

Deutsche Akkreditierungsstelle

Annex to the Accreditation Certificate D-K-19194-01-00 according to DIN EN ISO/IEC 17025:2018

Valid from: 24.11.2023

Date of issue: 24.11.2023

Holder of accreditation certificate:

**innomatec Mess- und Schnellanschlusssysteme GmbH
Am Wörtzgarten 14, 65510 Idstein**

with the location

**innomatec Mess- und Schnellanschlusssysteme GmbH
Am Wörtzgarten 14, 65510 Idstein**

The calibration laboratory meets the requirements of DIN EN ISO/IEC 17025:2018 to carry out the conformity assessment activities listed in this annex. The calibration laboratory meets additional legal and normative requirements, if applicable, including those in relevant sectoral schemes, provided that these are explicitly confirmed below.

The management system requirements of DIN EN ISO/IEC 17025 are written in the language relevant to the operations of calibration laboratories and they conform to the general with the principles of DIN EN ISO 9001.

Mechanical quantities:

- Pressure ^{a)}

Fluid Quantities

- Gas flow rate ^{a)}

^{a)} also on-site-calibration

This certificate annex is only valid together with the written accreditation certificate and reflects the status as indicated by the date of issue. The current status of any given scope of accreditation can be found in the directory of accredited bodies maintained by Deutsche Akkreditierungsstelle GmbH at <https://www.dakks.de>.

Abbreviations used: see last page

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The calibration laboratory is permitted, without being required to inform and obtain prior approval from DAkkS, to use calibration standards or equivalent calibration procedures listed here with different issue dates. The calibration laboratory maintains a current list of all calibration standards/ equivalent calibration procedures within the flexible scope of accreditation.

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Permanent Laboratory

Calibration and Measurement Capabilities (CMC)

Measurement quantity / Calibration item	Range	Measurement conditions / procedure	Expanded uncertainty of measurement	Remarks
Pressure Absolut pressure p_{abs}	0,0 bar to 0,8 bar	DKD-R 6-1: 2014	0,35 mbar	Pressure medium: Gas principle: $p_{abs} = p_e + p_{amb}$
	> 0,8 bar bis 1,2 bar	EURAMET Calibration Guide No. 17 Version 4.0	0,10 mbar	
	> 1,2 bar to 3 bar		0,30 mbar	
	> 3 bar to 20 bar		$9 \cdot 10^{-5} \cdot p_{abs}$	
	> 20 bar to 70 bar		$9 \cdot 10^{-5} \cdot p_{abs}$, but not lower than 4,0 mbar	
Negative and Positive gauge pressure p_e	-1,0 bar to -0,2 bar		0,25 mbar	Pressure medium: Gas
	> -0,2 bar to 0,2 bar		0,025 mbar	
	> 0,2 bar to 2,0 bar		0,20 mbar	
	> 2,0 bar to 20 bar		$9 \cdot 10^{-5} \cdot p_e$, but not lower than 0,25 mbar	
	> 20 bar to 70 bar		$9 \cdot 10^{-5} \cdot p_e$, but not lower than 4,0 mbar	
Absolut pressure p_{abs}	1,0 bar to 701 bar		$2 \cdot 10^{-4} \cdot p_e$, but not lower than 25 mbar	Pressure medium: Oil Principle: $p_{abs} = p_e + p_{amb}$
Negative and Positive gauge pressure p_e	0,0 bar to 350 bar		$1 \cdot 10^{-4} \cdot p_e$, but not lower than 8,0 mbar	Pressure medium: Oil Principle: $p_e = p_{abs} - p_{amb}$
Gauge pressure p_e	0,0 bar to 700 bar		$2 \cdot 10^{-4} \cdot p_e$, but not lower than 25 mbar	Pressure medium: Oil
Fluid Quantities Volume flow rate of flowing gases	0,1 ml/min to 0,5 ml/min	calibration medium: dry air $\zeta_t < -10 \text{ °C}$ calibration item downstream to the normal	3 %	Measuring devices with display in standard condition or mass flow rate information in standard condition $p_N = 1\,013,25 \text{ mbar}$ $T_N = 0 \text{ °C}$ $\zeta_t = \text{dew point temperature}$ $T_N = \text{standard temperature}$
	> 0,5 ml/min to 10 ml/min		1 %	
	> 10 ml/min to 1 000 l/min		0,7 %	

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On-site Calibration

Calibration and Measurement Capabilities (CMC)

Measurement quantity / Calibration item	Range	Measurement conditions / procedure	Expanded uncertainty of measurement	Remarks
Pressure Absolut pressure p_{abs}	0,0 bar to 0,8 bar	DKD-R 6-1: 2014 EURAMET Calibration Guide No. 17 Version 4.0	0,45 mbar	Pressure medium: Gas Principle: $p_{abs} = p_e + p_{amb}$
	> 0,8 bar to 1,2 bar		0,15 mbar	
	> 1,2 bar to 3 bar		0,40 mbar	
	> 3 bar to 20 bar		$1,1 \cdot 10^{-4} \cdot p_{abs}$	
	> 20 bar to 70 bar		$1,1 \cdot 10^{-4} \cdot p_{abs}$, jedoch nicht kleiner als 5,0 mbar	
Negative and Positive gauge pressure p_e	-1,0 bar to -0,2 bar		0,30 mbar	Pressure medium: Gas
	> -0,2 bar to 0,2 bar		0,030 mbar	
	> 0,2 bar to 2,0 bar		0,25 mbar	
	> 2,0 bar to 20 bar		$1,1 \cdot 10^{-4} \cdot p_e$, jedoch nicht kleiner als 0,30 mbar	
	> 20 bar to 70 bar		$1,1 \cdot 10^{-4} \cdot p_e$, jedoch nicht kleiner als 5,0 mbar	
Absolut pressure p_{abs}	1,0 bar to 701 bar		$2,5 \cdot 10^{-4} \cdot p_e$, jedoch nicht kleiner als 25 mbar	Pressure medium: Oil Principle: $p_{abs} = p_e + p_{amb}$
Negative and Positive gauge pressure p_e	0,0 bar to 350 bar		$1,1 \cdot 10^{-4} \cdot p_e$, jedoch nicht kleiner als 10 mbar	Pressure medium: Oil Principle: $p_e = p_{abs} - p_{amb}$
Gauge pressure p_e	0,0 bar to 700 bar		$2,5 \cdot 10^{-4} \cdot p_e$, jedoch nicht kleiner als 25 mbar	Pressure medium: Oil
Fluid Quantities Volume flow rate of flowing gases	0,1 ml/min to 0,5 ml/min	calibration medium: dry air $\zeta_t < -10 \text{ °C}$ calibration item downstream to the normal	4 %	Measuring devices with display in standard condition or mass flow rate information in standard condition $p_N = 1\,013,25 \text{ mbar}$ $T_N = 0 \text{ °C}$ $\zeta_t = \text{dew point temperature}$ $T_N = \text{standard temperature}$
	> 0,5 ml/min to 10 ml/min		2 %	
	> 10 ml/min to 1 000 l/min		1 %	

Abbreviations used:

CMC Calibration and measurement capabilities
 EURAMET European Association of National Metrology Institutes
 DKD-R Guideline of Deutscher Kalibrierdienst (DKD), published by the Physikalisch-Technische Bundesanstalt

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