



## SLM30-E Swirl Flow Meter

### Description

The SLM30-E is designed to measure the flow of liquids, gases, and steam. The measured medium is conditioned at the inlet. As flow is introduced to the SLM30-E, a fixed impeller causes rotation of the medium. The frequency of rotation measured by piezo sensor is proportional to the flow rate.

Due to the inner geometry of the SLM30-E meter body, a constant Strouhal number (St) over a wide range of the Reynolds number (Re) is possible and excellent linear flow characteristics are achieved.

Since the flow is conditioned on entry, many considerations regarding laminar flow are mitigated. This technology allows the SLM30-E to operate with impressively short straight pipe considerations and provide unrivalled measurement performance.

The SLM30-E utilises three primary sensing elements to provide the mass flow rate of steam, liquids, and gases.

- Piezo frequency sensor (flow rate)
- Internal RTD temperature sensor (std) or external temperature transmitter (temperature compensation)
- Pressure (fixed or measured via external transducer\*)

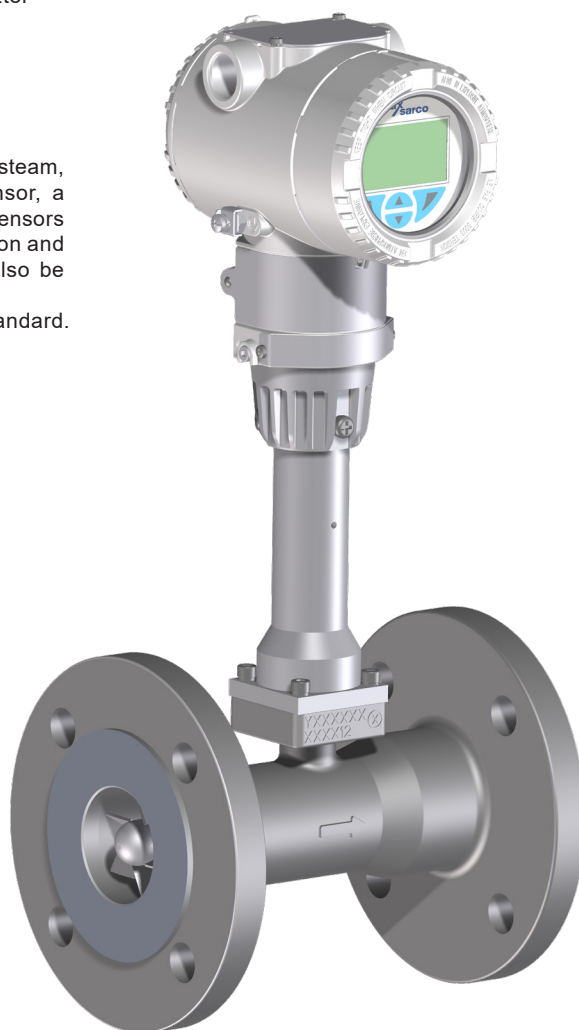
\* Supplied separately

The SLM30-E swirl flowmeter is designed for saturated steam, superheated steam, liquid, and gas applications. Equipped with an internal temperature sensor, a 4-20mA input for integration with external pressure, temperature or density sensors and user selectable binary outputs, the capability to provide flow computation and energy calculation functionality is possible. Gas analyser outputs may also be integrated for enhanced measurements.

HART 7 or Modbus RTU digital communication protocols are offered as standard.

### Compliance and approvals:

- 2014/30/EU Electromagnetic Compatibility EMC
- 2014/68/EU Pressure Equipment Directive
- CRN (Canada) 0F26329.51



## Approvals

|            |                                                                                                                                                                                                                                   |
|------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>EMC</b> | Electromagnetic compatibility of equipment for process and lab control technology 5/93 and EMC Directive 2014/30/EU. Devices with HART communication are optionally available with EMC protection in accordance with NAMUR NE 21. |
|------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

**Caution:** When selecting a flow meter for steam flow measuring, care must be taken around the low flow velocity as this can cause instability in the flow measurement readings. Please ensure the appropriate flow meter size is selected via the sizing tool for the application.

## Sizes and pipe connections

|        | DN15<br>(½") | DN20<br>(¾") | DN25<br>(1") | DN32<br>(1¼") | DN40<br>(1½") | DN50<br>(2") | DN80<br>(3") | DN100<br>(4") | DN150<br>(6") | DN200<br>(8") | DN300<br>(12") | DN400<br>(16") |
|--------|--------------|--------------|--------------|---------------|---------------|--------------|--------------|---------------|---------------|---------------|----------------|----------------|
| PN16   |              |              |              |               |               |              |              | •             | •             | •             | •              | •              |
| PN40   | •            | •            | •            | •             | •             | •            | •            | •             | •             | •             | •              | •              |
| PN63*  | •            | •            | •            | •             | •             | •            | •            | •             | •             | •             |                |                |
| PN100  | •            | •            | •            | •             | •             | •            | •            | •             | •             | •             |                |                |
| CL150  | •            | •            | •            | •             | •             | •            | •            | •             | •             | •             | •              | •              |
| CL300  | •            | •            | •            | •             | •             | •            | •            | •             | •             | •             | •              | •              |
| CL600* | •            | •            | •            | •             | •             | •            | •            | •             | •             |               |                |                |

• Available



Not Available

\*Price on application, extended lead times.

## Technical data

|                         |                                                                                                                                     |                                   |
|-------------------------|-------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------|
| <b>System Design</b>    | <b>Mount type</b>                                                                                                                   | Signal cable length               |
|                         | Integral mount transmitter                                                                                                          | N/A                               |
|                         | Remote mount transmitter                                                                                                            | 5m standard                       |
|                         |                                                                                                                                     | 10m/20m/30m options               |
| <b>Wetted materials</b> | <b>Meter Tube and tower</b>                                                                                                         | stainless steel CF3M              |
|                         | <b>Piezo Sensor housing</b>                                                                                                         | stainless steel 1.4571            |
|                         | <b>Swirler + outlet cross</b>                                                                                                       | stainless steel                   |
|                         | Sensor gasket                                                                                                                       | PTFE O-ring, -55 to 260 °C        |
|                         |                                                                                                                                     | Kalrez 6375 O-ring, -20 to 275 °C |
|                         |                                                                                                                                     | Graphite, -55 to 280 °C           |
| <b>Application</b>      | Any gas, liquid or steam compatible with stainless steel and other listed wetted materials. Not recommended for multi-phase fluids. |                                   |

## Technical data (continued)

|               |           |                                                   |                                                              |
|---------------|-----------|---------------------------------------------------|--------------------------------------------------------------|
| Environmental | LVD       | Electrical Safety                                 | EN61010-1:2010                                               |
|               |           | Overvoltage Category                              | II                                                           |
|               |           | Pollution Degree                                  | 2                                                            |
|               | EMC       | Emissions                                         | Group 1, Class A (Suitable for Industrial Environments only) |
|               |           | Immunity                                          | Suitable for Industrial Environments                         |
|               | Enclosure | IP66, IP67 and NEMA 4x in accordance with EN60529 |                                                              |

|                         | Style connection | Rating           |
|-------------------------|------------------|------------------|
|                         |                  | ASME Class 150   |
| <b>Pressure ratings</b> | <b>Flanged</b>   | ASME Class 300   |
|                         |                  | ASME Class 600*  |
|                         |                  | EN 1092-1 PN16   |
|                         |                  | EN 1092-1 PN40   |
|                         |                  | EN 1092-1 PN63*  |
|                         |                  | EN 1092-1 PN100* |

\*Price on application, extended lead times.

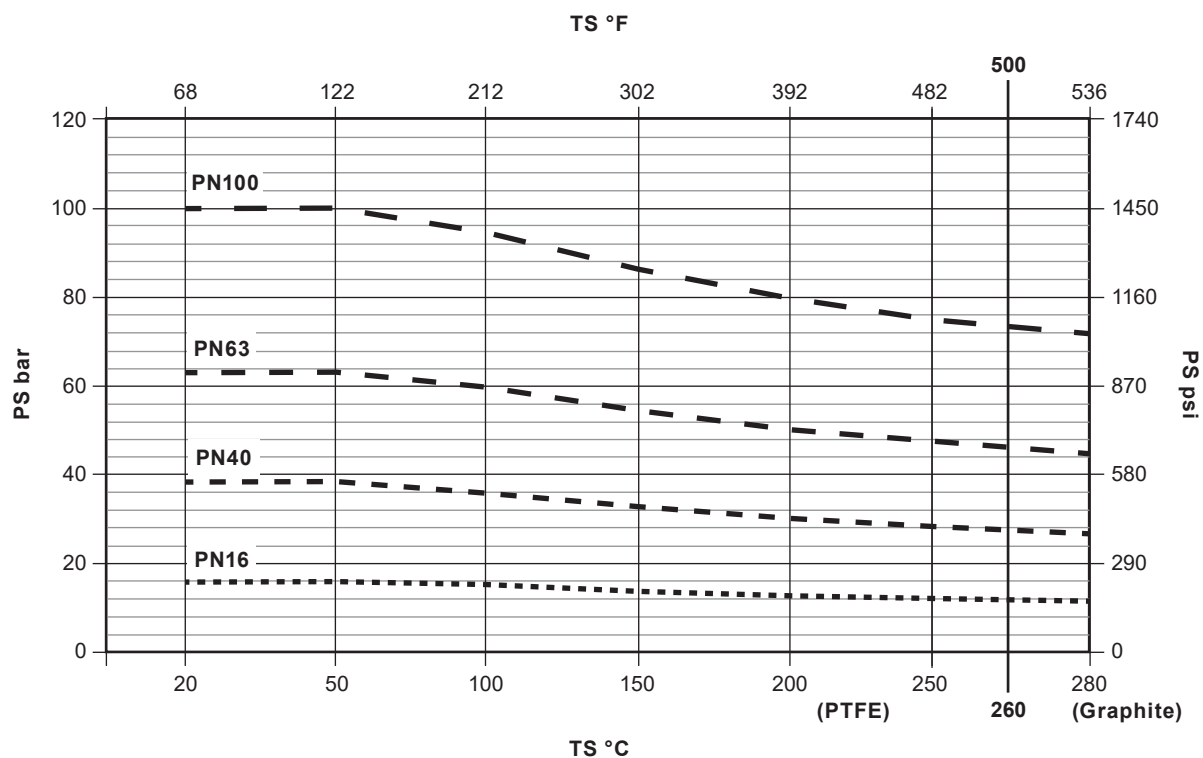
|                                                                                         |                                                                | Supply voltage                                                                                  |
|-----------------------------------------------------------------------------------------|----------------------------------------------------------------|-------------------------------------------------------------------------------------------------|
| <b>Transmitter power supply</b>                                                         | <b>HART®</b>                                                   | <b>12 to 42 Vdc</b>                                                                             |
|                                                                                         | <b>Modbus</b>                                                  | <b>9 to 30 Vdc</b>                                                                              |
|                                                                                         | <b>Ethernet APL</b>                                            | <b>9 to 15 Vdc (via APL-Switch)</b>                                                             |
|                                                                                         | <b>Digital output</b>                                          | <b>16 to 30 Vdc</b>                                                                             |
| <b>Display</b>                                                                          | <b>SLM30 - E</b>                                               | LCD indicator with four operating buttons                                                       |
| <b>Output signals (all options)</b>                                                     | <b>HART Digital Communication</b>                              | Support for HART communications up to the HART 7 protocol.                                      |
|                                                                                         | <b>ModBus Communication</b>                                    | Modbus RTU - RS485 serial connection                                                            |
|                                                                                         | <b>4 to 20 mA</b>                                              | Re-Transmission of flow or temperature                                                          |
|                                                                                         | <b>Digital Contact Output</b>                                  | Optocoupler, 16 to 30 Vdc, max 20mA.<br>User configurable as Frequency, Pulse or Binary output. |
|                                                                                         | <b>Ethernet-APL™ protocol.</b>                                 | Configurable for PROFINET, ModBus TCP, Webserver (default).**                                   |
| <b>Input signals (For connection of external sensors e.g. pressure or temperature.)</b> | <b>Variant</b>                                                 | Input Type                                                                                      |
|                                                                                         | <b>4-20mA HART®</b>                                            | Analog 4 to 20 mA                                                                               |
|                                                                                         |                                                                | HART® (burst mode)                                                                              |
|                                                                                         | <b>Modbus</b>                                                  | Analog 4 to 20 mA                                                                               |
|                                                                                         | <b>Ethernet APL</b>                                            | Analog 4 to 20 mA                                                                               |
| <b>Transmitter material and cable gland options*</b>                                    | <b>Transmitter material</b>                                    | <b>Cable gland thread</b>                                                                       |
|                                                                                         | Die-cast aluminium, copper content < 0.3 %, epoxy resin coated | M20 × 1.5                                                                                       |
|                                                                                         |                                                                | ½ inch NPT                                                                                      |
|                                                                                         | Stainless steel CF3M (316L)                                    | M20 × 1.5                                                                                       |
|                                                                                         |                                                                | ½ inch NPT                                                                                      |

\*Devices are supplied without cable glands

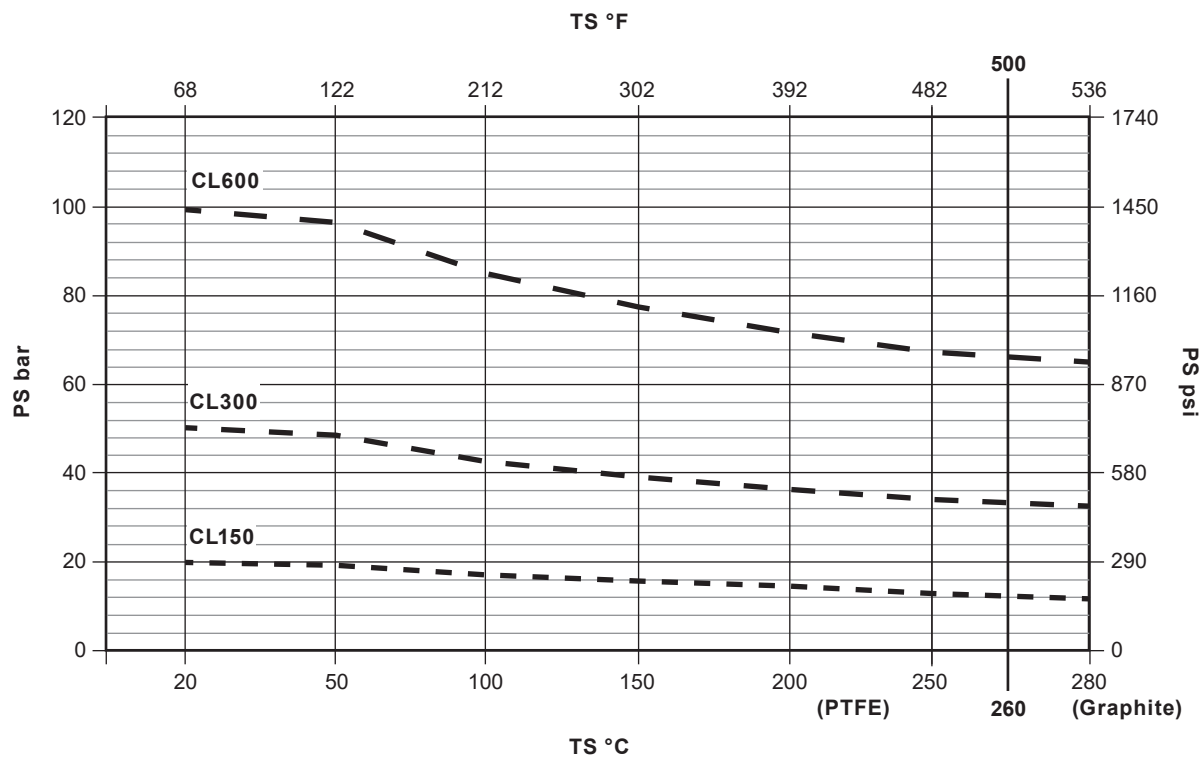
\*\* Webserver is default, Profinet and Modbus TCP are selectable within the device menu see IMI for further details.

## Pressure/temperature limits - SLM30-E

### Flanged devices - DIN Flange process connection



### Flanged devices - ASME Flange process connection



\*Max temp defined by piezo sensor sealing material, check "How to Order"

## Body material: Stainless steel

### Body design conditions

### All Versions

Maximum process temperature

280 °C  
(536 °F)

Minimum process temperature

-55 °C  
(-67 °F)

Electronic ambient temperature range\*

standard

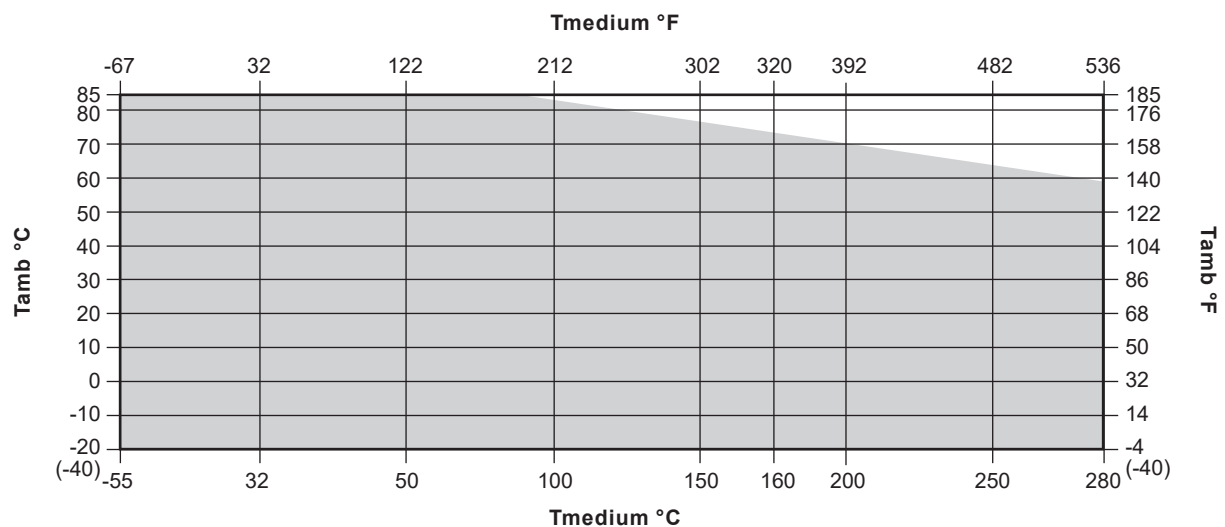
-20 to +85 °C  
(-4 to +185 °F)

extended

-40 to +85 °C  
(-40 to +185 °F)

\*temperatures are reduced to +80°C (+176 °F) for remote mount transmitter applications due to the signal cable specification.

### Measuring medium temperature $T_{\text{medium}}$ dependent on the ambient temperature $T_{\text{amb}}$



### Measuring accuracy - Reference conditions

#### Flow measurement

Set flow range

0.5 to 1 x  $Q_{v\text{max}}$  DN

Ambient temperature

20 °C (68 °F)  $\pm 2$  K

Relative humidity

65 %,  $\pm 5$  %

Air Pressure

86 to 106 kPa

Power supply

12-42 Vdc (4-20mA HART)/10-30 Vdc (Modbus)

Signal cable length (for remote mount design)

30 m (98 ft)

Current output load

250  $\Omega$  (only 4 to 20 mA)

Measuring medium for calibration

Water, approx. 20 °C (68 °F), 2 bar (29 psi)

Air, 960 mbar abs.  $\pm 50$  mbar (14 psi  $\pm 0.7$  psi), 24 °C  $\pm 4$  °C (75 °F  $\pm 7$  °F)

Calibration loop internal diameter

corresponds to inside diameter of device

Unobstructed straight inlet section\*

3 x DN

Outlet section\*

1 x DN

Pressure measurement

3 x DN to 5 x DN behind the flowmeter

Temperature measurement

2 x DN to 3 x DN after the pressure measurement

\*See IM for specific installation requirements.

## Performance specifications

### Measured error (including transmitter) depending on the measuring medium and operating mode

#### Fluid

|                       |        |
|-----------------------|--------|
| Operating volume flow | ±0,5 % |
| Standard volume flow  | ±0,6 % |
| Mass flow measurement | ±0,6 % |

#### Gas

|                        |         |
|------------------------|---------|
| Operating volume flow  | ±0,50 % |
| Standard volume flow*  | ±0,64 % |
| Mass flow measurement* | ±0,64 % |

#### Steam

|                                                                                                                                 |         |
|---------------------------------------------------------------------------------------------------------------------------------|---------|
| Operating volume flow                                                                                                           | ±0,50 % |
| Measurement of overheated steam/saturated steam mass (with internal temperature measurement)                                    | ±2,50 % |
| Measurement of overheated steam/saturated steam mass (with internal temperature measurement and external pressure measurement)* | ±0,71 % |
| Measurement of overheated steam/saturated steam mass (with external temperature and pressure measurement)**                     | ±0,57 % |

\* When using a pressure transmitter with 0.1 % accuracy

\*\* When using a pressure transmitter with 0.1 % accuracy and a temperature transmitter with PT100 Class A

### Measured error for current output

|                           |               |
|---------------------------|---------------|
| Additional measured error | < 0,1 %       |
| At zero-point:            | < 0,05 %/10 K |

A pipe offset in the inlet section or outlet section can influence the measured error. Additional measured errors may occur if there are deviations from the reference conditions.

### Repeatability

|                             |       |
|-----------------------------|-------|
| DN15 to DN20 (½ in to ¾ in) | 0,3 % |
| DN25 to DN150 (1 to 6 in)   | 0,2 % |
| DN200 to DN400 (8 to 12 in) | 0,2 % |

### Temperature measurement

Measured value deviation (including transmitter) ±1 °C or 1 % of measured value (in °C), whichever is greater  
Repeatability ≤ 0.2 % of the measured value

### Response time

200 ms (1 tau) or 3/f in seconds (with deactivated damping, the respective greater value shall apply). The response time depends on the respective swirl frequency f. Low flow rates can result in higher response times.

## Flowrates

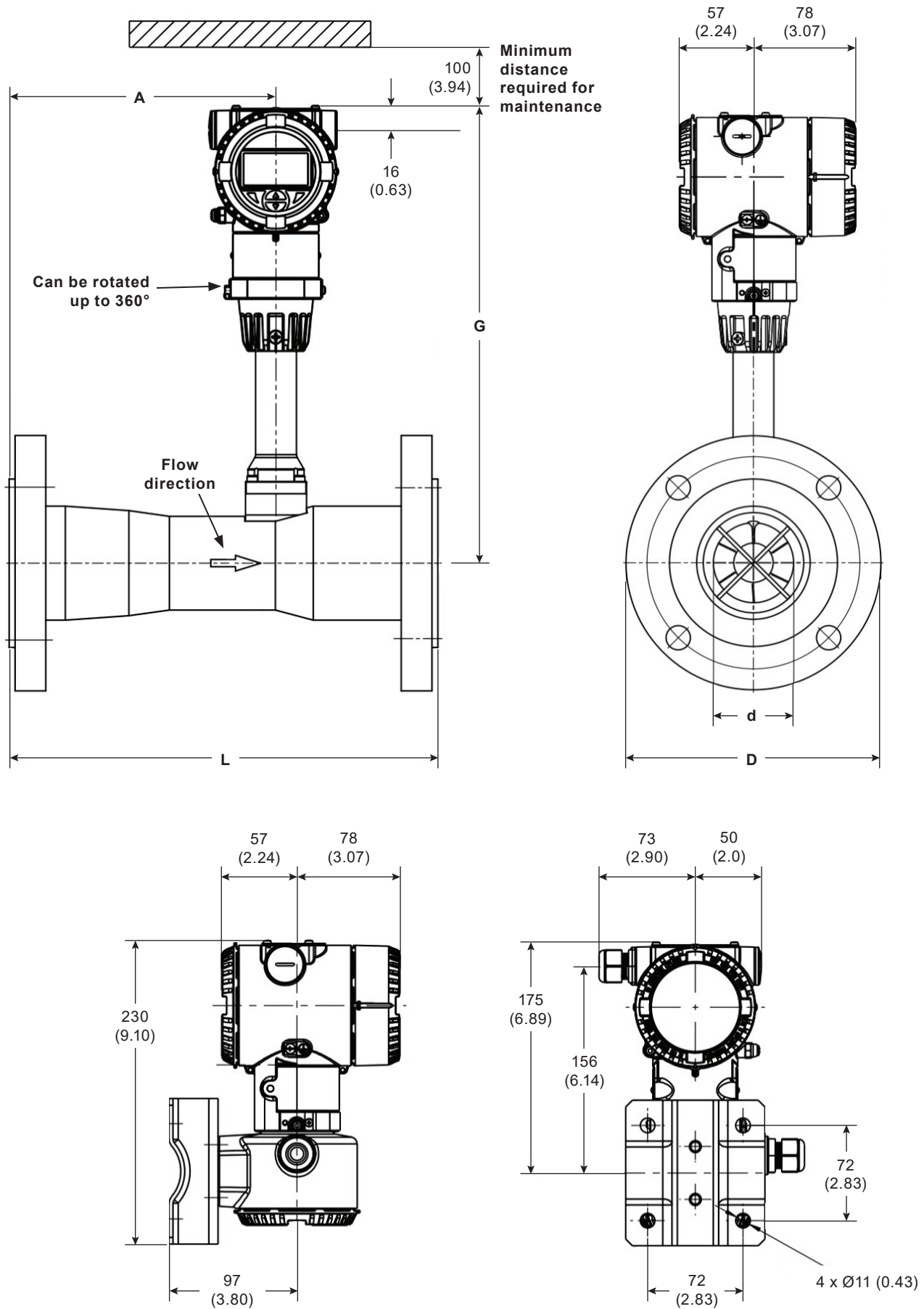
|  |        |     | Maximum Liquid     |        | Maximum Gases and Steam |                      |
|--|--------|-----|--------------------|--------|-------------------------|----------------------|
|  |        |     | m <sup>3</sup> /hr | US GPM | m <sup>3</sup> /hr      | ft <sup>3</sup> /min |
|  | 15 mm  | ½"  | 2.5                | 11     | 20                      | 12                   |
|  | 20 mm  | ¾"  | 4                  | 18     | 44                      | 26                   |
|  | 25 mm  | 1"  | 8                  | 35     | 90                      | 53                   |
|  | 32 mm  | 1¼" | 16                 | 70     | 230                     | 135                  |
|  | 40 mm  | 1½" | 20                 | 88     | 300                     | 177                  |
|  | 50 mm  | 2"  | 30                 | 132    | 440                     | 259                  |
|  | 80 mm  | 3"  | 120                | 528    | 1160                    | 683                  |
|  | 100 mm | 4"  | 180                | 793    | 1725                    | 1015                 |
|  | 150 mm | 6"  | 400                | 1760   | 3800                    | 2237                 |
|  | 200 mm | 8"  | 700                | 3082   | 5800                    | 3414                 |
|  | 300 mm | 12" | 1600               | 7045   | 13600                   | 8005                 |
|  | 400 mm | 16" | 2500               | 11000  | 21500                   | 12655                |

## Sizing considerations

| Piping conditions           | Straight run piping requirements* | Inlet section  | Outlet section |
|-----------------------------|-----------------------------------|----------------|----------------|
|                             | Straight pipe section             | minimum 3 × DN | minimum 1 × DN |
|                             | Valve upstream of the meter       | minimum 5 × DN | minimum 1 × DN |
|                             | Pipe size reduction               | minimum 3 × DN | minimum 1 × DN |
|                             | Pipe size expansion               | minimum 3 × DN | minimum 3 × DN |
| DN = valve nominal diameter |                                   |                |                |

\*Check IM-P799-02 for full installation guidance.

**Dimensions (approximate) in mm (inches)**



## Dimensions with DN Flanges (approximate) in mm (inches)

| Nominal diameter | Pressure rating | L            | G           | A             | D           | d             |
|------------------|-----------------|--------------|-------------|---------------|-------------|---------------|
| DN15             | PN40            | 200 (7.87)   | 346 (13.62) | 92.5 (3.64)   | 95 (3.74)   | 17.3 (0.68)   |
|                  | PN63            | 205 (8.07)   | 350 (13.78) | 93.5 (3.68)   | 105 (4.13)  | 15.7 (0.62)   |
|                  | PN100           |              |             |               |             |               |
| DN20             | PN40            | 200 (7.87)   | 349 (13.74) | 104.5 (4.11)  | 105 (4.13)  | 22.6 (0.89)   |
|                  | PN63            | 220 (8.66)   | 348 (13.7)  | 113.5 (4.47)  | 130 (5.12)  | 20.5 (0.81)   |
|                  | PN100           |              |             |               |             |               |
| DN25             | PN40            | 150 (5.91)   | 348 (13.7)  | 66 (2.6)      | 115 (4.53)  | 28.1 (1.11)   |
|                  | PN63            | 265 (10.43)  | 343 (13.5)  | 123.5 (4.86)  | 140 (5.51)  | 28.5 (1.12)   |
|                  | PN100           |              |             |               |             |               |
| DN32             | PN40            | 150 (5.91)   | 346 (13.62) | 67 (2.64)     | 140 (5.51)  | 37.1 (1.46)   |
|                  | PN63            | 265 (10.43)  | 341 (13.43) | 124.5 (4.9)   | 155 (6.1)   | 36.6 (1.44)   |
|                  | PN100           |              |             |               |             |               |
| DN40             | PN40            | 200 (7.87)   | 350 (13.78) | 79.5 (3.13)   | 150 (5.91)  | 42.1 (1.66)   |
|                  | PN63            | 320 (12.6)   | 349 (13.74) | 140 (5.51)    | 170 (6.69)  | 42.1 (1.66)   |
|                  | PN100           |              |             |               |             |               |
| DN50             | PN40            | 200 (7.87)   | 353 (13.9)  | 105 (4.13)    | 165 (6.5)   | 51.1 (2.01)   |
|                  | PN63            | 305 (12.01)  | 353 (13.9)  | 158 (6.22)    | 180 (7.09)  | 54.5 (2.15)   |
|                  | PN100           | 320 (12.6)   | 353 (13.9)  | 165 (6.5)     | 195 (7.68)  | 53.9 (2.12)   |
| DN80             | PN40            | 300 (11.81)  | 356 (14.02) | 159 (6.26)    | 200 (7.87)  | 82.6 (3.25)   |
|                  | PN63            | 425 (16.73)  | 357 (14.06) | 224 (8.82)    | 215 (8.46)  | 81.7 (3.22)   |
|                  | PN100           | 440 (17.32)  | 357 (14.06) | 232 (9.13)    | 230 (9.06)  | 80.9 (3.19)   |
| DN100            | PN16            | 350 (13.78)  | 360 (14.17) | 188 (7.4)     | 220 (8.66)  | 101.1 (3.98)  |
|                  | PN40            | 350 (13.78)  | 360 (14.17) | 188 (7.4)     | 235 (9.25)  | 101.1 (3.98)  |
|                  | PN63            | 485 (19.09)  | 359 (14.13) | 256 (10.08)   | 250 (9.84)  | 106.3 (4.19)  |
|                  | PN100           | 510 (20.08)  | 359 (14.13) | 268.5 (10.57) | 265 (10.43) | 104.3 (4.11)  |
| DN150            | PN16            | 480 (18.9)   | 384 (15.12) | 330 (12.99)   | 285 (11.22) | 150.1 (5.91)  |
|                  | PN40            | 480 (18.9)   | 384 (15.12) | 330 (12.99)   | 300 (11.81) | 150.1 (5.91)  |
|                  | PN63            | 655 (25.79)  | 384 (15.12) | 410 (16.14)   | 345 (13.58) | 157.1 (6.19)  |
|                  | PN100           | 695 (27.36)  | 384 (15.12) | 430 (16.93)   | 355 (13.98) | 157.1 (6.19)  |
| DN200            | PN 16           | 600 (23.62)  | 404 (15.91) | 438.5 (17.26) | 340 (13.39) | 203.1 (8.00)  |
|                  | PN40            | 600 (23.62)  | 404 (15.91) | 438.5 (17.26) | 375 (14.76) | 203.1 (8.00)  |
|                  | PN63            | 810 (31.89)  | 404 (15.91) | 519 (20.43)   | 415 (16.34) | 204.9 (8.07)  |
|                  | PN100           | 855 (33.66)  | 404 (15.91) | 541 (21.3)    | 430 (16.93) | 204.9 (8.07)  |
| DN300            | PN16            | 1000 (39.37) | 450 (17.72) | 662 (26.06)   | 460 (18.11) | 309.7 (12.19) |
|                  | PN40            | 1000 (39.37) | 450 (17.72) | 662 (26.06)   | 515 (20.28) | 309.7 (12.19) |
| DN400            | PN16            | 1274 (50.16) | 486 (19.13) | 841 (33.11)   | 580 (22.83) | 390.4 (15.37) |
|                  | PN40            | 1274 (50.16) | 486 (19.13) | 841 (33.11)   | 660 (25.98) | 390.4 (15.37) |

Tolerance for dimension L: DN 15 to 200 +0/-3 mm (+0/-0.12 in), DN 300 to 400 +0/-5 mm (+0/-0.20 in)

**Weights are shown on next page**

## Weights with DN Flanges and cable length (approximate) in kg (lbs) and m (ft)

| Nominal diameter | Pressure rating | Weight                         |                |                 |                 |                 |                 |                 |                 |                 |                 |
|------------------|-----------------|--------------------------------|----------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|
|                  |                 | Integral                       |                | Remote          |                 |                 |                 |                 |                 |                 |                 |
|                  |                 | Stainless steel                | Aluminium      | Stainless steel |                 |                 |                 | Aluminium       |                 |                 |                 |
|                  |                 | Cable length shown in m (ft) Ø |                | 5<br>(16.4)     | 10<br>(32.8)    | 20<br>(65.6)    | 30<br>(98.4)    | 5<br>(16.4)     | 10<br>(32.8)    | 20<br>(65.6)    | 30<br>(98.4)    |
| DN15             | PN10 to PN40    | 7.5<br>(16.5)                  | 5.9<br>(13)    | 13.0<br>(28.66) | 13.7<br>(30.20) | 15.1<br>(33.29) | 16.5<br>(36.38) | 9.8<br>(21.61)  | 10.5<br>(23.15) | 11.9<br>(26.23) | 13.3<br>(29.32) |
|                  | PN63            | 8.1<br>(17.9)                  | 6.5<br>(14.3)  | 11.4<br>(25.13) | 12.1<br>(26.68) | 13.5<br>(29.76) | 14.9<br>(32.85) | 9.8<br>(21.61)  | 10.5<br>(23.15) | 11.9<br>(26.23) | 13.3<br>(29.32) |
|                  | PN100           |                                |                | 11.4<br>(25.13) | 12.1<br>(26.68) | 13.5<br>(29.76) | 14.9<br>(32.85) | 9.8<br>(21.61)  | 10.5<br>(23.15) | 11.9<br>(26.23) | 13.3<br>(29.32) |
| DN20             | PN10 to PN40    | 8<br>(17.6)                    | 6.4<br>(14.1)  | 13.5<br>(29.76) | 14.2<br>(31.31) | 15.6<br>(34.39) | 17.0<br>(37.48) | 10.3<br>(22.71) | 11.0<br>(24.25) | 12.4<br>(27.34) | 13.8<br>(30.42) |
|                  | PN63            | 9.6<br>(21.2)                  | 8<br>(17.6)    | 12.9<br>(28.44) | 13.6<br>(29.98) | 15.0<br>(33.07) | 16.4<br>(36.16) | 11.3<br>(24.91) | 12.0<br>(26.46) | 13.4<br>(29.54) | 14.8<br>(32.63) |
|                  | PN100           |                                |                | 12.9<br>(28.44) | 13.6<br>(29.98) | 15.0<br>(33.07) | 16.4<br>(36.16) | 11.3<br>(24.91) | 12.0<br>(26.46) | 13.4<br>(29.54) | 14.8<br>(32.63) |
| DN25             | PN10 to PN40    | 7.5<br>(16.5)                  | 5.9<br>(13)    | 13.0<br>(28.66) | 13.7<br>(30.20) | 15.1<br>(33.29) | 16.5<br>(36.38) | 9.8<br>(21.61)  | 10.5<br>(23.15) | 11.9<br>(26.23) | 13.3<br>(29.32) |
|                  | PN63            | 11<br>(24.3)                   | 9.4<br>(20.7)  | 14.3<br>(31.53) | 15.0<br>(33.07) | 16.4<br>(36.16) | 17.8<br>(39.24) | 12.7<br>(28.00) | 13.4<br>(29.54) | 14.8<br>(32.63) | 16.2<br>(35.71) |
|                  | PN100           |                                |                | 14.3<br>(31.53) | 15.0<br>(33.07) | 16.4<br>(36.16) | 17.8<br>(39.24) | 12.7<br>(28.00) | 13.4<br>(29.54) | 14.8<br>(32.63) | 16.2<br>(35.71) |
| DN32             | PN10 to PN40    | 8.8<br>(19.4)                  | 7.2<br>(15.9)  | 14.3<br>(31.53) | 15.0<br>(33.07) | 16.4<br>(36.16) | 17.8<br>(39.24) | 11.1<br>(24.47) | 11.8<br>(26.01) | 13.2<br>(29.10) | 14.6<br>(32.19) |
|                  | PN63            | 12.3<br>(27.1)                 | 10.7<br>(23.6) | 15.6<br>(34.39) | 16.3<br>(35.93) | 17.7<br>(39.02) | 19.1<br>(42.11) | 14.0<br>(30.86) | 14.7<br>(32.41) | 16.1<br>(35.49) | 17.5<br>(38.58) |
|                  | PN100           |                                |                | 15.6<br>(34.39) | 16.3<br>(35.93) | 17.7<br>(39.02) | 19.1<br>(42.11) | 14.0<br>(30.86) | 14.7<br>(32.41) | 16.1<br>(35.49) | 17.5<br>(38.58) |
| DN40             | PN10 to PN40    | 9.7<br>(21.4)                  | 8.1<br>(17.9)  | 15.2<br>(33.51) | 15.9<br>(35.05) | 17.3<br>(38.14) | 18.7<br>(41.23) | 12.0<br>(26.46) | 12.7<br>(28.00) | 14.1<br>(31.08) | 15.5<br>(34.17) |
|                  | PN63            | 16.2<br>(35.7)                 | 14.6<br>(32.2) | 19.5<br>(42.99) | 20.2<br>(44.53) | 21.6<br>(47.62) | 23.0<br>(50.71) | 17.9<br>(39.46) | 18.6<br>(41.01) | 20.0<br>(44.09) | 21.4<br>(47.18) |
|                  | PN100           |                                |                | 19.5<br>(42.99) | 20.2<br>(44.53) | 21.6<br>(47.62) | 23.0<br>(50.71) | 17.9<br>(39.46) | 18.6<br>(41.01) | 20.0<br>(44.09) | 21.4<br>(47.18) |
| DN50             | PN10 to PN40    | 11.3<br>(24.9)                 | 9.7<br>(21.4)  | 16.8<br>(37.04) | 17.5<br>(38.58) | 18.9<br>(41.67) | 20.3<br>(44.75) | 13.6<br>(29.98) | 14.3<br>(31.53) | 15.7<br>(34.61) | 17.1<br>(37.70) |
|                  | PN63            | 17.8<br>(39.2)                 | 16.2<br>(35.7) | 21.1<br>(46.52) | 21.8<br>(48.06) | 23.2<br>(51.15) | 24.6<br>(54.23) | 19.5<br>(42.99) | 20.2<br>(44.53) | 21.6<br>(47.62) | 23.0<br>(50.71) |
|                  | PN100           | 20.1<br>(44.3)                 | 18.5<br>(40.8) | 23.4<br>(51.59) | 24.1<br>(53.13) | 25.5<br>(56.22) | 26.9<br>(59.30) | 21.8<br>(48.06) | 22.5<br>(49.60) | 23.9<br>(52.69) | 25.3<br>(55.78) |
| DN80             | PN10 to PN40    | 18.8<br>(41.4)                 | 17.2<br>(37.9) | 24.3<br>(53.57) | 25.0<br>(55.12) | 26.4<br>(58.20) | 27.8<br>(61.29) | 21.1<br>(46.52) | 21.8<br>(48.06) | 23.2<br>(51.15) | 24.6<br>(54.23) |
|                  | PN63            | 25.1<br>(55.3)                 | 23.5<br>(51.8) | 28.4<br>(62.61) | 29.1<br>(64.15) | 30.5<br>(67.24) | 31.9<br>(70.33) | 26.8<br>(59.08) | 27.5<br>(60.63) | 28.9<br>(63.71) | 30.3<br>(66.80) |
|                  | PN100           | 29.8<br>(65.7)                 | 28.2<br>(62.2) | 34.1<br>(75.18) | 34.8<br>(76.72) | 36.2<br>(79.81) | 37.6<br>(82.89) | 31.5<br>(69.44) | 32.2<br>(70.99) | 33.6<br>(74.07) | 35.0<br>(77.16) |

Weights continued on next page

## Weights with DN Flanges and cable length (approximate) in kg (lbs) and m (ft) (continued)

| Nominal diameter | Pressure rating | Weight                         |                  |                   |                   |                   |                   |                   |                   |                   |                   |
|------------------|-----------------|--------------------------------|------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|
|                  |                 | Integral                       |                  | Remote            |                   |                   |                   |                   |                   |                   |                   |
|                  |                 | Stainless steel                | Aluminium        | Stainless steel   |                   |                   |                   | Aluminium         |                   |                   |                   |
|                  |                 | Cable length shown in m (ft) Ø |                  | 5<br>(16.4)       | 10<br>(32.8)      | 20<br>(65.6)      | 30<br>(98.4)      | 5<br>(16.4)       | 10<br>(32.8)      | 20<br>(65.6)      | 30<br>(98.4)      |
| DN100            | PN10 to PN16    | 23.7<br>(52.2)                 | 22.1<br>(48.7)   | 29.2<br>(64.37)   | 29.9<br>(65.92)   | 31.3<br>(69.00)   | 32.7<br>(72.09)   | 26.0<br>(57.32)   | 26.7<br>(58.86)   | 28.1<br>(61.95)   | 29.5<br>(65.04)   |
|                  | PN25 to PN40    | 26<br>(57.3)                   | 24.4<br>(53.8)   | 31.5<br>(69.44)   | 32.2<br>(70.99)   | 33.6<br>(74.07)   | 35.0<br>(77.16)   | 28.3<br>(62.39)   | 29.0<br>(63.93)   | 30.4<br>(67.02)   | 31.8<br>(70.11)   |
|                  | PN63            | 34.8<br>(76.7)                 | 33.2<br>(73.2)   | 38.1<br>(84.00)   | 38.8<br>(85.54)   | 40.2<br>(88.62)   | 41.6<br>(91.71)   | 36.5<br>(80.47)   | 37.2<br>(82.01)   | 38.6<br>(85.10)   | 40.0<br>(88.18)   |
|                  | PN100           | 40.1<br>(88.4)                 | 38.5<br>(84.9)   | 43.4<br>(95.68)   | 44.1<br>(97.22)   | 45.5<br>(100.31)  | 46.9<br>(103.40)  | 41.8<br>(92.15)   | 42.5<br>(93.70)   | 43.9<br>(96.78)   | 45.3<br>(99.87)   |
| DN150            | PN10 to PN16    | 42.5<br>(93.7)                 | 40.9<br>(90.2)   | 48.0<br>(105.82)  | 48.7<br>(107.36)  | 50.1<br>(110.45)  | 51.5<br>(113.54)  | 44.8<br>(98.77)   | 45.5<br>(100.31)  | 46.9<br>(103.40)  | 48.3<br>(106.48)  |
|                  | PN25 to PN40    | 55<br>(121.3)                  | 53.4<br>(117.7)  | 60.5<br>(133.38)  | 61.2<br>(134.92)  | 62.6<br>(138.01)  | 64.0<br>(141.09)  | 57.3<br>(126.32)  | 58.0<br>(127.87)  | 59.4<br>(130.95)  | 60.8<br>(134.04)  |
|                  | PN63            | 83.6<br>(184.3)                | 82<br>(180.8)    | 86.7<br>(191.14)  | 87.4<br>(192.68)  | 88.8<br>(195.77)  | 90.2<br>(198.85)  | 85.3<br>(188.05)  | 86.0<br>(189.60)  | 87.4<br>(192.68)  | 88.8<br>(195.77)  |
|                  | PN100           | 96.6<br>(213)                  | 95<br>(209.4)    | 99.9<br>(220.24)  | 100.6<br>(221.78) | 102.0<br>(224.87) | 103.4<br>(227.96) | 98.3<br>(216.71)  | 99.0<br>(218.26)  | 100.4<br>(221.34) | 101.8<br>(224.43) |
| DN200            | PN10/PN16       | 52.4<br>(115.5)                | 50.8<br>(112)    | 57.9<br>(127.65)  | 58.6<br>(129.19)  | 60.0<br>(132.28)  | 61.4<br>(135.36)  | 54.7<br>(120.59)  | 55.4<br>(122.13)  | 56.8<br>(125.22)  | 58.2<br>(128.31)  |
|                  | PN25            | 52.4<br>(115.5)                | 50.8<br>(112)    | 66.9<br>(147.49)  | 67.6<br>(149.03)  | 69.0<br>(152.12)  | 70.4<br>(155.20)  | 63.7<br>(140.43)  | 64.4<br>(141.98)  | 65.8<br>(145.06)  | 67.2<br>(148.15)  |
|                  | PN40            | 68.4<br>(150.8)                | 66.8<br>(147.3)  | 73.9<br>(162.92)  | 74.6<br>(164.46)  | 76.0<br>(167.55)  | 77.4<br>(170.64)  | 70.7<br>(155.87)  | 71.4<br>(157.41)  | 72.8<br>(160.49)  | 74.2<br>(163.58)  |
|                  | PN63            | 110.6<br>(243.8)               | 109<br>(240.3)   | 113.9<br>(251.10) | 114.6<br>(252.65) | 116.0<br>(255.73) | 117.4<br>(258.82) | 112.3<br>(247.58) | 113.0<br>(249.12) | 114.4<br>(252.21) | 115.8<br>(255.29) |
|                  | PN100           | 139.6<br>(307.8)               | 138<br>(304.2)   | 142.9<br>(315.04) | 143.6<br>(316.58) | 145.0<br>(319.67) | 146.4<br>(322.75) | 141.3<br>(311.51) | 142.0<br>(313.05) | 143.4<br>(316.14) | 144.8<br>(319.23) |
| DN300            | PN10            | 173.4<br>(382.3)               | 171.8<br>(378.8) | 178.9<br>(394.40) | 179.6<br>(395.95) | 181.0<br>(399.03) | 182.4<br>(402.12) | 175.7<br>(387.35) | 176.4<br>(388.89) | 177.8<br>(391.98) | 179.2<br>(395.06) |
|                  | PN16            | 188.4<br>(415.4)               | 186.8<br>(411.8) | 193.9<br>(427.47) | 194.6<br>(429.02) | 196.0<br>(432.10) | 197.4<br>(435.19) | 190.7<br>(420.42) | 191.4<br>(421.96) | 192.8<br>(425.05) | 194.2<br>(428.13) |
|                  | PN25            | 204.0<br>(449.7)               | 202.4<br>(446.2) | 209.5<br>(461.86) | 210.2<br>(463.41) | 211.6<br>(466.49) | 213.0<br>(469.58) | 206.3<br>(454.81) | 207.0<br>(456.35) | 208.4<br>(459.44) | 209.8<br>(462.53) |
|                  | PN40            | 210<br>(463)                   | 208.4<br>(459.4) | 215.5<br>(475.09) | 216.2<br>(476.63) | 217.6<br>(479.72) | 219.0<br>(482.81) | 212.3<br>(468.04) | 213.0<br>(469.58) | 214.4<br>(472.67) | 215.8<br>(475.75) |
| DN400            | PN10            | 247.4<br>(604.9)               | 245.8<br>(541.9) | 252.9<br>(557.54) | 253.6<br>(559.09) | 255.0<br>(562.17) | 256.4<br>(565.26) | 249.7<br>(550.49) | 250.4<br>(552.03) | 251.8<br>(555.12) | 253.2<br>(558.20) |
|                  | PN16            | 268.4<br>(591.7)               | 266.8<br>(588.2) | 273.9<br>(603.84) | 274.6<br>(605.38) | 276.0<br>(608.47) | 277.4<br>(611.56) | 270.7<br>(596.79) | 271.4<br>(598.33) | 272.8<br>(601.41) | 274.2<br>(604.50) |
|                  | PN25            | 277<br>(610.7)                 | 275.4<br>(607.2) | 282.5<br>(622.80) | 283.2<br>(624.34) | 284.6<br>(627.43) | 286.0<br>(630.52) | 279.3<br>(615.74) | 280.0<br>(617.29) | 281.4<br>(620.37) | 282.8<br>(623.46) |
|                  | PN40            | 290<br>(639.3)                 | 288.4<br>(635.8) | 295.5<br>(651.46) | 296.2<br>(653.00) | 297.6<br>(656.09) | 299.0<br>(659.18) | 292.3<br>(644.40) | 293.0<br>(645.95) | 294.4<br>(649.03) | 295.8<br>(652.12) |

## Dimensions with ASME Flanges (approximate) in mm (inches)

| Nominal diameter | Pressure rating | L            | G           | A             | D            | d             |
|------------------|-----------------|--------------|-------------|---------------|--------------|---------------|
| ½"               | CL150           | 200 (7.87)   | 346 (13.62) | 92.5 (3.64)   | 88.9 (3.50)  | 15.8 (0.62)   |
|                  | CL300           | 200 (7.87)   | 346 (13.62) | 92.5 (3.62)   | 95.2 (3.75)  | 15.8 (0.62)   |
|                  | CL600           | 235 (9.25)   | 346 (13.62) | 106 (4.17)    | 95.0 (3.74)  | 15.7 (0.62)   |
| ¾"               | CL150           | 220 (8.66)   | 349 (13.74) | 114.5 (4.51)  | 98.4 (3.87)  | 22.6 (0.89)   |
|                  | CL300           | 230 (9.06)   | 349 (13.74) | 119.5 (4.70)  | 117.5 (4.63) | 22.6 (0.89)   |
|                  | CL600           | 246 (9.69)   | 349 (13.7)  | 127.5 (5.02)  | 115 (4.53)   | 18.9 (0.74)   |
| 1"               | CL150           | 150 (5.91)   | 348 (13.70) | 66 (2.59)     | 108 (4.25)   | 28.1 (1.1)    |
|                  | CL300           | 150 (5.91)   | 348 (13.70) | 66 (2.59)     | 124 (4.88)   | 28.1 (1.1)    |
|                  | CL600           | 285 (11.22)  | 348 (13.70) | 134.2 (5.28)  | 124 (4.88)   | 24.3 (0.96)   |
| 1¼"              | CL150           | 150 (5.91)   | 346 (13.62) | 67 (2.64)     | 118 (4.65)   | 37.1 (1.46)   |
|                  | CL300           | 150 (5.91)   | 346 (13.62) | 67 (2.64)     | 133 (5.24)   | 37.1 (1.46)   |
|                  | CL600           | 290 (11.41)  | 346 (13.62) | 137.7 (5.42)  | 133 (5.24)   | 32.5 (1.28)   |
| 1½"              | CL150           | 200 (7.87)   | 350 (13.78) | 79.5 (3.11)   | 127 (5.0)    | 42.1 (1.66)   |
|                  | CL300           | 200 (7.87)   | 350 (13.78) | 79.5 (3.11)   | 155.0 (6.10) | 42.1 (1.66)   |
|                  | CL600           | 345 (13.59)  | 350 (13.78) | 152 (5.98)    | 155 (6.10)   | 38.1 (1.5)    |
| 2"               | CL150           | 200 (7.87)   | 353 (13.89) | 105 (4.13)    | 152.4 (6.0)  | 51.1 (2.01)   |
|                  | CL300           | 200 (7.87)   | 353 (13.89) | 105 (4.13)    | 165 (6.5)    | 51.1 (2.01)   |
|                  | CL600           | 340 (13.58)  | 353 (13.89) | 176 (6.93)    | 165 (6.5)    | 49.2 (1.94)   |
| 3"               | CL150           | 300 (11.81)  | 356 (14.01) | 159 (6.26)    | 190.5 (7.5)  | 82.6 (3.25)   |
|                  | CL300           | 300 (11.81)  | 356 (14.01) | 159 (6.26)    | 210 (8.27)   | 82.6 (3.25)   |
|                  | CL600           | 460 (18.11)  | 356 (14.01) | 243 (9.57)    | 210 (8.27)   | 73.7 (2.90)   |
| 4"               | CL150           | 350 (13.78)  | 360 (14.17) | 188 (7.4)     | 230 (9.06)   | 101.1 (3.98)  |
|                  | CL300           | 350 (13.78)  | 360 (14.17) | 188 (7.4)     | 255 (10.04)  | 101.1 (3.98)  |
|                  | CL600           | 545 (21.46)  | 360 (14.17) | 287.5 (11.32) | 273 (10.75)  | 97.2 (3.82)   |
| 6"               | CL150           | 480 (18.9)   | 384 (15.12) | 330 (12.99)   | 280 (11.02)  | 150.1 (5.91)  |
|                  | CL300           | 480 (18.9)   | 384 (15.12) | 330 (12.99)   | 320 (12.60)  | 150.1 (5.91)  |
|                  | CL600           | 710 (27.95)  | 384 (15.12) | 438.5 (17.26) | 355 (13.98)  | 146.4 (5.76)  |
| 8"               | CL150           | 600 (23.62)  | 404 (15.90) | 438.5 (17.26) | 343 (13.5)   | 203.1 (8.0)   |
|                  | CL300           | 600 (23.62)  | 404 (15.90) | 438.5 (17.26) | 381 (15.0)   | 203.1 (8.0)   |
| 12"              | CL150           | 1000 (39.37) | 450 (17.71) | 662 (26.1)    | 485 (19.09)  | 309.7 (12.19) |
|                  | CL300           | 1000 (39.37) | 450 (17.71) | 662 (26.1)    | 520 (20.47)  | 309.7 (12.19) |
| 16"              | CL150           | 1274 (50.16) | 486 (19.13) | 841 (33.1)    | 595 (23.43)  | 390.4 (15.37) |
|                  | CL300           | 1274 (50.16) | 486 (19.13) | 841 (33.1)    | 650 (25.59)  | 390.4 (15.37) |

Tolerance for dimension L: DN 15 to 200 +0/-3 mm (+0/-0.12 in), DN 300 to 400 +0/-5 mm (+0/-0.20 in)

## Weights with ASME Flanges and cable length (approximate) in kg (lbs) and m (ft)

| Nominal diameter | Pressure rating | Weight (approximate)           |                |                 |                 |                 |                 |                 |                 |                 |                 |
|------------------|-----------------|--------------------------------|----------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|
|                  |                 | Integral                       |                | Remote          |                 |                 |                 |                 |                 |                 |                 |
|                  |                 | Stainless steel                | Aluminium      | Stainless steel |                 |                 |                 | Aluminium       |                 |                 |                 |
|                  |                 | Cable length shown in m (ft) Ø |                | 5<br>(16.4)     | 10<br>(32.8)    | 20<br>(65.6)    | 30<br>(98.4)    | 5<br>(16.4)     | 10<br>(32.8)    | 20<br>(65.6)    | 30<br>(98.4)    |
| ½"               | CL150           | 6.9<br>(15.2)                  | 5.3<br>(11.7)  | 12.4<br>(27.34) | 13.1<br>(28.88) | 14.5<br>(31.97) | 15.9<br>(35.05) | 9.2<br>(20.28)  | 9.9<br>(21.83)  | 11.3<br>(24.91) | 12.7<br>(28.00) |
|                  | CL300           | 7.3<br>(16.1)                  | 5.7<br>(12.6)  | 12.8<br>(28.22) | 13.5<br>(29.76) | 14.9<br>(32.85) | 16.3<br>(35.93) | 9.6<br>(21.16)  | 10.3<br>(22.71) | 11.7<br>(25.79) | 13.1<br>(28.88) |
|                  | CL600           | 6.7<br>(14.8)                  | 5.1<br>(11.2)  | 12.2<br>(26.90) | 12.9<br>(28.44) | 14.3<br>(31.53) | 15.7<br>(34.61) | 9.0<br>(19.84)  | 9.7<br>(21.38)  | 11.1<br>(24.47) | 12.5<br>(27.56) |
| ¾"               | CL150           | 7.2<br>(15.9)                  | 5.6<br>(12.3)  | 12.7<br>(28.00) | 13.4<br>(29.54) | 14.8<br>(32.63) | 16.2<br>(35.71) | 9.5<br>(20.94)  | 10.2<br>(22.49) | 11.6<br>(25.57) | 13.0<br>(28.66) |
|                  | CL300           | 8.2<br>(18.1)                  | 6.6<br>(14.6)  | 13.7<br>(30.20) | 14.4<br>(31.75) | 15.8<br>(34.83) | 17.2<br>(37.92) | 10.5<br>(23.15) | 11.2<br>(24.69) | 12.6<br>(27.78) | 14.0<br>(30.86) |
|                  | CL600           | 7.2<br>(15.9)                  | 5.6<br>(12.3)  | 12.7<br>(28.00) | 13.4<br>(29.54) | 14.8<br>(32.63) | 16.2<br>(35.71) | 9.5<br>(20.94)  | 10.2<br>(22.49) | 11.6<br>(25.57) | 13.0<br>(28.66) |
| 1"               | CL150           | 7.2<br>(15.9)                  | 5.6<br>(12.3)  | 12.7<br>(28.00) | 13.4<br>(29.54) | 14.8<br>(32.63) | 16.2<br>(35.71) | 9.5<br>(20.94)  | 10.2<br>(22.49) | 11.6<br>(25.57) | 13.0<br>(28.66) |
|                  | CL300           | 8.2<br>(18.1)                  | 6.6<br>(14.6)  | 13.7<br>(30.20) | 14.4<br>(31.75) | 15.8<br>(34.83) | 17.2<br>(37.92) | 10.5<br>(23.15) | 11.2<br>(24.69) | 12.6<br>(27.78) | 14.0<br>(30.86) |
|                  | CL600           | 7.7<br>(17)                    | 6.1<br>(13.4)  | 13.2<br>(29.10) | 13.9<br>(30.64) | 15.3<br>(33.73) | 16.7<br>(36.82) | 10.0<br>(22.05) | 10.7<br>(23.59) | 12.1<br>(26.68) | 13.5<br>(29.76) |
| 1¼"              | CL150           | 7.9<br>(17.4)                  | 6.3<br>(13.9)  | 10.5<br>(23.15) | 11.2<br>(24.69) | 12.6<br>(27.78) | 14.0<br>(30.86) | 8.9<br>(19.62)  | 9.6<br>(21.16)  | 11.0<br>(24.25) | 12.4<br>(27.34) |
|                  | CL300           | 9.2<br>(20.3)                  | 7.6<br>(16.8)  | 11.8<br>(26.01) | 12.5<br>(27.56) | 13.9<br>(30.64) | 15.3<br>(33.73) | 10.2<br>(22.49) | 10.9<br>(24.03) | 12.3<br>(27.12) | 13.7<br>(30.20) |
|                  | CL600           | 8.2<br>(18.1)                  | 6.6<br>(14.6)  | 13.7<br>(30.20) | 14.4<br>(31.75) | 15.8<br>(34.83) | 17.2<br>(37.92) | 10.5<br>(23.15) | 11.2<br>(24.69) | 12.6<br>(27.78) | 14.0<br>(30.86) |
| 1½"              | CL150           | 8.7<br>(19.2)                  | 7.1<br>(15.7)  | 11.3<br>(24.91) | 12.0<br>(26.46) | 13.4<br>(29.54) | 14.8<br>(32.63) | 9.7<br>(21.38)  | 10.4<br>(22.93) | 11.8<br>(26.01) | 13.2<br>(29.10) |
|                  | CL300           | 11.4<br>(25.1)                 | 9.8<br>(21.6)  | 14.0<br>(30.86) | 14.7<br>(32.41) | 16.1<br>(35.49) | 17.5<br>(38.58) | 12.4<br>(27.34) | 13.1<br>(28.88) | 14.5<br>(31.97) | 15.9<br>(35.05) |
|                  | CL600           | 11.9<br>(26.2)                 | 10.3<br>(22.7) | 17.4<br>(38.36) | 18.1<br>(39.90) | 19.5<br>(42.99) | 20.9<br>(46.08) | 14.2<br>(31.31) | 14.9<br>(32.85) | 16.3<br>(35.93) | 17.7<br>(39.02) |
| 2"               | CL150           | 10.6<br>(23.4)                 | 9<br>(19.8)    | 13.2<br>(29.10) | 13.9<br>(30.64) | 15.3<br>(33.73) | 16.7<br>(36.82) | 11.6<br>(25.57) | 12.3<br>(27.12) | 13.7<br>(30.20) | 15.1<br>(33.29) |
|                  | CL300           | 13.1<br>(28.9)                 | 11.5<br>(25.4) | 15.7<br>(34.61) | 16.4<br>(36.16) | 17.8<br>(39.24) | 19.2<br>(42.33) | 14.1<br>(31.08) | 14.8<br>(32.63) | 16.2<br>(35.71) | 17.6<br>(38.80) |
|                  | CL600           | 13.9<br>(30.6)                 | 12.3<br>(27.1) | 19.4<br>(42.77) | 20.1<br>(44.31) | 21.5<br>(47.40) | 22.9<br>(50.49) | 16.2<br>(35.71) | 16.9<br>(37.26) | 18.3<br>(40.34) | 19.7<br>(43.43) |
| 3"               | CL150           | 18.5<br>(40.8)                 | 16.9<br>(37.3) | 21.1<br>(46.52) | 21.8<br>(48.06) | 23.2<br>(51.15) | 24.6<br>(54.23) | 19.5<br>(42.99) | 20.2<br>(44.53) | 21.6<br>(47.62) | 23.0<br>(50.71) |
|                  | CL300           | 24<br>(52.9)                   | 22.4<br>(49.4) | 26.6<br>(58.64) | 27.3<br>(60.19) | 28.7<br>(63.27) | 30.1<br>(66.36) | 25.0<br>(55.12) | 25.7<br>(56.66) | 27.1<br>(59.74) | 28.5<br>(62.83) |
|                  | CL600           | 22.6<br>(49.8)                 | 21<br>(46.3)   | 28.1<br>(61.95) | 28.8<br>(63.49) | 30.2<br>(66.58) | 31.6<br>(69.67) | 24.9<br>(54.89) | 25.6<br>(56.44) | 27.0<br>(59.52) | 28.4<br>(62.61) |

Weights continued on next page

## Weights with ASME Flanges and cable length (approximate) in kg (lbs) and m (ft) (continued)

| Nominal diameter | Pressure rating | Weight (Approx)                |                 |                   |                   |                   |                   |                   |                   |                   |                   |
|------------------|-----------------|--------------------------------|-----------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|
|                  |                 | Integral                       |                 | Remote            |                   |                   |                   |                   |                   |                   |                   |
|                  |                 | Stainless steel                | Aluminium       | Stainless steel   |                   |                   |                   | Aluminium         |                   |                   |                   |
|                  |                 | Cable length shown in m (ft) Ø |                 | 5<br>(16.4)       | 10<br>(32.8)      | 20<br>(65.6)      | 30<br>(98.4)      | 5<br>(16.4)       | 10<br>(32.8)      | 20<br>(65.6)      | 30<br>(98.4)      |
| 4"               | CL150           | 25<br>(55.1)                   | 23.4<br>(51.6)  | 27.6<br>(60.85)   | 28.3<br>(62.39)   | 29.7<br>(65.48)   | 31.1<br>(68.56)   | 26.0<br>(57.32)   | 26.7<br>(58.86)   | 28.1<br>(61.95)   | 29.5<br>(65.04)   |
|                  | CL300           | 38<br>(83.8)                   | 36.4<br>(80.2)  | 40.6<br>(89.51)   | 41.3<br>(91.05)   | 42.7<br>(94.14)   | 44.1<br>(97.22)   | 39.0<br>(85.98)   | 39.7<br>(87.52)   | 41.1<br>(90.61)   | 42.5<br>(93.70)   |
|                  | CL600           | 36.2<br>(79.8)                 | 34.6<br>(76.3)  | 41.7<br>(91.93)   | 42.4<br>(93.48)   | 43.8<br>(96.56)   | 45.2<br>(99.65)   | 38.5<br>(84.88)   | 39.2<br>(86.42)   | 40.6<br>(89.51)   | 42.0<br>(92.59)   |
| 6"               | CL150           | 42.5<br>(93.7)                 | 40.9<br>(90.2)  | 45.1<br>(99.43)   | 45.8<br>(100.97)  | 47.2<br>(104.06)  | 48.6<br>(107.14)  | 43.0<br>(94.80)   | 43.7<br>(96.34)   | 45.1<br>(99.43)   | 46.5<br>(102.51)  |
|                  | CL300           | 66<br>(145.5)                  | 64.4<br>(142)   | 68.6<br>(151.24)  | 69.3<br>(152.78)  | 70.7<br>(155.87)  | 72.1<br>(158.95)  | 67.0<br>(147.71)  | 67.6<br>(149.03)  | 69.1<br>(152.34)  | 70.5<br>(155.42)  |
|                  | CL600           | 78.3<br>(172.6)                | 76.7<br>(169.1) | 83.8<br>(184.75)  | 84.5<br>(186.29)  | 85.9<br>(189.38)  | 87.3<br>(192.46)  | 80.6<br>(177.69)  | 81.3<br>(179.23)  | 82.7<br>(182.32)  | 84.1<br>(185.41)  |
| 8"               | CL150           | 47.4<br>(104.5)                | 45.8<br>(101)   | 50.0<br>(110.23)  | 50.7<br>(111.77)  | 52.1<br>(114.86)  | 53.5<br>(117.95)  | 48.4<br>(106.70)  | 49.1<br>(108.25)  | 50.5<br>(111.33)  | 51.9<br>(114.42)  |
|                  | CL300           | 77.4<br>(170.6)                | 75.8<br>(167.1) | 80.0<br>(176.37)  | 80.7<br>(177.91)  | 82.1<br>(181.00)  | 83.5<br>(184.08)  | 78.4<br>(172.84)  | 79.1<br>(174.38)  | 80.5<br>(177.47)  | 81.9<br>(180.56)  |
| 12"              | CL150           | 184.4<br>(406.5)               | 182.8<br>(403)  | 187.0<br>(412.26) | 187.7<br>(413.80) | 189.1<br>(416.89) | 190.5<br>(419.98) | 185.4<br>(408.73) | 186.1<br>(410.28) | 187.5<br>(413.36) | 188.9<br>(416.45) |
|                  | CL300           | 195<br>(429.9)                 | 197<br>(434.3)  | 197.6<br>(435.63) | 198.3<br>(437.17) | 199.7<br>(440.26) | 201.1<br>(443.35) | 199.6<br>(440.04) | 200.3<br>(441.58) | 201.7<br>(444.67) | 203.1<br>(447.75) |
| 16"              | CL150           | 262.4<br>(578.5)               | 260.8<br>(575)  | 265.0<br>(584.22) | 265.7<br>(585.76) | 267.1<br>(588.85) | 268.5<br>(591.94) | 263.4<br>(580.69) | 264.1<br>(582.23) | 265.5<br>(585.32) | 266.9<br>(588.41) |
|                  | CL300           | 280<br>(617.3)                 | 282<br>(621.7)  | 282.6<br>(623.02) | 283.3<br>(624.56) | 284.7<br>(627.65) | 286.1<br>(630.74) | 284.6<br>(627.43) | 285.3<br>(628.97) | 286.7<br>(632.06) | 288.1<br>(635.15) |

Tolerance for dimension L: DN 15 to 200 +0/-3 mm (+0/-0.12 in), DN 300 to 400 +0/-5 mm (+0/-0.20 in)

## How to order

### Selection:

| Category                                                  | Description                                                                                                                    | Suffix code | Example        |
|-----------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------|-------------|----------------|
| <b>Base code</b>                                          | In-line multivariable mass flowmeter with integrated binary output, temperature compensation, and flow computer functionality. | SLM30-E     | <b>SLM30-E</b> |
| <b>Explosion Protection Certification</b>                 | None (Safe area)                                                                                                               | Y0          | <b>Y0</b>      |
| <b>System design</b>                                      | Integral Transmitter.                                                                                                          | C1          | <b>C1</b>      |
|                                                           | Remote mount transmitter - 5 m (16") signal cable supplied.                                                                    | R1          |                |
| <b>Process connection type</b>                            | Flange/DN15 (½")/DN15 (½")                                                                                                     | F015R0      | <b>F050R0</b>  |
|                                                           | Flange/DN20 (¾")/DN20 (¾")                                                                                                     | F020R0      |                |
|                                                           | Flange/DN25 (1")/DN25 (1")                                                                                                     | F025R0      |                |
|                                                           | Flange/DN32 (1¼")/DN32 (1¼")                                                                                                   | F032R0      |                |
|                                                           | Flange/DN40 (1¼")/DN40 (1¼")                                                                                                   | F040R0      |                |
|                                                           | Flange/DN50 (2")/DN50 (2")                                                                                                     | F050R0      |                |
|                                                           | Flange/DN80 (3")/DN80 (3")                                                                                                     | F080R0      |                |
|                                                           | Flange/DN100 (4")/DN100 (4")                                                                                                   | F100R0      |                |
|                                                           | Flange/DN150 (6")/DN150 (6")                                                                                                   | F150R0      |                |
|                                                           | Flange/DN200 (8")/DN200 (8")                                                                                                   | F200R0      |                |
|                                                           | Flange/DN300 (12")/DN300 (12")                                                                                                 | F300R0      |                |
|                                                           | Flange/DN400 (16")/DN400 (16")                                                                                                 | F400R0      |                |
| <b>Pressure range <sup>5</sup></b>                        | PN16                                                                                                                           | D2          | <b>D4</b>      |
|                                                           | PN40                                                                                                                           | D4          |                |
|                                                           | PN63                                                                                                                           | D5          |                |
|                                                           | PN100                                                                                                                          | D6          |                |
|                                                           | ASME Class 150                                                                                                                 | A1          |                |
|                                                           | ASME Class 300                                                                                                                 | A3          |                |
|                                                           | ASME Class 600                                                                                                                 | A6          |                |
| <b>Temperature range of measuring medium <sup>6</sup></b> | Standard -55 °C up to +280 °C (-67 °F up to +536 °F)                                                                           | A1          | <b>A1</b>      |
| <b>Housing material/ Cable gland threads</b>              | Aluminium/Metric M20 × 1.5 (2 places), cable glands mounted                                                                    | A1          | <b>A1</b>      |
|                                                           | Aluminium/½ inch NPT (2 places), cable glands not included.                                                                    | B1          |                |
|                                                           | Stainless steel/Metric M20 × 1.5 (2 places), cable glands mounted                                                              | S1          |                |
|                                                           | Stainless steel/½ inch NPT (2 places), cable glands not included                                                               | T1          |                |

#### Notes:

<sup>5</sup> PN16 only available with Process Connection Type/Meter Size/Connection Size code F100R0, F150R0, F200R0, F300R0, F400R0, PN63, PN100, CL600 not available with Process Connection Type/Meter Size/Connection Size code F300R0, F400R0

<sup>6</sup> Maximum temperature +280°C is for graphite gasket only, reduced to +260°C when PTFE gasket is fitted

'How to order' continued on next page

## How to order (continued)

### Selection:

| Category                                                   | Description                                                                                                                                                                  | Suffix Code | Example |
|------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------|---------|
| Output signal                                              | HART Digital Communication, 4 to 20 mA and digital contact output                                                                                                            | H5          | H5      |
|                                                            | MODBUS Communication with digital contact output                                                                                                                             | M4          |         |
|                                                            | Ethernet APL                                                                                                                                                                 | A1          |         |
| Integrated digital display (LCD)                           | Display and Glass cover                                                                                                                                                      | L1          | L1      |
|                                                            | Integrated Smart HMI incl. Bluetooth and backlight option <sup>7</sup>                                                                                                       | LE          |         |
| Piezo sensor sealing material                              | PTFE - Suitable for -55 °C to +260 °C (-4 °F to +500 °F)                                                                                                                     | SP0         | SP0     |
|                                                            | Graphite - Suitable for -55 °C to +280 °C (-67 °F to 536 °F)                                                                                                                 | SP2         |         |
| Ambient temperature range <sup>8</sup>                     | Extended -40 °C to +85 °C (-40 °F to 185 °F)                                                                                                                                 | TA4         |         |
| Signal cable length (remote mount transmitter models only) | 10m (32' Approx)                                                                                                                                                             | SC2         |         |
|                                                            | 20m (64' Approx)                                                                                                                                                             | SC4         |         |
|                                                            | 30m (96' Approx)                                                                                                                                                             | SC6         |         |
| Calibration type <sup>9</sup>                              | 5 Point Calibration                                                                                                                                                          | R5          | R5      |
| Certification                                              | Material monitoring with inspection certificate 3.1 acc. EN 10204                                                                                                            | C2          | C2      |
|                                                            | Material monitoring NACE MR 01-75 with inspection certificate 3.1 acc. EN 10204                                                                                              | CN          |         |
|                                                            | Declaration of compliance with the order 2.1 acc. EN 10204                                                                                                                   | C4          |         |
|                                                            | Inspection certificate 3.1 acc. EN 10204 of visual, dimensional and functional test                                                                                          | C6          |         |
|                                                            | Inspection certificate 3.1 acc. EN 10204 of positive material identification PMI with material analysis                                                                      | C5          |         |
|                                                            | Inspection certificate 3.1 acc. EN 10204 of positive material identification PMI                                                                                             | CA          |         |
|                                                            | Pressure test acc. to factory test plan                                                                                                                                      | CB          |         |
|                                                            | Test package (pressure test, non-destructive test, welder an welding procedure certificate) only sizes DN200, DN300 and DN400                                                | CT          |         |
| Pressure Equipment Directive                               | DN15-DN150: PED compliant, via SEP or Category III (CE marked).<br>Code CP is mandatory<br>D200-DN400 available with or without PED compliance.<br>Code CP is not mandatory. | CP          | CP      |
| Documentation language                                     | English                                                                                                                                                                      | M5          | M5      |
| Ethernet APL communication protocol                        | Integrated Webserver, Mandatory for Ethernet APL Output Signal'                                                                                                              | MGW         |         |
| Configuration/ Type                                        | Parameters set customer specific (standard): A calculation using the Product Selection Assistant tool is required with each order                                            | NCC         | NCC     |
| Hardware options                                           | Integral RTD temperature measurement (standard)                                                                                                                              | G1          | G1      |
|                                                            | Increased EMC protection (only available with HART, Output Signal option H5)                                                                                                 | G4          |         |
| Operation mode                                             | Energy Flow                                                                                                                                                                  | N1          | N1      |

#### Notes:

<sup>7</sup> LE: Compulsory for Ethernet APL output signal, optional for HART versions. MODBUS versions use 'L1', HMI only

<sup>8</sup> Standard temperature range is -20°C to 85°C. Reduced to 80°C for remote mount transmitter.

<sup>9</sup> 3 point calibration as standard.

#### How to order example:

1 off Spirax Sarco SLM30-E.Y0.C1.F050R0.D4.A1.A1.H5.L1.SP0.C2.M5.NCC.G1 in-line swirl flowmeter for installation between EN 1092 PN40 flanges.