

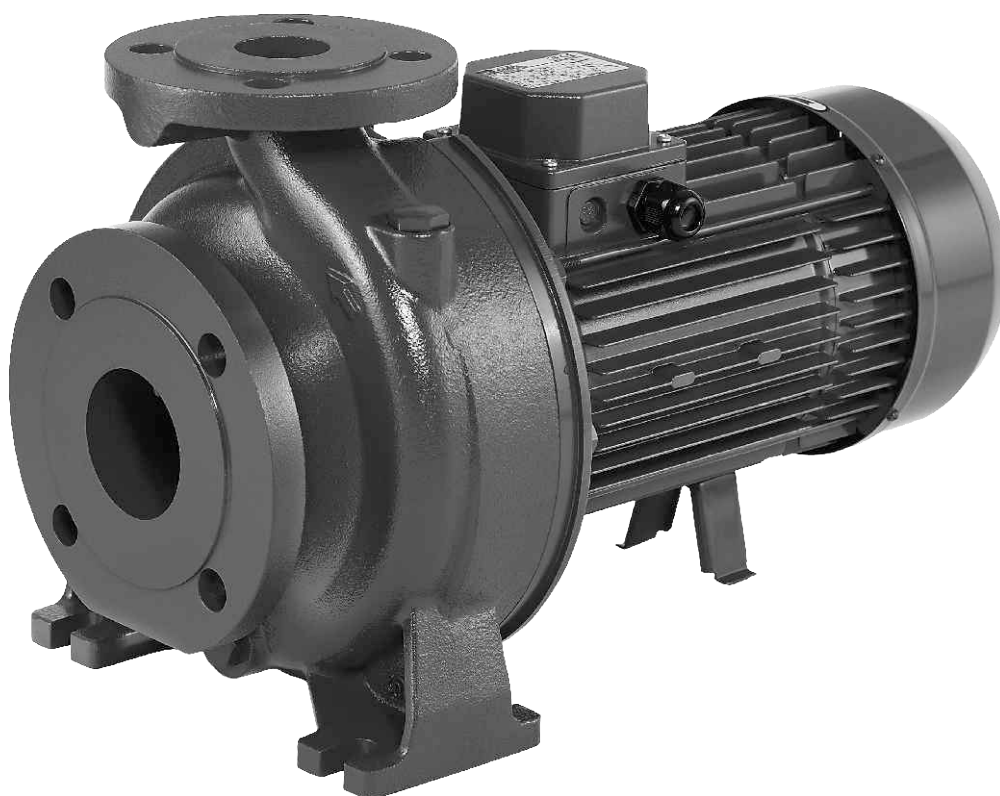


**3D**

**2 Pole Models  
2900 RPM**

# **Cast Iron End Suction Pumps**

**EN733** (ex DIN 24255)



**Monobloc design.  
Cast iron casing with  
304 stainless steel  
impeller & back cover**

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## SPECIFICATION

50Hz

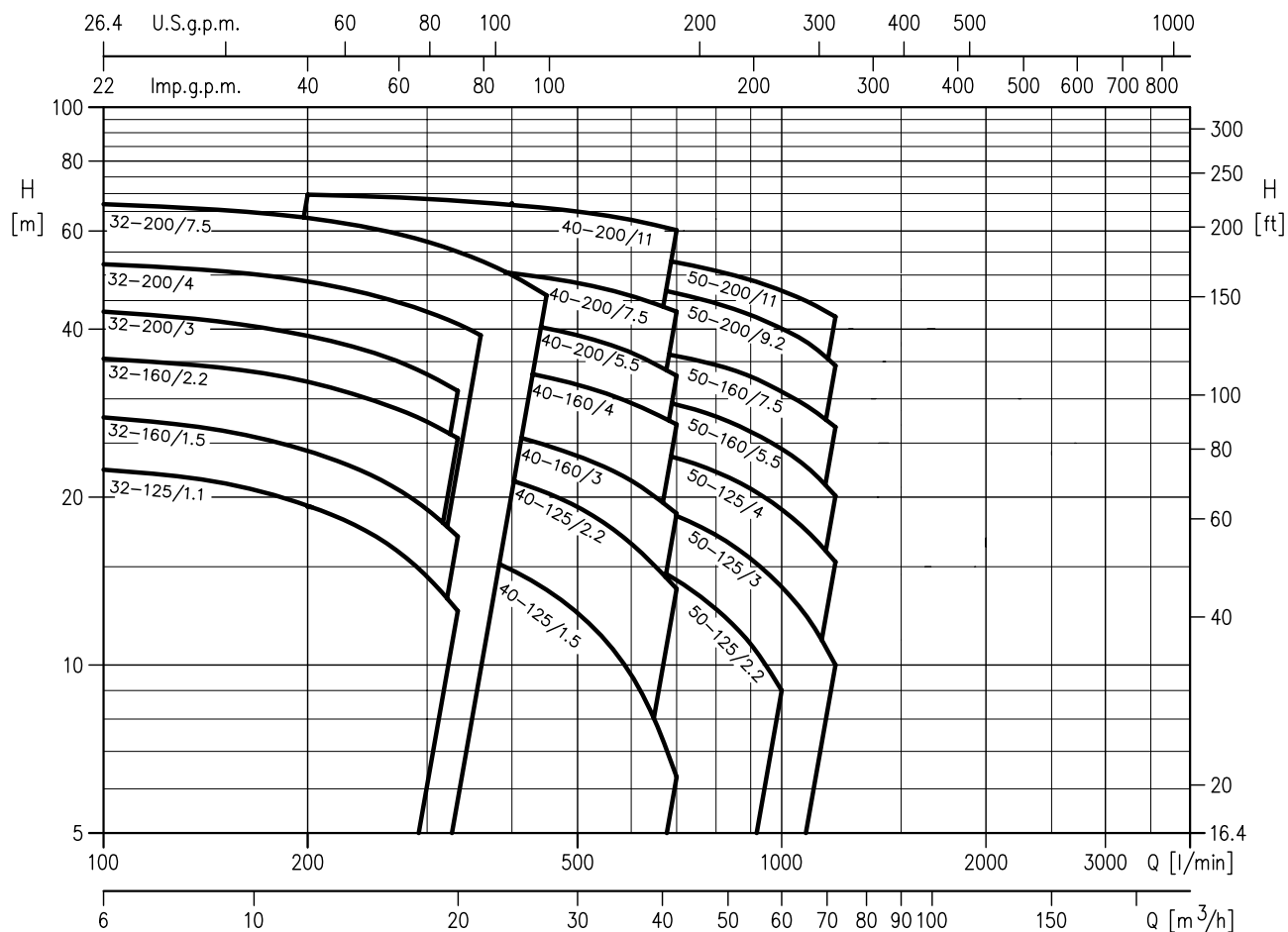
| PUMP                           |                          |   |
|--------------------------------|--------------------------|---|
| Liquid Handled                 | Type of liquid           | Clean water   |
|                                | Working temperature [°C] | min. -5<br>max. +90<br>max. +110 H, HS  |
| Maximum working pressure [MPa] |                          | 1   |
| Construction                   | Impeller                 | Closed centrifugal type for 32, 40, 50 series<br>Reinforced laser welding for 40-200/11 |
|                                | Shaft seal type          | Mechanical seal   |
|                                | Bearing                  | Sealed ball bearing   |
| Pipe Connection                | Suction                  | Flange DN 50, 65 according to EN 1092-2   |
|                                | Discharge                | Flange DN 32, 40, 50 according to EN 1092-2   |
| Material                       | Casing                   | Cast iron EN-GJL-250-EN 1561  |
|                                | Impeller                 | AISI 304  |
|                                | Shaft seal               | Ceramic/Carbon/NBR (see Optionals on page. 302-303)                                     |
|                                | Shaft                    | AISI 304 (wet extension)  |
|                                | Bracket                  | Aluminium/Cast iron   |
| Accessory                      | Counterflange            | DN 32, 40, 50, 65, (see pag. 305)   |
| Applicable standard of test    |                          | ISO 9906:2012 - Grade 3B  |

| MOTOR                               |                       |  |
|-------------------------------------|-----------------------|--|
| Type                                | 3D                    |  |
|                                     | Electric - TEFC       |  |
|                                     | Single Phase          | Three Phase  |
| Efficiency ( EU Reg. 640/2009)      | -                     | IE3 from 1.1 kW to 11 kW                                     |
| No. of Poles                        | 2                     |  |
| Rotation speed [min <sup>-1</sup> ] | ≈ 2900                |  |
| Insulation Class                    | F                     | F (temperature rise class B)                                 |
| Protection degree                   | IP 55                 |  |
| Power rating [kW]                   | 1.1 ÷ 2.2             | 1.1 ÷ 11   |
|                                     | [HP]                  | 1.5 ÷ 3  |
| Frequency [Hz]                      | 50                    |  |
| Voltage [V]                         | 230 ±10%              | 230/400 ±10% (up to 4 kW)<br>400/690 ±10% (5.5 kW and above) |
| Capacitor                           | Built in              | -  |
| Over load protection                | Provided by the user  |  |
| Casing material                     | Aluminium             |  |
| Motor support                       | Cast iron / Aluminium |  |
| Dimensions of cable entry           | M20x1.5               | PG 13.5,<br>PG 16,<br>PG 21,                                 |
|                                     |                       | M20x1.5, M25x1.5   |



## SELECTION CHART

50Hz



## 3D SERIES 32 SIZE

| Pump type  | kW  | HP  | l/min 0 | 100  | 150  | 200  | 250  | 300  | 333  | 360  | 400 | 450 |
|------------|-----|-----|---------|------|------|------|------|------|------|------|-----|-----|
|            |     |     | m³/h 0  | 6    | 9    | 12   | 15   | 18   | 20   | 21.6 | 24  | 27  |
| 32-125/1.1 | 1.1 | 1.5 | 23      | 22.4 | 21.2 | 19.3 | 17.1 | 14.4 | 12.5 | -    | -   | -   |
| 32-160/1.5 | 1.5 | 2   | 28.5    | 27.5 | 25.9 | 23.7 | 21.3 | 18.5 | 16.4 | -    | -   | -   |
| 32-160/2.2 | 2.2 | 3   | 36.7    | 35.4 | 34.1 | 32.2 | 29.8 | 27.3 | 25.5 | -    | -   | -   |
| 32-200/3.0 | 3   | 4   | 44      | 43   | 41   | 39   | 36.5 | 33   | 31   | -    | -   | -   |
| 32-200/4.0 | 4   | 5.5 | 53      | 52.5 | 51   | 49   | 46   | 43   | 41   | 39   | -   | -   |
| 32-200/7.5 | 7.5 | 10  | 68      | 67   | 65   | 63   | 61   | 57   | 55   | 53   | 50  | 46  |

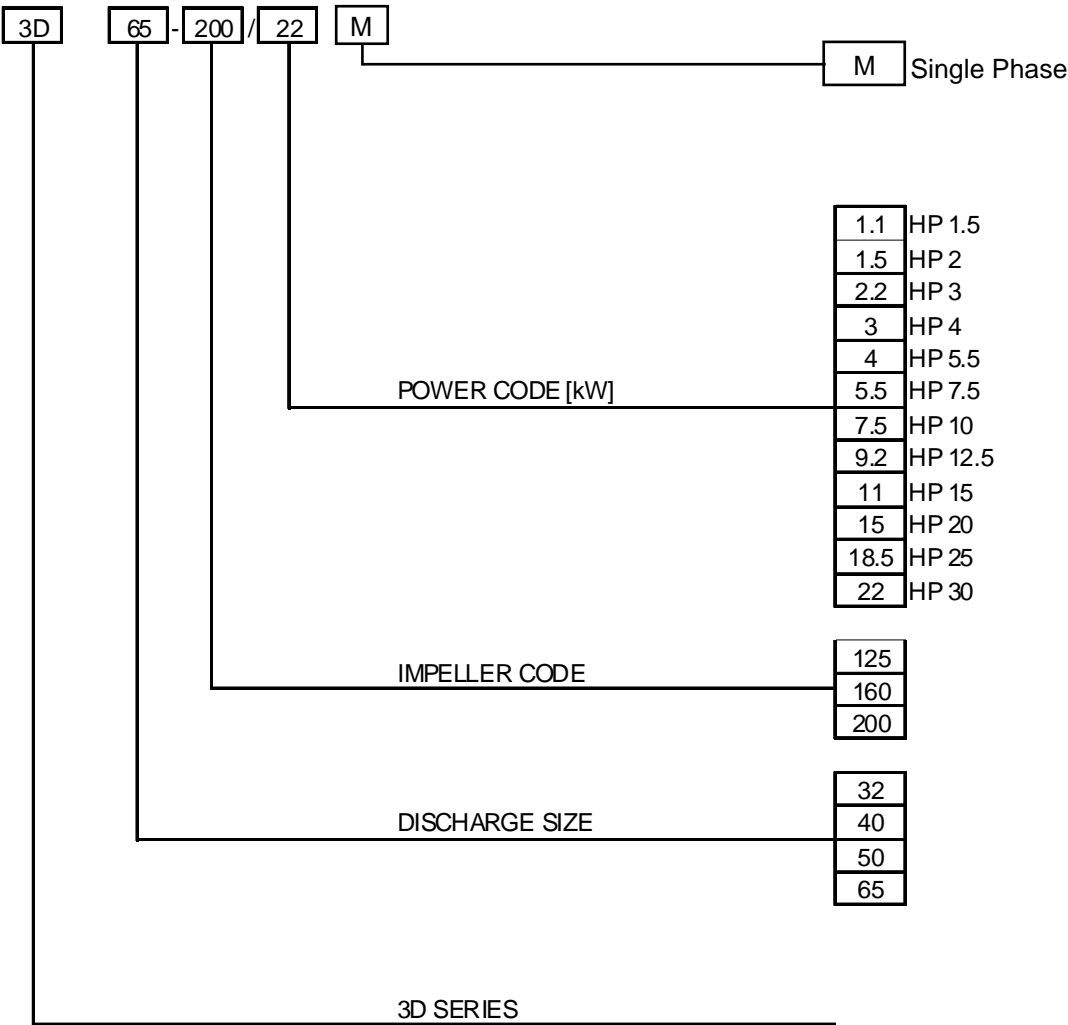
## 3D SERIES 40 SIZE

| Pump type  | kW  | HP  | l/min 0 | 200  | 250  | 300  | 350  | 400  | 450  | 500  | 600  | 700  |
|------------|-----|-----|---------|------|------|------|------|------|------|------|------|------|
|            |     |     | m³/h 0  | 12   | 15   | 18   | 21   | 24   | 27   | 30   | 36   | 42   |
| 40-125/1.5 | 1.5 | 2   | 19      | 18.2 | 17.6 | 16.8 | 15.9 | 14.8 | 13.7 | 12.4 | 9.6  | 6.3  |
| 40-125/2.2 | 2.2 | 3   | 25      | 24.4 | 23.9 | 23.2 | 22.4 | 21.4 | 20.4 | 19.2 | 16.5 | 13.7 |
| 40-160/3.0 | 3   | 4   | 31      | 29.4 | 28.7 | 27.8 | 26.8 | 25.8 | 24.8 | 23.7 | 21.4 | 18.7 |
| 40-160/4.0 | 4   | 5.5 | 38.8    | 37.2 | 36.5 | 35.7 | 34.8 | 33.8 | 32.8 | 31.8 | 29.5 | 27   |
| 40-200/5.5 | 5.5 | 7.5 | 45.5    | 44.5 | 44   | 43   | 42   | 41   | 40   | 39   | 36.3 | 33   |
| 40-200/7.5 | 7.5 | 10  | 55      | 53.5 | 53   | 52   | 51.5 | 50.5 | 49.5 | 48.5 | 46   | 43   |
| 40-200/11  | 11  | 15  | 71      | 70   | 69   | 68.5 | 67.5 | 67   | 66   | 65   | 63   | 60   |

## 3D SERIES 50 SIZE

| Pump type  | kW  | HP   | l/min 0 | 400  | 500  | 600  | 700  | 800  | 900  | 1000 | 1100 | 1200 |
|------------|-----|------|---------|------|------|------|------|------|------|------|------|------|
|            |     |      | m³/h 0  | 24   | 30   | 36   | 42   | 48   | 54   | 60   | 66   | 72   |
| 50-125/2.2 | 2.2 | 3    | 19.5    | 18   | 17   | 15.7 | 14.2 | 12.6 | 10.9 | 9    | -    | -    |
| 50-125/3.0 | 3   | 4    | 22.5    | 21.5 | 20.8 | 19.8 | 18.5 | 17.1 | 15.5 | 13.8 | 12   | 10   |
| 50-125/4.0 | 4   | 5.5  | 26.5    | 25.8 | 25.3 | 24.5 | 23.5 | 22.2 | 20.7 | 19   | 17.2 | 15.3 |
| 50-160/5.5 | 5.5 | 7.5  | 33      | 32   | 31.5 | 30.5 | 29.3 | 27.9 | 26.2 | 24.4 | 22.4 | 20   |
| 50-160/7.5 | 7.5 | 10   | 39.5    | 38.2 | 37.6 | 36.9 | 35.8 | 34.5 | 32.9 | 30.9 | 28.9 | 26.7 |
| 50-200/9.2 | 9.2 | 12.5 | 51.5    | -    | 49.5 | 48   | 46.5 | 44.5 | 42.5 | 40   | 37.6 | 34.4 |
| 50-200/11  | 11  | 15   | 57.5    | -    | 55.5 | 54.5 | 52.5 | 51   | 49   | 47   | 44.5 | 42   |

TYPE KEY



**PERFORMANCE CURVE SPECIFICATIONS**

The specifications below qualify the curves shown on the following pages.

Tolerances according to ISO 9906:2012 - Grade 3B

The curves refer to effective speed of asynchronous motors at 50 Hz, 2 poles.

Measurements were carried out with clean water at 20°C of temperature and with a kinematic viscosity of  $\nu = 1 \text{ mm}^2/\text{s}$  (1 cSt)

The NPSH curve is an average curve obtained in the same conditions of performance curves.

The continuous curves indicate the recommended working range. The dotted curve is only a guide.

In order to avoid the risk of over-heating, the pumps should not be used at a flow rate below 10% of best efficiency point.

Symbols explanation:

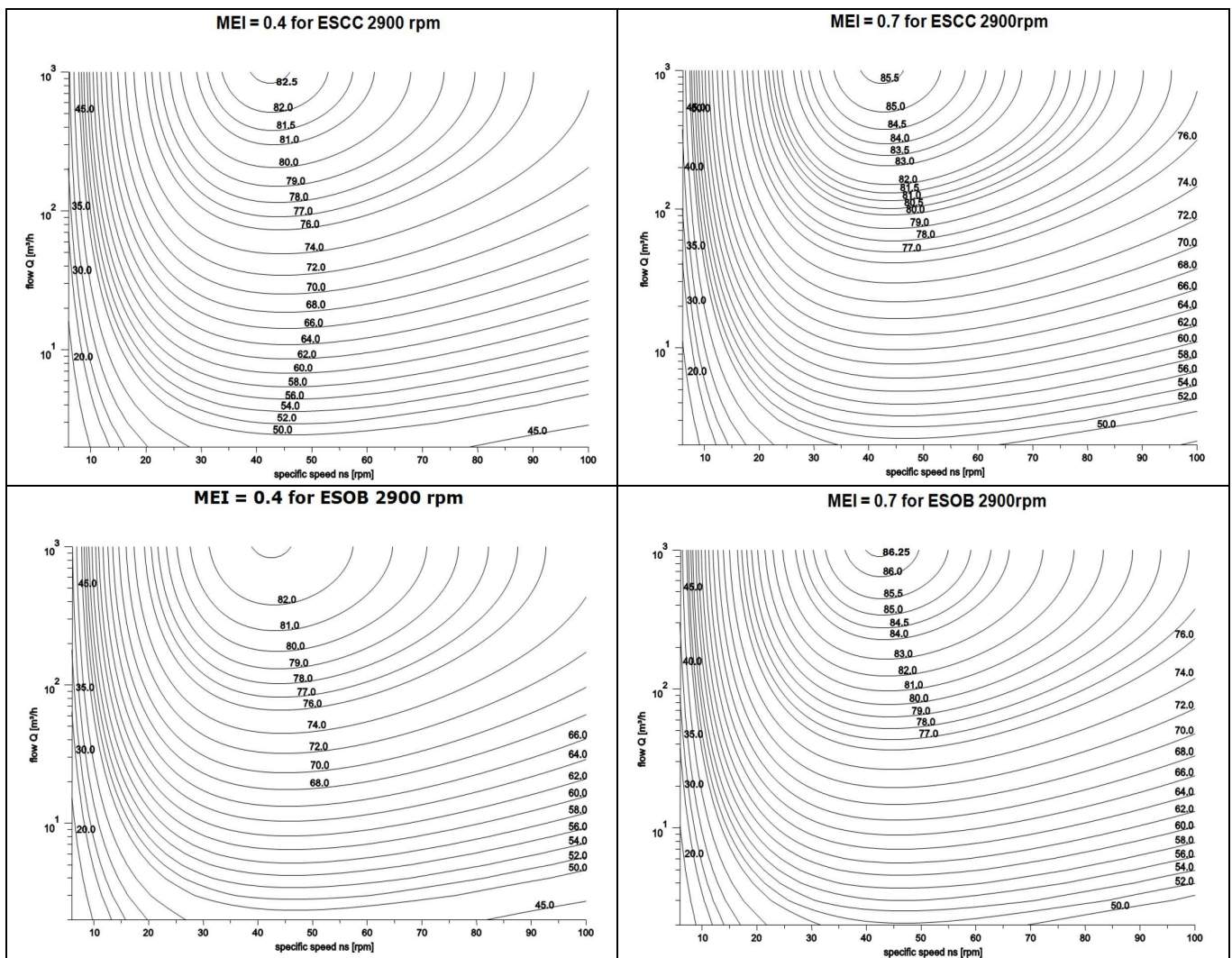
- Q = volume flow rate
- H = total head
- $P_2$  = pump power input (shaft power)
- $\eta$  = pump efficiency
- NPSH = net positive suction head required by the pump
- MEI = minimum efficiency index

## MEI INDEX SPECIFICATION

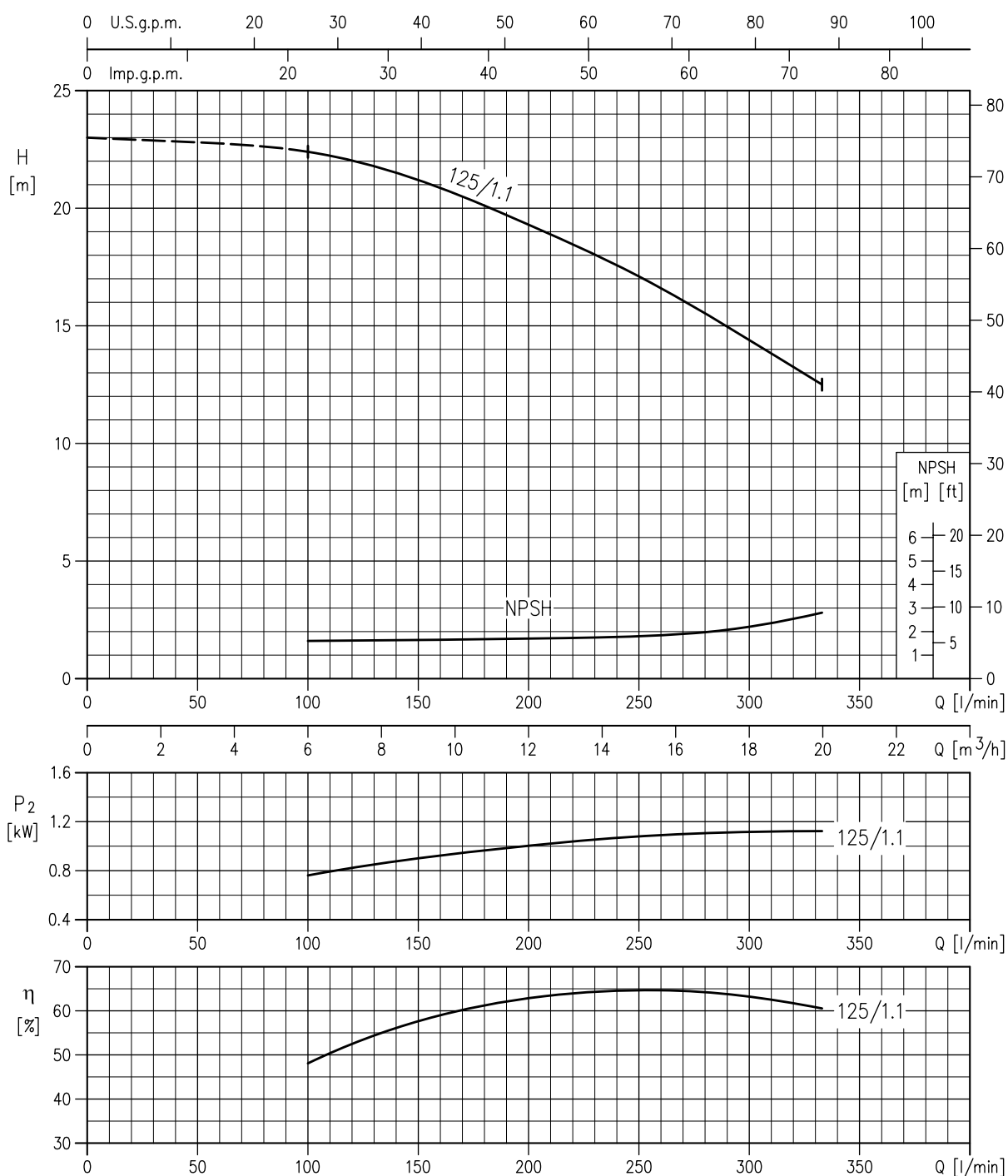
The minimum efficiency index (MEI) is a measure of the quality of a pump size in respect to its mean efficiency. The minimum efficiency index is based on the hydraulic efficiency and on the head at the best efficiency point.

The efficiency of a pump with trimmed impeller is usually lower than that of a pump with the full impeller diameter. The trimming of the impeller will adapt the pump to a fixed duty point, leading to a reduced energy consumption. The minimum efficiency index (MEI) is based on the full impeller diameter.

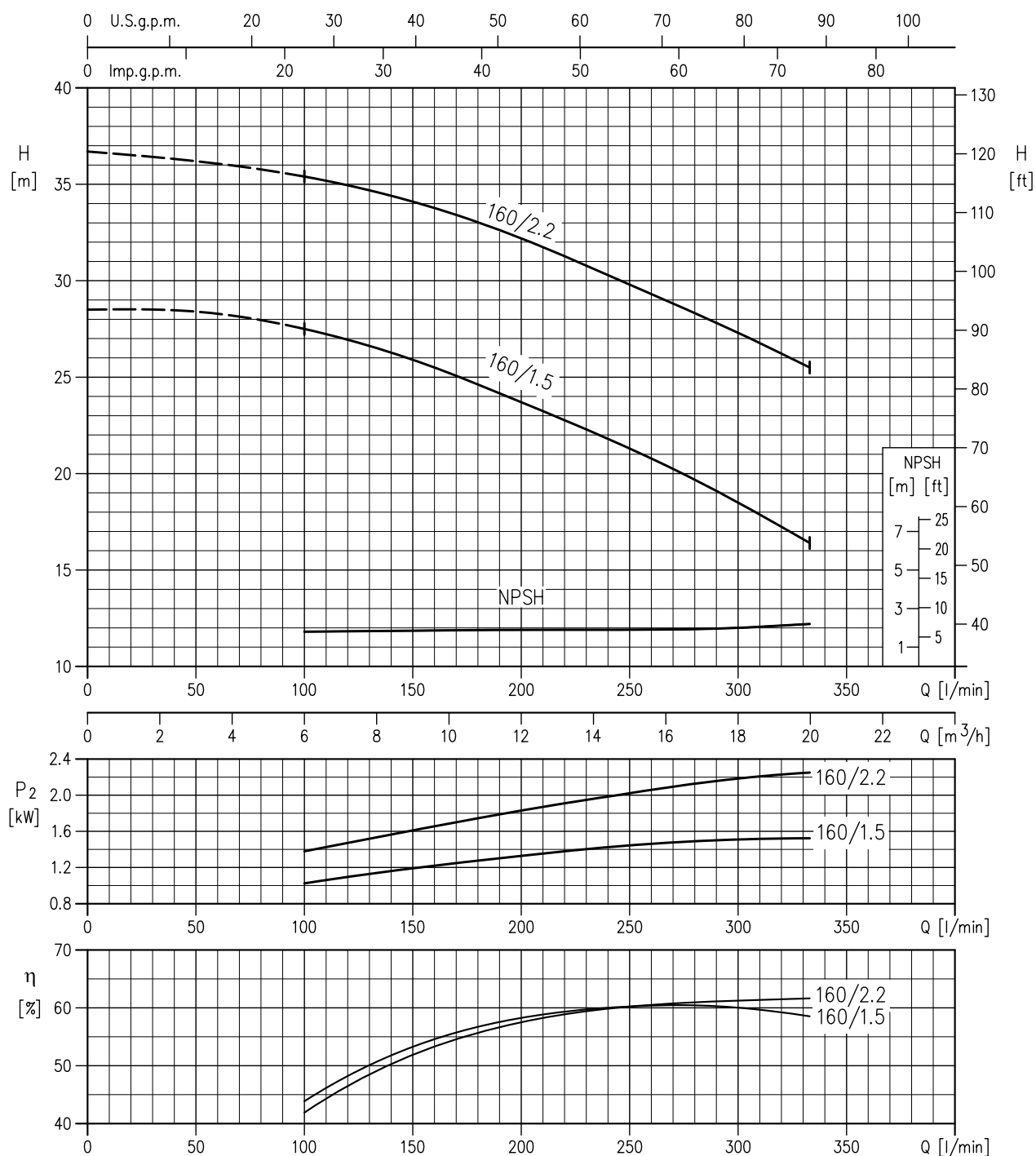
The operation of these water pumps with variable duty points may be more efficient and economical when controlled, for example, by the use of a variable speed drive that matches the pump duty to the system.



32-125/1.1 (1.1kW) MEI &gt; 0.70 – impeller diameter = 133 mm



Rotation speed  $\approx 2900 \text{ min}^{-1}$   
Test standard: ISO 9906:2012 - Grade 3B

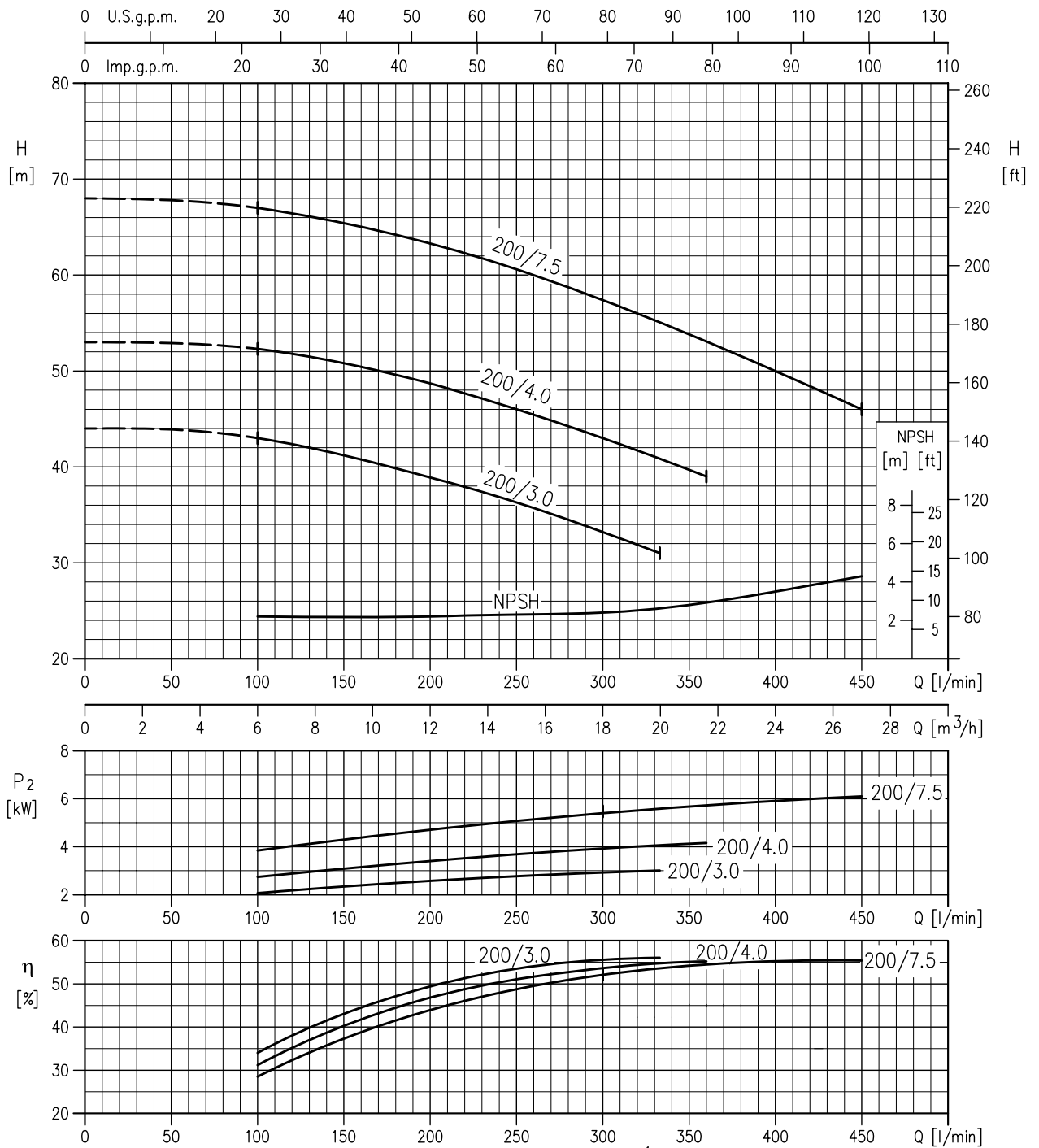
**32-160/1.5 (1.5kW) MEI > 0.70 – impeller diameter = 151 mm****32-160/2.2 (2.2kW) MEI > 0.70 – impeller diameter = 166 mm**

Rotation speed  $\approx 2900 \text{ min}^{-1}$   
Test standard: ISO 9906:2012 - Grade 3B

**32-200/3.0 (3.0kW) MEI > 0.40 – impeller diameter = 186 mm**

**32-200/4.0 (4.0kW) MEI > 0.40 – impeller diameter = 200 mm**

**32-200/7.5 (7.5kW) MEI > 0.50 – impeller diameter = 224 mm**

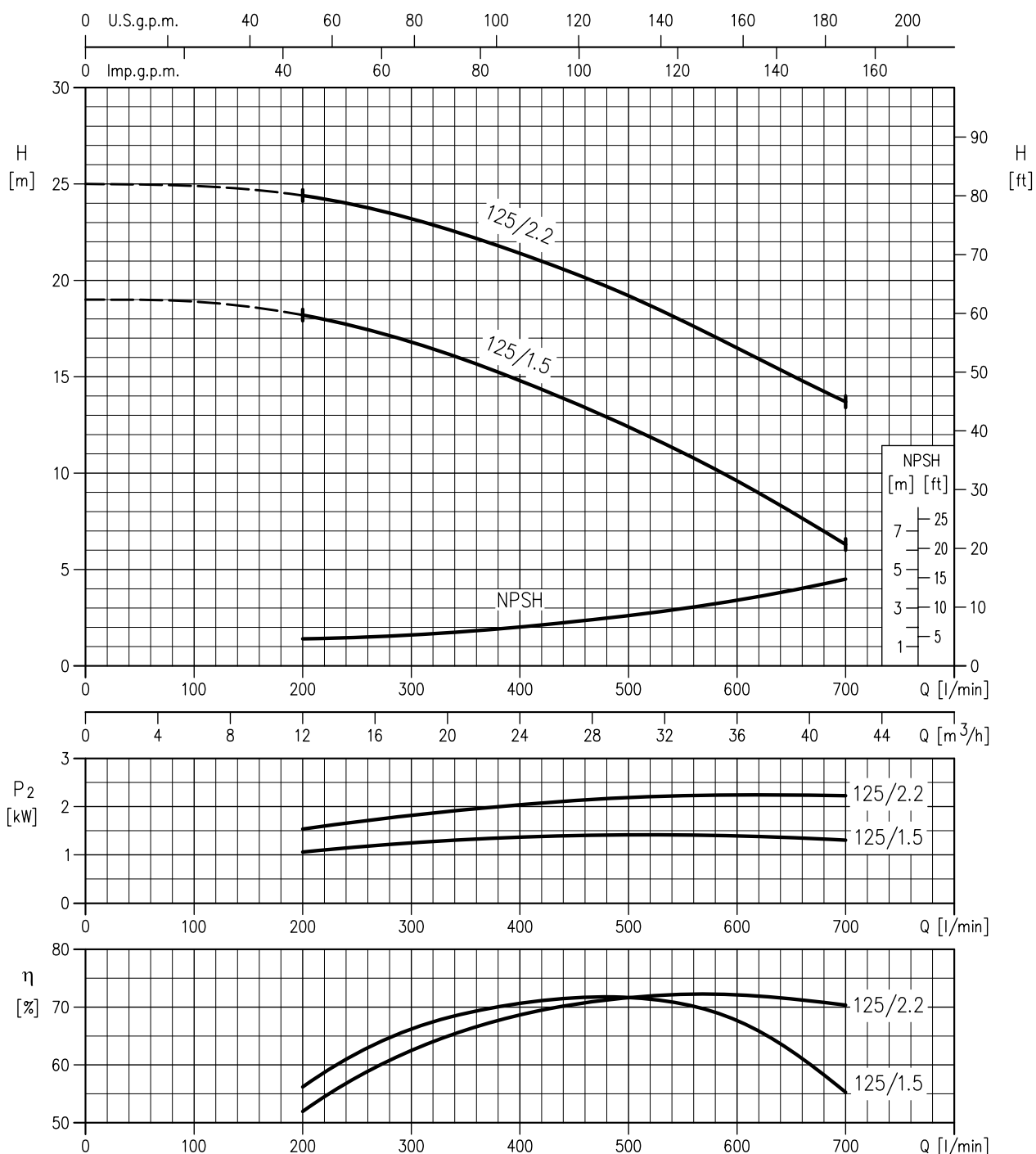


Rotation speed  $\approx 2900 \text{ min}^{-1}$

Test standard: ISO 9906:2012 - Grade 3B

40-125/1.5 (1.5kW) MEI &gt; 0.50 – impeller diameter = 125 mm

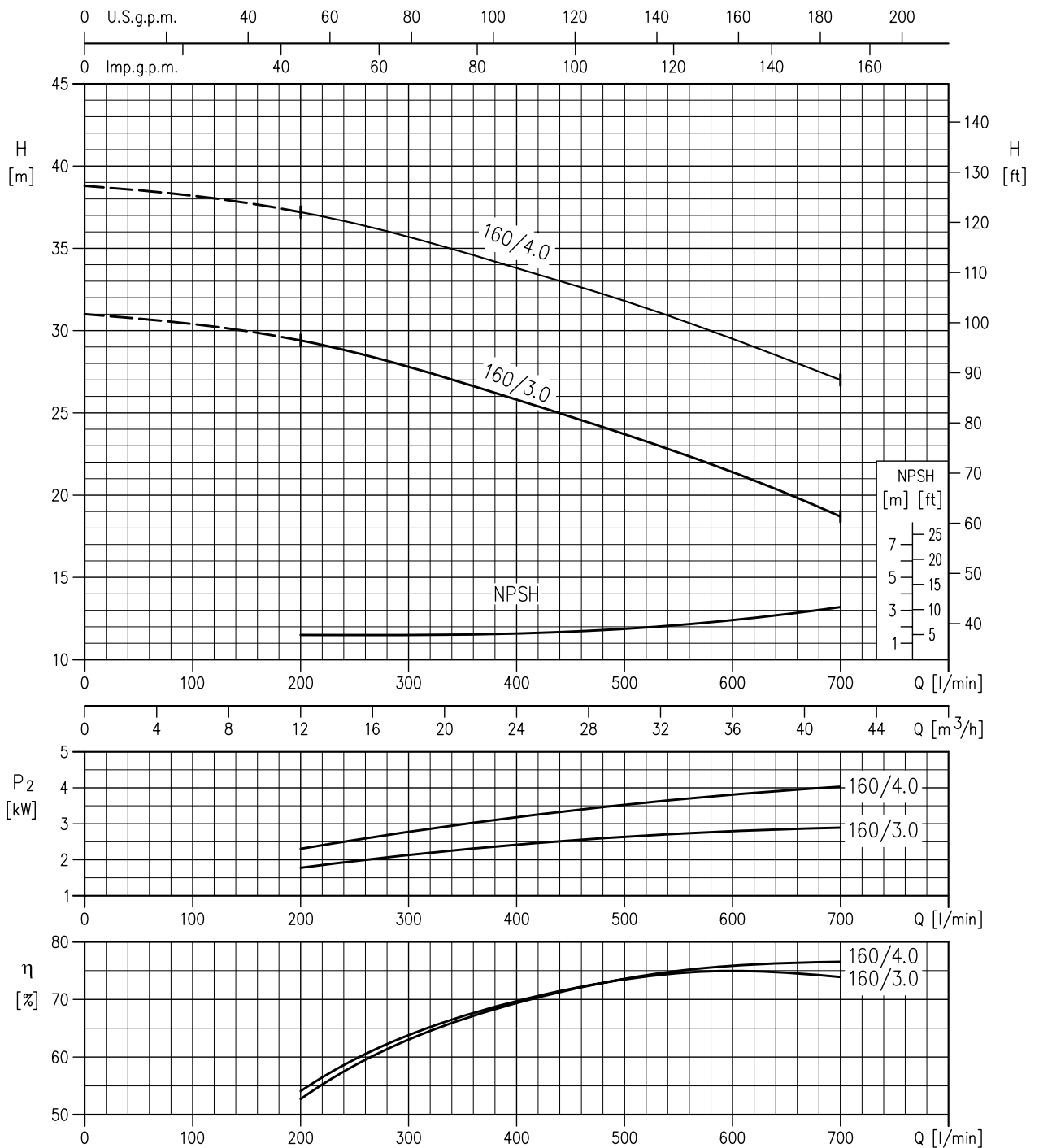
40-125/2.2 (2.2kW) MEI &gt; 0.50 – impeller diameter = 140 mm



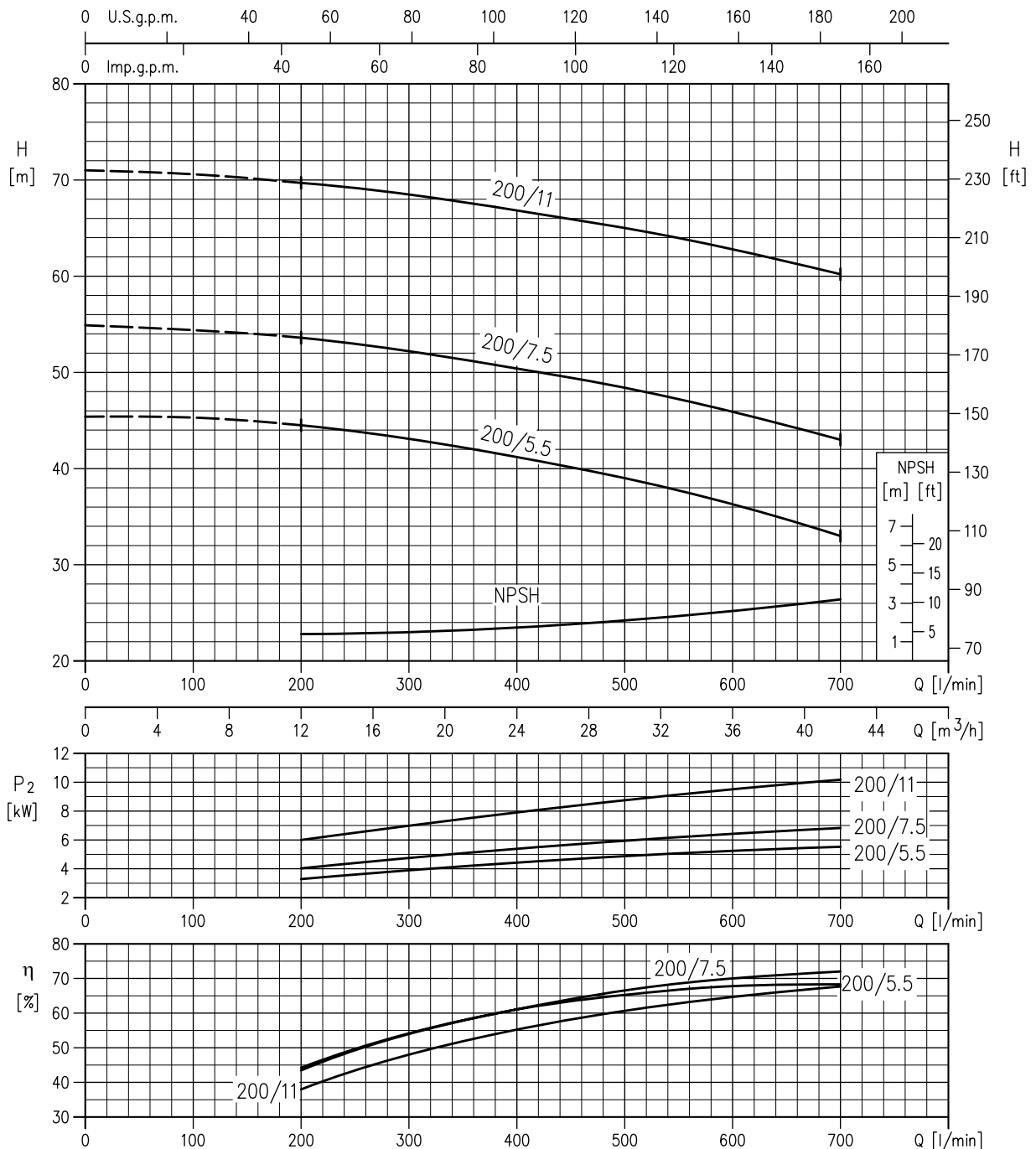
Rotation speed  $\approx 2900 \text{ min}^{-1}$   
Test standard: ISO 9906:2012 - Grade 3B

40-160/3.0 (3.0kW) MEI &gt; 0.70 – impeller diameter = 151 mm

40-160/4.0 (4.0kW) MEI &gt; 0.70 – impeller diameter = 166 mm



Rotation speed  $\approx 2900 \text{ min}^{-1}$   
Test standard: ISO 9906:2012 - Grade 3B

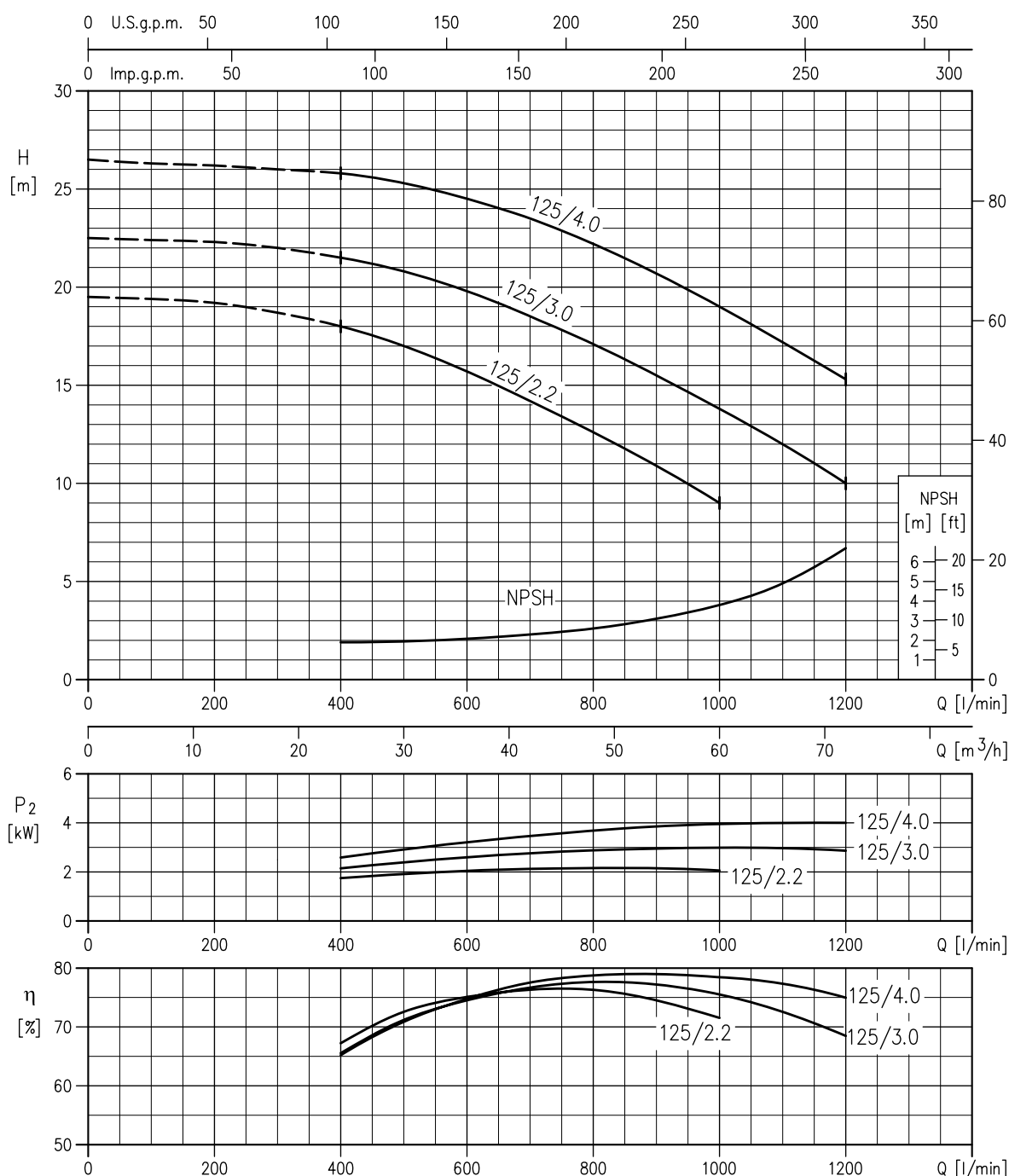
**40-200/5.5 (5.5kW) MEI > 0.70 – impeller diameter = 183 mm****40-200/7.5 (7.5kW) MEI > 0.70 – impeller diameter = 200 mm****40-200/11 (11kW) MEI > 0.70 – impeller diameter = 224 mm**

Rotation speed  $\approx 2900 \text{ min}^{-1}$   
Test standard: ISO 9906:2012 - Grade 3B

50-125/2.2 (2.2kW) MEI > 0.60 – impeller diameter = 126 mm

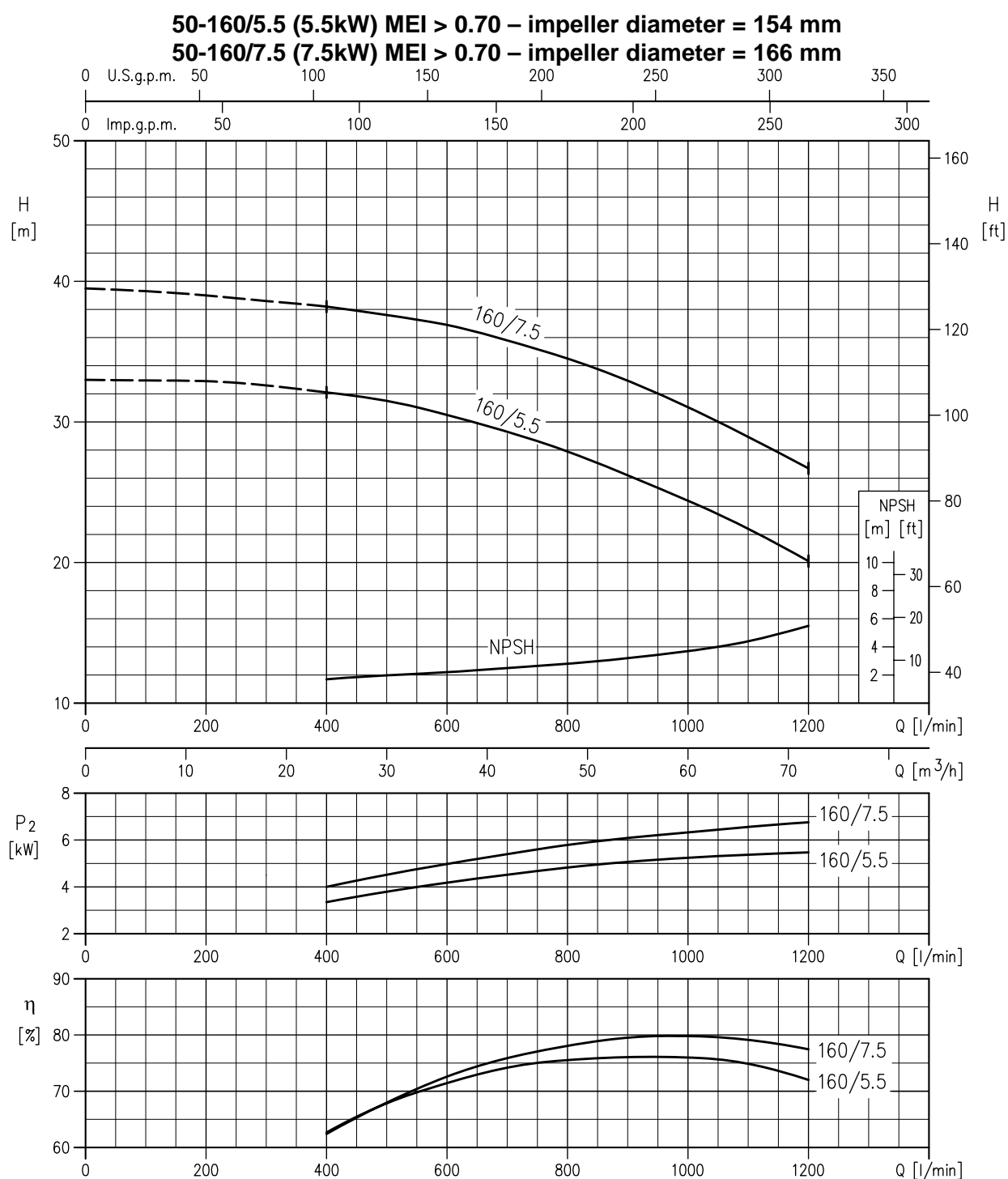
50-125/3.0 (3.0kW) MEI > 0.60 – impeller diameter = 131 mm

50-125/4.0 (4.0kW) MEI > 0.60 – impeller diameter = 140 mm



Rotation speed  $\approx 2900 \text{ min}^{-1}$

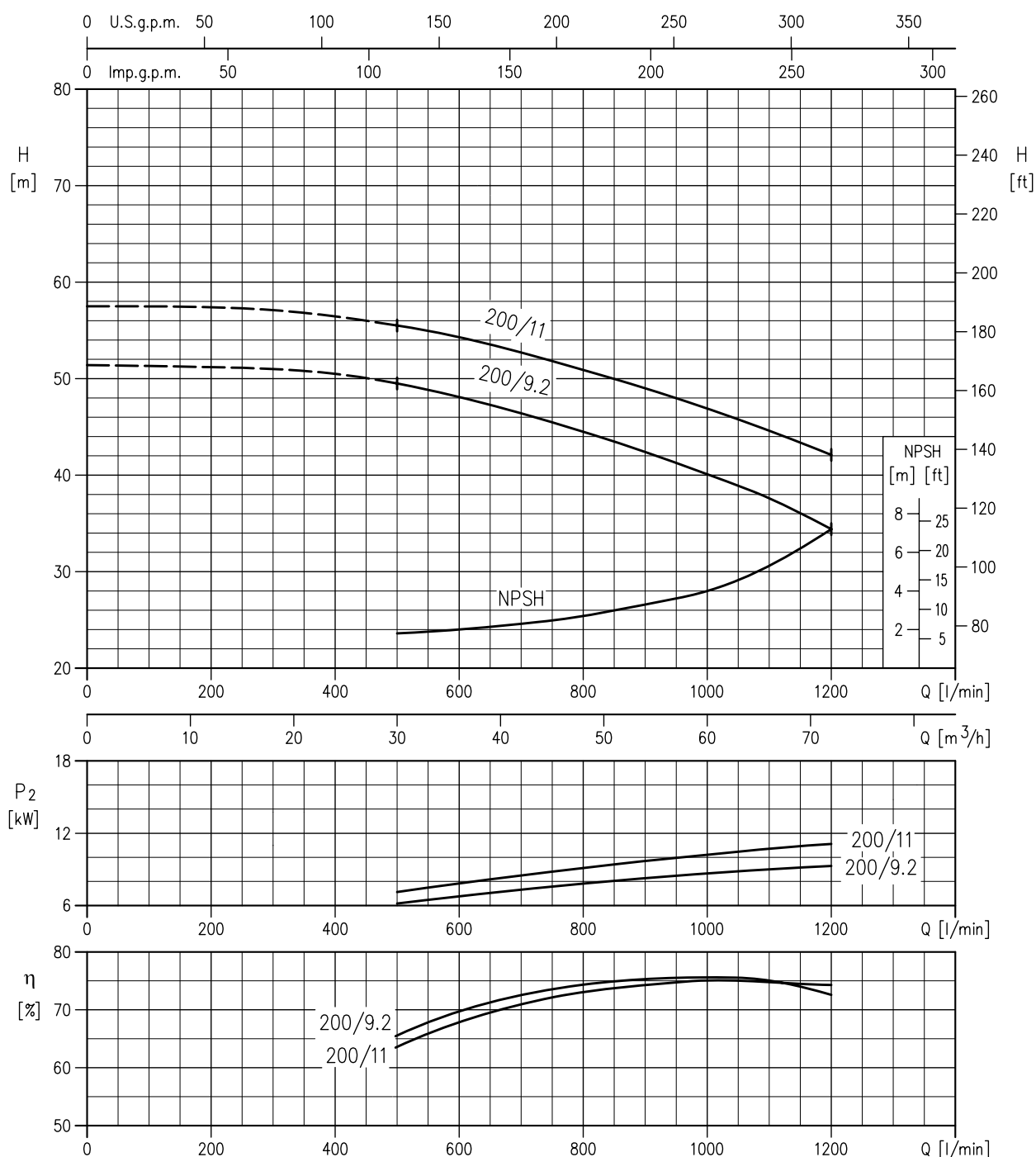
Test standard: ISO 9906:2012 - Grade 3B



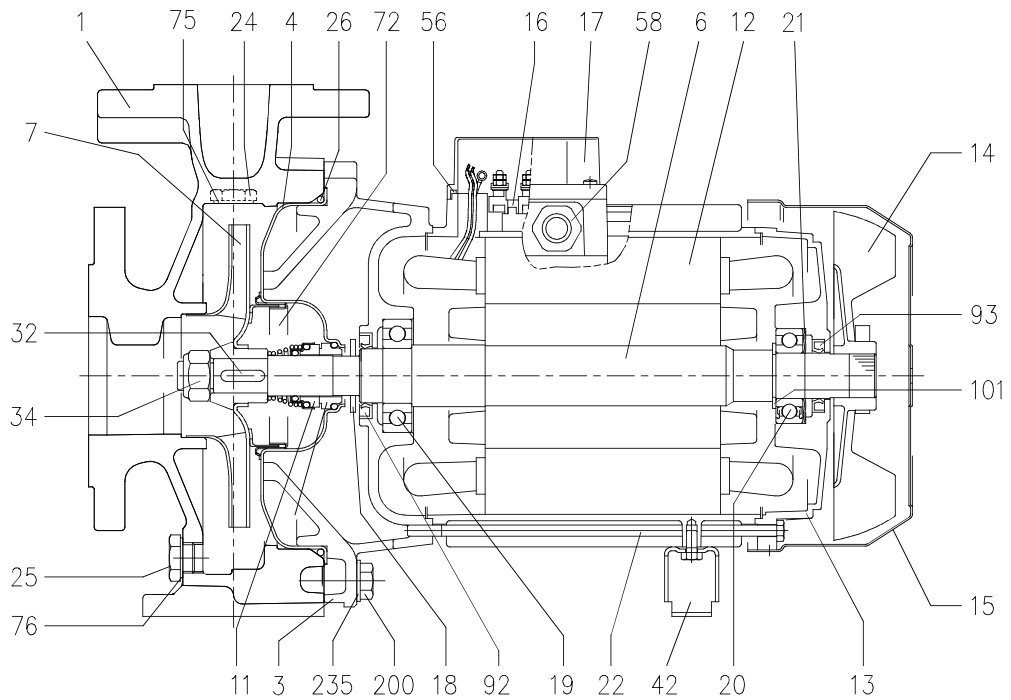
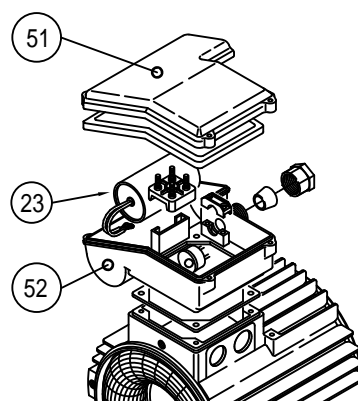
Rotation speed  $\approx 2900 \text{ min}^{-1}$   
Test standard: ISO 9906:2012 - Grade 3B

50-200/9.2 (9.2kW) MEI &gt; 0.70 – impeller diameter = 191 mm

50-200/11 (11kW) MEI &gt; 0.70 – impeller diameter = 200 mm



Rotation speed  $\approx 2900 \text{ min}^{-1}$   
Test standard: ISO 9906:2012 - Grade 3B

**SECTIONAL VIEW DRAWING 3D 32, 40, 50****Single Phase**

## 3D SECTIONAL VIEW TABLE

| N°  | PART NAME                        | MATERIAL                               | DIMENSIONS       | STANDARD                   | Q.TY |
|-----|----------------------------------|--|------------------|----------------------------|------|
| 001 | Casing                           | Cast iron EN-GJL-250-EN 1561           |                  |                            | 1    |
| 003 | Motor bracket                    | [1]                                    |                  |                            | 1    |
| 004 | Casing cover                     | EN 1.4301 (AISI 304)                   |                  |                            | 1    |
| 006 | Shaft with rotor - Wet extension | EN 1.4301 (AISI 304)                   |                  |                            | 1    |
| 007 | Impeller                         | [2]                                    |                  |                            | 1    |
| 011 | Mechanical seal                  | [3]                                    | [3]              |                            | 1    |
| 012 | Motor frame with stator          | -                                      |                  |                            | 1    |
| 013 | Motor cover                      | Aluminium                              |                  |                            | 1    |
| 014 | Fan                              | PA                                     |                  |                            | 1    |
| 015 | Fan cover                        | Fe P04 Galvanized                      |                  |                            | 1    |
| 016 | Terminal                         | -                                      |                  |                            | 1    |
| 017 | Terminal box cover               | Aluminium (three phase version)        |                  |                            | 1    |
| 018 | Splash ring                      | NBR                                    | 40x21.5x2        | EBARA DRAWING              | 1    |
| 019 | Bearing                          | -                                      | See table p. 311 |                            | 1    |
| 020 | Bearing                          | -                                      | See table p. 311 |                            | 1    |
| 021 | Adjusting ring                   | Steel C70                              |                  |                            | 1    |
| 022 | Tie rod                          | Fe 42 Galvanized                       | M5               | EBARA DRAWING              | 4    |
|     |                                  |  | M6               |                            |      |
|     |                                  |  | M8               |                            |      |
| 24  | Priming plug                     | Brass                                  | G 3/8" L=8       |                            | 1    |
| 25  | Draing plug                      | Brass                                  | G 3/8" L=8       |                            | 1    |
| 026 | "O" ring                         | NBR [4]                                | 158.11x5.34      | OR 6625                    | 1    |
|     |                                  |  | 183.52x5.34      | OR 6720                    |      |
|     |                                  |  | 227.96x5.34      | OR 6895                    |      |
|     |                                  |  |                  |                            |      |
| 032 | Key                              | EN 1.4401 (AISI 316)                   | A 6x6x25         | UNI 6604                   | 1    |
| 034 | Impeller nut                     | EN 1.4301 (AISI 304)                   | M16x1.5          | UNI 7474                   | 1    |
| 042 | Foot                             | Aluminium / Galvanized steel           |                  | EBARA DRAWING              |      |
| 056 | Box gasket                       | NBR                                    |                  |                            | 1    |
| 058 | Cable gland                      | -                                      |                  |                            |      |
| 072 | Casing ring [5]                  | EN 1.4301 (AISI 304)                   |                  |                            | 1    |
| 075 | Washer                           | Aluminum                               | 22x17x1.5        | EBARA DRAWING              | 1    |
| 076 | Washer                           | Aluminum                               |                  |                            | 1    |
| 092 | Lip seal                         | -                                      | 25x40x7          | DIN 3760<br>without spring | 1    |
|     |                                  |  | 30x47X7          |                            |      |
|     |                                  |  | 40x55x7          |                            |      |
|     |                                  |  |                  |                            |      |
| 093 | Lip seal                         | -                                      | 25x40x7          | DIN 3760<br>without spring | 1    |
|     |                                  |  | 30x47X7          |                            |      |
|     |                                  |  | 40x55x7          |                            |      |
|     |                                  |  |                  |                            |      |
| 101 | Snap ring [6]                    | Carbon tool steels TC 80               | Ø 40             | UNI 7435                   | 1    |
| 200 | Screw                            | Gv. Steel 8.8 strenght class ISO 898-1 | M 8x30           | UNI 5739                   | 8    |
|     |                                  |  |                  |                            | 10   |
|     |                                  |  | M 10x35          |                            | 12   |
|     |                                  |  |                  |                            |      |
| 235 | Washer                           | Galvanized Steel                       | 8.4x17           | UNI 6592                   | 8    |
|     |                                  |  |                  |                            | 10   |
|     |                                  |  | 10.5x21          |                            | 12   |
|     |                                  |  |                  |                            |      |
| 51  | Terminal Box Lid (Single Phase)  | Plastic                                |                  |                            |      |
| 52  | Terminal Box (Single Phase)      | Plastic                                |                  |                            |      |
| 23  | Capacitor (Single Phase)         | -                                      |                  |                            |      |

Counterflange kit on request see p. 305

[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;

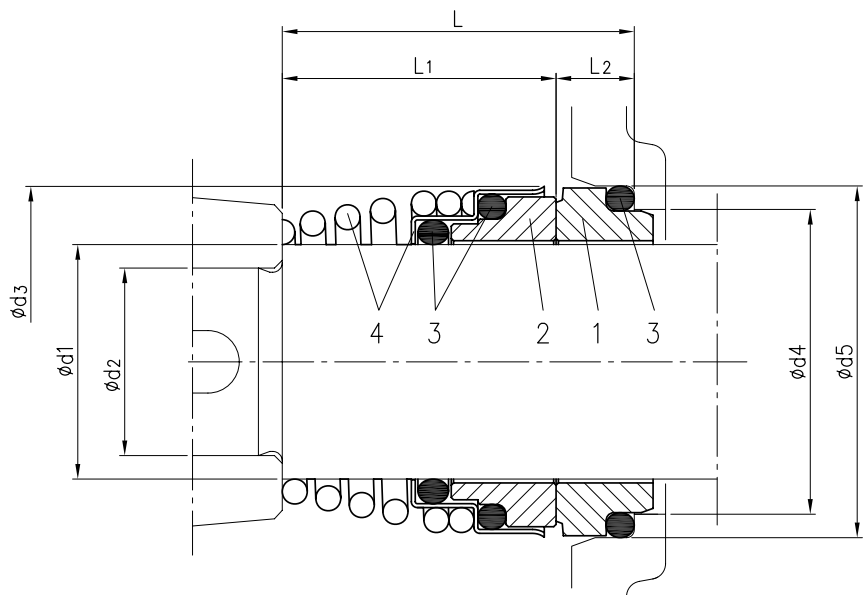
[3] For special version and dimensions see page 302 and 303

[4] FPM for H, HS version;

[5] Only for: 32-200, 40-200, 50-160, 50-200/9.2, 50-200/11

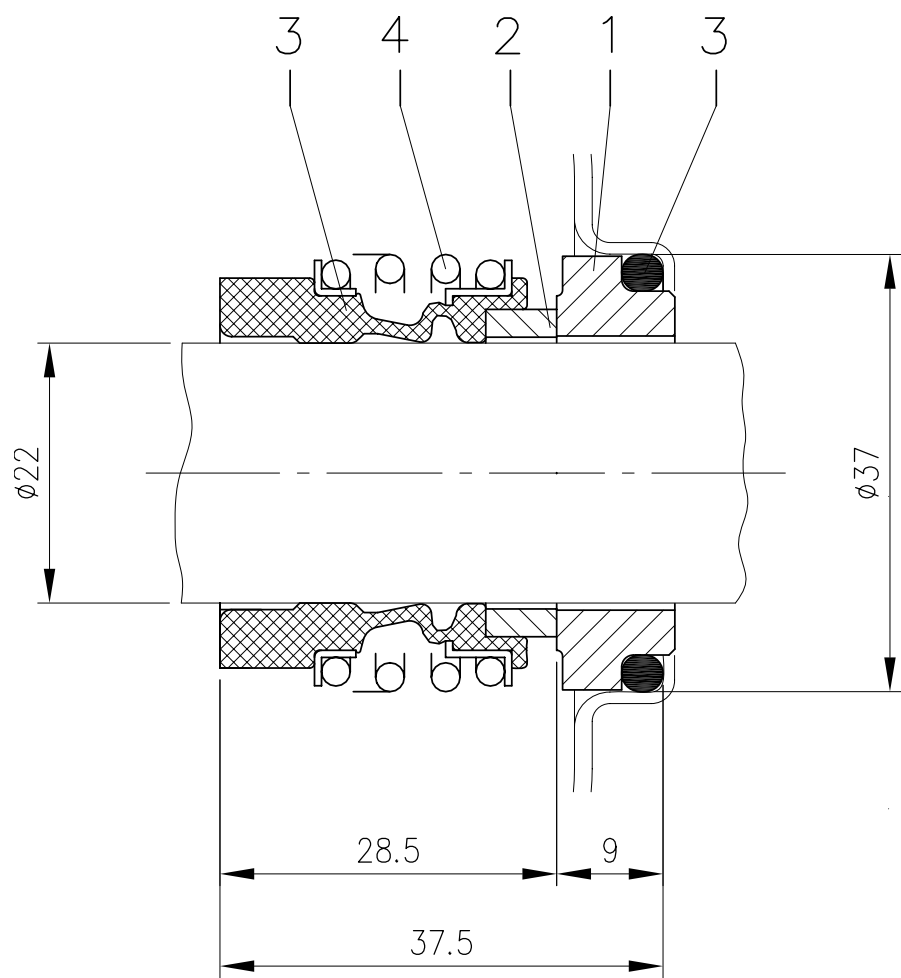
[6] Only for pumps with 9.2 and 11 kW motor

MECHANICAL SEAL (standard and H version)



| Version  | Dimensions |    |    |    |    |      |      |    | Material                     |                          |             |                         |
|----------|------------|----|----|----|----|------|------|----|------------------------------|--------------------------|-------------|-------------------------|
|          | d1         | d2 | d3 | d4 | d5 | L    | L1   | L2 | 1<br>Stationary<br>seal ring | 2<br>Rotary<br>seal ring | 3<br>Rubber | 4<br>Frame +<br>Spring  |
| Standard | 22         | 19 | 38 | 31 | 37 | 37,5 | 27,5 | 10 | Carbon                       | Ceramic                  | NBR         | EN 1.4401<br>(AISI 316) |
| H        | 22         | 19 | 38 | 31 | 37 | 37,5 | 27,5 | 10 | Carbon                       | Ceramic                  | FPM         | EN 1.4401<br>(AISI 316) |

MECHANICAL SEAL (HS version ø22)



| Version | Material                     |                          |             |                           |
|---------|------------------------------|--------------------------|-------------|---------------------------|
|         | 1<br>Stationary<br>seal ring | 2<br>Rotary<br>seal ring | 3<br>Rubber | 4<br>Frame<br>+ spring    |
| HS ø22  | SiC                          | SiC                      | FPM         | EN 1.4571<br>(AISI 316Ti) |

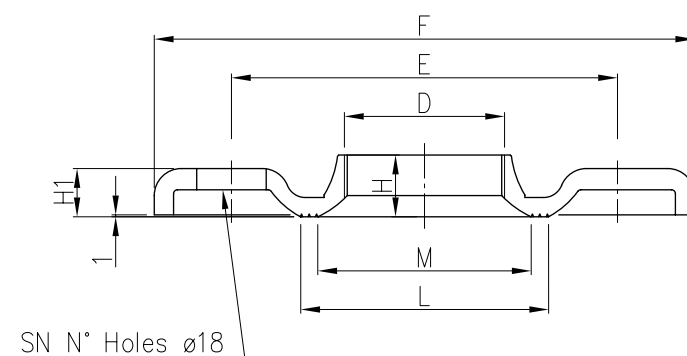
## 3D BEARINGS

| Pump type           | Ball bearing |            |
|---------------------|--------------|------------|
|                     | Pump side    | Fan side   |
| 3D 32-125/1.1 (M) * | 6205-ZZ C3   | 6205-ZZ C3 |
| 3D 32-160/1.5 (M) * |              |            |
| 3D 32-160/2.2 (M) * |              |            |
| 3D 32-200/3.0       |              |            |
| 3D 32-200/4.0       | 6206-ZZ C3   | 6206-ZZ C3 |
| 3D 32-200/7.5       | 6306-ZZ C3   |            |
| 3D 40-125/1.5 (M) * | 6205-ZZ C3   | 6205-ZZ C3 |
| 3D 40-125/2.2 (M) * |              |            |
| 3D 40-160/3.0       |              |            |
| 3D 40-160/4.0       | 6206-ZZ C3   | 6206-ZZ C3 |
| 3D 40-200/5.5       | 6306-ZZ C3   |            |
| 3D 40-200/7.5       |              |            |
| 3D 40-200/11        | 6308-ZZ C3   | 6208-ZZ C3 |
| 3D 50-125/2.2 (M) * | 6205-ZZ C3   | 6205-ZZ C3 |
| 3D 50-125/3.0       |              |            |
| 3D 50-125/4.0       | 6206-ZZ C3   | 6206-ZZ C3 |
| 3D 50-160/5.5       | 6306-ZZ C3   |            |
| 3D 50-160/7.5       |              |            |
| 3D 50-200/9.2       | 6308-ZZ C3   | 6208-ZZ C3 |
| 3D 50-200/11        |              |            |

\* Single or 3 Phase

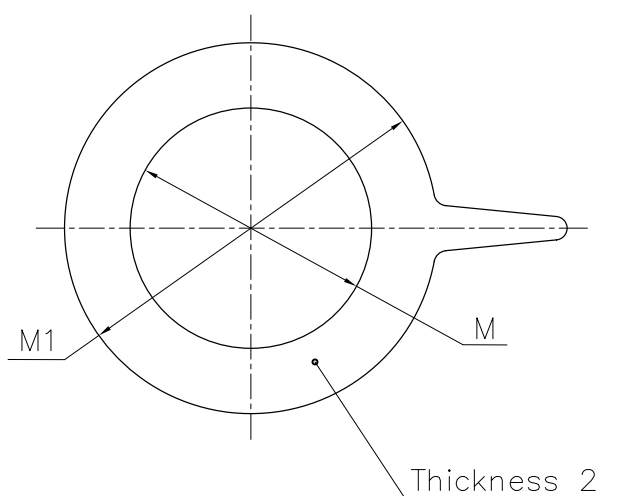
## FITTINGS

## COUNTERFLANGES GALVANIZED STEEL



| Dimensions |       |     |     |      |      |     |    |    | Screws    |  |
|------------|-------|-----|-----|------|------|-----|----|----|-----------|--|
| DN         | D     | E   | F   | H    | H1   | L   | M  | SN | DIMENSION | MATERIAL                                     |
| 32         | G 1 ¼ | 100 | 140 | 15   | 11.5 | 67  | 50 | 4  | M16x55    | Gv. Steel 8.8<br>Strenght class<br>ISO 898-1 |
| 40         | G 1 ½ | 110 | 150 | 17.5 | 11.5 | 72  | 58 | 4  |           |  |
| 50         | G 2   | 125 | 165 | 19   | 15   | 89  | 70 | 4  |           |  |
| 65         | G 2 ½ | 145 | 185 | 23   | 14   | 104 | 88 | 4  |           |  |

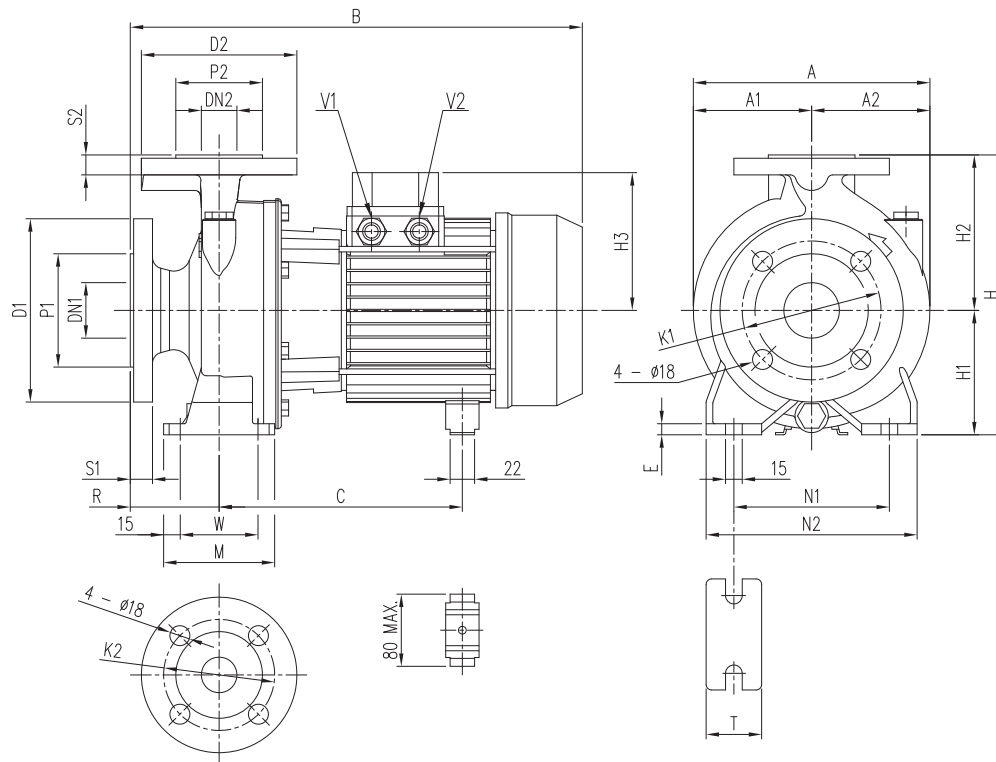
## GASKETS



| DN | M  | M1  |
|----|----|-----|
| 32 | 38 | 82  |
| 40 | 50 | 93  |
| 50 | 60 | 107 |
| 65 | 80 | 125 |

Material: EPDM for standard version

## PUMP 3D

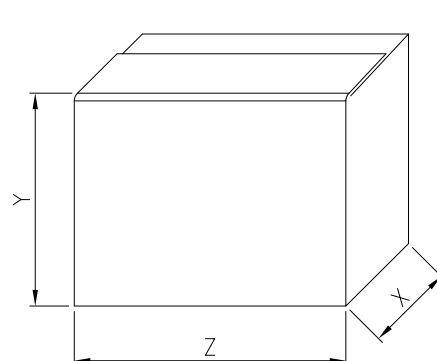


| Model      | Dimensions [ mm ] |     |     |     |    |     |     |     |     |    |     |     |     |      |     |    |     |     |     |    |    |     |       | Weight<br>[ kgf ] |     |         |         |         |      |
|------------|-------------------|-----|-----|-----|----|-----|-----|-----|-----|----|-----|-----|-----|------|-----|----|-----|-----|-----|----|----|-----|-------|-------------------|-----|---------|---------|---------|------|
|            | Ø                 | Ø   | Ø   | Ø   | Ø  | Ø   | Ø   | Ø   | Ø   | S  | H   | H1  | H2  | H3   | R   | W  | M   | N1  | N2  | T  | E  | A   | A1    |                   | A2  | B       | C       | V1      | V2   |
|            | DN1               | P1  | K1  | D1  | S1 | DN2 | P2  | K2  | D2  | S2 | H   | H1  | H2  | [3-] |     |    |     |     |     |    |    |     |       |                   |     | [3-]    | [3-]    | [3-]    | [3-] |
| 32-125/1.1 | 50                | 102 | 125 | 165 | 20 | 32  | 78  | 100 | 140 | 18 | 252 | 112 | 140 | 119  | 80  | 70 | 100 | 140 | 190 | 50 | 10 | 213 | 106.5 | 106.5             | 431 | 232     | -       | M16x1.5 | 29.5 |
| 32-160/1.5 | 50                | 102 | 125 | 165 | 20 | 32  | 78  | 100 | 140 | 18 | 292 | 132 | 160 | 119  | 80  | 70 | 100 | 190 | 240 | 50 | 10 | 254 | 127   | 127               | 431 | 232     | -       | M20x1.5 | 33.5 |
| 32-160/2.2 | 50                | 102 | 125 | 165 | 20 | 32  | 78  | 100 | 140 | 18 | 292 | 132 | 160 | 119  | 80  | 70 | 100 | 190 | 240 | 50 | 10 | 254 | 127   | 127               | 431 | 232     | -       | M20x1.5 | 36   |
| 32-200/3.0 | 50                | 102 | 125 | 165 | 20 | 32  | 78  | 100 | 140 | 18 | 340 | 160 | 180 | 124  | 80  | 70 | 100 | 190 | 240 | 50 | 10 | 296 | 148   | 148               | 471 | 244-255 | -       | M20x1.5 | 47.5 |
| 32-200/4.0 | 50                | 102 | 125 | 165 | 20 | 32  | 78  | 100 | 140 | 18 | 340 | 160 | 180 | 141  | 80  | 70 | 100 | 190 | 240 | 50 | 10 | 296 | 148   | 148               | 494 | 253     | -       | M20x1.5 | 50   |
| 32-200/7.5 | 50                | 102 | 125 | 165 | 20 | 32  | 78  | 100 | 140 | 18 | 340 | 160 | 180 | 150  | 80  | 70 | 100 | 190 | 240 | 50 | 10 | 296 | 148   | 148               | 539 | 275     | PG 13.5 | PG 16   | 65.1 |
| 40-125/1.5 | 65                | 122 | 145 | 185 | 20 | 40  | 88  | 110 | 150 | 18 | 252 | 112 | 140 | 119  | 80  | 70 | 100 | 160 | 210 | 50 | 10 | 220 | 108   | 112               | 431 | 232     | -       | M20x1.5 | 30   |
| 40-125/2.2 | 65                | 122 | 145 | 185 | 20 | 40  | 88  | 110 | 150 | 18 | 252 | 112 | 140 | 119  | 80  | 70 | 100 | 160 | 210 | 50 | 10 | 220 | 108   | 112               | 431 | 232     | -       | M20x1.5 | 32   |
| 40-160/3.0 | 65                | 122 | 145 | 185 | 20 | 40  | 88  | 110 | 150 | 18 | 292 | 132 | 160 | 124  | 80  | 70 | 100 | 190 | 240 | 50 | 12 | 254 | 127   | 127               | 471 | 244-255 | -       | M20x1.5 | 39   |
| 40-160/4.0 | 65                | 122 | 145 | 185 | 20 | 40  | 88  | 110 | 150 | 18 | 292 | 132 | 160 | 141  | 80  | 70 | 100 | 190 | 240 | 50 | 12 | 254 | 127   | 127               | 494 | 253     | -       | M20x1.5 | 48   |
| 40-200/5.5 | 65                | 122 | 145 | 185 | 20 | 40  | 88  | 110 | 150 | 18 | 340 | 160 | 180 | 150  | 100 | 70 | 100 | 212 | 265 | 50 | 12 | 296 | 148   | 148               | 539 | 275     | M20x1.5 | M25x1.5 | 60   |
| 40-200/7.5 | 65                | 122 | 145 | 185 | 20 | 40  | 88  | 110 | 150 | 18 | 340 | 160 | 180 | 150  | 100 | 70 | 100 | 212 | 265 | 50 | 12 | 296 | 148   | 148               | 559 | 275     | PG 13.5 | PG 16   | 66.1 |
| 40-200/11  | 65                | 122 | 145 | 185 | 20 | 40  | 88  | 110 | 150 | 18 | 340 | 160 | 180 | 178  | 100 | 70 | 100 | 212 | 265 | 50 | 12 | 296 | 148   | 148               | 595 | 359     | PG 13.5 | PG 21   | 82.4 |
| 50-125/2.2 | 65                | 122 | 145 | 185 | 20 | 50  | 102 | 125 | 165 | 20 | 292 | 132 | 160 | 119  | 100 | 70 | 100 | 190 | 240 | 50 | 10 | 254 | 127   | 127               | 451 | 232     | -       | M20x1.5 | 37   |
| 50-125/3.0 | 65                | 122 | 145 | 185 | 20 | 50  | 102 | 125 | 165 | 20 | 292 | 132 | 160 | 124  | 100 | 70 | 100 | 190 | 240 | 50 | 10 | 254 | 127   | 127               | 491 | 244-255 | -       | M20x1.5 | 39.5 |
| 50-125/4.0 | 65                | 122 | 145 | 185 | 20 | 50  | 102 | 125 | 165 | 20 | 292 | 132 | 160 | 141  | 100 | 70 | 100 | 190 | 240 | 50 | 10 | 254 | 127   | 127               | 514 | 253     | -       | M20x1.5 | 48   |
| 50-160/5.5 | 65                | 122 | 145 | 185 | 20 | 50  | 102 | 125 | 165 | 20 | 340 | 160 | 180 | 150  | 100 | 70 | 100 | 212 | 265 | 50 | 10 | 296 | 148   | 148               | 539 | 275     | M20x1.5 | M25x1.5 | 60   |
| 50-160/7.5 | 65                | 122 | 145 | 185 | 20 | 50  | 102 | 125 | 165 | 20 | 340 | 160 | 180 | 150  | 100 | 70 | 100 | 212 | 265 | 50 | 10 | 296 | 148   | 148               | 559 | 275     | PG 13.5 | PG 16   | 67.1 |
| 50-200/9.2 | 65                | 122 | 145 | 185 | 20 | 50  | 102 | 125 | 165 | 20 | 360 | 160 | 200 | 178  | 100 | 70 | 100 | 212 | 265 | 50 | 10 | 296 | 148   | 148               | 595 | 359     | PG 13.5 | PG 21   | 77   |
| 50-200/11  | 65                | 122 | 145 | 185 | 20 | 50  | 102 | 125 | 165 | 20 | 360 | 160 | 200 | 178  | 100 | 70 | 100 | 212 | 265 | 50 | 10 | 296 | 148   | 148               | 595 | 359     | PG 13.5 | PG 21   | 82.4 |

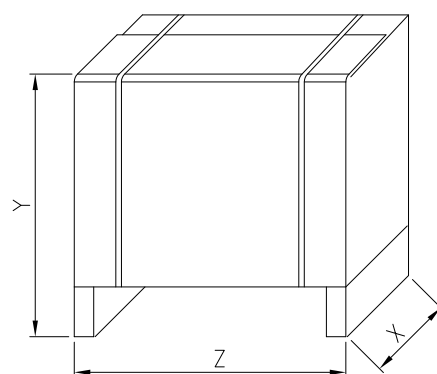
| Single Phase | Ø<br>DN1 | Ø<br>P1 | Ø<br>K1 | Ø<br>D1 | Ø<br>S1 | Ø<br>DN2 | Ø<br>P2 | Ø<br>K2 | Ø<br>D2 | S2 | H   | H1  | H2  | H3  | R  | W  | M   | N1  | N2  | T  | E  | A   | A1    | A2    | B   | C       | V2      | Weight [kg] |
|--------------|----------|---------|---------|---------|---------|----------|---------|---------|---------|----|-----|-----|-----|-----|----|----|-----|-----|-----|----|----|-----|-------|-------|-----|---------|---------|-------------|
| 32-125/1.1 M | 50       | 102     | 125     | 165     | 20      | 32       | 78      | 100     | 140     | 18 | 252 | 112 | 140 | 141 | 80 | 70 | 100 | 140 | 190 | 50 | 10 | 213 | 106.5 | 106.5 | 408 | 219+230 | M16x1.5 | 25          |
| 32-160/1.5 M | 50       | 102     | 125     | 165     | 20      | 32       | 78      | 100     | 140     | 18 | 292 | 132 | 160 | 141 | 80 | 70 | 100 | 190 | 240 | 50 | 10 | 254 | 127   | 127   | 408 | 219+230 | M20x1.5 | 29          |
| 32-160/2.2 M | 50       | 102     | 125     | 165     | 20      | 32       | 78      | 100     | 140     | 18 | 292 | 132 | 160 | 141 | 80 | 70 | 100 | 190 | 240 | 50 | 10 | 254 | 127   | 127   | 408 | 219+230 | M20x1.5 | 35.7        |
| 40-125/1.5 M | 50       | 102     | 125     | 165     | 20      | 32       | 78      | 100     | 140     | 18 | 292 | 132 | 160 | 141 | 80 | 70 | 100 | 190 | 240 | 50 | 10 | 254 | 127   | 127   | 408 | 219+230 | M20x1.5 | 25.5        |
| 40-125/2.2 M | 50       | 102     | 125     | 165     | 20      | 32       | 78      | 100     | 140     | 18 | 292 | 132 | 160 | 141 | 80 | 70 | 100 | 190 | 240 | 50 | 10 | 254 | 127   | 127   | 408 | 219+230 | M20x1.5 | 31.7        |
| 50-125/2.2 M | 50       | 102     | 125     | 165     | 20      | 32       | 78      | 100     | 140     | 18 | 292 | 132 | 160 | 141 | 80 | 70 | 100 | 190 | 240 | 50 | 10 | 254 | 127   | 127   | 408 | 219+230 | M20x1.5 | 34.4        |

## PACKING 3D

| Pump type      | Packing [ mm ] |     |     | Weight [ kgf ] |       | Pack type |
|----------------|----------------|-----|-----|----------------|-------|-----------|
|                | X              | Y   | Z   | [1~]           | [3~]  |           |
| 32-125/1.1 (M) | 250            | 300 | 450 | 30.4           | 31.5  | 1         |
| 32-160/1.5 (M) | 280            | 330 | 460 | 30.7           | 35.5  |           |
| 32-160/2.2 (M) | 280            | 340 | 490 | 38.9           | 44.87 |           |
| 32-200/3.0     | 350            | 488 | 550 | -              | 52.4  | 2         |
| 32-200/4.0     | 350            | 488 | 550 | -              | 53.8  |           |
| 32-200/7.5     | 350            | 488 | 700 | -              | 69.4  |           |
| 40-125/1.5 (M) | 250            | 300 | 450 | 29.9           | 39.12 | 1         |
| 40-125/2.2 (M) | 280            | 340 | 490 | 33.8           | 34    |           |
| 40-160/3.0     | 350            | 488 | 550 | -              | 39.8  |           |
| 40-160/4.0     | 350            | 488 | 550 | -              | 52.6  | 2         |
| 40-200/5.5     | 350            | 488 | 550 | -              | 64.4  |           |
| 40-200/7.5     | 350            | 488 | 700 | -              | 71.5  |           |
| 40-200/11      | 350            | 488 | 700 | -              | 93.4  | 1         |
| 50-125/2.2 (M) | 280            | 340 | 490 | 36.1           | 39    |           |
| 50-125/3.0     | 350            | 488 | 550 | -              | 40.1  |           |
| 50-125/4.0     | 350            | 488 | 550 | -              | 52.6  |           |
| 50-160/5.5     | 350            | 488 | 550 | -              | 64.2  |           |
| 50-160/7.5     | 350            | 488 | 700 | -              | 71.7  | 2         |
| 50-200/9.2     | 350            | 488 | 700 | -              | 81.1  |           |
| 50-200/11      | 350            | 488 | 700 | -              | 87.4  |           |



TYPE 1



TYPE 2

## MOTOR DATA 3D

| Pump type       |               | Power |      | Efficiency   |             | Capacitor    |     | Efficiency (% load) |      |      | Input        |             | Full load current |             |       |       | Locked rotor current |              |             |       |
|-----------------|---------------|-------|------|--------------|-------------|--------------|-----|---------------------|------|------|--------------|-------------|-------------------|-------------|-------|-------|----------------------|--------------|-------------|-------|
| Single Phase    | Three Phase   | [kW]  | [HP] | Single Phase | Three Phase | Single Phase |     | Three phase         |      |      | Single Phase | Three Phase | [A]               |             |       | [A]   |                      |              |             |       |
|                 |               |       |      |              |             | [μF]         | [V] | 50%                 | 75%  | 100% |              |             | 230 V             | Three Phase | 230 V | 400 V | 690 V                | Single Phase | Three Phase |       |
|                 |               |       |      |              |             |              |     |                     |      |      |              |             |                   |             |       |       |                      |              |             |       |
| 3D 32-125/1.1 M | 3D 32-125/1.1 | 1.1   | 1.5  | -            | IE2         | 31.5         | 450 | 79.5                | 82.0 | 82.5 | 1.51         | 1.82        | 6.7               | 5.6         | 3.2   | -     | 23.5                 | 57.0         | 33.0        | -     |
| -               | 3D 32-125/1.1 | 1.1   | 1.5  | -            | IE3         | -            | -   | 83.0                | 85.8 | 85.6 | -            | 1.77        | -                 | 5.8         | 3.3   | -     | -                    | 47.4         | 27.4        | -     |
| 3D 32-160/1.5 M | 3D 32-160/1.5 | 1.5   | 2.0  | -            | IE2         | 40           | 450 | 79.5                | 82.0 | 82.5 | 2.10         | 1.82        | 9.6               | 5.6         | 3.2   | -     | 47                   | 57.0         | 33.0        | -     |
| -               | 3D 32-160/1.5 | 1.5   | 2.0  | -            | IE3         | -            | -   | 83.0                | 85.8 | 85.6 | -            | 1.77        | -                 | 5.8         | 3.3   | -     | -                    | 47.4         | 27.4        | -     |
| 3D 32-160/2.2 M | 3D 32-160/2.2 | 2.2   | 3.0  | -            | IE2         | 50           | 450 | 83.1                | 85.7 | 86.2 | 2.95         | 2.55        | 13.3              | 7.8         | 4.5   | -     | 63.8                 | 75.0         | 43.5        | -     |
| -               | 3D 32-160/2.2 | 2.2   | 3.0  | -            | IE3         | -            | -   | 86.2                | 87.0 | 86.0 | -            | 2.55        | -                 | 8.2         | 4.7   | -     | -                    | 66.6         | 38.4        | -     |
| -               | 3D 32-200/3.0 | 3.0   | 4.0  | -            | IE2         | -            | -   | 85.0                | 86.7 | 86.3 | -            | 3.48        | -                 | 10.6        | 6.1   | -     | -                    | 100.0        | 57.7        | -     |
| -               | 3D 32-200/3.0 | 3.0   | 4.0  | -            | IE3         | -            | -   | 85.9                | 87.5 | 87.1 | -            | 3.44        | -                 | 11.1        | 6.4   | -     | -                    | 90.0         | 52.0        | -     |
| -               | 3D 32-200/4.0 | 4.0   | 5.5  | -            | IE2         | -            | -   | 84.3                | 87.2 | 87.8 | -            | 4.56        | -                 | 15.1        | 8.7   | -     | -                    | 151.0        | 87.0        | -     |
| -               | 3D 32-200/4.0 | 4.0   | 5.5  | -            | IE3         | -            | -   | 85.8                | 88.3 | 88.4 | -            | 4.52        | -                 | 15.1        | 8.7   | -     | -                    | 131.8        | 76.1        | -     |
| -               | 3D 32-200/7.5 | 7.5   | 10.0 | -            | IE3         | -            | -   | 89.0                | 90.7 | 90.8 | -            | 8.26        | -                 | -           | 13.6  | 7.9   | -                    | -            | 144.0       | 83.0  |
| 3D 40-125/1.5 M | 3D 40-125/1.5 | 1.5   | 2.0  | -            | IE2         | 40           | 450 | 79.5                | 82.0 | 82.5 | 2.10         | 1.82        | 9.6               | 5.6         | 3.2   | -     | 47                   | 57.0         | 33.0        | -     |
| -               | 3D 40-125/1.5 | 1.5   | 2.0  | -            | IE3         | -            | -   | 83.0                | 85.8 | 85.6 | -            | 1.77        | -                 | 5.8         | 3.3   | -     | -                    | 47.4         | 27.4        | -     |
| 3D 40-125/2.2 M | 3D 40-125/2.2 | 2.2   | 3.0  | -            | IE2         | 50           | 450 | 83.1                | 85.7 | 86.2 | 2.95         | 2.55        | 13.3              | 7.8         | 4.5   | -     | 63.8                 | 75.0         | 43.5        | -     |
| -               | 3D 40-125/2.2 | 2.2   | 3.0  | -            | IE3         | -            | -   | 86.2                | 87.0 | 86.0 | -            | 2.55        | -                 | 8.2         | 4.7   | -     | -                    | 66.6         | 38.4        | -     |
| -               | 3D 40-160/3.0 | 3.0   | 4.0  | -            | IE2         | -            | -   | 85.0                | 86.7 | 86.3 | -            | 3.48        | -                 | 10.6        | 6.1   | -     | -                    | 100.0        | 57.7        | -     |
| -               | 3D 40-160/3.0 | 3.0   | 4.0  | -            | IE3         | -            | -   | 85.9                | 87.5 | 87.1 | -            | 3.44        | -                 | 11.1        | 6.4   | -     | -                    | 90.0         | 52.0        | -     |
| -               | 3D 40-160/4.0 | 4.0   | 5.5  | -            | IE2         | -            | -   | 84.3                | 87.2 | 87.8 | -            | 4.56        | -                 | 15.1        | 8.7   | -     | -                    | 151.0        | 87.0        | -     |
| -               | 3D 40-160/4.0 | 4.0   | 5.5  | -            | IE3         | -            | -   | 85.8                | 88.3 | 88.4 | -            | 4.52        | -                 | 15.1        | 8.7   | -     | -                    | 131.8        | 76.1        | -     |
| -               | 3D 40-200/5.5 | 5.5   | 7.5  | -            | IE2         | -            | -   | 82.9                | 86.0 | 87.4 | -            | 6.29        | -                 | -           | 10.4  | 6.0   | -                    | -            | 116.0       | 67.0  |
| -               | 3D 40-200/5.5 | 5.5   | 7.5  | -            | IE3         | -            | -   | 89.2                | 90.6 | 90.4 | -            | 6.09        | -                 | -           | 10.6  | 6.1   | -                    | -            | 115.3       | 67.0  |
| -               | 3D 40-200/7.5 | 7.5   | 10.0 | -            | IE3         | -            | -   | 89.0                | 90.7 | 90.8 | -            | 8.26        | -                 | -           | 13.6  | 7.9   | -                    | -            | 144.0       | 83.0  |
| -               | 3D 40-200/11  | 11.0  | 15.0 | -            | IE3         | -            | -   | 90.4                | 91.2 | 91.8 | -            | 11.98       | -                 | -           | 21.3  | 12.3  | -                    | -            | 184.0       | 107.0 |
| 3D 50-125/2.2 M | 3D 50-125/2.2 | 2.2   | 3.0  | -            | IE2         | 50           | 450 | 83.1                | 85.7 | 86.2 | 2.95         | 2.55        | 13.3              | 7.8         | 4.5   | -     | 63.8                 | 75.0         | 43.5        | -     |
| -               | 3D 50-125/2.2 | 2.2   | 3.0  | -            | IE3         | -            | -   | 86.2                | 87.0 | 86.0 | -            | 2.55        | -                 | 8.2         | 4.7   | -     | -                    | 66.6         | 38.4        | -     |
| -               | 3D 50-125/3.0 | 3.0   | 4.0  | -            | IE2         | -            | -   | 85.0                | 86.7 | 86.3 | -            | 3.48        | -                 | 10.6        | 6.1   | -     | -                    | 100.0        | 57.7        | -     |
| -               | 3D 50-125/3.0 | 3.0   | 4.0  | -            | IE3         | -            | -   | 85.9                | 87.5 | 87.1 | -            | 3.44        | -                 | 11.1        | 6.4   | -     | -                    | 90.0         | 52.0        | -     |
| -               | 3D 50-125/4.0 | 4.0   | 5.5  | -            | IE2         | -            | -   | 84.3                | 87.2 | 87.8 | -            | 4.56        | -                 | 15.1        | 8.7   | -     | -                    | 151.0        | 87.0        | -     |
| -               | 3D 50-125/4.0 | 4.0   | 5.5  | -            | IE3         | -            | -   | 85.8                | 88.3 | 88.4 | -            | 4.52        | -                 | 15.1        | 8.7   | -     | -                    | 131.8        | 76.1        | -     |
| -               | 3D 50-160/5.5 | 5.5   | 7.5  | -            | IE2         | -            | -   | 82.9                | 86.0 | 87.4 | -            | 6.29        | -                 | -           | 10.4  | 6.0   | -                    | -            | 116.0       | 67.0  |
| -               | 3D 50-160/5.5 | 5.5   | 7.5  | -            | IE3         | -            | -   | 89.2                | 90.6 | 90.4 | -            | 6.09        | -                 | -           | 10.6  | 6.1   | -                    | -            | 115.3       | 67.0  |
| -               | 3D 50-160/7.5 | 7.5   | 10.0 | -            | IE3         | -            | -   | 89.0                | 90.7 | 90.8 | -            | 8.26        | -                 | -           | 13.6  | 7.9   | -                    | -            | 144.0       | 83.0  |
| -               | 3D 50-200/9.2 | 9.2   | 12.5 | -            | IE3         | -            | -   | 90.1                | 90.8 | 90.9 | -            | 10.12       | -                 | -           | 17.2  | 10.0  | -                    | -            | 166.0       | 96.0  |
| -               | 3D 50-200/11  | 11.0  | 15.0 | -            | IE3         | -            | -   | 90.4                | 91.2 | 91.8 | -            | 11.98       | -                 | -           | 21.3  | 12.3  | -                    | -            | 184.0       | 107.0 |

## 3D NOISE DATA

| Pump type         | Power |      | L <sub>pA</sub> - dB(A) * |
|-------------------|-------|------|---------------------------|
|                   | [kW]  | [HP] |                           |
| 3D 32-125/1.1 (M) | 1.1   | 1.5  | 69                        |
| 3D 32-160/1.5 (M) | 1.5   | 2.0  |                           |
| 3D 32-160/2.2 (M) | 2.2   | 3.0  |                           |
| 3D 32-200/3.0     | 3.0   | 4.0  | 76                        |
| 3D 32-200/4.0     | 4.0   | 5.5  |                           |
| 3D 32-200/7.5     | 7.5   | 10.0 | 79                        |
| 3D 40-125/1.5 (M) | 1.5   | 2.0  | 69                        |
| 3D 40-125/2.2 (M) | 2.2   | 3.0  |                           |
| 3D 40-160/3.0     | 3.0   | 4.0  | 76                        |
| 3D 40-160/4.0     | 4.0   | 5.5  |                           |
| 3D 40-200/5.5     | 5.5   | 7.5  | 79                        |
| 3D 40-200/7.5     | 7.5   | 10.0 |                           |
| 3D 40-200/11      | 11.0  | 15.0 | 82                        |
| 3D 50-125/2.2 (M) | 2.2   | 3.0  | 69                        |
| 3D 50-125/3.0     | 3.0   | 4.0  | 76                        |
| 3D 50-125/4.0     | 4.0   | 5.5  |                           |
| 3D 50-160/5.5     | 5.5   | 7.5  | 79                        |
| 3D 50-160/7.5     | 7.5   | 10.0 |                           |
| 3D 50-200/9.2     | 9.2   | 12.5 | 82                        |
| 3D 50-200/11      | 11.0  | 15.0 |                           |

\* Mean value of several measures at 1m distance around the pump.  
Tolerance  $\pm 2.5$  dB.