

VersaFlow Mag 3000 Electromagnetic Flow Sensor Technical Datasheet

34-VF-03-23
August 27th, 2008

Specification

Sanitary and hygienic solution

The VersaFlow Mag 3000 is the electromagnetic flow sensor for the food and beverage industry. The 3000 sensor is manufactured in conformance to FDA requirements and has all requested (needed) approvals available. As an add on, a EHEDG approval is available and documents the hygienic design and the clean ability of the device.

Together with the converters TWM 9000 or TWM 1000, the meter can be used for mixing and dosing applications. It offers also a special measuring mode for pulsating flow. Even for products with low conductivity e. g. glucose or high concentrated fruit concentrate the VersaFlow Mag 3000 is the first choice.

Due to the fact that the industrial production of beer, water and milk increases rapidly, the produced volume gets larger and larger pipe sizes are needed. The VersaFlow Mag 3000 is the only hygienic electro magnetic flow meter with a pipe size of DN150 / 6" (where the hygienic standards list such a size).

Highlights

- Developed in cooperation with customers from the food industry
- Stainless steel design for hygienic and aseptic operation
- Unique gasket concept prevents gasket from expanding into measuring tube
- Suitable for all CIP and SIP processes
- All industry-specific connectors and lengths
- High form stability and vacuum resistance

Industries

- Food & Beverages
- Pharmaceuticals
- Cosmetics

Applications

- For aseptic and hygienic applications
- Mixing, dosing and filling
- For pulsating flow

Figure 1 – VersaFlow Electromagnetic Flow Sensor

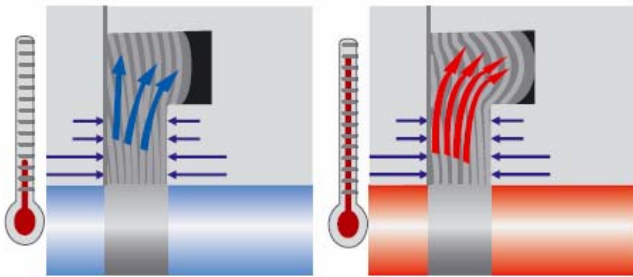


Features and Benefits



Stainless Steel Mesh

The reinforced PFA liner makes sure that the VersaFlow Mag 3000 keep its form stable. Even at high temperatures and very low pressure or vacuum the liner does not collapse and keeps its size. This is one reason why the meter is extremely accurate.



Unique Gasket Adapter Concept

With support of the TNO, a member of the European EHEDG organization, the sealing concept of the stainless steel adapters has been redesigned. A novel gasket concept prevents the gasket from expanding into the measuring tube. During the CIP/ SIP cleaning procedure, the gasket expands into the special constructed "expansion chamber" and not into the pipe section. This leads to a sharp sealing at the edge of the pipe line and a perfect transition into the measuring section. Additionally the gasket experiences less stress which results in a longer life time and reduced maintenance.

Stainless Steel converter housing

A regular cleaning procedure from outside, where aggressive cleaning agents are used, can attack the standard polyurethane coat of the converter. In these cases the cast stainless steel housing is recommended.



EHEDG and 3A approved

The VersaFlow Mag3000 is approved from EHEDG and 3A. The hygienic design of the meter and the cleanability of the equipment was tested. Such tests identify weak points in the hygienic design, including places where product residues may rest or where microbes may grow out during production time.

Technical Data

| Nominal diameter | | | | | | | | | | | | | |
|------------------|-------|------|------|------|------|----|--------|----|--------|----|-----|-----|-----|
| [inch] | 1/10" | 1/8" | 1/4" | 3/8" | 1/2" | 1" | 1 1/2" | 2" | 2 1/2" | 3" | 4" | 5" | 6" |
| [mm] | 2.5 | 4 | 6 | 10 | 15 | 25 | 40 | 50 | 65 | 80 | 100 | 125 | 150 |

Measuring system

| Versions | | | | | | | | | | | | | |
|---------------------------|----------|--|--|--|--|--|--|--|--|--|--|--|--|
| Compact +TWM 9000 C | | | | | | | | | | | | | |
| Remote + TWM 9000 F, R, W | | | | | | | | | | | | | |
| Compact +TWM 1000 C | | | | | | | | | | | | | |
| Remote + TWM 1000 W | | | | | | | | | | | | | |
| Inlet | Min. 5DN | | | | | | | | | | | | |
| Outlet | Min. 2DN | | | | | | | | | | | | |

Operating conditions

| Ambient temperature | |
|-------------------------|--|
| Separate slow sensor | -40... +65 °C / -40... +150 °F |
| Compact version | -40... +65 °C / -40... +150 °F |
| Process temperature | |
| Separate slow sensor | -40... +180 °C / -40... +355 °F |
| Compact version | TWM 9000: -40... +140 °C / -40... +285 °F TWM 1000: -40... +120 °C / -40... +250 °F |
| Vacuum load | |
| 0 mbar / 0 psi absolute | |
| Conductivity | |
| Non-water | ≥ 5 μS/cm |
| Water | ≥ 20 μ S/cm |

Materials

| Measuring tube | | | | | | | | | | | | | |
|------------------------------------|----------------------------------|--|--|--|--|--|--|--|--|--|--|--|--|
| Stainless steel 1.4301 (AISI 304) | | | | | | | | | | | | | |
| Housing | | | | | | | | | | | | | |
| Stainless steel 1.4462 (Duplex) | | | | | | | | | | | | | |
| Stainless steel 1.4301 (AISI 304) | | | | | | | | | | | | | |
| Connection box (F-versions only) | | | | | | | | | | | | | |
| Aluminum, polyurethane coated | | | | | | | | | | | | | |
| Stainless steel 1.4408 (AISI) | | | | | | | | | | | | | |
| Adapters | | | | | | | | | | | | | |
| Stainless steel 1.4404 (AISI 316L) | | | | | | | | | | | | | |
| | Note: other materials on request | | | | | | | | | | | | |

| Nominal diameter | | | | | | | | | | | | | |
|------------------|-------|------|------|------|------|----|--------|----|--------|----|-----|-----|-----|
| [inch] | 1/10" | 1/8" | 1/4" | 3/8" | 1/2" | 1" | 1 1/2" | 2" | 2 1/2" | 3" | 4" | 5" | 6" |
| [mm] | 2.5 | 4 | 6 | 10 | 15 | 25 | 40 | 50 | 65 | 80 | 100 | 125 | 150 |

| Liner | | | | | | | | | | | | | |
|---|--|--|--|--|--|--|--|--|--|--|--|--|--|
| PFA (FDA conform) | | | | | | | | | | | | | |
| Electrodes | | | | | | | | | | | | | |
| Hastelloy C4 | | | | | | | | | | | | | |
| Hastelloy B2 | | | | | | | | | | | | | |
| Platinum | | | | | | | | | | | | | |
| Stainless steel 1.4404 (AISI 316 L) | | | | | | | | | | | | | |
| Stainless steel 1.4571 (AISI 316 Ti) | | | | | | | | | | | | | |
| Tantalum | | | | | | | | | | | | | |
| Titanium | | | | | | | | | | | | | |
| Gaskets | | | | | | | | | | | | | |
| EPDM | | | | | | | | | | | | | |
| Silicone (non-Ex only) | | | | | | | | | | | | | |
| Note: FDA recommends EPDM gaskets only if product < 8% fat. | | | | | | | | | | | | | |

Process connections

| | | | | | | | | | | | | | |
|---|--|--|--|--|--|--|--|--|--|--|--|--|--|
| DIN 11850 row 2 / 11866 row A | | | | | | | | | | | | | |
| DIN 11851 | | | | | | | | | | | | | |
| DIN 11864-2a flange with notch | | | | | | | | | | | | | |
| DIN 32676 | | | | | | | | | | | | | |
| ISO 2037 | | | | | | | | | | | | | |
| ISO 2852 | | | | | | | | | | | | | |
| ISO 2853 | | | | | | | | | | | | | |
| SMS 1145 | | | | | | | | | | | | | |
| TRI CLOVER | | | | | | | | | | | | | |
| Note: DN2.5... 6 (1/10... 1/4") have DN10 (3/8") connections. | | | | | | | | | | | | | |

Dimensions and Weights

| Nominal diameter | | | | | | | | | | | | | |
|------------------|-------|------|------|------|------|----|--------|----|--------|----|-----|-----|-----|
| [inch] | 1/10" | 1/8" | 1/4" | 3/8" | 1/2" | 1" | 1 1/2" | 2" | 2 1/2" | 3" | 4" | 5" | 6" |
| [mm] | 2.5 | 4 | 6 | 10 | 15 | 25 | 40 | 50 | 65 | 80 | 100 | 125 | 150 |

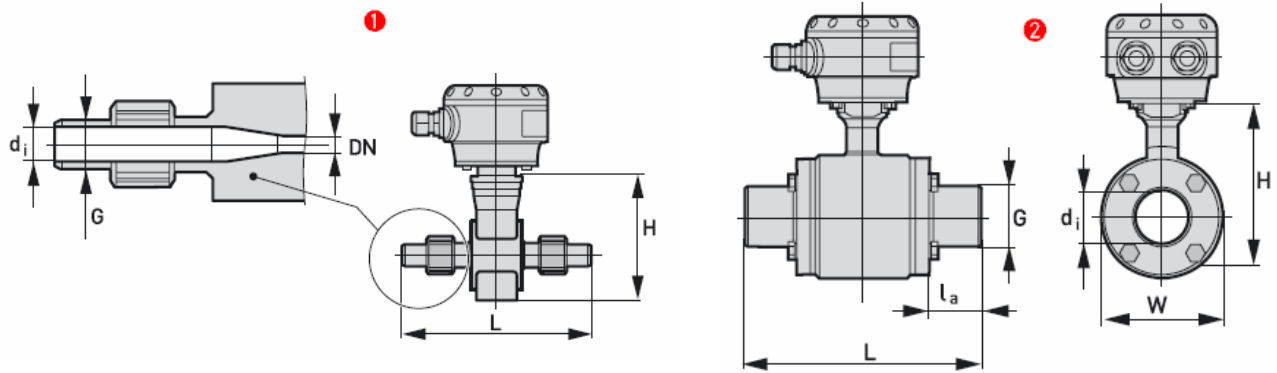
Approvals

| | | | | | | | | | | | | | |
|-----------------------------|--|--|--|--|--|--|--|--|--|--|--|--|--|
| 3A | | | | | | | | | | | | | |
| EHEDG | | | | | | | | | | | | | |
| Non-Ex | | | | | | | | | | | | | |
| EEx zone 1/2 | | | | | | | | | | | | | |
| FM – class I div.2 | | | | | | | | | | | | | |
| CSA – GP / class I div.2 | | | | | | | | | | | | | |
| SAA – Aus Ex zone 1/2 | | | | | | | | | | | | | |
| TIIS – zone 1/2 | | | | | | | | | | | | | |
| Protection category | | | | | | | | | | | | | |
| IP66 / 67 eq. NEMA 4/4X / 6 | | | | | | | | | | | | | |
| IP68 field eq. NEMA 6P | | | | | | | | | | | | | |
| IP68 factory eq. NEMA 6P | | | | | | | | | | | | | |

standard
 optional
 on request

Dimensions and Weights

DIN 11850 (row 2 or DIN 11866 row A)

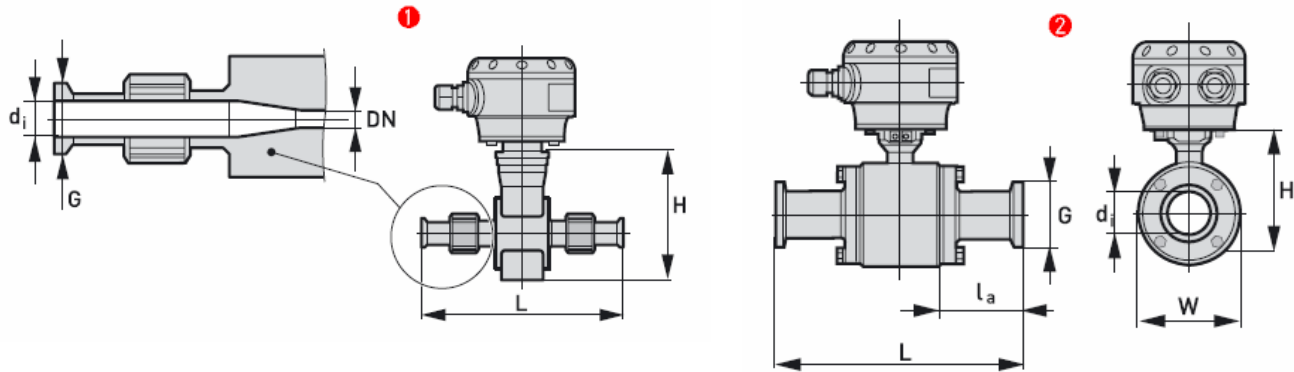


- (1) DN2.5...10 screwed adapter with DN10 process connections / DN15 screwed adapter
 (2) DN25...150 bolted adapter

| Nominal size | | Dimensions [mm] | | | | | | Approx. weight | |
|--------------|----|-----------------|-----|-------|-----------|-----|-----|----------------|-------|
| | | Adapter | | | Flowmeter | | | | |
| DN | PN | d_i | G | l_a | L | H | W | [kg] | (lbs) |
| 2.5 | 40 | 10 | 13 | 32 | 180 | 142 | 44 | 1.5 | 3.3 |
| 4 | 40 | 10 | 13 | 32 | 180 | 142 | 44 | 1.5 | 3.3 |
| 6 | 40 | 10 | 13 | 32 | 180 | 142 | 44 | 1.5 | 3.3 |
| 10 | 40 | 10 | 13 | 32 | 180 | 142 | 44 | 1.5 | 3.3 |
| 15 | 40 | 16 | 19 | 32 | 180 | 142 | 44 | 1.5 | 3.3 |
| 25 | 40 | 26 | 29 | 20.6 | 132.6 | 128 | 89 | 3 | 6.6 |
| 40 | 40 | 38 | 41 | 61.3 | 220 | 153 | 114 | 5.3 | 11.7 |
| 50 | 25 | 50 | 53 | 61.3 | 220 | 153 | 114 | 6.8 | 15 |
| 65 | 25 | 66 | 70 | 41.8 | 220 | 180 | 414 | 10.9 | 24 |
| 80 | 25 | 81 | 85 | 66.8 | 280 | 191 | 152 | 11.2 | 24.7 |
| 100 | 16 | 100 | 104 | 59.3 | 280 | 242 | 203 | 18.4 | 40.6 |
| 125 | 10 | 125 | 129 | 66.3 | 319 | 258 | 219 | 29.5 | 65.0 |
| 150 | 10 | 150 | 154 | 64.3 | 325 | 293 | 254 | 44.3 | 97.7 |

Dimensions and Weights

DIN 11851

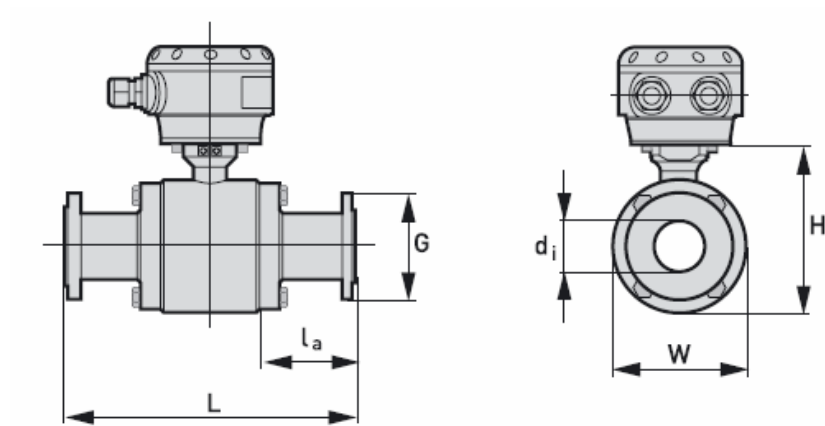


- (1) DN2.5...10 screwed adapter with DN10 process connections / DN15 screwed adapter
 (2) DN25...150 bolted adapter

| Nominal size | | Dimensions [mm] | | | | | | Approx. weight | |
|--------------|----|-----------------|--------------|----------------|-----------|-----|-----|----------------|-------|
| | | Adapter | | | Flowmeter | | | | |
| DN | PN | d _i | G | l _a | L | H | W | [kg] | (lbs) |
| 2.5 | 40 | 10 | Rd 28 x 1/8" | 53.1 | 214 | 142 | 44 | 1.5 | 3.3 |
| 4 | 40 | 10 | Rd 28 x 1/8 | 53.1 | 214 | 142 | 44 | 1.5 | 3.3 |
| 6 | 40 | 10 | Rd 28 x 1/8 | 53.1 | 214 | 142 | 44 | 1.5 | 3.3 |
| 10 | 40 | 10 | Rd 28 x 1/8 | 53.1 | 214 | 142 | 44 | 1.5 | 3.3 |
| 15 | 40 | 16 | Rd 34 x 1/8 | 53.1 | 214 | 142 | 44 | 1.5 | 3.3 |
| 25 | 40 | 26 | Rd 52 x 1/6 | 49.3 | 190 | 128 | 89 | 3.2 | 7.1 |
| 40 | 40 | 38 | Rd 65 x 1/6 | 91.3 | 280 | 153 | 114 | 5.5 | 12.1 |
| 50 | 25 | 50 | Rd 78 x 1/6 | 93.3 | 284 | 153 | 114 | 5.3 | 11.7 |
| 65 | 25 | 66 | Rd 95 x 1/6 | 77.8 | 292 | 180 | 414 | 10 | 22.1 |
| 80 | 25 | 81 | Rd 110 x 1/4 | 107.8 | 362 | 191 | 152 | 12.5 | 27.6 |
| 100 | 16 | 100 | Rd 130 x 1/4 | 109.3 | 380 | 242 | 203 | 21.8 | 48.1 |
| 125 | 10 | On request | | | | | | | |
| 150 | 10 | | | | | | | | |

Dimensions and Weights

DIN 11864-2A



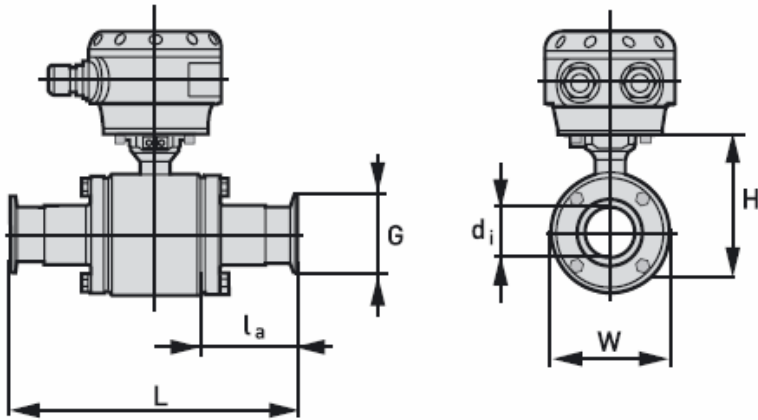
| Nominal size | | Dimensions [mm] | | | | | | Approx. weight | |
|--------------|----|-----------------|-----|-------|-----------|-----|-----|----------------|-------|
| | | Adapter | | | Flowmeter | | | | |
| DN | PN | d_i | G | l_a | L | H | W | [kg] | (lbs) |
| 25 | 40 | 26 | 70 | 45.8 | 183 | 128 | 89 | 4.4 | 9.7 |
| 40 | 40 | 38 | 82 | 83.3 | 264 | 153 | 114 | 7.5 | 16.5 |
| 50 | 25 | 50 | 94 | 83.3 | 264 | 153 | 114 | 9 | 19.8 |
| 65 | 25 | 66 | 113 | 63.8 | 264 | 180 | 141 | 14.5 | 32 |
| 80 | 25 | 81 | 133 | 122.8 | 392 | 191 | 152 | 18.6 | 41 |
| 100 | 16 | 100 | 159 | 115.3 | 392 | 242 | 203 | 28.2 | 62.2 |
| 125 | 10 | On request | | | | | | | |
| 150 | 10 | | | | | | | | |

Note:

Meter supplied with flange with notch

Dimensions and Weights

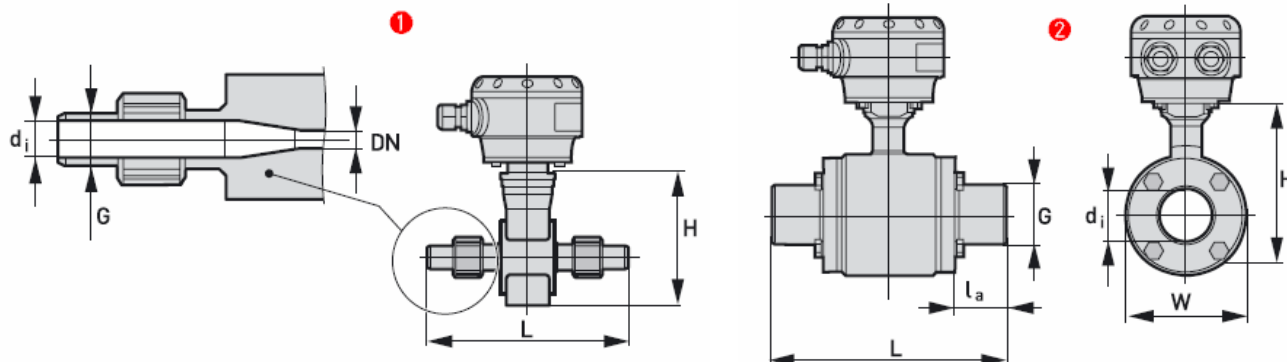
DIN 32676



| Nominal size | | Dimensions [mm] | | | | | | Approx. weight | |
|--------------|----|-----------------|------|-------|-----------|-----|-----|----------------|-------|
| | | Adapter | | | Flowmeter | | | | |
| DN | PN | d_i | G | l_a | L | H | W | [kg] | (lbs) |
| 25 | 16 | 26 | 50.5 | 41.8 | 190 | 128 | 89 | 3.2 | 7.1 |
| 40 | 16 | 38 | 50.5 | 80.8 | 280 | 153 | 114 | 5.5 | 12.1 |
| 50 | 16 | 50 | 64 | 80.8 | 284 | 153 | 114 | 5.3 | 11.7 |
| 65 | 16 | 66 | 91 | 67.8 | 292 | 180 | 141 | 10 | 22.1 |
| 80 | 16 | 81 | 106 | 92.8 | 362 | 191 | 152 | 12.5 | 27.6 |
| 100 | 16 | 100 | 119 | 85.3 | 380 | 242 | 203 | 21.8 | 48.1 |

Dimensions and Weights

ISO 2037

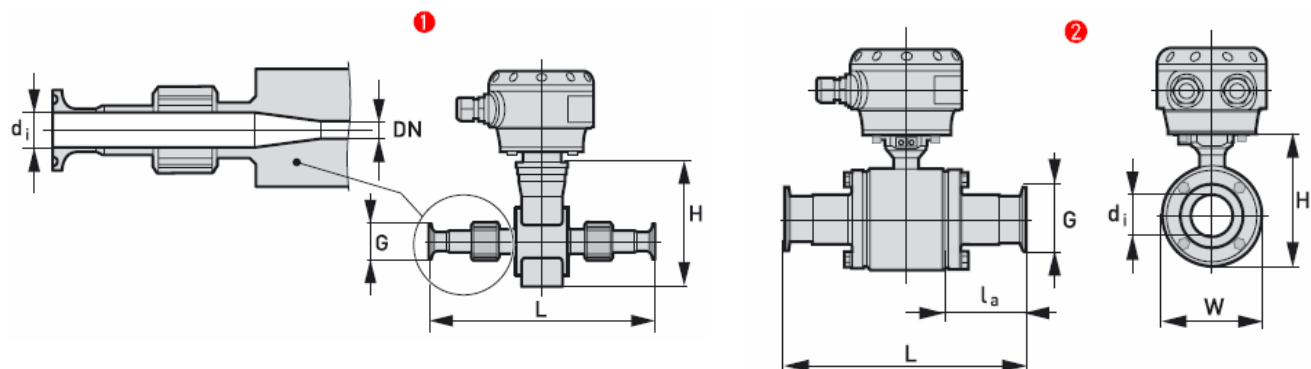


- (1) DN2.5...10 screwed adapter with DN10 process connections / DN17.2 screwed adapter
 (2) DN25...150 bolted adapter

| Nominal size | | Dimensions [mm] | | | | | | Approx. weight | |
|--------------|----|-----------------|-------|----------------|-----------|-----|-----|----------------|-------|
| | | Adapter | | | Flowmeter | | | | |
| DN | PN | d _i | G | l _a | L | H | W | [kg] | (lbs) |
| 2.5 | 40 | 10 | 12 | 32 | 180 | 142 | 44 | 1.5 | 3.3 |
| 4 | 40 | 10 | 12 | 32 | 180 | 142 | 44 | 1.5 | 3.3 |
| 6 | 40 | 10 | 12 | 32 | 180 | 142 | 44 | 1.5 | 3.3 |
| 12 | 40 | 10 | 12 | 32 | 180 | 142 | 44 | 1.5 | 3.3 |
| 17.2 | 40 | 16 | 17.2 | 32 | 180 | 142 | 44 | 1.5 | 3.3 |
| 25 | 40 | 22.6 | 25 | 20.6 | 132.6 | 128 | 89 | 3 | 6.6 |
| 38 | 40 | 38 | 38 | 61.3 | 220 | 153 | 114 | 5.3 | 11.7 |
| 51 | 25 | 49 | 51 | 61.3 | 220 | 153 | 114 | 5 | 11 |
| 63.5 | 25 | 60.3 | 63.5 | 41.8 | 220 | 180 | 414 | 9 | 19.8 |
| 76.1 | 25 | 72.9 | 76.1 | 66.8 | 280 | 191 | 152 | 10.8 | 23.8 |
| 101.6 | 16 | 97.6 | 101.6 | 59.3 | 280 | 242 | 203 | 18.4 | 40.6 |
| 114.3 | 10 | 110.3 | 114.3 | 66.3 | 319 | 258 | 219 | 29.5 | 65.0 |
| 139.3 | 10 | 135.7 | 139.3 | 64.3 | 325 | 293 | 254 | 44.3 | 97.7 |

Dimensions and Weights

ISO 2852

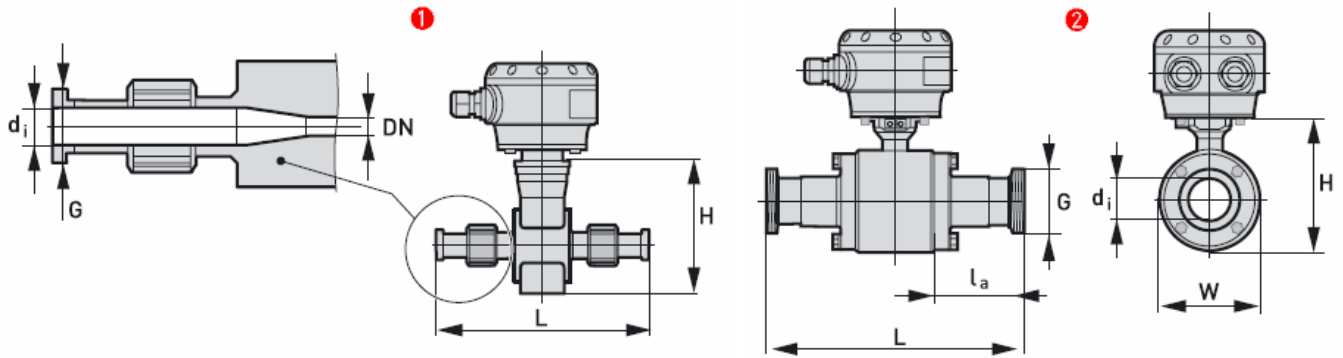


- (1) DN2.5...10 screwed adapter with DN10 process connections / DN17.2 screwed adapter
(2) DN25...150 bolted adapter

| Nominal size | | Dimensions [mm] | | | | | | Approx. weight | |
|--------------|----|-----------------|------|----------------|-----------|-----|-----|----------------|-------|
| | | Adapter | | | Flowmeter | | | | |
| DN | PN | d _i | G | l _a | L | H | W | [kg] | (lbs) |
| 2.5 | 16 | 10 | 34 | 51.6 | 219 | 142 | 44 | 1.8 | 4.0 |
| 4 | 16 | 10 | 34 | 51.6 | 219 | 142 | 44 | 1.8 | 4.0 |
| 6 | 16 | 10 | 34 | 51.6 | 219 | 142 | 44 | 1.8 | 4.0 |
| 12 | 16 | 10 | 34 | 51.6 | 219 | 142 | 44 | 1.8 | 4.0 |
| 17.2 | 16 | 16 | 34 | 51.6 | 219 | 142 | 44 | 1.8 | 4.0 |
| 25 | 16 | 22.6 | 50.5 | 41.8 | 175 | 128 | 89 | 3.3 | 7.3 |
| 38 | 16 | 35.6 | 50.5 | 87.8 | 273 | 153 | 114 | 5.4 | 11.9 |
| 50 | 16 | 48.6 | 64 | 87.8 | 273 | 153 | 114 | 5.2 | 11.5 |
| 63.5 | 10 | 60.3 | 77.5 | 68.3 | 273 | 180 | 141 | 9.5 | 20.9 |
| 71.1 | 10 | 72.9 | 91 | 93.3 | 333 | 191 | 152 | 11.2 | 24.7 |
| 101.6 | 8 | 97.6 | 119 | 85.8 | 333 | 242 | 203 | 19.1 | 42.1 |
| 125 | 5 | On request | | | | | | | |
| 150 | 5 | | | | | | | | |

Dimensions and Weights

ISO 2853

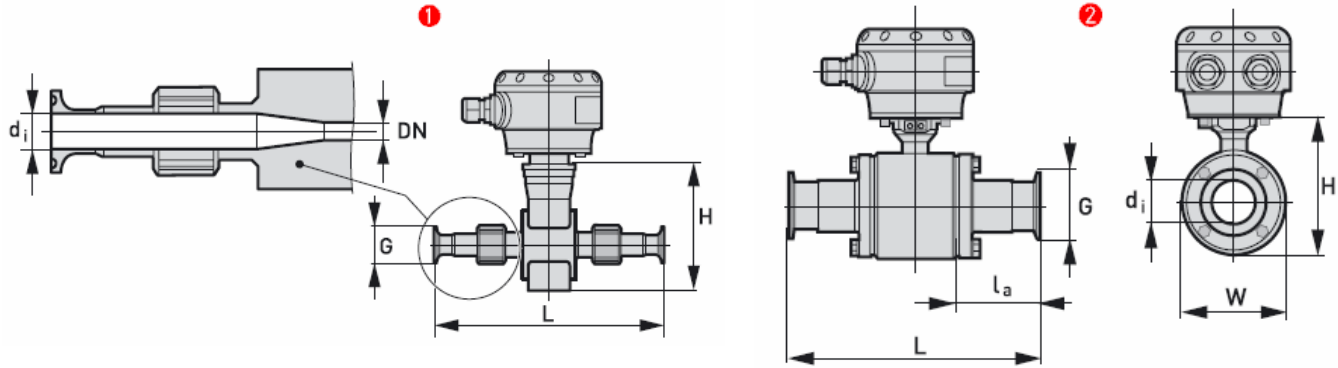


- (1) DN2.5...10 screwed adapter with DN10 process connections / DN15 screwed adapter
 (2) DN25...150 bolted adapter

| Nominal size | | Dimensions [mm] | | | | | | Approx. weight | |
|--------------|----|-----------------|----------------|----------------|-----------|-----|-----|----------------|-------|
| | | Adapter | | | Flowmeter | | | | |
| DN | PN | d _i | G | l _a | L | H | W | [kg] | (lbs) |
| 2.5 | 40 | 10 | Rd 22.8 x 1/8" | 53 | 226 | 142 | 44 | 3.1 | 6.8 |
| 4 | 40 | 10 | Rd 22.8 x 1/8" | 53 | 226 | 142 | 44 | 3.1 | 6.8 |
| 6 | 40 | 10 | Rd 22.8 x 1/8" | 53 | 226 | 142 | 44 | 3.1 | 6.8 |
| 10 | 40 | 10 | Rd 22.8 x 1/8" | 53 | 226 | 142 | 44 | 3.1 | 6.8 |
| 15 | 40 | 16 | Rd 22.8 x 1/8" | 53 | 226 | 142 | 44 | 3.1 | 6.8 |
| 25 | 40 | 22.6 | Rd 37.1 x 1/8 | 45 | 226 | 131 | 80 | 4.4 | 9.7 |
| 38 | 40 | 35.6 | Rd 56.6 x 1/8 | 49.5 | 253 | 149 | 98 | 6.1 | 13.5 |
| 51 | 25 | 48.6 | Rd 64.1 x 1/8 | 51.5 | 263 | 181 | 130 | 7.6 | 16.8 |
| 63.5 | 25 | 60.3 | Rd 77.6 x 1/8 | 50.5 | 309 | 206 | 156 | 11.7 | 25.8 |
| 76.1 | 25 | 72.9 | Rd 91.1 x 1/8 | 50.5 | 309 | 206 | 156 | 12 | 26.5 |

Dimensions and Weights

Tri-Clover

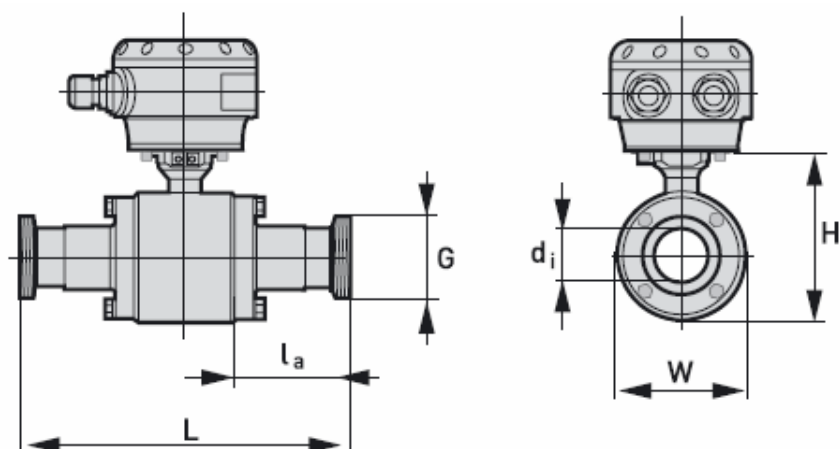


- (1) DN½"...¾" screwed adapter
(2) DN1"...4" bolted adapter

| Nominal size | | Dimensions [mm] | | | | | | Approx. weight | |
|--------------|-----|-----------------|------|----------------|-----------|------|------|----------------|-------|
| | | Adapter | | | Flowmeter | | | | |
| DN | PN | d _i | G | l _a | L | H | W | [kg] | (lbs) |
| ½" | 290 | 0.37 | 0.98 | 1.97 | 8.5 | 5.59 | 1.73 | 1.5 | 3.3 |
| ¾" | 290 | 0.62 | 0.98 | 1.97 | 8.5 | 5.59 | 1.73 | 1.5 | 3.3 |
| 1" | 290 | 0.85 | 1.98 | 1.02 | 7.48 | 5.04 | 3.5 | 3.2 | 7.1 |
| 1½" | 290 | 1.35 | 1.98 | 3.46 | 11.02 | 6.02 | 4.49 | 5.5 | 12.1 |
| 2" | 290 | 1.85 | 2.52 | 3.46 | 11.18 | 6.02 | 4.49 | 5.3 | 11.7 |
| 2½" | 290 | 2.35 | 3.05 | 2.69 | 11.5 | 7.09 | 5.55 | 10 | 22.1 |
| 3" | 290 | 2.85 | 3.54 | 3.68 | 14.25 | 7.52 | 5.98 | 12.5 | 27.6 |
| 4" | 174 | 3.83 | 4.68 | 3.38 | 14.96 | 9.53 | 7.99 | 21.8 | 48.1 |

Dimensions and Weights

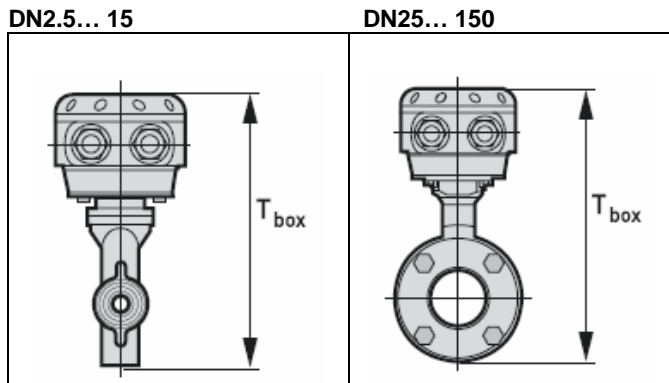
SMS 1145 Adapter



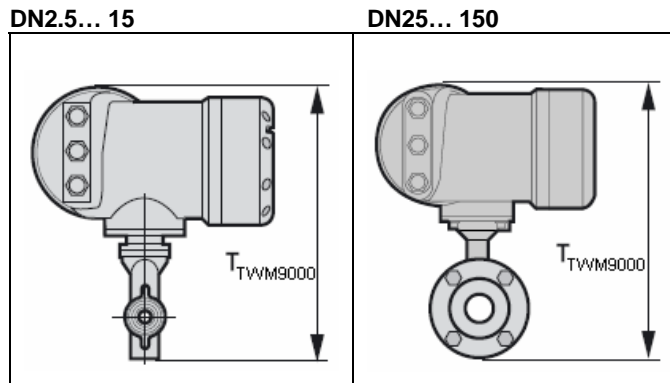
| Nominal size | | Dimensions [mm] | | | | | | Approx. weight | |
|--------------|----|-----------------|----------|-------|-----------|-----|-----|----------------|-------|
| | | Adapter | | | Flowmeter | | | | |
| DN | PN | d_i | G | l_a | L | H | W | [kg] | (lbs) |
| 25 | 6 | 22.6 | Rd 40-6 | 28.1 | 147.6 | 128 | 89 | 3.2 | 7.1 |
| 38 | 6 | 35.5 | Rd 60-6 | 54 | 262 | 153 | 114 | 5.7 | 12.6 |
| 51 | 6 | 48.6 | Rd 70-6 | 84.3 | 266 | 153 | 114 | 5.4 | 11.9 |
| 63.5 | 6 | 60.3 | Rd 85-6 | 69.8 | 276 | 180 | 141 | 9.9 | 21.8 |
| 76 | 6 | 72.9 | Rd 98-6 | 99.8 | 346 | 191 | 152 | 12.1 | 26.7 |
| 100 | 6 | 97.6 | Rd 132-6 | 44 | 336 | 242 | 203 | 21.9 | 48.3 |

Dimensions for different housing variations

Remote version connection box



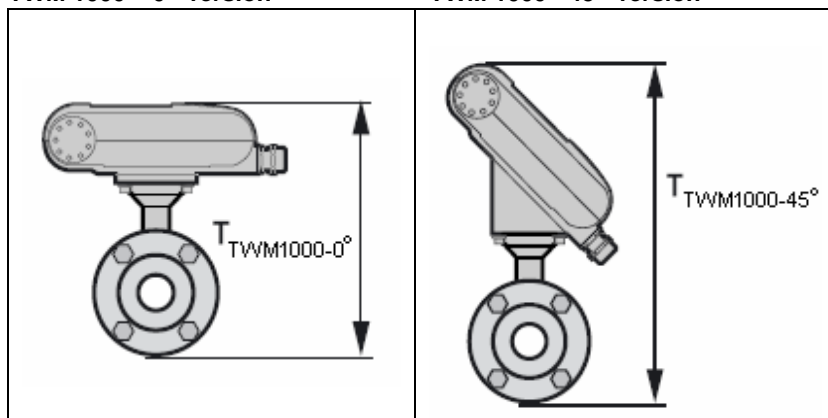
Compact version TWM 9000



Compact version TWM 1000

TWM 1000 – 0° version

TWM 1000 - 45° version



| Nominal size | | Dimensions [mm] | | | | Dimensions [inch] | | | |
|--------------|----|------------------|-------------------------|--------------------------|----------------------|-------------------|-------------------------|--------------------------|----------------------|
| DN | PN | T _{box} | T _{TWM1000-0°} | T _{TWM1000-45°} | T _{TWM9000} | T _{box} | T _{TWM1000-0°} | T _{TWM1000-45°} | T _{TWM9000} |
| 2.5 | 40 | 200 | 205 | 309 | 302 | 7.87 | 8.07 | 12.17 | 10.94 |
| 4 | 40 | 200 | 205 | 309 | 302 | 7.87 | 8.07 | 12.17 | 10.94 |
| 6 | 40 | 200 | 205 | 309 | 302 | 7.87 | 8.07 | 12.17 | 10.94 |
| 10 | 40 | 200 | 205 | 309 | 302 | 7.87 | 8.07 | 12.17 | 10.94 |
| 15 | 40 | 200 | 205 | 309 | 302 | 7.87 | 8.07 | 12.17 | 10.94 |
| 25 | 40 | 205 | 210 | 314 | 283 | 8.08 | 8.28 | 12.36 | 11.14 |
| 40 | 40 | 230 | 235 | 339 | 308 | 9.05 | 9.25 | 13.35 | 12.13 |
| 50 | 25 | 230 | 235 | 339 | 308 | 9.05 | 9.25 | 13.35 | 12.13 |
| 65 | 25 | 257 | 262 | 366 | 335 | 10.11 | 10.31 | 14.41 | 13.19 |
| 80 | 25 | 268 | 273 | 377 | 346 | 10.55 | 10.75 | 14.84 | 13.62 |
| 100 | 16 | 319 | 324 | 428 | 397 | 12.56 | 12.76 | 16.85 | 15.63 |
| 125 | 10 | 335 | 340 | 444 | 413 | 13.19 | 13.39 | 17.48 | 16.26 |
| 150 | 10 | 370 | 375 | 479 | 448 | 14.56 | 14.76 | 18.86 | 17.64 |

Ordering Information

Contact your nearest Honeywell sales office, or

In the U.S.:

Honeywell Process Solutions
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Phoenix, AZ 85027 1-800-343-0228

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480 Sawgrass Corporate Parkway,
Suite 200 Sunrise, FL 33325
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14-6 Shibaura 1-chrome
Minato-ku, Tokyo, Japan 105-0023

Or, visit Honeywell on the World Wide Web at: <http://www.honeywell.com/ps>
Specifications are subject to change without notice.