



High Performance Coriolis Mass-Flow Meter

for LOW FLOW Applications

HPC

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

Function

The coriolis mass flow meter HPC is working acc. the coriolis principle. Mass Flow, density and temperature are being measured simultaneously. The volume flow can be calculated out this measurements. HPC mass flow sensors are only available with remote transmitter.

Application

For the measurement of very small flow rates it is common practice 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. Furthermore the sensor coils are not mounted on the measuring pipes anymore rather than between the pipes. This provides the sensor with a significantly noise-reduced and predictable dynamic behavior, 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 very good suited for very low flow measurements for all applications for nearly all fluids.



Technical Data

Sensor

Process connection: ½ NPT(F), G1/2 AG, Gyrolok/Swagelok 6/8/10/12 mm
 Nominal pressure: PN100 / PN 320 / PN 400
 Process temperature: -40°C ... +180°C
 Ambient temperature: -20°C ... +60°C
 Explosion proof : ATEX 19ATEX2096X BV / IECEx CML 19.0025X

Standard

II 1 G / II 1 D Ex ia IIC T4 Ga / Ex ia IIIC T135°C Da,
 Tamb -40...+60°C

High temperatur

II 1 G / II 1 D / II 2 D Ex ia IIC T4-T2 Ga /
 Ex ia IIC T135°C Da / Ex ia IIC T190°C/T240°C Db
 Tamb -40...+60°C

Protection: IP 65 (EN60529)

Materials

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

Measuring ranges

HPC-S01	0-20 kg/h	ΔP @ Qmax = 0,8 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
 EN 61000-6-3:2001 interference emission
 EN 61000-6-2:1999 interference immunity
 Ex-guide line 94/9/EG

Electrical connection: Plug ODU Mini-Snap®, IP 68 (up to 80°C process temp.)
 Plug Harting HAN® R23 (100-180°C process temp.)
 Cable: 8 pole c/w plug

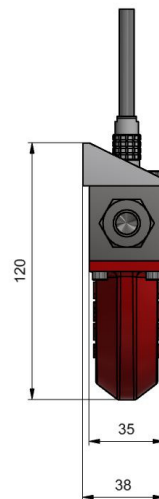
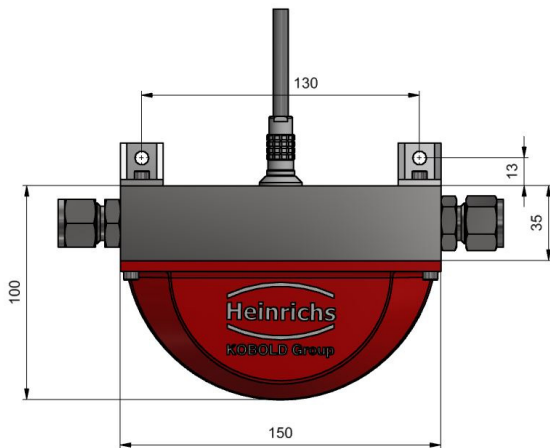
Transmitter

Power supply:	Model:	UMC4
Outputs:		19 - 36 VDC, 90 - 265 VAC
ATEX/IEC-Ex:		galvanically isolated II(1)2G Ex d [ia Ga] IIC T3-T4 Gb (terminal compartment Ex d), Tamb: -20...+60°C

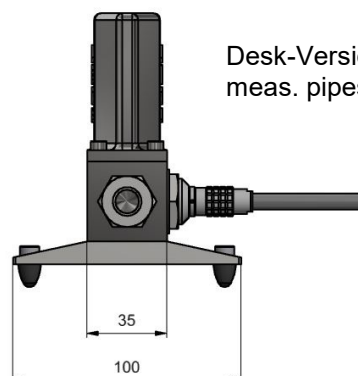
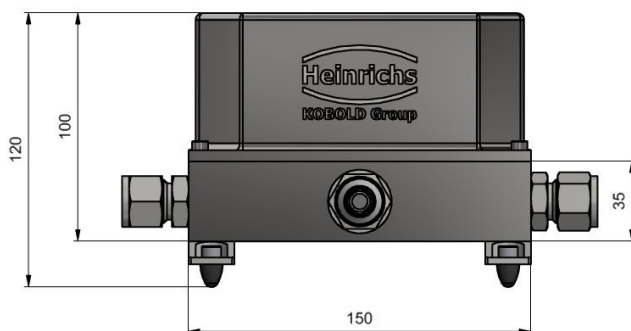


Analog output:	2 x 4-20 mA, passive (for Ex intrinsically safe or not intrinsically safe)
Communications:	HART®
Analog output 1:	Mass flow, volume flow, density, temperature
Analog output 2:	Mass flow, volume flow, density, temperature
Binary output 1:	Adjustable as pulse of frequency output
Pulse output:	Pulse width: standard 50 ms adjustable from 0,1....2000 ms Pulse-break value 1:1 if adjusted pulse time falls short of
Pulse-Value adjustments:	1 pulse / unit adjustable from 0,001-100,0 (in decade steps of the selected pulse unit)
Frequency output adjustments:	max. 1 KHz passive, via optocoupler, U _{max} =30 V 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 second pulse output (90° phase shifted) passive, via opto coupler, U _{max} =30 V I _{max} =60mA

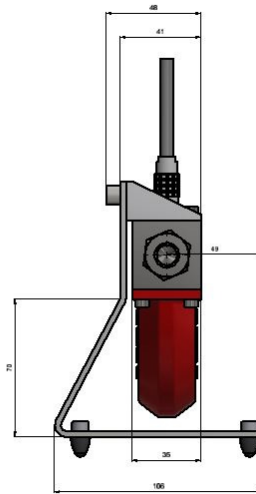
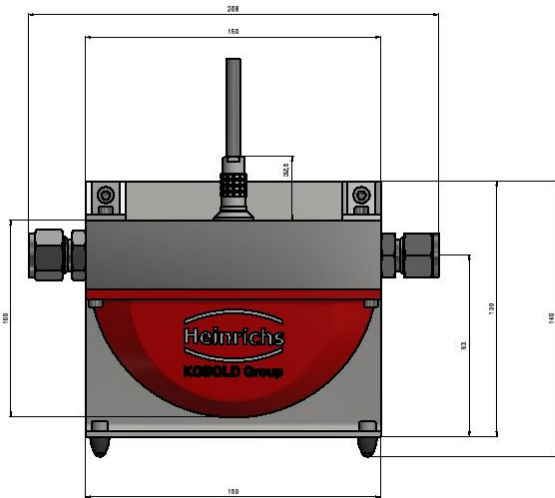
Dimensions / Weights



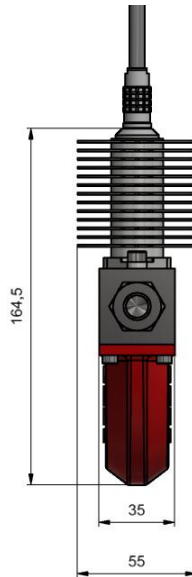
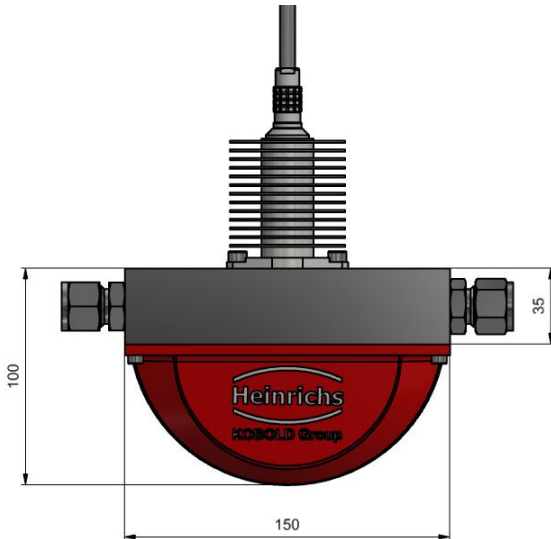
Inline- and wall mounting



Desk-Version
meas. pipes pointing upwards



Desk Version
measuring. pipes pointing down-
wards



High temperature version

Model	DN	Weight	
		Sensor	Transmitter (UMC4)
HPC-S01	1/2" NPT (f)	1,8 [4,0]	4,5 [9,9]
HPC-S02	1/2" NPT (f)	1,8 [4,0]	
HPC-S03	1/2" NPT (f)	1,8 [4,0]	

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

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