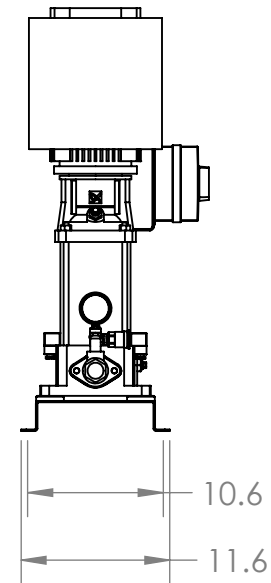
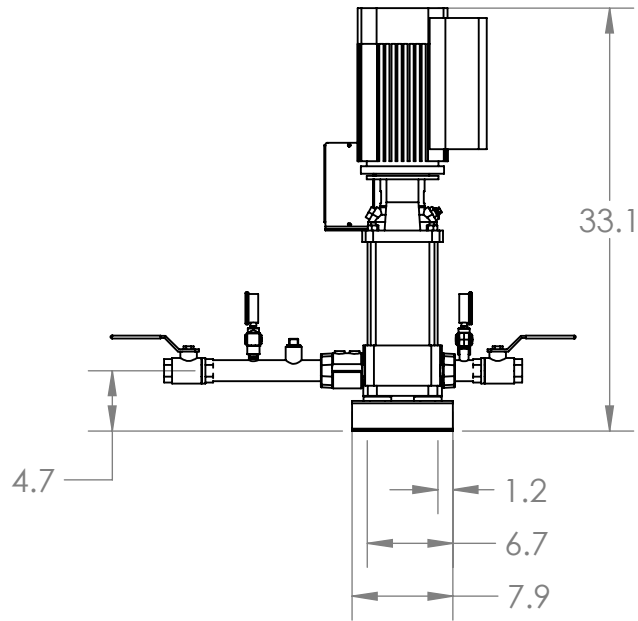
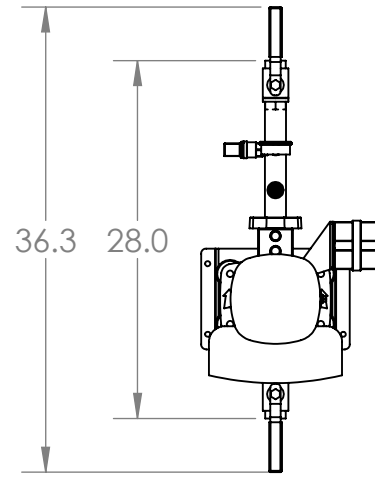
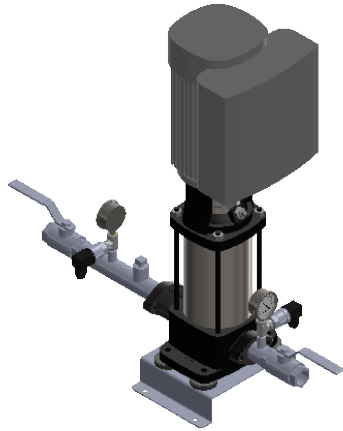


1. Manifolds connections 1.25" NPT
2. Base/Frame AISI 304SS
3. Full port ball valve ASTM



**GRUNDFOS**   
 FRESNO, CALIFORNIA 93727 USA

Note:  
 All dimensions are  $\pm 0.5"$   
 Not for Construction  
 All dimensions subject to  
 changewithout notice.

|          |      |                  |            |
|----------|------|------------------|------------|
| Model:   |      | CRE-PLUS CRE3-12 |            |
| Power:   |      | 3x208-230        | 60HZ 1x2HP |
| Job:     |      | Scale: 1:15      |            |
| Dwg No:  | Rev: | Date:            | Drawer:    |
| 91138468 | 0    | 11/26/2019       | 71999      |
| Page:    |      |                  | 1 of 1     |

|                       |                        |                 |
|-----------------------|------------------------|-----------------|
| PROJECT: _____        | UNIT TAG: _____        | QUANTITY: _____ |
| REPRESENTATIVE: _____ | TYPE OF SERVICE: _____ | DATE: _____     |
| ENGINEER: _____       | SUBMITTED BY: _____    | DATE: _____     |
| CONTRACTOR: _____     | APPROVED BY: _____     | DATE: _____     |
|                       | ORDER NO.: _____       | DATE: _____     |

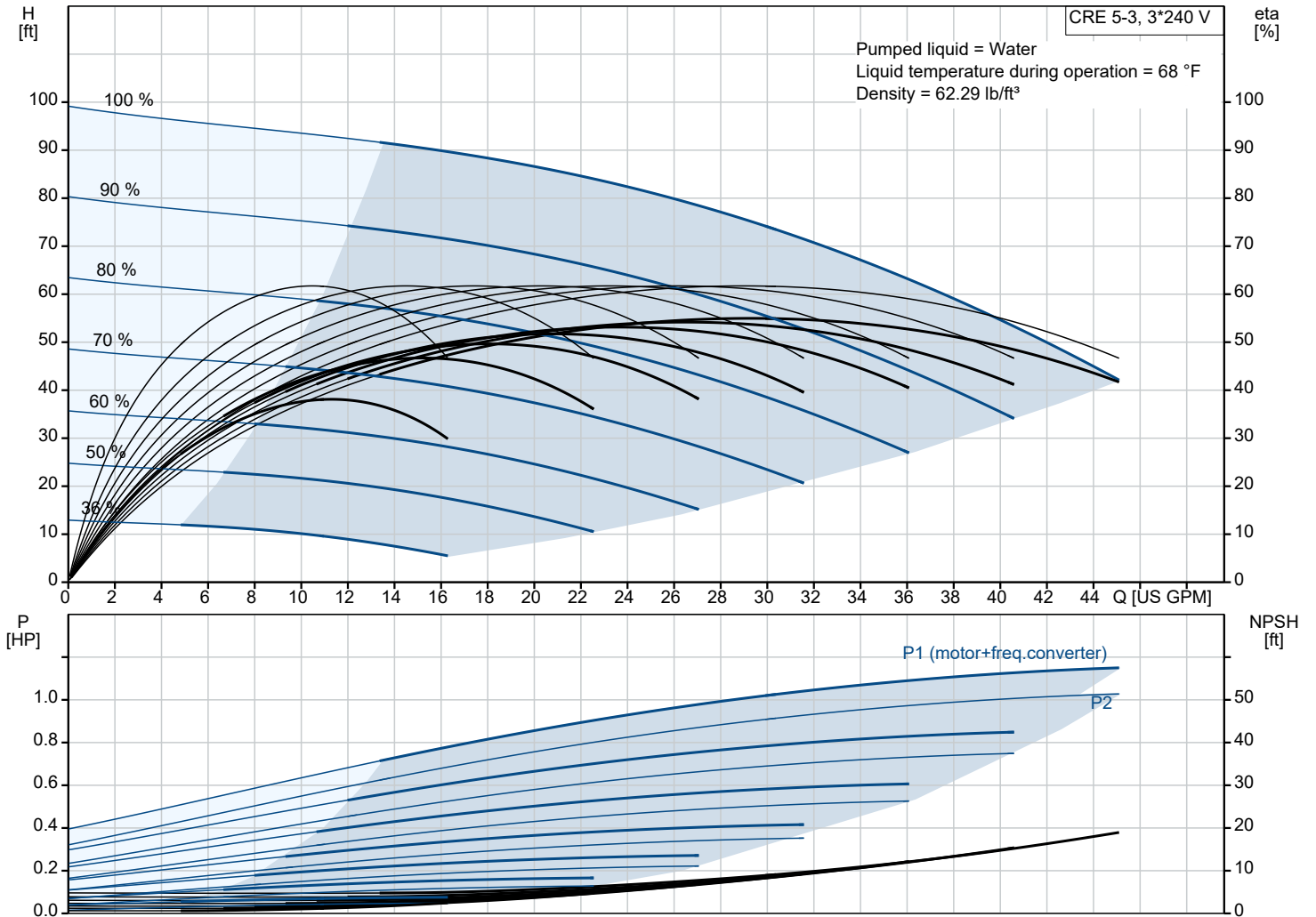


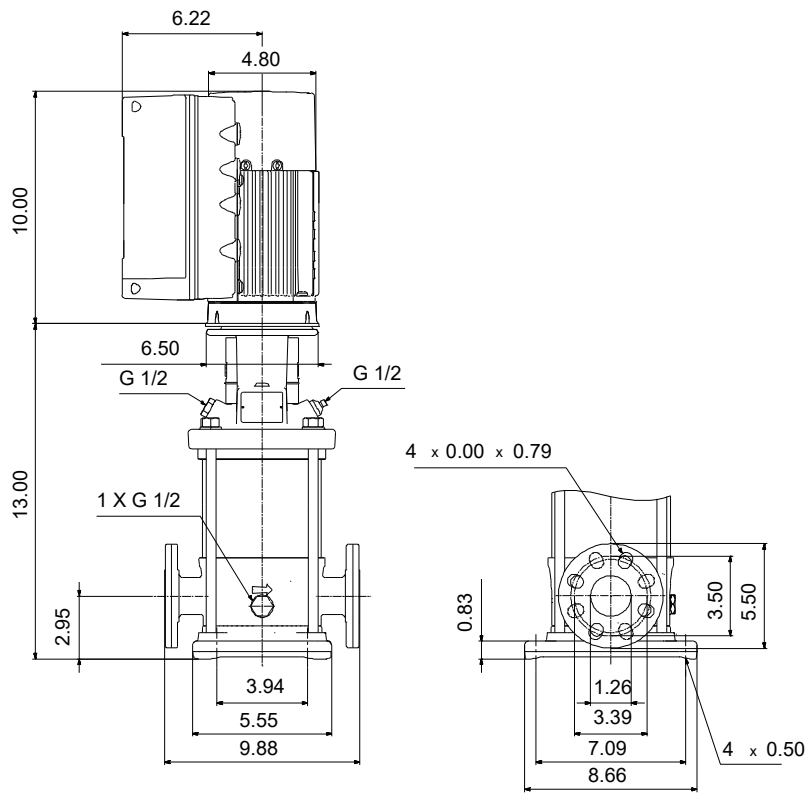
### CRE 5-3 BN-FGJ-A-E-HQQE

Vertical, multistage centrifugal pump with integrated frequency converter. The pump head and base are in cast iron - all other wetted parts are in stainless steel (EN 1.4301)

Note! Product picture may differ from actual product

| Conditions of Service |       | Pump Data                    |                  | Motor Data        |           |
|-----------------------|-------|------------------------------|------------------|-------------------|-----------|
| Liquid:               | Water | Max pressure at stated temp: | 363 psi / 250 °F | Rated power - P2: | 1.5 HP    |
| Temperature:          | 68 °F | Liquid temperature range:    | -4 .. 248 °F     | Rated voltage:    | 200-240 V |
| Specific Gravity:     | 1.000 | Maximum ambient temperature: | 104 °F           | Mains frequency:  | 60 Hz     |
|                       |       | Shaft seal:                  | HQQE             | Enclosure class:  | IP55      |
|                       |       | Product number:              | 99392545         | Insulation class: | F         |
|                       |       |                              |                  | Motor protection: | ELEC      |
|                       |       |                              |                  | Motor type:       | 80B       |
|                       |       |                              |                  | Eta 1/1:          | 89.3 %    |





**Materials:**

- Base: Cast iron
- Base: EN 1561 EN-GJL-200
- Base: ASTM A48-25B
- Impeller: Stainless steel
- Impeller: AISI 304
- Impeller: EN 1.4301
- Material code: A
- Code for rubber: E

| Qty. | Description |
|------|-------------|
|------|-------------|

1 **CRE 5-3 BN-FGJ-A-E-HQQE**



**Note! Product picture may differ from actual product**

Product No.: [99392545](#)

Vertical, multistage centrifugal pump with inlet and outlet ports on same the level (inline). The pump head and base are in cast iron – all other wetted parts are in stainless steel. A cartridge shaft seal ensures high reliability, safe handling, and easy access and service. Power transmission is via a rigid split coupling. Pipe connection is via combined DIN-ANSI-JIS flanges.

The pump is fitted with a 3-phase, fan-cooled, permanent-magnet, synchronous motor.

The motor efficiency is classified as IE5 in accordance with IEC 60034-30-2.

The motor includes a frequency converter and PI controller in the motor terminal box. This enables continuously variable control of the motor speed, which again enables adaptation of the performance to a given requirement.

The operating panel on the motor terminal box features a four-inch TFT display, push-buttons and the Grundfos Eye indicator.

The display gives an intuitive and user-friendly interface to all functions.

The push-buttons are used to navigate through the menu structure to access pump and performance data on site and enable setting of required setpoint as well as setting of pump to "Min." or "Max." operation or to "Stop".

Communication with the pump is also possible by means of Grundfos GO Remote (accessory). The remote control enables further settings as well as reading out of a number of parameters such as "Actual value", "Speed", "Power input" and total "Power consumption".

The Grundfos Eye indicator on the operating panel provides visual indication of pump status:

- "Power on": Motor is running (rotating green indicator lights) or not running (permanently green indicator lights)
- "Warning": Motor is still running (rotating yellow indicator lights) or has stopped (permanently yellow indicator lights)
- "Alarm": Motor has stopped (flashing red indicator lights).

The terminal box has a number of inputs and outputs enabling the motor to be used in advanced applications where many inputs and outputs are required:

- two dedicated digital inputs
- three analog inputs, 0(4)-20 mA, 0-5 V, 0-10 V, 0.5 - 3.5 V; the factory-fitted pressure sensor is connected to one of these inputs
- 5 V voltage supply to potentiometer and sensor
- one analog output, 0-10 V, 0(4)-20 mA
- two configurable digital inputs or open-collector outputs
- two Pt100/Pt1000 inputs
- LiqTec, dry-running protection sensor input
- Grundfos Digital Sensor input and output
- 24 V voltage supply for sensors
- two signal-relay outputs (potential-free contacts)
- GENIbus connection
- interface for Grundfos CIM fieldbus module.

Liquid:

Pumped liquid: Water  
 Liquid temperature range: -4 .. 248 °F  
 Selected liquid temperature: 68 °F  
 Density: 62.29 lb/ft<sup>3</sup>

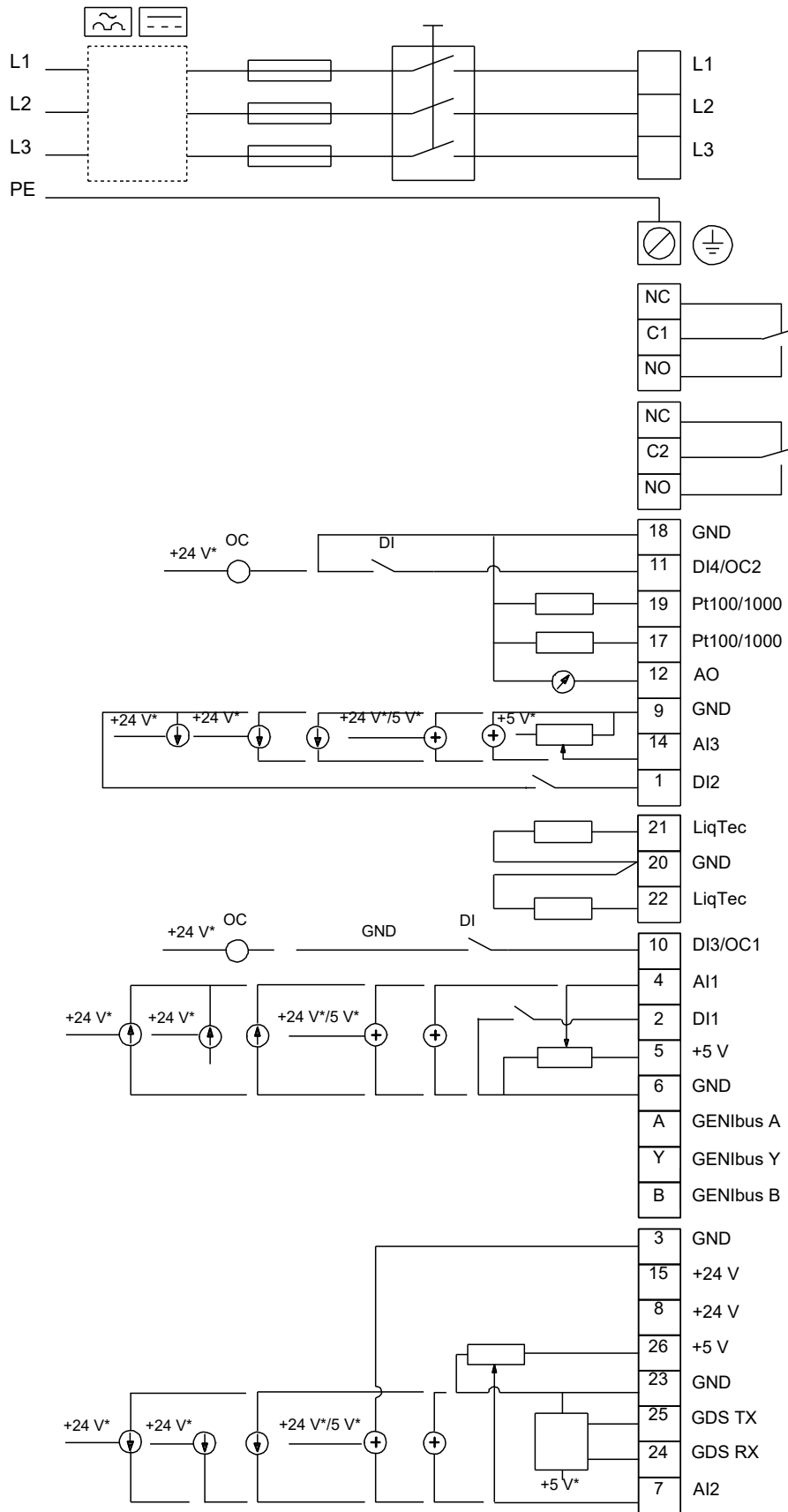
Technical:

Pump speed on which pump data are based: 3484 rpm  
 Rated flow: 30.4 US GPM  
 Rated head: 65.29 ft  
 Pump orientation: Vertical  
 Shaft seal arrangement: Single  
 Code for shaft seal: HQQE  
 Approvals: CURUS  
 Approvals for drinking water: NSF/ANSI 61  
 Curve tolerance: ISO9906:2012 3B

Materials:

| Qty. | Description  |
|------|--|
|      | <p>Base: Cast iron<br/>EN 1561 EN-GJL-200<br/>ASTM A48-25B</p> <p>Impeller: Stainless steel<br/>EN 1.4301<br/>AISI 304</p> <p>Bearing: SIC</p> <p>Installation:</p> <p>t max amb: 104 °F</p> <p>Maximum operating pressure: 362.59 psi</p> <p>Max pressure at stated temp: 363 psi / 250 °F<br/>363 psi / -4 °F</p> <p>Type of connection: DIN / ANSI / JIS</p> <p>Size of inlet connection: DN 25/32</p> <p>Size of outlet connection: DN 25/32</p> <p>Pressure rating for connection: PN 25</p> <p>Flange rating inlet: 250 lb</p> <p>Flange size for motor: 56C</p> <p>Electrical data:</p> <p>Motor standard: NEMA</p> <p>Motor type: 80B</p> <p>IE Efficiency class: IE5</p> <p>Rated power - P2: 1.5 HP</p> <p>Power (P2) required by pump: 1.5 HP</p> <p>Mains frequency: 60 Hz</p> <p>Rated voltage: 3 x 200-240 V</p> <p>Service factor: 1.15</p> <p>Rated current: 4.10-3.50 A</p> <p>Cos phi - power factor: 0.91</p> <p>Rated speed: 360-4000 rpm</p> <p>Efficiency: 89.3%</p> <p>Motor efficiency at full load: 89.3 %</p> <p>Enclosure class (IEC 34-5): IP55</p> <p>Insulation class (IEC 85): F</p> <p>Motor No: 99301705</p> <p>Controls:</p> <p>Frequency converter: Built-in</p> <p>Pressure sensor: Y</p> <p>Others:</p> <p>Net weight: 69.1 lb</p> <p>Gross weight: 153 lb</p> <p>Shipping volume: 4.94 ft³</p> |

# 99392545 CRE 5-3 BN-FGJ-A-E-HQQE 60 Hz



Note! All units are in [in] unless others are stated.

**Ball Valves**

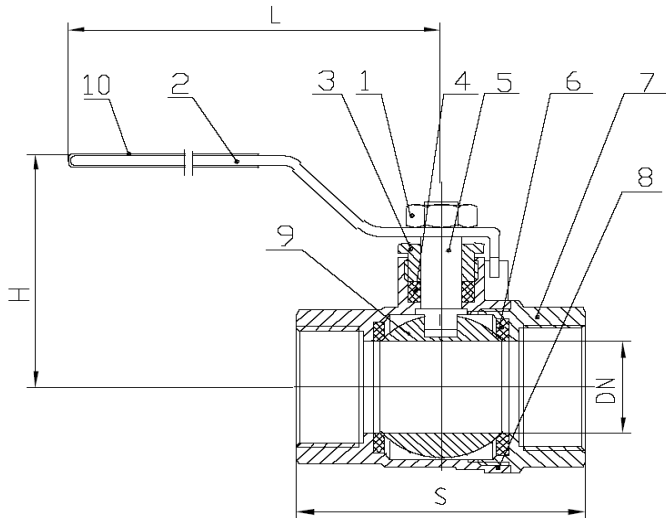


**General**

- Threaded Ends
- Blow Out Proof Stem
- 600 WOG
- 2-Piece Body
- Teflon Seats
- Teflon Packing

**Dimensions & Weights**

| Size   | DN (in) | S (in) | H (in) | L (in) | WT. (lb) |
|--------|---------|--------|--------|--------|----------|
| 1/4"   | 0.39    | 1.76   | 1.75   | 3.54   | 0.35     |
| 3/4"   | 0.75    | 2.50   | 2.18   | 3.94   | 0.79     |
| 1-1/4" | 1.26    | 3.42   | 2.87   | 4.80   | 1.75     |
| 1-1/2" | 1.57    | 3.76   | 3.48   | 5.91   | 2.47     |
| 2"     | 1.97    | 4.25   | 3.82   | 5.91   | 3.46     |

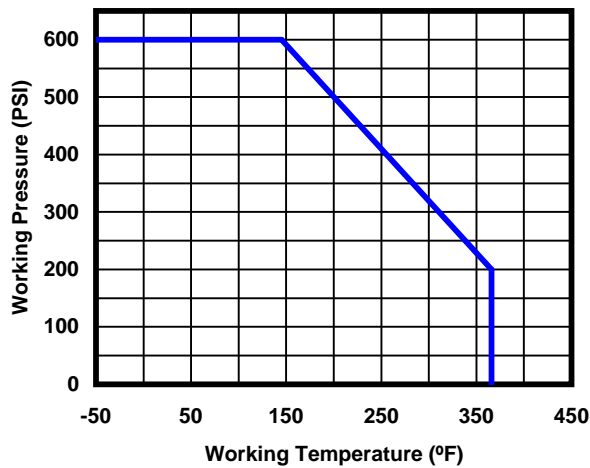


**MATERIAL SPECIFICATIONS**

| NO. PART    | MATERIAL (ASTM)          |
|-------------|--------------------------|
| 1 NUT       | ZINC PLATED STEEL        |
| 2 HANDLE    | ZINC PLATED STEEL        |
| 3 BONNET    | BRASS (C37000)           |
| 4 PACKING   | TEFLON                   |
| 5 STEM      | BRASS (C37000)           |
| 6 BALL SEAT | TEFLON                   |
| 7 END PIECE | LOW LEAD BRASS (LTN60-6) |
| 8 BODY      | LOW LEAD BRASS (LTN60-6) |
| 9 BALL      | LOW LEAD BRASS (LTN60-6) |
| 10 SLEEVE   | PVC                      |

**APPROVALS**

- NSF 61, IAPMO - N4359
- AB1953, IAPMO - 5653



## GNVP 32

### Check Valve

GNVP Valves are designed exclusively for Grundfos CR pumps with threaded (oval) flanges.

### Applications

GNVP valves are used in Grundfos Booster systems in domestic water systems, municipal water systems, irrigation and industrial applications where a one-way water flow is required.

Maximum Operating Pressure: 232 psi (16 bar)

Liquid Temperature: 32°F to 194°F (0°C to 90°C)

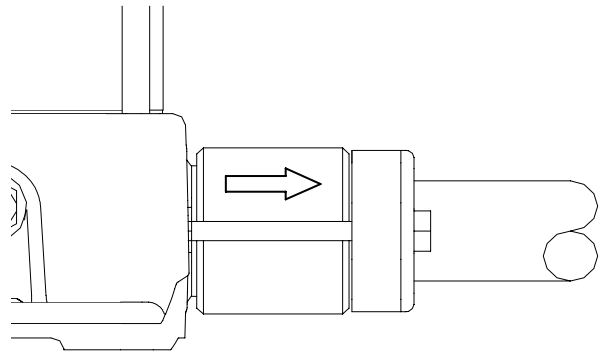
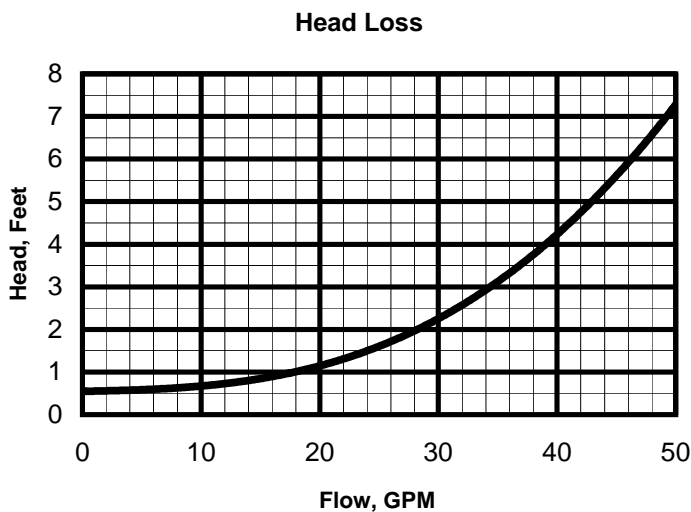
### Construction

The valve body and poppet are made of high strength, corrosion resistant polyacetal. When fitted between two flanges, the EPDM o-rings provide the necessary seal for leak free operation.



### Materials

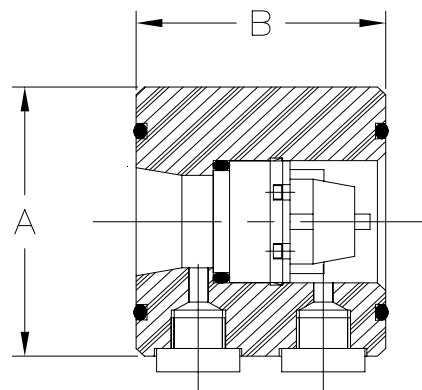
| Component  | Materials        |
|------------|------------------|
| Valve Body | Polyacetal (POM) |
| Valve Cone | Polyacetal (POM) |
| Spring     | Stainless Steel  |
| O-rings    | EPDM             |



The GNVP valve is fitted between the base and flange of Grundfos CR 1s/1/3/5 pumps by means of bolts and nuts. An arrow on the valve body indicates direction of flow.

### Dimensions and weights

| Type            | A  |      | B  |      | Weight |      |
|-----------------|----|------|----|------|--------|------|
|                 | mm | in   | mm | in   | kg     | lb   |
| GNVP 32, 1 1/4" | 70 | 2.76 | 60 | 2.36 | 0.24   | 0.53 |



Part Number: 91040183



# D80 Series

Dry or Liquid Filled • Stainless Steel Case

UTILITY GAUGES



D82LFB shown



- ▶ 1 1/2", 2", 2 1/2", 4" Dial Sizes
- ▶ ±1.6% Accuracy (1% Optional)
- ▶ Stainless Steel Case
- ▶ Glycerine Fill Standard

The Trerice **D80 Series** Industrial Gauge is designed for rugged performance requirements at an economical cost. This liquid filled gauge is furnished with a stainless steel case and crimped ring. Wetted parts are either bronze tube with Lead-Free (PBF) brass socket or stainless steel.

- **Optional features and case style variations available: Please consult the Options & Accessories Section for details.**
- **For correct use and application of all pressure gauges, please refer to: Pressure Gauge Standard ASME B40.100.**

## Specifications

| Models                     | Wetted Parts   |   |
|----------------------------|--|---|
| <b>D82B</b>                | (dry)  | Bronze tube, brass socket                           |
| <b>D82LFB</b>              | (liquid filled)  | Lead-Free (PBF) Meets NSF/ANSI Standards 372 and 61 |
| <b>D83SS</b>               | (dry)  | 316 Stainless steel tube & socket                   |
| <b>D83LFSS</b>             | (liquid filled)  |   |
| <b>Dial Sizes</b>          | 1 1/2", 2", 2 1/2", 4"   |   |
| <b>Fill</b>                | Glycerine, other fills available See Optional Features Section |   |
| <b>Movement</b>            | <b>D82:</b> Brass<br><b>D83:</b> 316 Stainless steel           |   |
| <b>Connection</b>          | Lower male or center back male, (Lower back male 4" Dial only) |   |
| <b>Case</b>                | 304 stainless steel, stem-mounted flangeless                   |   |
| <b>Ring</b>                | Crimped 304 stainless steel                                    |   |
| <b>Window</b>              | Acrylic  |   |
| <b>Pointer</b>             | Plain, black finished  |   |
| <b>Dial Face</b>           | Aluminum, white background with black graduations and markings |   |
| <b>Accuracy</b>            | ±1.6% Full Scale (1% available as an option)                   |   |
| <b>Maximum Temperature</b> | <b>150°F (65°C)</b>  |   |

### Approximate Shipping Weight

- 1 1/2" Dial Size: 0.4 lbs [0.18 kg]
- 2" Dial Size: 0.4 lbs [0.18 kg]
- 2 1/2" Dial Size: 0.5 lbs [0.23 kg]
- 4" Dial Size: 1.0 lbs [0.45 kg]

## HOW TO ORDER

Sample Order Number: **D82LFB 25 02 L A 110**

| Model          | Dial Size | Connection Size | Connection Location | Units of Measure | Range Code          |
|----------------|-----------|-----------------|---------------------|------------------|---------------------|
| <b>D82LFB</b>  | 15 1 1/2" | 01 1/8 NPT*     | L Lower             | A psi            | See Standard Ranges |
| <b>D83LFSS</b> | 20 2"     | 02 1/4 NPT**    | B Back              | D psi/kPa        |                     |
| <b>D82B</b>    | 25 2 1/2" | 04 1/2 NPT***   |                     |                  |                     |
| <b>D83SS</b>   | 40 4"     |                 |                     |                  |                     |

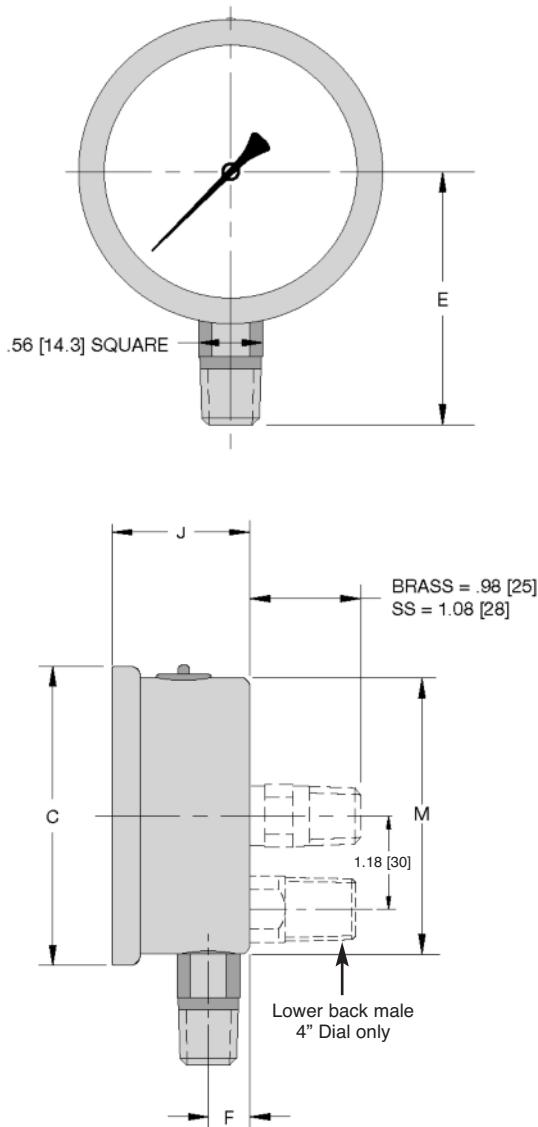
- \* 1/8 NPT connection size not available with 4" dial size.
- \*\* 1/4 NPT connection size not available with 1 1/2" dial size.
- \*\*\* 1/2 NPT connection size only available with 4" dial size.

# D80 Series

## Dry or Liquid Filled • Stainless Steel Case

All dimensions are nominal. Dimensions in [ ] are in millimeters.

UTILITY GAUGES



### Standard Ranges

| psi Ranges (A) |                      | D82              |                 | D83              |                 |
|----------------|----------------------|------------------|-----------------|------------------|-----------------|
| Range Code     | Specific Range (psi) | Figure Intervals | Minor Divisions | Figure Intervals | Minor Divisions |
| 010            | 30" Hg to 0          | 5                | 0.5             | 5                | 0.5             |
| 020            | 30" Hg to 15 psi     | 10/5             | 1/0.5           | 10/5             | 1/0.5           |
| 030            | 30" Hg to 30 psi     | 10/5             | 1/1             | 10/5             | 1/1             |
| 040            | 30" Hg to 60 psi     | 10/10            | 2/1             | 10/10            | 2/1             |
| 050            | 30" Hg to 100 psi    | 30/20            | 2/2             | 30/20            | 2/2             |
| 060            | 30" Hg to 150 psi    | 30/30            | 5/2             | 30/30            | 5/2             |
| 070            | 30" Hg to 300 psi    | 30/50            | 5/5             | 30/50            | 5/5             |
| 080            | 0 to 15 psi          | 3                | 0.2             | 3                | 0.2             |
| 090            | 0 to 30 psi          | 5                | 0.5             | 5                | 0.5             |
| 100            | 0 to 60 psi          | 10               | 1               | 10               | 1               |
| 110            | 0 to 100 psi         | 10               | 1               | 10               | 1               |
| 120            | 0 to 160 psi         | 20               | 2               | 20               | 2               |
| 130            | 0 to 200 psi         | 20               | 2               | 20               | 2               |
| 140            | 0 to 300 psi         | 50               | 5               | 50               | 5               |
| 150            | 0 to 400 psi         | 50               | 5               | 50               | 5               |
| 160            | 0 to 600 psi         | 100              | 10              | 100              | 10              |
| 180            | 0 to 1000 psi        | 100              | 20              | 100              | 20              |
| 190            | 0 to 1500 psi        | 300              | 20              | 300              | 20              |
| 200            | 0 to 2000 psi        | 200              | 20              | 200              | 20              |
| 210            | 0 to 3000 psi        | 500              | 50              | 500              | 50              |
| 220            | 0 to 5000 psi        | 1000             | 100             | 1000             | 100             |

Ranges over 5000 PSI are not available on D82LFB.

|     |                |     |     |      |     |
|-----|----------------|-----|-----|------|-----|
| 230 | 0 to 10000 psi | N/A | N/A | 2000 | 200 |
| 240 | 0 to 15000 psi | N/A | N/A | 3000 | 200 |

For dual scale ranges specify the appropriate **Units of Measure: D** (psi/kPa) followed by the corresponding **A** (psi) **Range Code**

| Dial Size  | C          | E          | F         | J         | M          |
|------------|------------|------------|-----------|-----------|------------|
| 1 1/2" D82 | 1.85 [47]  | 1.50 [38]  | 0.32 [8]  | 1.06 [27] | 1.61 [41]  |
| 1 1/2" D83 | 1.85 [47]  | 1.50 [38]  | 0.32 [8]  | 1.06 [27] | 1.61 [41]  |
| 2" D82     | 2.28 [58]  | 1.89 [48]  | 0.39 [10] | 1.14 [29] | 2.05 [52]  |
| 2" D83     | 2.28 [58]  | 2.05 [52]  | 0.35 [9]  | 1.18 [30] | 2.05 [52]  |
| 2 1/2" D82 | 2.68 [68]  | 2.24 [57]  | 0.39 [10] | 1.18 [30] | 2.44 [62]  |
| 2 1/2" D83 | 2.68 [68]  | 2.32 [59]  | 0.51 [13] | 1.38 [35] | 2.44 [62]  |
| 4" D82     | 4.29 [109] | 3.07 [78]  | 0.47 [12] | 1.42 [36] | 3.90 [99]  |
| 4" D83     | 4.29 [109] | 3.94 [100] | 0.75 [19] | 1.93 [49] | 3.94 [100] |

# Data sheet

# MBS 3000 pressure transmitter for industrial applications

## Introduction

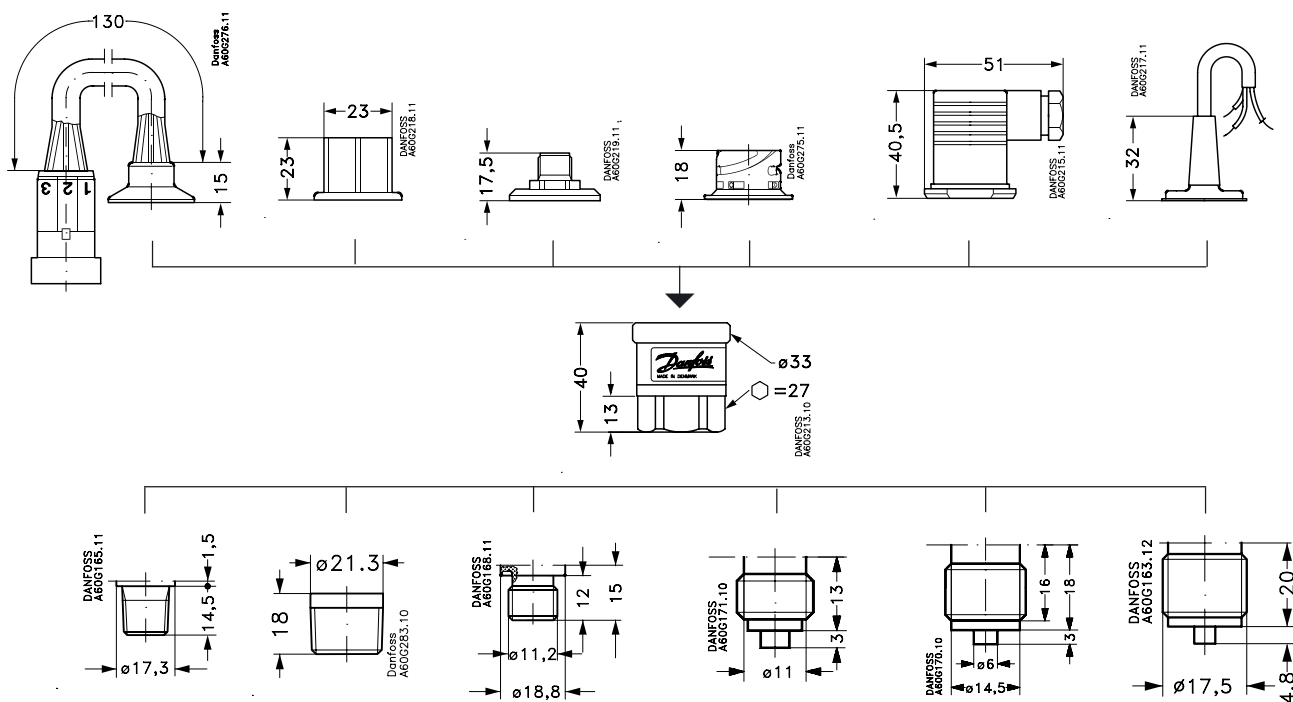


- Designed for use in severe industrial environments
- Enclosure and wetted parts of acid-resistant stainless steel (AISI 316L)
- All standard output signals: 4-20 mA, 0-5 V, 1-5 V, 1-6 V, 0-10 V
- A wide range of pressure and electrical connections
- Temperature compensated and laser calibrated
- Typical applications:
  - Pumps
  - Compressors
  - Pneumatics
  - Water treatment

## Dimensions

### Ordering

|                     |                                    |                                  |                             |                                       |                 |                    |
|---------------------|------------------------------------|----------------------------------|-----------------------------|---------------------------------------|-----------------|--------------------|
| Type code<br>Page 4 | 8                                  | 2                                | 5                           | 7                                     | 1               | 3                  |
|                     | AMP Superseal<br>1.5 series (male) | AMP Econoseal<br>J series (male) | IEC 947-5-2<br>M12x1, 4-pin | ISO 15170-A1-3.2-Sn<br>(Bayonet plug) | DIN 43650, Pg 9 | 2 m screened cable |



### Ordering

|                     |              |              |   |                     |                     |                     |
|---------------------|--------------|--------------|---|---------------------|---------------------|---------------------|
|                     | 1/4 - 18 NPT | 1/2 - 14 NPT | DIN 3852-E-G1/4<br>Gasket:<br>DIN 3869-14 | G 1/4 A<br>(EN 837) | G 3/8 A<br>(EN 837) | G 1/2 A<br>(EN 837) |
| Type code<br>page 4 | AC04         | AC08         | GB04                                      | AB04                | AB06                | AB08                |

Technical data

Main specifications

|                        |             |               |               |              |              |               |               |       |
|------------------------|-------------|---------------|---------------|--------------|--------------|---------------|---------------|-------|
| Pressure connections   | see page 1  |               |               |              |              |               |               |       |
| Measuring ranges [bar] | 0-1<br>0-25 | 0-1.6<br>0-40 | 0-2.5<br>0-60 | 0-4<br>0-100 | 0-6<br>0-160 | 0-10<br>0-250 | 0-16<br>0-400 | 0-600 |
| Output signals         | 4-20 mA     | 0-5 V         | 1-5 V         | 1-6 V        | 0-10 V       |               |               |       |
| Electrical connections | see page 3  |               |               |              |              |               |               |       |

Performance (IEC 770)

|  |  |
|--|--|
| Accuracy                               | ±0.5% FS (typ.)<br>±1% FS (max.)               |
| Non-linearity (best fit straight line) | ≤ ±0.5% FS                                     |
| Hysteresis and repeatability           | ≤ ±0.1% FS                                     |
| Thermal zero point shift               | ≤ ±0.1% FS/10K (typ.)<br>≤ ±0.2% FS/10K (max.) |
| Thermal sensitivity (span) shift       | ≤ ±0.1% FS/10K (typ.)<br>≤ ±0.2% FS/10K (max.) |
| Response time                          | < 4 ms   |
| Overload pressure                      | 6 × FS (max. 1500 bar)                         |
| Burst pressure                         | 6 × FS (max. 2000 bar)                         |
| Durability, P: 10-90% FS               | >10×10 <sup>6</sup> cycles                     |

Electrical specifications

|  | Nom. output signal (short-circuit protected) |                        |                        |
|--|--|------------------------|------------------------|
|  | 4 – 20 mA                                    | 0-5, 1-5, 1-6 V d.c.   | 0-10 V d.c.            |
| Supply voltage [U <sub>B</sub> ], polarity protected     | 9 → 32 V d.c.                                | 9 → 30 V d.c.          | 15 → 30 V d.c.         |
| Supply - current consumption                             | -  | ≤ 5 mA                 | ≤ 8 mA                 |
| Supply voltage dependency                                | ≤ ±0.05% FS/10 V                             |                        |                        |
| Current limitation (linear output up to 1.5x nom. range) | 34 mA (typ.)                                 | -                      |                        |
| Output impedance   | -  | ≤ 25Ω                  |                        |
| Load [R <sub>L</sub> ] (load connected to 0V)            | R <sub>L</sub> ≤ (U <sub>B</sub> -9V)/0.02   | R <sub>L</sub> ≥ 10 kΩ | R <sub>L</sub> ≥ 15 kΩ |

Environmental conditions

|  |                         |                                     |  |                                |
|--|-------------------------|-------------------------------------|--|--------------------------------|
| Medium temperature range                                       | -40 → +85°C             |                                     |  |                                |
| Ambient temperature range (depending on electrical connection) | see page 3              |                                     |  |                                |
| Compensated temperature range                                  | 0 → +80°C               |                                     |  |                                |
| Transport temperature range                                    | -50 → +85°C             |                                     |  |                                |
| EMC - Emission   | EN 61000-6-3            |                                     |  |                                |
| EMC - Immunity   | Electrostatic discharge | Air mode                            | 8 kV                                   | EN 61000-6-2                   |
|  |                         | Contact mode                        | 4 kV                                   | EN 61000-6-2                   |
|  | RF field                | conducted                           | 10 V/m, 26 MHz - 1 GHz                 | EN 61000-6-2                   |
|  |                         | burst                               | 10 V <sub>rms</sub> , 150 kHz - 30 MHz | EN 61000-6-2                   |
|  | Transient surge         | burst                               | 4 kV (CM), Clamp                       | EN 61000-6-2                   |
| surge  |                         | 1 kV (CM,DM), Rg = 42Ω              | EN 61000-6-2                           |                                |
| Insulation resistance  | > 100 MΩ at 100 V d.c.  |                                     |  |                                |
| Mains frequency test   | 500 V, 50 Hz            |                                     | SEN 361503                             |                                |
| Vibration stability  | Sinusoidal              | 15.9 mm-pp, 5Hz-25Hz                |  | IEC 60068-2-6                  |
|  |                         | 20 g, 25 Hz - 2 kHz                 |  |                                |
| Shock resistance   | Random                  | 7.5 g <sub>rms</sub> , 5 Hz - 1 kHz |  | IEC 60068-2-34, IEC 60068-2-36 |
|  | Shock                   | 500 g / 1 ms                        |  |                                |
| Enclosure (depending on electrical connection)                 | Shock                   | 500 g / 1 ms                        |  | IEC 60068-2-27                 |
|  | Free fall               |                                     |  | IEC 60068-2-32                 |

Mechanical characteristics

|   |                        |                               |
|---|------------------------|-------------------------------|
| Materials   | Wetted parts           | DIN 17440-1.4404 (AISI 316 L) |
|   | Enclosure              | DIN 17440-1.4404 (AISI 316 L) |
|   | Electrical connections | see page 3                    |
| Weight (depending on pressure connection and electrical connection) | 0.2-0.3 kg             |                               |

Electrical connections

| Type code, page 4  |   |  |   |   |  |
|--|---|--|---|---|--|
| 1  | 2   | 5  | 7   | 8   | 3  |
| DIN 43650, Pg 9<br>  | AMP Econoseal J series (male)<br>                   | IEC 947-5-2 M12x1<br>  | ISO 15170-A1-3.2-Sn (Bayonet plug)<br>                                    | AMP Superseal 1.5 series (male)<br>                 | 2 m screened cable<br>   |
| <i>Ambient temperature</i>   |   |  |   |   |  |
| -40 → + 85 °C  | -40 → + 85 °C                                       | -25 → +85 °C   | -40 → +85 °C  | -40 → +85 °C  | -30 → +85 °C   |
| <i>Enclosure</i>   |   |  |   |   |  |
| IP 65  | IP 67   | IP 67  | IP 67 / IP 69K  | IP 67   | IP67   |
| <i>Materials</i>   |   |  |   |   |  |
| Glass filled polyamid, PA 6.6  | Glass filled polyamid, PA 6.6 <sup>1)</sup>         | Nickel plated brass, CuZn/Ni   | Glass filled polyester, PBT   | Glass filled polyamid, PA 6.6 <sup>2)</sup>         | Polyolifin cable with PE shrinkage tubing  |
| <i>Electrical connection, 4-20 mA output (2 wire)</i>                                  |   |  |   |   |  |
| Pin 1: +supply<br>Pin 2: ÷supply<br>Pin 3: Not used<br>Earth: Connected to MBS housing | Pin 1: +supply<br>Pin 2: ÷supply<br>Pin 3: Not used | Pin 1: +supply<br>Pin 2: Not used<br>Pin 3: Not used<br>Pin 4: ÷supply | Pin 1: +supply<br>Pin 2: ÷supply<br>Pin 3: Ventilation<br>Pin 4: Not used | Pin 1: +supply<br>Pin 2: ÷supply<br>Pin 3: Not used | Brown wire: +supply<br>Black wire: ÷supply<br>Red wire: Not used<br>Orange: Not used<br>Screen: Not connected to MBS housing |
| <i>Electrical connection, 0-5V, 1-5V, 1-6V, 0-10V output</i>                           |   |  |   |   |  |
| Pin 1: +supply<br>Pin 2: ÷supply<br>Pin 3: Output<br>Earth: Connected to MBS housing   | Pin 1: +supply<br>Pin 2: ÷supply<br>Pin 3: Output   | Pin 1: +supply<br>Pin 2: not used<br>Pin 3: Output<br>Pin 4: ÷supply   | Pin 1: +supply<br>Pin 2: Output<br>Pin 3: Ventilation<br>Pin 4: ÷supply   | Pin 1: +supply<br>Pin 2: ÷supply<br>Pin 3: Output   | Brown wire: Output<br>Black wire: ÷supply<br>Red wire: + supply<br>Orange: Not used<br>Screen: Not connected to MBS housing  |

<sup>1)</sup> Female plug: Glass filled polyester, PBT

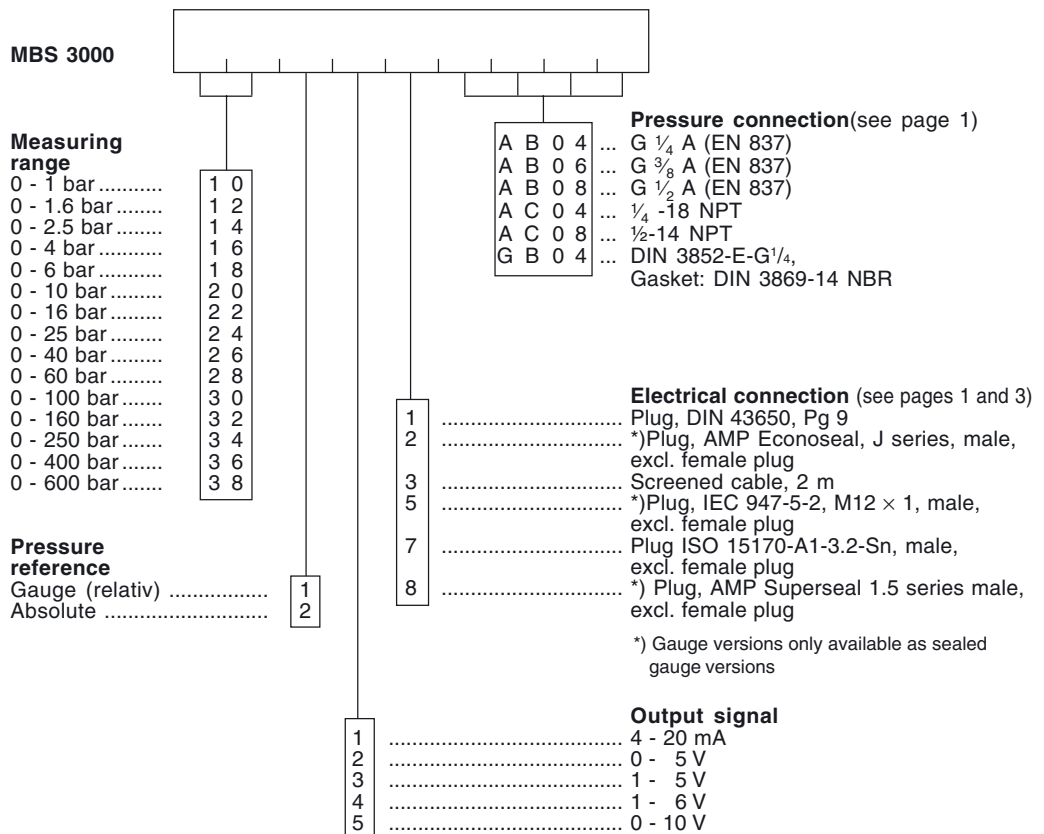
<sup>2)</sup> Wire: PETFE (teflon)

Protection sleeve: PBT mesh (polyester)

**Ordering of standard MBS 3000 with DIN 43650 plug Pg 9**

| Pressure connection | Pressure range Pe    | Type                 | Code no. |
|---------------------|----------------------|----------------------|----------|
| G 1/4 A<br>(EN 837) | 0 - 1 bar            | MBS 3000 1011-1 AB04 | 060G1113 |
|                     | 0 - 1.6 bar          | MBS 3000 1211-1 AB04 | 060G1429 |
|                     | 0 - 2.5 bar          | MBS 3000 1411-1 AB04 | 060G1122 |
|                     | 0 - 4 bar            | MBS 3000 1611-1 AB04 | 060G1123 |
|                     | 0 - 6 bar            | MBS 3000 1811-1 AB04 | 060G1124 |
|                     | 0 - 10 bar           | MBS 3000 2011-1 AB04 | 060G1125 |
|                     | 0 - 16 bar           | MBS 3000 2211-1 AB04 | 060G1133 |
|                     | 0 - 25 bar           | MBS 3000 2411-1 AB04 | 060G1430 |
|                     | 0 - 40 bar           | MBS 3000 2611-1 AB04 | 060G1105 |
|                     | 0 - 60 bar           | MBS 3000 2811-1 AB04 | 060G1106 |
|                     | 0 - 100 bar          | MBS 3000 3011-1 AB04 | 060G1107 |
|                     | 0 - 160 bar          | MBS 3000 3211-1 AB04 | 060G1112 |
|                     | 0 - 250 bar          | MBS 3000 3411-1 AB04 | 060G1111 |
|                     | 0 - 400 bar          | MBS 3000 3611-1 AB04 | 060G1109 |
| 0 - 600 bar         | MBS 3000 3811-1 AB04 | 060G1110             |          |

**Ordering of special versions**



Danfoss can accept no responsibility for possible errors in catalogues, brochures and other printed material. Danfoss reserves the right to alter its products without notice. This also applies to products already on order provided that such alterations can be made without subsequential changes being necessary in specifications already agreed. All trademarks in this material are property of the respective companies. Danfoss and the Danfoss logotype are trademarks of Danfoss A/S. All rights reserved.