

APLISENS - PEM-1000 SERIES FLOW METER

Electromagnetic (Magflow)

PEMDN0050PN16.1

- 0,085..28,274,3 m3/h
- 3/8" up to 40" pipe size
- 1,6 MPa
- Acids, alkalis, paints, pastes, water etc
- 4-20mA or Pulse/frequency



PRODUCT DESCRIPTION

The Aplisens PEM-1000 'Mag flow meter' is a very robust flowmeter for a wide range of applications at a competitive price.

The magnetic flowmeter is for bidirectional measurement of liquids with a minimum conductivity 5µS/cm such as acid/alkalis, paints, pastes and water/wastewater.

The PEM-1000 is available in two versions, one with a direct mounted display/sensor and the other with a separate display/sensor. The pipe size starts at 3/8" (DN10) which gives 1m3/h all the way up to 40" (DN1000) which offers 8000m3/h with a total of twenty one different pipe size/m3/h options inbetween. There is a choice of lining from soft or hard rubber to teflon and a choice of electrode materials which are 316Ti, Platinum Hastelloy, Tantalum and Titanium.

Application examples:

- Utility, water and wastewater processing

Please refer to the datasheet further down the page under Downloads.

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TECHNICAL DATA

| | |
|---------------------------------|--|
| Classification accuracy | ± 0.5% of scale value according to EN837-1 |
| Connection | DN50 PN16 |
| IP class | IP67 |
| Material of body | Carbon steel |
| Material of wetted parts | PTFE |
| Pressure resistance max | 16 bar |
| Signal type | 4-20 mA |
| Supply voltage ac max | 260 V AC |
| Supply voltage ac min | 90 V AC |

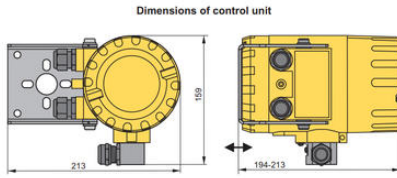
Temperature ambient from -20 °C

Temperature ambient to 60 °C

Temperature of media from -25 °C

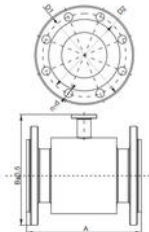
Temperature of media to 130 °C

Weight 3,5 kg

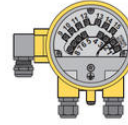


Dimensions of control unit

| DN | PN | A | B | Ø1 | Ø2 | Ø | h | h2 | Weight |
|------|--------|------|------|----|----|-----|-----|-----|--------|
| 10 | 150 | 153 | 80 | 80 | 14 | 4 | 235 | 15 | 1,7 |
| 15 | or 150 | 153 | 80 | 80 | 14 | 4 | 235 | 15 | 1,7 |
| 20 | 160 | 156 | 75 | 74 | 4 | 3 | 235 | 15 | 1,7 |
| 25 | 167 | 155 | 75 | 74 | 4 | 3 | 235 | 15 | 1,7 |
| 32 | 180 | 160 | 100 | 18 | 4 | 6 | 235 | 15 | 1,7 |
| 40 | 186 | 159 | 110 | 18 | 4 | 6 | 235 | 15 | 1,7 |
| 50 | 197 | 160 | 120 | 18 | 4 | 7 | 235 | 15 | 1,7 |
| 65 | 209 | 161 | 140 | 18 | 4 | 7 | 235 | 15 | 1,7 |
| 80 | 224 | 200 | 160 | 18 | 8 | 8,5 | 235 | 15 | 1,7 |
| 100 | 242 | 220 | 180 | 18 | 8 | 11 | 235 | 15 | 1,7 |
| 125 | 275 | 250 | 210 | 18 | 8 | 13 | 235 | 15 | 1,7 |
| 150 | 300 | 300 | 240 | 22 | 8 | 20 | 235 | 15 | 1,7 |
| 200 | 375 | 375 | 300 | 22 | 12 | 20 | 235 | 15 | 1,7 |
| 250 | 430 | 400 | 300 | 20 | 12 | 30 | 235 | 15 | 1,7 |
| 300 | 485 | 460 | 410 | 18 | 12 | 31 | 235 | 15 | 1,7 |
| 350 | 542 | 500 | 470 | 20 | 16 | 35 | 235 | 15 | 1,7 |
| 400 | 600 | 600 | 500 | 20 | 18 | 100 | 200 | 200 | 2,5 |
| 450 | 657 | 640 | 580 | 30 | 20 | 120 | 200 | 200 | 2,5 |
| 500 | 720 | 700 | 660 | 30 | 20 | 160 | 200 | 200 | 2,5 |
| 600 | 870 | 840 | 770 | 30 | 20 | 180 | 200 | 200 | 2,5 |
| 700 | 1020 | 1000 | 940 | 30 | 24 | 200 | 400 | 400 | 4,0 |
| 800 | 1160 | 1140 | 1080 | 30 | 24 | 200 | 400 | 400 | 4,0 |
| 900 | 1300 | 1280 | 1220 | 30 | 28 | 450 | 600 | 600 | 6,0 |
| 1000 | 1460 | 1440 | 1380 | 42 | 28 | 500 | 800 | 800 | 8,0 |



DN 10 - DN 100 A ± 5 mm
DN 200 - DN 1000 A ± 10 mm



| Terminal | Description |
|----------|---|
| 1 | 90...280V AC (11-14) |
| 2 | 90...280V DC (10-20/25) |
| 3 | reverse polarity protection, galvanic insulation, passive |
| 4 | reverse polarity protection, galvanic insulation, passive |
| 5 | reverse polarity protection, galvanic insulation, passive |
| 6 | reverse polarity protection, galvanic insulation, passive |
| 7 | reverse polarity protection, galvanic insulation, passive |
| 8 | active (passive on request) |
| 9 | active (passive on request) |
| 10 | active (passive on request) |
| 11 | GND (3-wire) |
| 12 | reverse polarity protection, galvanic insulation |
| 13 | reverse polarity protection, galvanic insulation |
| 14 | reverse polarity protection, galvanic insulation |
| 15 | reverse polarity protection, galvanic insulation |

| DN | PN | A | B | Ø1 | Ø2 | Ø | h | h2 | Weight |
|------|--------|------|------|----|----|-----|-----|-----|--------|
| 10 | 150 | 153 | 80 | 80 | 14 | 4 | 235 | 15 | 1,7 |
| 15 | or 150 | 153 | 80 | 80 | 14 | 4 | 235 | 15 | 1,7 |
| 20 | 160 | 155 | 75 | 74 | 4 | 3 | 235 | 15 | 1,7 |
| 25 | 167 | 155 | 75 | 74 | 4 | 3 | 235 | 15 | 1,7 |
| 32 | 180 | 160 | 100 | 18 | 4 | 6 | 235 | 15 | 1,7 |
| 40 | 186 | 159 | 110 | 18 | 4 | 6 | 235 | 15 | 1,7 |
| 50 | 197 | 160 | 120 | 18 | 4 | 7 | 235 | 15 | 1,7 |
| 65 | 209 | 161 | 140 | 18 | 4 | 7 | 235 | 15 | 1,7 |
| 80 | 224 | 200 | 160 | 18 | 8 | 8,5 | 235 | 15 | 1,7 |
| 100 | 242 | 220 | 180 | 22 | 8 | 11 | 235 | 15 | 1,7 |
| 125 | 275 | 250 | 210 | 18 | 8 | 13 | 235 | 15 | 1,7 |
| 150 | 300 | 300 | 240 | 22 | 8 | 20 | 235 | 15 | 1,7 |
| 200 | 375 | 375 | 300 | 22 | 12 | 20 | 235 | 15 | 1,7 |
| 250 | 430 | 400 | 300 | 20 | 12 | 30 | 235 | 15 | 1,7 |
| 300 | 485 | 460 | 410 | 18 | 12 | 31 | 235 | 15 | 1,7 |
| 350 | 542 | 500 | 470 | 20 | 16 | 35 | 235 | 15 | 1,7 |
| 400 | 600 | 600 | 500 | 20 | 18 | 100 | 200 | 200 | 2,5 |
| 450 | 657 | 640 | 580 | 30 | 20 | 120 | 200 | 200 | 2,5 |
| 500 | 720 | 700 | 660 | 30 | 20 | 160 | 200 | 200 | 2,5 |
| 600 | 870 | 840 | 770 | 30 | 20 | 180 | 200 | 200 | 2,5 |
| 700 | 1020 | 1000 | 940 | 30 | 24 | 200 | 400 | 400 | 4,0 |
| 800 | 1160 | 1140 | 1080 | 30 | 24 | 200 | 400 | 400 | 4,0 |
| 900 | 1300 | 1280 | 1220 | 30 | 28 | 450 | 600 | 600 | 6,0 |
| 1000 | 1460 | 1440 | 1380 | 42 | 28 | 500 | 800 | 800 | 8,0 |

| DN | v=0,3m/s | v=1m/s | v=3m/s | v=5m/s | v=8m/s | v=10m/s |
|------|----------|--------|--------|--------|--------|---------|
| 10 | 0,085 | 0,283 | 0,848 | 1,411 | 2,282 | 2,822 |
| 15 | 0,101 | 0,316 | 0,959 | 1,620 | 2,581 | 3,217 |
| 20 | 0,113 | 0,353 | 1,059 | 1,820 | 2,840 | 3,573 |
| 25 | 0,126 | 0,391 | 1,160 | 2,020 | 3,100 | 3,929 |
| 32 | 0,140 | 0,430 | 1,261 | 2,220 | 3,360 | 4,185 |
| 40 | 0,154 | 0,470 | 1,362 | 2,420 | 3,620 | 4,441 |
| 50 | 0,169 | 0,510 | 1,463 | 2,620 | 3,880 | 4,697 |
| 65 | 0,185 | 0,551 | 1,564 | 2,820 | 4,140 | 4,953 |
| 80 | 0,201 | 0,592 | 1,665 | 3,020 | 4,400 | 5,209 |
| 100 | 0,217 | 0,633 | 1,766 | 3,220 | 4,660 | 5,465 |
| 125 | 0,234 | 0,674 | 1,867 | 3,420 | 4,920 | 5,721 |
| 150 | 0,250 | 0,715 | 1,968 | 3,620 | 5,180 | 5,977 |
| 200 | 0,282 | 0,817 | 2,229 | 4,020 | 5,740 | 6,637 |
| 250 | 0,314 | 0,919 | 2,490 | 4,420 | 6,300 | 7,297 |
| 300 | 0,346 | 1,021 | 2,751 | 4,820 | 6,860 | 7,957 |
| 350 | 0,378 | 1,123 | 3,012 | 5,220 | 7,420 | 8,617 |
| 400 | 0,410 | 1,225 | 3,273 | 5,620 | 7,980 | 9,277 |
| 450 | 0,442 | 1,327 | 3,534 | 6,020 | 8,540 | 9,937 |
| 500 | 0,474 | 1,429 | 3,795 | 6,420 | 9,100 | 10,597 |
| 600 | 0,538 | 1,631 | 4,317 | 7,220 | 10,260 | 11,917 |
| 700 | 0,602 | 1,833 | 4,839 | 8,020 | 11,420 | 13,237 |
| 800 | 0,666 | 2,035 | 5,361 | 8,820 | 12,580 | 14,557 |
| 900 | 0,730 | 2,237 | 5,883 | 9,620 | 13,740 | 15,877 |
| 1000 | 0,794 | 2,439 | 6,405 | 10,420 | 14,900 | 17,197 |

| DN | Standard flow rate (m³/h) | Flow rate range (m³/h) |
|------|---------------------------|------------------------|
| 10 | 1,0 | 1 - 1,7 |
| 15 | 2,0 | 2 - 3,6 |
| 20 | 3,0 | 3 - 5,4 |
| 25 | 4,0 | 4 - 7,2 |
| 32 | 6,0 | 6 - 10,8 |
| 40 | 8,0 | 8 - 14,4 |
| 50 | 12,0 | 12 - 21,6 |
| 65 | 16,0 | 16 - 28,8 |
| 80 | 24,0 | 24 - 43,2 |
| 100 | 32,0 | 32 - 57,6 |
| 125 | 48,0 | 48 - 86,4 |
| 150 | 64,0 | 64 - 115,2 |
| 200 | 128,0 | 128 - 230,4 |
| 250 | 192,0 | 192 - 345,6 |
| 300 | 256,0 | 256 - 460,8 |
| 350 | 320,0 | 320 - 576,0 |
| 400 | 384,0 | 384 - 691,2 |
| 450 | 448,0 | 448 - 806,4 |
| 500 | 512,0 | 512 - 921,6 |
| 600 | 640,0 | 640 - 1152,0 |
| 700 | 768,0 | 768 - 1382,4 |
| 800 | 896,0 | 896 - 1612,8 |
| 900 | 1024,0 | 1024 - 1843,2 |
| 1000 | 1152,0 | 1152 - 2073,6 |

Optimal flow speed v=3m/s