Deutsche Akkreditierungsstelle GmbH

Annex to the Accreditation Certificate D-K-15045-01-00 according to DIN EN ISO/IEC 17025:2018

Valid from: 10.07.2019

Date of issue: 10.07.2019

Holder of certificate:

Hydrotechnik GmbH
Holzheimer Straße 94 - 96, 65549 Limburg a. d. Lahn

Calibration in the fields:

Mechanical quantities
- **Pressure**

Fluid quantities
- **Liquid flow rate**

Abbreviations used: see last page

Within the measurands/calibration items marked with with *, 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.

Permanent Laboratory

Calibration and Measurement Capabilities (CMC)

Measurement quantity / Calibration item	Range	Measurement conditions / procedure	Expanded uncertainty of measurement [1)]	Remarks
Pressure * Negative and positive gauge pressure p_e	-1 bar to -0,015 bar	DKD-R 6-1:2014 DIN EN 837:1997	$6{,}0 \cdot 10^{-5} \cdot p_e$, but not lower than 0,03 mbar	Pressure medium: Gas
	0,015 bar to 1 bar			
	> 1 bar to 7 bar		$8{,}0 \cdot 10^{-5} \cdot p_e$	
Gauge pressure p_e	3 bar to 60 bar		$8{,}0 \cdot 10^{-5} \cdot p_e$, but not lower than 0,5 mbar	Pressure medium: Oil
	> 60 bar to 300 bar		$8{,}0 \cdot 10^{-5} \cdot p_e$	
	> 300 bar to 1200 bar		$1{,}2 \cdot 10^{-4} \cdot p_e$	
Liquid flow rate Volume flow rate	0,005 L/min to 40 L/min	Volumetric measurement based on piston-type prover	0,2 %	Calibration liquids on basis of mineral oil
	0,2 L/min to 600 L/min		0,2 %	

Abbreviations used:

CMC	Calibration and measurement capabilities (Kalibrier- und Messmöglichkeiten)
DIN	Deutsches Institut für Normung e.V.
DKD-R	Calibration Guideline of Deutsche Kalibrierdienst (DKD), published by Physikalisch-Technische Bundesanstalt (PTB)

[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.