orbia | Precision Agriculture

NETAFIM™

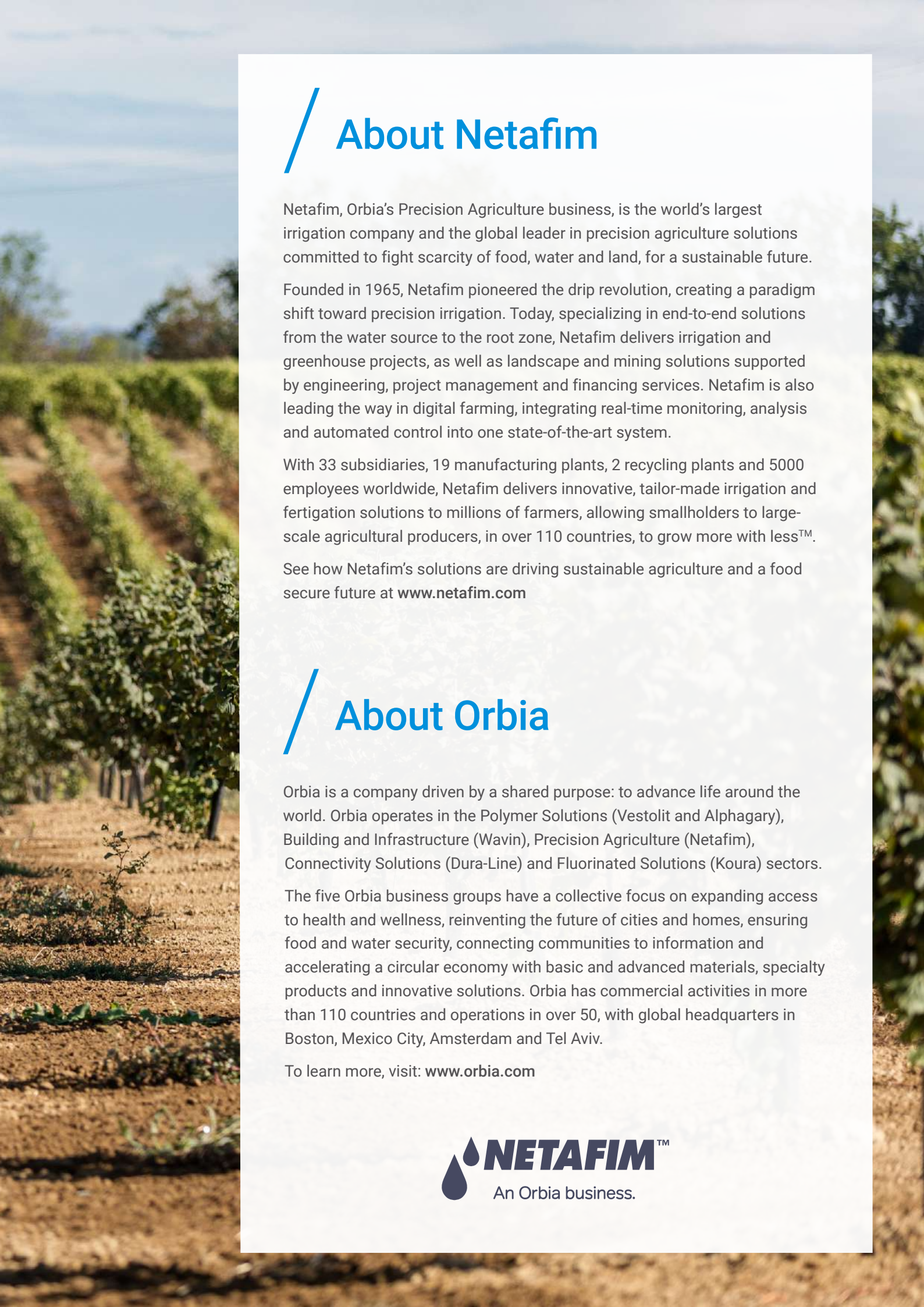
Ultimate control
ultimate
precision

# Water Meters

2024 v1.0

## / Product Catalog

# Content



# About Netafim

Netafim, Orbia's Precision Agriculture business, is the world's largest irrigation company and the global leader in precision agriculture solutions committed to fight scarcity of food, water and land, for a sustainable future.

Founded in 1965, Netafim pioneered the drip revolution, creating a paradigm shift toward precision irrigation. Today, specializing in end-to-end solutions from the water source to the root zone, Netafim delivers irrigation and greenhouse projects, as well as landscape and mining solutions supported by engineering, project management and financing services. Netafim is also leading the way in digital farming, integrating real-time monitoring, analysis and automated control into one state-of-the-art system.

With 33 subsidiaries, 19 manufacturing plants, 2 recycling plants and 5000 employees worldwide, Netafim delivers innovative, tailor-made irrigation and fertigation solutions to millions of farmers, allowing smallholders to large-scale agricultural producers, in over 110 countries, to grow more with less™.

See how Netafim's solutions are driving sustainable agriculture and a food secure future at **www.netafim.com**

# About Orbia

Orbia is a company driven by a shared purpose: to advance life around the world. Orbia operates in the Polymer Solutions (Vestolit and Alphagary), Building and Infrastructure (Wavin), Precision Agriculture (Netafim), Connectivity Solutions (Dura-Line) and Fluorinated Solutions (Koura) sectors.

The five Orbia business groups have a collective focus on expanding access to health and wellness, reinventing the future of cities and homes, ensuring food and water security, connecting communities to information and accelerating a circular economy with basic and advanced materials, specialty products and innovative solutions. Orbia has commercial activities in more than 110 countries and operations in over 50, with global headquarters in Boston, Mexico City, Amsterdam and Tel Aviv.

To learn more, visit: **www.orbia.com**

NETAFIM™
An Orbia business.

# Multi-Jet

orbia Precision Agriculture

NETAFIM™

# ARAD™ Multi-Jet™

## Simple & reliable multi-jet meters, designed for accurate measurement of low flows.

Light

Precise

Maximum reliability

model M ½- 1¼ - Plastic

model MS 1½- 2

## Benefits & Features

- → Light — for easy handling
- → Precise — Accurate flow reading
- → Maximum reliability — Sturdy and durable

## Specifications & Recommendations

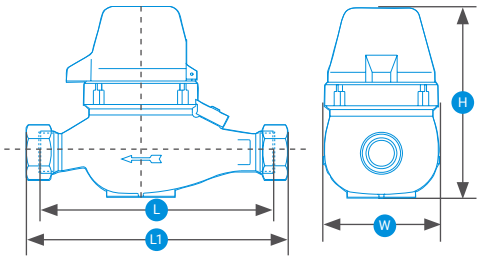
- **Maximum Working Pressure – 10bar**
- **Maximum Working Temperature** – °50C, °90C - for hot water
- Body made of corrosion-proof copper alloy
- Optional highly reinforced composite material
- Coupling threads BSP, NPT

## → Installation Requirements

- The meter must be installed in horizontal position with dial face up
- Prior to the installation of a new meter, the pipeline must be flushed out
- The meter should be constantly full of water

## → Technical Dimensions

| model | | m15 (short) | m20 | m25 | m32 | ms40 | ms50 |
|---|---|---|---|---|---|---|---|
| Diameter | mm | 15 | 20 | 25 | 30 | 40 | 50 |
| | inch | ½ | ¾ | 1 | 1¼ | 1½ | 2 |
| L - Length without couplings (mm) | | 165 | 190 | 260 | 260 | 300 | 300 |
| L1 - Length with couplings (mm) | | 260 | 285 | 375 | 375 | 435 | 460 |
| W- Width (mm) | | 95 | 95 | 105 | 105 | 125 | 160 |
| H - Height (mm) | | 102 | 108 | 108 | 108 | 140 | 190 |
| Weight (kg) | | 1.5 | 2 | 2.8 | 2.8 | 4.1 | 8 |
| Weight with couplings (kg) | | 1.7 | 2.3 | 3.3 | 3.45 | 5.1 | 9.4 |
| Weight (plastic body) (kg) | | 0.55 | 0.6 | 0.65 | 0.66 | - | - |




## → Performance Data

| model | Nominal Size (inch) | Q1 Minimum Flowrate ($m^3/h$) | Q2 Transitional Flowrate ($m^3/h$) | Q3 Nominal Flowrate ($m^3/h$) | Q4 Maximum Flowrate ($m^3/h$) | R Q3/ Q1 | Indicating Range ($m^3/h$) | Accuracy Between Q4 & Q2 | Accuracy Between Q2 & Q1 |
|---|---|---|---|---|---|---|---|---|---|
| M15 | ½ | 0.032 | 0.051 | 1.6 | 2 | 50 | 999.999 | ±2% | ±5% |
| M20 | ¾ | 0.050 | 0.080 | 2.5 | 3.125 | 50 | | | |
| M25 | 1 | 0.080 | 0.128 | 4 | 5 | 50 | | | |
| M32 | 1¼ | 0.126 | 0.202 | 6.3 | 7.875 | 50 | | | |
| ms40 | 1½ | 0.100 | 0.160 | 10 | 12.5 | 100 | | | |
| ms50 | 2 | 0.320 | 0.512 | 16 | 20 | 50 | | | |

## → Catalog Numbers

### Brass Model

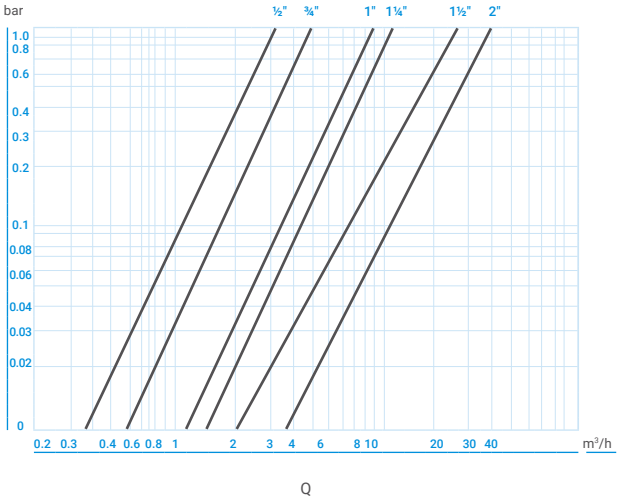
| Diameter | Connection Type | Pulse Resolution | Catalog Number |
|---|---|---|---|
| ½" | BSP | None | 70240-000800 |
| | | 1L | 70240-000900 |
| | | 10L | 70240-001000 |
| ¾" | | None | 70240-001733 |
| | | 1L | 70240-021004 |
| | | 10L | 70240-021005 |
| 1" | | None | 70240-021020 |
| | | 1L | 70240-021021 |
| | | 10L | 70240-021022 |
| 1¼" | | None | 70240-021041 |
| | | 1L | 70240-021042 |
| | | 10L | 70240-021045 |
| 1½" | | None | 70240-021071 |
| | | 10L | 70240-021072 |
| | | 100L | 70240-021073 |
| 2" | | None | 70240-021550 |
| | | 10L | 70240-021551 |
| | | 100L | 70240-021552 |
| | | 1m³ | 70240-021553 |

### Plastic Model

| Diameter | Connection Type | Pulse Resolution | Catalog Number |
|---|---|---|---|
| ¾" | BSP | 1L | 70240-000023 |

* Additional pulse resolutions available upon request
** Catalog numbers referring to metal Multi-Jets

## → Head Loss



# GAER™ Multi-Jet™

## A water meter with magnetic transmission and dry recording head.

Brass model

Plastic model

Light

Precise

Maximum reliability

## Benefits & Features

- → Light — for easy handling
- → Precise — Accurate flow reading
- → Maximum reliability — Sturdy and durable

## Specifications & Recommendations

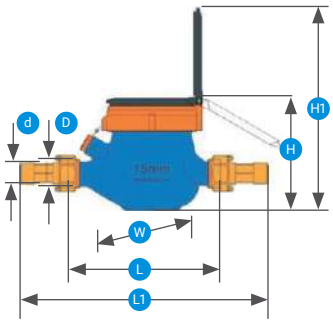
- **Available Sizes –** ½" to 1½" (DN15 – DN40) for plastic, ½" to 2" (DN15 – DN50) for brass
- **Maximum Working Pressure –** PN16 (brass), PN10 (plastic)
- **Maximum Fluid Temperature –** 30°C (plastic), 50°C (brass)
- BSP thread connection, Optional NPT

## → Installation Requirements

- The water meter can be installed horizontally or vertically (ascending flow)
- The meter must be always full of water while operating
- Prior to the installation of a new meter, the pipeline must be flushed out
- This water meter model does not need straight sections for water flow stabilization

## → Technical Dimensions

| Diameter | mm | 15 | 20 | 25 | 32 | 40 | 50 |
|---|---|---|---|---|---|---|---|
| | inch | ½ | ¾ | 1 | 1¼ | 1½ | 2 |
| L (mm) | | 165 | 190 | 260 | 260 | 300 | 300 |
| L1 (mm) | | 259 | 294 | 380 | 384 | 431 | 448 |
| d thread (inches) | | ¾ | 1 | 1¼ | 1½ | 2 | 2½ |
| d thread (inches) | | ½ | ¾ | 1 | 1¼ | 1½ | 2 |
| h (mm) | | 107.5 | 107.5 | 117.5 | 117.5 | 141.5 | 177 |
| h1 (mm) | | 191 | 191 | 206.5 | 206.5 | 256.5 | 292 |
| w (mm) | | 94 | 94 | 98 | 98 | 122 | 145 |



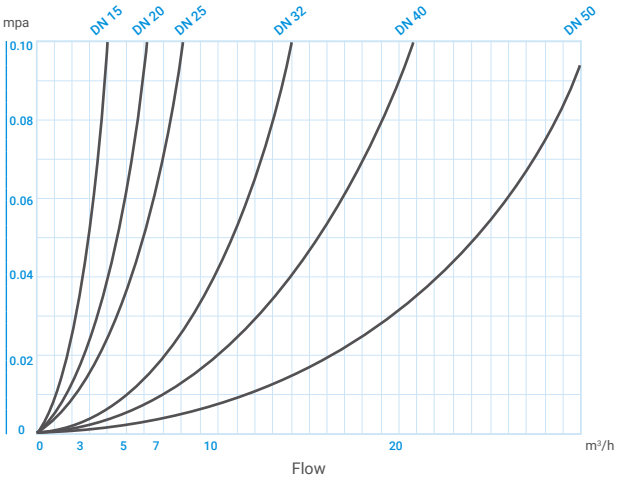

## → Performance Data

| Diameter | | Q1 Minimum Flowrate | Q2 Transition Flowrate | Q3 Nominal Flowrate | Q4 Maximum Flowrate | R Q3/ Q1 | Maximum Recording Capacity | Minumum Reading |
|---|---|---|---|---|---|---|---|---|
| mm | inches | (l/h) | (l/h) | ($m^3$/h) | ($m^3$/h) | | ($m^3$) | (l) |
| 15 | ½ | 31.25 | 50 | 2.5 | 3.125 | 80 | 99999,9999$m^3$ | 0.05 |
| 20 | ¾ | 50 | 80 | 4 | 5 | | | |
| 25 | 1 | 78.75 | 126 | 6.3 | 7.875 | | | |
| 32 | 1¼ | 125 | 200 | 10 | 12.5 | | 999999,9999$m^3$ | |
| 40 | 1½ | 200 | 320 | 16 | 20 | | | |
| 50 | 2 | 312.5 | 500 | 25 | 31.25 | | | |

## → Catalog Numbers

| Diameter | Connection Type | Pulse Resolution | Catalog Number for Metal Product | Catalog Number for Plastic Product |
|---|---|---|---|---|
| ¾" | BSP | None | 71670-000100 | 71670-000150 |
| | | 1L | 71670-000101 | 71670-000151 |
| | | 10L | 71670-000102 | 71670-000152 |
| 1" | | None | 71670-000110 | 71670-000160 |
| | | 1L | 71670-000111 | 71670-000161 |
| | | 10L | 71670-000112 | 71670-000162 |
| 1¼" | | None | 71670-000120 | 71670-000170 |
| | | 1L | 71670-000121 | 71670-000171 |
| | | 10L | 71670-000122 | 71670-000172 |
| 1½" | | None | 71670-000130 | 71670-000180 |
| | | 1L | 71670-000131 | 71670-000181 |
| | | 10L | 71670-000132 | 71670-000182 |
| 2" | | None | 71670-000140 | - |
| | | 1L | 71670-000141 | - |
| | | 10L | 71670-000142 | - |

## → Head Loss


mpa
DN 15
DN 20
DN 25
DN 32
DN 40
DN 50
0.10
0.08
0.06
0.04
0.02
0
0
3
5
7
10
20
m³/h
Flow

# Irrigation Type

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# ARAD™ Irrigation Type

**Irrigation meters specially designed with free water passage to allow accurate measurement of water with high content of impurities.**

Maximum reliability

Negligible head loss

Ease of maintenance

## Benefits & Features

| | |
|---|---|
| → Maximum reliability | Sturdy and durable |
| → Negligible head loss | Due to a full passage throughout the meter |
| → Ease of maintenance | Replacement of the measuring unit |
| → No deposit of solids | Thanks to continued flush of the bearings |

## Specifications & Recommendations

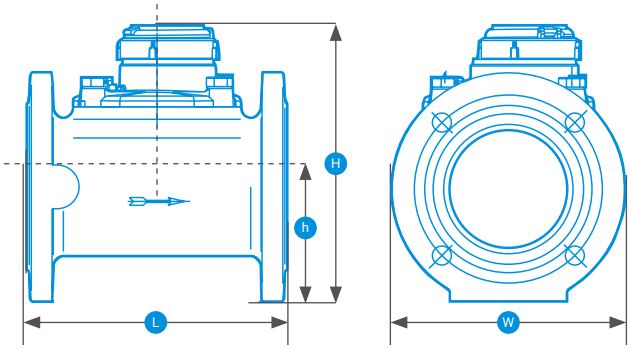
- **Maximum Working Pressure** – 16bar
- **Maximum Working Temperature** – 60°C
- **Body** – Cast iron, polyester coated

## → Installation Requirements

- The meter can be installed in any position (horizontal, vertical or inclined)
- The meter must be always full of water while operating
- Prior to the installation of a new meter, the pipeline must be flushed out
- Straight pipe section of the same diameter D as the meter, having length of 10D and 5D shall be installed upstream and downstream of the meter respectively

## → Technical Dimensions

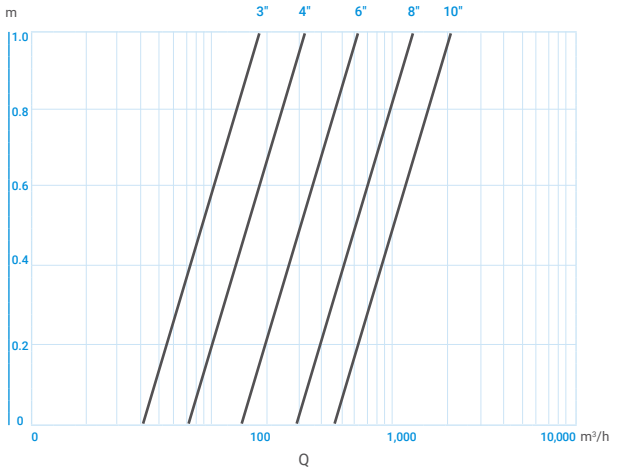
| Diameter | mm | 80 | 100 | 150 | 200 | 250 |
|---|---|---|---|---|---|---|
| | inch | 3 | 4 | 6 | 8 | 10 |
| l - Length (mm) without couplings | | 230 | 250 | 300 | 350 | 400 |
| w - Width (mm) | | 240 | 260 | 310 | 315 | 438 |
| h - Height (mm) | | 90 | 110 | 129 | 160 | 258 |
| h - Height (mm) | | 16.5 | 19 | 32 | 45 | 55.5 |
| Weight (kg) | | 15.5 | 19 | 35 | 47 | 75 |




## → Performance Data

| Diameter | | Q1 Minimum Flowrate ($m^3/h$) | Q2 Transitional Flowrate ($m^3/h$) | Q3 Nominal Flowrate ($m^3/h$) | Q4 Maximum Flowrate ($m^3/h$) | Smallest Readable Unit (liter) | Maximum Register Capacity ($m^3/h$) | Accuracy Between Q4 & Q2 | Accuracy Between Q2 & Q1 |
|---|---|---|---|---|---|---|---|---|---|
| mm | inch | | | | | | | | |
| 80 | 3 | 5 | 10 | 90 | 150 | 10 | $10^7$ | ±2% | ±5% |
| 100 | 4 | 7 | 11 | 125 | 250 | | | | |
| 150 | 6 | 10 | 15 | 250 | 500 | | | | |
| 200 | 8 | 18 | 30 | 450 | 900 | | | | |
| 250 | 10 | 20 | 70 | 750 | 1400 | 100 | $10^8$ | | |

## → Head Loss



## → Catalog Numbers

| Diameter | Flange Type | Pulse Resolution | Catalog Number |
|---|---|---|---|
| 3" | ISO | None | 70240-005950 |
| | | 100L | 70240-006010 |
| | BSTD | None | 70240-005980 |
| | | 100L | 70240-006000 |
| | ANSI | None | 70261-007500 |
| | | 100L | 70261-007550 |
| 4" | ISO | None | 70240-006060 |
| | | 100L | 70240-006090 |
| | BSTD | None | 70240-006070 |
| | | 100L | 70240-006080 |
| | ANSI | None | 70261-007800 |
| | | 100L | 70261-007850 |

| Diameter | Flange Type | Pulse Resolution | Catalog Number |
|---|---|---|---|
| 6" | ISO | None | 70240-006150 |
| | | 100L | 70240-006159 |
| | BSTD | None | 70240-006160 |
| | | 100L | 70240-006180 |
| 8" | ISO | None | 70240-006250 |
| | | 1m³ | 70240-006277 |
| | BSTD | None | 70240-006260 |
| | | 1m³ | 70240-006300 |
| | ANSI | None | 70261-008200 |
| | | 1m³ | 70261-008300 |
| 10" | ISO | None | 70240-006358 |
| | | 1m³ | 70240-006390 |
| | BSTD | None | 70240-006360 |
| | | 1m³ | 70240-006380 |
| | ANSI | None | 70261-008500 |
| | | 1m³ | 70261-008550 |

## → Catalog Numbers

For irrigation type water meter with electronic register

| Diameter | Flange Type | Pulse Resolution | Catalog Number |
|---|---|---|---|
| 3" | ISO | 100L x 1m³ | 70240-006051 |
| | BSTD | 100L x 1m³ | 70240-005935 |
| 4" | ISO | 100L x 1m³ | 70240-006055 |
| | BSTD | 100L x 1m³ | 70240-005936 |
| 6" | ISO | 100L x 1m³ | 70240-006235 |
| | BSTD | 100L x 1m³ | 70240-005937 |
| 8" | ISO | 100L x 1m³ | 70240-008613 |
| | | 1m³ x 10m³ | 70240-008614 |
| | BSTD | 100L x 1m³ | 70261-009849 |
| | | 1m³ x 10m³ | 70240-008615 |
| 10" | ISO | 1m³ x 10m³ | 70240-006420 |
| | BSTD | 1m³ x 10m³ | 70240-006421 |


* Additional diameters, flange types and pulse resolutions are available upon request

**Note: must order**

| Description | Catalog Number |
|---|---|
| Pulse cable for digital register | 70220--030000 |

# GAER™ Irrigation Type

## MAGNETIC REGISTER

**A tangential turbine meter with magnetic transmission and super dry recording.**

Maximum reliability

High corrosion & UV resistance

Robust

## Benefits & Features

| | |
|---|---|
| → Maximum reliability | Sturdy and durable |
| → High corrosion & UV resistance | - Components made of high strength, quality materials, technical plastics and epoxy<br>- Coated steel body |
| → Robust | Components made of high strength, quality materials, technical plastics and epoxy coated steel body preventing from corrosion |
| → Comfortable reading | IP68 rotary recording for more comfortable reading |
| → Resistance to blockage | Thanks to special design of the blade wheels, placed on the upper part of the body |
| → Inter-changeable measuring mechanism | Can be removed without disassembling the body |

## Specifications & Recommendations

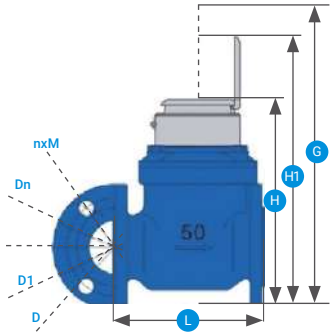
- **Diameters –** 2”-12” (50mm-300mm)
- **Maximum Working Pressure –** Standard 16bar
- **Maximum Fluid Temperature –** 30°C
- **Body –** Cast iron
- Connection by ISO PN16 flanges. Upon request, ISO PN10, ASME 125 and others

## → Installation Requirements

- The Gaer® Woltman WP water meter can be installed horizontally (with ascending flow) or vertically
- The meter must be always full of water while operating
- Prior to the installation of a new meter, the pipeline must be flushed out
- Straight pipe section of the same diameter D as the meter, having length of 10D and 5D shall be installed upstream and downstream of the meter respectively

## → Technical Dimensions

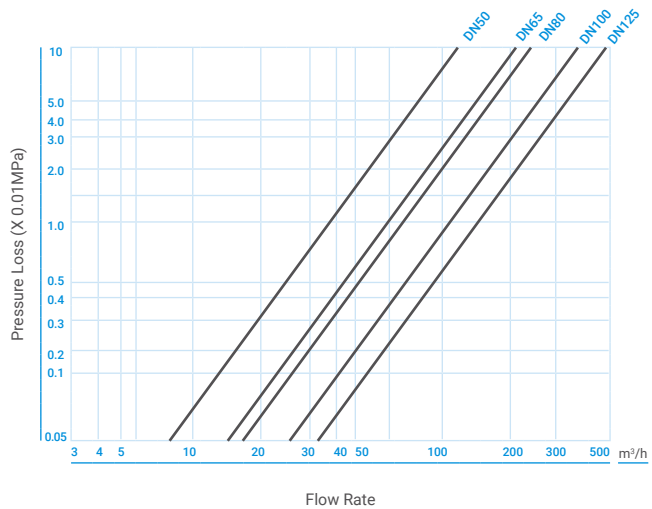
| dn | 50 | 65 | 80 | 100 | 125 | 150 | 200 | 250 | 300 |
|---|---|---|---|---|---|---|---|---|---|
| l | 200 | 200 | 225 | 250 | 250 | 300 | 350 | 450 | 500 |
| h | 252 | 262 | 279.5 | 289.5 | 303 | 332.5 | 389 | 442.5 | 498.5 |
| h1 | 338 | 348 | 365.5 | 375.5 | 389 | 418.5 | 475 | 528.5 | 584.5 |
| d | 165 | 185 | 200 | 220 | 250 | 285 | 340 | 405 | 460 |
| d1 | 125 | 145 | 160 | 180 | 210 | 240 | 295 | 355 | 410 |
| n x M | 4xM16 | | 8xM16 | | | 8xM20 | 12xM20 | 12xM24 | |

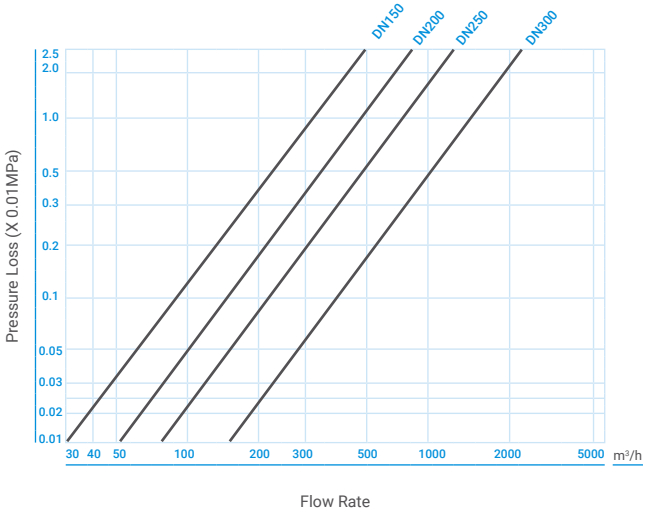



## → Performance Data

| dn (mm) | Q1 Minimum flowrate ($m^3/h$) | Q2 Transitional flowrate ($m^3/h$) | Q3 Nominal flowrate ($m^3/h$) | Q4 Maximum flowrate ($m^3/h$) | R Q3/ Q1 | maximum reading capacity ($m^3$) | minimum reading capacity ($m^3$) | pressure loss (Δp) |
|---|---|---|---|---|---|---|---|---|
| 50 | 3.15 | 5.04 | 63 | 78.75 | | 999999,9999$m^3$ | 0.001 | 25 |
| 65 | 3.15 | 5.04 | 63 | 78.75 | | | | 10 |
| 80 | 5 | 8 | 100 | 125 | | | | |
| 100 | 8 | 12.8 | 160 | 200 | | | | |
| 125 | 12.5 | 20 | 250 | 312.5 | 20 | | | |
| 150 | 20 | 32 | 400 | 500 | | | | |
| 200 | 31.5 | 50.4 | 630 | 787.5 | | 9999999,9$m^3$ | 0.01 | |
| 250 | 50 | 80 | 1000 | 1250 | | | | |
| 300 | 80 | 128 | 1600 | 2000 | | | | |

## → Head Loss



## → Catalog Numbers

| Diameter | Connection Type | Pulse Resolution | Catalog Number |
|---|---|---|---|
| 2" | ISO | None | 71670-000190 |
| | | 100L | 71670-000193 |
| | BSTD | None | 71670-000191 |
| | | 100L | 71670-000194 |
| | ANSI | None | 71670-000192 |
| | | 100L | 71670-000195 |
| 3" | ISO | None | 71670-000200 |
| | | 100L | 71670-000300 |
| | BSTD | None | 71670-000201 |
| | | 100L | 71670-000301 |
| | ANSI | None | 71670-000202 |
| | | 100L | 71670-000302 |
| 4" | ISO | None | 71670-000210 |
| | | 100L | 71670-000310 |
| | BSTD | None | 71670-000211 |
| | | 100L | 71670-000311 |
| | ANSI | None | 71670-000212 |
| | | 100L | 71670-000312 |

| Diameter | Connection Type | Pulse Resolution | Catalog Number |
|---|---|---|---|
| 6" | ISO | None | 71670-000220 |
| | | $1m^3$ | 71670-000223 |
| | BSTD | None | 71670-000221 |
| | | $1m^3$ | 71670-000224 |
| | ANSI | None | 71670-000222 |
| | | $1m^3$ | 71670-000225 |
| 8" | ISO | None | 71670-000230 |
| | | $1m^3$ | 71670-000320 |
| | BSTD | None | 71670-000231 |
| | | $1m^3$ | 71670-000321 |
| | ANSI | None | 71670-000232 |
| | | $1m^3$ | 71670-000322 |
| 10" | ISO | None | 71670-000229 |
| | | $1m^3$ | 71670-000319 |
| | BSTD | None | 71670-000236 |
| | | $1m^3$ | 71670-000318 |
| | ANSI | None | 71670-000325 |
| | | $1m^3$ | 71670-000323 |

* Additional diameters, flange types and pulse resolutions available upon request

# Woltman Type

orbia | Precision Agriculture

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# ARAD™ Woltman Type

## MECHANICAL REGISTER

**Exceptionally accurate Woltman meters with top of the line performances. Suitable for a wide range of applications and flow measurements.**

Standard model

WMR model

High corrosion & UV resistance

Precise

Maximum reliability

## Benefits & Features

| | |
|---|---|
| → High corrosion & UV resistance | Components made of high strength, quality materials, technical plastics and epoxy coated steel body |
| → Precise | Accurate flow reading |
| → Maximum reliability | Sturdy and durable |

## Specifications & Recommendations

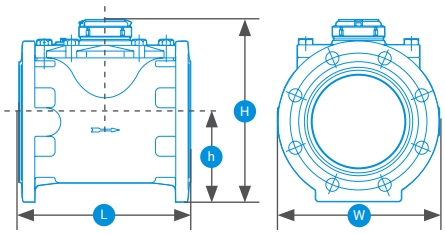
- **Maximum Working Pressure** – 16bar
- **Maximum Working Temperature** – 60°C
- **Body** – Cast iron, polyester coated
- **Connection Flanges** – According to ISO, BS 10, ANSI 150 or others

## ⟶ Installation Requirements

- The water meter may be installed in any position. For non-horizontal positions the flow shall be upwards
- The meter shall be full of water while operating
- Prior to the installation of a new meter, the pipeline must be flushed out
- Requirements for straight pipe section: D5/ D3

## ⟶ Technical Dimensions

| Diameter | mm | 50* | 50 | 65 | 80 | 100 | 150 | 200 | 250 | 300 |
|---|---|---|---|---|---|---|---|---|---|---|
| | inch | 2 | 2 | 2½ | 3 | 4 | 6 | 8 | 10 | 12 |
| l - Length (mm) | | 200 | 200 | 200 | 230 | 250 | 300 | 350 | 450 | 500 |
| w - Width (mm) | | 98 | 165 | 185 | 200 | 220 | 283 | 340 | 406 | 489 |
| h - Height (mm) | | 40 | 239 | 254 | 259 | 275 | 344 | 377 | 463 | 505 |
| h - Height (mm) | | 2.3 | 70 | 84 | 90 | 106 | 130 | 158 | 258 | 330 |
| Weight (kg) | | 3.7 | 12.5 | 15 | 15.5 | 19 | 35.5 | 41 | 80 | 95 |



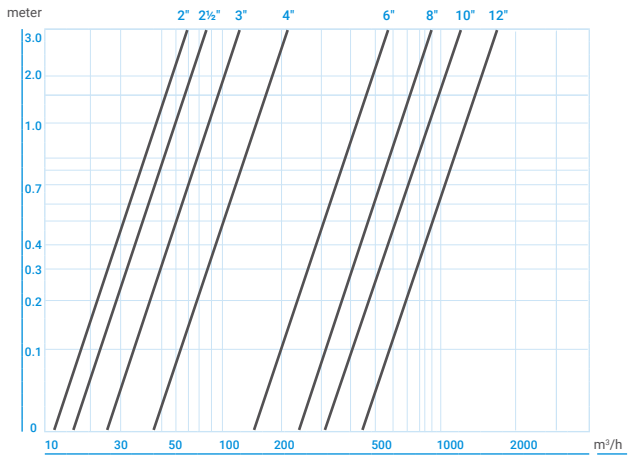

* Refering to WMR model. Length not including records, records add 75mm for each side.

## ⟶ Performance Data

| Diameter | | Q1 Minimum Flowrate | Q2 Transitional Flowrate | Q3 Nominal Flowrate | Q4 Maximum Flowrate | Starting Flow | Maximum Register Capacity | R Q3/ Q1 | Accuracy Between Q4 & Q2 | Accuracy Between Q2 & Q1 |
|---|---|---|---|---|---|---|---|---|---|---|
| mm | inch | ($m^3$/h) | ($m^3$/h) | ($m^3$/h) | ($m^3$/h) | ($m^3$/h) | ($m^3$/h) | | | |
| 50* | 2 | 0.45 | 2 | 20 | 40 | 0.15 | $10^6$ | 44.4 | | |
| 50 | 2 | 0.63 | 1.01 | 63 | 78.75 | 0.15 | $10^6$ | | | |
| 65 | 2½ | 0.63 | 1.01 | 63 | 78.75 | 0.15 | $10^6$ | | | |
| 80 | 3 | 1 | 1.6 | 100 | 125 | 0.25 | $10^6$ | 100 | | |
| 100 | 4 | 1.6 | 2.56 | 160 | 200 | 0.3 | $10^7$ /$10^6$ | | ±2% | ±5% |
| 150 | 6 | 2.5 | 4 | 250 | 312.5 | 0.8 | $10^7$ /$10^6$ | | | |
| 200 | 8 | 12.6 | 20.16 | 630 | 787.5 | 2 | $10^8$ | | | |
| 250 | 10 | 20 | 32 | 1000 | 1250 | 3 | $10^8$ | 50 | | |
| 300 | 12 | 20 | 32 | 1000 | 1250 | 4 | $10^8$ | | | |

* Refering to WMR model

## ⟶ Head Loss




Q

## → Catalog Numbers

### For woltman type water meter with mechanical register

| Diameter | Connection Type | Pulse Resolution | Catalog Number |
|---|---|---|---|
| 2" | BSP (WMR*) | None | 70240-002400 |
| | | 10L | 70240-002500 |
| | | 100L | 70240-002550 |
| | ISO | None | 70240-021200 |
| | | 10L | 70240-021202 |
| | | 100L | 70240-021203 |
| | BSTD | None | 70240-021350 |
| | | 10L | 70240-021351 |
| | | 100L | 70240-021352 |
| | ANSI | None | 70240-021300 |
| | | 10L | 70240-021302 |
| | | 100L | 70240-021324 |
| 3" | ISO | None | 70240-021208 |
| | | 10L | 70240-021210 |
| | | 100L | 70240-021211 |
| | BSTD | None | 70240-021358 |
| | | 10L | 70240-021360 |
| | | 100L | 70240-021361 |
| | ANSI | None | 70240-021304 |
| | | 10L | 70240-021305 |
| | | 100L | 70240-021306 |
| 4" | ISO | None | 70240-021213 |
| | | 10L | 70240-021215 |
| | | 100L | 70240-021216 |
| | BSTD | None | 70240-021363 |
| | | 10L | 70240-021406 |
| | | 100L | 70240-021365 |
| | ANSI | None | 70240-021308 |
| | | 10L | 70240-021310 |
| | | 100L | 70240-021311 |
| 6" | ISO | None | 70240-021219 |
| | | 100L | 70240-021221 |
| | | 1m³ | 70240-021222 |
| | BSTD | None | 70240-021368 |
| | | 100L | 70240-021369 |
| | | 1m³ | 70240-021370 |
| | ANSI | None | 70240-021312 |
| | | 100L | 70240-021314 |
| | | 1m³ | 70240-021315 |
| 8" | ISO | None | 70240-021223 |
| | | 1m³ | 70240-021225 |
| | BSTD | None | 70240-021372 |
| | | 1m³ | 70240-021373 |
| | ANSI | None | 70240-021317 |
| | | 1m³ | 70240-021318 |
| 10" | ISO | None | 70240-021226 |
| | | 1m³ | 70240-021228 |
| | BSTD | None | 70240-021375 |
| | | 1m³ | 70240-021376 |
| | ANSI | None | 70240-021320 |
| | | 1m³ | 70240-021321 |

Additional diameters, flange types and pulse resolutions available upon request
* WMR models include records

### For woltman type water meter with electronic register

| Diameter | Flange Type | Pulse Resolution | Catalog Number |
|---|---|---|---|
| 2" | ISO | 10L x 100L | 70240-021199 |
| | BSTD | 10L x 100L | 70240-021198 |
| 3" | ISO | 10L x 100L | 70240-007509 |
| | BSTD | 10L x 100L | 70240-007508 |
| | ANSI | 10L x 100L | 70240-021400 |
| 4" | ISO | 10L x 100L | 70240-003862 |
| | BSTD | 10L x 100L | 70240-003861 |
| | ANSI | 10L x 100L | 70240-021405 |
| 6" | ISO | 100L x 1m³ | 70240-004665 |
| | BSTD | 100L x 1m³ | 70240-021390 |
| | ANSI | 100L x 1m³ | 70240-004130 |
| 8" | ISO | 100L x 1m³ | 70240-008612 |
| | BSTD | 100L x 1m³ | 70240-008710 |
| | ANSI | 100L x 1m³ | 70240-004660 |

* Additional diameters, flange types and pulse resolutions are available upon request


**Note: must order**

| Description | Catalog Number |
|---|---|
| pulse cable for digital register | 70220–030000 |

# GAER™ Woltman Type

## MAGNETIC REGISTER

**The Woltman water meter has a magnetic transmission and a dry recording head for measuring drinking water, irrigation channels and industry networks.**

High corrosion & UV resistance

Precise

Maximum reliability

## Benefits & Features

| | |
|---|---|
| → High corrosion & UV resistance | Components made of high strength, quality materials, technical plastics and epoxy coated steel body |
| → Precise | Accurate flow reading |
| → Maximum reliability | Sturdy and durable |
| → Recording register | IP68 for the head |
| → 360º head rotation | Ensures easy reading |
| → Measuring units | Interchangeable |
| → Protection | Against magnetic field disturbances |
| → Optional | Dry contact pulse emitter |

## Specifications & Recommendations

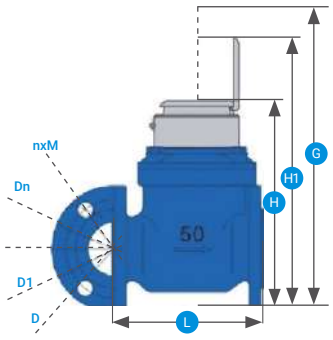
- **Maximum Working Pressure** – 16bar
- **Maximum Liquid Temperature** – 60°C
- **Body** – Cast iron, polyester coated
- **Connection Flanges** – according to ISO, BS 10, ANSI 150 or others

## ⟶ Installation Requirements

- The Gaer® Woltman WP water meter can be installed horizontally or vertically (ascending).
- The meter shall be full of water while operating
- Prior to the installation of a new meter, the pipeline must be flushed out
- Straight sections of 10 diameters upstream and 5 diameters downstream are needed to stabilize the flow

## ⟶ Technical Dimensions

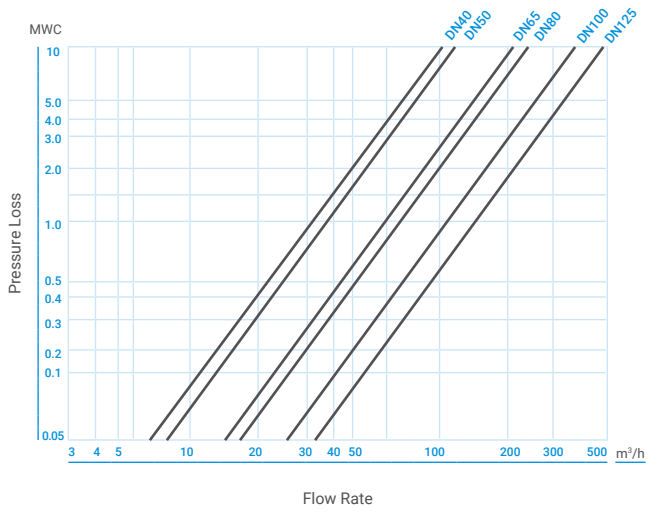
| dn (mm) | 40 | 50 | 65 | 80 | 100 | 125 | 150 | 200 | 250 | 300 | 350 | 400 | 500 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| dn (inches) | 1½ | 2 | 2½ | 3 | 4 | 5 | 6 | 8 | 10 | 12 | 14 | 16 | 20 |
| l | 260 | 200 | 200 | 225 | 250 | 250 | 300 | 350 | 450 | 500 | 500 | 600 | 800 |
| h | 225 | 252 | 262 | 272 | 282 | 297 | 341 | 371 | 480 | 516 | 560 | 647 | 785 |
| h1 | 303 | 339 | 349 | 359 | 369 | 384 | 428 | 458 | 578 | 603 | 603 | 723 | 838 |
| G | 360 | 400 | 400 | 400 | 400 | 400 | 500 | 500 | 710 | 730 | 730 | 830 | 930 |
| d | 150 | 165 | 185 | 200 | 220 | 250 | 285 | 340 | 405 | 460 | 520 | 580 | 715 |
| d1 | 110 | 125 | 145 | 160 | 180 | 210 | 240 | 295 | 355 | 410 | 470 | 525 | 650 |
| n x M | 4 x M16 | | | 8 x M16 | | | 8 x M20 | 12 x M20 | 12 x M24 | | 16 x M24 | 16 x M27 | 20 x M30 |
| Weight (kg) | 11.55 | 11.20 | 12.60 | 14.70 | 15.70 | 20.00 | 31.20 | 40.50 | 83.36 | 105.20 | 130.92 | 158.00 | 340.00 |

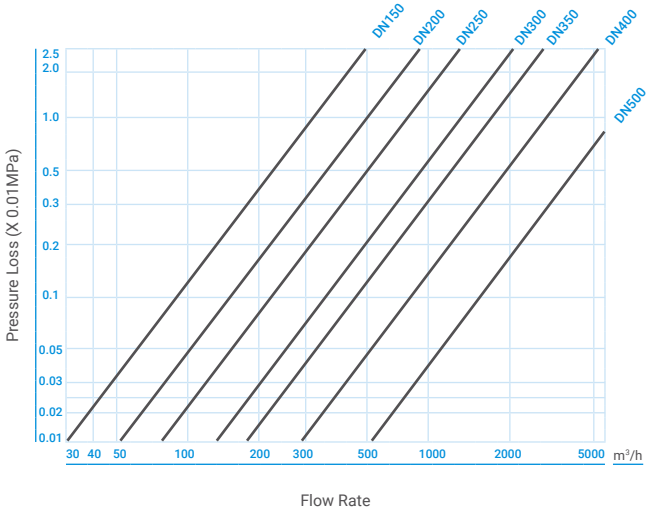



## ⟶ Performance Data

| Diameter | | Q1 Minimum Flowrate ($m^3/h$) | Q2 Transitional Flowrate ($m^3/h$) | Q3 Nominal Flowrate ($m^3/h$) | Q4 Maximum Flowrate ($m^3/h$) | R Q3/ Q1 | Maximum Reading Capacity ($m^3$) | Minimum Reading Capacity (L) | Accuracy Between Q4 And Q2 | Accuracy Between Q2 And Q1 |
|---|---|---|---|---|---|---|---|---|---|---|
| mm | inches | | | | | | | | | |
| 40 | 1½ | 0.5 | 0.8 | 25 | 31.325 | 50 | 999,999.999 | 0.0005 | ±2% | ±5% |
| 50 | 2 | 0.5 | 0.8 | 40 | 50 | 80 | | | | |
| 65 | 2½ | 0.7875 | 1.26 | 63 | 78.75 | | | | | |
| 80 | 3 | 0.7875 | 1.26 | 63 | 78.75 | | | | | |
| 100 | 4 | 1.25 | 2 | 100 | 125 | | | | | |
| 125 | 5 | 2.0 | 3.2 | 160 | 200 | | 9,999,999.99 | 0.005 | | |
| 150 | 6 | 3.125 | 5 | 250 | 312.5 | | | | | |
| 200 | 8 | 5 | 8 | 400 | 500 | | 99,999,999.9 | 0.05 | | |
| 250 | 10 | 7.875 | 12.6 | 630 | 787.5 | | | | | |
| 300 | 12 | 12.5 | 20 | 1000 | 1250 | | | | | |
| 350 | 14 | 12.5 | 20 | 1000 | 1250 | | | | | |
| 400 | 16 | 20 | 32 | 1600 | 2000 | | | | | |
| 500 | 20 | 31.25 | 50 | 2500 | 3125 | | | | | |

## Head Loss




## Catalog Numbers

| Diameter | Connection Type | Pulse Resolution | Catalog Number |
|---|---|---|---|
| 2" | ISO | None | 71670-000240 |
| | | 10L | 71670-000243 |
| | | 100L | 71670-000330 |
| | BSTD | None | 71670-000241 |
| | | 10L | 71670-000244 |
| | | 100L | 71670-000331 |
| | ANSI | None | 71670-000242 |
| | | 10L | 71670-000245 |
| | | 100L | 71670-000332 |
| 3" | ISO | None | 71670-000250 |
| | | 10L | 71670-000253 |
| | | 100L | 71670-000340 |
| | BSTD | None | 71670-000251 |
| | | 10L | 71670-000254 |
| | | 100L | 71670-000341 |
| | ANSI | None | 71670-000252 |
| | | 10L | 71670-000255 |
| | | 100L | 71670-000342 |
| 4" | ISO | None | 71670-000260 |
| | | 10L | 71670-000263 |
| | | 100L | 71670-000350 |
| | BSTD | None | 71670-000261 |
| | | 10L | 71670-000264 |
| | | 100L | 71670-000351 |
| | ANSI | None | 71670-000262 |
| | | 10L | 71670-000265 |
| | | 100L | 71670-000352 |

| Diameter | Connection Type | Pulse Resolution | Catalog Number |
|---|---|---|---|
| 6" | ISO | None | 71670-000270 |
| | | 100L | 71670-000273 |
| | | 1m³ | 71670-000360 |
| | BSTD | None | 71670-000271 |
| | | 100L | 71670-000274 |
| | | 1m³ | 71670-000361 |
| | ANSI | None | 71670-000272 |
| | | 100L | 71670-000275 |
| | | 1m³ | 71670-000362 |
| 8" | ISO | None | 71670-000280 |
| | | 1m³ | 71670-000370 |
| | BSTD | None | 71670-000281 |
| | | 1m³ | 71670-000371 |
| | ANSI | None | 71670-000282 |
| | | 1m³ | 71670-000372 |
| 10" | ISO | None | 71670-000279 |
| | | 1m³ | 71670-000359 |
| | BSTD | None | 71670-000376 |
| | | 1m³ | 71670-000373 |
| | ANSI | None | 71670-000269 |
| | | 1m³ | 71670-000374 |

# Ultrasonic Type

orbia Precision Agriculture

NETAFIM™

# Sonata™

## DUAL PULSE OUTPUT

**Advanced and highly accurate ultrasonic water meter for irrigation applications. With no moving parts, the Sonata robust design ensures reliable and long lasting precision. Its technology enables the measurement of even the lowest flow rates.**

Innovative

Precise

Maximum reliability

## Benefits & Features

| | |
|---|---|
| → Innovative | Smart and digital operation |
| → Precise | Accurate flow reading |
| → Maximum reliability | Sturdy and durable |
| → Measuring start | From extremely low flow rates |
| → Digital output channels | Two Independent |
| → Ultrasonic technology | For precise and ultra reliable metering |

## Specifications & Recommendations

- **Maximum Working Pressure** – 16bar
- **Maximum Water Temperature** – 50°C
- **Body** – PPS, highly reinforced composite material

## → Installation Requirements

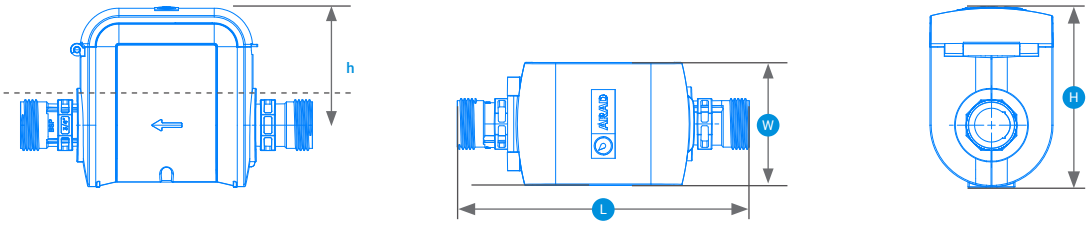
- The meter can be installed horizontally, vertically or inclined
- Prior to the installation of a new meter, the pipeline must be flushed
- Install the water meter with the flow direction according to the arrow shown on the water meter

## → Performance Data

| Model | Q1 Minimum Flowrate (l/h) | Q2 Transitional Flowrate (l/h) | Q3 Nominal Flowrate ($m^3/h$) | Q4 Maximum Flowrate ($m^3/h$) | Starting Flow (l/h) | Q3/Q1 (R Value) |
|---|---|---|---|---|---|---|
| Sonata 20 | 5 | 8.0 | 2.5 | 3.1 | 2 | 500 |
| | 8 | 12.8 | 4.0 | 5.0 | 2 | |
| Sonata 25 | 12.6 | 20.2 | 6.3 | 7.9 | 3 | |

## → Technical Dimensions

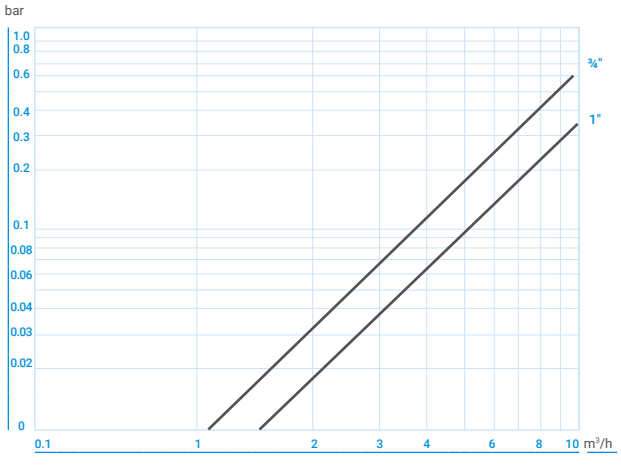
| model | ¾" | 1" |
|---|---|---|
| Size | DN20 | DN25 |
| L - Lengt (mm) | 190 | 260 |
| H - Overall height (mm) | 117 | 121 |
| h - Height above axis (mm) | 80 | 82 |
| W - Width (mm) | 80 | 80 |
| Threads | BSP | |
| Weight (kg) | 0.900 | |




## → Outputs

| |
|---|
| LORA communication |
| Pulse output |

## → Head Loss




Q

## → Catalog Numbers

| Material | Size | End Connection | Catalog Number |
|---|---|---|---|
| Plastic | ¾" | NPT | 70240-001621 |
| | | BSP | 70240-001622 |
| | 1" | NPT | 70240-001623 |
| | | BSP | 70240-001624 |

* All Sonata water meters come with couplings set

# Octave™

## ULTRASONIC TYPE

**A high-end ultrasonic meter, with a revolutionary technology and no moving parts, designed for maximum accuracy and minimal maintenance.**

Precise

Maximum reliability

Superior design

## Benefits & Features

| | |
|---|---|
| → Precise | Extremely high accuracy & negligible head loss |
| → Maximum reliability | Sturdy and durable |
| → Superior design | Programmable on clear display |
| → High & low flows | Suitable to changing conditions |

## Specifications & Recommendations

- **Maximum Working Pressure –** 16bar
- **Liquid Temperature –** 0.1 up to 50°C
- **Power Source –** 2 D size Li-battery: up to 15 years life time
- **Volume Display Options –** 1. Net (Forward less reverse) 2. Forward only 3. Reverse only 4. Forward & reverse alternating
- **Configuration Compact -** The display is built into the unit
- **Environmental Protection –** IP 68, - Ambient operation temp. -25°C up to +55°C
- **Connections –** 1½ - 2" threaded: with couplings to NPT/ BSP
- **2"-12" Flanged –** flanges according to ISO, BS 10 and ANSI 150

## → Installation Requirements

- Available upon request

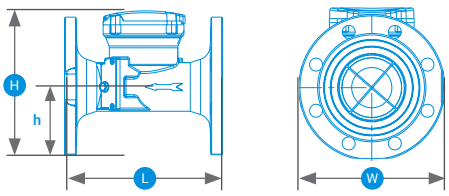
## → Performance Data

| Meter Size | Q1 Minimal Flowrate ($m^3/h$) | Q2 Transitional Flowrate ($m^3/h$) | Q3 Permanent Flow Rate ($m^3/h$) | Q4 Overload Flow Rate ($m^3/h$) | Q3/Q1 (R Value) | Starting Flow ($m^3/h$) |
|---|---|---|---|---|---|---|
| DN 40-1½" | 0.160 | 0.256 | 40 | 50 | 250 | 0.025 |
| DN 50-2" | 0.080 | 0.125 | 40 | 50 | 500 | 0.025 |
| DN 65-2½ | 0.080 | 0.125 | 40 | 50 | 500 | 0.025 |
| DN 80-3" | 0.125 | 0.200 | 63 | 80 | 500 | 0.025 |
| DN 100-4" | 0.200 | 0.320 | 100 | 125 | 500 | 0.025 |
| DN 150-6" | 0.500 | 0.800 | 250 | 313 | 500 | 0.2 |
| DN 200-8" | 0.800 | 1.280 | 400 | 500 | 500 | 0.2 |
| DN 250-10" | 2 | 3.2 | 1000 | 1250 | 500 | 0.5 |
| DN 300-12" | 2 | 3.2 | 1000 | 1250 | 500 | 0.5 |

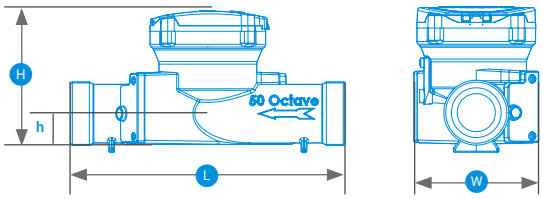
## → Technical Dimensions

| Diameter | mm | 40 Thrd. | 50 Thrd. | 50 | 65 | 80 | 100 | 150 | 200 | 250 | 300 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | inch | 1½ Thrd. | 2 Thrd. | 2 | 2½ | 3 | 4 | 6 | 8 | 10 | 12 |
| L - Length without couplings (mm) | | 300 | 300 | 200 | 200 | 225 | 250 | 300 | 350 | 449 | 499 |
| w- width (mm) | | 113 | 113 | 165 | 185 | 200 | 220 | 285 | 340 | 406 | 489 |
| H - height (mm) | | 155 | 155 | 194 | 210 | 210 | 223 | 282 | 332 | 383 | 456 |
| h - Height (mm) | | 35 | 35 | 40 | 90 | 90 | 103 | 140 | 165 | 203 | 245 |
| Weight (kg) - Cast iron body | | | 8 | 9 | 11.5 | 13 | 15 | 32 | 45 | 68 | 96 |
| Weight (kg) - Polymer body | | 1.4 | 1.45 | | | | | | | | |
| Weight (kg) - Stainless steel body | | 4 | 4 | 6 | | 7 | 9.5 | 16 | | | |

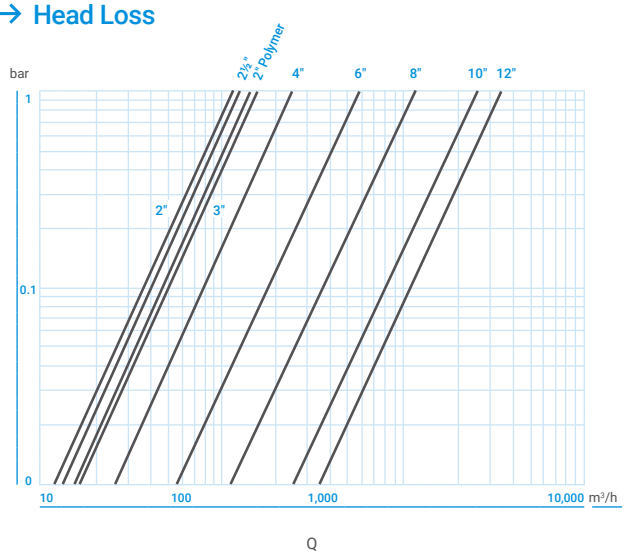
Flanged




Threaded




## → Head Loss



## → Catalog Numbers

| Material | Diameter | Connection Type | Catalog Number |
|---|---|---|---|
| Cast iron | 2" | ISO | 70240-014020 |
| | | BSTD | 70240-014000 |
| | | ANSI | 70240-013975 |
| | 3" | ISO | 70240-014120 |
| | | BSTD | 70240-014100 |
| | | ANSI | 70240-014155 |
| | 4" | ISO | 70240-014250 |
| | | BSTD | 70240-014200 |
| | | ANSI | 70240-021452 |
| | 6" | ISO | 70240-014300 |
| | | BSTD | 70240-014350 |
| | | ANSI | 70240-021453 |
| | 8" | ISO | 70240-014400 |
| | | BSTD | 70240-014450 |
| | | ANSI | 70240-021454 |
| | 10" | ISO | 70240-014490 |
| | | BSTD | 70240-014500 |
| | | ANSI | 70240-021455 |
| | 12" | ISO | 70240-014550 |
| | | BSTD | 70240-014560 |
| | | ANSI | 70261-000485 |
| Plastic | 1½" | BSP | 70240-013910 |
| | 2" | | 70240-013986 |
| Stainless steel | 2" | BSP | 70240-000205 |
| | | ISO | 70240-000206 |
| | | BSTD | 70240-000200 |
| | | ANSI | 70240-021490 |
| | 3" | ISO | 70240-000207 |
| | | BSTD | 70240-000201 |
| | | ANSI | 70240-021491 |
| | 4" | ISO | 70240-000208 |
| | | BSTD | 70240-000202 |
| | | ANSI | 70240-021492 |
| | 6" | ISO | 70240-000209 |
| | | BSTD | 70240-000203 |
| | | ANSI | 70240-021493 |

it is possible to order the Octave water meter with a built-in module

## → Module Type

| Module Type | Catalog Number |
|---|---|
| SSR Solid state relay dual pulse | 70220-000029 |
| Open drain dual pulse | 70220-000028 |
| 4 - 20 mA | 70220-000032 |
| 4 - 20 mA + SSR pulse | 70220-000031 |
| Modbus Protocol Output | 70220-000034 |

## ⟶ Outputs

**SSR Solid state relay dual pulse**

The SSR is a dual electronic relay output that provides pulse per quantity with these options:

1. Two scaled forward and/ or reverse pulses
2. One scaled forward and one alarm frequency output

**Open drain dual pulse**

The Digital (pulse) output is an open drain transistor output that provides pulse per quantity with these options:

1. Two scaled forward and/or reverse mode pulses
2. One scaled forward pulse and one alarm frequency output
3. The measuring units of the output can be programmed differently from the displayed units. The pulse resolution will be shown on the display for each pulse separately units

**4-20mA Analog Output**

- The analog output shows the currently measured flow rate.
- This output is a 4 - 20 mA current loop (the end user must supply power to the unit).
- The analog output is programmable for forward and reverse flow (see operation manual for more details).
- The 20mA point is programmable per customer request (to any flow lower than the max flow of the meter).

**Modbus Protocol Output**

The improved full Modbus/ MBus protocols include an optional pulse output and have the following available functions:

1. Alarms (battery, empty pipe)
2. Current flow
3. AMR serial number
4. Flow direction
5. Real Time Clock (RTC)
6. Forward and reverse volumes
7. Volume units
8. Flow and volume resolution
9. Flow rate units

# Octave™ High Flow

## ULTRASONIC TYPE

**Designed for applications where significant volumes of water are transferred. The Octave™ high flow line is characterized by 2.5 time higher Q3 than Octave line.**

Precise

Maximum reliability

Superior design

## Benefits & Features

| | |
|---|---|
| → Precise | Extremely high accuracy & negligible head loss |
| → Maximum reliability | Sturdy and durable |
| → Superior design | Programmable on clear display |
| → Stainless steel body | AISI 316 SS |

## Specifications & Recommendations

- **Temperature Class –** T50 (0.1°C – 50°C)
- **Maximum Admissible Pressure –** 16bar
- **Compact Configuration –** The display is built in to the unit
- **Mechanical Environment –** M1
- **Floating Flanges –** ISO / ANSI / BS
- **Low Pressure Loss –** Δ0.1bar at Q3
- **Electro -** Magnetic Environment – E1

## → Installation Requirements

- Available upon request

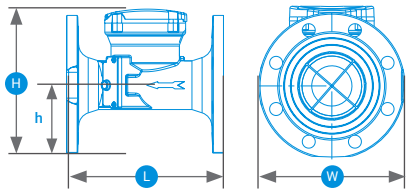
## → Performance Data

| Meter Size | Q1 Minimal Flow Rate ($m^3/h$) | Q2 Transitional Flow Rate ($m^3/h$) | Q3 Permanent Flow Rate ($m^3/h$) | Q4 Overload Flow Rate ($m^3/h$) | Q3/Q1 (R Value) |
|---|---|---|---|---|---|
| DN 80-3" | 0.64 | 1.024 | 160 | 200 | 250 |
| DN 100-4" | 1 | 1.6 | 250 | 312.5 | 250 |
| DN 150-6" | 2.52 | 4.032 | 630 | 787.5 | 250 |
| DN 200-8" | 4 | 6.4 | 1000 | 1250 | 250 |

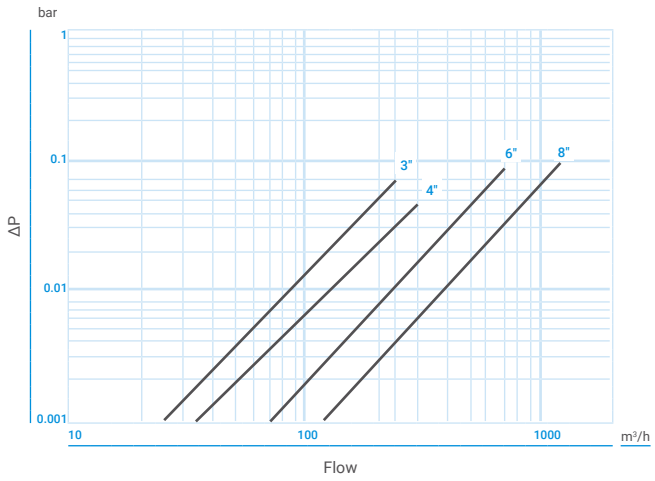
## → Technical Dimensions

| Diameter | mm | 80 | 100 | 150 | 200 |
|---|---|---|---|---|---|
| | inch | 3 | 4 | 6 | 8 |
| L - Length (mm) | | 225 | 250 | 300 | 350 |
| w- Width (mm) | | 200 | 220 | 285 | 340 |
| H - Height (mm) | | 230 | 255 | 304 | 345.5 |
| h - Height (mm) | | 110 | 115 | 143 | 172.5 |
| Weight (kg) | | 11 | 14.3 | 22 | 32 |

Flanged




## → Head Loss




## → Catalog Numbers

| Material | Diameter | Connection Type | Catalog Number |
|---|---|---|---|
| Stainless steel | 3" | ISO | 70240-000003 |
| | | BSTD | 70240-000002 |
| | | ANSI | 70240-000001 |
| | 4" | ISO | 70240-000006 |
| | | BSTD | 70240-000005 |
| | | ANSI | 70240-000004 |
| | 6" | ISO | 70240-000007 |
| | | BSTD | 70240-000009 |
| | | ANSI | 70240-000008 |
| | 8" | ISO | 70240-000011 |
| | | BSTD | 70240-000012 |
| | | ANSI | 70240-000010 |

# Fertilizer Meters

orbia | Precision Agriculture

NETAFIM™

# Model PB

**Angle fertilizer meters, designed to accurately measure the flow of highly corrosive liquids.**

Light

High corrosion & UV resistance

Precise

## Benefits & Features

| | |
|---|---|
| → Light | Compatible with all automation systems |
| → High corrosion & UV resistance | Made of materials to withstand all fertilizers |
| → Precise | Extremely high accuracy & negligible head loss |
| → Outputs | Electrical and totalizing registers |

## Specifications & Recommendations

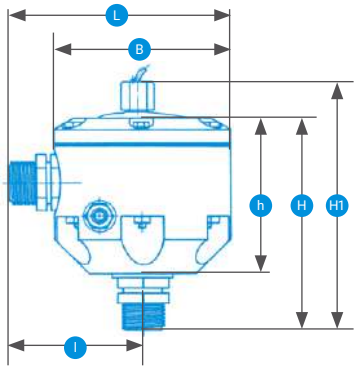
- **Maximum Working Pressure** – 10bar
- **Maximum Working Temperature** – 50°C
- **Body** – PVC
- **Connection** – 1" BSP
- **Electrical Output** – 1, 10, 100liter/pulse

## → Installation Requirements

- The meter should be installed with dial face in horizontal position

## → Technical Dimensions

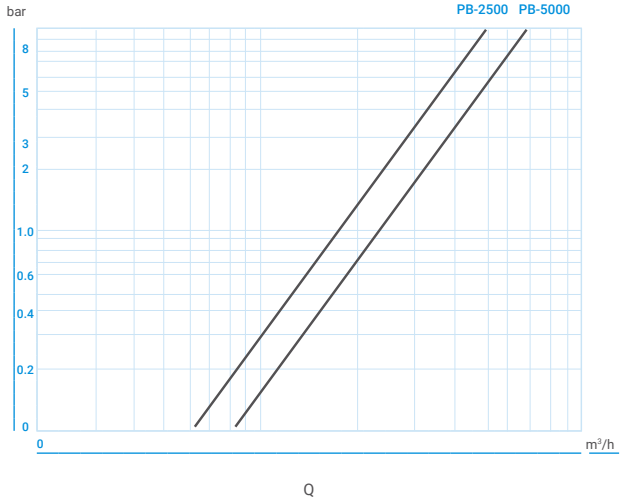
| Diameter | (mm) | 20 | 25 |
|---|---|---|---|
| | (inch) | ¾ | 1 |
| L - Length (mm) | | 150 | |
| l - Length (mm) | | 90 | |
| H - Height (mm) | | 150 | |
| H1 - Height with reed switch (mm) | | 170 | |
| h - Height (mm) | | 115 | |
| B - Width (mm) | | 120 | |
| Weight (kg) | | 0.875 | |




## → Performance Data

| Model | Q1 Minimum Flow Rate (l/h) | Q2 Transitional Flow Rate (l/h) | Q3 Nominal Flow Rate ($m^3$/h) | Q4 Maximum Flow Rate ($m^3$/h) | Minimum Register Capacity ($m^3$) | Minimum Register Capacity (liter) | Accuracy Between Q4 & Q2 | Accuracy Between Q2 & Q1 |
|---|---|---|---|---|---|---|---|---|
| PB-2500 | 50 | 200 | 2.5 | 5 | 105 | 0.1 | 2% ± | 5% ± |
| PB-5000 | 100 | 400 | 5 | 10 | 105 | 0.1 | | |

## → Head Loss




## → Catalog Numbers

| Model | End Connection Size | Connection Type | Pulse Resolution | Catalog Number |
|---|---|---|---|---|
| PB-2500 | 1” | BSP | 1L | 70240-005300 |
| | | | 10L | 70240-005320 |
| | | | 100L | 70240-005325 |
| PB-5000 | | | 1L | 70240-005400 |
| | | | 10L | 70240-005500 |
| | | | 100L | 70240-005600 |

# Model SF

**Straight fertilizer meters, designed to accurately measure the flow of highly corrosive liquids.**

Light

High corrosion & UV resistance

Precise

## Benefits & Features

- → **Light** — Compatible with all automation systems
- → **High corrosion & UV resistance** — Made of materials to withstand all fertilizers
- → **Reliable** — Outstanding accuracy
- → **Sturdy** — Made of materials to withstand all fertilizers
- → **Outputs** — Electrical and totalizing registers

## Specifications & Recommendations

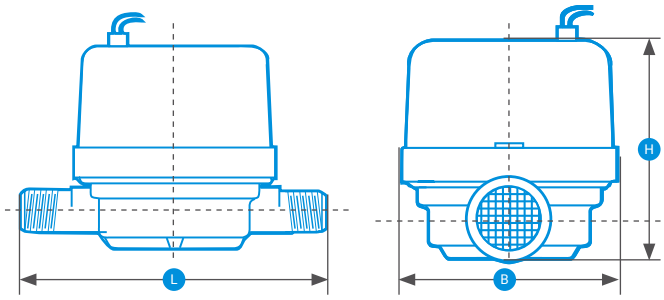
- **Maximum Working Pressure** – 5bar
- **Maximum Working Temperature** – 50°C
- **Connection** – ¾" BSP
- **Electrical Output** – 0.1, 1 and 10liter / pulse

## → Installation Requirements

- The meter should be installed with dial face in horizontal position

## → Technical Dimensions

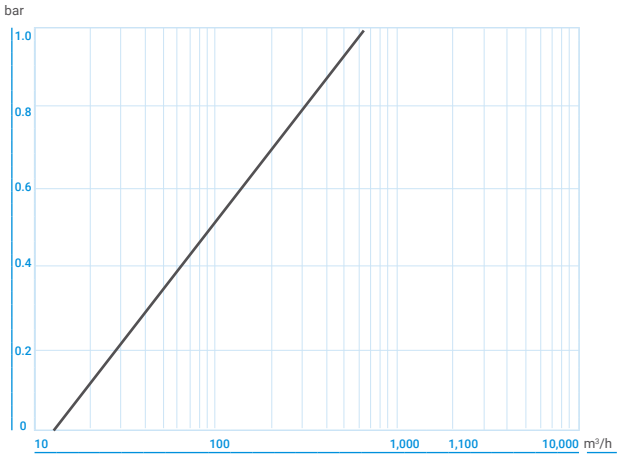
| | | |
|---|---|---|
| Diameter | mm | 15 |
| | inch | ½ |
| l - Length (mm | | 110 |
| h - Height (mm) | | 81 |
| B - Width (mm) | | 77 |
| Weight (kg) | | 0.28 |




## → Performance Data

| Model | Qmax Maximum Flow Rate (l/h) | Qt Lowest Flow Rate Measured Between ±2% (l/h) | Qmin Lowest Flow Rate Measured Between ±5% (l/h) | Loss of Head at Maximum Flow Rate (bar) |
|---|---|---|---|---|
| SF | 750 | 50 | 25 | 0.12 |

## → Head Loss




## → Catalog Numbers

| Model | End Conn.size | Connection Type | Pulse Resolution | Catalog Number |
|---|---|---|---|---|
| SF | ¾" | BSP | 0.1L | 70240-005700 |
| | | | 1L | 70240-005720 |
| | | | 10L | 70240-005740 |

# Hydrometers

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NETAFIM™

# Model BM

**The BM hydrometers series is designed for remote control irrigation and for industrial applications. The hydrometer is especially suited for automated operation.**

Compact

High corrosion & UV resistance

Maximum reliability

## Benefits & Features

| | |
|---|---|
| → Compact | Compatible with all automation systems |
| → High corrosion & UV resistance | Made of materials to withstand all fertilizers |
| → Maximum reliability | Outstanding accuracy |
| → Hydrometer use | In a variety of pressure and flow regulation applications |
| → High-pressure operation | Thanks to double-chambered hydraulic valve |
| → Hydraulic commands | Remote and automatic transmission |

## Specifications & Recommendations

- **Maximum Working Pressure** – 16bar
- **Body** – Polyester coated cast iron body
- Reinforced natural rubber valve diaphragm
- **Connection Flanges** – ISO, BS
- **Threaded** – Male BSP 1¹/₂" - 2", Female BSPT or NPT 2"

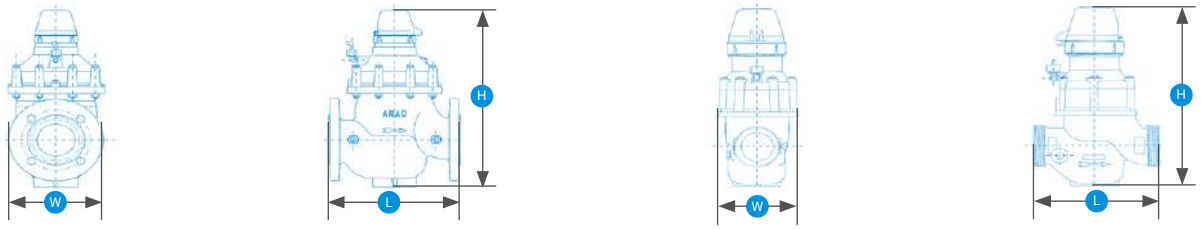
* Other connection types available upon request.

## → Installation Requirements

- The meter should be installed in horizontal or vertical position
- The meter must be always full of water while operating
- Prior to the installation of a new meter, the pipeline must be flushed out

## → Technical Dimensions

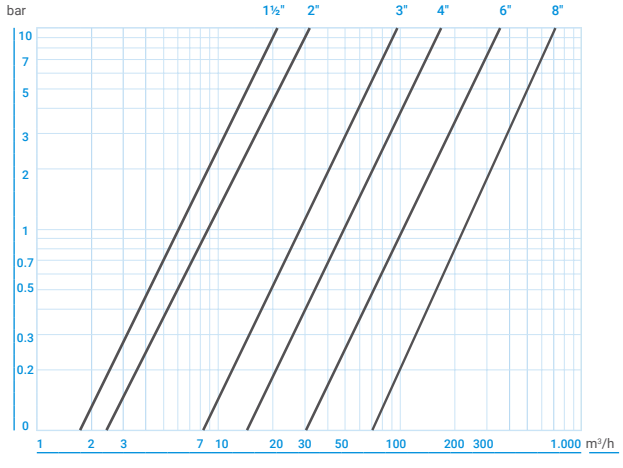
| Nominal Size | (mm) | 40 | 50 | 80 | 100 | 150 | 200 |
|---|---|---|---|---|---|---|---|
| | (inch) | 1½ | 2 | 3 | 4 | 6 | 8 |
| L - Length (mm) | | 160 | 190 | 285 | 324 | 500 | 600 |
| H - Height (mm) | | 266 | 331 | 433 | 456 | 581 | 782 |
| h - (mm) | | - | - | - | - | - | - |
| A - (mm) | | - | - | - | - | - | - |
| W - Width (mm) | | 124 | 124 | 205 | 230 | 380 | 450 |
| Weight (kg) | | 4.5 | 6.5 | 24.5 | 30.5 | 120 | 150 |
| Weight with couplings (kg) | | 5.5 | 8 | - | - | - | - |




## → Performance Data

| Nominal Size (mm) | Nominal Size (inch) | Qmax Maximum Flow Rate ($m^3/h$) | Qn Nominal Flow Rate ($m^3/h$) | Qt Transitional Flow Rate ($m^3/h$) | Qmin Minimum Flow Rate ($m^3/h$) | Minimum Register Capacity ($m^3/h$) | Minimum Register Capacity (liter) | Accuracy Between Qmax & Qt | Accuracy Between Qt & Qmin |
|---|---|---|---|---|---|---|---|---|---|
| 40 | 1½ | 30 | 20 | 1.3 | 0.4 | $10^6$ | 1 | ±2% | ±5% |
| 50 | 2 | 50 | 30 | 3 | 0.45 | $10^6$ | 1 | | |
| 80 | 3 | 130 | 65 | 8 | 1.2 | $10^6$ | 1 | | |
| 100 | 4 | 200 | 100 | 12 | 1.8 | $10^7$ | 10 | | |
| 150 | 6 | 300 | 150 | 30 | 4.5 | $10^7$ | 10 | | |
| 200 | 8 | 540 | 270 | 50 | 7.5 | $10^7$ | 10 | | |

## → Head Loss



# Model K

## VOLUMETRIC VALVE

**A volume based irrigation device, consisting of a water meter, a volume control dial and a valve all contained in a single unit.**

Compact

High corrosion & UV resistance

Maximum reliability

## Benefits & Features

| | |
|---|---|
| → Compact | Small and easy to handle |
| → High corrosion & UV resistance | Durable and sturdy |
| → Maximum reliability | Robust materials |
| → Easy to use | Simple maintenance |
| → No deposit of solids | Thanks to continued flush of the bearings |

## Specifications & Recommendations

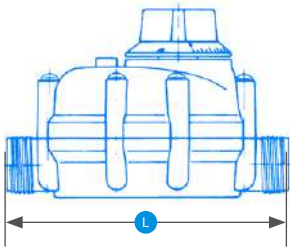
- **Maximum Working Temperature** – 60°C
- **Maximum Working Pressure** – 10bar

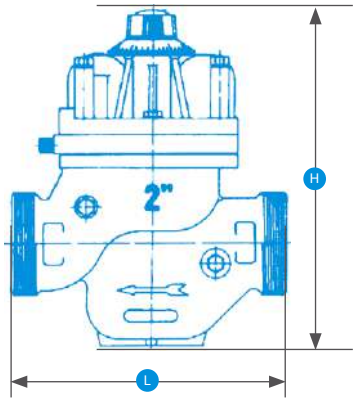
## → Installation Requirements

- The meter should be installed in horizontal position

## → Technical Dimensions

| Model | | K | | | |
|---|---|---|---|---|---|
| Nominal size | (mm) | 20 | 25 | 40 | 50 |
| | (inch) | ¾ | 1 | 1½ | 2 |
| L – Length without couplings (mm) | | 130 | 200 | 160 | 190 |
| H – Height (mm) | | 86 | 115 | 203 | 235 |
| B – Width (mm) | | 102 | 90 | 126 | 126 |
| Weight (kg) | | 0.3 | 0.5 | 2.3 | 4.4 |
| Weight with couplings (kg) | | - | - | 3.3 | 5.8 |

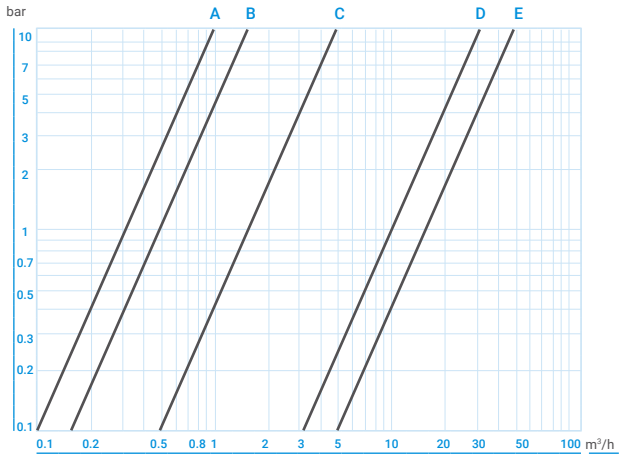



## → Performance Data

| Model | Nominal Size (inch) | Maximum Working Pressure (bar) | Minimum Working Pressure (bar) | Qmax Maximum Flow Rate ($m^3/h$) | Qmin Minimum Flow Rate ($m^3/h$) | Regulated Flow Rate |
|---|---|---|---|---|---|---|
| K | ¾" | 10 | 0.5 | 1.5 | 0.08 | ±2% |
| | 1" | 8 | 0.5 | 5 | 0.5 | |
| | 1½" | 10 | 1 | 15 | 1.5 | |
| | 2" | 10 | 1 | 30 | 2 | |

## → Head Loss



# Ultraf™

**An ultrasonic water meter, a hydraulic valve, and a smart system all in one, for water measurement, pressure control and pressure management.**

User friendly

Precise

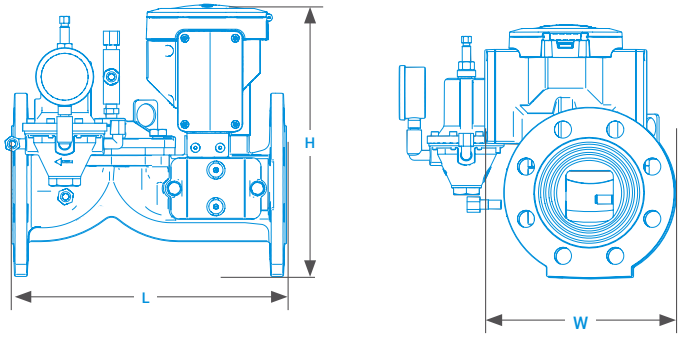
Superior design

## Benefits & Features

| | |
|---|---|
| → User friendly | Easy installation and operation, and low maintenance |
| → Precise | Extremely high accuracy & negligible head loss |
| → Superior design | - No moving parts<br>- Battery operated with extended life<br>- Digital and analog output<br>- Single compact unit |
| → Protection | High level, according to IP68 |
| → Bluetooth app. | Use with field programing |

## Technical Dimensions

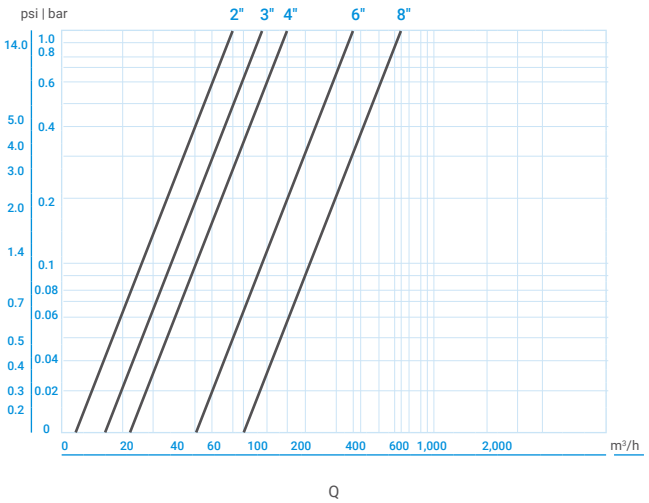
| Diameter | mm | 50 | 80 | 100 | 150 | 200 |
|---|---|---|---|---|---|---|
| | inch | 2 | 3 | 4 | 5 | 8 |
| Length (mm) | | 260 | 300 | 350 | 500 | 600 |
| Height (mm) | | 270 | 300 | 320 | 380 | 420 |
| Width (mm) | | 190 | 223 | 240 | 320 | 370 |
| Weight (kg) | | 10 | 15 | 23 | 44 | 67 |



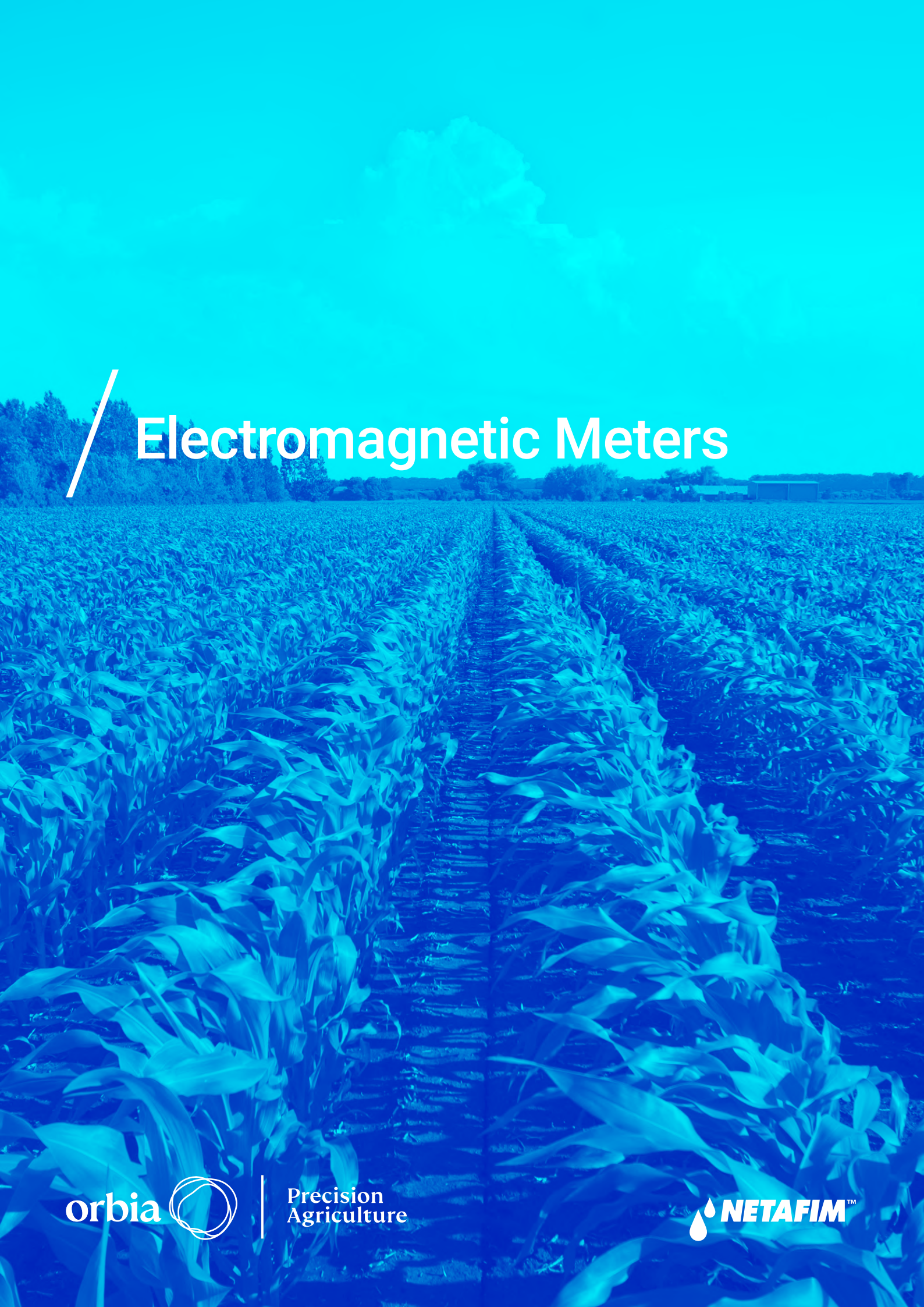

## Hydraulic Performance

| Flow Rate ($m^3/h$) | Q1 Minimum Flow Rate () | Q2 Transitional Flow Rate () | Q3 Permanent Flow Rate () | Q4 Overload Flow Rate () | Max. Flow for Short Period ($m^3/h$) |
|---|---|---|---|---|---|
| DN 40-1½" | 0.16 | 0.256 | 16 | 20 | 30 |
| DN 50-2" | 0.25 | 0.4 | 25 | 31.25 | 50 |
| DN 80-3" | 0.63 | 1 | 63 | 78.75 | 125 |
| DN 100-4" | 0.80 | 1.28 | 100 | 125 | 200 |
| DN 150-6" | 2.0 | 3.2 | 250 | 312.5 | 400 |
| DN 200-8" | 3.2 | 4 | 400 | 500 | 600 |

## Head Loss



# Electromagnetic Meters



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# MAG 8000

**Specially designed for control and monitoring of drinking water and irrigation networks, with the advantage of being powered by batteries.**

Precise

Ease of maintenence

Superior design

## Benefits & Features

| | |
|---|---|
| → Precise | Precise measurement of first flow thanks to installed sensor |
| → Ease of maintenence | Asy Care |
| → Superior design | - Compact and optionally remote version with separate converter<br>- Standardized installation lengths<br>- Battery operated |
| → Installation | For underground flood |

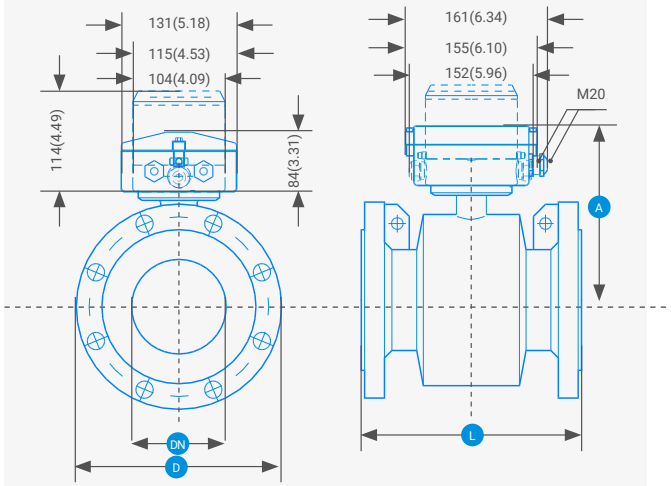
## Specifications & Recommendations

- **Ambient Temperature –** -20 to + 60°C
- **Fluid Temperature –** 0 to 70°C
- **Accuracy –** 0.4% (on request, 0.2%)
- DIN 50-600 flanges (other flange standards available upon request)
- **Materials**
  - Coating: EPDM
  - Hastelloy C electrodes
- Approved for billing
- Suitable for drinking, irrigation and drinking water, not suitable for wastewater
- **Flanges According to Regulations –**
- EN 1092-1 (DIN 2501), ANSI 16.5 class 150, AWWA C-207, AS 4087
- Powered by lithium batteries with a duration of 5 years. Additional external batteries available with package
- Two passive pulse outputs. One of these outputs is configurable as an alarm
- Internal data logger with storage capacity of 26 records
- As a standard, the totalizer reading units and flow are, respectively, $m^3$ and $m^3/h$

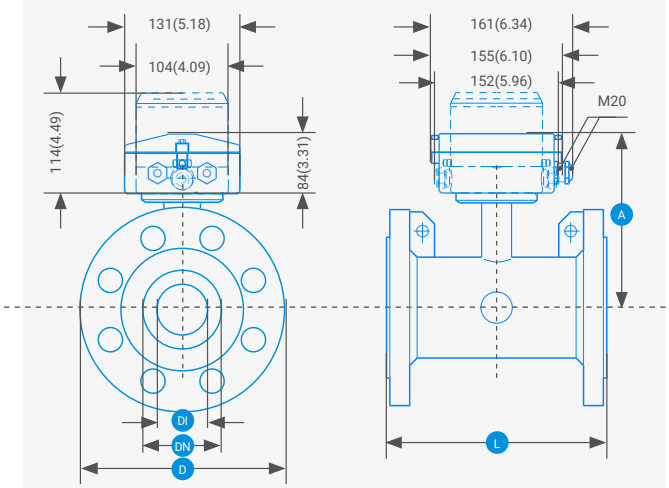
## → Technical Dimensions

| DN<br>Nominal<br>Counter Size<br>(mm / inch.) | A<br>Height<br><br>(mm) | L - Length<br>According to<br>EN 1092-1, PN 16<br>(mm) | DI<br><br>Diameter<br>(mm) | Weight<br><br><br>(kg) |
|---|---|---|---|---|
| 50 / 2 | 195 | 200 | 42 | 11 |
| 65 / 2½ | 201 | 200 | 55 | 13 |
| 80 / 3 | 207 | 200 | 67 | 15 |
| 100 / 4 | 214 | 250 | 81 | 17 |
| 125 / 5 | 224 | 250 | 101 | 22 |
| 150 / 6 | 239 | 300 | 131 | 28 |
| 200 / 8 | 264 | 350 | 169 | 50 |
| 250 / 10 | 291 | 450 | 212 | 71 |
| 300 / 12 | 317 | 500 | 265 | 88 |
| 350 / 14 | 369 | 550 | 350 | 111 |
| 400 / 16 | 394 | 600 | 400 | 126 |
| 450 / 18 | 425 | 600 | 450 | 175 |
| 500 / 20 | 450 | 600 | 500 | 225 |
| 600 / 24 | 501 | 600 | 600 | 299 |

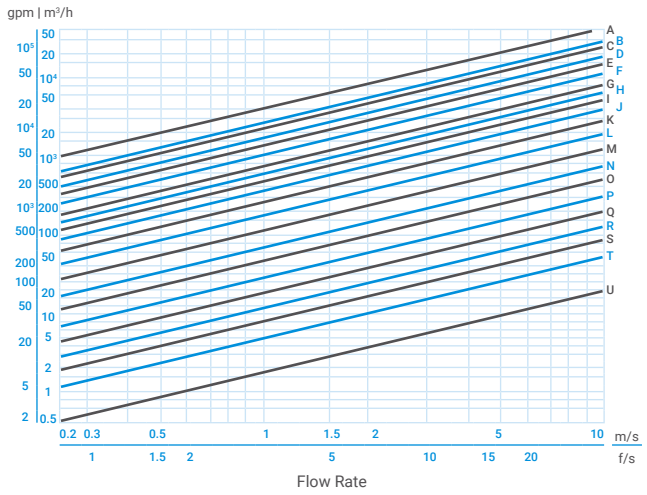
DN25 + 40 (1" + 1½") & DN 350 - 1200 (14"-48")




DN50 - 300 (2"-12")




## → Head Loss




A DN1200 (48") D DN800 (32") G DN500 (20") J DN350 (14") M DN200 (8") P DN100 (4") S DN50 (2")
B DN1000 (40") E DN700 (28") H DN450 (18") K DN300 (12") N DN150 (6") Q DN80 (3") T DN40 (1½")
C DN900 (36") F DN600 (24") I DN400 (16") L DN250 (10") O DN125 (5") R DN65 (2½") U DN25 (1")

# Water Meters
# Description Guide

Sample description

**ARAD[1] M.JET[2] PL[3] 1"[4] BSP[5] EV[6] 10L[7] W/CPLG[9]**

### 1 Brand

| | |
|---|---|
| ARAD | ARAD |
| GAER | GAER |
| OTHER | OTH |

### 2 Model

| | |
|---|---|
| M.JET | Multi jet |
| IRT | Irrigation |
| WWM | Woltman |
| WSTSB BYO | Woltman Bayonet |
| SONATA | Ultrasonic Sonata |
| OCTAVE | Ultrasonic Octave |
| GMU | Ultrasonic GMU250 |
| SF | Fertilizer SF |
| PB | Fertilizer PB |
| KD | Fertilizer KD |

### 3 Material

| | |
|---|---|
| PL | Plastic polymers |
| MT | Cast / ductile iron |
| SST | Stainless steel |

### 4 Size

| | |
|---|---|
| 1/2" | ½" |
| 3/4" | ¾" |
| 1" | 1" |
| 1.5" | 1½" |
| 2" | 2" |
| 2.5" | 2½" |
| 3" | 3" |
| 4" | 4" |
| 6" | 6" |
| 8" | 8" |
| 10" | 10" |
| 12" | 12" |

### 5 Connection Type

| | |
|---|---|
| BSP | Threaded BSP |
| NPT | Threaded NPT |
| ISO | Flanged ISO PN16 |
| BSTD | Flanged BSTD |
| ANSI | Flanged ANSI 150 |

### 6 Output

| | |
|---|---|
| NO | No output |
| EV | Volume output |
| EVD | Dual volume output |
| ER | Electric output |
| EF | Photo diode |
| DIG | Octave modules |

### 7 Pulse Rate #1

| | |
|---|---|
| - | None |
| 0.1L | 0.1L |
| 1L | 1L |
| 10L | 10L |
| 100L | 100L |
| 1M3 | 1M³ |
| 10M3 | 10M³ |

### 8 Pulse Rate #2

| | |
|---|---|
| - | None |
| 0.1L | 0.1L |
| 1L | 1L |
| 10L | 10L |
| 100L | 100L |
| 1M3 | 1M³ |
| 10M3 | 10M³ |

### 9 Accessories

| | |
|---|---|
| W/CPLG | WITH COUPLINGS |

# Spare Parts

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## → Multi-Jet

Couplings sets

| Product Picture | Product Description | Catalog Number |
|---|---|---|
|  | BRASS COUPLING SET - ½ | 70220-002900 |
| | BRASS COUPLING SET - ¾ | 70220-003000 |
| | BRASS COUPLING SET - 1" | 70220-003100 |
| | BRASS COUPLING SET - 1.25" | 70220-003110 |
| | BRASS COUPLING SET - 1.5" | 70220-003200 |
| | BRASS COUPLING SET - 2" | 70220-003300 |
|  | COUPLING SET ¾ BSP POLYMER | 70220-003010 |
| | COUPLING SET 1 BSP POLYMER | 70220-000120 |
| | COUPLING SET POLYMER BSP FOR 1½ | 70220-000121 |
| | COUPLING SET POLYMER NPT FOR 1½ | 70220-000122 |

## → ARAD Multi-Jet

EV registers

| Product Picture | Model | Diameter | Output | Catalog Number |
|---|---|---|---|---|
|  | M | 1" | 10L | 70220-002763* |
| | | 1.5" | 10L | 70220-002766* |
| | | 2" | 10L | 70220-002773* |
| | | | 10L | 70220-002780* |
| | | | 100L | 70220-002774* |
| | MS | 1.5" | 10L | 70220-081216 |
| | | | 100L | 70220-081217 |

* Reed switch not included

## → ARAD Irrigation Type

Registers

| Product Picture | Type | Diameter | Output | Catalog Number |
|---|---|---|---|---|
|  | EV | 3" | 100L | 70220-002862* |
| | | | 100L | 70220-002863 |
| | | | 1M³ | 70220-002864* |
| | | | 10M³ | 70220-002889 |
| | | 4" | 100l | 70220-002872* |
| | | | 1M³ | 70220-002874* |
| | | | 1M³ | 70220-080600 |
| | | | 10M³ | 70220-080590 |
| | | 6" | 100l | 70220-002875* |
| | | | 1M³ | 70220-002877 |
| | | | 1M³ | 70220-002865 |
| | | | 10M³ | 70220-002866* |
| | | 8" | 1M³ | 70220-002878* |
| | | | 1M³ | 70220-002849 |
| | | | 10M³ | 70220-002854* |
|  | ER | 3" | 100L & 1M³ | 70220-000001 |
| | | 4" | 100L & 1M³ | 70220-080610 |
| | | 6" | 100L & 1M³ | 70220-081150 |
| | | 8" | 100L & 1M³ | 70220-081200 |
| | | 10" | 100L & 10M³ | 70220-002901 |
|  | EF | 3" | 10L | 70220-002861 |
| | | 4" | 10L | 70220-081100 |
| | | 6" | 10L | 70220-013861 |

* Reed switch not included

Mechanism (meters w/body)

| Product Picture | Type | Diameter | Output | Catalog Number |
|---|---|---|---|---|
|  | EV | 3" | 1M³ | 70220-007910 |
| | | 4" | 1M³ | 70220-007925 |
| | | 6" | 100L | 70220-007940 |
| | | | 1M³ | 70220-007945 |
| | | 8" | 100L | 70220-007960 |
| | | | 1M³ | 70220-007965 |
| | | 10" | 1M³ | 70220-007980 |
| | | | 10M³ | 70220-007985 |

## ⟶ GAER Irrigation Type

Mechanism

| Product Picture | Type | Diameter | Output | Catalog Number |
|---|---|---|---|---|
|  | EV | 3" | 100L/1M³ | 71680-000031 |
| | | 4" | 100L/1M³ | 71680-000032 |
| | | 6" | 1M3/10M³ | 71680-000033 |
| | | 8" | 1M3/10M⁴ | 71680-000034 |
| | | 10" | 1M3/10M³ | 71680-000035 |

## ⟶ Woltman Type

Measuring Units

| Product Picture | Diameter | Output | Measuring Unit | Catalog Number |
|---|---|---|---|---|
|  | 4" | 1M³ | WSTsb 4 x10 | 70220-009279 |
| | 8", 10", 12" | | WTII 8 COVER 19 | 70220-009270 |

## ⟶ Arad Woltman Byonet

Registers

| Product Picture | Type | Diameter | Output | Catalog Number |
|---|---|---|---|---|
|  | EV | 2" | 10l | 70220-011400 |
| | | | 100l | 70220-011410 |
| | | 2.5" | 10l | 70220-011420* |
| | | | 100l | 70220-011425* |
| | | 3" | 10l | 70220-011430 |
| | | | 100l | 70220-011435 |
| | | 4" | 10l | 70220-011440 |
| | | | 100l | 70220-011445 |
| | | | 1M³ | 70220-011450 |
| | | 6" | 100l | 70220-011455 |
| | | | 1M³ | 70220-011460 |
| | | 8" | 1M³ | 70220-011465 |
| | | | 10M³ | 70220-011470 |
| | | 10" | 1M³ | 70220-011475 |
| | | | 10M³ | 70220-011480 |
| | | 12" | 1000l | 70220-011485 |

* Reed switch not included

## → ARAD Woltman Byonet

Register Accessories

| Product Picture | Product Description | Catalog Number |
|---|---|---|
|  | WSTSB BYO REGISTER HOUSING | 70220-081503 |
| | WSTSB BYO COVER DRILLED IP168 | 70220-081500 |
| | STOPPER PIN PPS | 70220-008568 |
| | WSTSB BYO REED SWITCH HOUSING 1.5m IP68 W/LID | 70220-081501 |

## → Accessories

Octave modules

| Product Picture | Product Description | Catalog Number |
|---|---|---|
|  | Solid State Relay | 70220-060410 |
| | Open Drain | 70220-060400 |
| | 4-20 mA | 70220-011565 |
| | 4-20mA + SSR | 70220-011576 |
|  | NFC COMMUNICATION KIT | 70220-000470 |

Reed switch

| Product Picture | Product Description | Catalog Number |
|---|---|---|
|  | Gray / Black Reed to Gray magnet | 70220-005300 |
|  | Blue Reed to small Red magnet | 70220-005400 |

# Woltman BayoNet™ Register Replacement

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## Watch Tutorial here

https://www.youtube.com/watch?v=4ZGS3p7JDM4

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