ModMAG®
M-Series® | Electromagnetic Flow Meters

# Electromagnetic Flow Meters

## M5000 (M5000 Refresh)

## DESCRIPTION

Designed, developed and manufactured under strict quality standards, the M5000 electromagnetic flow meter features sophisticated, processor-based signal conversion with accuracies of ± 0.4%. Based on Faraday's Law of Induction, these meters can measure potable water, reclaimed water, ground water and clear, water-based applications that have minimal electrical conductivity.

With no moving parts in the flow stream, there is no pressure loss. Also, accuracy is not affected by temperature, pressure, viscosity or density and there is practically no maintenance required. It is encased in an IP67 housing (optional IP68), which makes it a reliable meter even when submerged.

## APPLICATION

The M5000 mag meter is designed for applications without power line access, where flow is continuous, and when indication of rate and totalization are required. The M5000 can accurately measure fluid flow—the fluid is potable or reclaimed water and can contain a moderate amount of solids. The meter is successfully used in water distribution networks and irrigation.

The standard meter is equipped with an internal datalogger or M-Bus interface, or optionally with an externally powered RS485 interface with Modbus®. The collected data can also be retrieved via radio frequency or GSM/GPRS. The data can then be centrally compiled and evaluated. The meter can be checked without process interruption using the Verification Device.

## OPERATING PRINCIPLE

The flow meter is a stainless steel tube lined with a non-conductive material. Outside the tube are two DC-powered electromagnetic coils positioned opposite each other. Perpendicular to the coils are two electrodes inserted into the flow tube. The energized coils create a magnetic field across the diameter of the pipe.

As a conductive fluid flows through the magnetic field, a voltage is induced across the electrodes. This voltage is proportional to the average flow velocity of the fluid and is measured by the two electrodes. This induced voltage is then amplified and digitally processed by the converter to produce an accurate analog or digital signal. The signal can then be used to indicate flow rate and totalization, or to communicate to remote sensors and controllers. In addition, the processor controls zero-flow stability, frequency outputs, serial communications, and other parameters.




## FEATURES

- Available in sizes 1/2…24 in. (DN 15…600)
- Battery powered, with battery life up to 20 years
- ± 0.4% of measured value ± 2 mm/s accuracy independent of fluid viscosity, density and temperature
- Unaffected by most solids contained in fluids
- LCD Display
- Pulsed DC magnetic field for zero point stability
- No pressure loss for low operational costs
- Corrosion resistant liners for long life
- Calibrated in state-of-the art facilities
- Integral and remote signal converter availability
- Optional grounding rings or grounding electrode
- Measurement largely independent of flow profile
- Low-power digital microcontroller (16 bit)
- Simple programming procedure
- Digital and infrared outputs
- Automatic zero-point stability
- Non-volatile programming
- NSF/ANSI/CAN 61 and 372, OIML, MID and AWWA C715 certified
- Data logging
- Verification device
- IP67/IP68 protection class
- Modbus RTU (RS232), IRDA, M-Bus, optional Modbus RTU (RS 485)
- BEACON®/AquaCUE® connectivity

Badger Meter

MAG-DS-05196-EN-02 (August 2026)

Product Data Sheet

## ELECTRODES

When looking from the end of the meter into the inside bore, the two measuring electrodes are positioned at three o'clock and nine o'clock. M5000 mag meters have an "empty pipe detection" feature. This is accomplished with a third electrode positioned in the meter between twelve o'clock and one o'clock.

If this electrode is not covered by fluid for a minimum five-second duration, the meter will display an "empty pipe detection" condition, send out an error message, if desired, and stop measuring to maintain accuracy. When the electrode again becomes covered with fluid, the error message will disappear and the meter will continue measuring.

The wide selection of liner and electrode materials helps provide maximum compatibility and minimum maintenance over a long operating period. The M5000 amplifier can be integrally mounted to the detector, or if necessary, mounted remotely. The amplifier is housed in a NEMA 4X (IP67) enclosure.

In addition to using grounding rings, a grounding electrode (fourth electrode) can be built into the meter during manufacturing to assure proper grounding. The position of this electrode is at five o'clock

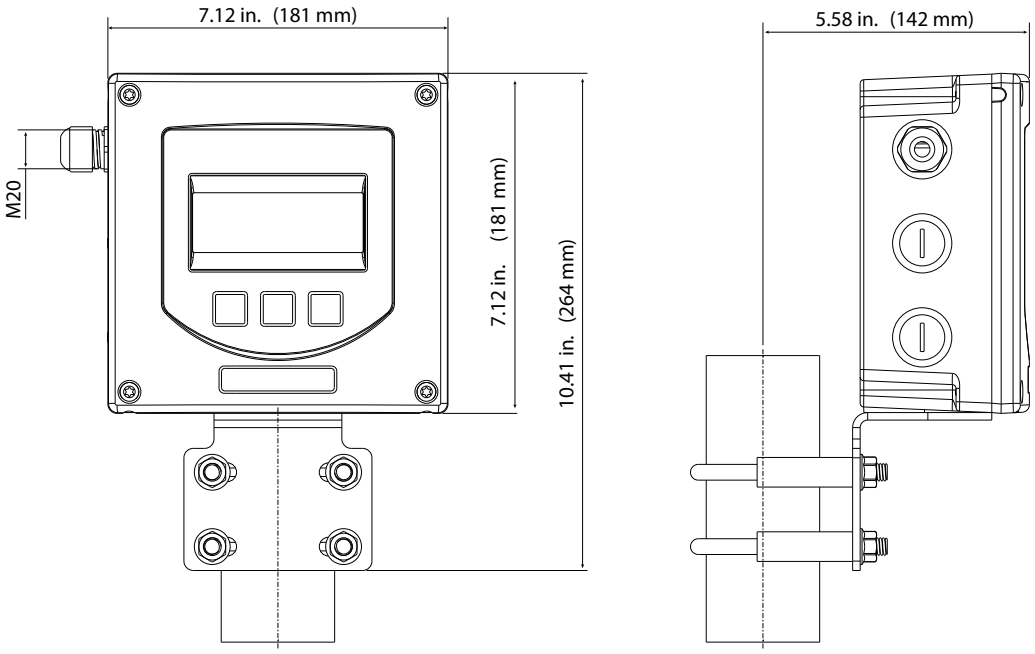
## SPECIFICATIONS

**NOTE:** Measurements in DN are for Nominal Diameter in mm.

### M5000 Amplifier

| | | |
|---|---|---|
| **Flow Range** | 0.1…32.8 ft/s (0.03…10 m/s) | |
| **Accuracy** | ± 0.4% of measured value ± 2 mm/s<br>OIML/MID: 2…24 in. (DN50…600) with 0d up and 0d downstream ±1% ≥ 1.2 ft/s (0.35 m/s) | |
| **Repeatability** | ± 0.1% | |
| **Data Logging** | About 7,000 records (read out by Modbus or IrDA interface) Logging interval from 1 min to 24 h | |
| **Ambient Temperature** | –4…140° F (–20…60° C) | |
| **Flow Direction** | Uni-directional or bi-directional. Two separate programmable totalizers for uni-directional measurement. | |
| **Digital Outputs (4)** | Galvanically isolated open collector, 30V DC maximum, 20 mA each, maximum output frequency at 100 Hz | |
| | Absolute Digital Encoded output for connectivity to AquaCUE or BEACON cellular endpoints | |
| **Status Outputs** | ADE, High/low flow alarm (0…100% of flow), error alarm, empty pipe alarm, flow direction | |
| **Communication** | RS232, Modbus RTU, IrDA, M-Bus, RS 485 (optional), External AMR or GSM/GPRS module (optional) | |
| **Empty Pipe Detection** | Separate electrode, field-tunable for optimum performance based on specific application | |
| **Min-Max Flow Alarm** | Programmable outputs 0…100% of flow | |
| **Low Flow Cut-Off** | Programmable 0…10% of maximum flow | |
| **Galvanic Separation** | Functional 500 volts | |
| **Pulse Width** | Programmable 5…500 ms | |
| **Coil Power** | Pulsed DC | |
| **Sampling Rate** | Programmable from 1 to 63 seconds. Standard sampling period is 15 seconds. | |
| **Display** | Two lines x 15 characters (7 on top + 8 on bottom), LCD display | |
| **Programming** | Three external buttons | |
| **Units of Measure** | Gallons, ounces, MGD, liters, cubic meters, cubic feet, imperial gallon, barrel, hectoliter and acre feet | |
| **Battery Life** | *Standard*: 10 years with one battery pack; *optional*: up to 20 years with two battery packs for sizes 6 in. (DN 150) or smaller. | |
| **Power Supply** | *Standard*: Internal lithium batteries 3.6 volt, optional external battery pack<br>*Optional*: battery back-up model (100…240V AC or 9…36V DC) | |
| **Processing** | Low power microcontroller (16 bit) | |
| **Amplifier Housing** | NEMA 4X (IP67, optional IP68), cast aluminum, powder-coated paint | |
| **Mounting** | Detector-mount or remote wall mount (bracket supplied) | |
| **Meter Enclosure Classification** | *Standard*: NEMA 4X (IP67); *Optional*: Submersible NEMA 6P IP68, remote amplifier required | |
| **Junction Box Enclosure Protection** | For remote amplifier option: | *Standard*: Powder coated die-cast aluminum, NEMA 4 (IP67)<br>*Optional*: Stainless steel housing 304, Submersible NEMA 6P (IP68) |
| **Approvals** | NSF/ANSI/CAN 61 and 372 | Models with hard rubber liner 4 in. (DN 100) size and up; PTFE liner, all sizes. |
| | OIML R49-1 | |
| | MID MI-001 | |
| | AWWA C715 | |
| | WRAS (hard rubber) | |
| | ACS (PTFE) | |
| | KTW (PTFE) | |
| | MCERT | |

## M5000 Amplifier Dimensions



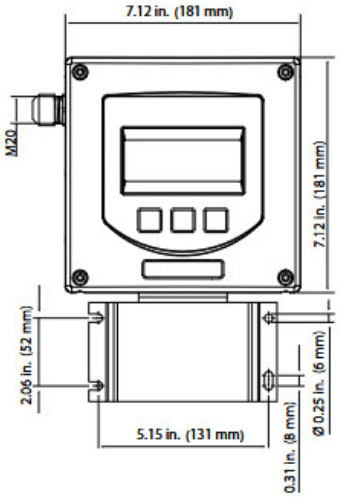

## Detector Weight and Flow Range

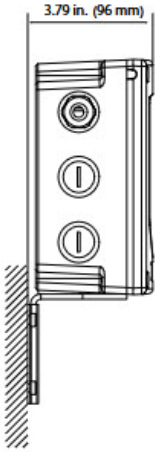
| Size in. (DN) | Est. Weight with Amplifier lb (kg) | Flow Range | |
|---|---|---|---|
| | | US | Metric |
| 1/2 (15) | 17 (7.7) | 0.084…28.0 GPM | 0.318…106 l/min |
| 3/4 (20) | 17 (7.7) | 0.149…49.8 GPM | 0.57…188 l/min |
| 1 (25) | 18 (8.8) | 0.233…78 GPM | 0.88…295 l/min |
| 1-1/4 (32) | 20.3 (9.2) | 0.382…127 GPM | 1.45…483 l/min |
| 1-1/2 (40) | 22 (10) | 0.60…199 GPM | 2.26…754 l/min |
| 2 (50) | 26 (11.7) | 0.93…311 GPM | 3.53…1.178 l/min |
| 2-1/2 (65) | 35 (15.7) | 1.58…526 GPM | 0.358…119 $m^3/h$ |
| 3 (80) | 38 (17.1) | 2.39…797 GPM | 0.54…181 $m^3/h$ |
| 4 (100) | 49 (22.1) | 3.73…1245 GPM | 0.85…283 $m^3/h$ |
| 5 (125) | 60 (27.1) | 5.8…1945 GPM | 1.33…442 $m^3/h$ |
| 6 (150) | 71 (32.1) | 8.4…2801 GPM | 1.91…636 $m^3/h$ |
| 8 (200) | 96 (43.1) | 14.9…4979 GPM | 3.39…1131 $m^3/h$ |
| 10 (250) | 130 (59.1) | 23.3…7780 GPM | 5.3…1767 $m^3/h$ |
| 12 (300) | 219 (99.3) | 33.6…11,204 GPM | 7.6…2545 $m^3/h$ |
| 14 (350) | 287 (130.2) | 45.7…15,249 GPM | 10.4…3464 $m^3/h$ |
| 16 (400) | 354 (160.9) | 60…19,918 GPM | 13.6…4524 $m^3/h$ |
| 18 (450) | 409 (185.3) | 76…25,208 GPM | 17.2…5725 $m^3/h$ |
| 20 (500) | 502 (228.3) | 93…31,121 GPM | 21.2…7068 $m^3/h$ |
| 22 (550) | 532 (241.3) | 113…37,657 GPM | 25.7…8553 $m^3/h$ |
| 24 (600) | 561 (255.3) | 134…44,814 GPM | 30.5…10,178 $m^3/h$ |

## Detector Type VI

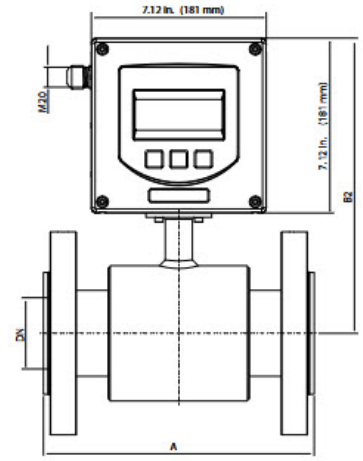
| | | | | |
|---|---|---|---|---|
| **Size** | 1/2…24 in. (DN 15…600) | | | |
| **Process Connection** | **Flange Type** | DIN, ANSI, JIS, AWWA and more | | |
| | **Material** | *Standard*: carbon steel; *optional*: stainless steel 304/316 | | |
| **Pressure Limits** | Up to 1450 psi (100 bar) PED | | | |
| **Meter Enclosure Classification** | *Standard*: NEMA 4X (IP67); *Optional*: Submersible NEMA 6P IP68, remote amplifier required | | | |
| **Minimum Conductivity** | ≥20 µS/cm | | | |
| **Liners** | **Material** | **Available for sizes** | **Fluid Temp for Remote Mount** | **Fluid Temp for Meter Mount** |
| | PTFE | 1/2…24 in. (DN 15…600) | 302° F (150° C) | 212° F (100° C) |
| | Hard rubber | 1…24 in. (DN 25…600) | 178° F (80° C) | 178° F (80° C) |
| | ETFE | 12…24 in. (DN 300…600) | 302° F (150° C) | 212° F (100° C) |
| **Electrode Materials** | *Standard*: Hastelloy® C; *optional*: Tantalum, Platinum/Gold plated, Platinum/Rhodium, 316 stainless steel | | | |
| **Meter Housing Material** | *Standard*: Carbon steel painted; *optional*: Stainless steel 304/316 or painted in C5M | | | |
| **Optional Stainless Steel Grounding Rings** | **ANSI Flanges** | | **All Other Flanges** | |
| | Meter Size | Thickness (of 1 ring) | Meter Size | Thickness (of 1 ring) |
| | Up through 10 in.<br>12…24 in. | 0.135 in. (3.42 mm)<br>0.187 in. (4.75 mm) | 1/2… 24 in. | 0.12 in. (3 mm) |

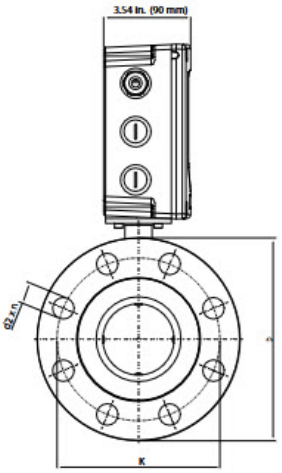
### Remote Version

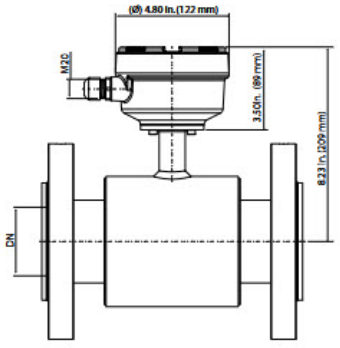


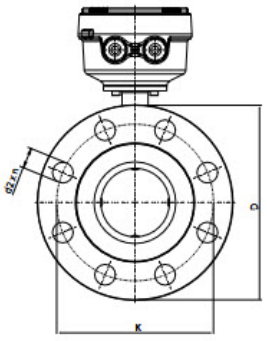




### Mounted Version



## Flange ANSI Class 150 ASME B16.5

| Size DN | | A Standard | | A ISO* | | B1 | | B2 | | D | | K | | d2 x n | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| inch | mm | inch | mm | inch | mm | inch | mm | inch | mm | inch | mm | inch | mm | inch | mm |
| 1/2 | 15 | 6.7 | 170 | 7.9 | 200 | 7.0 | 177 | 10.8 | 274 | 3.5 | 89 | 2.4 | 61 | 0.6 x 4 | 16 x 4 |
| 3/4 | 20 | 6.7 | 170 | 7.9 | 200 | 7.0 | 177 | 10.8 | 274 | 3.9 | 99 | 2.8 | 71 | 0.6 x 4 | 16 x 4 |
| 1 | 25 | 8.9 | 225 | 7.9 | 200 | 7.0 | 177 | 10.8 | 274 | 4.3 | 109 | 3.1 | 79 | 0.6 x 4 | 16 x 4 |
| 1-1/4 | 32 | 8.9 | 225 | 7.9 | 200 | 7.6 | 192 | 11.4 | 289 | 4.6 | 117 | 3.5 | 89 | 0.6 x 4 | 16 x 4 |
| 1-1/2 | 40 | 8.9 | 225 | 7.9 | 200 | 7.6 | 192 | 11.4 | 289 | 5.0 | 127 | 3.9 | 99 | 0.6 x 4 | 16 x 4 |
| 2 | 50 | 8.9 | 225 | 7.9 | 200 | 7.6 | 192 | 11.4 | 289 | 6.0 | 152 | 4.8 | 122 | 0.8 x 4 | 19 x 4 |
| 2-1/2 | 65 | 11.0 | 280 | 7.9 | 200 | 8.3 | 210 | 12.1 | 307 | 7.0 | 178 | 5.5 | 140 | 0.8 x 4 | 19 x 4 |
| 3 | 80 | 11.0 | 280 | 7.9 | 200 | 8.3 | 210 | 12.1 | 307 | 7.5 | 191 | 6.0 | 152 | 0.8 x 4 | 19 x 4 |
| 4 | 100 | 11.0 | 280 | 9.8 | 250 | 8.5 | 217 | 12.4 | 314 | 9.0 | 229 | 7.5 | 191 | 0.8 x 8 | 19 x 8 |
| 5 | 125 | 15.7 | 400 | 9.8 | 250 | 9.3 | 237 | 13.1 | 334 | 10.0 | 254 | 8.5 | 216 | 0.9 x 8 | 22 x 8 |
| 6 | 150 | 15.7 | 400 | 11.8 | 300 | 9.8 | 249 | 13.6 | 346 | 11.0 | 279 | 9.5 | 241 | 0.9 x 8 | 22 x 8 |
| 8 | 200 | 15.7 | 400 | 13.8 | 350 | 10.9 | 277 | 14.7 | 374 | 13.5 | 343 | 11.8 | 300 | 0.9 x 8 | 22 x 8 |
| 10 | 250 | 19.7 | 500 | 17.7 | 450 | 11.9 | 301 | 15.7 | 398 | 16.0 | 406 | 14.3 | 363 | 1.0 x 12 | 25 x 12 |
| 12 | 300 | 19.7 | 500 | 19.7 | 500 | 14.3 | 364 | 18.1 | 461 | 19.0 | 483 | 17.0 | 432 | 1.0 x 12 | 25 x 12 |
| 14 | 350 | 19.7 | 500 | 21.7 | 550 | 15.3 | 389 | 19.1 | 486 | 21.0 | 533 | 18.8 | 478 | 1.1 x 12 | 28 x 12 |
| 16 | 400 | 23.6 | 600 | 23.6 | 600 | 16.3 | 414 | 20.1 | 511 | 23.5 | 597 | 21.3 | 541 | 1.1 x 16 | 28 x 16 |
| 18 | 450 | 23.6 | 600 | 23.6 | 600 | 17.3 | 439 | 21.1 | 536 | 25.0 | 635 | 22.8 | 579 | 1.3 x 16 | 32 x 16 |
| 20 | 500 | 23.6 | 600 | 23.6 | 600 | 18.3 | 464 | 22.1 | 561 | 27.5 | 699 | 25.0 | 635 | 1.3 x 20 | 32 x 20 |
| 24 | 600 | 23.6 | 600 | 23.6 | 600 | 20.7 | 527 | 24.6 | 624 | 32.0 | 813 | 29.5 | 749 | 1.4 x 20 | 35 x 20 |
| Other sizes on request | | | | | | | | | | | | | | | |

**IMPORTANT:** ISO* sensor lay length according to ISO 20456

## Flange ANSI Class 300 ASME B16.5

| Size DN | | A Standard | | A ISO* | | B1 | | B2 | | D | | K | | d2 x n | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| inch | mm | inch | mm | inch | mm | inch | mm | inch | mm | inch | mm | inch | mm | inch | mm |
| 1/2 | 15 | 6.7 | 170 | 7.9 | 200 | 7.0 | 177 | 10.8 | 274 | 3.8 | 95 | 2.6 | 67 | 0.6 x 4 | 16 x 4 |
| 3/4 | 20 | 6.7 | 170 | 7.9 | 200 | 7.0 | 177 | 10.8 | 274 | 4.6 | 117 | 3.3 | 83 | 0.8 x 4 | 19 x 4 |
| 1 | 25 | 8.9 | 225 | 7.9 | 200 | 7.0 | 177 | 10.8 | 274 | 4.9 | 124 | 3.5 | 89 | 0.8 x 4 | 19 x 4 |
| 1-1/4 | 32 | 8.9 | 225 | 7.9 | 200 | 7.6 | 192 | 11.4 | 289 | 5.3 | 133 | 3.9 | 99 | 0.8 x 4 | 19 x 4 |
| 1-1/2 | 40 | 8.9 | 225 | 7.9 | 200 | 7.6 | 192 | 11.4 | 289 | 6.1 | 155 | 4.5 | 114 | 0.9 x 4 | 22 x 4 |
| 2 | 50 | 8.9 | 225 | 7.9 | 200 | 7.6 | 192 | 11.4 | 289 | 6.5 | 165 | 5.0 | 127 | 0.8 x 8 | 19 x 8 |
| 2-1/2 | 65 | 11.0 | 280 | 7.9 | 200 | 8.3 | 210 | 12.1 | 307 | 7.5 | 191 | 5.9 | 149 | 0.9 x 8 | 22 x 8 |
| 3 | 80 | 11.0 | 280 | 7.9 | 200 | 8.3 | 210 | 12.1 | 307 | 8.3 | 210 | 6.6 | 168 | 0.9 x 8 | 22 x 8 |
| 4 | 100 | 11.0 | 280 | 9.8 | 250 | 8.5 | 217 | 12.4 | 314 | 10.0 | 254 | 7.9 | 200 | 0.9 x 8 | 22 x 8 |
| 5 | 125 | 15.7 | 400 | 9.8 | 250 | 9.3 | 237 | 13.1 | 334 | 11.0 | 279 | 9.3 | 235 | 0.9 x 8 | 22 x 8 |
| 6 | 150 | 15.7 | 400 | 11.8 | 300 | 9.8 | 249 | 13.6 | 346 | 12.5 | 318 | 10.6 | 270 | 0.9 x 12 | 22 x 12 |
| 8 | 200 | 15.7 | 400 | 13.8 | 350 | 10.9 | 277 | 14.7 | 374 | 15.0 | 381 | 13.0 | 330 | 1.0 x 12 | 25 x 12 |
| 10 | 250 | 19.7 | 500 | 17.7 | 450 | 11.9 | 301 | 15.7 | 398 | 17.5 | 445 | 15.3 | 387 | 1.1 x 16 | 28 x 16 |
| 12 | 300 | 19.7 | 500 | 19.7 | 500 | 14.3 | 364 | 18.1 | 461 | 20.5 | 521 | 17.8 | 451 | 1.3 x 16 | 32 x 16 |
| 14 | 350 | 19.7 | 500 | 21.7 | 550 | 15.3 | 389 | 19.1 | 486 | 23.0 | 584 | 20.3 | 514 | 1.3 x 20 | 32 x 20 |
| 16 | 400 | 23.6 | 600 | 23.6 | 600 | 16.3 | 414 | 20.1 | 511 | 25.5 | 648 | 22.5 | 572 | 1.4 x 20 | 35 x 20 |
| 18 | 450 | 23.6 | 600 | 23.6 | 600 | 17.3 | 439 | 21.1 | 536 | 28.0 | 711 | 24.8 | 629 | 1.4 x 24 | 35 x 24 |
| 20 | 500 | 23.6 | 600 | 23.6 | 600 | 18.3 | 464 | 22.1 | 561 | 30.5 | 775 | 27.0 | 686 | 1.4 x 24 | 35 x 24 |
| 24 | 600 | 23.6 | 600 | 23.6 | 600 | 20.7 | 527 | 24.6 | 624 | 36.0 | 914 | 32.0 | 813 | 1.6 x 24 | 41 x 24 |
| Other sizes on request | | | | | | | | | | | | | | | |

**IMPORTANT:** ISO* sensor lay length according to ISO 20456

## Flange EN 1092-1 / PN 10

| Size DN | | A Standard | | A ISO* | | B1 | | B2 | | D | | K | | d2 x n | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| inch | mm | inch | mm | inch | mm | inch | mm | inch | mm | inch | mm | inch | mm | inch | mm |
| 8 | 200 | 15.7 | 400 | 13.8 | 350 | 10.9 | 277 | 14.7 | 374 | 13.4 | 340 | 11.6 | 295 | 0.9 x 8 | 22 x 8 |
| 10 | 250 | 19.7 | 500 | 17.7 | 450 | 11.9 | 301 | 15.7 | 398 | 15.6 | 395 | 13.8 | 350 | 0.9 x 12 | 22 x 12 |
| 12 | 300 | 19.7 | 500 | 19.7 | 500 | 14.3 | 364 | 18.1 | 461 | 17.5 | 445 | 15.7 | 400 | 0.9 x 12 | 22 x 12 |
| 14 | 350 | 19.7 | 500 | 21.7 | 550 | 15.3 | 389 | 19.1 | 486 | 19.9 | 505 | 18.1 | 460 | 0.9 x 16 | 22 x 16 |
| 16 | 400 | 23.6 | 600 | 23.6 | 600 | 16.3 | 414 | 20.1 | 511 | 22.2 | 565 | 20.3 | 515 | 1.0 x 16 | 26 x 16 |
| 18 | 450 | 23.6 | 600 | 23.6 | 600 | 17.3 | 439 | 21.1 | 536 | 24.2 | 615 | 22.2 | 565 | 1.0 x 20 | 26 x 20 |
| 20 | 500 | 23.6 | 600 | 23.6 | 600 | 18.3 | 464 | 22.1 | 561 | 26.4 | 670 | 24.4 | 620 | 1.0 x 20 | 26 x 20 |
| 24 | 600 | 23.6 | 600 | 23.6 | 600 | 20.7 | 527 | 24.6 | 624 | 30.7 | 780 | 28.5 | 725 | 1.2 x 20 | 30 x 20 |
| Other sizes on request | | | | | | | | | | | | | | | |

**IMPORTANT:** ISO* sensor lay length according to ISO 20456

## Flange EN 1092-1 / PN 16

| Size DN | | A Standard | | A ISO* | | B1 | | B2 | | D | | K | | d2 x n | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| inch | mm | inch | mm | inch | mm | inch | mm | inch | mm | inch | mm | inch | mm | inch | mm |
| 1/2 | 15 | 6.7 | 170 | 7.9 | 200 | 7.0 | 177 | 10.8 | 274 | 3.7 | 95 | 2.6 | 65 | 0.6 x 4 | 14 x 4 |
| 3/4 | 20 | 6.7 | 170 | 7.9 | 200 | 7.0 | 177 | 10.8 | 274 | 4.1 | 105 | 3.0 | 75 | 0.6 x 4 | 14 x 4 |
| 1 | 25 | 8.9 | 225 | 7.9 | 200 | 7.0 | 177 | 10.8 | 274 | 4.5 | 115 | 3.3 | 85 | 0.6 x 4 | 14 x 4 |
| 1-1/4 | 32 | 8.9 | 225 | 7.9 | 200 | 7.6 | 192 | 11.4 | 289 | 5.5 | 140 | 3.9 | 100 | 0.7 x 4 | 18 x 4 |
| 1-1/2 | 40 | 8.9 | 225 | 7.9 | 200 | 7.6 | 192 | 11.4 | 289 | 5.9 | 150 | 4.3 | 110 | 0.7 x 4 | 18 x 4 |
| 2 | 50 | 8.9 | 225 | 7.9 | 200 | 7.6 | 192 | 11.4 | 289 | 6.5 | 165 | 4.9 | 125 | 0.7 x 4 | 18 x 4 |
| 2-1/2 | 65 | 11.0 | 280 | 7.9 | 200 | 8.3 | 210 | 12.1 | 307 | 7.3 | 185 | 5.7 | 145 | 0.7 x 8 | 18 x 8 |
| 3 | 80 | 11.0 | 280 | 7.9 | 200 | 8.3 | 210 | 12.1 | 307 | 7.9 | 200 | 6.3 | 160 | 0.7 x 8 | 18 x 8 |
| 4 | 100 | 11.0 | 280 | 9.8 | 250 | 8.5 | 217 | 12.4 | 314 | 8.7 | 220 | 7.1 | 180 | 0.7 x 8 | 18 x 8 |
| 5 | 125 | 15.7 | 400 | 9.8 | 250 | 9.3 | 237 | 13.1 | 334 | 9.8 | 250 | 8.3 | 210 | 0.7 x 8 | 18 x 8 |
| 6 | 150 | 15.7 | 400 | 11.8 | 300 | 9.8 | 249 | 13.6 | 346 | 11.2 | 285 | 9.4 | 240 | 0.9 x 8 | 22 x 8 |
| 8 | 200 | 15.7 | 400 | 13.8 | 350 | 10.9 | 277 | 14.7 | 374 | 13.4 | 340 | 11.6 | 295 | 0.9 x 12 | 22 x 12 |
| 10 | 250 | 19.7 | 500 | 17.7 | 450 | 11.9 | 301 | 15.7 | 398 | 15.9 | 405 | 14.0 | 355 | 1.0 x 12 | 26 x 12 |
| 12 | 300 | 19.7 | 500 | 19.7 | 500 | 14.3 | 364 | 18.1 | 461 | 18.1 | 460 | 16.1 | 410 | 1.0 x 12 | 26 x 12 |
| 14 | 350 | 19.7 | 500 | 21.7 | 550 | 15.3 | 389 | 19.1 | 486 | 20.5 | 520 | 18.5 | 470 | 1.0 x 16 | 26 x 16 |
| 16 | 400 | 23.6 | 600 | 23.6 | 600 | 16.3 | 414 | 20.1 | 511 | 22.8 | 580 | 20.7 | 525 | 1.2 x 16 | 30 x 16 |
| 18 | 450 | 23.6 | 600 | 23.6 | 600 | 17.3 | 439 | 21.1 | 536 | 25.2 | 640 | 23.0 | 585 | 1.2 x 20 | 30 x 20 |
| 20 | 500 | 23.6 | 600 | 23.6 | 600 | 18.3 | 464 | 22.1 | 561 | 28.1 | 715 | 25.6 | 650 | 1.3 x 20 | 33 x 20 |
| 24 | 600 | 23.6 | 600 | 23.6 | 600 | 20.7 | 527 | 24.6 | 624 | 33.1 | 840 | 30.3 | 770 | 1.4 x 20 | 36 x 20 |
| Other sizes on request | | | | | | | | | | | | | | | |

**IMPORTANT:** ISO* sensor lay length according to ISO 20456

## Flange EN 1092-1 / PN 25

| Size DN | | A Standard | | A ISO* | | B1 | | B2 | | D | | K | | d2 x n | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| inch | mm | inch | mm | inch | mm | inch | mm | inch | mm | inch | mm | inch | mm | inch | mm |
| 1/2 | 15 | 6.7 | 170 | 7.9 | 200 | 7.0 | 177 | 10.8 | 274 | 3.7 | 95 | 2.6 | 65 | 0.6 x 4 | 14 x 4 |
| 3/4 | 20 | 6.7 | 170 | 7.9 | 200 | 7.0 | 177 | 10.8 | 274 | 4.1 | 105 | 3.0 | 75 | 0.6 x 4 | 14 x 4 |
| 1 | 25 | 8.9 | 225 | 7.9 | 200 | 7.0 | 177 | 10.8 | 274 | 4.5 | 115 | 3.3 | 85 | 0.6 x 4 | 14 x 4 |
| 1-1/4 | 32 | 8.9 | 225 | 7.9 | 200 | 7.6 | 192 | 11.4 | 289 | 5.5 | 140 | 3.9 | 100 | 0.7 x 4 | 18 x 4 |
| 1-1/2 | 40 | 8.9 | 225 | 7.9 | 200 | 7.6 | 192 | 11.4 | 289 | 5.9 | 150 | 4.3 | 110 | 0.7 x 4 | 18 x 4 |
| 2 | 50 | 8.9 | 225 | 7.9 | 200 | 7.6 | 192 | 11.4 | 289 | 6.5 | 165 | 4.9 | 125 | 0.7 x 4 | 18 x 4 |
| 2-1/2 | 65 | 11.0 | 280 | 7.9 | 200 | 8.3 | 210 | 12.1 | 307 | 7.3 | 185 | 5.7 | 145 | 0.7 x 4 | 18 x 8 |
| 3 | 80 | 11.0 | 280 | 7.9 | 200 | 8.3 | 210 | 12.1 | 307 | 7.9 | 200 | 6.3 | 160 | 0.7 x 8 | 18 x 8 |
| 4 | 100 | 11.0 | 280 | 9.8 | 250 | 8.5 | 217 | 12.4 | 314 | 9.3 | 235 | 7.5 | 190 | 0.9 x 8 | 22 x 8 |
| 5 | 125 | 15.7 | 400 | 9.8 | 250 | 9.3 | 237 | 13.1 | 334 | 10.6 | 270 | 8.7 | 220 | 1.0 x 8 | 26 x 8 |
| 6 | 150 | 15.7 | 400 | 11.8 | 300 | 9.8 | 249 | 13.6 | 346 | 11.8 | 300 | 9.8 | 250 | 1.0 x 8 | 26 x 8 |
| 8 | 200 | 15.7 | 400 | 13.8 | 350 | 10.9 | 277 | 14.7 | 374 | 14.2 | 360 | 12.2 | 310 | 1.0 x 8 | 26 x 12 |
| 10 | 250 | 19.7 | 500 | 17.7 | 450 | 11.9 | 301 | 15.7 | 398 | 16.7 | 425 | 14.6 | 370 | 1.2 x 12 | 30 x 12 |
| 12 | 300 | 19.7 | 500 | 19.7 | 500 | 14.3 | 364 | 18.1 | 461 | 19.1 | 485 | 16.9 | 430 | 1.2 x 12 | 30 x 16 |
| 14 | 350 | 19.7 | 500 | 21.7 | 550 | 15.3 | 389 | 19.1 | 486 | 21.9 | 555 | 19.3 | 490 | 1.3 x 16 | 33 x 16 |
| 16 | 400 | 23.6 | 600 | 23.6 | 600 | 16.3 | 414 | 20.1 | 511 | 24.4 | 620 | 21.7 | 550 | 1.4 x 16 | 36 x 16 |
| 18 | 450 | 23.6 | 600 | 23.6 | 600 | 17.3 | 439 | 21.1 | 536 | 26.4 | 670 | 23.6 | 600 | 1.4 x 20 | 36 x 20 |
| 20 | 500 | 23.6 | 600 | 23.6 | 600 | 18.3 | 464 | 22.1 | 561 | 28.7 | 730 | 26.0 | 660 | 1.4 x 20 | 36 x 20 |
| 24 | 600 | 23.6 | 600 | 23.6 | 600 | 20.7 | 527 | 24.6 | 624 | 33.3 | 845 | 30.3 | 770 | 1.5 x 20 | 39 x 20 |
| Other sizes on request | | | | | | | | | | | | | | | |

**IMPORTANT:** ISO* sensor lay length according to ISO 20456

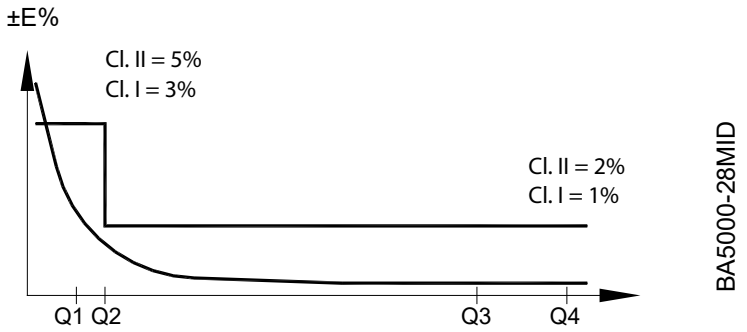
## Flange EN 1092-1 / PN 40

| Size DN | | A Standard | | A ISO* | | B1 | | B2 | | D | | K | | d2 x n | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| inch | mm | inch | mm | inch | mm | inch | mm | inch | mm | inch | mm | inch | mm | inch | mm |
| 1/2 | 15 | 6.7 | 170 | 7.9 | 200 | 7.0 | 177 | 10.7 | 273 | 3.7 | 95 | 2.6 | 65 | 0.6 x 4 | 14 x 4 |
| 3/4 | 20 | 6.7 | 170 | 7.9 | 200 | 7.0 | 177 | 10.7 | 273 | 4.1 | 105 | 3.0 | 75 | 0.6 x 4 | 14 x 4 |
| 1 | 25 | 8.9 | 225 | 7.9 | 200 | 7.0 | 177 | 10.7 | 273 | 4.5 | 115 | 3.3 | 85 | 0.6 x 4 | 14 x 4 |
| 1-1/4 | 32 | 8.9 | 225 | 7.9 | 200 | 7.6 | 192 | 11.3 | 288 | 5.5 | 140 | 3.9 | 100 | 0.7 x 4 | 18 x 4 |
| 1-1/2 | 40 | 8.9 | 225 | 7.9 | 200 | 7.6 | 192 | 11.3 | 288 | 5.9 | 150 | 4.3 | 110 | 0.7 x 4 | 18 x 4 |
| 2 | 50 | 8.9 | 225 | 7.9 | 200 | 7.6 | 192 | 11.3 | 288 | 6.5 | 165 | 4.9 | 125 | 0.7 x 4 | 18 x 4 |
| 2-1/2 | 65 | 11.0 | 280 | 7.9 | 200 | 8.3 | 210 | 12.0 | 306 | 7.3 | 185 | 5.7 | 145 | 0.7 x 4 | 18 x 8 |
| 3 | 80 | 11.0 | 280 | 7.9 | 200 | 8.3 | 210 | 12.0 | 306 | 7.9 | 200 | 6.3 | 160 | 0.7 x 8 | 18 x 8 |
| 4 | 100 | 11.0 | 280 | 9.8 | 250 | 8.5 | 217 | 12.3 | 313 | 9.3 | 235 | 7.5 | 190 | 0.9 x 8 | 22 x 8 |
| 5 | 125 | 15.7 | 400 | 9.8 | 250 | 9.3 | 237 | 13.1 | 333 | 10.6 | 270 | 8.7 | 220 | 1.0 x 8 | 26 x 8 |
| 6 | 150 | 15.7 | 400 | 11.8 | 300 | 9.8 | 249 | 13.6 | 345 | 11.8 | 300 | 9.8 | 250 | 1.0 x 8 | 26 x 8 |
| 8 | 200 | 15.7 | 400 | 13.8 | 350 | 10.9 | 277 | 14.7 | 373 | 14.8 | 375 | 12.6 | 320 | 1.2 x 8 | 30 x 12 |
| 10 | 250 | 19.7 | 500 | 17.7 | 450 | 11.9 | 301 | 15.6 | 397 | 17.7 | 450 | 15.2 | 385 | 1.3 x 12 | 33 x 12 |
| 12 | 300 | 19.7 | 500 | 19.7 | 500 | 14.3 | 364 | 18.1 | 460 | 20.3 | 515 | 17.7 | 450 | 1.3 x 12 | 33 x 16 |
| 14 | 350 | 19.7 | 500 | 21.7 | 550 | 15.3 | 389 | 19.1 | 485 | 22.8 | 580 | 20.1 | 510 | 1.4 x 16 | 36 x 16 |
| 16 | 400 | 23.6 | 600 | 23.6 | 600 | 16.3 | 414 | 20.1 | 510 | 26.0 | 660 | 23.0 | 585 | 1.5 x 16 | 39 x 16 |
| 18 | 450 | 23.6 | 600 | 23.6 | 600 | 17.3 | 439 | 21.1 | 535 | 27.0 | 685 | 24.0 | 610 | 1.5 x 20 | 39 x 20 |
| 20 | 500 | 23.6 | 600 | 23.6 | 600 | 18.3 | 464 | 22.0 | 560 | 29.7 | 755 | 26.4 | 670 | 1.7 x 20 | 42 x 20 |
| 24 | 600 | 23.6 | 600 | 23.6 | 600 | 20.7 | 527 | 24.5 | 623 | 35.0 | 890 | 31.3 | 795 | 1.9 x 20 | 48 x 20 |
| Other sizes on request | | | | | | | | | | | | | | | |

**IMPORTANT:** ISO* sensor lay length according to ISO 20456

## OIML APPROVED METER

The M5000 is type approved according to the international water meter standards OIML R49. The meter is approved as Class I and Class II for the detector sizes 2…24 inches (DN 50…600).

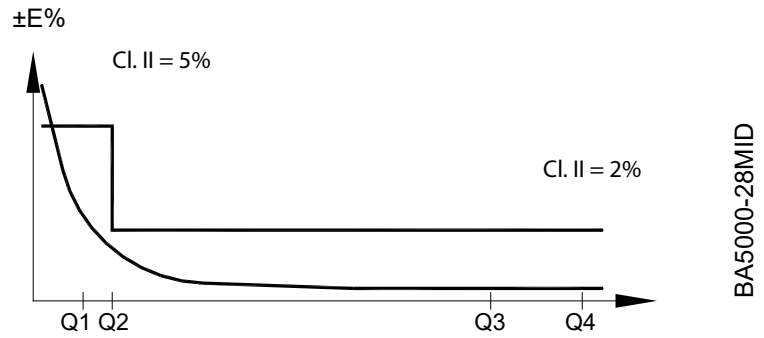



Q2/Q1 = 1.6 and Q4/Q3 = 1.25

| Meter size | | Bore | Accuracy class | Flow rates [m³/h] | | | | Ratio Q3/Q1 |
|---|---|---|---|---|---|---|---|---|
| | | | | Min. Q1 | Transitional Q2 | Permanent Q3 | Overload Q4 | |
| DN 50 | 2 in | FB | 1 or 2 | 0.315 | 0.504 | 63 | 78.75 | 200 |
| | | RB | 2 | 0.1575 | 0.252 | 63 | 78.75 | 400 |
| DN 65 | 2 1/2 in. | FB | 1 or 2 | 0.5 | 0.8 | 100 | 125 | 200 |
| | | RB | 2 | 0.25 | 0.4 | 100 | 125 | 400 |
| DN 80 | 3 in. | FB | 1 or 2 | 0.8 | 1.28 | 160 | 200 | 200 |
| | | RB | 2 | 0.4 | 0.64 | 160 | 200 | 400 |
| DN 100 | 4 in. | FB | 1 or 2 | 1 | 1.6 | 250 | 312.5 | 250 |
| | | RB | 2 | 0.625 | 1 | 250 | 312.5 | 400 |
| DN 125 | 5 in. | FB | 1 or 2 | 1.6 | 2.56 | 400 | 500 | 250 |
| DN 150 | 6 in. | FB | 1 | 3.9375 | 6,3 | 630 | 787.5 | 160 |
| | | | 2 | 2.52 | 4.032 | 630 | 787.5 | 250 |
| DN 200 | 8 in. | FB | 1 | 6.25 | 10 | 1000 | 1250 | 160 |
| | | | 2 | 6.4 | 10.24 | 1600 | 2000 | 250 |
| DN 250 | 10 in. | FB | 1 | 10 | 16 | 1600 | 2000 | 160 |
| | | | 2 | 6.4 | 10.24 | 1600 | 2000 | 250 |
| DN 300 | 12 in. | FB | 1 | 15.625 | 25 | 2500 | 3125 | 160 |
| | | | 2 | 10 | 16 | 2500 | 3125 | 250 |
| DN 350 | 14 in. | FB | 1 | 15.625 | 25 | 2500 | 3125 | 160 |
| | | | 2 | 10 | 16 | 2500 | 3125 | 250 |
| DN 400 | 16 in. | FB | 1 | 25 | 40 | 4000 | 5000 | 160 |
| | | | 2 | 16 | 25.6 | 4000 | 5000 | 250 |
| DN 450 | 18 in. | FB | 1 | 39.375 | 63 | 6300 | 7875 | 160 |
| | | | 2 | 25,2 | 40.32 | 6300 | 7875 | 250 |
| DN 500 | 20 in. | FB | 1 | 39.375 | 63 | 6300 | 7875 | 160 |
| | | | 2 | 25,2 | 40.32 | 6300 | 7875 | 250 |
| DN 600 | 24 in. | FB | 1 | 50.4 | 80.64 | 6300 | 7875 | 125 |
| | | | 2 | 40 | 64 | 10000 | 12500 | 250 |
| FB - Full bore (Δp10) or RB - Reduced bore (Δp40) | | | | | | | | |

## MID APPROVED METER (MI-001)

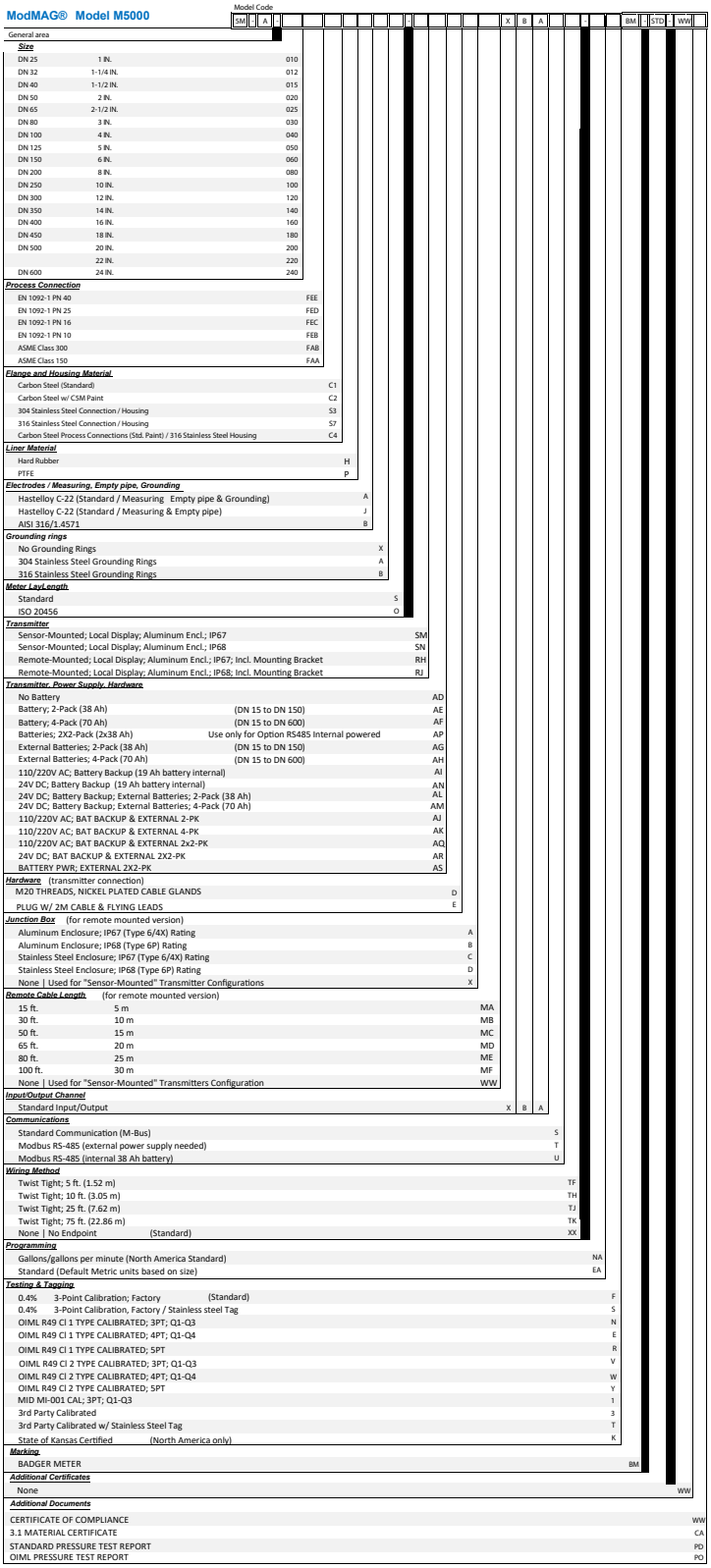
The M5000 is type approved according to Directive 2004/22/EC of the European Parliament and Council of March 31, 2004 Measuring Instruments (MID) Annex MI-001. The meter is approved for the detector sizes 2…24 inches (DN 50…600).




Q2/Q1 = 1.6 and Q4/Q3 = 1.25

| Meter size | | Bore | Flow rates [$m^3/h$] | | | | Ratio Q3/Q1 |
|---|---|---|---|---|---|---|---|
| | | | Min. Q1 | Transitional Q2 | Permanent Q3 | Overload Q4 | |
| DN 50 | 2 in. | FB | 0.315 | 0.504 | 63 | 78.75 | 200 |
| | | RB | 0.1575 | 0.252 | 63 | 78.75 | 400 |
| DN 65 | 2 1/2 in. | FB | 0.5 | 0.8 | 100 | 125 | 200 |
| | | RB | 0.25 | 0.4 | 100 | 125 | 400 |
| DN 80 | 3 in | FB | 0.8 | 1.28 | 160 | 200 | 200 |
| | | RB | 0,4 | 0.64 | 160 | 200 | 400 |
| DN 100 | 4 in. | FB | 1 | 1.6 | 250 | 312.5 | 250 |
| | | RB | 0.625 | 1 | 250 | 312.5 | 400 |
| DN 125 | 5 in. | FB | 1.6 | 2.56 | 400 | 500 | 250 |
| DN 150 | 6 in. | FB | 2.52 | 4.032 | 630 | 787.5 | 250 |
| DN 200 | 8 in. | FB | 6.4 | 10.24 | 1600 | 2000 | 250 |
| DN 250 | 10 in. | FB | 6.4 | 10.24 | 1600 | 2000 | 250 |
| DN 300 | 12 in. | FB | 10 | 16 | 2500 | 3125 | 250 |
| DN 350 | 14 in. | FB | 10 | 16 | 2500 | 3125 | 250 |
| DN 400 | 16 in. | FB | 16 | 25.6 | 4000 | 5000 | 250 |
| DN 450 | 18 in. | FB | 25.2 | 40.32 | 6300 | 7875 | 250 |
| DN 500 | 20 in. | FB | 25.2 | 40.32 | 6300 | 7875 | 250 |
| DN 600 | 24 in. | FB | 40 | 10000 | 10000 | 12500 | 250 |
| FB - Full bore (Δp10) or RB - Reduced bore (Δp40) | | | | | | | |

## PART NUMBER CONSTRUCTION



**ModMAG® Model M5000**

Model Code: 5M | A | | | | | | | | | | | | | | | X | B | A | | | | | | | BM | STD | WW | |

General area

***Size***

| | | |
|---|---|---|
| DN 25 | 1 IN. | 010 |
| DN 32 | 1-1/4 IN. | 012 |
| DN 40 | 1-1/2 IN. | 015 |
| DN 50 | 2 IN. | 020 |
| DN 65 | 2-1/2 IN. | 025 |
| DN 80 | 3 IN. | 030 |
| DN 100 | 4 IN. | 040 |
| DN 125 | 5 IN. | 050 |
| DN 150 | 6 IN. | 060 |
| DN 200 | 8 IN. | 080 |
| DN 250 | 10 IN. | 100 |
| DN 300 | 12 IN. | 120 |
| DN 350 | 14 IN. | 140 |
| DN 400 | 16 IN. | 160 |
| DN 450 | 18 IN. | 180 |
| DN 500 | 20 IN. | 200 |
| | 22 IN. | 220 |
| DN 600 | 24 IN. | 240 |

***Process Connection***

| | |
|---|---|
| EN 1092-1 PN 40 | FEE |
| EN 1092-1 PN 25 | FED |
| EN 1092-1 PN 16 | FEC |
| EN 1092-1 PN 10 | FEB |
| ASME Class 300 | FAB |
| ASME Class 150 | FAA |

***Flange and Housing Material***

| | |
|---|---|
| Carbon Steel (Standard) | C1 |
| Carbon Steel w/ CSM Paint | C2 |
| 304 Stainless Steel Connection / Housing | S3 |
| 316 Stainless Steel Connection / Housing | S7 |
| Carbon Steel Process Connections (Std. Paint) / 316 Stainless Steel Housing | C4 |

***Liner Material***

| | |
|---|---|
| Hard Rubber | H |
| PTFE | P |

***Electrodes / Measuring, Empty pipe, Grounding***

| | |
|---|---|
| Hastelloy C-22 (Standard / Measuring Empty pipe & Grounding) | A |
| Hastelloy C-22 (Standard / Measuring & Empty pipe) | J |
| AISI 316/1.4571 | B |

***Grounding rings***

| | |
|---|---|
| No Grounding Rings | X |
| 304 Stainless Steel Grounding Rings | A |
| 316 Stainless Steel Grounding Rings | B |

***Meter LayLength***

| | |
|---|---|
| Standard | S |
| ISO 20456 | O |

***Transmitter***

| | |
|---|---|
| Sensor-Mounted; Local Display; Aluminum Encl.; IP67 | SM |
| Sensor-Mounted; Local Display; Aluminum Encl.; IP68 | SN |
| Remote-Mounted; Local Display; Aluminum Encl.; IP67; Incl. Mounting Bracket | RH |
| Remote-Mounted; Local Display; Aluminum Encl.; IP68; Incl. Mounting Bracket | RJ |

***Transmitter, Power Supply, Hardware***

| | | |
|---|---|---|
| No Battery | | AD |
| Battery; 2-Pack (38 Ah) | (DN 15 to DN 150) | AE |
| Battery; 4-Pack (70 Ah) | (DN 15 to DN 600) | AF |
| Batteries; 2X2-Pack (2x38 Ah) | Use only for Option RS485 Internal powered | AP |
| External Batteries; 2-Pack (38 Ah) | (DN 15 to DN 150) | AG |
| External Batteries; 4-Pack (70 Ah) | (DN 15 to DN 600) | AH |
| 110/220V AC; Battery Backup (19 Ah battery internal) | | AI |
| 24V DC; Battery Backup (19 Ah battery internal) | | AN |
| 24V DC; Battery Backup; External Batteries; 2-Pack (38 Ah) | | AL |
| 24V DC; Battery Backup; External Batteries; 4-Pack (70 Ah) | | AM |
| 110/220V AC; BAT BACKUP & EXTERNAL 2-PK | | AJ |
| 110/220V AC; BAT BACKUP & EXTERNAL 4-PK | | AK |
| 110/220V AC; BAT BACKUP & EXTERNAL 2x2-PK | | AQ |
| 24V DC; BAT BACKUP & EXTERNAL 2X2-PK | | AR |
| BATTERY PWR; EXTERNAL 2X2-PK | | AS |

***Hardware*** (transmitter connection)

| | |
|---|---|
| M20 THREADS, NICKEL PLATED CABLE GLANDS | D |
| PLUG W/ 2M CABLE & FLYING LEADS | E |

***Junction Box*** (for remote mounted version)

| | |
|---|---|
| Aluminum Enclosure; IP67 (Type 6/4X) Rating | A |
| Aluminum Enclosure; IP68 (Type 6P) Rating | B |
| Stainless Steel Enclosure; IP67 (Type 6/4X) Rating | C |
| Stainless Steel Enclosure; IP68 (Type 6P) Rating | D |
| None \| Used for "Sensor-Mounted" Transmitter Configurations | X |

***Remote Cable Length*** (for remote mounted version)

| | | |
|---|---|---|
| 15 ft. | 5 m | MA |
| 30 ft. | 10 m | MB |
| 50 ft. | 15 m | MC |
| 65 ft. | 20 m | MD |
| 80 ft. | 25 m | ME |
| 100 ft. | 30 m | MF |
| None \| Used for "Sensor-Mounted" Transmitters Configuration | | WW |

***Input/Output Channel***

| | |
|---|---|
| Standard Input/Output | X B A |

***Communications***

| | |
|---|---|
| Standard Communication (M-Bus) | S |
| Modbus RS-485 (external power supply needed) | T |
| Modbus RS-485 (internal 38 Ah battery) | U |

***Wiring Method***

| | |
|---|---|
| Twist Tight; 5 ft. (1.52 m) | TF |
| Twist Tight; 10 ft. (3.05 m) | TH |
| Twist Tight; 25 ft. (7.62 m) | TJ |
| Twist Tight; 75 ft. (22.86 m) | TK |
| None \| No Endpoint (Standard) | XX |

***Programming***

| | |
|---|---|
| Gallons/gallons per minute (North America Standard) | NA |
| Standard (Default Metric units based on size) | EA |

***Testing & Tagging***

| | | |
|---|---|---|
| 0.4% | 3-Point Calibration; Factory (Standard) | F |
| 0.4% | 3-Point Calibration, Factory / Stainless steel Tag | S |
| | OIML R49 Cl 1 TYPE CALIBRATED; 3PT; Q1-Q3 | N |
| | OIML R49 Cl 1 TYPE CALIBRATED; 4PT; Q1-Q4 | E |
| | OIML R49 Cl 1 TYPE CALIBRATED; 5PT | R |
| | OIML R49 Cl 2 TYPE CALIBRATED; 3PT; Q1-Q3 | V |
| | OIML R49 Cl 2 TYPE CALIBRATED; 4PT; Q1-Q4 | W |
| | OIML R49 Cl 2 TYPE CALIBRATED; 5PT | Y |
| | MID MI-001 CAL; 3PT; Q1-Q3 | 1 |
| | 3rd Party Calibrated | 3 |
| | 3rd Party Calibrated w/ Stainless Steel Tag | T |
| | State of Kansas Certified (North America only) | K |

***Marking***

| | |
|---|---|
| BADGER METER | BM |

***Additional Certificates***

| | |
|---|---|
| None | WW |

***Additional Documents***

| | |
|---|---|
| CERTIFICATE OF COMPLIANCE | WW |
| 3.1 MATERIAL CERTIFICATE | CA |
| STANDARD PRESSURE TEST REPORT | PD |
| OIML PRESSURE TEST REPORT | PO |

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