



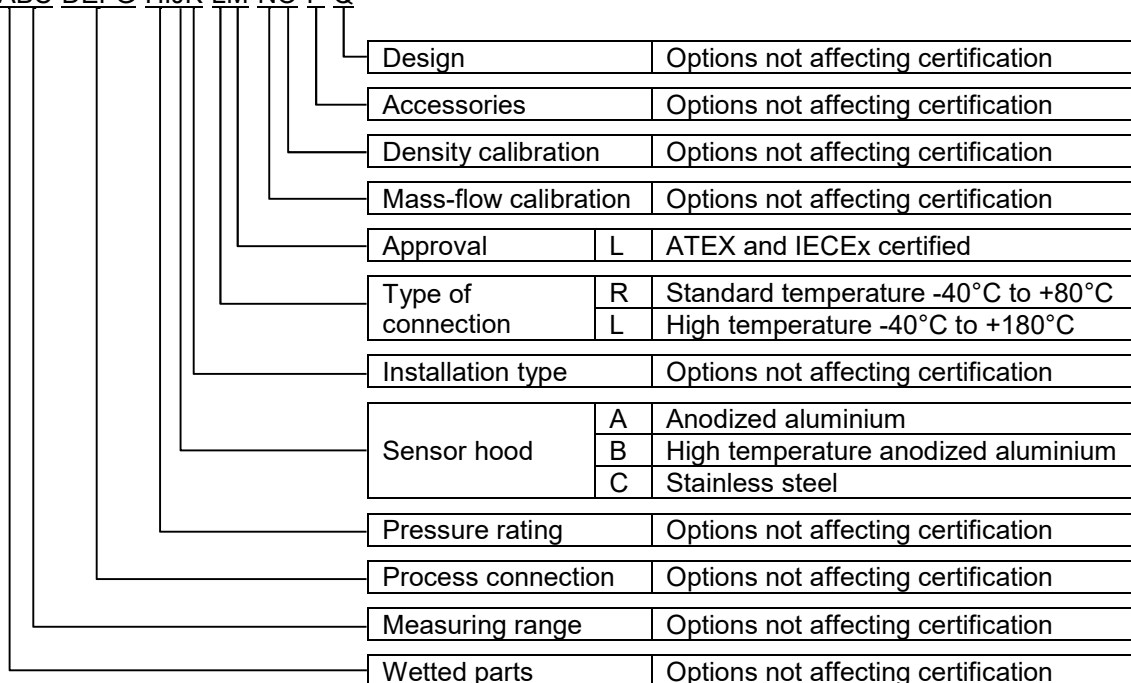
CML 19ATEX2096X
Issue 0

11 Description

The HPC Coriolis Mass-flow Sensor is an instrument for the measurement of mass-flow, density, or volume of liquids and gases in pipes. The equipment comprises two parallel measurement pipes, three measurement coils, and a single RTD temperature sensor, within an aluminium or stainless steel protective cover. A multipole circular connector is provided for the electrical connection of the equipment. In high temperature versions, the connector is separated from the main equipment body by a heatsinking extension tube.

The equipment model number comprises digits which define the construction and the materials used as follows.

HPC-ABC-DEFG-HIJK-LM-NO-P-Q



Intrinsic safety is achieved by limiting energy storage and discharge, and by connecting to the non-hazardous area via intrinsically safe interface devices.

The equipment has the following safety description:

Exciter circuit	Pick up circuit (2 off)	Temperature circuit
U _i = 30V	U _i = 30V	U _i = 30V
I _i = 90mA	I _i = 25mA	I _i = 10mA
P _i = 400mW	P _i = 130mW	P _i = 40mW
C _i = 0	C _i = 0	C _i = 0
L _i = 4.38mH	L _i = 50mH	L _i = 0



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The equipment temperature class, surface temperature, and equipment protection level are dependent upon the ambient temperature, process temperature, and connection type as follows:

Connection type	Ambient temperature range	Maximum process temperature	Temperature class	Surface temperature	EPL
Standard or High temperature	-40°C to 60°C	80°C	T4	T135°C	Ga, Da
High temperature	-40°C to 60°C	130°C	T3	T190°C	Ga, Db
High temperature	-40°C to 49°C	180°C	T2	T240°C	Ga, Db

12 Certificate history and evaluation reports

Issue	Date	Associated report	Notes
0	20 Mar 2019	R11996A/00	Issue of prime certificate

Note: Drawings that describe the equipment or component are listed in the Annex.

13 Conditions of manufacture

The following conditions are required of the manufacturing process for compliance with the certification.

- 13.1 The equipment shall be subjected to an electric strength test using a test voltage of 500 Vac applied between each circuit and frame, for a period of 60 secs.
- Alternatively:
- a) a voltage of 20% higher may be applied for 1 second.
 - b) a d.c. test voltage is allowed as an alternative to the a.c. test voltage and shall be 170% of the specified a.c. r.m.s. test voltage.
- No breakdown or flashover shall occur.



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14 Specific Conditions of Use (Special Conditions)

The following conditions relate to safe installation and/or use of the equipment.

- 14.1 The equipment enclosure may be manufactured from aluminium. In rare cases, ignition sources due to impact and friction sparks could occur. This shall be considered during installation, particularly if the equipment is installed in a zone 0 location.
- 14.2 When used in areas requiring equipment protection level Da, Db, or Dc, under certain extreme circumstances, the non-metallic parts incorporated in the enclosure of this equipment may generate an ignition-capable level of electrostatic charge. Therefore, the user/installer shall implement precautions to prevent the build-up of electrostatic charge, e.g. locate the equipment where a charge-generating mechanism (such as wind-blown dust) is unlikely to be present and clean with a damp cloth.
- 14.3 For the high temperature version, the temperature class, assigned maximum surface temperature, maximum ambient temperature and Equipment Protection Level (EPL) are dependent on the maximum process temperature applied by the end-user/installer. The options are detailed under the description on this certificate. When the maximum process temperature of the final installation is determined by the end user, the temperature class, assigned maximum surface temperature, maximum ambient temperature and the Equipment Protection Level (EPL) which are applicable to the applied process temperature shall be observed and complied with.

The equipment is marked with the maximum ambient temperature and maximum process temperature of all options of the above mentioned variables, but the limits may be lower than those marked depending on the actual process temperature applied.



Certificate Annex

Certificate Number CML 19ATEX2096X
Equipment HPC Coriolis Mass-flow Sensor
Manufacturer Heinrichs Messtechnik GmbH

The following documents describe the equipment or component defined in this certificate:

Issue 0

Drawing no.	Sheets	Rev	Approved date	Title
HPC-EX-1001	1 of 1	-	20 Mar 2019	HPC High Temperature Overview
HPC-EX-1002	1 of 1	-	20 Mar 2019	HPC-01+02 General Arrangement standard version
HPC-EX-1003	1 of 1	-	20 Mar 2019	HPC-03 General Arrangement high-temperature version
HPC-EX-1004	1 of 1	-	20 Mar 2019	Flange for HPC Cooling Tower
HPC-EX-1005	1 of 1	-	20 Mar 2019	Cooling Tube for HPC Cooling Tower
HPC-EX-1006	1 of 1	-	20 Mar 2019	Cooling Fins for HPC Cooling Tower
HPC-EX-1007	1 of 1	-	20 Mar 2019	HPC Cooling Tower
HPC-EX-1008	1 of 1	a	20 Mar 2019	HPC-01 Coil drawing
HPC-EX-1010	1 of 1	a	20 Mar 2019	HPC Pin Assignment HAN R23 connector
HPC-EX-1011	1 of 1	-	20 Mar 2019	HAN R23 connector Creepage and clearance
HPC-EX-1013	1 of 1	1.0	20 Mar 2019	PCB Protective coating
HPC-EX-2001	1 of 1	0	20 Mar 2019	Circuit diagram HPC Sensor
HPC-EX-2002	1 to 4	1.1	20 Mar 2019	HPC PCB (for 1.5mm loops)
HPC-EX-2004	1 to 4	1.0	20 Mar 2019	HPC PCB (for 2mm loops)
HPC-EX-2006	1 to 4	1.0	20 Mar 2019	HPC PCB (for 3mm loops)
HPC-EX-4003	1 to 2	-	20 Mar 2019	Material composition of the HPC sensors
LOGO 180	1 of 1	b	20 Mar 2019	HPC Nameplate
LOGO 181	1 of 1	-	20 Mar 2019	HPC Nameplate High Temperature