

7097734875883475984 J  
87984654546546  
7987465465465132132131  
629879658836458734657  
665387875684653400



# CENTRICAL

A BETTER WAY FOR WORKSHOP CALIBRATION

Beamex CENTRICAL  
A modular calibration and test bench



**beamex**

# CENTRICAL MODULAR CALIBRATION AND TEST SOLUTION

2



CENTRICAL is a modular calibration and test solution for workshops and laboratories. It offers efficient and ergonomic facilities for the maintenance of process instruments.



BEAMEX **CENTRICAL** REFLECTS THE RESULT OF DECADES OF EXPERIENCE PROVIDING WORKSHOP CALIBRATION SOLUTIONS TO THE PROCESS INDUSTRY



## MAIN FEATURES

### ▶ Ergonomic

The CENTRICAL offers a very ergonomic way to work in a workshop. With the electrically adjusted table height, you can set the table to optimum working level. Having all the equipment ergonomically located in the bench improves the work efficiency.

### ▶ Modular and versatile

CENTRICAL is a modular and versatile solution that can be tailored according to your specific needs and is suitable for a wide variety of applications.

### ▶ Ready assembled and calibrated

The benches are delivered ready assembled, so it is easy to take them into use without any need for separate assembly service. All the relevant modules delivered with CENTRICAL are calibrated before delivery and come with a calibration certificate included. You can start using the bench immediately without any need to have equipment calibrated first.

### ▶ ESD protected

All components in the CENTRICAL system are protected against electrostatic discharge (ESD). It is also safe to handle also ESD-sensitive items on the bench.

### ▶ Easy to configure

The modular design and ready-made packages make it easy to configure your CENTRICAL workshop calibration solution according to your specific needs.

### ▶ Calibration management software

The MC6-WS Advanced Workshop Calibrator and Communicator is the heart of the CENTRICAL workshop calibration Solution. It is a documenting calibrator that can connect with Beamex calibration management software, enabling a fully digital calibration data flow

# AVAILABLE SOLUTIONS

CENTRICAL is a modular and versatile solution that can be tailored according to your specific needs and is suitable for a wide variety of applications. CENTRICAL is available as calibration bench, calibration trolley, and tabletop solutions.



## Bench

### USE CASES

- calibrations in an ergonomic calibration workshop, having all equipment within easy reach

### VARIANTS

- bench with electronically adjustable height (CENTRICAL M), straight or corner bench
- bench with fixed height (CENTRICAL F), straight or corner bench



## Trolley

### USE CASES

- there is a need to move the calibration equipment around the workshop

### VARIANTS

- trolley optimized for pressure and electrical calibrations
- trolley optimized for temperature calibrations with Beamex MC6-T Multifunction Temperature Calibrator and Communicator



## Tabletop solution

### USE CASES

- enhancing calibration capabilities in an existing workshop

### VARIANTS

- CENTRICAL Tabletop Case for various types of calibration and electrical modules
- CENTRICAL Panel for pressure, temperature and electrical calibrations



## A better way for workshop calibration

CENTRICAL is a high-accuracy workshop calibration solution that provides accurate measurements and low calibration uncertainty. All relevant modules are delivered with a calibration certificate, ensuring your calibrations are traceable.

The MC6-WS workshop calibrator documents your calibrations without any manual typing or need for pen and paper, and automatically performs error calculation and pass/fail analysis.

CENTRICAL is the most ergonomic solution for workshop calibration available today. All equipment is within easy reach, the bench height is electrically adjustable for maximum comfort, and the lighting ensures effective and safe working.

## Modular versatility

The modular design makes CENTRICAL versatile and easy to configure according to your needs, with the ability to add or replace modules as needed.

Available calibration modules include the MC6-WS panel-mounted calibrator, automatic and manual pressure generation modules, and pressure measurement modules.

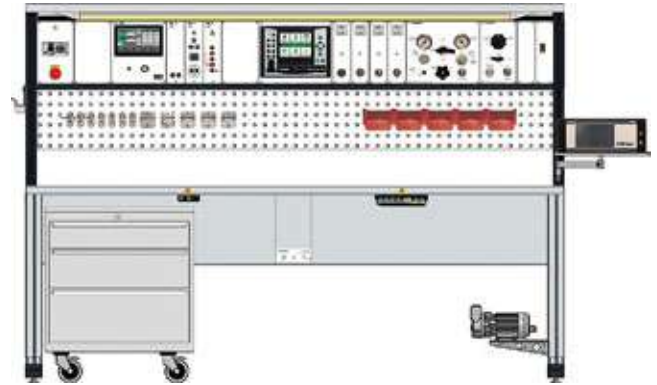
In addition, there are various electrical modules available, including mains (AC) power supplies, DC power supplies, multimeters, soldering stations, oscilloscopes, function generators, and much more.

You can further enhance your CENTRICAL workshop calibration solution with a wide variety of complementary products and accessories. Use Beamex calibration pumps to generate pressure or vacuum, DMT Dirt and Moisture Trap to protect your calibration equipment against contamination, and pressure hoses and fittings for your various pressure calibration applications. Accessories are quickly and easily available in the Beamex webshop.

## CENTRICAL BENCHES

### CENTRICAL M MOTORIZED BENCH

The motorized bench allows you to adjust the table height to optimum working level. The bench contains a durable, ESD protected tabletop and instrument panel for installing various calibration and electrical modules. The bench is available in 2 m (14MP) or 1,5 m (10MP) lengths.



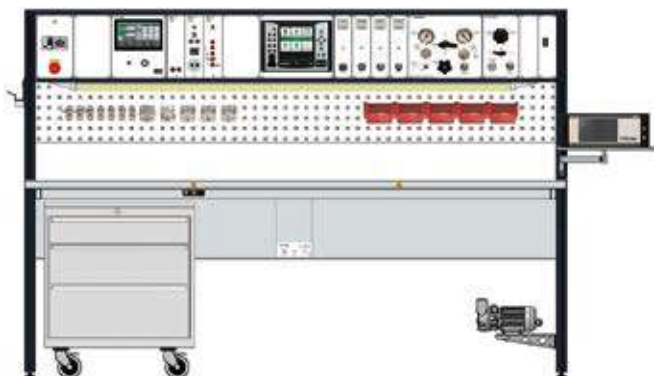
### CENTRICAL CM MOTORIZED CORNER ELEMENT

A corner element can be used between two straight benches to form a corner bench combination.



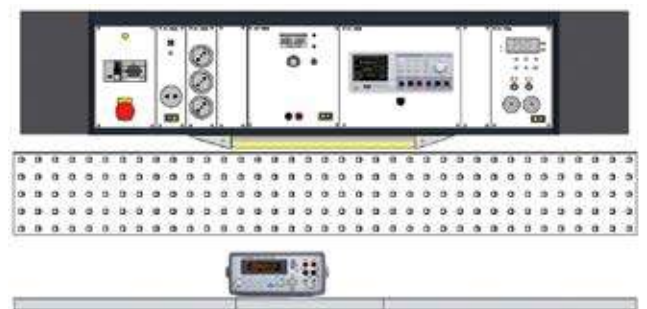
### CENTRICAL F FIXED HEIGHT BENCH

The bench contains a durable, ESD protected tabletop and instrument panel for installing various calibration and electrical modules. CENTRICAL F has fixed table height, and is available in 2 m (14MP) or 1,5 m (10MP) lengths.



### CENTRICAL CF FIXED HEIGHT CORNER ELEMENT

A corner element can be used between two straight benches to form a corner bench combination.



## CENTRICAL TABLETOP

# CENTRICAL TT

## TABLETOP SOLUTION

CENTRICAL Tabletop Case is a convenient solution if you already have tables in your workshop.



# CENTRICAL PANEL

## TABLETOP SOLUTION

CENTRICAL Panel is a movable instrument panel for calibration workshops, compatible with existing benches to enhance pressure and temperature calibration capabilities.



7

## CENTRICAL TROLLEY

# CENTRICAL TRT

## TEMPERATURE CALIBRATION TROLLEY

CENTRICAL trolleys are movable solutions if there is a need to move the calibration equipment around the workshop. Trolley can be equipped with the same modules as the benches.



# Calibration products

8

## Beamex MC6-WS

### Advanced Workshop Calibrator and Communicator

The Beamex MC6-WS is the heart of the Beamex CENTRICAL workshop calibration solution.

The MC6-WS is a high-accuracy, panel-mounted workshop calibrator and communicator, that combines advanced functionality with ease-of-use. It offers calibration capabilities for pressure, temperature, and various electrical signals, and can be used as multi-bus communicator for fieldbus instruments.

The MC6-WS contains a multi-bus field communicator for HART, FOUNDATION Fieldbus, and Profibus PA protocols to calibrate, configure, and trim your smart instruments. Calibrations can be executed automatically, digitally capturing data at source and storing calibration results securely. The MC6-WS is a documenting calibrator that communicates with Beamex calibration management software, enabling a fully digitalized calibration process.



#### Summary of measurement, generation and simulation functions

- Pressure measurement
- Voltage measurement and generation
- Current measurement and generation
- Frequency measurement and generation
- Pulse counting and generation
- Switch state sensing
- Built-in 24 VDC loop supply
- Resistance measurement (two simultaneous channels) and simulation
- RTD measurement (two simultaneous channels) and simulation
- TC measurement (two simultaneous channels) and simulation
- HART communicator
- FOUNDATION Fieldbus communicator
- Profibus PA communicator







## Pressure Modules

Beamex offers a wide range of pressure measurement capabilities, from vacuum up to 1000 bar (14,500 psi). Panel-mounted pressure modules can be installed to the instrument panel in CENTRICAL calibration bench, trolley or tabletop solutions.

MC6-WS can hold up to 10 pressure modules, connected to the calibrator internally. EXT CENTRICAL are panel-mounted external pressure modules that can be used with all Beamex multifunction calibrators. One external module at a time can be connected to the calibrator using the PX port on the calibrator and an EXT cable.

All ranges from barometric up to 600 bar are available as internally connected modules and EXT CENTRICAL

externally connected modules. 1000 bar is available as portable EXT module only.



| PRESSURE MODULE   | UNIT                              | RANGE  |
|-------------------|-----------------------------------|--|
| <b>Barometric</b> | kPa a<br>mbar a<br>psi a          | 70 ... 120<br>700 ... 1200<br>10.15 ... 17.4 |
| <b>P10mD</b>      | kPa diff<br>mbar diff<br>iwc diff | ±1<br>±10<br>±4                              |
| <b>P100m</b>      | kPa<br>mbar<br>iwc                | 0 ... 10<br>0 ... 100<br>0 ... 40            |
| <b>P400mC</b>     | kPa<br>mbar<br>iwc                | ±40<br>±400<br>±160                          |
| <b>P1C</b>        | kPa<br>bar<br>psi                 | ±100<br>±1<br>-14.5 ... 15                   |
| <b>P2C</b>        | kPa<br>bar<br>psi                 | -100 ... 200<br>-1 ... 2<br>-14.5 ... 30     |
| <b>P6C</b>        | kPa<br>bar<br>psi                 | -100 ... 600<br>-1 ... 6<br>-14.5 ... 90     |

| PRESSURE MODULE | UNIT              | RANGE                                       |
|-----------------|-------------------|---|
| <b>P20C</b>     | kPa<br>bar<br>psi | -100 ... 2000<br>-1 ... 20<br>-14.5 ... 300 |
| <b>P60</b>      | kPa<br>bar<br>psi | 0 ... 6000<br>0 ... 60<br>0 ... 900         |
| <b>P100</b>     | MPa<br>bar<br>psi | 0 ... 10<br>0 ... 100<br>0 ... 1500         |
| <b>P160</b>     | MPa<br>bar<br>psi | 0 ... 16<br>0 ... 160<br>0 ... 2400         |
| <b>P250</b>     | MPa<br>bar<br>psi | 0 ... 25<br>0 ... 250<br>0 ... 3700         |
| <b>P600</b>     | MPa<br>bar<br>psi | 0 ... 60<br>0 ... 600<br>0 ... 9000         |
| <b>EXT1000</b>  | MPa<br>bar<br>psi | 0 ... 100<br>0 ... 1000<br>0 ... 15000      |



# Calibration products

10

## Pressure Output Modules

The PO modules are designed to regulate vacuum and pressure sources with high precision. For pressures up to 20 bar (290 psi), a regulator in combination with an adjustable volume is used to help achieve the exact pressure. The high-pressure module is provided with high-pressure regulator combined with ball valves for coarse adjustment and needle valves for fine adjustment.



| MODULE | RANGE                              |
|--------|------------------------------------|
| P08C   | -1 ... 8 bar g / -14.5 ... 116 psi |
| P020   | 0 ... 20 bar g / 0 ... 290 psi     |
| P0210  | 0 ... 210 bar g / 0 ... 3045 psi   |

## Beamex POC8 Automatic Pressure Controller

The Beamex POC8 is an accurate and user-friendly automatic pressure output controller, providing regulated output from vacuum to 210 bar (3045 psi). A POC8 can be equipped with 1-2 internal pressure measurement modules and an optional barometric module. The POC8 can be integrated to the Beamex CENTRICAL Workshop Calibration Solution or delivered as a standalone version.



Together with Beamex MC6 family calibrators and Beamex calibration management software, the POC8 offers a fully automated solution for performing, documenting and managing pressure calibrations easily, efficiently and accurately.

| FEATURE      | SPECIFICATION   |
|--------------|---|
| Output range | <ul style="list-style-type: none"> <li>± 350 mbar (±5 psi)</li> <li>± 1 bar (±14.5 psi)</li> <li>-1 ... 6 bar (-14.5 ... 87 psi)</li> <li>-1 ... 10 bar (-14.5 ... 150 psi)</li> <li>-1 ... 20 bar (-14.5 ... 290 psi)</li> <li>-1 ... 100 bar (-14.5 ... 1450 psi)</li> <li>-1 ... 210 bar (-14.5 ... 3045 psi)</li> <li>Special range within -1 ... 210 bar (-14.5 ... 3045 psi)</li> </ul> |

# IMOD – Intelligent and modular control unit

The IMOD is the central control unit that controls up to 5 connected modules such as multimeter, function generation, laboratory power supply and AC power supply.

The large 7-inch touch screen in the IMOD makes it easy to use.

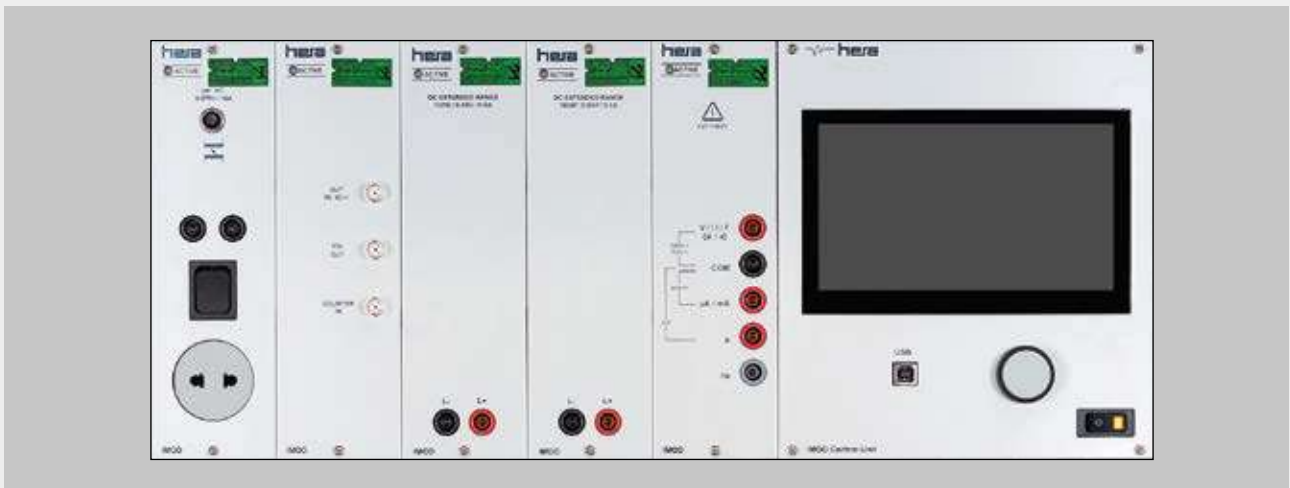
## 1. IMOD Control Unit

IMOD control-unit TOUCH, 7" TFT-display (800x480), capacitive touch panel and rotary switch dial operation, USB-interface in front panel, LAN-interface at the rear panel, with illuminated switch, 1.5 MP wide. Selected options define functionality.

## 2. Lab Power Supply

IMOD lab power supply extended range 160 W (SMPS), 0–84 V / 0–5 A, 2-channel, accuracy <0.2%, overvoltage protection, 0.5 MP wide (functional unit in separate housing), IMOD\_CU can be equipped with 2 PCS of IMOD\_DC UNIT, serial connection 0–168 V / 0–5 A, Parallel connection 0–84 V / 0–10 A.

11



## 3. AC sources

IMOD AC-source, 1-phase, 0–270 V / 0–10 A floating, motor-driven variac, thermomagnetic fuse, output 4mm jacks and universal socket, floating, with output switch, 0.5 MP wide (functional unit in separate housing)

## 4. Multimeter

IMOD multimeter, voltages and currents DC/AC, resistance, frequency, capacitance, diode test, continuity test, manual and automatic range selection, 0.5 MP wide

## 5. Function Generator

IMOD function generator, sinus, triangle, saw-tooth, pulse and DC voltage, output 3 x BNC-sockets, 0.5 MP wide

# Other modules

Power supplies

Multimeters

Oscilloscopes

Function generators

Soldering

Isolated transformers

Vacuum pumps

Accessories

12



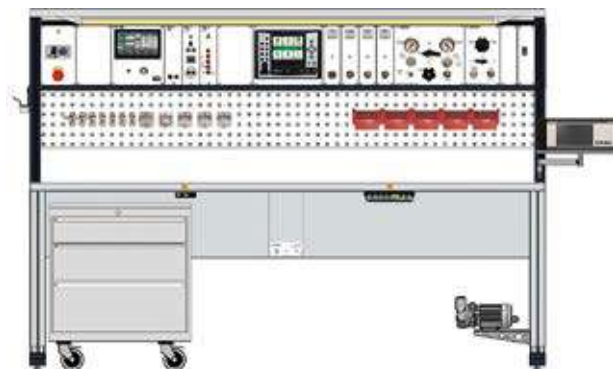
# Built to meet YOUR SPECIFIC REQUIREMENTS

BEAMEX HAS VARIOUS SAMPLE LAYOUTS FOR INDUSTRY- AND APPLICATION-SPECIFIC CENTRAL MODULAR CALIBRATION AND TEST BENCH

## EXAMPLE CONFIGURATIONS

13

### 1. PRESSURE CALIBRATION BENCH

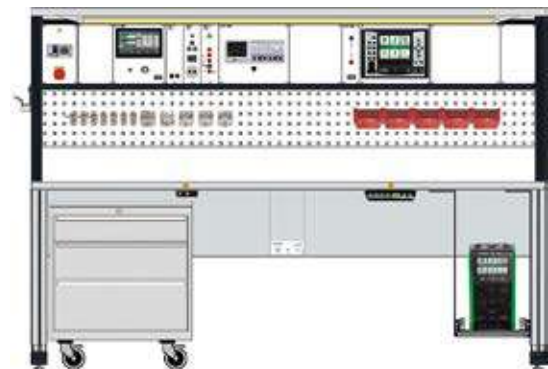


**Highly accurate pressure calibration facility for ranges from vacuum to 1000 bar.**

#### APPLICATIONS

- Periodic calibration of process instruments, such as:
  - Pressure transmitters, sensors, gauges, switches, recorders
  - Differential pressure transmitters
  - I/P converters
  - HART, Profibus PA, FOUNDATION Fieldbus instruments

### 2. TEMPERATURE CALIBRATION BENCH



**Efficient calibration of temperature and electrical instruments.**

#### APPLICATIONS

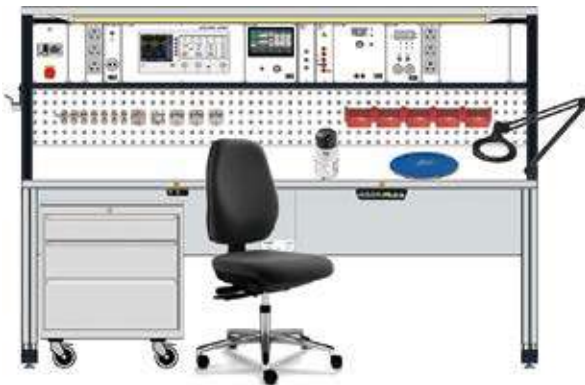
- Periodic calibration of process instruments, such as:
  - Temperature transmitters, sensors, indicators, switches, recorders
  - Thermocouples and RTDs
  - Electrical limit switches
  - Frequency meters, tachometers, pulse meters
  - HART, Profibus PA, FOUNDATION Fieldbus instruments



## EXAMPLE CONFIGURATIONS

14

### 3. ELECTRICAL AND ELECTRONIC REPAIR BENCH



**ESD-protected facility for safe handling of PCBs and components.**

#### APPLICATIONS

- Testing and maintenance of electrical and electronic devices
- Soldering and de-soldering of surface-mounted and traditional electronic components

### 4. CALIBRATION TROLLEY



**Movable trolley with accurate and versatile calibration modules.**

#### APPLICATIONS

- Periodic calibration of process instruments, such as:
  - Pressure transmitters, sensors, gauges, switches, recorders, I/P converters
  - Temperature transmitters, sensors, indicators, switches, recorders
  - Thermocouples and RTD's
  - Electrical limit switches
  - Frequency meters, tachometers, pulse meters
  - HART, Profibus PA, FOUNDATION Fieldbus instruments



beamex

[www.beamex.com](http://www.beamex.com)