# High Performance
# Coriolis Mass-Flow Meter HPC

## for LOW FLOW

- Precise measurements for very small measuring ranges
- Up to 4 measuring coils
- Vibration resistant
- Very robust flow body
- Variable housing and mounting concept

### Function

The coriolis mass flow meter HPC works according to the coriolis principle allowing mass flow, density and temperature to be measured simultaneously. This provides accurate measurement for the volume of flow. HPC mass flow sensors are available with remote transmitters.

## Applications

For the measurement of very small flow rates, it is common to use single pipe coriolis flow meters. However, with the use of just one measuring pipe the influence of external interferences increases dramatically, often necessitating a costly decoupling.

The HPC uses a dual bent pipe measuring system. The sensor coils are no longer mounted on the measuring pipes but between the pipes. This provides the sensor with a significant noise-reduction and with predictable dynamic behaviour that is capable of working at higher frequencies, so further decoupling the sensor measurement from external vibrations.

With these characteristics the HPC coriolis sensor is therefore not only extremely accurate, but also particular resistant against external interferences. The sensor is therefore suited for very low flow measurements for nearly all fluids applications.

# Technical Data

## Sensor

| | |
|---|---|
| Process connection: | G1/2 AG, ½ NPT(F), Gyrolok 6/8/10 mm, Swagelok 6/10/12 mm |
| Nominal pressure: | PN100 / PN 320 / PN 400 Process temperature: -40°C … +180°C Ambient temperature: |
| | -20°C … +60°C Protection: IP 65 (EN60529) |

**Materials**

| | |
|---|---|
| Measuring pipes: | 1.4571 (316 TI) |
| Flow body: | 1.4404 (316 L) |
| Secondary containment | Aluminum, st.st. |

| | |
|---|---|
| Wetted parts | measuring pipes 1.4571 (316 TI), flow body 1.4404 (316 L) |

**Measuring ragnes**

| | |
|---|---|
| HPC-S01 | 0-20 kg/h ΔP @ Qmax = 0,25 bar |
| HPC-S02 | 0-50 kg/h ΔP @ Qmax = 0,20 bar |
| HPC-S03 | 0-160 kg/h ΔP @ Qmax = 1,13 bar |

Reference conditions: acc. IEC 770:
Water @ 20°C

**Accuracy**

| | |
|---|---|
| Liquids: | ± 0,1 % of actual ± Z.S. |
| Gases: | ± 0,5 % of actual ± Z.S. |
| Density (liquids): | ± 0,005 g/cm³ incl. density calibration |
| Volume: (dependant of transmitter) | ± 0,2 % of actual ± Z.S. |
| Zero stability: | ±0,02 % of Qmax |
| CE-Marking: | EMV-guide line 2004/108/EG<br>EN 61000-6-3:2001 Störaussendung<br>EN 61000-6-2:1999 Störfestigkeit<br>Ex-guide line 94/9/EG |
| Electrical connnection: | Plug ODU Mini-Snap®, IP 68 ( up to 80°C process temp.)<br>Plug Harting HAN® R23 (100-180°C process temp.) Cable: 8 pole c/w plug |

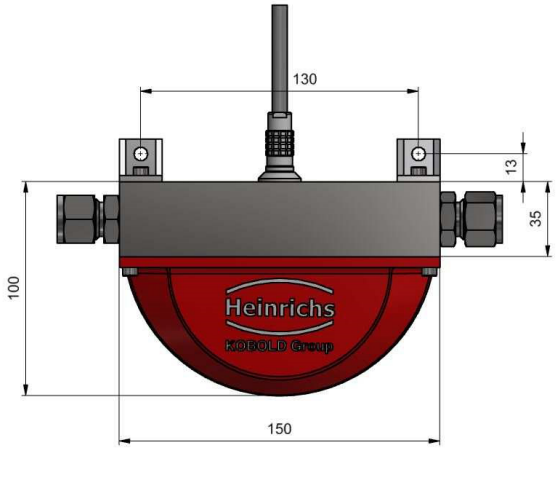
## Transmitter

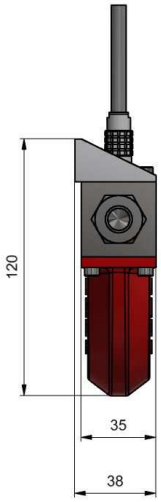
**Model: UMC4**

| | |
|---|---|
| Power supply: | 19 - 36 VDC,<br>90 - 265 VAC |
| Outputs: | galvanically sealed |
| Analog output: | 2 x 4-20 mA, passive<br>(for Ex intrinsically safe or non intrinsically safe) |
| Communications | HART® |
| Analog output 1 | Mass flow, volume flow, density, temperature |

| | |
|---|---|
| Analog output 2 | Mass flow, volume flow, density, temperature |
| Binary output 1:<br>Pulse output: | Adjustable as pulse of frequency output<br>Pulse width: standard 50 ms<br>adjustable from 0,1….2000 ms<br>Pulse-break value 1:1 if adjusted pulse time falls short of |
| Pulse-Value adjustments | 1 pulse / unit<br>adjustable from 0,001-100,0<br>(in decade steps of the selected pulse unit) |
| Frequency output adjustments: | max. 1 KHz<br>passive, via opto coupler,<br>$U_{max}$=30 V<br>$I_{max}$=60mA |
| As binary output 2: | For forward flow, backward flow, MIN/MAX flow, |
| As Status output: | MIN/MAX Density, MIN/MAX, temp. alarm<br>second pulse output (90° phase shifted)<br>passive, via opto coupler,<br>U max=30 V<br>Imax=60mA |

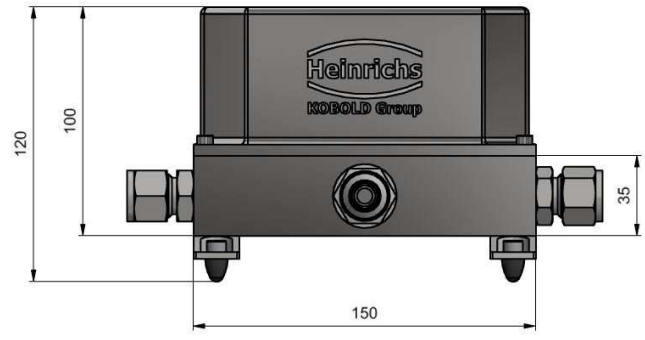
**Dimensions / Weights**

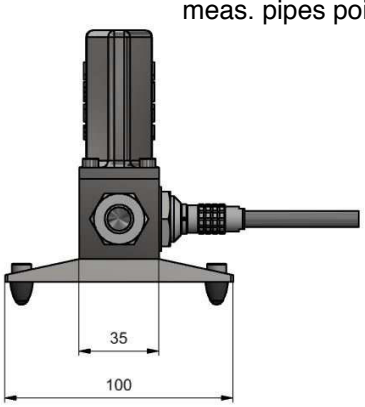


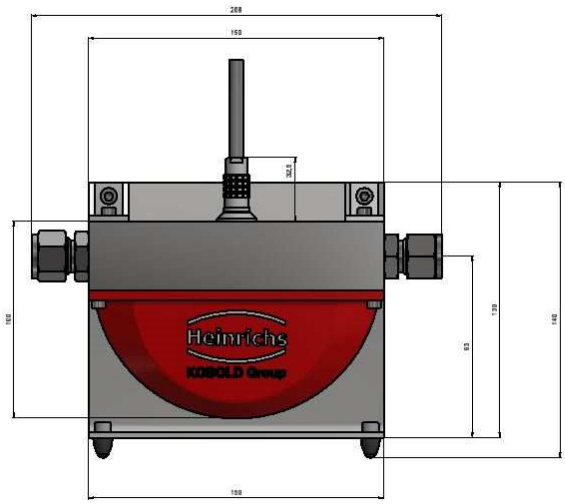



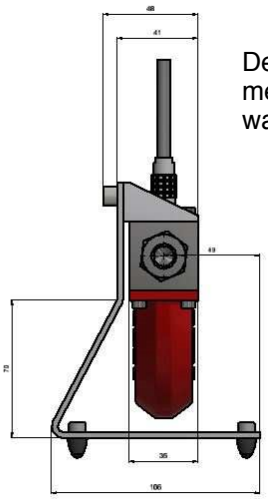

Inline- und wall mounting

Desk-Version
meas. pipes pointing upwards

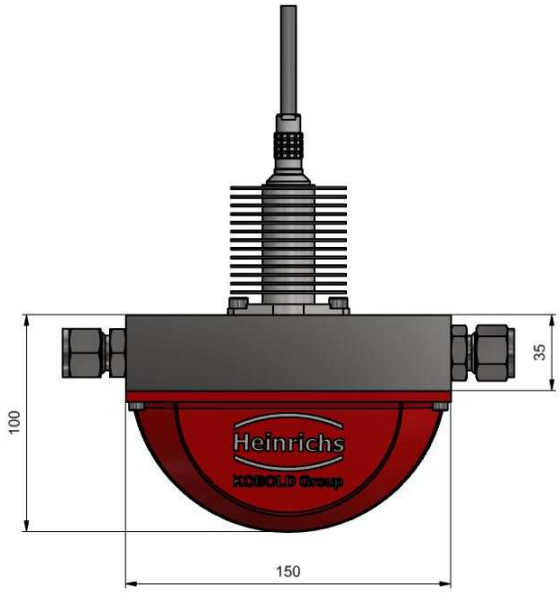


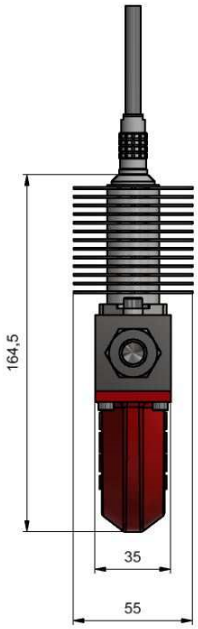





Desk Version
measuring. pipes pointing downwards




High temperature version.

| | | Weight | |
|---|---|---|---|
| | | Sensor | Transmitter (UMC3/4) |
| **Model** | **DN** | kg [lbs] | kg [lbs] |
| HPC-S01 | G1/2 / 1/2 NPT | 1,8 [4,0] | 4,5 [9,9] |
| HPC-S02 | G1/2 / 1/2 NPT | 1,8 [4,0] | |
| HPC-S03 | G1/2 / 1/2 NPT | 1,8 [4,0] | |

More information towards HPC can be found under www.heinrichs.eu
Subject to modifications

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