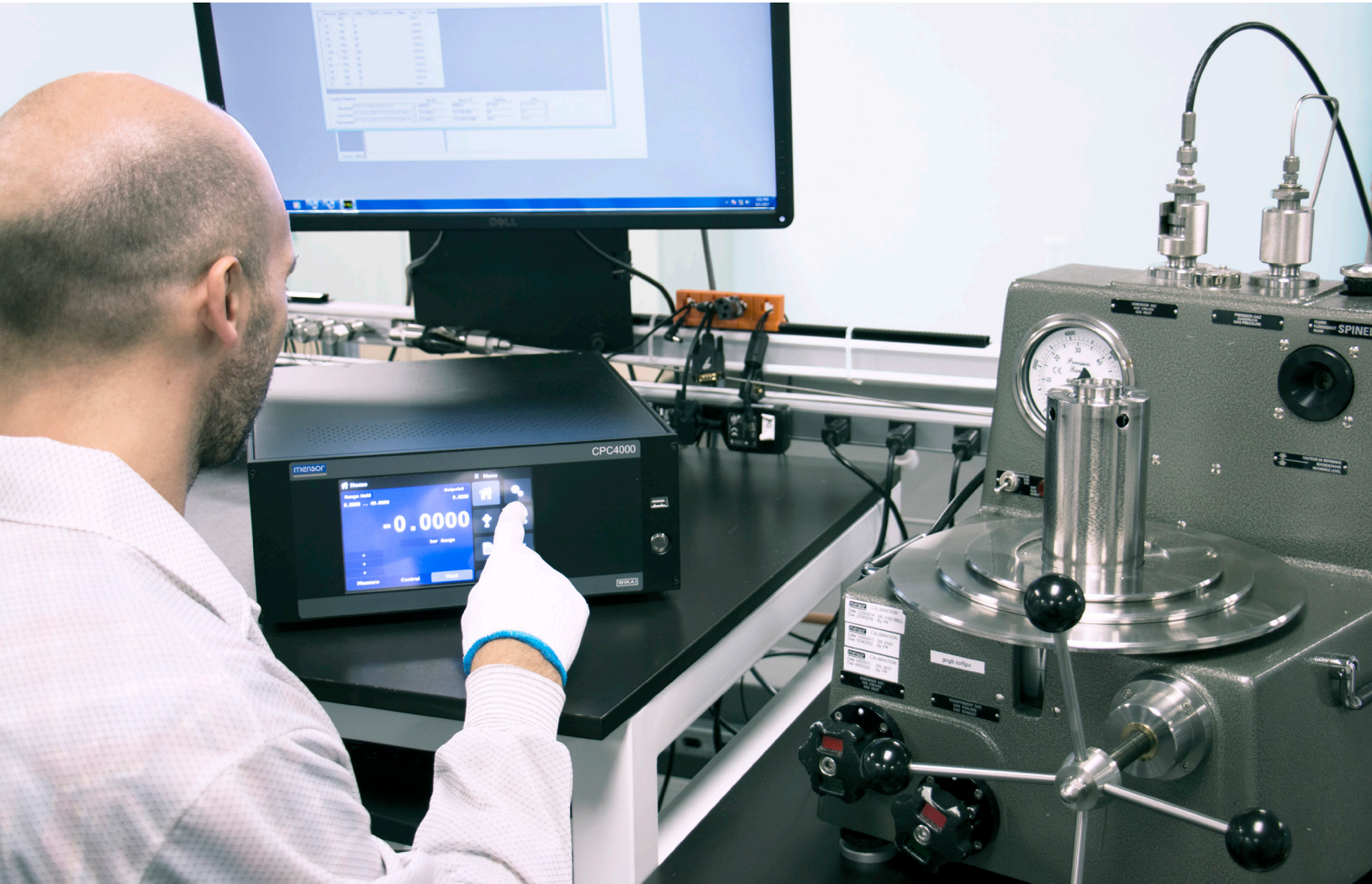


Mensor Calibration Services



Mensor is a leading manufacturer of precision pressure transducers, indicators and automated controllers/calibrators. All new Mensor pressure measuring and controlling products are provided with an A2LA accredited calibration certificate.

Mensor has established a reputation for world-class service and support by providing customers with skilled technical assistance, quality service and re-calibrations with fast turnaround times.

Mensor Pressure Calibration Services

Mensor continues to be on the cutting edge of pressure calibration with expanded resources, state of the art equipment and personnel to increase the scope of our calibration service. Many special requirements can now be met.

We can calibrate almost any pressure product including:

- All Mensor products
- GE (Druck) PACE pressure controllers & indicators
- Fluke (Ruska) pressure controllers & indicators
- Heise pressure sensors
- Fluke 700 series pressure modules
- Many other pressure indicators and transmitters

Pressure Calibration Scope

The Mensor pressure calibration laboratory is accredited in accordance with the recognized International Standard ISO/IEC 17025 and also meets the requirements of ANSI/NC SL Z540-1-1994. Accreditation is by the American Association for Laboratory Accreditation (A2LA).

Pressure Mode	Range	Uncertainty (Primary Standard)
Gauge, Pneumatic	±18 psig	18 ppm
	±2.2 psig	30 ppm
	-15 to 1100 psig	14 ppm
	-15 to 6000 psig	20 ppm
Gauge, Hydraulic	0 to 30,000 psig	32 ppm
Absolute, Pneumatic	0 to 1100 psia	14 ppm
	0 to 6000 psia	21 ppm
Absolute, Hydraulic	0 to 30,000 psia	32 ppm
Negative Gauge	0 to -15 psig	21 ppm (gauge)
	0 to -15 psig	26 ppm (absolute)

All of our ISO 17025, A2LA accredited calibrations are traceable to all National Metrology Institutes (NMI's) accepted as signatories to the International Laboratory Accreditation Cooperation's (ILAC) Mutual Recognition Arrangement. Pressure Calibration Services are available for pressure instruments with full scale ranges up to 30,000 psi.

Mass and Temperature Calibration Services and Scopes

Mass Calibration

Deadweight testers use mass sets to generate precise pressure using the definition: $P=F/A$. The force (F) in this equation is generated by mass in a gravitational field. It is important to know the mass precisely to calculate the force. Mensor's calibration measurement capabilities for mass calibration within the scope of our A2LA accreditation is as follows:

Parameter	Range	Calibration measurement capability (+/-)
Mass	(0 to 1) kg	0.24 mg
	(0 to 10) kg	2.5 mg

Temperature Calibration

Precise measurement of temperature is important in many applications and industries. Mensor's temperature calibration capabilities under our A2LA accreditation are as follows:

Parameter	Range	Calibration uncertainty
Temperature	(0 to 50)° C	0.057°C



Calibration Certificate
Accredited Calibration



A2LA logo

Cal Cert ID: 131742

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Customer and product information

Cust. Name: Mensor
Address: 201 Barnes Dr.
City: San Marcos
State/Zip: TX 78666 USA

Instr SN: 010466174 Out1 Min Range: 0.00 MTORR Cal Date: 12/20/2016
Instr Descr: MKS VACUUM STANDA Out1 Max Range: 1000.00 MTORR Cal Time: 3:33 pm
Sensor SN: MS 1023 Limit of Error: 0.000 %F.S.+ 0.250 % R Cal Tech: PHILIPR
Procedure ID: WI02011 Pressure Type: Absolute Order Nbr: 0

Test Points Values and Readings

Test Point #	Reference Value MTORR	Measured Values MTORR	Error % R	Uncertainty MTORR
1	99.210	99.21	0.000	.248
2	601.020	600.83	-0.032	1.503
3	1000.220	1000.11	-0.011	2.501

Uncertainty at each point of the reference standard

Measurement Standards Used in Calibration

Std Type	Serial Number	Description	Assoc. Test Reports	Recal Date
MKS VACUUM STANDARDS	017214456	MKS standards and displays	1500197058	11/19/2017

List of standards

The combined and expanded uncertainty is reported at K=2 providing an approximate 95% confidence level.

Remarks and Notes

As Left Calibration.
An asterisk (*) denotes a measured condition where the error exceeds the maximum permissible error.
Dash numbers preceded by the sensor SN reference a primary (-1) or turnaround (-2) range as applicable.
The standards and calibration program at Mensor complies with the requirements of ISO/IEC 17025:2005, ANSI/NCSL Z540-1 and Mensor Quality Manual 2.0, Revision R, dated March 10, 2015.
Standards used in this calibration are traceable to SI units of measurements through N.I.S.T. or recognized national metrology institutes. All calibrations are performed in ambient conditions of 23 +/- 4 deg C and 20-80% relative humidity.
This calibration certificate shall not be reproduced, except in full, without the written approval of Mensor.

Notes about instrument conditions, calibration or customer asset

I, Philip Romero, certify the accuracy of this Calibration Certificate:

Philip Romero

Calibration Lab Coordinator

Laboratory conditions

Digital signature

Mensor Calibration Certificates and Stickers

Mensor calibration certificates and stickers do not contain calibration intervals unless specified by the customer, as Mensor will not dictate to our customers when they should re-calibrate their instruments.
The Calibration Sticker that is with this product is for your records. Due to the various location requirements of our customers, we do not affix the Calibration Sticker to the product.
For Mensor products, refer to the Calibration Section of your operation manual for the recommended calibration interval.

Statement of compliance

Z540.1 - NIST Traceable Calibration

Mensor also offers a Z540.1, NIST traceable calibration for mechanical gauges, digital gauges, transducers or any pressure measuring device up to 5000 psi. Depending on the accuracy of your device and your in-house quality requirements, this may be a suitable alternative. This calibration service is offered at a lower price and is not part of our accreditation.



Warranty

All products manufactured by Mensor are warranted to be free of defects in workmanship and materials for a period of two years from the date of shipment.

Repair Service

The main calibration and repair facility for Mensor products is located in San Marcos, Texas. Remote calibration and repair locations are in Germany, China and Singapore. All repairs at Mensor are covered by a 90 day warranty, which includes parts and labor. Please contact Mensor or your local authorized service center if your instrument requires calibration or repair

Authorized Service Centers

United States

Mensor
201 Barnes Drive
San Marcos, TX 78666

Phone: 512 396 4200
or 800 984 4200 (U.S. and Canada)
Fax: 512 396 1820
Email: techservices@mensor.com

Europe

WIKA Alexander Wiegand SE &Co KG
63911 Klingenberg
Germany

CT Service Team
Europe Service Center
Phone: +49 9372 132 5049
Fax: +49 9372 132 8005049
Email: CTServiceteam@wika.com

China

WIKA Instrumentation Co, LTD
81 Ta Yuan Road SND
Suzhou, PR China, 210511

Eric Wang
Phone: 400 928 9600
Fax: +86 512 6809 2321
Email: eric.wang2@wika.com

Asia Pacific Region

WIKA Instrumentation Pte Ltd
13 Kian Teck Crescent,
628878 Singapore

Bernard Lim
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