

WESAN WP

BULK WATER METER | WOLTMAN

DIEHL
Metering



APPLICATION

The bulk water meter WESAN WP can be used for measuring the flow (cold water up to 30 °C) in supply lines with high flow at low pressure loss.

FEATURES

- ▶ Calibratable and exchangeable measuring insert
- ▶ For horizontal and vertical installation
- ▶ Sealed measuring insert for better accuracy
- ▶ Hydraulic bearing relief
- ▶ Wear-resistant plastic bearing
- ▶ Encapsulated counter of glass/copper IP 68
- ▶ Complete head unit with counter and sensors can be rotated by 350° for easier reading
- ▶ Integrated measurement outputs as standard
- ▶ Sensors for remote readout (digital) and flow measurement (analogue) can be retrofitted on site without affecting calibration

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GENERAL

| WESAN WP 222 | | |
|-------------------------------|--------|----------|
| Medium temperature range | °C | 0 ... 30 |
| Temperature safety | °C | 0 ... 50 |
| Ambient operating temperature | °C | 0 ... 55 |
| Ambient storage temperature | °C | 0 ... 55 |
| Nominal pressure | PN bar | 16* |
| Protection class | | IP 68 |

* Special versions on request

TECHNICAL DATA

| Nominal diameter | DN | mm | 50 | 65 | 80 | 100 | 125 | 150 |
|------------------------------------|------------------|-------------------|------|-------|-------|-------|-------|------|
| Permanent flow rate | Q ₃ | m ³ /h | 40 | 63 | 100 | 160 | 160 | - |
| Minimum flow rate | Q ₁ | m ³ /h | 0.63 | 0.63 | 1 | 1.6 | 1.6 | - |
| Transitional flow rate | Q ₂ | m ³ /h | 1.02 | 1.01 | 1.6 | 2.56 | 2.56 | - |
| Overload flow rate | Q ₄ | m ³ /h | 50 | 78.75 | 125 | 200 | 200 | - |
| Nominal flow rate (DIN ISO 4064) | Q _n | m ³ /h | 15 | 25 | 40 | 60 | 100 | 150 |
| Minimum flow rate horizontal | Q _{min} | m ³ /h | 0.35 | 0.45 | 0.5 | 0.6 | 0.6 | 1.8 |
| Minimum flow rate vertical | Q _{min} | m ³ /h | 0.4 | 0.5 | 0.5 | 0.6 | 0.6 | 1.8 |
| Transition flow rate horizontal | Q _t | m ³ /h | 1 | 1.2 | 0.8 | 1.8 | 2 | 4 |
| Transition flow rate vertical | Q _t | m ³ /h | 1.8 | 2 | 0.8 | 1.8 | 2 | 4 |
| Maximum flow rate (short-term) | Q _{max} | m ³ /h | 90 | 120 | 200 | 300 | 350 | 350 |
| Starting flow rate | | l/h | 90 | 130 | 160 | 190 | 190 | 1500 |
| Flow rate at 0.1 bar pressure loss | | m ³ /h | 25 | 50 | 63 | 80 | 80 | 310 |
| Pressure loss at Q ₃ | | bar | 0.25 | 0.16 | 0.25 | 0.4 | 0.4 | - |
| Nominal diameter | DN | mm | 200 | 250 | 300 | 400 | 500 | |
| Permanent flow rate | Q ₃ | m ³ /h | - | - | - | - | - | - |
| Minimum flow rate | Q ₁ | m ³ /h | - | - | - | - | - | - |
| Transitional flow rate | Q ₂ | m ³ /h | - | - | - | - | - | - |
| Overload flow rate | Q ₄ | m ³ /h | - | - | - | - | - | - |
| Nominal flow rate (DIN ISO 4064) | Q _n | m ³ /h | 250 | 400 | 600 | 1000 | 1500 | |
| Minimum flow rate horizontal | Q _{min} | m ³ /h | 4 | 12 | 18 | 30 | 45 | |
| Minimum flow rate vertical | Q _{min} | m ³ /h | 4 | - | - | - | - | |
| Transition flow rate horizontal | Q _t | m ³ /h | 6 | 20 | 50 | 50 | 80 | |
| Transition flow rate vertical | Q _t | m ³ /h | 6 | - | - | - | - | |
| Maximum flow rate (short-term) | Q _{max} | m ³ /h | 650 | 1200 | 1500 | 2800 | 4200 | |
| Starting flow rate | | l/h | 2500 | 5000 | 10000 | 15000 | 20000 | |
| Flow rate at 0.1 bar pressure loss | | m ³ /h | 550 | 800 | 1250 | 3000 | 6000 | |
| Pressure loss at Q ₃ | | bar | - | - | - | - | - | |

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PULSE OUTPUTS

| Nominal diameter | DN | mm | 50 | 65 | 80 | 100 | 125 | 150 |
|----------------------------------|----|---------|---------|---------|---------|---------|---------|-----------|
| Reed switch 570* - pulse value 1 | | l/pulse | 100 | 100 | 100 | 100 | 100 | 1000 |
| Reed switch 570* - pulse value 2 | | l/pulse | 1000 | 1000 | 1000 | 1000 | 1000 | 10000 |
| Special pulse value | | l/pulse | 25 / 50 | 25 / 50 | 25 / 50 | 25 / 50 | 25 / 50 | 250 / 500 |
| IR pulse transmitter 573* | | l/pulse | 1 | 1 | 1 | 1 | 1 | 10 |

| Nominal diameter | DN | mm | 200 | 250 | 300 | 400 | 500 |
|----------------------------------|----|---------|-----------|-----------|-----------|-------------|-------------|
| Reed switch 570* - pulse value 1 | | l/pulse | 1000 | 1000 | 1000 | 10000 | 10000 |
| Reed switch 570* - pulse value 2 | | l/pulse | 10000 | 10000 | 10000 | 100000 | 100000 |
| Special pulse value | | l/pulse | 250 / 500 | 250 / 500 | 250 / 500 | 2500 / 5000 | 2500 / 5000 |
| IR pulse transmitter 573* | | l/pulse | 10 | 10 | 10 | 100 | 100 |

* For more information about reed switch 570 and IR pulse transmitter 573 please have a look at the specific datasheet.

DISPLAY RANGE

| Nominal diameter | DN | mm | 50 | 65 | 80 | 100 | 125 | 150 |
|------------------------------------|----|----|----|----|----|-----|-----|-----|
| 0.5 l ... 999,999 m ³ | | | • | • | • | • | • | |
| 5.0 l ... 9,999,999 m ³ | | | | | | | | • |
| 50 l ... 99,999,999 m ³ | | | | | | | | |

| Nominal diameter | DN | mm | 200 | 250 | 300 | 400 | 500 |
|------------------------------------|----|----|-----|-----|-----|-----|-----|
| 0.5 l ... 999,999 m ³ | | | | | | | |
| 5.0 l ... 9,999,999 m ³ | | | • | • | • | | |
| 50 l ... 99,999,999 m ³ | | | | | | • | • |

APPROVAL

| Nominal diameter | DN | mm | 50 | 65 | 80 | 100 | 125 | 150 |
|---|----|----|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|
| EC | | | D 92 / 6.132.33 | D 92 / 6.132.33 | D 02 / 6.132.42 | D 02 / 6.132.42 | D 02 / 6.132.42 | D 02 / 6.132.43 |
| National | | | - | - | - | - | - | - |
| Metrological class | | | B•H | B•H | B | B | B | B |
| MID (DE-13-MI001-PTB005) | | | • | • | • | • | • | - |
| Dynamic range (Q ₃ /Q ₁) | R* | | 63•H | 100•H | 100 | 100 | 100 | - |

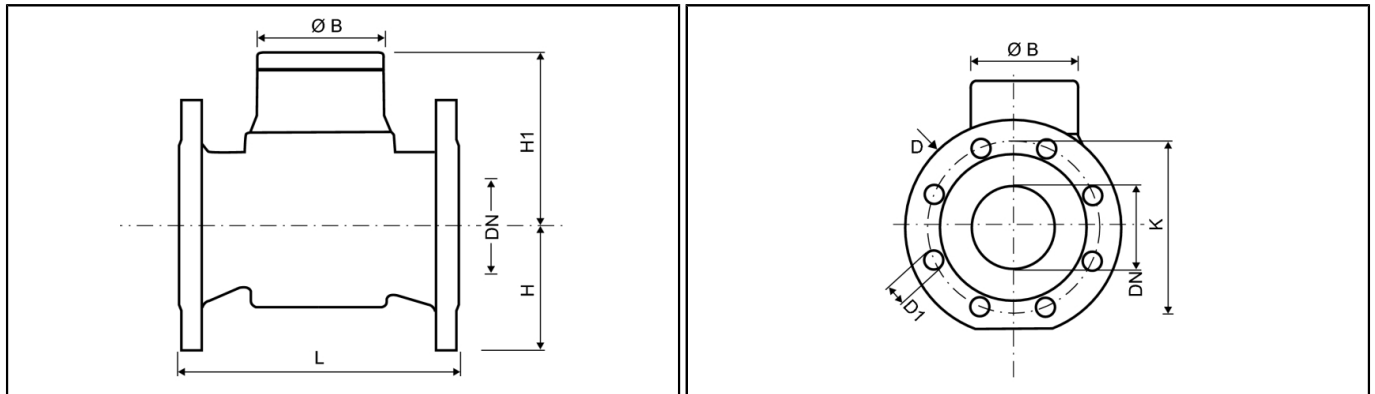
| Nominal diameter | DN | mm | 200 | 250 | 300 | 400 | 500 |
|---|----|----|-----------------|---------------|---------------|---------------|---------------|
| EC | | | D 02 / 6.132.43 | - | - | - | - |
| National | | | - | 6.132 / 06.24 | 6.132 / 06.24 | 6.132 / 92.07 | 6.132 / 92.07 |
| Metrological class | | | B | B | B | B | B |
| MID (DE-13-MI001-PTB005) | | | - | - | - | - | - |
| Dynamic range (Q ₃ /Q ₁) | R* | | - | - | - | - | - |

* Standard dynamic other dynamics on request

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DIMENSIONS



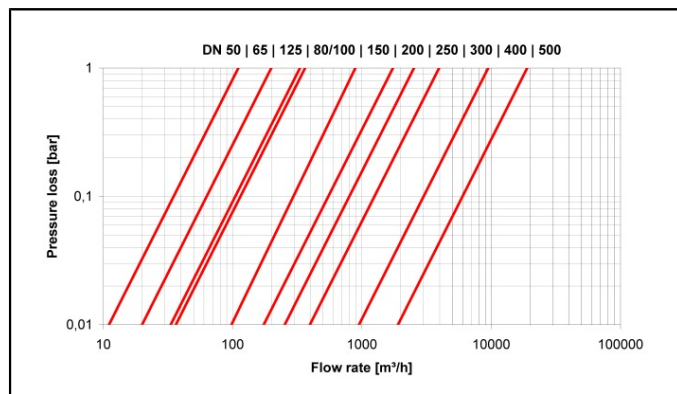
| Nominal diameter | DN | mm | 50 | 65 | 80 | 100 | 125 | 150 |
|------------------------------------|-----|-----|------------------------|-----------|--|------------------------|-----------|---------|
| Overall length | L | mm | 200 / 300 ¹ | 200 | 200 ¹ / 225 / 350 ¹ | 250 / 350 ¹ | 250 | 300 |
| Flange diameter | D | mm | 165 | 185 | 200 | 220 | 250 | 285 |
| Hole circle diameter PN 10 / PN 16 | K | mm | - / 125 | - / 145 | 160 / 160 | - / 180 | - / 210 | - / 240 |
| Number of screwholes PN 10 / PN 16 | | pcs | - / 4 | - / 4 | 4 / 8 | - / 8 | - / 8 | - / 8 |
| Screwhole diameter PN 10 / PN 16 | D1 | mm | - / 18 | - / 18 | 18 / 18 | - / 18 | - / 18 | - / 22 |
| Height | H | mm | 75 | 83 | 89 | 105 | 115 | 135 |
| Height | H1 | mm | 123 | 123 | 154 | 154 | 154 | 245 |
| Height to remove measuring insert | | mm | 225 | 225 | 275 | 275 | 275 | 475 |
| Meter width | | mm | 155 | 155 | 200 | 220 | 250 | 285 |
| Diameter | Ø B | mm | 110 | 110 | 110 | 110 | 110 | 110 |
| Weight | | kg | 10.2 | 11.2 | 13 | 16 | 21.5 | 39 |
| Nominal diameter | DN | mm | 200 | 250 | 300 | 400 | 500 | |
| Overall length | L | mm | 350 | 450 | 500 | 500 | 500 | |
| Flange diameter | D | mm | 340 | 405 | 460 | 580 | 715 | |
| Hole circle diameter PN 10 / PN 16 | K | mm | 295 / 295 | 350 / 355 | 400 / 410 | 515 / 525 | 620 / 650 | |
| Number of screwholes PN 10 / PN 16 | | pcs | 8 / 12 | 12 / 12 | 12 / 12 | 16 / 16 | 20 / 20 | |
| Screwhole diameter PN 10 / PN 16 | D1 | mm | 22 / 22 | 23 / 27 | 23 / 27 | 27 / 30 | 27 / 33 | |
| Height | H | mm | 163 | 193 | 230 | 290 | 360 | |
| Height | H1 | mm | 245 | 242 | 290 | 311 | 361 | |
| Height to remove measuring insert | | mm | 475 | 472 | 520 | 580 | 660 | |
| Meter width | | mm | 340 | 405 | 460 | 580 | 715 | |
| Diameter | Ø B | mm | 110 | 110 | 110 | 110 | 110 | |
| Weight | | kg | 47 | 75 | 165 | 190 | 300 | |

¹: Special body lengths on request

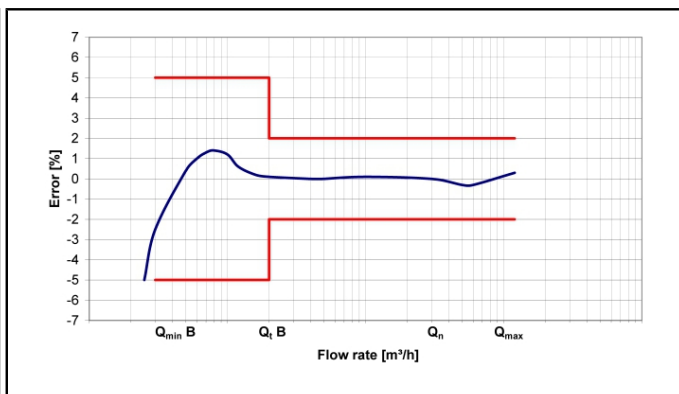
SPECIAL VERSIONS

- Versions with different nominal pressure on request
- Flange for ANSI and BS on request
- CuZn parts in V2A on request
- Temperature up to 90 °C on request
- Special pulse values on request
- Special overall length on request

PRESSURE LOSS GRAPH / TYPICAL ERROR GRAPH



Pressure loss graph



Typical error graph