

Deutsche Akkreditierungsstelle GmbH

Annex to the Accreditation Certificate D-K-21368-01-00 according to DIN EN ISO/IEC 17025:2018

Valid from: 23.11.2020

Date of issue 23.11.2020

Holder of certificate:

**Zeltwanger Dichtheits- und Funktionsprüfsysteme GmbH
Im Steinig 75, 72144 Dusslingen**

Calibration in the fields:

Mechanical quantities
– Pressure ^{a)}

^{a)} also on-site calibration

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

*The certificate together with its annex reflects the status at the time of the date of issue. The current status of the scope of accreditation can be found in the database of accredited bodies of Deutsche Akkreditierungsstelle GmbH.
<https://www.dakks.de/en/content/accredited-bodies-dakks>*

Annex to the accreditation certificate D-K-21368-01-00

Permanent Laboratory

Calibration and Measurement Capabilities (CMC)

Measurement quantity / Calibration item	Range	Measurement conditions / procedure	Expanded uncertainty of measurement ¹⁾	Remarks
Pressure Positive and negative gauge pressure p_e	-1 bar to -0,025 bar	DKD-R 6-1:2014	$0,15 \text{ mbar} + 1 \cdot 10^{-4} \cdot p_e$	Pressure medium: Gas
	> -0,025 bar to 0,025 bar		0,045 mbar	
	> 0,025 bar to 2,5 bar		$0,15 \text{ mbar} + 1 \cdot 10^{-4} \cdot p_e$	
	> 2,5 bar to 20 bar		$1 \text{ mbar} + 1,5 \cdot 10^{-4} \cdot p_e$	
	> 20 bar to 100 bar		25 mbar	
Absolute pressure p_{abs}	0,015 bar to 3,5 bar	DKD-R 6-1:2014	$0,15 \text{ mbar} + 1 \cdot 10^{-4} \cdot p_{abs}$	Pressure medium: Gas
	> 3,5 bar to 21 bar		$1 \text{ mbar} + 1,5 \cdot 10^{-4} \cdot p_{abs}$	

On-site Calibration

Calibration and Measurement Capabilities (CMC)

Measurement quantity / Calibration item	Range	Measurement conditions / procedure	Expanded uncertainty of measurement ¹⁾	Remarks
Pressure Positive and negative gauge pressure p_e	-1 bar to -0,025 bar	DKD-R 6-1:2014	0,2 mbar	Pressure medium: Gas
	> -0,025 bar to 0,025 bar		0,045 mbar	
	> 0,025 bar to 1 bar		0,2 mbar	
	> 1 bar to 20 bar		5 mbar	
	> 20 bar to 100 bar		25 mbar	
Absolute pressure p_{abs}	0,015 bar to 10 bar	DKD-R 6-1:2014	2,5 mbar	

Abbreviations used:

CMC Calibration and measurement capabilities
DKD-R Guideline of Deutscher Kalibrierdienst

¹⁾ The expanded uncertainties according to EA-4/02 M:2013 are part of CMC and are the best measurement uncertainties within accreditation. They have a coverage probability of approximately 95 % and have a coverage factor of $k = 2$ unless stated otherwise. Uncertainties without unit are relative uncertainties referring to the measurement value unless stated otherwise.