Product Catalog

Calibration Technology

for Pressure, Temperature and Electrical Measurements

DH Budenberg

mensor

WIKA
Part of your business

Contents

Solutions and Services for Pressure, Temperature and Electrical Measurement

At Mensor, we go to great lengths to ensure the quality of our calibration technology. From standard products to engineered solutions, quality control starts with our production systems, which are supported by Kaizen, Lean Manufacturing and Six Sigma principles.

This focus on quality is consistent throughout the WIKA group of companies around the globe, which offer an extensive portfolio of pressure, temperature, level, flow, and force measurement solutions and services.

Wherever you are in the world, you can rely on WIKA group quality.

Mensor: Your Reliable Partner for Calibration Technology

A history and reputation of excellence

From our first Quartz manometer in 1970 to the advanced calibration systems of today, Mensor has led the precision pressure industry in accuracy, reliability and innovation.

Mensor was first incorporated in 1969 in Houston, Texas, and relocated in 1978 to its current location in San Marcos, Texas. After the success of the Quartz manometer, we introduced our line of digital pressure gauges in 1976. Through the 1980s we developed pressure controllers and transducers and have continued to perfect and advance our instrument and service capabilities.

Since 2006 we have been a proud member of the WIKA Group. As a global, family-run business, WIKA employs more than 10,000 experts in measurement and calibration across the WIKA, Mensor and DH-Budenberg brands.

From individual components to fully automated systems, Mensor's reputation for an outstanding portfolio of pressure instruments solidifies WIKA's position as the worldwide market leader in calibration. The addition of DH-Budenberg in 2011 added high-end primary pressure standards and transfer standards from Desgranges & Huot, as well as DH-Budenberg's laboratory and industrial standards.

Through the years, we have maintained a commitment to R&D and quality customer service. This investment is reflected in our cutting-edge pressure sensing and calibration equipment, as well as our high customer service satisfaction rating. With Mensor's team of engineers, sales support experts and customer service technicians, we strive to provide our customers with application-specific solutions, accredited calibrations, and world-class repair and maintenance.

Precision Pressure Instruments

Precision Pressure Instruments

Digital Pressure Gauges and Indicators

Precision digital pressure gauges are suitable for stationary and mobile measurement and display of pressures. In addition, a digital pressure gauge can be used as a pressure reference and enables easy testing, adjustment and calibration of other pressure measuring equipment directly on site. High accuracy is achieved through efficient measuring cells with electronic linearization of the characteristic curve.

CPG1500

Precision Digital Pressure Gauge

Case Size:	■ 3.9 x 5.9 x 2.3 in
Pressure Ranges:	■ 0...150,000 psi
Wetted Parts:	■ Stainless steel
Case:	■ Aluminum die-casting, nickel-plated
Accuracy:	■ .1% FS (.05%, .025% FS optional)
Unique Features:	■ Clear display with innovative UI ■ MIN/MAX function ■ Protective rubber cap available ■ Wireless
Data Sheet:	■ CT 10.51

CPG-KITP

Pneumatic Service Kit

Includes:	■ CPG1500 reference instrument ■ CPP30 hand pump (pneumatic Pmax. -14.5....507.5 psi)
Dimensions:	■ 8.66 x 4.13 x 2.48 in
Wetted Parts:	■ Stainless steel
Case:	■ Black plastic
Unique Features:	■ Simple testing and adjustment of pressure measuring instruments ■ BSP or NPT adapter set
Data Sheet:	■ CT 93.01

CPG-KITH

Hydraulic Service Kit

Includes:	■ CPG1500 reference instrument ■ CPP700-H hand pump (hydraulic Pmax. 10,000 psi)
Dimensions:	■ 11.02 x 6.69 x 4.72 in
Wetted Parts:	■ Stainless steel
Case:	■ Black plastic
Unique Features:	■ Simple testing and adjustment of pressure measuring instruments ■ BSP or NPT adapter set
Data Sheet:	■ CT 93.02

CPG500

Digital Pressure Gauge

Case Size:	■ 3.11 x 3.11 x 1.30 in
Pressure Ranges:	■ -14.5 ... 230 psi to 0 ... 14,500 psi
Wetted Parts:	■ Stainless steel with sealing NBR
Case:	■ Die-cast zinc with TPE protective rubber cap
Accuracy:	■ 0.25% FS ±1 digit
Unique Features:	■ Automatic power saving switch-off ■ ZERO function ■ Activatable filter
Data Sheet:	■ CT 09.01

CPG2500

Digital Pressure Indicator

Case Size:	■ 12.70 x 8.60 x 5.25 in
Pressure Ranges:	■ 0.36 to 42,000 psi
Wetted Parts:	■ 6000/7000 series aluminum, 316 SS, brass, PTFE (Teflon®), urethane, silicone, RTV, silicone grease, PVC, epoxy, Buna-N, fluoroelastomers (Viton®)
Accuracy:	■ 0.008% IS-33
Unique Features:	■ Removable, interchangeable transducers ■ Leak test
Data Sheet:	■ CT 25.02

CPG2400

Digital Pressure Gauge

Case Size:	■ 2.6 x 4.2 x 4.9 in
Pressure Ranges:	■ Gauge: 0.36 to 6000 psig ■ Absolute: 7.5 to 6015 psia ■ Bidirectional: -0.18...0.18 to -15 ... 6000 psi
Wetted Parts:	■ Aluminum, 316 stainless steel, brass, Buna-N, Viton®, sealant, silicone grease and RTV
Accuracy:	■ 0.03% FS
Unique Features:	■ Small package design ■ Easy peak and null features ■ Selectable pressure units
Data Sheet:	■ CPG2400

Precision Pressure Instruments

Handhelds and Calibrators

Handhelds are portable calibration instruments for mobile use for the accurate measurement and recording of pressure profiles. Interchangeable pressure sensors with measuring ranges up to 150,000 psi available make handheld indicators and calibrators especially equipped as on-site test instruments. Data recorded in the handheld can be evaluated via PC software. A calibration certificate can also be generated with WIKA-CAL calibration software.

CPH7000

Portable Process Calibrator

Case Size:	■ 4.21 x 15.12 x 4.13 in
Pressure Ranges:	■ Internal: 12.3 ... +360 psi ■ External sensor: up to 150,000 psi
Wetted Parts:	■ Stainless steel
Case:	■ Stainless steel
Accuracy:	■ 0.025% FS
Unique Features:	■ Pressure and electrical generation ■ Data logger with high memory capacity ■ Calibration assistant ■ Generation/measurement of 0 ... 30 mA and voltage supply DC 24 V ■ Optional ATEX version ■ CPT7000 external sensor
Data Sheet:	■ CT 15.51

CPH6200

Handheld Pressure Indicator

Case Size:	■ Indicator: 2.8 x 5.59 x .98 in ■ Sensor: 1.06 x 3.48 x 1.06 in
Pressure Ranges:	■ 0 ... 0.4 psi to 0 ... 14,500 psi
Wetted Parts:	■ Stainless steel
Case:	■ Stainless steel
Accuracy:	■ 0.2% FS
Unique Features:	■ Two channel version, CPH6200-S2 ■ Integrated data logger ■ CPT6200 Interchangeable sensor
Data Sheet:	■ CT 11.01

CPH62IO

Intrinsically Safe Handheld Pressure Indicator

Case Size:	■ 2.8 x 5.59 x 1.42 in
Pressure Ranges:	■ 0 ... 0.4 psi to 0 ... 14,500 psi
Wetted Parts:	■ Stainless steel
Case:	■ Black plastic
Accuracy:	■ 0.2%, optional 0.1% FS
Unique Features:	■ "Plug-and-play" interchangeable sensors CPT62IO ■ Integrated data logger
Data Sheet:	■ CT 11.02

CPG2300

Portable Digital Pressure Gauge

Case Size:	■ T-shape, 4.3 x 8.6 x 1.6 in
Pressure Ranges:	■ 0.36...6,000 psi
Wetted Parts:	■ Aluminum, stainless steel, brass, Buna-N, Viton®, sealant, silicone grease and RTV
Accuracy	■ 0.015% FS
Unique Features:	■ Dual sensor ■ Dynamic temperature compensation
Data Sheet:	■ CPG2300

CPH6300

Digital Pressure Measuring Instrument

Case Size:	■ 3.39 x 6.42 x 1.65 in
Pressure Ranges:	■ 0 ... 0.4 psi to 0 ... 14,500 psi
Wetted Parts:	■ Stainless steel
Case:	■ Stainless steel
Accuracy:	■ 0.2%, optional 0.1% FS
Unique Features:	■ Waterproof ■ "Plug-and-play" interchangeable sensors CPT6300
Data Sheet:	■ CT 12.01

CPH6400

Precision Handheld Pressure Indicator

Case Size:	■ 4.17 x 7.64 x 3.23 in
Pressure Ranges:	■ -15 ... 75,000 psi
Wetted Parts:	■ Stainless steel
Case:	■ Polyamide 12, membrane keypad, transparent panels
Accuracy:	■ 0.025% FS
Unique Features:	■ "Plug-and-play" interchangeable sensors CPT6400 ■ Simultaneous pressure and temperature measurement ■ Data-logger function
Data Sheet:	■ CT 14.01

CPH6000

Process Calibrator

Case Size:	■ 8.19 x 6.14 x 3.07 in
Pressure Ranges:	■ -14.5 ... 87,000 psi
Wetted Parts:	■ Stainless steel
Case:	■ Stainless steel
Accuracy:	■ 0.025% FS
Unique Features:	■ Digital indicator with interchangeable reference pressure sensors ■ Calibration and pressure-switch test functions ■ CPT6000 external sensor ■ Software and service cases available
Data Sheet:	■ CT 15.01

CPH7650

Portable Pressure Calibrator

Case Size:	■ 15.25 x 12 x 7 in
Pressure Ranges:	■ -12 ... 290 psi
Case:	■ NK-7TM resin ■ Front panel: Aluminum
Accuracy:	■ 0.025% FS
Unique Features:	■ Electrical pressure generation with integrated pump ■ Robust water and dust proof case ■ Rechargeable battery ■ Interchangeable CPT6000 sensor
Data Sheet:	■ CT 17.02

Pascal 100

Handheld Multifunction Calibrator

Case Size:	■ 13 x 10.6 x 7 in
Pressure Ranges:	■ -14.5...1450 psi ■ 0...50 kHz ■ 0...10 kOhm ■ -100...100 mA ■ -100...100 mV
Accuracy:	■ 0.025% FS (pressure)
Unique Features:	■ Large color display ■ Four measurement channels ■ On-board memory and data storage ■ Environmental parameters module ■ HART communication capabilities
Data Sheet:	■ CT 18.01

Pascal ET

Handheld Multifunction Calibrator

Case Size:	■ 12 x 8.27 x 3.55 in
Pressure Ranges:	■ -14.5...1450 psi ■ 0...50 kHz ■ -310...2192° F (type J) ■ -328...850 ° F (Pt100)
Accuracy:	■ 0.025% FS (pressure)
Unique Features:	■ Measurement and simulation of pressure, electrical signals, temperature, frequency and pulse ■ Large color display ■ Integrated data logger and calibration function ■ Intrinsically safe option ■ HART communication capabilities
Data Sheet:	■ CT 18.02

Precision Pressure Instruments

Pressure Transducers

Pressure transducers, also called transmitters, convert pressure into an analog or digital signal proportional to the pressure being sensed. They are used to monitor and control sensitive pressure processes. They can also be used as high accuracy transfer standards or as a factory working standard for testing or calibrating a variety of instruments. With an accuracy as high as 0.008% of reading, these pressure transducers can be found in environments where a high degree of precision and accuracy are required. Each transducer is calibrated in Mensor's 17025, A2LA certified laboratory.

Precision Pressure Transducer

Basic Version

CPT6020

Case Size:	1.25 x 4.29 in
Pressure Ranges:	Gauge: 0...0.36 to 0...1,500 psig Bidirectional: ± 0.18 to -15...1500 psig Absolute: 0...5 psia to 0...15,015 psia
Wetted Parts:	Ranges ≤ 5 psi: Silicon, 316 SS, glass filled resins, epoxy Ranges > 5 to 1500 psi: 316 SS Ranges >1500 psi: 316 SS, fluorocarbon rubber
Ingress Protection:	IP-67
Accuracy:	0.02% FS
Unique Features:	■ RS-232 or RS-485 communication ■ Compact rugged design ■ Temperature compensation: -4 to 167°F
Data Sheet:	CT 25.13

CPT2500

USB Pressure Transducer

Case Size:	■ USB pressure sensor model: 0.79 x 3.48 x 0.79 in ■ USB adapter model CPA2500: 1.18 x 45.47 x 1.18 in
Pressure Ranges:	■ 0...0.4 psi to 0...14,500 psi
Wetted Parts:	■ Stainless steel or Elgiloy®, (360 psi also with NBR seal) ■ Flush diaphragm version: Stainless steel (Hastelloy C4); O-ring: NBR (FKM/FPM or EPDM)
Case:	■ Stainless steel
Ingress Protection:	■ IP-67
Accuracy:	■ 0.2% FS, optional 0.1% FS
Unique Features:	■ Adjustable recording interval 1ms...10s ■ No external voltage supply required ■ Software to record measurement, calibration and evaluation
Data Sheet:	■ CT 05.01

CPT6140

High Speed Pressure Transducer

Case Size:	■ 2.18 x 3.9 x 2.18 in
Pressure Ranges:	■ -15...6,000 psi
Wetted Parts:	■ Aluminium, brass, 316SS, Buna-N, Viton®, silicone grease, silicone rubber, nylon, ceramic, glass, silicon
Accuracy:	■ 0.025% IS (IntelliScale)
Unique Features:	■ Streaming output mode in IEEE-754 format
Data Sheet:	■ CT 25.11

CPT6100, CPT6180

Precision Pressure Transducer

Case Size:	■ 2.18 x 3.9 x 2.18 in
Pressure Ranges:	■ -15...6,000 psi
Wetted Parts:	■ Aluminium, brass, 316SS, Buna-N, Viton®, silicone grease, silicone rubber, nylon, ceramic, glass, silicon
Accuracy:	■ 0.01% IS (IntelliScale)
Unique Features:	■ Compact design ■ RS-232 or RS-485 interface
Data Sheet:	■ CT 25.10

Precision Pressure Transducer

Premium Version

CPT9000

Case Size:	1.25 x 4.29 in
Pressure Ranges 0.008% IS-33:	Gauge: 0...0.15 to 0...1,500 psig Bidirectional: -15...145 to -15...1500 psig Absolute: 0...15 psia to 0...15,015 psia
Pressure Ranges 0.008% Full Span:	Gauge: 0...0.36 to 0...<15 psig Bidirectional: -0.18 ... 0.18 to -15 ... <145 psi Absolute: 0 ... 5 to 0 ... <15 psia and 0 ... >1515 to 0 ... 15,015 psia
Wetted Parts:	Ranges ≤ 5 psi: Silicon, 316 SS, glass filled resins, epoxy Ranges > 5 to 1500 psi: 316 SS Ranges >1500 psi: 316 SS, fluorocarbon rubber
Ingress Protection:	IP-67
Accuracy:	0.008% IS-33 and 0.008% FS
Unique Features:	■ RS-232 or RS-485 communication ■ Compact rugged design ■ Temperature compensation: 32 to 122°F ■ Temperature output ■ Versatile output string options ■ Pressure temperature alarms
Data Sheet:	CT 25.12

CPT6030

Precision Pressure Transducer

Case Size:	■ 1.25 x 4.29 in
Pressure Ranges:	■ Gauge: 0...0.36 psig to 0...1500 psig ■ Bidirectional: ±0.18 to -15...1500 psig ■ Absolute: 0...5 psia to 0...15,015 psia ■ Barometric reference: 8...17 psia
Wetted Parts:	■ Ranges ≤ 5 psi: Silicon, 316 SS glass filled resins, epoxy ■ Ranges > 5 to 1500 psi: 316 SS ■ Ranges >1500 psi: 316 SS, fluorocarbon rubber
Accuracy:	■ 0.025% FS
Unique Features:	■ Wide voltage power input range ■ 4-20 mA output ■ IP-67 for harsh environments ■ Compact size
Data Sheet:	■ CT 25.14

Precision Pressure Instruments

Pressure Controllers

Electronic pressure controllers are able to provide and measure pressure quickly and automatically. Pressure controllers are especially suitable as references for production lines and laboratories because of their high accuracy and control stability. They are able to reliably perform automatic testing and/or calibration of all types of sensors.

CPC2000

Portable Low Pressure Controller

Case Size:	■ 10.12 x 4.04 x 10.67 in
Pressure Ranges:	■ 0.01 ... 14.5 psi
Accuracy:	■ 0.1% FS
Permissible Media:	■ Ambient air
Wetted Parts:	■ Nickel, aluminum
Ingress Protection:	■ IP-20
Unique Features:	■ Integrated, automatic vacuum and pressure generation ■ Li-Ion battery ■ Zero-point adjustment ■ Leak testing
Data Sheet:	■ CT 27.51

CPC4000

Industrial Pressure Controller

Case Size:	■ 13.61 x 5.26 x 15.28 in
Pressure Ranges:	■ -15 ... 3,045 psi
Accuracy:	■ 0.02% IS (IntelliScale)
Permissible Media:	■ Dry, clean air ■ Nitrogen
Wetted Parts:	■ Aluminum, brass, 316 and 316L stainless steel, Buna-N, FKM/FPM, PCTFE, PEEK, PTFE, PPS, glass-filled
Unique Features:	■ Control speed 10s ■ Control stability <0.005% FS ■ Desk mount or rack mounted setup ■ Two reference transducer slots ■ Optional barometric reference ■ Automatic contamination prevention option ■ Leak test option
Data Sheet:	■ CT 27.40

CPC6050

Modular Pressure Controller

Case Size:	■ 16.86 x 6.97 x 17.57 in
Pressure Ranges:	■ -15 ... 3,045 psi
Accuracy:	■ 0.01% IS (IntelliScale)
Permissible Media:	■ Dry, clean air ■ Nitrogen
Wetted Parts:	■ Aluminum, brass, 316 and 316L stainless steel, Buna-N, FKM/FPM, PCTFE, PEEK, PTFE, PPS, glass-filled epoxy, RTV, ceramic, silicone, silicone grease, urethane
Unique Features:	■ Two independent simultaneously regulating channels ■ Two transducer slots for each channel ■ Desktop or rack-mounted setup ■ Compatible with CPC6000 transducers ■ Single supply option ■ Control stability 0.003% FS
Data Sheet:	■ CT 27.62

Precision Pressure Instruments

Pressure Controllers

CPC7000

Pneumatic High Pressure Controller

Case Size:	■ Desktop: 16.85 x 13.95 x 18.75 in ■ Rack-mount: 18.99 x 13.95 x 18.75 in
Pressure Ranges:	■ 0...10,000 psi
Accuracy:	■ 0.01% IS (IntelliScale)
Permissible Media:	■ Nitrogen, 2.8 class or better
Unique Features:	■ Three transducer slots ■ Optional barometric reference for gauge or absolute pressure emulation ■ Touchscreen or remote interface option ■ Pre-set and user-defined control rates ■ IEEE-488.2, RS-232, USB and Ethernet connectivity
Data Sheet:	■ CT 27.63

CPC8000

High End Pressure Controller

Case Size:	■ 19.44 x 8.34 x 16.14 in
Pressure Ranges:	■ -15...6,000 psi
Accuracy:	■ 0.008% IS (IntelliScale)
Permissible Media:	■ Dry, clean air ■ Nitrogen
Unique Features:	■ Up to three interchangeable reference transducers ■ Desktop or rack-mounted setup ■ Touchscreen or remote interface available ■ Control stability 0.002% FS ■ In-instrument adaptation configuration
Data Sheet:	■ CT 28.01

CPC8000-H

Precision High Pressure Controller

Case Size:	■ 21.8 x 29.4 x 31.5 in
Pressure Ranges:	■ 75 ... 10,000 psi up to 290 ... 23,000 psi
Accuracy:	■ 0.01% FS
Permissible Media:	■ Drive-Air port: clean, dry air or nitrogen ■ Supply port: clean, dry air or nitrogen ■ Measure/Control port: non-corrosive liquids
Unique Features:	■ Control stability 0.005% FS ■ Interchangeable reference transducers ■ Low pressure and high pressure versions ■ Touchscreen or remote interface ■ IEEE-488.2, RS-232, USB and Ethernet connectivity
Data Sheet:	■ CT 28.05

Precision Pressure Instruments

Air Data Test

Testing altitude and airspeed components in commercial and military air data applications are critical for the safety and performance of an aircraft. Mensor air data instruments provide the high accuracy necessary for these applications. Air Data Test Sets control altitude/altitude rate and airspeed/airspeed rate, for testing altimeters and airspeed indicators or air data computers in a dynamic way that simulates actual flying conditions. Air Data Indicators measure altitude/altitude rate and airspeed/airspeed rate for applications where conditions are externally controlled.

Air Data Test Indicator

CPA2501

Case Size:	8.60 x 5.25 x 12.7 in
Measuring Ranges:	Altitude: up to 100,000 ft Airspeed: up to 1,150 knots
Pressure Ranges:	P_s Sensor: 0...13.77 psia up to 0...18.17 psia P_t Sensor: 0... 19.65 psia up to 0...54.02 psia Q_c Sensor: -.49...1.45 psi up to 0.49...49.10 psi Barometric: 8...17 psia
Permissible Media:	Dry, clean air Nitrogen (ISO 8573-1:2010 Class 5.5.4 or better)
Accuracy:	0.009% IS (IntelliScale)
Unique Features:	■ RVSM compliant ■ Ps, Ps/Pt or Ps/Qc configuration with virtual channels ■ Altitude and airspeed rate indication ■ Remote communication through Ethernet, RS-232 or optional IEEE-488
Data Sheet:	CT 29.02

Air Data Test Set

Pressure Controller

CPA8001

Case Size:	19.45 x 8.34 x 16.13 in
Measuring Ranges:	Altitude: up to 100,000 ft Airspeed: up to 1,150 knots
Pressure Ranges:	P_s Sensor: 0...13.77 psia. up to 0...18.17 psia P_t Sensor: 0... 19.65 psia up to 0...54.02 psia Q_c Sensor: -0.49...1.45 psi up to 0.49...49.10 psi Barometric: 8...17 psia
Avionics Accuracy:	Altitude: ± 2.5 ft Airspeed: ±0.06 knots
Accuracy:	0.009% IS-50
Unique Features:	■ RVSM compliant ■ Ps/Qc or Ps/Pt removable transducer ■ Remote operation ■ Automated zeroing function ■ Calibration sled available
Data Sheet:	CPA8001

Precision Pressure Instruments

Digital Barometers

CPG2500

Digital Barometer

Case Size:	■ 12.70 x 8.60 x 5.25 in
Wetted Parts:	■ Aluminum, 316 SS, brass, PTFE (Teflon®), urethane, silicone, RTV, silicone grease, PVC, epoxy, Buna-N, Viton®
Accuracy:	■ 0.01% reading
Unique Features:	■ Removable, interchangeable transducers ■ IS (IntelliScale)
Data Sheet:	■ CPG2500 Barometer

CPG2400

Digital Barometer

Case Size:	■ 2.6 x 4.2 x 4.9 in
Wetted Parts:	■ Aluminum, 316 stainless steel, brass, Buna-N, Viton®, sealant, silicone grease and RTV
Accuracy:	■ 0.03% reading
Unique Features:	■ Small package design ■ Selectable peak and null features ■ Selectable pressure units
Data Sheet:	■ CPG2400 Barometer

CPT9000

Precision Barometric Transducer

Case Size:	■ 1.25 x 4.29 in
Wetted Parts:	■ Ranges ≤ 5 psi: Silicon, 316 SS, glass filled resins, epoxy ■ Ranges > 5 to 1500 psi: 316 SS ■ Ranges > 1500 psi: 316 SS, fluorocarbon rubber
Accuracy:	■ 0.008% reading
Unique Features:	■ Compact rugged design ■ Temperature compensation: 32 to 122 ° F ■ Temperature output ■ Versatile output string options ■ Pressure temperature alarms
Data Sheet:	■ CT 25.12

CPG2300

Portable Digital Barometer

Case Size:	■ T-shape, 4.3 x 8.6 x 1.6 in
Wetted Parts:	■ Aluminum, stainless steel, brass, Buna-N, Viton®, sealant, silicone grease and RTV
Accuracy:	■ 0.015% reading
Unique Features:	■ Dual sensor ■ Dynamic temperature compensation
Data Sheet:	■ CPG2300 Barometer

CPT6100

Precision Barometric Transducer

Case Size:	■ 2.18 x 3.9 x 2.18 in
Wetted Parts:	■ Aluminium, brass, 316SS, Buna-N, Viton®, silicone grease, silicone rubber, nylon, ceramic, glass, silicon
Accuracy:	■ 0.01% reading
Unique Features:	■ Compact design ■ RS-232 or RS-485 interface
Data Sheet:	■ CT 25.10

Precision Pressure Instruments

Industrial Deadweight Testers

Our industrial deadweight testers employ the direct measurement of pressure and high-quality materials that provide low measurement uncertainty and excellent longterm stability. The measurement uncertainty can be ensured with the selection of a dual range piston-cylinder system with automatic measuring range switching, even with a single measuring system over a large pressure range.

CPB3500

Pneumatic Deadweight Tester

Base Dimension:	■ 20.1 x 19.39 x 11.8 in
Measuring Range:	■ 0.2...1600 psi
Accuracy:	■ Standard: 0.015% reading ■ Premium: 0.006% reading
Medium:	■ Non-corrosive gasses
Unique Features:	■ Five different interchangeable piston-cylinder systems ■ Aluminum base with impact resistant ABS cover for industrial use ■ Lightweight, compact dimensions ■ Factory calibration traceable to national standards
Data Sheet:	■ CT 31.22

CPB3800

Deadweight Tester, Compact Design

Base Dimension:	■ 15.8 x 15.7 x 6.1 in
Measuring Range:	■ 10...16,000 psi
Accuracy:	■ Standard: 0.05% reading ■ Premium: 0.025% reading ■ Standard with CPS5800: 0.015% reading ■ Premium with CPS5800: 0.006% reading
Medium:	■ Hydraulic fluid based on VG22 mineral oil
Unique Features:	■ Panel mount w/u-clamp (optional) ■ Upgradable using CPS5800/ CPM5800 to provide increased accuracy to 0.006% ■ Factory calibration includes traceability to national standards ■ Masses manufactured from stainless steel, can be adjusted to local gravity
Data Sheet:	■ CT 31.06

CPB3800HP

Deadweight Tester, High Pressure Version

Base Dimension:	■ 15.8 x 15.7 x 6.1 in
Measuring Range:	■ 10...40,000 psi
Accuracy:	■ Standard: 0.025% reading ■ Premium: 0.01% reading
Medium:	■ Hydraulic fluid based on VG22 mineral oil
Unique Features:	■ Dual-range piston-cylinder system ■ Fully automated changing between ranges ■ Factory calibration includes traceability to national standards ■ Masses manufactured from stainless steel, can be adjusted to local gravity ■ Smallest step of 5 psi/100 psi possible
Data Sheet:	■ CT 31.07

CPB5000

Pneumatic Pressure Balance

Base Dimension:	■ 15.8 x 12.2 x 12.2 in
Measuring Range:	■ Pneumatic: up to 1500 psi ■ Hydraulic: up to 5000 psi
Accuracy:	■ Standard: 0.015% reading ■ Premium: 0.008% reading
Medium:	■ Clean, dry, non-corrosive gases
Unique Features:	■ High longterm stability with recommended recalibration interval every five years ■ Masses manufactured from stainless steel and aluminium, can be adjusted to local gravity ■ Quick and safe replacement of the piston-cylinder system for measuring range changes via patented ConTect quick release system as an option
Data Sheet:	■ CT 31.01

CPB5600DP

Pressure Balance, Differential Pressure Version

Base Dimension:	■ 31.5 x 14.8 x 10.4 in
Measuring Range:	■ Standard: up to 5000 psi ■ Premium: up to 23,200 psi
Accuracy:	■ 0.015...0.008% reading differential
Medium:	■ Standard: clean, dry, non-corrosive gases ■ Premium: operating fluid, other media on request
Unique Features:	■ High longterm stability with recommended recalibration interval every five years ■ Masses manufactured from stainless steel and aluminum, can be adjusted to local gravity.
Data Sheet:	■ CT 31.56

CPB5000HP

Pressure Balance, High Pressure Version

Base Dimension:	■ 18.1 x 17.5 x 10.4 in
Measuring Range:	■ Up to 70,000 psi
Accuracy:	■ 0.025...0.02% reading
Medium:	■ Hydraulic fluid based on VG22 mineral oil ■ Sebacate oil
Unique Features:	■ High longterm stability with recommended recalibration interval every five years ■ Masses manufactured from stainless steel and aluminium,can be adjusted to local gravity
Data Sheet:	■ CT 31.51

CPB5800

Hydraulic Pressure Balance

Base Dimension:	■ 15.7 x 14.8 x 10.4 in
Measuring Range:	■ Single-piston: 10...4000 psi ■ Dual-piston: 10...20,000 psi
Accuracy:	■ 0.015...0.008% reading
Medium:	■ Hydraulic fluid based on VG22 mineral oil ■ Others optional
Unique Features:	■ Total measurement uncertainty to 0.006 % of reading ■ Fully automated dual range piston-cylinder system ■ ConTect quick release system option
Data Sheet:	■ CT 31.11

Model 80, 80L

Hydraulic Pipeline Tester

Base Dimension:	■ 16.76 x 21.76 x 15 in
Measuring Range:	■ 100...1600 psi to 500...8000 psi
Accuracy:	■ 0.03% to 0.04% reading
Medium:	■ Hydraulic mineral oil viscosity 20 to 37 cSt at 40 °C ■ Water ■ Air
Unique Features:	■ Ergonomic layout ideal for field use ■ UKAS certificate is available through our pressure standards laboratory
Data Sheet:	■ CT 31.21

Precision Pressure Instruments

High-End Deadweight Testers

Low measurement uncertainty and excellent longterm stability is made possible through the direct measurement of pressure and the use of high-quality materials. Furthermore, an automatic mass handling system and pressure generation ensures fully automated calibration. Deadweight testers have been used for years in factory and calibration laboratories in industry, national institutes and research laboratories. They are also used in production by sensor and transmitter manufacturers.

CPB6000

Primary Standard Pressure Balance

Case Size:	■ 16.2 x 16.5 x 18.1 in
Measuring Range:	■ Pneumatic: up to 14,500 psi ■ Hydraulic: up to 72,500 psi
Accuracy:	■ Standard: 50 ppm reading ■ Premium: 35 ppm reading
Medium:	■ Dry, clean air or nitrogen ■ Hydraulic fluid: Sebacate as standard ■ Univis J13
Unique Features:	■ COFRAC calibration certificate included as standard ■ 15 different piston-cylinder sizes available
Data Sheet:	■ CT 32.01

CPB6000DP

Primary Standard Differential Pressure Balance

Case Size:	■ 24.4 x 19.4 x 20.1 in
Measuring Range:	■ 0.013 ... 11,600 psi
Accuracy	■ Standard: 80 ppm reading ■ Premium: 50 ppm reading
Medium:	■ Non-corrosive gas
Unique Features:	■ COFRAC calibration certificate included as standard ■ High longterm stability with recommended recalibration interval every five years
Data Sheet:	■ CT 32.02

Digital Deadweight Tester

CPD8500

Case Size:	15.53 x 13.6 x 21.262 in
Measuring Range:	Gauge: up to 7250 psi Absolute: 290 psia
Accuracy:	Standard: 50 ppm reading Premium: 35 ppm reading
Medium:	Nitrogen
Unique Features:	■ Unique operating principle ideal for automatic calibrations ■ Uninterrupted vacuum measurements ■ Leveling feet to reduce vibrational effects ■ Internal environmental monitoring module ■ Automatic lubrication system ■ Absolute and gauge measurement in one instrument ■ Intuitive touchscreen based user interface ■ Backward compatibility with CPD8000 measuring heads ■ Two year warranty
Data Sheet:	CT 32.05

Precision Pressure Instruments

Pressure Generators

Test pumps serve as pressure generators for the testing, adjustment and calibration of mechanical and electronic pressure measuring instruments through comparative measurements. These pressure tests can take place in the laboratory or workshop, or on site at the measuring point.

CPP7-H

Pneumatic Hand Test Pump

Dimensions:	■ Without t-connector: 6.90 x 4.37 x 1.61 in ■ With t-connector: 6.90 x 5.67 x 1.61 in
Pressure Ranges:	■ -11.6 ... 101.5 psi
Case Material:	■ Plastic with foam insert
Unique Features:	■ Switchable pressure/vacuum generation ■ Precise setting through the fine adjustment valve ■ Simple and ergonomic handling ■ Compact, lightweight design
Data Sheet:	■ CT 91.02

CPP30

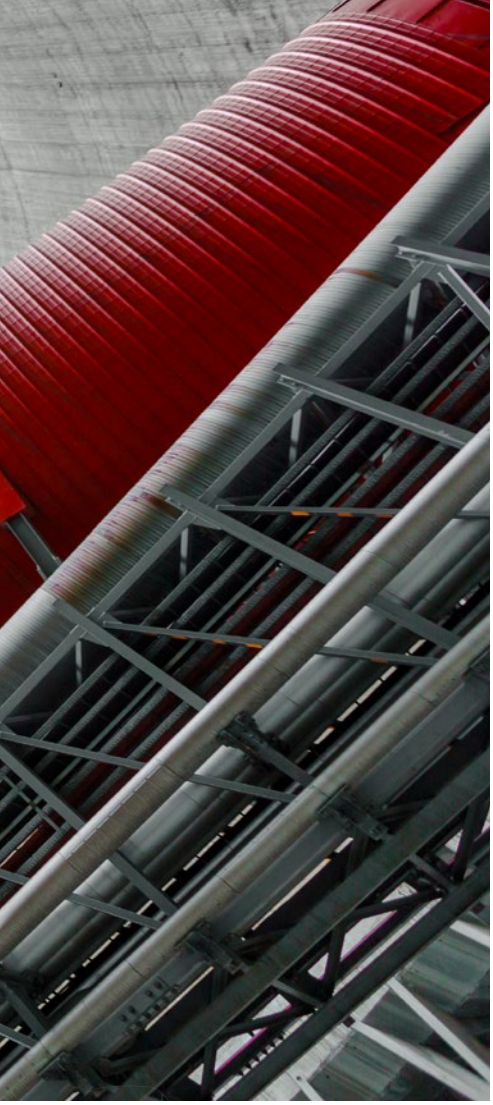
Pneumatic Hand Test Pump

Dimensions:	■ 8.66 x 4.31 x 2.48 in
Pressure Ranges:	■ -28 inHg ... +500 psi
Case Material:	■ Plastic with foam insert
Medium:	■ Air
Unique Features:	■ Ergonomic handling ■ Precise setting through fine adjustment valve ■ Compact, lightweight dimensions
Data Sheet:	■ CT 91.06

CPP700-H, CPP1000-H

Hydraulic Hand Test Pump

Dimensions:	■ 11.0 x 6.7 x 4.7 in
Pressure Ranges:	■ CPP700-H: 0 … 10,000 psi ■ CPP1000-H: 0 … 14,500 psi
Case Materials:	■ Plastic with foam insert
Medium:	■ Hydraulic oil ■ Clean water free of calcium carbonate
Unique Features:	■ Ergonomic handling ■ Precise setting through the fine adjustment valve ■ Compact, lightweight dimensions
Data Sheet:	■ CT 91.07



Precision Pressure Instruments

Pressure Generators

CPP1000-M, CPP1000-L

Hydraulic Hand Spindle Pump

Dimensions:	■ CPP1000-M: 16.5 x 11.0 x 4.1 in ■ CPP1000-L: 16.5 x 9.5 x 4.1 in
Pressure Ranges:	■ 0 ... 14,500 psi
Medium:	■ Hydraulic fluid based on mineral oil or single distilled water
Unique Features:	■ Ergonomic handling through the smooth-running, internally operating, precision spindle ■ Integrated oil reservoir ■ Removable star handle ■ Freely rotating test connections ■ Precise setting through fine adjustment valve (optional for CPP1000-M)
Data Sheet:	■ CT 91.05

CPP1000-X, CPP1600-X

Hydraulic Comparison Test Pump

Dimensions:	■ 15.8 x 14.8 x 10.4 in
Pressure Ranges:	■ CPP1000-X: 0...14,500 psi ■ CPP1600-X: 0...23,200 psi
Medium:	■ Hydraulic fluid based on mineral oil or single distilled water
Unique Features:	■ Ergonomic handling through the smooth-running, internally operating, precision spindle ■ Integrated oil reservoir ■ Removable star handle ■ Freely rotating test connections ■ Integrated priming pump for large test volumes
Data Sheet:	■ CT 91.12

CPP120-X

Pneumatic Comparison Test Pump

Dimensions:	■ 20 x 19.29 x 8.26 in
Pressure Ranges:	■ 0...1,700 psi
Wetted Parts:	■ Austenitic stainless steel ■ High tensile brass ■ Copper ■ Nitrile rubber
Case Materials:	■ Plastic
Medium:	■ Clean, dry, non-corrosive gases
Unique Features:	■ Two fine metering valves for pressure inlet and pressure outlet or vacuum ■ Precise volume control for fine adjustment of pressure ■ Proven technology of the deadweight tester CPB3500 ■ Connection for external pressure or vacuum source ■ Pressure gauge for indicating the approximate pressure
Data Sheet:	■ CT 91.03

CPP1200-X, CPP4000-X

Hydraulic Comparison Test Pump

Dimensions:	■ 15.78 x 15.62 x 6.10 in
Pressure Ranges:	■ CPP1200-X: 0...17,000 psi ■ CPP4000-X: 0...58,000 psi
Wetted Parts:	■ Austenitic stainless steel ■ High tensile brass ■ Nitrile rubber
Case Material:	■ Wood
Medium:	■ Hydraulic fluid from mineral oil ■ Clean water, free of calcium-carbonate
Unique Features:	■ Precisely adjustable dual-area spindle pump for filling, pressure generation and fine adjustment ■ Freely rotating test connections ■ Proven technology of deadweight tester model CPB3800 ■ Compact, lightweight dimensions
Data Sheet:	■ CT 91.08 ■ CT 91.09

CPP7000-X

Hydraulic Comparison Test Pump

Case Size:	■ 18.1 x 17.5 x 10.4 in
Pressure Ranges:	■ 0...100,000 psi
Wetted Parts:	■ Stainless steel
Medium:	■ Sebacate oil
Unique Features:	■ Ergonomic handling through the smooth-running internally operating precision spindle ■ Integrated oil reservoir ■ Removable star handle ■ Freely rotating test connections (i.e. measuring instruments can be aligned) ■ Integrated priming pump for large test volumes
Data Sheet:	■ CT 91.13

Precision Pressure Instruments

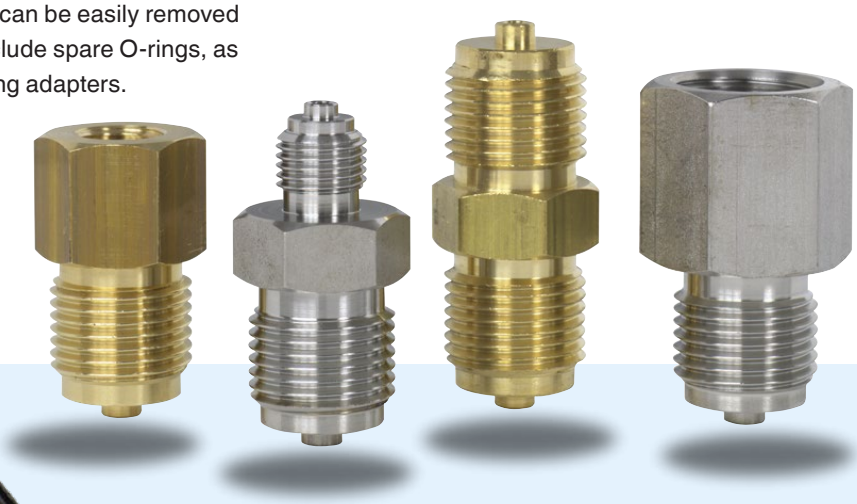
Accessories

Adapters

Adapter sets for quick connection

As a standard, the deadweight tester is equipped with a quick connector for the test item. For this purpose, the following threaded inserts, which can be easily removed and changed, are available. Additionally the adapter sets include spare O-rings, as well as a spanner with SW32 flats and SW14 flats for changing adapters.
Other threaded inserts are available upon request.

- Adapter set: G ¼, G$^{3}/_{8}$, $^{1}/_{2}$ NPT, $^{1}/_{4}$ NPT, M20 x 1.5
- Adapter set NPT: $^{1}/_{8}$ NPT, ¼ NPT, ⅜ NPT and ½ NPT



Connecting Hoses

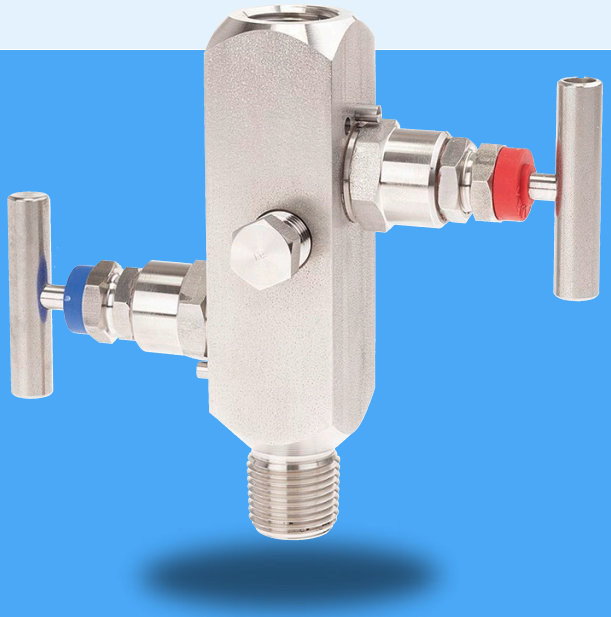
Connecting hoses operate as the connection between calibration equipment and their pressure supply. They are available in different materials, depending on pressure range and medium. They are available in sections up to 15 ft in length and can be extended as desired by means of bulkhead fittings.

- Threaded connections for hose extension
- Connection adapter

Valves

Block and bleed valves are for venting the measuring line. The barstock valves have an additional vent hole, which is sealed with a bolt when delivered. Block and bleed valves also have a separate vent valve.

- High grade stainless steel versions
- Nominal pressure: 6,000 psi
- External stem threads and ½ NPT connection threads (other connections available upon request)



Separators

Separators have been specifically designed for measuring instruments which should not come into contact with the medium of the pressure deadweight tester or to protect the deadweight tester against contamination from the test items.

Coalescing Filter

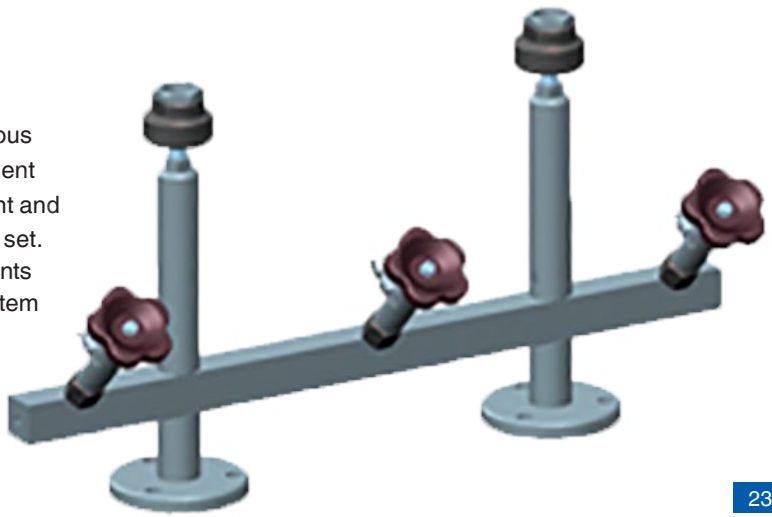
A robust but small and lightweight high pressure filter with a maximum pressure of 3,600 psi has versatile applications, simple installation and easy servicing.

- Machined aluminum housing that is anodized to enhance durability
- $^1/_4$ in. NPT fittings

Pressure Manifold

The CPK-PM allows adjustment and calibration of pressure measuring instruments in a wide range of versions with gaseous media. They are available as a low pressure and high pressure instrument and equipped with two connections for mounting a reference instrument and test item. Fine metering valves allow desired pressure or vacuum to be set.

- Changeable column used for mounting pressure measuring instruments
- Dirt trap prevents impurities of the test item from entering the test system
- Supplementary individual components available upon request



Precision Pressure Instruments

Automated Pressure Accessories

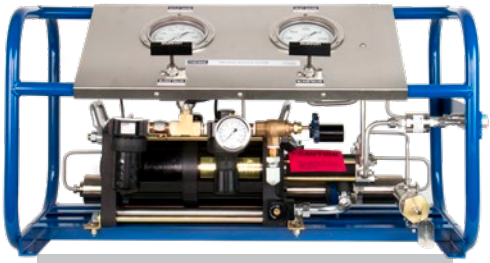
Mensor products are uniquely configured for each customer. Additional components like vacuum pump compressor sets, pressure boosters, manifolds and regulators can be designed to fit your specific needs. Contact a Mensor sales representative for more information and options.

Model 82

Pressure Pump/Vacuum Pump

Unique Features:

- Rack or desktop mount pressure configuration
- Separate power switch/breaker
- Capable of producing pressure for airspeeds ≥1000 knots
- Oil-less compressor with maximum pressure of 50 psi
- Oil-less vacuum pump can produce 28.5 inHG of vacuum and open flow of 0.8 cfm
- Configuration available with two vacuum sources, Ps and Pt



Model 77

Pressure Booster to 10,000 psi

Unique Features:

- Boosts bottle nitrogen pressure to 10,000 psi
- 300-3000 psi input pressure
- Operator control panel
- Input and output gauges
- Built in 40 micron filter on drive supply port
- Built in 20 micron filter on supply port
- Rack mount or roll-bar configuration
- Pressure regulator not required
- Auto shut-off valve if bottle pressure is less than 300 psig

Data Sheet:

- Model 77

Model 9442

Pressure Regulating Console

Unique Features:

- Compatible with Mensor Workbench Model 9440
- Accepts two pressure inputs and vacuum output
- High pressure nitrogen supply up to 7000 psi
- Regulated to 6500 psi with CPC8000
- Regulated to 1500 or less with CPC6050 and other low pressure devices
- Vacuum pass-through port

Barometer

Reference Transducer

Unique Features:

- Pressure range between 8-7 psi absolute
- Measurement accuracy down to 0.01% reading
- Available for CPC4000, CPC6050, CPC7000 pressure controllers
- Can be used to switch pressure types between absolute and gauge with no significant uncertainty
- Calibration interval of 365 days

Automated Pressure Accessories

Model 73

Pressure Booster to 500 psi

Unique Features:

- Generates 500 psi nitrogen supply
- Using a 130 psi dry nitrogen source and 85 psi shop air drive
- System consists of a 5 to 1 primary stage pressure booster
- Each pump controlled by a high flow regulator

Model 74

Pressure Booster to 1500 psi

Unique Features:

- Low pressure booster that generates 1500 psi nitrogen
- Using a 130 psi dry nitrogen source and 85 psi shop air drive
- System consists of a 4 to 1 stage pressure booster
- Each pump controlled by high flow regulator

Model 75

Pressure Booster to 6400 psi

Unique Features:

- Boosts bottle nitrogen to 6400 psi
- 300 psi nitrogen input
- Shop air drive pressure required
- Roll-bar frame or rack mount
- CE compliant
- Pneumatic pressure supply
- Compatible with CPC8000 high pressure calibrator
- Auto shut-off valve if bottle pressure is less than 300 psig

Data Sheet:

- Model 75

Automatic CPS

Contamination Prevention System

Unique Features:

- Operating range up to 3060 psi
- Purges the device under test to prevent solid and liquid contaminants from entering the pressure controller
- Automatically drive and controlled by CPC4000/CPC6050 with touchscreen
- Can be used as a test gauge stand with the device under test installed either at the top or back of the stand
- Clear collection bottle at the bottom ensures clean work surface and provides indication of level of contamination

Calibration Sled

External Calibration Hardware

Unique Features:

- Setup for remote calibration of internal transducers of controllers and the internal barometer
- Consists of a power supply, cable and software - depending on transducer model.
- Allows up to 11 point linearization for calibrating the transducers

CPU6000-W,-S,-M

Calibrator Unit

Unique Features:

- Comprised of three instruments: CPU6000-W weather station, CPU6000-S pressure balance sensor box, CPU6000-M digital multimeter
- Acquisition and automatic correction of all critical influencing factors
- Compatible with other calibration instruments and WIKA-CAL software

Data sheet:

- CT 35.02

Precision Temperature Instruments

WIKA’s temperature calibration equipment includes AC & DC bridges, precision indicators, dry wells & calibration baths, precision handheld calibrators and precision RTD & thermocouple probes. We have instruments ideally suited for portable use and calibration laboratories. We also have instruments designed for sterile environments, manufacturing and industrial settings. We offer a comprehensive range of temperature calibration instruments to meet all your specific requirements.

Instruments in our line of reference thermometers are well suited for industrial laboratories, while handheld thermometers excel in a wide variety of portable applications, such as plant maintenance and field calibrations. Our temperature calibrators and calibration baths are appropriate as a factory/working standard for automatic testing and calibration. WIKA's line of resistance thermometry bridges serve a dual purpose and can also be used in electrical laboratories.

Precision Temperature Instruments

Reference Thermometers

Due to their excellent stability and geometrical adaptations, reference thermometers (standard thermometers) are ideally suited for applications in industrial laboratories. They enable easy comparative calibration in baths, in tube furnaces and in dry-well calibrators. The advantage of reference thermometers is the wide temperature range that gives them a flexible operation and low drift, ensuring a long service life.

CTP2000
Platinum Resistance Thermometer

Ranges: -328...842°F

Dimensions:
- Probe length: 19.69 in
- Probe diameter: 0.16 in
- Case: 26.77 x 6.69 x 2.76 in

Stability: <20 mK after 100 H at 572°

Sheath: Stainless steel

Recommended Measuring Current: 1 mA

Unique Features:
- Low drift, long service life
- 4-wire connection
- Ends with 4mm banana plugs

Data Sheet: CT 61.10

CTP5000
Reference Thermometer

Ranges: -321...1,220°F

Sheath: Stainless steel, metal alloy, fused silica or fused quartz

Recommended Measuring Current: 0.5 or 1 mA depending on version

Unique Features:
- Low drift, long service life
- High stability
- 4-wire connection
- Ends with 4mm banana plugs
- Bare wires, DIN connector or SMART plug

Data Sheet: CT 61.20

CTP9000
Thermocouple

Ranges: 32...2,372°F

Dimensions:
- Probe length: 24.41 in
- Probe diameter: 0.28 in

Stability: <0.5 after 250 h at 2,372°F

Sheath: Ceramic C 799

Tolerance: Class 1

Unique Features:
- Low drift, long service life
- Optional cold junction
- 1,500mm cable
- Ends with 4mm banana plugs

Data Sheet: CT 61.10

Precision Temperature Instruments

Handheld Devices

These portable calibration instruments accurately measure and record temperature profiles. Handhelds are particularly suitable as test instruments for many applications and industries. Data recorded in the handheld can be evaluated via PC software. Some instruments document calibrations in the internal memory, which can later be read on a PC. Optionally, a calibration certificate can be generated with WIKA-CAL software.

CTR1000

Infrared Handheld Thermometer

Dimensions:	■ 7.99 x 7.76 x 1.85 in
Measuring Range:	■ -76 ... 1,832 °F
Accuracy:	■ 2 K or 2%
Measuring Distance:	■ Up to 26.25 ft
Unique Features:	■ Thermocouple connection optional ■ Non-contact measurement ■ Dual-target laser
Data Sheet:	■ CT 55.21

CTH6200

Handheld Thermometer

Dimensions:	■ 5.59 x 2.8 x 1.42 in
Measuring Range:	■ -58 ... 482 °F
Accuracy:	■ < 0.2 K
Sensor Type:	■ Pt100
Unique Features:	■ Integrated data logger ■ Pt100 probes for -58...482 °F ■ Rugged service case available
Data Sheet:	■ CT 51.01

CTH6300, CTH6310

Handheld Thermometer, Industrial Version

Dimensions:	■ 7.87 x 3.66 x 1.73 in
Measuring Range:	■ -328...2,732 °F
Accuracy:	■ 0.1 K
Sensor Type:	■ Pt100, TC
Unique Features:	■ One or two-channel option ■ Intrinsically safe version Ex ib IIB T4 Gb ■ Various probe types available
Data Sheet:	■ CT 51.05

Precision Temperature Instruments

Handheld Devices

CTH6500, CTH6510

Handheld Thermometer, Precision Version

Dimensions:	■ 7.87 x 3.66 x 1.73 in
Measuring Range:	■ -328 ... 2,732 °F
Accuracy:	■ 0.03 K
Sensor Type:	■ Pt100, TC
Unique Features:	■ Single function thermometer ■ One or two-channel versions ■ Various probe types available ■ Intrinsically safe version Ex ib IIB T4 Gb
Data Sheet:	■ CT 55.10

CTH7000

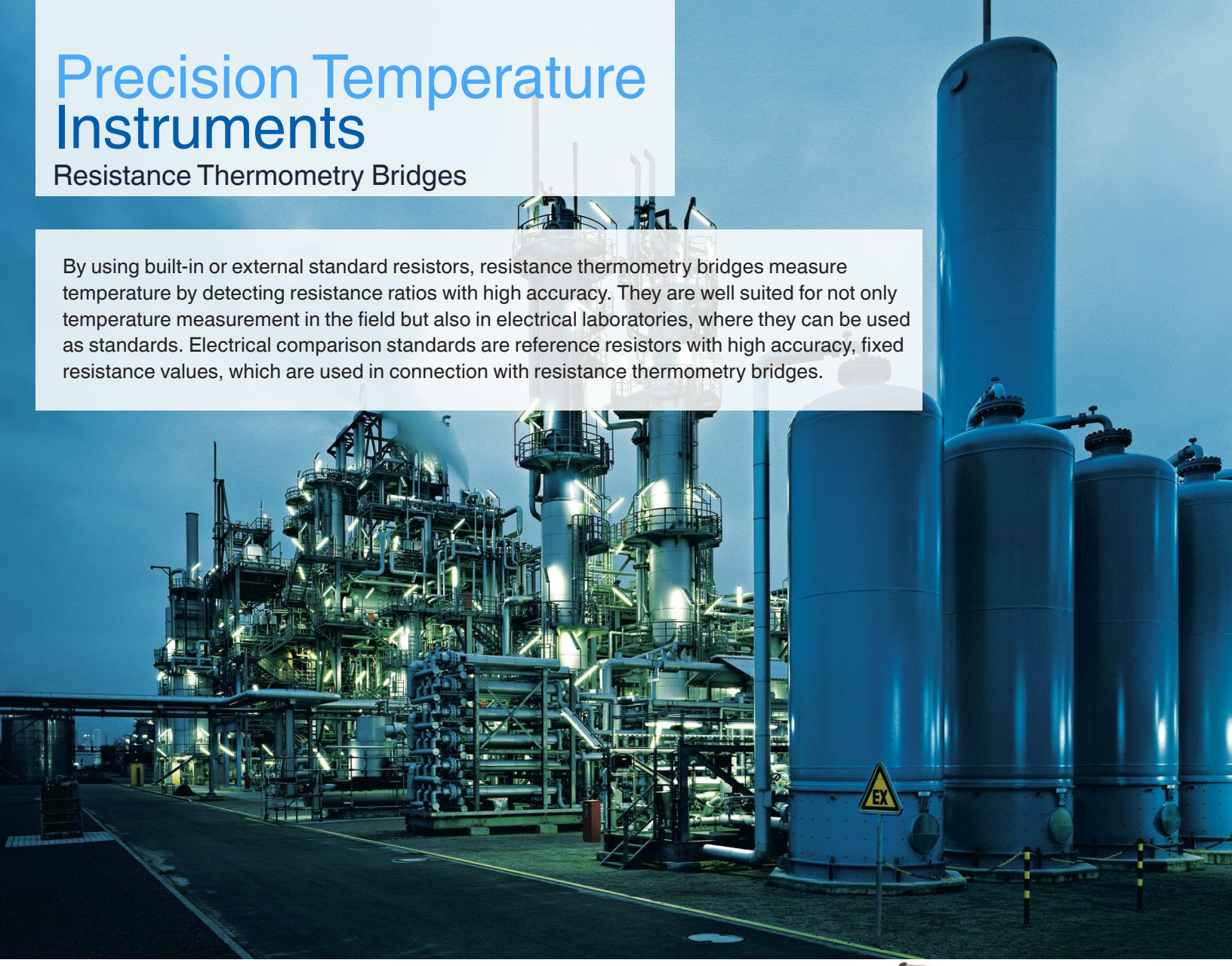
Handheld Thermometer

Dimensions:	■ 9.13 x 3.82 x 2.09 in
Measuring Range:	■ -328...1,764°F
Accuracy:	■ 0.015 K
Sensor Type:	■ Pt100, Pt25 and NTC
Unique Features:	■ Integrated data logger ■ Stability <0.005° C per year
Data Sheet:	■ CT 55.50

Precision Temperature Instruments

Resistance Thermometry Bridges

By using built-in or external standard resistors, resistance thermometry bridges measure temperature by detecting resistance ratios with high accuracy. They are well suited for not only temperature measurement in the field but also in electrical laboratories, where they can be used as standards. Electrical comparison standards are reference resistors with high accuracy, fixed resistance values, which are used in connection with resistance thermometry bridges.



CTR3000

Multifunction Precision Thermometer

Dimensions:	■ 12.4 x 6.9 x 12.7 in
Measuring Range:	■ PRT: -328...1,764°F ■ Thermocouple: -346 ... +3,308 °F ■ Thermistor: 0...500 kΩ
Accuracy:	■ ±0.005 K (4-wire)
Sensor Type:	■ PRT, TC and thermistors
Unique Features:	■ Data logger and scanner ■ Up to 44 channels optional with CTS3000 ■ Graphic touchscreen
Data Sheet:	■ CT 60.15

CTR2000

Precision Thermometer

Dimensions:	■ 6.61 x 4.251 x 8.46 in
Measuring Range:	■ -328...1,763°F
Accuracy:	■ 0.01K (4-wire)
Sensor Type:	■ Pt100, Pt25
Unique Features:	■ 4-wire measurement, 3-wire optional ■ SMART probe review and editor ■ Integrated data logger ■ RS-232 Interface
Data Sheet:	■ CT 60.10

CTR5000

Precision Thermometer

Dimensions:	■ 10.23 x 3.14 x 10.62 in
Measuring Range:	■ -328...1,763°F
Accuracy:	■ 0.01 K, optional 0.005 K
Sensor Type:	■ Pt100, Pt25
Unique Features:	■ 2 channels, optional 4-6 channels ■ Expandable to 64 channels with multiplexers ■ SMART probe review and editor ■ USB interface, RS-232 optional
Data Sheet:	■ CT 60.20

Precision Temperature Instruments

Resistance Thermometry Bridges

CTR6000

DC Resistance Thermometry Bridge

Dimensions:	■ 17.914 x 5.905 x 17.716 in
Measuring Range:	■ -328...1,763°F
Accuracy:	■ ±0.8 mK at 32 °F
Sensor Type:	■ PRT, themistors or fixed resistors
Unique Features:	■ Channels expandable from 1 to 60 with multiplexer ■ Measures Ω, °C, °F of K ■ 1 ppm, 0.1 mK Resolution
Data Sheet:	■ CT 60.30

CTR6500

AC Resistance Thermometry Bridge

Dimensions:	■ 17.914 x 5.905 x 17.716 in
Measuring Range:	■ -328...1,763°F
Accuracy:	■ 0.01K, optional 0.005K
Sensor Type:	■ Pt100, Pt25
Unique Features:	■ 0.1 ppm/0.001mΩ/0.01mK resolution ■ Channels expandable from 1 to 60 with multiplexers ■ 25Ω and 100Ω internal reference resistors ■ Multifunction VFD with numeric, statistical or graphical information
Data Sheet:	■ CT 60.40

CTR9000

Primary Standard Resistance Thermometry Bridge

Dimensions:	■ 21.456 x 15.039 x 19.685 in
Measuring Range:	■ 0...260Ω
Accuracy:	■ 0.1 ppm, 20 ppb optional
Sensor Type:	■ SPRT, PRT, or fixed resistor
Unique Features:	■ Resolution 1 ppb, optional 0.1 ppm ■ Fast measurement time ■ Differential and absolute measurement ■ Expandable up to 60 channels ■ 4 selectable standby currents possible ■ AC technology
Data Sheet:	■ CT 60.80

Standard Reference Resistor

CER6000

Resistance Value:	■ CER6000-RR: 1, 10, 25, 100, 300, 400, 500, 1,000 and 10,000 Ω, others on request ■ CER6000-RW: 10, 25, 100, 400, 1,000 and 10,000 Ω, others on request
Dimensions:	2.99 x 4.49 in
Tolerance:	±10 ppm
Longterm Stability:	■ CER6000-RR: <±5 ppm per year ■ CER6000-RW: 2 ppm per year (HS version 0.5 ppm per year)
Unique Features:	■ Rugged stainless steel construction ■ Comparison and laboratory versions ■ Low temperature coefficient ■ High accuracy
Data Sheet:	CT 70.30

Precision Temperature Instruments

Dry-well Temperature Calibrators

Dry-well temperature calibrators are portable electronic controllers that automatically, quickly and dryly supply a temperature. With their high reliability, accuracy and simple operation, portable temperature calibrators are particularly suited as a factory/working standard for automatic testing and calibration of temperature measuring instruments.

CTD9100-ZERO

Temperature Dry-well Calibrator

Measuring Range:	■ 14...32...212 °F
Dimensions:	■ 6.3 x 9.1 x 12.6 in
Accuracy:	■ 0.05 K at 32 °F, otherwise 0.1 K
Stability:	■ < 0.05 K
Sensor Type:	■ Pt100
Immersion Depth:	■ 5.91 in
Unique Features:	■ Compact, lightweight design ■ RS-485 interface
Data Sheet:	■ CT 41.30

CTD9100

Temperature Dry-well Calibrator

Measuring Range:	■ CTD9100-COOL: -67...392 °F ■ CTD9100-165: -31... 329 °F
Dimensions:	■ 5.91 x 10.63 x 15.75 in
Accuracy:	■ CTD9100-COOL: -0.3 ... 0.5 K ■ CTD9100-165: 0.3...0.8 K
Stability:	■ CTD9100-COOL: ±0.05 K up to 212 °F, ±0.1 K up to 842 °F ■ CTD9100-165: ±0.05 K up to 212 °F, ±0.1 K up to 1,112 °F
Sensor Type:	■ Pt100
Immersion Depth:	■ 5.91 in
Unique Features:	■ Interchangeable inserts ■ Two temperature, 4-digit display ■ RS-485 interface
Data Sheet:	■ CT 41.28

CTD9300

Temperature Dry-well Calibrator

Measuring Range:	■ CTD99300-650: 104...1,202°F ■ CTD9300-165: -31...329 °F
Dimensions:	■ CTD99300-650: 6.3 x 12.6 x 16.54 in CTD9300-165: 6.3 x 12.6 x 16.54 in
Accuracy:	■ CTD99300-650: ±0.3 K at 572 °F, ±0.6 K at 1,202 °F ■ CTD9300-165: ±0.1 K at -22 °F, ±0.16 K at 329 °F
Stability:	■ CTD99300-650: ±0.03 K at 212 °F, ±0.09 K at 1,202 °F ■ CTD9300-165: ±0.01 to 0.02 at 329 °F
Immersion Depth:	■ 5.91 in
Unique Features:	■ Large, easy-to-read display ■ RS-232 interface
Data Sheet:	■ CT 41.28

Precision Temperature Instruments

Dry-well Temperature Calibrators

CTM9100-150

Temperature Multifunction Calibrator

Measuring Ranges:	■ -4...302 °F
Dimensions:	■ 8.46 x 12.0 x 16.73 in
Accuracy:	■ ±0.2 K, ±0.3 K or ±1 K
Stability:	■ ±0.05 K or ±0.2 K
Immersion Depth:	■ 5.91 in
Unique Features:	■ Multifunctional with four controller parameter sets ■ Calibration with external reference ■ Compact, lightweight design ■ RS-485 interface
Data Sheet:	■ CT 41.40

CTD9100-375

Temperature Dry-well Calibrator

Measuring Range:	■ t_{amb}...707 °F
Dimensions:	■ 5.9 x 2.9 x 6.1 in
Accuracy:	■ ± 0.5...0.8 K
Stability:	■ ± 0.05 K to 212 °F
Sensor Type:	■ Pt100
Immersion Depth:	■ 3.94 in
Unique Features:	■ Compact, lightweight design ■ Stable heat source ■ RS-232 interface
Data Sheet:	■ CT 41.32

CTD9100-1100

Temperature Dry-well Calibrator

Measuring Range:	■ 392...2,012°F
Dimensions:	■ 6.69 x 15.35 x 12.99 in
Accuracy:	■ ±3 K
Stability:	■ ±0,4 K at 2,012 °F
Immersion Depth:	■ 6.10 in
Unique Features:	■ Compact, lightweight design ■ Stable heat source and intelligent air cooling system ■ Interchangeable inserts ■ RS-232 interface
Data Sheet:	■ CT 41.29

Precision Temperature Instruments

Calibration Baths

Calibration baths are electronic controllers that supply a temperature quickly and automatically with the help of a liquid supply. Due to their high reliability, accuracy and exceptional homogeneity in the measuring chamber, calibration baths are particularly suited as a factory/working standard for the automatic testing and calibration of the widest range of temperature probes. A special micro-calibration bath design enables on-site calibration applications.

CTM9100-150

Temperature Multifunction Calibrator

Measuring Range:	■ -4 ... +302 °F
Dimensions:	■ 8.46 x 12.0 x 16.73 in
Tank Dimensions:	■ 2.36 x 5.91 in
Accuracy:	■ Micro cal. bath: ±0.2 K ■ Dry-well: ±0.3 K ■ Infrared black body: ±1 K ■ Surface temp. cal.: ±1 K
Stability:	■ Micro cal. bath: ±0.05 K ■ Dry-well: ±0.05 K ■ Infrared black body: ±0.2 K ■ Surface temp. cal.: ±0.2 K
Unique Features:	■ Multi-functional with four controller parameter sets ■ Calibration with external reference ■ Lightweight, compact design ■ Fast heating and cooling
Data Sheet:	■ CT 41.40

CTB9100

Micro Calibration Bath

Measuring Range:	■ CTB9100-165:-31 ... +329 °F ■ CTB9100-225: 104 ... 437 °F, 491 °F optional
Dimensions:	■ CTB9100-165: 8.46 x 12.00 x 16.73 in ■ CTB9100-225: 5.91 x 10.63 x 15.75 in
Tank Dimensions:	■ 2.36 x 5.91 in
Accuracy:	■ CTB9100-165: ±0.2 K ■ CTB9100-225: ±0.3 K
Stability:	■ ±0.05 K
Unique Features:	■ Short response time for temperature bath ■ Continuously adjustable stirrer
Data sheet:	■ CT 46.30

CTB9400, CTB9500

Calibration Bath

Measuring Range:	■ CTB9400: 82.4...572°F ■ CTB9500: -49...392°F
Dimensions:	■ CTB9400: 13.189 x 15.039 x 17.047 in ■ CTB9500: 16.535 x 15.039 x 28.307 in
Tank dimensions:	■ CTB9400: 10.629 x 5.708 in ■ CTB9500: 11.023 x 11.023 in
Medium:	■ Water, oil, or similar
Stability:	■ 0.02 K
Unique Features:	■ Touchscreen control ■ High-accuracy, reliable temperature control ■ 5-point calibration for control sensors (optional)
Data sheet:	■ CT 46.20

Electrical Calibration Devices

Testing and calibration solutions for current, voltage and resistance are used in laboratories and workshops, in production, maintenance, and by calibration service companies and quality assurance departments. These instruments are portable and mobile and are particularly notable for their low measurement uncertainty and high scope of operation.

Handheld Multifunction Calibrator
Pascal 100

Dimensions: 13 x 10.6 x 7 in

Connection Values:
- Max voltage: U_0= 29.7 V
- Max current: I_0 =31 mA
- Max power: P_0= 0.92 W

Resistance: 0 ... 10,000 Ω

Voltage Supply: DC 24 V

Unique Features:
- Measurement and simulation of pressure, electrical signals, temperature, frequency and pulse
- Large color touchscreen display
- Environmental parameters module

Data Sheet: CT 18.01

Handheld Multifunction Calibrator
Pascal ET

Dimensions: 12 x 8.27 x 3.56 in

Measuring Range:
- Voltage DC: ±100 mV
- Current DC: ±100 mV
- Resistance: 0 ... 10,000 Ω
- Frequency: 0.5...50,000 Hz
- Pulses: 1...999,999

Voltage Supply: DC 24 V

Unique Features:
- Measurement and simulation of pressure, electrical signals, temperature, frequency and pulse
- Large color touchscreen display
- Intrinsically safe option

Data Sheet: CT 18.02

Standard Reference Resistor
CER6000

Resistance Value:
- CER6000-RR: 1, 10, 25, 100, 300, 400, 500, 1,000 and 10,000 Ω, others on request
- CER6000-RW: 10, 25, 100, 400, 1,000 and 10,000 Ω, others on request

Dimensions: 2.99 x 4.49 in

Longterm Stability:
- CER6000-RR: <±5 ppm per year
- CER6000-RW: 2 ppm per year (HS version 0.5 ppm per year)

Unique Features:
- Rugged stainless steel construction
- Comparison and laboratory versions
- High accuracy

Data Sheet: CT 70.30

Engineered and Custom Systems

Turnkey, customer-specific systems and installations with corresponding software

We can design an integrated solution from our extensive product line with the required degree of automation. These systems are well-proven and used in Mensor's own accredited laboratories and manufacturing plants. Mensor engineers have designed custom rack equipment for fixed location applications, mobile equipment on carts and desktops, and bench equipment for other pressure and calibration applications.

Listed are a few examples of our custom systems. Contact Mensor for more information, options and to start your own custom equipment.

Rack and Bench Equipment

Applications include:

- Stand-alone vacuum pump compressor sets
- Large volume controllers
- Multi-channel high speed pressure controllers
- Remote pressure monitoring equipment
- Multiple digital pressure gauges mounted in a portable case
- Medical device calibration carts and pressure booster assemblies

Model 9435

Transmitter Calibration Bench System

- Pressure generation up to 6000 psi
- CPC6050 and CPC8000 mount
- Vacuum pump and pressure booster
- Vacuum and calibrator control with Windows based software
- Mensor Model 9436 display console

Model 9446

Industrial Test Bench

- Can be configured with 72 x 30 in work bench with 1.75 in butcher block or phenolic surface
- Adjustable legs, drawers, and cabinets for larger equipment
- Maximum high pressure input 3,500 psi
- Maximum low pressure input 150 psi
- Multiple ranges for pressure control and measurement
- AC and DC sources for solenoid testing, loop power, 4 to 20 mA measurement
- Accuracy up to 0.025% full scale

Model 9449

Pressure Test Bench

- Multiple configurations from 2 x 1.5 ft to 6 x 3 ft
- Six or more pressure panels
- Universal transmitter mounting flange
- 4 to 20 mA loop power supply
- 120 volt AC and 24 volt DC solenoid test module
- Vise
- High pressure booster
- Multimeter
- Operates 115/230 VAC and clean, dry pressure of 100 to 150 psi shop air and 200 to 3000 psi dry nitrogen

Carts and Mobile Solutions

Applications include:

- Portable calibration and testing
- Production testing
- Remote calibration and processes

Model 9401

Low Pressure Calibration Cart

- Can be equipped with any Mensor pressure controllers or calibrators
- Can be equipped with dry or lubricated compressor or vacuum pump
- Multiple locking drawers

Model 9403A

High Pressure Calibration Cart

- Capable of generating pneumatic pressures up to 6500 psi from a 300 psi external supply
- Pressure control provided by PCS 400 and Model 410
- Equipped with supply regulators, high pressure hoses, retractable power cord
- Industrial cart

Model 9404

Air Data Test Set Calibration Cart

- Based on Mensor 8201 ADTS
- Designed to test and calibrate air data computers, altimeters, airspeed indicators and other avionic pressure devices
- Internal dry vacuum pump
- Compressor capable of simulating altitudes up to 60,000 ft
- Can be easily moved within hangar environment

High Speed and High Volume Controllers

Applications include:

- Pressure sensor testing for semiconductors
- Control large volume pressure
- Leak monitoring
- High speed calibration applications
- Wind tunnel systems

Model 9414

Dual and Quad Channel Pressure Controller

- Two or four channel controller option
- Optimized for high speed control of test pressures in continuous production test processes
- Heart of the Mensor 9415 test system for semiconductor pressure testing

Model 9420

Remote Transducer Display Module

- Small LCD display and power supply for Mensor Series 6000, 6100 and 6180 transducers
- Desktop and rack mount display
- Option for two transducers

Model 9424

Special Application Pressure Controller

- Optimized for speed in medium to large volume applications
- Derived from dual and quad channel Model 9414
- Utilized for pressures up to 1,500 psi

Model 9417

Extremely Large Volume Pressure Controller

- Pneumatic pressure controller for controlling large pressure vessels in excess of 150 cubic foot volume
- Pressure control up to 120 psi
- Leakage monitoring into as many as three smaller volumes within larger volume

Complete Solutions

For Simple Testing or Professional Calibration

Mensor, WIKA and DH-Budenburg products are designed to work together to perform complex calibration solutions. With our lines of precision devices, instruments and accessories, we can put together a complete solution for industrial and laboratory calibration.

Automated Solutions for Lab

CPC4000, CPU6000-M, WIKA-Cal

- System capable of performing automatic calibrations with various set points going up and down the scale
- Can also generate calibration certificate

CPH7000, CPP1200-X, WIKA-Cal

- Calibration of a process transmitter using CPH7000 together with a hydraulic comparator CPP1200-X
- PC in conjunction with WIKA-Cal software to download and print the calibration certificate

Portable Solutions for On-Site Calibration

CPG1500, CPP30

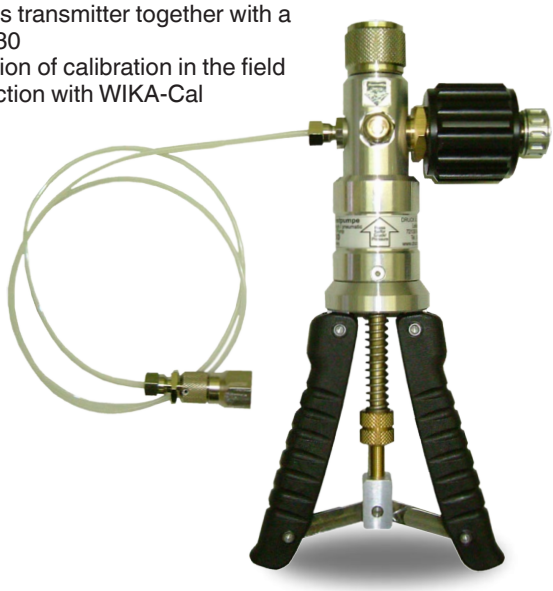
- System features 0.1, 0.05 or 0.025% FS accuracy and range up to 15,000 psi
- System also includes a data logger
- CSA Class1, Div1 available
- Carrying case included

CPH7650, process gauge or transmitter

- Calibration of a process transducer or gauge (digital or analog) using a CPH7650

CPH6000, CPP30, WIKA-Cal

- Calibration of a process transmitter together with a pneumatic pump CPP30
- Recording and evaluation of calibration in the field and on a PC in conjunction with WIKA-Cal



WIKA-CAL
Software

Easy and fast creation of high quality calibration certificates

WIKA-CAL calibration software is used for data logging and generating calibration certificates for pressure measuring instruments. This software is compatible with PC and allows for automatic calibration with a pressure controller. It can also record relevant data and determine the required mass loads for a pressure balance.

Get a free demo version download from Mensor's website. The template will guide you through the creation process of a document. Calibration certificates can be created with the Cal-Template and data logging can be created with the Log-Template.

Applications and features:

- Creation of calibration certificates for mechanical and electronic pressure measuring instruments.
- Fully automatic calibration with pressure controllers
- For the recording of certificate-relevant data in combination with the Calibrator Units of the CPU6000 series
- Determination of the required mass loads for pressure balances
- Calibration of relative pressure measuring instruments with absolute pressure references and vice versa

Cal Demo

Generation of calibration certificates limited to 2 measuring points with automatic initiation of pressures via a pressure controller.

Cal Light

Generation of calibration certificates with no limitations on measuring points, without automatic initiation of pressures via a pressure controller.

Cal

Generation of calibration certificates with no limitations on measuring points, with automatic initiation of pressures via a pressure controller.

Log Demo

Creation of data logger test reports, limited to 5 measured values.

Log

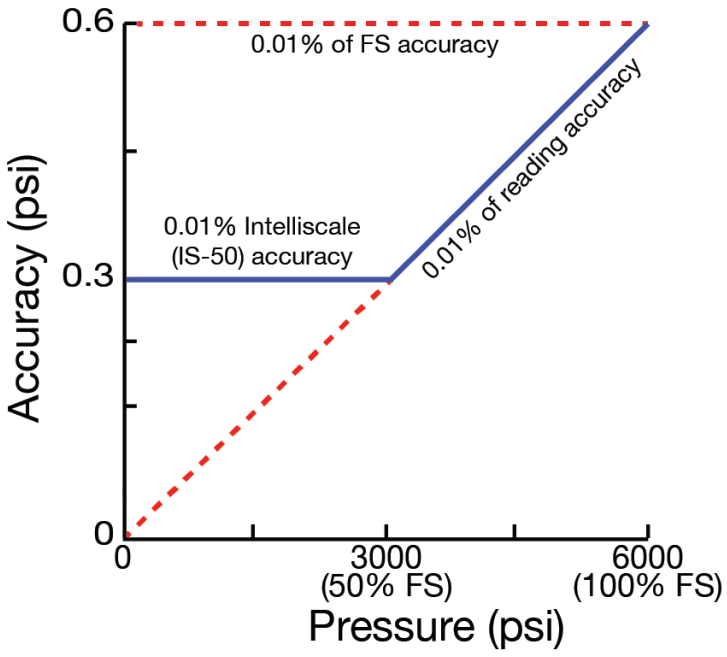
Creation of data logger test reports without limited the measured values.

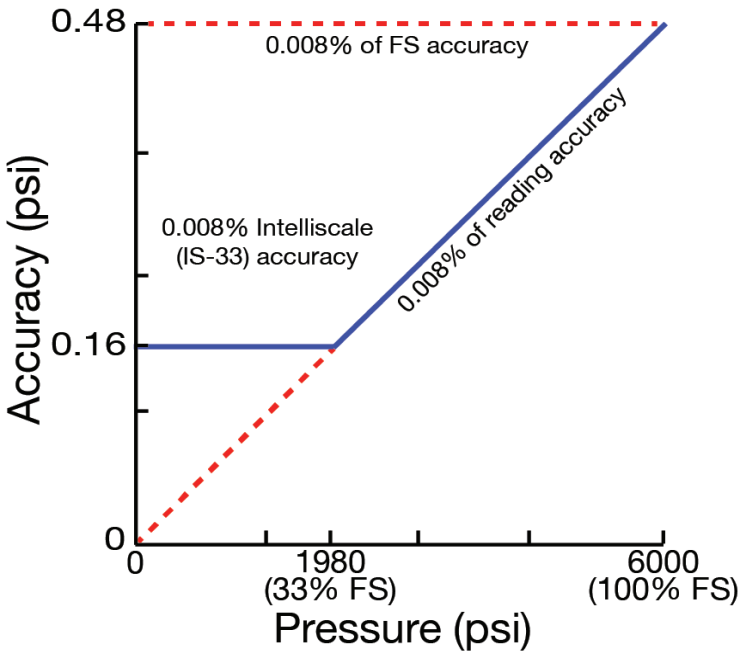
IS (IntelliScale) Accuracy

Understanding IS (IntelliScale)

Accuracy is one of the most important specifications for a measurement and calibration instrument. Traditionally accuracy is represented either as a fixed value in a standard measurement unit or as a percentage of the range of the measuring instrument. The most common terms used are “percentage of full scale value” (% of FS) and “percentage of reading” (% of rdg) accuracies:

- % of FS accuracies are constant through the range of the instrument. This means that accuracy is constant across the Measuring Range.
- % of rdg accuracies are linear through the range of the instrument. This means that the uncertainty in measurement increases as we go up in the range.





[1] IS-50 accuracy is available on CPG2500, CPC4000, CPC6050, CPC7000, CPA8001 & CPC8000
[2] IS-33 accuracy is available on CPG2500, CPT9000 and CPC8000

IS (IntelliScale) (IS) Accuracy

IS (IntelliScale) or intelligent-scaling of the range provides the users a combination of % of FS and % of rdg accuracy within one measuring range. This allows for a linear % of rdg accuracy in the top part of the range and a constant % of full scale accuracy in the lower part of the range.

Essentially an IS (IntelliScale) accuracy is always better than a % of FS accuracy and is equivalent to a % of rdg accuracy in the top part of the range. The IS (IntelliScale) accuracy is represented as % IS - ‘X’ accuracy. Where ‘X’ denotes the percentage at which the ranges switches from a % of full scale value to a % of rdg accuracy.

Mensor's
Calibration Services
Our ISO 17025, A2LA accredited lab

All new Mensor pressure measuring and controlling products are provided with an A2LA accredited calibration certificate. We continue 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.

We can calibrate almost any pressure product including:

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

Contact our Customer Service Centers for more information:

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

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63911 Klingenberg
Germany

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

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81 Ta Yuan Road SND
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Email: eric.wang2@wika.com

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13 Kian Teck Crescent,
628878 Singapore

Bernard Lim
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Mass & Temperature
Calibration

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

Repair Service

Providing quality customer support

From over-the-phone troubleshooting to servicing an instrument at our facility, Mensor is dedicated to providing superior customer service throughout our product's lifespan. When you contact our service department, we can evaluate the issue and provide a solution, or recommend the instrument be returned to Mensor. Our Customer Service Coordinator can provide you with an estimated price and lead time for repair.

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.

Stay up to date with new products, events and calibration topics on our social media channels and blog.
Follow Mensor on Facebook, Twitter, YouTube, LinkedIn and blog.mensor.com

Mensor Blog

YouTube

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