# WP-Dynamic

## Turbine Water Meter for cold water up to 50 °C / PN 16, DN 40 ... DN 400

### Main Features

Hermetically sealed register (IP 68)

Patented hydrodynamically balanced rotor (≤DN 300)

Patented symmetrical calibration adjustment (≤DN 300)

Register may be rotated through 360°

High overload capability

Pattern approved removable measuring element

Powder coating affords max. corrosion protection

Not affected by external magnetic fields

Optionally as meter free of copper alloy (BMF) for aggressive media

### APPLICATION

Measurement of high, relatively constant flow rates, e.g. behind pumps

For industrial, non-commercial use

Application for aggressive media (BMF), e.g.

- Desalinated / demineralized water
- Caustic soda up to 20 %
- Saline water up to 10 %
- Chlorinated water up to 1 %
- Glycol-water solutions up to 30 %
- Caustic solutions up to ph value 9

(Other liquids on request)

### AVAILABLE OPTIONS

Up to 3 pulsers (1 x OD, 2 x RD) may be fitted without breaking the approval seal

¼" connection port for pressure sensors

Cold water meters pressure rate PN 40 please see special leaflet

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### INSTALLATION

| | | |
|---|---|---|
| Pipe | horizontal<br>vertical<br>inclined | |
| Meter head | upwards<br>sideways | |

### Installation Requirements

Unrestricted straight pipe in front of the meter 3 x DN (DN400 5 x DN)

No abrupt restrictions directly behind the meter

### PERFORMANCE DATA

**Performance data WP-Dynamic 50 °C**

| | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Nominal Diameter | | | DN | 40 | 50 | 65 | 80 | 100 | 125 | 150 | 200 | 250 | 300 | 400 |
| Size of meter (acc. to ISO 4064:1-1993) | | | $Q_n$ | 10 | 15 | 25 | 40 | 60 | 100 | 150 | 250 | 400 | 600 | 1000 |
| $Q_{max}$ | maximum peak flow once in life time 24 h $Q_{max}$ or 5 min. 1.2 x $Q_{max}$ | (±2%) | m³/h | 60 | 90 | 120 | 200 | 300 | 350 | 600 | 1200 | 1600 | 2000 | 3000 |
| $Q_n$ | continuous flow | (±2%) | m³/h | 40 | 50 | 70 | 120 | 230 | 250 | 450 | 800 | 1250 | 1400 | 2000 |
| $Q_t$ | transitional flow | (±2%) | m³/h | 0.8 | 0.7 | 0.8 | 0.8 | 1.8 | 2.0 | 4.0 | 6.0 | 11.0 | 15.0 | 50 |
| $Q_{min}$ | minimum flow | (±5%) | m³/h | 0.30 | 0.30 | 0.40 | 0.50 | 0.80 | 1.00 | 1.8 | 4.0 | 6.0 | 12.0 | 25 |
| | starting flow | | m³/h | 0.15 | 0.15 | 0.20 | 0.25 | 0.25 | 0.5 | 1.0 | 1.5 | 3.0 | 8.0 | 15 |

**Performance data according to ISO 4064:1-1993 specification 30 °C class B**

| | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Nominal Diameter | | DN | 40 | 50 | 65 | 80 | 100 | 125 | 150 | 200 | 250 | 300 | 400 |
| Size of meter (acc. to ISO 4064:1-1993) | | $Q_n$ | 10 | 15 | 25 | 40 | 60 | 100 | 150 | 250 | 400 | 600 | 1000 |
| $Q_{max}$ | maximum peak flow short time | m³/h | 30 | 30 | 50 | 80 | 120 | 200 | 300 | 500 | 800 | 1200 | 2000 |
| $Q_n$ | continuous flow | m³/h | 15 | 15 | 25 | 40 | 60 | 100 | 150 | 250 | 400 | 600 | 1000 |
| $Q_t$ | transitional flow | m³/h | 3.0 | 3.0 | 5.0 | 8.0 | 12.0 | 20.0 | 30 | 50 | 80 | 120 | 200 |
| $Q_{min}$ | minimum flow | m³/h | 0.45 | 0.45 | 0.75 | 1.20 | 1.80 | 3.00 | 4.5 | 7.5 | 12.0 | 18.0 | 30 |

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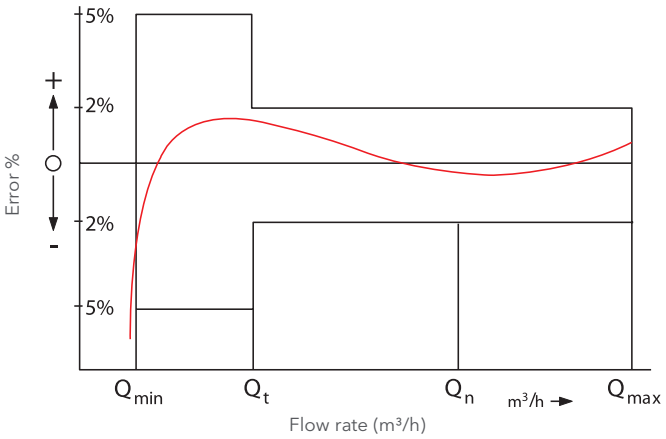
### Typical Accuracy Curve



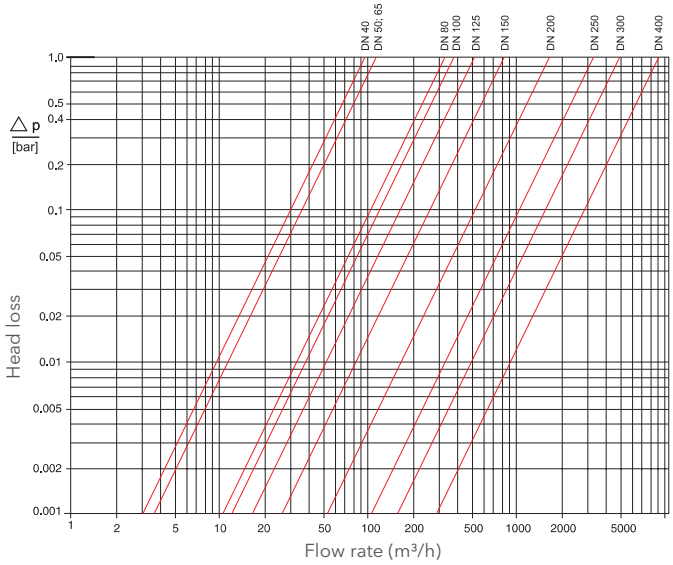

$Q_{max}$ = maximum peak flow

$Q_n$ = continuous flow

$Q_t$ = transitional flow ±2%

$Q_{min}$ = minimum flow ±5%

### Typical Head Loss Curve

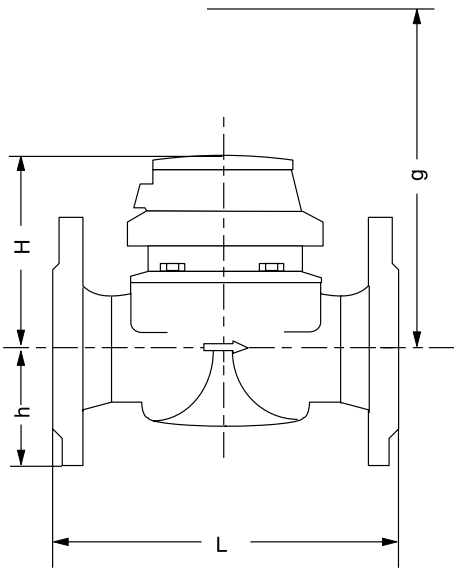



### DIMENSIONS AND WEIGHTS

| | | | | DN | 40 | 50 | 65 | 80 | 80 | 100 | 125 | 150 | 200 | 250 | 300 | 400 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Nominal Diameter | | | | | | | | | | | | | | | | |
| Size of meter (acc. to ISO 4064:1-1993) | | | | $Q_n$ | 10 | 15 | 25 | 40 | 40 | 60 | 100 | 150 | 250 | 400 | 600 | 1000 |
| Dimensions | overall length | | L*) | mm | 220 | 200 | 200 | 200 | 225 | 250 | 250 | 300 | 350 | 450 | 500 | 500 |
| | height | | H | mm | 120 | 120 | 120 | 150 | 150 | 150 | 160 | 177 | 206 | 231 | 256 | 380 |
| | | | h | mm | 69 | 73 | 85 | 96 | 95 | 105 | 118 | 135 | 162 | 194 | 226 | 295 |
| | | | g | mm | 200 | 200 | 200 | 270 | 270 | 270 | 280 | 356 | 441 | 466 | 491 | 785 |
| Weights | meter | | | kg | 7.4 | 7.7 | 10.0 | 13.6 | 14.0 | 18.0 | 20.5 | 35.5 | 50.5 | 72.3 | 99.3 | 187 |
| | measuring element | | | kg | 1.4 | 1.4 | 1.4 | 3.0 | 3.0 | 3.0 | 3.0 | 5.5 | 7.5 | 7.5 | 7.5 | 25 |
| | body | | | kg | 6.0 | 6.3 | 8.6 | 10.6 | 11.0 | 15.0 | 17.5 | 30.0 | 43.0 | 63.8 | 91.8 | 162 |

*) Other overall lengths on request

### Dimensional Diagram




### MATERIALS

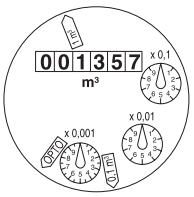
| | | |
|---|---|---|
| Body | PN16 | cast iron |
| Measuring element | | plastic |
| Rotor | | plastic |
| We also use the following materials | | brass, stainless, steel |

# WP-Dynamic

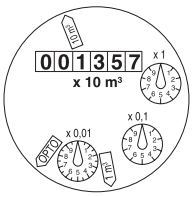
## Turbine Water Meter for cold water up to 50 °C / PN 16, DN 40 ... DN 400

### DIALS

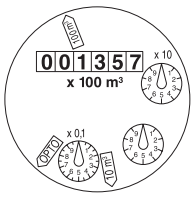
| Nominal Diameter DN | Smallest Reading $m^3$ | Max. Reading $m^3$ |
|---|---|---|
| 50 ... 125 | 0,0005 | 1 000 000 |
| 150 ... 300 | 0,005 | 10 000 000 |
| 400 | 0,05 | 100 000 000 |




DN 40 ... DN 125

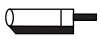



DN 150 ... DN 300




DN 400

### PULSE VALUES

| Pulser | | pulse value DN 40 ... DN 125 | DN 150 ... DN 300 | DN 400 |
|---|---|---|---|---|
| RD 01 |  | 0.1 and 1 $m^3$ alternatively 0.01 and 1 $m^3$ | 1 and 10 $m^3$ alternatively 0.1 and 10 $m^3$ | 10 and 100 $m^3$ |
| OD 01 | | 0.001 $m^3$ | 0.01 $m^3$ | 0.1 $m^3$ |
| OD 03 | | 0.01 $m^3$ | 0.1 $m^3$ | 1 $m^3$ |

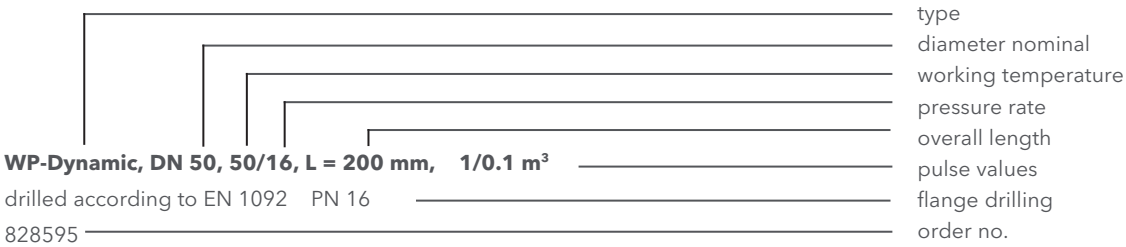
### AVAILABLE VARIANTS

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| Nominal Diameter | DN | 40 | 50 | 65 | 80 | 80 | 100 |
| Overall length *) | mm | 220 | 200 | 200 | 200 | 225 | 250 |
| Order no. | PN16 | 828593 | 828595 | 828597 | 828599 | 828601 | 828603 |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| Nominal Diameter | DN | 125 | 150 | 200 | 250 | 300 | 400 |
| Overall length *) | mm | 250 | 300 | 350 | 450 | 500 | 500 |
| Order no. | PN16 | 828605 | 828607 | 828717 | 828719 | 828743 | 829195 |

*) Other overall lengths on request

## Order Example

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