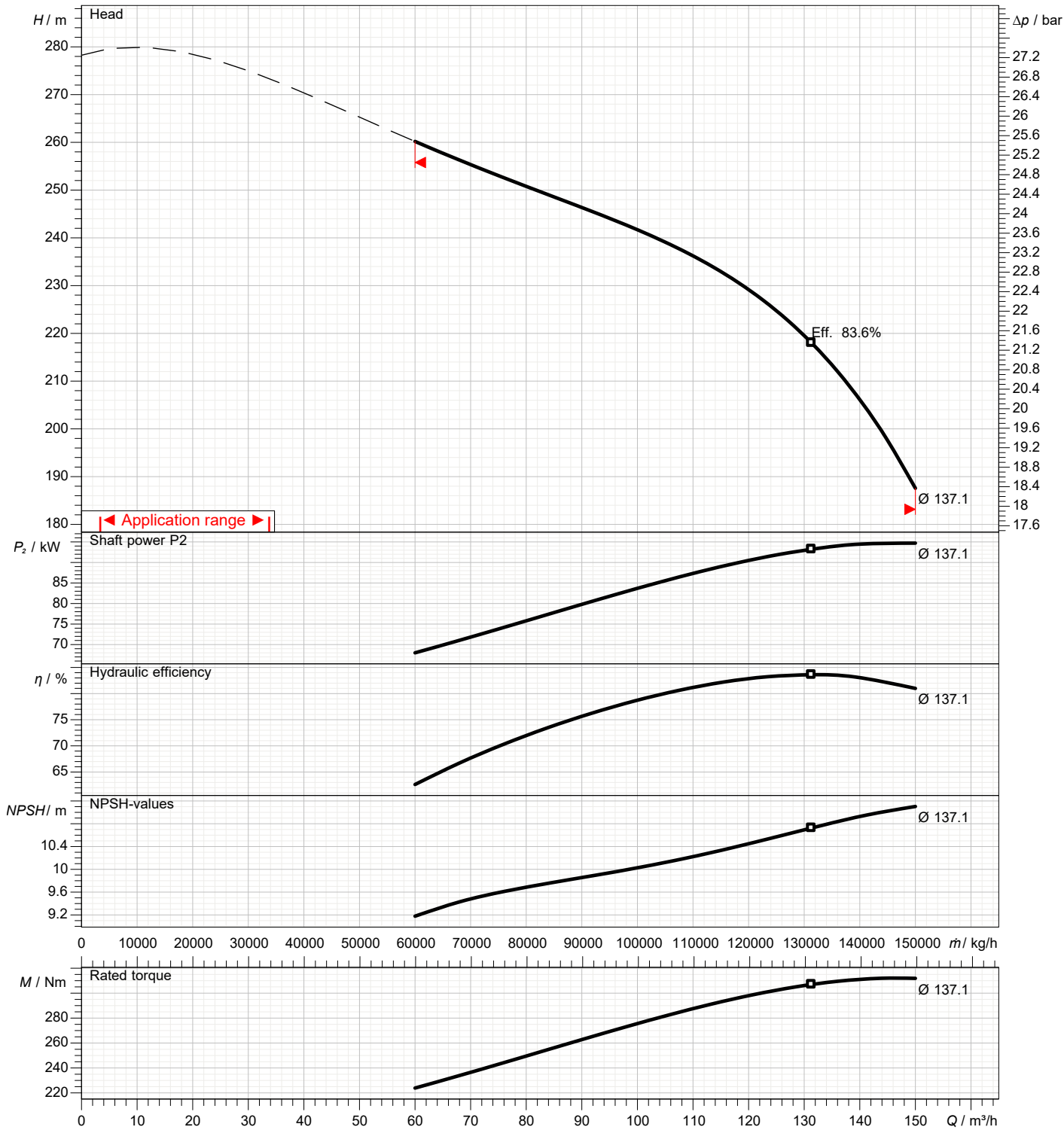
|   |               |      |  |
|---|---------------|------|--|
| 1 | Flow          | m³/h |  |
| 2 | Head          | m    |  |
| 3 | Geodetic head | m    |  |

## Pump

|                            |      |     |                 |     |      |
|----------------------------|------|-----|-----------------|-----|------|
| Operating flow             | m³/h |     | Frequency       | Hz  | 50   |
| Operating head             | m    |     | Number of poles |     | 2    |
| Impeller diameter designed | mm   | 137 | Speed           | rpm | 2900 |

Test standard: ISO 9906:2012 - Grade3B

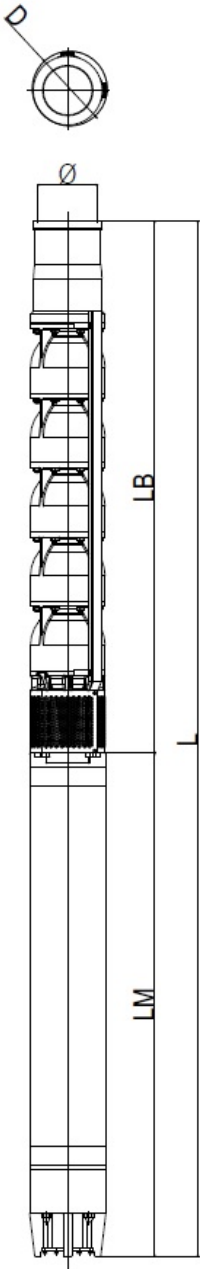
Water; 20°C; 998.3kg/m³; 1mm²/s



Dimensions

Pump name BHSE 8160-11 5/97.0 M10

|          |                                                 |           |
|----------|-------------------------------------------------|-----------|
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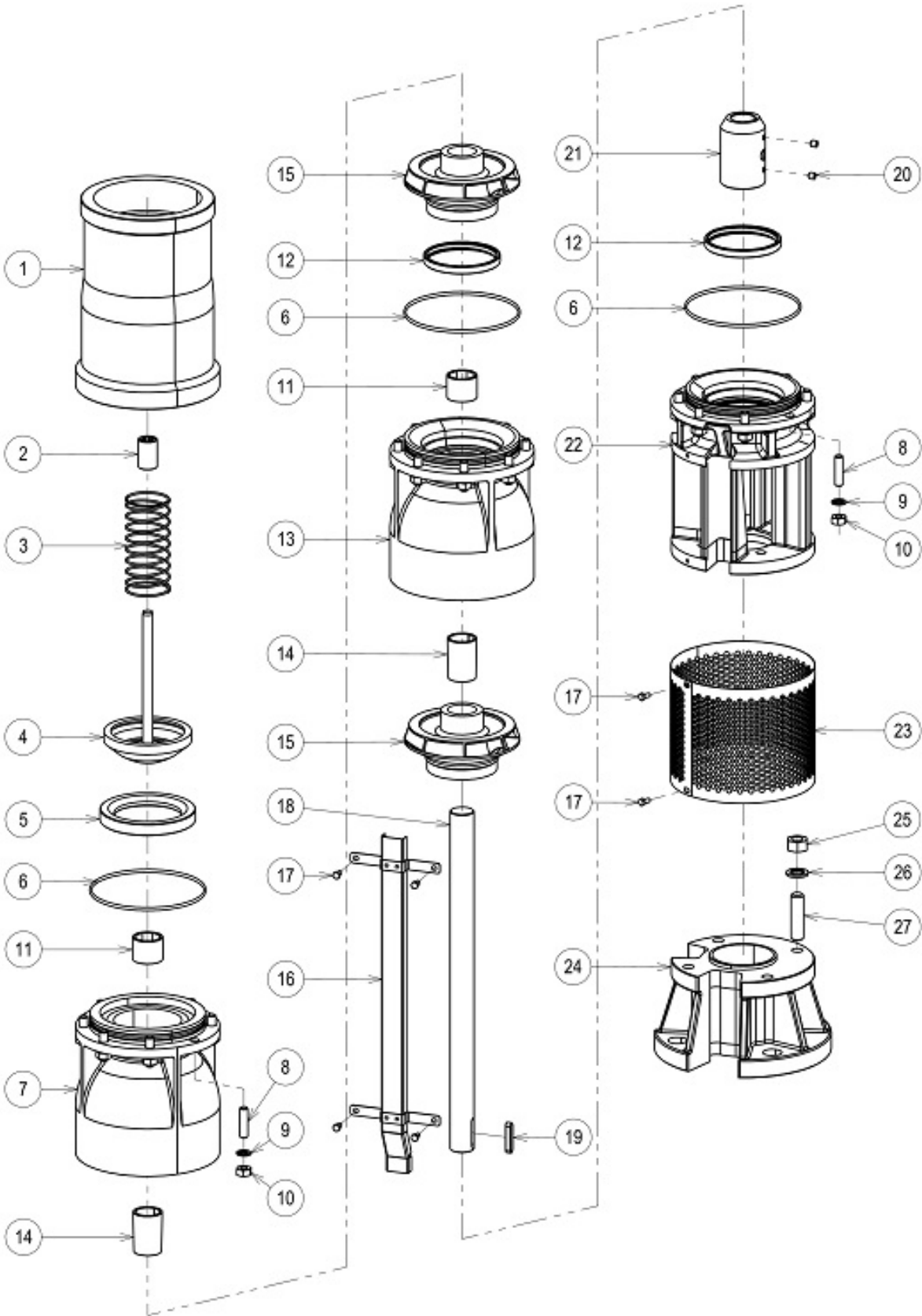
| Dimensions in mm |                   |          |  |  |  |  |  |  |
|------------------|-------------------|----------|--|--|--|--|--|--|
| 1                | L                 | 4252     |  |  |  |  |  |  |
| 2                | LB                | 2548     |  |  |  |  |  |  |
| 3                | LM                | 1704     |  |  |  |  |  |  |
| 4                | M Weight (kg)     | 330      |  |  |  |  |  |  |
| 5                | P Weight (kg)     | 193      |  |  |  |  |  |  |
| 6                | Total Weight (kg) | 523      |  |  |  |  |  |  |
| 7                | Φ (inch)          | 5 (inch) |  |  |  |  |  |  |
| 8                |                   |          |  |  |  |  |  |  |
| 9                |                   |          |  |  |  |  |  |  |
| 10               |                   |          |  |  |  |  |  |  |
| 11               |                   |          |  |  |  |  |  |  |
| 12               |                   |          |  |  |  |  |  |  |
| 13               |                   |          |  |  |  |  |  |  |
| 14               |                   |          |  |  |  |  |  |  |
| 15               |                   |          |  |  |  |  |  |  |

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Construction

Pump name

|          |                                                 |           |
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Construction

Pump name

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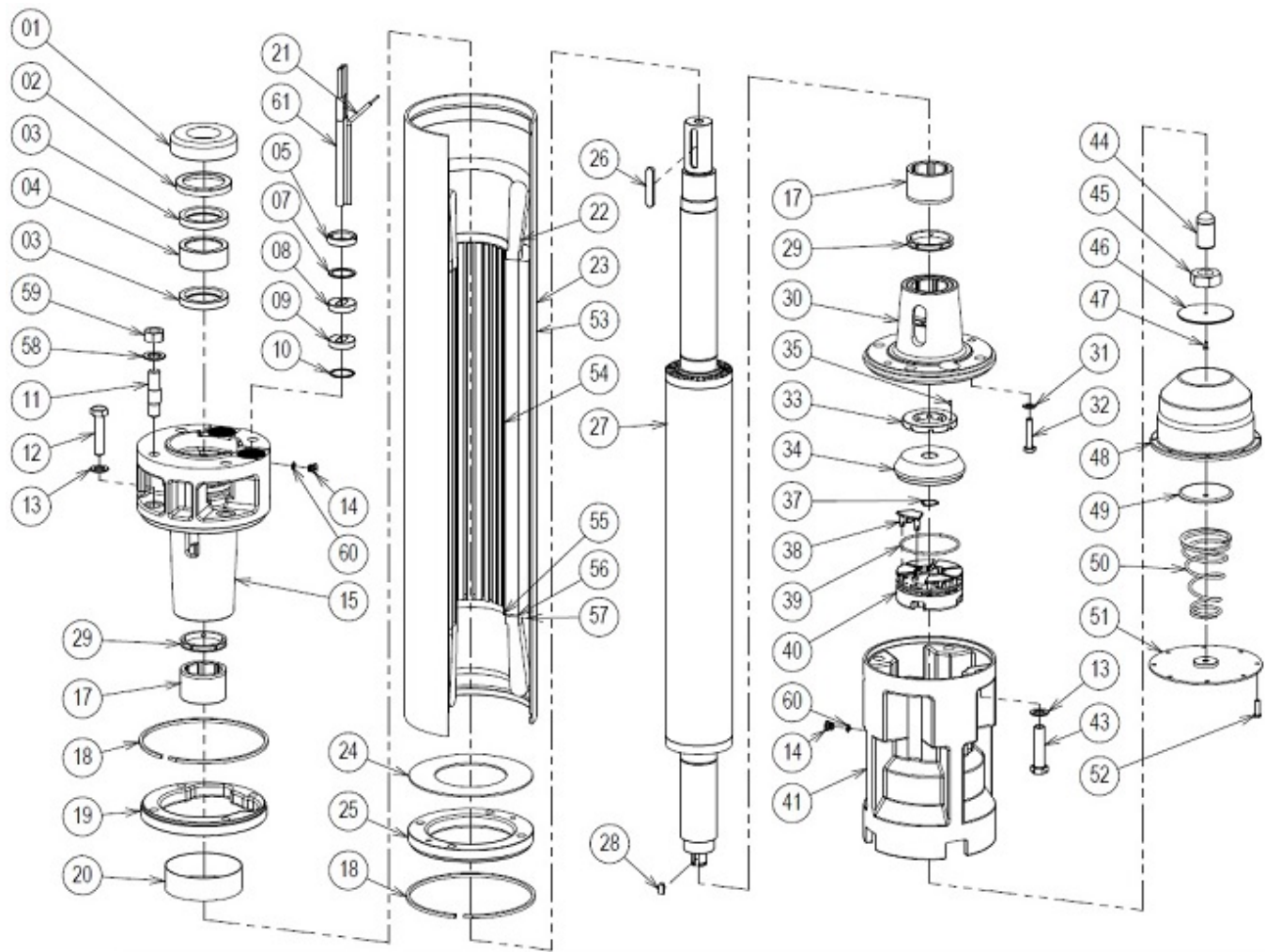
| BHSE8_Parts Table |                       |                 |
|-------------------|-----------------------|-----------------|
| No.               | Name                  | MATERIAL        |
| 1                 | DISCHARGE CASING      | CAST IRON       |
| 2                 | VALVE ROD GUIDE       | BRASS           |
| 3                 | SPRING                | STAINLESS STEEL |
| 4                 | VALVE DISK            | STAINLESS STEEL |
| 5                 | VALVE SHEET           | NBR RUBBER      |
| 6                 | O-RING                | NBR             |
| 7                 | INTERMEDIATE CASING 2 | CAST IRON       |
| 8                 | STUD BOLT             | STAINLESS STEEL |
| 9                 | SPRING WASHER         | STAINLESS STEEL |
| 10                | NUT                   | STAINLESS STEEL |
| 11                | BEARING SLEEVE        | NBR             |
| 12                | CASING WEARING RING   | BRASS           |
| 13                | INTERMEDIATE CASING   | CAST IRON       |
| 14                | TAPER COLLET          | STAINLESS STEEL |
| 15                | IMPELLER              | STAINLESS STEEL |
| 16                | CABLE COVER           | STAINLESS STEEL |
| 17                | BOLT                  | STAINLESS STEEL |
| 18                | SHAFT                 | STAINLESS STEEL |
| 19                | KEY                   | STAINLESS STEEL |
| 20                | BOLT                  | CARBON STEEL    |
| 21                | COUPLING              | STAINLESS STEEL |
| 22                | SUCTION CASING        | CAST IRON       |
| 23                | STRAINER              | STAINLESS STEEL |
| 24                | ADAPTER               | CAST IRON       |
| 25                | NUT                   | STAINLESS STEEL |
| 26                | SPRING WASHER         | STAINLESS STEEL |
| 27                | STUD BOLT             | STAINLESS STEEL |

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Construction

Pump name

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Construction

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| Motor M10_Parts Table |                          |                              |
|-----------------------|--------------------------|------------------------------|
| No.                   | Name                     | MATERIAL                     |
| 1                     | SAND SLINGER             | CARBON STEEL/NBR             |
| 2                     | SEAL COVER               | CARBON STEEL                 |
| 3                     | OIL SEAL                 | NBR                          |
| 4                     | ESPACIADOR               | BRASS                        |
| 5                     | CABLE NUT                | STAINLESS STEEL              |
| 7                     | PRESSURE RING FOR CABLE  | BRASS                        |
| 8                     | CABLE GLAND "A"          | NBR                          |
| 9                     | CABLE GLAND "B"          | NBR                          |
| 10                    | PRESSURE RING FOR CABLE  | BRASS                        |
| 11                    | STUD BOLT                | STAINLESS STEEL              |
| 12                    | BOLT                     | CARBON STEEL                 |
| 13                    | METAL GASKET             | BRASS                        |
| 14                    | PLUG                     | BRASS                        |
| 15                    | UPPER BRACKET            | CAST IRON                    |
| 17                    | UPPER BEARING            | GRAPHITE                     |
| 18                    | STOP RING                | CARBON STEEL                 |
| 19                    | UPPER FRAME RING         | CARBON STEEL                 |
| 20                    | COIL PROTECTOR RING      | STAINLESS STEEL              |
| 21                    | LEAD CABLE               | CUPPER                       |
| 22                    | COIL                     | CUPPER                       |
| 23                    | MOTOR FRAME              | CARBON STEEL                 |
| 24                    | COIL PROTECTOR           | NBR                          |
| 25                    | LOWER FRAME RING         | CARBON STEEL                 |
| 26                    | KEY                      | STAINLESS STEEL              |
| 27                    | ROTOR WITH SHAFT         | STAINLESS STEEL/CARBON STEEL |
| 28                    | KEY                      | STAINLESS STEEL              |
| 29                    | DISTANCING RING FOR SUPP | BRASS                        |
| 30                    | LOWER BRACKET            | CAST IRON                    |
| 31                    | SPRING WASHER            | STAINLESS STEEL              |
| 32                    | BOLT                     | CARBON STEEL                 |
| 33                    | UPPER BEARING "A"        | GRAPHITE                     |
| 34                    | THRUST DISK              | STAINLESS STEEL              |
| 37                    | STOP RING                | CARBON STEEL                 |
| 38                    | THRUST PAD               | STAINLESS STEEL              |
| 39                    | O-RING                   | NBR                          |
| 40                    | OSCILLATING DISC         | CAST IRON                    |
| 41                    | THRUST BEARING HOUSING   | CAST IRON                    |
| 43                    | BOLT                     | CARBON STEEL                 |
| 44                    | ADJUSTING NUT            | CARBON STEEL                 |
| 45                    | NUT                      | STAINLESS STEEL              |
| 46                    | DIAPHAGM PROTECTOR       | STAINLESS STEEL              |
| 47                    | PLUG                     | BRASS                        |
| 48                    | DIAPHRAGM                | CR                           |
| 49                    | SPRING DISC              | STAINLESS STEEL              |
| 50                    | SPRING                   | STAINLESS STEEL              |
| 51                    | DIAPHRAGM COVER          | STAINLESS STEEL              |
| 52                    | BOLT                     | CARBON STEEL                 |
| 53                    | COMPLETE STATOR          | -                            |
| 54                    | INTERMEDIATE WEDGE       | PTFE                         |
| 55                    | SLOT ISOLATOR            | POLYESTER                    |
| 56                    | WEDGE ISOLATOR           | POLYESTER                    |
| 57                    | WEDGE                    | PLASTIC                      |
| 58                    | SPRING WASHER            | STAINLESS STEEL              |
| 59                    | NUT                      | STAINLESS STEEL              |
| 60                    | O-RING                   | NBR                          |