Minerva
METROLOGY AND CALIBRATION

Ensuring carefree traceability

Chrysantstraat 1 3812 WX Amersfoort, the Netherlands

ilac-MRA

CALIBRATION
RvA K 048

calibration certificate

certificate number: 4250991

applicant	Blanken Controls B.V. Gate Dalenk Logistiek Imbosweg 30 7371 DD, Loenen, The Netherlands	
instrument	pirani gauge	readout
manufacturer	Pfeiffer Vacuum GmbH	Pfeiffer Vacuum GmbH
type	CMR 363	RVC 300
range	0 .. 11 mbar a	
serial number(s)	444733075	PFI00792
asset number		
calibration method	During the measurements, mentioned in the annexes, the device under test was directly connected to the mentioned standard. Before commencing the actual calibration a warm up time of 30 minutes was incorporated.	
reference level	bottom surface pressure connection (vertical position)	
environmental conditions	Measurements were done in a climatised laboratory with the room temperature between 18°C and 23°C. The temperature variation during the calibration not exceeded ±1°C	
period of calibration	19-06-2025	
results	see page 2 (and further if applicable) of this certificate	

uncertainty	The reported uncertainty is based on a standard uncertainty multiplied by a coverage factor of $k = 2$, which provides a confidence level of approximately 95%. The standard uncertainty has been determined in accordance with EA-04/02.
traceability	The measurements have been executed using standards for which the traceability to (inter)national standards has been demonstrated towards the RvA.

Amersfoort, 20/06/25

Minerva calibration

A. Tsiporenko,
corporate metrologist

type	status
digital certificate	orginal, digitally signed
paper certificate	signed copy

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RvA CALIBRATION
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device under test	pirani gauge	readout
manufacturer	Pfeiffer Vacuum GmbH	Pfeiffer Vacuum GmbH
type	CMR 363	RVC 300
serial number(s)	444733075	PFI00792

results, no adjustment performed

description of the used pressure standard(s)			
instrument	force balanced piston gauge		
manufacturer	DH Instruments		
type	FPG8601		
platform s.n.	135		
piston cylinder s.n. / range	(133) used in N2		
measuring range	0 .. 15 kPa a		
CMC	2,9·10-5·p + 0,008 Pa		

reference pressure [mbar a]	calibration and measurement capabilities [mbar]	reading manual DUT [mbar a]	disagreement absolute [mbar]	disagreement relative [%range]	disagreement relative [%R]	measurement uncertainty [mbar]
0,009910	0,000080	0,010	0,000	0,00	0,90	0,014
1,10042	0,00011	1,090	-0,010	-0,09	-0,96	0,014
2,20092	0,00014	2,190	-0,011	-0,10	-0,50	0,014
3,29814	0,00018	3,290	-0,008	-0,07	-0,25	0,014
4,39990	0,00021	4,390	-0,010	-0,09	-0,23	0,014
5,49891	0,00024	5,490	-0,009	-0,08	-0,16	0,014
6,60023	0,00027	6,590	-0,010	-0,09	-0,16	0,014
7,69983	0,00030	7,690	-0,010	-0,09	-0,13	0,014
8,80078	0,00034	8,800	-0,001	-0,01	-0,01	0,014
9,90033	0,00037	9,890	-0,010	-0,09	-0,10	0,014
10,99983	0,00040	10,90	-0,10	-0,91	-0,92	0,14
9,89942	0,00037	9,900	0,001	0,01	0,01	0,014
8,79981	0,00034	8,800	0,000	0,00	0,00	0,014
7,69991	0,00030	7,700	0,000	0,00	0,00	0,014
6,59967	0,00027	6,590	-0,010	-0,09	-0,15	0,014
5,49972	0,00024	5,490	-0,010	-0,09	-0,18	0,014
4,40006	0,00021	4,400	0,000	0,00	0,00	0,014
3,30025	0,00018	3,300	0,000	0,00	-0,01	0,014
2,20091	0,00014	2,200	-0,001	-0,01	-0,04	0,014
1,09990	0,00011	1,100	0,000	0,00	0,01	0,014
0,009820	0,000080	0,010	0,000	0,00	1,80	0,014

legenda

column 1, 2	reference pressure and corresponding CMC
column 3	pressure readout DUT
column 4	absolute difference between column 3 and column 1
column 5,6	relative difference between column 3 and column 1
column 7	measurement uncertainty including calibration line-up, DUT resolution, stability and repeatability (k = 2)

maximum figures :			
	disagreement	0,91	% range
	hysteresis	0,10	% range
	uncertainty	1,29	% range

calibration technician

M. Klaassen