

# CalBench™ Packages

Pre-configured CalBench solutions for industrial  
calibration and testing applications





## Contents

*An overview of the sections in the CalBench Packages Brochure*



### Introduction

About Time Electronics Ltd .....	<b>3 - 6</b>
About CalBench .....	<b>7 - 10</b>
Introduction to CalBench Packages .....	<b>11 - 12</b>



### Process Instrumentation CalBenches

CalBenches for process, pressure and temperature instrumentation calibration.

CBP-PROC1 CalBench Package .....	<b>13 - 14</b>
CBP-PROC2 CalBench Package .....	<b>15 - 16</b>
CBP-PROC3 CalBench Package .....	<b>17 - 18</b>



### Pressure Calibration CalBenches

CalBenches for calibration of pressure devices such as gauges, transmitters, switches.

CBP-PRES1 CalBench Package .....	<b>19 - 20</b>
CBP-PRES2 CalBench Package .....	<b>21 - 22</b>
CBP-PRES3 CalBench Package .....	<b>23 - 24</b>



### Wide Workload CalBenches

CalBenches for electrical, temperature, pressure and process calibration.

CBP-WW1 CalBench Package .....	<b>25 - 26</b>
CBP-WW2 CalBench Package .....	<b>27 - 28</b>
CBP-WW3 CalBench Package .....	<b>29 - 30</b>



## Electrical Calibration CalBenches

CalBenches for calibration of engineers test tools, meters, and electrical safety testers.

CBP-ELEC1 CalBench Package.....	31 - 32
CBP-ELEC2 CalBench Package.....	33 - 34
CBP-ELEC3 CalBench Package.....	35 - 36



## Repair and Maintenance CalBenches

CalBenches for general electrical work, repairs, troubleshooting, soldering and re-work.

CBP-RM1 CalBench Package.....	37 - 38
CBP-RM2 CalBench Package.....	39 - 40
CBP-RM3 CalBench Package.....	41 - 42



## Instrumentation Training CalBenches

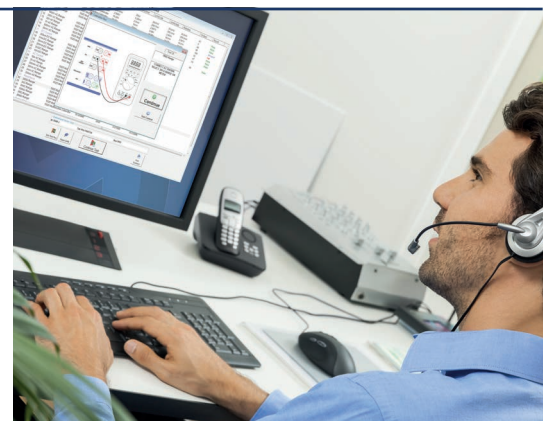
CalBenches for instrument engineer and technician training and education.

CBP-TRN1 CalBench Package.....	43 - 44
CBP-TRN2 CalBench Package.....	45 - 46
CBP-TRN3 CalBench Package.....	47 - 48



## Custom CalBenches and Services

Pre-Sales Services - CalBench Configuration Consultancy.....	49
After Sales Services - On-Site Installation, Commissioning and Training.....	50
After Sales Services - On-Site Calibration and Maintenance Service.....	50
After Sales Services - Factory Acceptance Testing and UK Based Training.....	50
After Sales Services - Online Training and Support.....	50







## Driven by Innovation

Time Electronics has been manufacturing test and measurement solutions for over 55 years.

Innovation and continuous improvement has enabled us to create a diverse range of products and services that help solve the problems our customers have today and prepare them for the challenges of tomorrow.



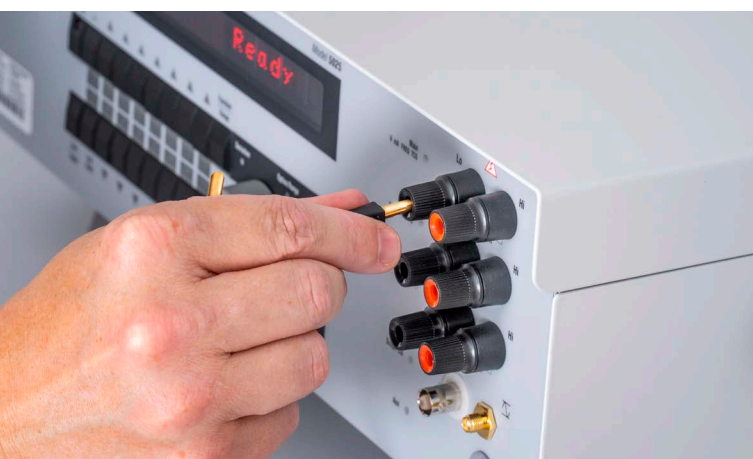
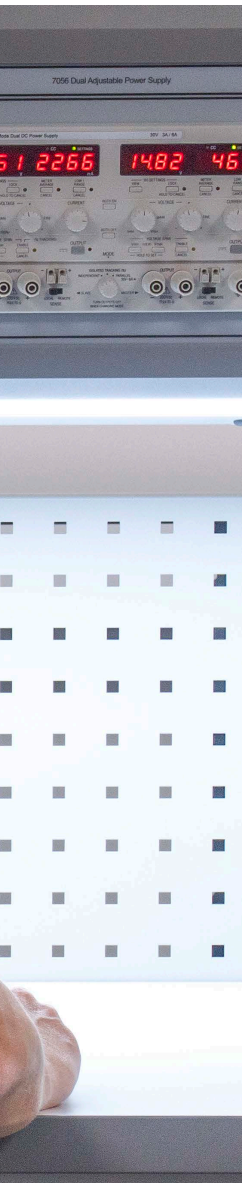


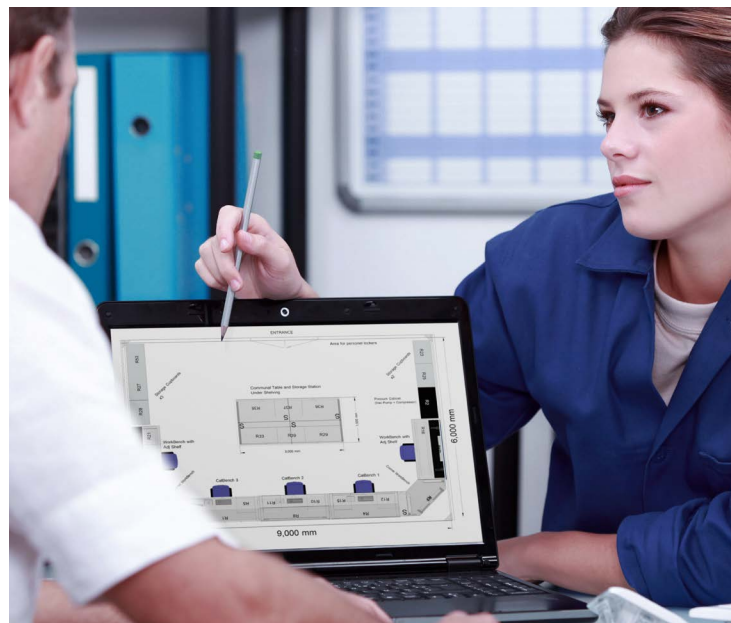
# Over 55 years of manufacturing precision instruments for test and measurement.

Established in 1967 Time Electronics Ltd is an UK based company that designs and manufactures calibration and metrology instruments. Our comprehensive range of products provides users with solutions for test and measurement applications within their respective industries.

Models include decade boxes, electrical calibrators, digital multimeters, process calibrators, pressure testing instruments and calibration software. In addition we manufacture customised multifunction test benches, and design and supply turnkey calibration labs, electrical and instrument workshops, and engineer training centres.

During our 55 years of continuous development we have used innovative engineering to develop performance products for automated calibration applications. Our software driven solutions enable users to manage, automate, and optimise the calibration process. They increase efficiency and productivity, reduce testing times and provide customers with the features and capabilities to achieve compliance with quality standards.









## Providing Solutions to Industries Worldwide

Quality is an integral part of our company philosophy. In addition to building accurate and durable test instruments we provide extensive technical support.

We focus on establishing strong business relationships based on customer satisfaction and commitment to providing quality products and services. Our approach is to prioritise consultancy to ensure solutions cover applications.

This has given us a valuable reputation with organisations worldwide, and is one reason for our continued success in international markets. We have a global distribution network and are represented by companies with strong technical capabilities and skilled engineers. Time Electronics Ltd is accredited to ISO 9001:2015.



# Calibration Benches



CalBenches provide an ergonomic workstation for a comprehensive calibration program. They are designed for flexibility and wide workload. The modules deliver precision and performance for their dedicated use, and accompanying products complete the solution to ensure coverage of all end user requirements.

Automating test applications is a core benefit of CalBench. Control & readback functionality enables rapid calibration work to be performed. Software driven calibration allows users to control the process from start to finish, from scheduling to certificate issuance.





# CalBench

## The Ultimate Calibration Workstation

CalBench is a system that provides users with a compact working environment to cover multiple applications in test and measurement. It is ideal for companies looking to implement an ergonomic and organised calibration process, with a primary workstation covering the bulk of the testing workload. When utilised in workshops within industrial plants, CalBench provides a turnkey solution to enable users to achieve compliance with quality standards.

CalBench provides an integrated approach to housing master instruments as modules into a console mounted above the work bench. The system is a unified solution that replaces the requirement for multiple benchtop and portable test instruments. CalBenches are built to cover the parameters common to industrial sectors, primarily electrical, pressure, temperature, process and frequency.

Modules are the key components of CalBench, they fit into the consoles to cover required applications. Time Electronics have a comprehensive module range that features electrical and process calibrators, pressure controllers and digital gauges, power supplies, oscilloscopes and more. They are designed to optimise calibration work and increase output. This is possible by seamless integration of hardware and software to enable users to automate testing. With CalBench automation users can perform rapid calibration runs and achieve fast turnarounds of instruments and devices coming through the lab. To complement CalBench, a wide range of accompanying instruments and equipment is available.





## CalBench Calibration Capabilities

### Pressure

Gauges, calibrators, transducers, transmitters, indicators, switches, valves, controllers, manometers, chart recorders.

### Temperature

Sensors, transmitters, indicators, RTDs, thermocouples, recorders, controllers, thermometers, process calibrators, PRTs, thermistors.

### Electrical and Electronic

Multimeters, AC/DC signal sources, clamp meters, data loggers, tachometers, continuity testers, decade boxes, RCL meters, power meters, conductance meters, insulation testers, installation testers, micro ohm meters, portable appliance testers, power supplies.

### Frequency

Oscilloscopes, frequency meters, frequency counters, timer counters, current probes.

### Dimensional and Mechanical

Torque wrenches, pulse tools, power tools, verniers, calipers, micrometers, depth gauges, plug gauges, analytical balances, scales.





## Providing a Complete Solution

CalBench utilises the modules for the main calibration and testing workload. Accompanying products are used to supplement applications or perform specific tasks. Software compatibility of both modules and test instruments ensures a unified system, enabling users to automate calibration on CalBench or externally.

### Modules

- Process Calibrators
- Electrical Calibrators
- Pressure Controllers
- Digital Pressure Gauges
- Digital Multimeters
- Function Generators
- Decade Boxes
- Frequency Counters
- Oscilloscopes
- Power Supplies

### Accompanying Products

- Dry Block Calibrators
- Compressors
- Pressure Pumps
- UUT stands
- Soldering Stations
- Workshop Furniture
- Tools and Service Kits
- Adaptors, Accessories
- Field Calibrators
- Calibration Software



13 - 18

### Process Instrumentation CalBenches

The CBP-PROC series of CalBench packages are our most popular solutions used in instrument workshops in oil & gas, mining, power and processing industries. They provide users with a single workstation for the testing, commissioning and periodic calibration of plant devices and instrumentation. They are also used for fault-finding, troubleshooting and diagnostics, as well as engineer and technician training.

- CBP-PROC1, CBP-PROC2, CBP-PROC3 packages
- Dedicated process instrumentation calibration benches
- Process calibrator module with multimeter & PC control centre
- Source & measure voltage, current, resistance, frequency and more
- RTD & thermocouple simulation/measurement, HART communication
- Pressure calibration modules for pneumatic and hydraulic work
- Fixed and variable DC power supply modules
- Dry block calibrators, pressure pumps, adaptors, test stands
- Automated calibration using EasyCal software, peripherals included
- Bench fittings and storage solutions included



19 - 24

### Pressure Calibration CalBenches

Our pressure CalBench packages feature modules and accompanying products for testing and verifying instrumentation such as transmitters, gauges and switches. These packages are similar to the CBP-PROC process CalBench packages but have more focus on pressure work than temperature calibration coverage. Additionally, the pressure modules and extras in each package can be customised to end user requirements, meaning we can modify the ranges to match your instrumentation at site.

- CBP-PRES1, CBP-PRES2, CBP-PRES3 packages
- Pneumatic and hydraulic pressure calibration modules
- Automatic pressure controllers (CBP-PRES1 & 2)
- Process calibrator module with multimeter & PC control centre
- Electrical vacuum and pressure pumps, manual hand pumps
- Complete with adaptors, fittings, manifolds, test stands
- Fixed and variable DC power supply modules
- Automated calibration using EasyCal software, peripherals included
- Bench fittings and storage solutions included



25 - 30

### Wide Workload CalBenches

The wide workload CalBench packages have been designed for companies requiring a single workstation to cover multiple calibration disciplines and functions. Each package features modules and extras for electrical, electronic, pressure and temperature calibration. These multi-parameter systems all run EasyCal calibration software on PC control centre modules situated centrally in their consoles.

- CBP-WW1, CBP-WW2, CBP-WW3 packages
- Multi-instrument calibration for electrical, temperature, pressure
- Multifunction electrical calibrator and control centre modules
- Source/measure voltage, current, resistance, frequency and more
- RTD & thermocouple simulation and measurement
- Automatic pressure controllers (CBP-WW1 & 2)
- Precision pressure measurement modules
- Benchtop pumps, adaptor kit and electrical vacuum pumps
- Fixed and variable DC power supply modules
- Oscilloscopes, function generator and frequency counter modules
- Dry block calibrators and various accessories supplied





## Electrical Calibration CalBenches

Our electrical calibration bench packages are multifunction systems for calibrating engineers test tools and electronic devices. They incorporate modules and accompanying products that enable users to perform electrical calibration of products like multimeters, clamp meters, insulation and installation testers. Each package has precision electrical source and measurement capabilities to perform the necessary calibration applications.

- CBP-ELEC1, CBP-ELEC2, CBP-ELEC3 packages
- Calibrate electrical & electronic test tools
- Source/measure V, I,  $\Omega$ , frequency & more
- Electrical multifunction calibrator module
- Simulate & measure RTDs, thermocouples
- Electrical test modules, scopes, function generators
- Variable AC and DC power supply modules
- Products for service work like soldering and repairs
- Antistatic workstation kit with matting included



## Repair & Maintenance CalBenches

Repair and maintenance CalBench packages are systems for service work in labs and workshops. They are also popular in educational environments where students need to learn the usage of various types of test equipment. The CBP-RM packages are configured based on commonly performed R&M applications, including electrical fault finding and component repairs.

- CBP-RM1, CBP-RM2, CBP-RM3 packages
- CalBenches for R&M, diagnostics, fault finding and analysis
- Suitable for E&I workshops in process and power plants
- Oscilloscope and digital multimeter modules
- Variable AC and DC power supply modules
- Function generator and frequency counter modules
- Solder and re-work module with accompanying benchtop extras
- Antistatic mats included, with bonding plugs, wrist strap & leads
- Comprehensive kits with electronics service tools



## Instrumentation Trainer CalBenches

CalBenches designed for training purposes in the process and oil & gas industries. These packages contain a selection of modules and extras to enable different methods of running testing applications, making them ideal for teaching the practicals of calibration and instrumentation. Additionally the CalBench is the optimal workspace to teach engineers about the importance of calibration, quality control and management.

- CBP-TRN1, CBP-TRN2, CBP-TRN3 packages
- For educational facilities teaching process instrumentation courses
- Process calibrator module with multimeter & PC control centre
- RTD & thermocouple simulation and measurement
- Regulated low pressure pneumatic modules
- Dual user CalBench for 2 students (CBP-TRN2)
- Fixed and variable DC power supply modules
- Accessories including adaptors, fittings, manifolds, test stands
- Storage solutions, document holders and tool kits





## CBP-PROC1: Process CalBench Package

*A pre-configured CalBench for the calibration of process and pressure instrumentation*



### About the Process CalBench

The CBP-PROC1 CalBench is a package that provides users with the capabilities to perform rapid calibration of process and pressure instrumentation. It is an ideal solution for instrument workshops that require a high performance workstation as the platform for calibration of plant devices and instruments.

- Dedicated process instrumentation calibration bench
- Process calibrator module with 6.5 digit multimeter and PC control centre
- Source and measure voltage, current, resistance, frequency and more
- RTD & thermocouple simulation and measurement, HART communication
- Automatic pressure controller module for vacuum to 20 bar (300 psi)
- Regulated pneumatic pressure calibration module for 0 to 200 bar (3000 psi)
- Precision pressure measurement modules for pneumatic, hydraulic, & differential
- Benchtop pumps, pressure adaptor kit, manifold and electrical vacuum pump
- Fixed and variable DC power supply modules for powering devices under test
- Temperature interface module for batch thermocouple calibration
- Dry block calibrators for temperature sourcing, automatic control via EasyCal
- Automated calibration using EasyCal software with printers and extras supplied
- Storage solutions include 5 drawer unit, under bench holder, perfo panel fittings

### Calibration Capabilities

#### Pressure

Gauges, calibrators, transducers, transmitters, indicators, switches, valves, controllers, manometers, chart recorders.

#### Temperature

Temperature sensors, indicators, thermocouple and RTD transmitters, recorders, controllers, thermometers, process calibrators, PRTs, thermistors.

#### Electrical and Process

Calibrators, mV/mA meters, decade boxes, flow totalizers, DP flow transmitters, pulse meters, tachometers, counters.





## CBP-PROC1: Items in the Package

*The modules and items in the CBP-PROC1 Process CalBench package*



Item #	Qty	Code	Basic Description	Basic Purpose
1	1	7080-HD	CalBench Heavy Duty Version (W 2000 x D 850 x H 1568 mm) Framework bench style with worktop, perforated panel, primary console with 7082 mains power controller module.	Provides an ergonomic workspace for various calibration applications. Modules below to be fitted to the primary console for testing workload.
2	1	7137	Perfo Panel Option: 40 piece Tool Hook Kit	For holding various tools and accessories.
3	1	7139	Perfo Panel Option: Shelf (W 450 x D 250 x H 130 mm)	Suitable for storing equipment and tools.
4	1	7133	Magnet Set for Perfo Panel (10 x round, 10 x hook type)	For securing documents and small tools to perfo panel.
5	1	7132	5 Drawer Unit (W 525 x D 550 x H 600 mm)	For storage of equipment, tools, documents etc.
6	3	7134	Slotted Divider Kit for drawers inside 7132	Partitions the drawer units for parts and components.
7	1	7123	CPU/Dry Block Calibrator Holder	For storing dry block calibrators when not in use.
8	1	8060+	Process Calibrator and Control Centre Module Advanced system package for precision source and measure capabilities. Integral process calibrator, 6.5 digit multimeter, PC and EasyCal software. Operation via 12.1" touch screen display. Built-in communication with compatible modules.	Source and measure process signals for electrical, frequency, temperature. Enables users to calibrate process instrumentation like transmitters, RTDs, thermocouples and more. EasyCal software and accessories included for automation, administration and certificate generation.
9	1	CCPAD	Control Centre Numeric Keypad Module with jog dial	Ergonomic method of data entry to EasyCal software.
10	1	8030B/G20b/CV2b/ BARO	Automatic Pressure Calibrator Module with multiple ranges Sensor 1: 0 to 20 bar (300 psi), 0.01 % FS accuracy. Sensor 2: Vacuum to 2 bar (30 psi), 0.01 % FS accuracy. Sensor 3: Barometric Reference.	For automated pressure calibration. 20 bar range for workload pneumatic testing of gauges, transmitters etc. Ranges can be modified as per customer requirements.
11	1	RMTEG-G200b/0.02	Digital Pressure Gauge Module with Regulator 0 to 200 bar (3000 psi), 0.02 % FS accuracy.	For high range pneumatic calibration work, with a line supply typically from a gas cylinder to enable regulator adjustment.
12	1	XTEG-G700b/0.02/M	Pressure Measurement Module with Control Centre Interface 0 to 700 bar (10,000 psi), 0.02 % FS accuracy.	For hydraulic calibration with accompanying pump.
13	1	XTEG-G100b/0.02/M	Pressure Measurement Module with Control Centre Interface 0 to 100 bar (1500 psi), 0.02 % FS accuracy.	For mid/high range pneumatic calibration work. Used with 7194A pump or T-piece method from RMTEG-G200b/0.02.
14	1	XTEG-CV2b/0.02/M	Pressure Measurement Module with Control Centre Interface Vacuum to 2 bar (30 psi), 0.02 % FS accuracy.	For low range pressure calibration. Used with 7191 pump or T-piece method from 8030B module.
15	1	XTEG-DP700mb/0.02/M	Differential Pressure Measurement Module, Control Centre Interface 0 to ± 700 mbar (10 psi), 0.02 % FS accuracy.	For differential pressure calibration of transmitters etc. Used with 7191 pneumatic pump for fine control input.
16	1	XTEG-DP200mb/0.05/M	Differential Pressure Measurement Module, Control Centre Interface 0 to ± 200 mbar (3 psi), 0.05 % FS accuracy.	For low range differential pressure calibration of transmitters etc. Used with 7191 pneumatic pump for fine control input.
17	1	7085A	Auto Switching Temperature Distribution Module	Connection module with scanner to enable batch testing of temperature devices like thermocouples.
18	1	7052	30 V DC 3 A Adjustable Power Supply Module - Digital	A variable DC supply to supplement various applications.
19	1	7087	Quad DC Power Supply Module 6 V (20 A), 12 V (10 A), 24 V (6 A), 48 V (3 A).	Provides a DC power supply to various loop instrumentation under test.
20	1	7149	Electrical Vacuum Pump	Provides a vacuum for the 8030B controller module.
21	1	7149-HCO	Housing and Connectivity Option for the 7149 vacuum pump	Compact housing for the 7149 pump, situated under bench.
22	1	7195	Benchtop Hydraulic Pressure Calibration Pump Vacuum to 700 bar (10,000 psi).	Provides hydraulic pressure to 700 bar XTEG module.
23	1	7194A	Benchtop Pneumatic High Pressure Calibration Pump Vacuum to 200 bar (3000 psi).	Pressure generation to 200 bar, suitable for use with pressure modules when compressed air source is not available.
24	1	7191	Pneumatic Benchtop Pump Vacuum to 4 bar (60 psi).	Enables precise, fine control input of low pressure for pneumatic work. Suitable for use with XTEG measurement modules.
25	1	7161P	Quad Port Benchtop Pneumatic Pressure Calibration Manifold For input pressures from vacuum to 200 bar (3000 psi).	For use with the 8030B & RMTEG pressure output modules, enabling multiple pressure UUTs to be set up and tested.
26	1	7198	Pressure Calibration Accessories Kit A comprehensive selection of fittings, adaptors and hoses.	Provides all the required pressure connections and fittings for modules and pumps to UUTs.
27	1	8100	Instrumentation Test Stand	For positioning of UUTs like transmitters & gauges on benchtop.
28	1	8072	Dry Block Calibrator (28 to 660 °C) with metric multi hole insert (1x3,2x4,1x5,1x6,1x9 mm), blank insert, EasyCal software driver.	Temperature source for the calibration of probes, RTDs, and more. Automated operation with 8060+, EasyCal and 7085A.
29	1	8072-METP	Pack of 16 Metric Inserts for 8072: 3 mm to 20 mm holes	Inserts for use with different probe sizes, used with 8072.
30	1	8073	Dry Block Calibrator (100 to 1205 °C) with metric multi hole insert (3,4,6 mm), blank insert, EasyCal software driver.	Temperature source for the calibration of thermocouples. Automated operation with 8060+, EasyCal and 7085A.
31	1	8073-METP	Pack of 10 Metric Inserts for 8073: 3,4,5,6,7,8,9,10,11,12 mm	Inserts for use with different probe sizes, used with 8073.
32	1	8002	CalBench Environmental Monitoring System	Measures and logs temperature, relative humidity and barometric pressure, with control centre interface.
33	1	CERTS	Traceable Calibration Certificates For all test modules and additional test equipment	Certifies all calibration modules and additional test instruments have been tested in the TE factory to international standards.



## CBP-PROC2: Process CalBench Package

*A pre-configured CalBench for process, temperature and pressure instrumentation calibration*



### About the Process CalBench

The CBP-PROC2 package is a high performance calibration workstation for testing and verifying process instrumentation. It has modules and extras to enable users to rapidly calibrate common pressure and temperature instruments such as transmitters, gauges, RTDs and thermocouples. It is an optimal solution for instrument workshops where users need to centralise their calibration and commissioning processes.

- Dedicated process instrumentation calibration bench
- Process calibrator module with 6.5 digit multimeter and PC control centre
- Source and measure voltage, current, resistance, frequency and more
- RTD & thermocouple simulation and measurement, HART communication
- Automatic pressure controller module for vacuum to 40 bar (600 psi)
- Regulated pneumatic pressure calibration module for 0 to 200 bar (3000 psi)
- Precision pressure measurement modules for pneumatic and hydraulic
- Benchtop pumps, pressure adaptor kit, manifold and electrical vacuum pump
- Fixed and variable DC power supply modules for powering devices under test
- Dry block calibrator for temperature sourcing, automatic control via EasyCal
- Automated calibration using EasyCal software with printers and extras supplied

### Calibration Capabilities

#### Pressure

Gauges, calibrators, transducers, transmitters, indicators, switches, valves, controllers, manometers, chart recorders.

#### Temperature

Temperature sensors, indicators, thermocouple and RTD transmitters, recorders, controllers, thermometers, process calibrators, PRTs, thermistors.

#### Electrical and Process

Calibrators, mV/mA meters, decade boxes, flow totalizers, DP flow transmitters, pulse meters, tachometers, counters.





## CBP-PROC2: Items in the Package

*The modules and items in the CBP-PROC2 Process CalBench package*



Item #	Qty	Code	Basic Description	Basic Purpose
1	1	7080-HD	CalBench Heavy Duty Version (W 2000 x D 850 x H 1568 mm) Framework bench style with worktop, perforated panel, primary console with 7082 mains power controller module.	Provides an ergonomic workspace for various calibration applications. Modules below to be fitted to the primary console for testing workload.
2	1	7137	Perfo Panel Option: 40 piece Tool Hook Kit	For holding various tools and accessories.
3	1	7139	Perfo Panel Option: Shelf (W 450 x D 250 x H 130 mm)	Suitable for storing equipment and tools.
4	1	7141	Perfo Panel Option: Storage Bin Strip (W 450 x H 75 mm) Supplied with 4 x 1 L bins.	For storage of components and small tools.
5	1	7157	Articulating Keyboard Tray for CalBench	Situates the keyboard and mouse for the control centre module operations. Can be positioned under bench when not in use.
6	1	8134	Mobile 4 Drawer Unit, ESD, RAL 7035 light grey colour	Mobile storage that can situate under the CalBench.
7	1	7123	CPU/Dry Block Calibrator Holder	For storing a dry block calibrator when not in use.
8	1	8060+	Process Calibrator and Control Centre Module Advanced system package for precision source and measure capabilities. Integral process calibrator, 6.5 digit multimeter, PC and EasyCal software. Operation via 12.1" touch screen display. Built-in communication with compatible modules.	Source and measure process signals for electrical, frequency, temperature. Enables users to calibrate process instrumentation like transmitters, RTDs, thermocouples and more. EasyCal software and accessories included for automation, administration and certificate generation.
9	1	CCPAD	Control Centre Numeric Keypad Module with jog dial	Ergonomic method of data entry to EasyCal software.
10	1	8030B/G40b/G20b/CV4b/BARO	Automatic Pressure Calibrator Module with multiple ranges Sensor 1: 0 to 40 bar (600 psi), 0.01 % FS accuracy. Sensor 2: 0 to 20 bar (300 psi), 0.01 % FS accuracy. Sensor 3: Vacuum to 4 bar (60 psi), 0.01 % FS accuracy. Sensor 4: Barometric Reference.	For automated pressure calibration. 40 bar range for workload pneumatic testing of gauges, transmitters etc. Supplied with contamination trap. Ranges can be modified as per customer requirements.
11	1	RMTEG-G200b/0.02	Digital Pressure Gauge Module with Regulator 0 to 200 bar (3000 psi), 0.02 % FS accuracy.	For high range pneumatic calibration work, with a line supply typically from a gas cylinder to enable regulator adjustment.
12	1	MTEG-G700b/0.02	Digital Pressure Gauge Module 0 to 700 bar (10,000 psi), 0.02 % FS accuracy.	For accurate hydraulic pressure measurement to 700 bar. Pressure input to the module from the 7195 benchtop pump.
13	1	XTEG-G100b/0.02/M	Pressure Measurement Module with Control Centre Interface 0 to 100 bar (1500 psi), 0.02 % FS accuracy.	For mid/high range pneumatic calibration work. Used with 7194A pump or T-piece method from RMTEG-G200b/0.02.
14	1	XTEG-CV20b/0.02/M	Pressure Measurement Module with Control Centre Interface Vacuum to 20 bar (300 psi), 0.02 % FS accuracy.	For reference pneumatic pressure calibration. Used with 7194A pump or T-piece method from 8030B module.
15	1	7056	Dual Adjustable Power Supply Module 2 x 30 V DC 3 A.	A variable DC supply to supplement various applications.
16	1	7087	Quad DC Power Supply Module 6 V (20 A), 12 V (10 A), 24 V (6 A), 48 V (3 A).	Provides a DC power supply to various instrumentation and devices under test.
17	1	7149	Electrical Vacuum Pump	Provides a vacuum for the 8030B controller module.
18	1	7149-HCO	Housing and Connectivity Option for the 7149 vacuum pump	Compact housing for the 7149 pump, situated under bench.
19	1	7195	Benchtop Hydraulic Pressure Calibration Pump Vacuum to 700 bar (10,000 psi).	Provides hydraulic pressure to 700 bar XTEG module.
20	1	7194A	Benchtop Pneumatic High Pressure Calibration Pump Vacuum to 200 bar (3000 psi).	Pressure generation to 200 bar, suitable for use with pressure modules when compressed air source is not available.
21	1	7161P	Quad Port Benchtop Pneumatic Pressure Calibration Manifold For input pressures from vacuum to 200 bar (3000 psi).	For use with the 8030B & RMTEG pressure output modules, enabling multiple pressure UUTs to be set up and tested.
22	1	7198	Pressure Calibration Accessories Kit A comprehensive selection of fittings, adaptors and hoses.	Provides all the required pressure connections and fittings for modules and pumps to UUTs.
23	1	8100	Benchtop Instrumentation Test Stand	For positioning UUTs on CalBench worktop.
24	1	8072	Dry Block Calibrator (28 to 660 °C) with metric multi hole insert (1x3,2x4,1x5,1x6,1x9 mm), blank insert, EasyCal software driver.	Temperature source for the calibration of probes, RTDs, and more. Automated operation with 8060+ and EasyCal software.
25	1	8072-METP	Pack of 16 Metric Inserts for 8072: 3 mm to 20 mm holes	Inserts for use with different probe sizes, used with 8072.
26	1	8002	CalBench Environmental Monitoring System	Measures and logs temperature, relative humidity and barometric pressure, with control centre interface.
27	1	CERTS	Traceable Calibration Certificates For all test modules and additional test equipment.	Certifies all calibration modules and additional test instruments have been tested in the TE factory to international standards.



## CBP-PROC3: Process CalBench Package

*A pre-configured CalBench for the calibration of temperature and pressure instrumentation*



### About the Process CalBench

The CBP-PROC3 CalBench is a package for testing and calibrating pressure, process, and temperature instrumentation. It is suitable for users that require a workstation that is easy to operate manually but can also perform software driven calibration applications. This makes it an ideal solution for all levels, from technicians learning calibration, to experienced test engineers.

- Heavy duty CalBench system for process instrumentation calibration
- Modular console for testing workload, external items to supplement applications
- Process calibrator module with 6.5 digit multimeter and PC control centre
- Source and measure voltage, current, resistance, frequency and more
- RTD & thermocouple simulation and measurement, HART communication
- Regulated pressure calibration modules for vacuum to 7 bar and 0 to 20 bar
- Precision digital pressure gauge modules for pneumatic and hydraulic calibration
- Benchtop pumps, pressure adaptor kit, manifold and electrical vacuum pump
- Fixed and variable DC power supply modules for powering devices under test
- Dry block calibrator for temperature sourcing, automatic control via EasyCal
- Automated calibration using EasyCal software with printers and extras supplied
- Storage solutions include 4 drawer unit, under bench holder, perfo panel fittings

### Calibration Capabilities

#### Pressure

Gauges, calibrators, transducers, transmitters, indicators, switches, valves, controllers, manometers, chart recorders.

#### Temperature

Temperature sensors, indicators, thermocouple and RTD transmitters, recorders, controllers, thermometers, process calibrators, PRTs, thermistors.

#### Electrical and Process

Calibrators, mV/mA meters, decade boxes, flow totalizers, DP flow transmitters, pulse meters, tachometers, counters.





## CBP-PROC3: Items in the Package

*The modules and items in the CBP-PROC3 Process CalBench package*



Item #	Qty	Code	Basic Description	Basic Purpose
1	1	7080-HD	CalBench Heavy Duty Version (W 2000 x D 850 x H 1568 mm) Framework bench style with worktop, perforated panel, primary console with 7082 mains power controller module.	Provides an ergonomic workspace for various calibration applications. Modules below to be fitted to the primary console for testing workload.
2	1	7125	Perfo Panel Option: 20 piece Tool Hook Kit	For holding various tools and accessories.
3	1	7139	Perfo Panel Option: Shelf (W 450 x D 250 x H 130 mm)	Suitable for storing equipment and tools.
4	1	7141	Perfo Panel Option: Storage Bin Strip (W 450 x H 75 mm) Supplied with 4 x 1 L bins.	For storage of components and small tools.
5	1	7124	4 Drawer Unit (W 525 x D 550 x H 600 mm)	For storage of equipment, tools, documents etc.
6	1	7123	CPU/Dry Block Calibrator Holder	For storing dry block calibrators when not in use.
7	1	8060+	Process Calibrator and Control Centre Module Advanced system package for precision source and measure capabilities. Integral process calibrator, 6.5 digit multimeter, PC and EasyCal software. Operation via 12.1" touch screen display. Built-in communication with compatible modules.	Source and measure process signals for electrical, frequency, temperature. Enables users to calibrate process instrumentation like transmitters, RTDs, thermocouples and more. EasyCal software and accessories included for automation, administration and certificate generation.
8	1	CCPAD	Control Centre Numeric Keypad Module with jog dial	Ergonomic method of data entry to EasyCal software.
9	1	RMTEG-CV7b/0.02	Digital Pressure Gauge Module with Regulator Vacuum to 7 bar (100 psi), 0.02 % FS accuracy.	For pneumatic calibration from vacuum to 7 bar (100 psi), used with the 7149 electrical vacuum pump and external air supply. Can be used manually with pump also.
10	1	RMTEG-G20b/0.02	Digital Pressure Gauge Module with Regulator 0 to 20 bar (300 psi), 0.02 % FS accuracy.	For mid range pneumatic work, with a line supply typically from a gas cylinder. Regulated output with precision digital gauge for reference calibration. Can be used manually with pump also.
11	1	RMTEG-G200b/0.02	Digital Pressure Gauge Module 0 to 200 bar (3000 psi), 0.02 % FS accuracy.	For high range pneumatic pressure measurement to 200 bar. Calibration work performed with the 7194A benchtop pump.
12	1	MTEG-G700b/0.02	Digital Pressure Gauge Module 0 to 700 bar (10,000 psi), 0.02 % FS accuracy.	For accurate hydraulic pressure measurement to 700 bar. Pressure input to the module from the 7195 benchtop pump.
13	1	7056	Dual Adjustable Power Supply Module 2 x 30 V DC 3 A.	A variable DC supply to supplement various applications.
14	1	7087	Quad DC Power Supply Module 6 V (20 A), 12 V (10 A), 24 V (6 A), 48 V (3 A).	Provides a DC power supply to various loop instrumentation under test.
15	1	7149	Electrical Vacuum Pump	Provides a vacuum that connects to the RMTEG-CV7b module, enabling regulation for negative pressure calibration work.
16	1	7149-HCO	Housing and Connectivity Option for the 7149 vacuum pump	Compact housing for the 7149 pump, situated under bench. Sound proofed and power control via 7082 module on CalBench.
17	1	7161	Benchtop Pneumatic Pressure Calibration Manifold Dual port for use from vacuum to 200 bar (3000 psi).	Provides a convenient UUT connection on the bench. Used with the RMTEG modules for calibration of pressure devices.
18	1	7115	Contamination Trap For pneumatic use from vacuum to 200 bar (3000 psi).	To protect pressure calibrators and controllers against impurities and residues released by pressure instrumentation under test.
19	1	7195	Benchtop Hydraulic Pressure Calibration Pump Vacuum to 700 bar (10,000 psi).	Hydraulic pressure to 700 bar. Used with MTEG-G700b module, with a dual output manifold for both UUT & module connection.
20	1	7194A	Benchtop Pneumatic High Pressure Calibration Pump Vacuum to 200 bar (3000 psi).	Pressure generation to 200 bar. Used with MTEG-G200b module, with a dual output manifold for both UUT & module connection.
21	1	7198	Pressure Calibration Accessories Kit A comprehensive selection of fittings, adaptors and hoses.	Provides all the required pressure connections and fittings for modules and pumps to UUTs.
22	1	8100	Instrumentation Test Stand	For positioning of UUTs like transmitters & gauges on benchtop.
23	1	8072	Dry Block Calibrator (28 to 660 °C) with metric multi hole insert (1x3,2x4,1x5,1x6,1x9 mm), blank insert, EasyCal software driver.	Temperature source for the calibration of probes, RTDs, and more. Automated operation with 8060+ and EasyCal software.
24	1	8072-METP	Pack of 16 Metric Inserts for 8072: 3 mm to 20 mm holes	Inserts for use with different probe sizes, used with 8072.
25	1	CERTS	Traceable Calibration Certificates. For all test modules and additional test equipment.	Certifies all calibration modules and additional test instruments have been tested in the TE factory to international standards.



## CBP-PRES1: Pressure CalBench Package

*A pre-configured CalBench for the calibration of pressure instrumentation*



### About the Package

The CBP-PRES1 CalBench is a package that provides users with the capabilities to perform rapid calibration of pressure instrumentation. It is an ideal solution for instrument workshops that require a high performance workstation as the platform for calibration of plant devices and instruments.

The bench features two 8030B auto-pneumatic controller modules for calibration work to 200 bar (3000 psi). The low range controller covers pressure to 20 bar (300 psi) with a vacuum to 2 bar (30 psi) sub-range. The line pressure and vacuum to this module is via electric pumps, meaning no requirement for an external supply. The high pressure controller has 2 ranges to 200 bar (3000 psi). Line pressure to this module is typically via a compressed air or N2 cylinder. A custom regulator kit is included, for fitting to the cylinder at site, with all necessary connections to the CalBench. Both controllers have barometric reference sensors that enable switching from gauge to absolute pressure.

Additional pressure modules include differential and gauge measurement modules for pneumatic and hydraulic testing applications. They can be used with the supplied benchtop pumps. Manifolds, test stand, adaptors and fittings are also provided.

The 8060+ module situates centrally in the console, providing source, simulation and measurement of process signals, HART communication and 24 V loop power. It features an integral multimeter, and a PC control centre with 12.1" touch screen display. Pressure control and readback applications are included. EasyCal software communicates with pressure modules, and can be used for automated calibration and test management.

### Features

- CalBench for automated pressure calibration work
- Pneumatic controller modules for vacuum to 200 bar (3000 psi)
- Multifunction process calibrator module with 6.5 digit multimeter
- Control centre module with 12.1" touch screen display
- Gauge and DP measurement modules with control centre interface
- Self-sufficient with electric vacuum & pressure pumps to 24 bar
- Regulator kit for high pressure cylinder supplied
- Pneumatic & hydraulic benchtop pumps, adaptor kit, UUT stand
- Fixed and variable DC power supply modules
- Automated calibration with EasyCal software, peripherals supplied
- Under bench drawer unit & holder, perforated panel fittings, tool kit





## CBP-PRES1: Items in the Package

*The modules and items in the CBP-PRES1 Process CalBench package*



Item #	Qty	Code	Basic Description	Basic Purpose
1	1	7080-HD	CalBench Heavy Duty Version (W 2000 x D 850 x H 1568 mm) Framework bench style with worktop, perforated panel, primary console with 7082 mains power controller module.	Provides an ergonomic workspace for various calibration applications. Modules below to be fitted to the primary console for testing workload.
2	1	7137	Perfo Panel Option: 40 piece Tool Hook Kit	For holding various tools and accessories.
3	1	7139	Perfo Panel Option: Shelf (W 450 x D 250 x H 130 mm)	Suitable for storing equipment and tools.
4	1	7123	Under Bench Holder	For storing the 7198 adaptors/fittings kit when not in use.
5	1	7132	5 Drawer Unit (W 525 x D 550 x H 600 mm)	For storage of equipment, tools, documents etc.
6	3	7134	Slotted Divider Kit for drawers inside 7132	Partitions the drawer units for parts and components.
7	1	8060+	Process Calibrator and Control Centre Module Advanced system package for precision source and measure capabilities. Integral process calibrator, 6.5 digit multimeter, PC and EasyCal software. Operation via 12.1" touch screen display. Built-in communication with pressure modules.	Source and measure process signals for electrical, frequency, temperature. Enables users to calibrate process instrumentation like transmitters. HART communication and integral 24 V DC supply. EasyCal software and accessories included for automation, administration and certificate generation.
8	1	CCPAD	Control Centre Numeric Keypad Module with jog dial	Ergonomic method of data entry to EasyCal software.
9	1	8030B/G20b/CV2b/ BARO	Automatic Pressure Calibrator Module with multiple ranges Sensor 1: 0 to 20 bar (300 psi), 0.01 % FS accuracy. Sensor 2: Vacuum to 2 bar (30 psi), 0.01 % FS accuracy. Sensor 3: Barometric Reference.	For automated pressure calibration. 20 bar range for workload pneumatic testing of gauges, transmitters etc. Ranges can be modified as per customer requirements.
10	1	8030B/G200b/G100b/ BARO	Automatic Pressure Calibrator Module with multiple ranges Sensor 1: 0 to 200 bar (3000 psi), 0.01 % FS accuracy. Sensor 2: 0 to 100 bar (1500 psi), 0.01 % FS accuracy. Sensor 3: Barometric Reference.	For automated high pressure calibration. 200 bar range for workload pneumatic testing of gauges, transmitters etc. Ranges can be modified as per customer requirements.
11	1	XTEG-G700b/0.02/M	Pressure Measurement Module with Control Centre Interface 0 to 700 bar (10,000 psi), 0.02 % FS accuracy.	For hydraulic calibration with accompanying pump.
12	1	XTEG-G100b/0.02/M	Pressure Measurement Module with Control Centre Interface 0 to 100 bar (1500 psi), 0.02 % FS accuracy.	For mid/high range pneumatic calibration work. Used with 7194A pump or T-piece method from 8030B modules.
13	1	XTEG-CV2b/0.02/M	Pressure Measurement Module with Control Centre Interface Vacuum to 2 bar (30 psi), 0.02 % FS accuracy.	For low range pressure calibration. Used with 7191 pump or T-piece method from 8030B modules.
14	1	XTEG-DP700mb/0.02/M	Differential Pressure Measurement Module, Control Centre Interface 0 to $\pm$ 700 mbar (10 psi), 0.02 % FS accuracy.	For differential pressure calibration of transmitters etc. Used with 7191 pneumatic pump for fine control input.
15	1	XTEG-DP200mb/0.05/M	Differential Pressure Measurement Module, Control Centre Interface 0 to $\pm$ 200 mbar (3 psi), 0.05 % FS accuracy.	For low range differential pressure calibration of transmitters etc. Used with 7191 pneumatic pump for fine control input.
16	1	7056	Dual Adjustable Power Supply Module 2 x 30 V DC 3 A.	A variable DC supply to supplement various applications.
17	1	7087	Quad DC Power Supply Module 6 V (20 A), 12 V (10 A), 24 V (6 A), 48 V (3 A).	Provides a DC power supply to various loop instrumentation under test.
18	1	7149	Electrical Vacuum Pump	Provides a vacuum to the 8030B controller module.
19	1	7149-HCO	Housing and Connectivity Option for the 7149 vacuum pump	Compact housing for the 7149 pump, situated under bench.
20	1	7195	Benchtop Hydraulic Pressure Calibration Pump Vacuum to 700 bar (10,000 psi).	Provides hydraulic pressure to 700 bar XTEG module.
21	1	7194A	Benchtop Pneumatic High Pressure Calibration Pump Vacuum to 200 bar.	Pressure generation to 200 bar, suitable for use with pressure modules when compressed air source is not available.
22	1	7191	Pneumatic Benchtop Pump Vacuum to 4 bar (60 psi).	Enables precise, fine control input of low pressure for pneumatic work. Suitable for use with XTEG DP measurement modules.
23	1	7161P	Quad Port Benchtop Pneumatic Pressure Calibration Manifold For input pressures from vacuum to 200 bar.	For use with the 8030B pressure controller modules, enabling multiple pressure UUTs to be set up and tested.
24	1	7198	Pressure Calibration Accessories Kit A comprehensive selection of fittings, adaptors and hoses.	Provides all the required pressure connections and fittings for modules and pumps to UUTs.
25	1	8100	Instrumentation Test Stand	For positioning of UUTs like transmitters & gauges on benchtop.
26	1	7165/G35b	Compact High Pressure Compressor	Provides a set line pressure of 24 bar (350 psi) to the 8030B pneumatic controller module.
27	1	XREG/210b-CUST	Pressure Regulator Kit for Compressed Air or N2 Cylinder	For fitting to a cylinder supplying line pressure to the CalBench. Connections, hoses and fittings supplied.
28	1	TL09	Mobile Extension Bench	Connects to CalBench tabletop to extend the workspace and provide additional storage.
29	1	8002	CalBench Environmental Monitoring System	Measures and logs temperature, relative humidity and barometric pressure, with control centre interface.
30	1	CERTS	Traceable Calibration Certificates For all test modules and additional test equipment.	Certifies all calibration modules and additional test instruments have been tested in the TE factory to international standards.



## CBP-PRES2: Pressure CalBench Package

*A pre-configured CalBench for pressure instrumentation calibration*



### About the Package

The CBP-PRES2 is a dedicated pressure calibration workstation with modules and extras that enable users to efficiently calibrate instrumentation like transmitters and gauges. It is an advanced system suitable for instrument workshops performing internal calibration and commissioning.

The CalBench features an 8030B auto-pneumatic controller module for calibration work from vacuum to 40 bar (600 psi). The line pressure and vacuum to this module is via the 7149 and 7165 electric pumps, meaning no need for an external supply. For higher range pneumatic work, a 100 bar (1500 psi) regulated module with digital gauge provides a practical calibration method with high accuracy reference. Line pressure to this module is typically via a compressed air or N2 cylinder. A custom regulator kit is included, for fitting to the cylinder at site, with all necessary connections to the CalBench.

Additional pressure calibration can be performed using high accuracy measurement modules for pneumatic and hydraulic applications. These are commonly utilised with the supplied benchtop pumps that feature dual outputs to connect both the module and UUT. Manifolds, test stand, adaptors and fittings are also provided.

The 8060+ module situates centrally in the console, providing source, simulation and measurement of process signals, HART communication and 24 V loop power. It features an integral multimeter, and a PC control centre with 12.1" touch screen display. Pressure control and readback applications are included. EasyCal software communicates with pressure modules, and can be used for automated calibration and test management.

### Features

- CalBench for automated pressure calibration work
- Pneumatic controller module for vacuum to 40 bar (600 psi)
- Regulated 100 bar (1500 psi) module with digital gauge
- Multifunction process calibrator module with 6.5 digit multimeter
- Control centre module with 12.1" touch screen display
- Pressure measurement modules with control centre interface
- Self-sufficient with electric vacuum & pressure pumps to 45 bar
- Regulator kit for high pressure cylinder supplied
- Pneumatic & hydraulic benchtop pumps, adaptor kit, UUT stand
- Fixed and variable DC power supply modules
- Automated calibration with EasyCal software, peripherals supplied
- Under bench mobile unit & holder, perforated panel fittings, tool kit





## CBP-PRES2: Items in the Package

*The modules and items in the CBP-PRES2 Process CalBench package*



Item #	Qty	Code	Basic Description	Basic Purpose
1	1	7080-HD	CalBench Heavy Duty Version (W 2000 x D 850 x H 1568 mm) Framework bench style with worktop, perforated panel, primary console with 7082 mains power controller module.	Provides an ergonomic workspace for various calibration applications. Modules below to be fitted to the primary console for testing workload.
2	1	7137	Perfo Panel Option: 40 piece Tool Hook Kit	For holding various tools and accessories.
3	1	7139	Perfo Panel Option: Shelf (W 450 x D 250 x H 130 mm)	Suitable for storing equipment and tools.
4	1	7157	Articulating Keyboard Tray for CalBench	Situates the keyboard and mouse for the control centre module operations. Can be positioned under bench when not in use.
5	1	7123	Under Bench Holder	For storing the 7198 adaptors/fittings kit when not in use.
6	1	8134	Mobile 4 Drawer Unit, ESD, RAL 7035 light grey colour	Mobile storage that can situate under the CalBench.
7	1	8060+	Process Calibrator and Control Centre Module Advanced system package for precision source and measure capabilities. Integral process calibrator, 6.5 digit multimeter, PC and EasyCal software. Operation via 12.1" touch screen display. Built-in communication with pressure modules.	Source and measure process signals for electrical, frequency, temperature. Enables users to calibrate process instrumentation like transmitters. HART communication and integral 24 V DC supply. EasyCal software and accessories included for automation, administration and certificate generation.
8	1	CCPAD	Control Centre Numeric Keypad Module with jog dial	Ergonomic method of data entry to EasyCal software.
9	1	8030B/G40b/G20b/CV4b/BARO	Automatic Pressure Calibrator Module with multiple ranges Sensor 1: 0 to 40 bar (600 psi), 0.01 % FS accuracy. Sensor 2: 0 to 20 bar (300 psi), 0.01 % FS accuracy. Sensor 3: Vacuum to 4 bar (60 psi), 0.01 % FS accuracy. Sensor 4: Barometric Reference.	For automated pressure calibration. 40 bar range for workload pneumatic testing of gauges, transmitters etc. Supplied with contamination trap. Ranges can be modified as per customer requirements.
10	1	RMTEG-G100b/0.02	Digital Pressure Gauge Module with Regulator 0 to 100 bar (1500 psi), 0.02 % FS accuracy.	For high range pneumatic calibration work, with a line supply typically from a gas cylinder to enable regulator adjustment.
11	1	MTEG-G700b/0.02	Digital Pressure Gauge Module 0 to 700 bar (10,000 psi), 0.02 % FS accuracy.	For accurate hydraulic pressure measurement to 700 bar. Pressure input to the module from the 7195 benchtop pump.
12	1	XTEG-G200b/0.02/M	Pressure Measurement Module with Control Centre Interface 0 to 200 bar (3000 psi), 0.02 % FS accuracy.	For mid/high range pneumatic calibration work. Used with 7194A pneumatic pump.
13	1	XTEG-CV20b/0.02/M	Pressure Measurement Module with Control Centre Interface Vacuum to 20 bar (300 psi), 0.02 % FS accuracy.	For reference pneumatic pressure calibration. Used with 7194A pump or T-piece method from 8030B module.
14	1	7056	Dual Adjustable Power Supply Module 2 x 30 V DC 3 A.	A variable DC supply to supplement various applications.
15	1	7083	Dual 24 V Fixed DC Power Supply Module	For powering loop instrumentation, transmitters and other equipment requiring 24 V DC.
16	1	7149	Electrical Vacuum Pump	Provides a vacuum to the 8030B controller module.
17	1	7149-HCO	Housing and Connectivity Option for the 7149 vacuum pump	Compact housing for the 7149 pump, situated under bench.
18	1	7161	Benchtop Pneumatic Pressure Calibration Manifold Dual port for use from vacuum to 200 bar (3000 psi).	Provides a convenient UUT connection on the bench. Used with the RMTEG modules for calibration of pressure devices.
19	1	7195	Benchtop Hydraulic Pressure Calibration Pump Vacuum to 700 bar (10,000 psi).	Provides hydraulic pressure to 700 bar XTEG module.
20	1	7194A	Benchtop Pneumatic High Pressure Calibration Pump Vacuum to 200 bar (3000 psi).	Pressure generation to 200 bar, suitable for use with pressure modules when compressed air source is not available.
21	1	7198	Pressure Calibration Accessories Kit A comprehensive selection of fittings, adaptors and hoses.	Provides all the required pressure connections and fittings for modules and pumps to UUTs.
22	1	8100	Benchtop Instrumentation Test Stand	For positioning UUTs on CalBench worktop.
23	1	7165/G50b	Compact High Pressure Compressor	Provides a set line pressure of 45 bar (650 psi) to the 8030B pneumatic controller module.
24	1	XREG/210b-CUST	Pressure Regulator Kit	For fitting to a cylinder supplying line pressure to the CalBench. Connections, hoses and fittings supplied.
25	1	8002	CalBench Environmental Monitoring System	Measures and logs temperature, relative humidity and barometric pressure, with control centre interface.
26	1	CERTS	Traceable Calibration Certificates For all test modules and additional test equipment.	Certifies all calibration modules and additional test instruments have been tested in the TE factory to international standards.



## CBP-PRES3: Process CalBench Package

*A pre-configured CalBench for the calibration of pressure instrumentation*



### About the Package

The CBP-PRES3 CalBench is a package for testing and calibrating pressure and process instrumentation. It is suitable for users that require a workstation that is easy to operate manually, but can also perform software driven calibration applications. This makes it an ideal solution for all skill levels, from technicians learning calibration, to experienced test engineers.

For pressure calibration, high accuracy (0.02 % FS) digital gauge modules feature. For pneumatic workload two gauge modules have regulators for output adjustment and setting. These cover vacuum to 7 bar (100 psi) and 20 bar (300 psi). The 7 bar module is typically fed line pressure from plant air and vacuum from the supplied 7149 electric pump. The 20 bar module from a compressed air cylinder (not supplied).

Additional pressure calibration can be performed using the digital gauge modules for 200 bar (3000 psi) and 700 bar (10,000 psi). These are commonly utilised with the supplied benchtop pumps that feature dual outputs to connect both the module and UUT. Manifolds, test stand, adaptors and fittings are also provided.

The 8060+ module situates centrally in the console, providing source, simulation and measurement of process signals, HART communication and 24 V loop power. It features an integral multimeter, and a PC control centre with 12.1" touch screen display. Pressure readback applications are included. EasyCal software communicates with pressure modules, and can be used for automated calibration and test management.

### Features

- CalBench for pressure instrumentation calibration work
- Regulated vacuum to 7 bar (100 psi) module with digital gauge
- Regulated 20 bar (300 psi) module with digital gauge
- Digital gauge modules for 200 bar (3000 psi) & 700 bar (10k psi)
- Multifunction process calibrator module with 6.5 digit multimeter
- Control centre module with 12.1" touch screen display
- All pressure modules have control centre readback interface
- Electrical vacuum pump in housing, power switch on bench
- Pneumatic & hydraulic benchtop pumps, adaptor kit, UUT stand
- Fixed and variable DC power supply modules
- Automated calibration with EasyCal software, peripherals supplied
- Under bench drawer unit & holder, perforated panel fittings, tool kit





## CBP-PRES3: Items in the Package

*The modules and items in the CBP-PRES3 Process CalBench package*



Item #	Qty	Code	Basic Description	Basic Purpose
1	1	7080-HD	CalBench Heavy Duty Version (W 2000 x D 850 x H 1568 mm) Framework bench style with worktop, perforated panel, primary console with 7082 mains power controller module.	Provides an ergonomic workspace for various calibration applications. Modules below to be fitted to the primary console for testing workload.
2	1	7125	Perfo Panel Option: 20 piece Tool Hook Kit	For holding various tools and accessories.
3	1	7139	Perfo Panel Option: Shelf (W 450 x D 250 x H 130 mm)	Suitable for storing equipment and tools.
4	1	7123	Under Bench Holder	For storing the 7198 adaptors/fittings kit when not in use.
5	1	7124	4 Drawer Unit (W 525 x D 550 x H 600 mm)	For storage of equipment, tools, documents etc.
6	1	8060+	Process Calibrator and Control Centre Module Advanced system package for precision source and measure capabilities. Integral process calibrator, 6.5 digit multimeter, PC and EasyCal software. Operation via 12.1" touch screen display. Built-in communication with pressure modules.	Source and measure process signals for electrical, frequency, temperature. Enables users to calibrate process instrumentation like transmitters. HART communication and integral 24 V DC supply. EasyCal software and accessories included for automation, administration and certificate generation.
7	1	CCPAD	Control Centre Numeric Keypad Module with jog dial	Ergonomic method of data entry to EasyCal software.
8	1	RMTEG-CV7b/0.02	Digital Pressure Gauge Module with Regulator Vacuum to 7 bar (100 psi), 0.02 % FS accuracy.	For pneumatic calibration from vacuum to 7 bar (100 psi), used with the 7149 electrical vacuum pump and external air supply. Can be used manually with pump also (measure mode).
9	1	RMTEG-G20b/0.02	Digital Pressure Gauge Module with Regulator 0 to 20 bar (300 psi), 0.02 % FS accuracy.	For mid range pneumatic work, with a line supply typically from a gas cylinder. Regulated output with precision digital gauge for reference calibration. Can be used manually with pump also.
10	1	MTEG-G200b/0.02	Digital Pressure Gauge Module 0 to 200 bar (3000 psi), 0.02 % FS accuracy.	For high range pneumatic pressure measurement to 200 bar. Calibration work performed with the 7194A benchtop pump.
11	1	MTEG-G700b/0.02	Digital Pressure Gauge Module 0 to 700 bar (10,000 psi), 0.02 % FS accuracy.	For accurate hydraulic pressure measurement to 700 bar. Pressure input to the module from the 7195 benchtop pump.
12	1	7056	Dual Adjustable Power Supply Module 2 x 30 V DC 3 A.	A variable DC supply to supplement various applications.
13	1	7087	Quad DC Power Supply Module 6 V (20 A), 12 V (10 A), 24 V (6 A), 48 V (3 A).	Provides a DC power supply to various loop instrumentation under test.
14	1	7149	Electrical Vacuum Pump	Provides a vacuum that connects to the RMTEG-CV7b module, enabling regulation for negative pressure calibration work.
15	1	7149-HCO	Housing and Connectivity Option for the 7149 vacuum pump	Compact housing for the 7149 pump, situated under bench. Sound proofed and power control via 7082 module on CalBench.
16	1	7195	Benchtop Hydraulic Pressure Calibration Pump Vacuum to 700 bar (10,000 psi).	Hydraulic pressure to 700 bar. Used with MTEG-G700b module, with a dual output manifold for both UUT & module connection.
17	1	7194A	Benchtop Pneumatic High Pressure Calibration Pump Vacuum to 200 bar (3000 psi).	Pressure generation to 200 bar. Used with MTEG-G200b module, with a dual output manifold for both UUT & module connection.
18	1	7198	Pressure Calibration Accessories Kit A comprehensive selection of fittings, adaptors and hoses.	Provides all the required pressure connections and fittings for modules and pumps to UUTs.
19	1	8100	Instrumentation Test Stand	For positioning of UUTs like transmitters & gauges on benchtop.
20	1	CERTS	Traceable Calibration Certificates. For all test modules and additional test equipment.	Certifies all calibration modules and additional test instruments have been tested in the TE factory to international standards.



## CBP-WW1: Wide Workload CalBench Package

*A pre-configured CalBench for electrical, temperature and pressure calibration*



### About the Wide Workload CalBench

The CBP-WW1 is a CalBench package designed to provide users with a turnkey solution to calibrate instruments and devices used across industries. It offers a selection of features and functions to enable automated calibration using EasyCal software on the 7051Plus multifunction calibrator and control centre module.

- Multi instrument and device testing
- Multifunction calibrator module with 6.5 digit multimeter and PC control centre
- Source and measure voltage, current, resistance, frequency and more
- RTD and thermocouple simulation and measurement
- Automatic pressure controller module for vacuum to 20 bar (300 psi)
- Regulated pressure calibration module for 0 to 200 bar (3000 psi)
- Precision pressure measurement modules for 2 bar, 100 bar and 700 bar
- Benchtop pumps, pressure adaptor kit and electrical vacuum pump included
- Fixed and variable DC power supply modules for powering devices under test
- Control centre operated 100 MHz oscilloscope
- Temperature interface module for batch thermocouple calibration
- Dry block calibrators for temperature sourcing, automatic control via EasyCal
- Automated calibration using EasyCal software with printers and extras supplied

### Calibration Capabilities

#### Pressure

Gauges, calibrators, transducers, transmitters, indicators, switches, valves, controllers, manometers, chart recorders.

#### Temperature

Temperature sensors, indicators, thermocouple and RTD transmitters, recorders, controllers, thermometers, process calibrators, PRTs, thermistors.

#### Electrical / Frequency

Multimeters, AC/DC signal sources, clamp meters, data loggers, tachometers, ohmmeters, decade boxes, RCL meters, conductance meters, inductance meters, oscilloscopes, frequency meters, frequency counters, timer counters.





## CBP-WW1: Items in the Package

*The modules and items in the CBP-WW1 Wide Workload CalBench package*



Item #	Qty	Code	Basic Description	Basic Purpose
1	1	7080-HD	CalBench Heavy Duty Version (W 2000 x D 850 x H 1568 mm) Framework bench style with worktop, perforated panel, primary console with 7082 mains power controller module.	Provides an ergonomic workspace for various calibration applications. Modules below to be fitted to the primary console for testing workload.
2	1	7137	Perfo Panel Option: 40 piece Tool Hook Kit	For holding various tools and accessories.
3	1	7139	Perfo Panel Option: Shelf (W 450 x D 250 x H 130 mm)	Suitable for storing equipment and tools.
4	1	7133	Magnet Set for Perfo Panel (10 x round, 10 x hook type)	For securing documents and small tools to perfo panel.
5	1	7132	5 Drawer Unit (W 525 x D 550 x H 600 mm)	For storage of equipment, tools, documents etc.
6	3	7134	Slotted Divider Kit for drawers inside 7132	Partitions the drawer units for parts and components.
7	1	7123	CPU/Dry Block Calibrator Holder	For storing dry block calibrators when not in use.
8	1	7051+	Multifunction Calibrator and Control Centre Module Advanced system package for precision source and measure capabilities. Integral calibrator, 6.5 digit multimeter, PC and EasyCal software. Operation via 12.1" touch screen display. Built-in communication with compatible modules.	Source and measure electrical, electronic, frequency, temperature. Enables users to calibrate process and electrical instruments like sensors, multimeters, clamp meters, scopes and more. EasyCal software and accessories included for automation, administration and certificate generation.
9	1	CCPAD	Control Centre Numeric Keypad Module with jog dial	Ergonomic method of data entry to EasyCal software.
10	1	8030B/G20b/CV2b/ BARO	Automatic Pressure Calibrator Module with multiple ranges Sensor 1: 0 to 20 bar (300 psi), 0.01 % FS accuracy. Sensor 2: Vacuum to 2 bar (30 psi), 0.01 % FS accuracy. Sensor 3: Barometric Reference.	For automated pressure calibration. 20 bar range for workload pneumatic testing of gauges, transmitters etc. Supplied with contamination trap. Ranges can be modified as per customer requirements.
11	1	RMTEG-G200b/0.02	Digital Pressure Gauge Module with Regulator 0 to 200 bar (3000 psi), 0.02 % FS accuracy.	For high range pneumatic calibration work, with a line supply typically from a gas cylinder to enable regulator adjustment.
12	1	XTEG-G700b/0.02/M	Pressure Measurement Module with Control Centre Interface 0 to 700 bar (10,000 psi), 0.02 % FS accuracy.	For hydraulic calibration with accompanying pump.
13	1	XTEG-G100b/0.02/M	Pressure Measurement Module with Control Centre Interface 0 to 100 bar (1450 psi), 0.02 % FS accuracy.	For mid/high range pneumatic calibration work. Used with 7194A pump or T-piece method from RMTEG-G200b/0.02.
14	1	XTEG-CV2b/0.02/M	Pressure Measurement Module with Control Centre Interface Vacuum to 2 bar (30 psi), 0.02 % FS accuracy.	For low range pressure calibration. Used with 7194A pump or T-piece method from 8030B module.
15	1	7085A	Auto Switching Temperature Distribution Module	Connection module to enable batch testing of temperature devices like thermocouples.
16	1	7053	56 V DC 4 A Adjustable Power Supply Module - Digital	A variable DC supply to supplement various applications.
17	1	7087	Quad DC Power Supply Module 6 V (20 A), 12 V (10 A), 24 V (6 A), 48 V (3 A).	Provides a DC power supply to various loop instrumentation under test.
18	1	CCSCOPE-2208B	Integral Oscilloscope with Connection Module 100 MHz, 2 channel, operation via control centre.	For basic R&M applications, fault finding and diagnostic work.
19	1	7149	Electrical Vacuum Pump	Provides a vacuum for pressure modules.
20	1	7149-HCO	Housing and Connectivity Option for the 7149 vacuum pump	Compact housing for the 7149 pump, situated under bench.
21	1	7195	Benchtop Hydraulic Pressure Calibration Pump Vacuum to 700 bar (10,000 psi).	Provides hydraulic pressure to 700 bar XTEG module.
22	1	7194A	Benchtop Pneumatic High Pressure Calibration Pump Vacuum to 200 bar (3,000 psi).	Pressure generation to 200 bar, suitable for use with pressure modules when compressed air source is not available.
23	1	7198	Pressure Calibration Accessories Kit A comprehensive selection of fittings, adaptors and hoses.	Provides all the required pressure connections and fittings for modules and pumps to UUTs.
24	1	8100	Benchtop Instrumentation Test Stand	For positioning UUTs on CalBench worktop.
25	1	8072	Dry Block Calibrator (28 to 660 °C) with metric multi hole insert (1x3,2x4,1x5,1x6,1x9 mm), blank insert, EasyCal software driver.	Temperature source for the calibration of probes, RTDs, and more. Automated operation with 7051+, EasyCal and 7085A.
26	1	8072-METP	Pack of 16 Metric Inserts for 8072: 3 mm to 20 mm holes	Inserts for use with different probe sizes, used with 8072.
27	1	8073	Dry Block Calibrator (100 to 1205 °C) with metric multi hole insert (3, 4, 6 mm), blank insert, EasyCal software driver.	Temperature source for the calibration of thermocouples. Automated operation with 7051+, EasyCal and 7085A.
28	1	8073-METP	Pack of 10 Metric Inserts for 8073: 3,4,5,6,7,8,9,10,11,12 mm	Inserts for use with different probe sizes, used with 8073.
29	1	8002	CalBench Environmental Monitoring System	Measures and logs temperature, relative humidity and barometric pressure, with control centre interface.
30	1	CERTS	Traceable Calibration Certificates For all test modules and additional test equipment.	Certifies all calibration modules and additional test instruments have been tested in the TE factory to international standards.



## CBP-WW2: Wide Workload CalBench Package

*A pre-configured CalBench for electrical, temperature and pressure calibration*



### About the Wide Workload CalBench

The CBP-WW2 is an advanced CalBench package for calibration of a wide range of instrumentation, test tools and devices. It provides users with source and measure functions for electrical, pressure and temperature applications. Automated calibration can be performed with EasyCal software and compatible modules.

- Multi instrument and device calibration and testing capabilities
- Multifunction calibrator module with 6.5 digit multimeter and PC control centre
- Advanced process calibrator module, operated via control centre
- Source and measure voltage, current, resistance, frequency and more
- RTD & thermocouple simulation and measurement, HART communication
- Automatic pressure controller module for vacuum to 40 bar (600 psi)
- Precision pressure measurement modules for 2, 100, 200, and 700 bar
- Benchtop pumps, pressure adaptor kit and electrical vacuum pump included
- Fixed and variable DC power supply modules for powering devices under test
- Control centre operated 100 MHz oscilloscope
- Temperature interface module for batch thermocouple calibration
- Dry block calibrator for temperature sourcing, automatic control via EasyCal
- Automated calibration using EasyCal software with printers and extras supplied

### Calibration Capabilities

#### Pressure

Gauges, calibrators, transducers, transmitters, indicators, switches, valves, controllers, manometers, chart recorders.

#### Temperature

Temperature sensors, indicators, thermocouple and RTD transmitters, recorders, controllers, thermometers, process calibrators, PRTs, thermistors.

#### Electrical / Frequency

Multimeters, AC/DC signal sources, clamp meters, data loggers, tachometers, ohmmeters, decade boxes, RCL meters, conductance meters, inductance meters, oscilloscopes, frequency meters, frequency counters, timer counters.



## CBP-WW2: Items in the Package

*The modules and items in the CBP-WW2 Wide Workload CalBench package*



Item #	Qty	Code	Basic Description	Basic Purpose
1	1	7080-HD	CalBench Heavy Duty Version (W 2000 x D 850 x H 1568 mm) Framework bench style with worktop, perforated panel, primary console with 7082 mains power controller module.	Provides an ergonomic workspace for various calibration applications. Modules below to be fitted to the primary console for testing workload.
2	1	7137	Perfo Panel Option: 40 piece Tool Hook Kit	For holding various tools and accessories.
3	1	7139	Perfo Panel Option: Shelf (W 450 x D 250 x H 130 mm)	Suitable for storing equipment and tools.
4	1	7141	Perfo Panel Option: Storage Bin Strip (W 450 x H 75 mm) Supplied with 4 x 1 L bins.	For storage of components and small tools.
5	1	7157	Articulating Keyboard Tray for CalBench	Situates the keyboard and mouse for the control centre module operations. Can be positioned under bench when not in use.
6	1	8134	Mobile 4 Drawer Unit, ESD, RAL 7035 light grey colour	Mobile storage that can situate under the CalBench.
7	1	7123	CPU/Dry Block Calibrator Holder	For storing a dry block calibrator when not in use.
8	1	7051+	Multifunction Calibrator and Control Centre Module Advanced system package for precision source and measure capabilities. Integral calibrator, 6.5 digit multimeter, PC and EasyCal software. Operation via 12.1" touch screen display. Built-in communication with compatible modules.	Source and measure electrical, electronic, frequency, temperature. Enables users to calibrate process and electrical instruments like sensors, multimeters, clamp meters, scopes and more. EasyCal software and accessories included for automation, administration and certificate generation.
9	1	8060-PO	Process Calibrator Module with control centre operation Connection module, operation via control centre.	Source & measure signals to calibrate process instrumentation like transmitters, RTDs, thermocouples and more. Manual control application and EasyCal software operation.
10	1	CCPAD	Control Centre Numeric Keypad Module with jog dial	Ergonomic method of data entry to EasyCal software.
11	1	CCSCOPE-2208B	Integral Oscilloscope with Connection Module 100 MHz, 2 channel, operation via control centre.	For basic R&M applications, fault finding and diagnostic work.
12	1	CC-AFG20	Control Centre Integral Function Generator 20 MHz with connection module, control centre operation.	Used to generate different types of electrical waveforms over the frequency range for fault diagnostics and repair work.
13	1	8030B/G40b/G20b/ CV4b/BARO	Automatic Pressure Calibrator Module with multiple ranges Sensor 1: 0 to 40 bar (600 psi), 0.01 % FS accuracy. Sensor 2: 0 to 20 bar (300 psi), 0.01 % FS accuracy. Sensor 3: Vacuum to 4 bar (60 psi), 0.01 % FS accuracy. Sensor 4: Barometric Reference.	For automated pressure calibration. 40 bar range for workload pneumatic testing of gauges, transmitters etc. Supplied with contamination trap. Ranges can be modified as per customer requirements.
14	1	MTEG-G200b/0.02	Digital Pressure Gauge Module 0 to 200 bar (3000 psi), 0.02 % FS accuracy.	For high range pneumatic calibration work, used with 7194A pump.
15	1	XTEG-G700b/0.02/M	Pressure Measurement Module with Control Centre Interface 0 to 700 bar (10,000 psi), 0.02 % FS accuracy.	For hydraulic calibration with accompanying pump.
16	1	XTEG-G100b/0.02/M	Pressure Measurement Module with Control Centre Interface 0 to 100 bar (1450 psi), 0.02 % FS accuracy.	For mid/high range pneumatic calibration work. Used with 7194A pump or T-piece method from RMTEG-G200b/0.02.
17	1	XTEG-CV2b/0.02/M	Pressure Measurement Module with Control Centre Interface Vacuum to 2 bar (30 psi), 0.02 % FS accuracy.	For low range pressure calibration. Used with 7194A pump or T-piece method from 8030B module.
18	1	7085A	Auto Switching Temperature Distribution Module	Connection module to enable batch testing of temperature devices like thermocouples.
19	1	M-PSW80-13.5	Multi-Range DC Power Supply Module 0 to 80 V, 0 to 13.5 A, 360 W.	A regulated DC supply for inputting stable voltages, used for on-bench power to applications, and testing devices and circuits.
20	1	7087	Quad DC Power Supply Module 6 V (20 A), 12 V (10 A), 24 V (6 A), 48 V (3 A).	Provides a DC power supply to various instrumentation and devices under test.
21	1	7149	Electrical Vacuum Pump	Provides a vacuum for pressure modules.
22	1	7149-HCO	Housing and Connectivity Option for the 7149 vacuum pump	Compact housing for the 7149 pump, situated under bench.
23	1	7195	Benchtop Hydraulic Pressure Calibration Pump Vacuum to 700 bar (10,000 psi).	Provides hydraulic pressure to 700 bar XTEG module.
24	1	7194A	Benchtop Pneumatic High Pressure Calibration Pump Vacuum to 200 bar (3,000 psi).	Pressure generation to 200 bar, suitable for use with pressure modules when compressed air source is not available.
25	1	7198	Pressure Calibration Accessories Kit A comprehensive selection of fittings, adaptors and hoses.	Provides all the required pressure connections and fittings for modules and pumps to UUTs.
26	1	8100	Benchtop Instrumentation Test Stand	For positioning UUTs on CalBench worktop.
27	1	8072	Dry Block Calibrator (28 to 660 °C) with metric multi hole insert (1x3,2x4,1x5,1x6,1x9 mm), blank insert, EasyCal software driver.	Temperature source for the calibration of probes, RTDs, and more. Automated operation with 7051+, EasyCal and 7085A.
28	1	8072-METP	Pack of 16 Metric Inserts for 8072: 3 mm to 20 mm holes	Inserts for use with different probe sizes, used with 8072.
29	1	8002	CalBench Environmental Monitoring System	Measures and logs temperature, relative humidity and barometric pressure, with control centre interface.
30	1	CERTS	Traceable Calibration Certificates For all test modules and additional test equipment.	Certifies all calibration modules and additional test instruments have been tested in the TE factory to international standards.





## CBP-WW3: Process CalBench Package

*A pre-configured CalBench for the calibration of electrical, temperature and pressure instrumentation*



### About the Package

The CBP-WW3 CalBench is a package for testing and calibrating electrical, pressure, and temperature instrumentation. The selection of modules and accompanying products provide users with a flexible and high performance workstation. It can be operated manually or utilised for software driven calibration.

- Heavy duty CalBench system for process instrumentation calibration
- Process calibrator module with 6.5 digit multimeter and PC control centre
- Source and measure voltage, current, resistance, frequency and more
- Benchtop electrical multifunction calibrator for meter calibration
- Control centre operated oscilloscope and function generator modules
- RTD & thermocouple simulation and measurement, HART communication
- Regulated pressure calibration modules for vacuum to 7 bar and 0 to 20 bar
- Precision pressure measurement modules for pneumatic & hydraulic calibration
- Benchtop pumps, pressure adaptor kit, manifold and electrical vacuum pump
- Fixed and variable DC power supply modules for powering devices under test
- Dry block calibrator for temperature sourcing, automatic control via EasyCal
- Automated calibration using EasyCal software with printers and extras supplied
- Storage solutions include 4 drawer unit, under bench holder, perfo panel fittings

### Calibration Capabilities

#### Pressure

Gauges, calibrators, transducers, transmitters, indicators, switches, valves, controllers, manometers, chart recorders.

#### Temperature

Temperature sensors, indicators, thermocouple and RTD transmitters, recorders, controllers, thermometers, process calibrators, PRTs, thermistors.

#### Electrical / Electronic

Multimeters, AC/DC signal sources, clamp meters, data loggers, tachometers, ohmmeters, decade boxes, conductance meters, power meters, watt meters, tachometers.



## CBP-WW3: Items in the Package

*The modules and items in the CBP-WW3 Wide Workload CalBench package*



Item #	Qty	Code	Basic Description	Basic Purpose
1	1	7080-HD	CalBench Heavy Duty Version (W 2000 x D 850 x H 1568 mm) Framework bench style with worktop, perforated panel, primary console with 7082 mains power controller module.	Provides an ergonomic workspace for various calibration applications. Modules below to be fitted to the primary console for testing workload.
2	1	7125	Perfo Panel Option: 20 piece Tool Hook Kit	For holding various tools and accessories.
3	1	7139	Perfo Panel Option: Shelf (W 450 x D 250 x H 130 mm)	Suitable for storing equipment and tools.
4	1	7141	Perfo Panel Option: Storage Bin Strip (W 450 x H 75 mm) Supplied with 4 x 1 L bins.	For storage of components and small tools.
5	1	7124	4 Drawer Unit (W 525 x D 550 x H 600 mm)	For storage of equipment, tools, documents etc.
6	1	7123	CPU/Dry Block Calibrator Holder	For storing dry block calibrators when not in use.
7	1	8060+	Process Calibrator and Control Centre Module Advanced system package for precision source and measure capabilities. Integral process calibrator, 6.5 digit multimeter, PC and EasyCal software. Operation via 12.1" touch screen display. Built-in communication with compatible modules.	Source and measure process signals for electrical, frequency, temperature. Enables users to calibrate process instrumentation like transmitters, RTDs, thermocouples and more. EasyCal software and accessories included for automation, administration and certificate generation.
8	1	CCPAD	Control Centre Numeric Keypad Module with jog dial	Ergonomic method of data entry to EasyCal software.
9	1	CCSCOPE-2208B	Control Centre Integral Oscilloscope (2 channel) 100 MHz with connection module, control centre operation.	For basic R&M and testing applications, fault finding and diagnostic work.
10	1	CC-AFG20	Control Centre Integral Function Generator 20 MHz with connection module, control centre operation.	Used to generate different types of electrical waveforms over the frequency range, and frequency measurement for fault diagnostics and repair work.
11	1	RMTEG-CV7b/0.02	Digital Pressure Gauge Module with Regulator Vacuum to 7 bar (100 psi), 0.02 % FS accuracy.	For pneumatic calibration from vacuum to 7 bar (100 psi), used with the 7149 electrical vacuum pump and external air supply. Can be used manually with pump also.
12	1	RMTEG-G20b/0.02	Digital Pressure Gauge Module with Regulator 0 to 20 bar (300 psi), 0.02 % FS accuracy.	For mid range pneumatic work, with a line supply typically from a gas cylinder. Regulated output with precision digital gauge for reference calibration. Can be used manually with pump also.
13	1	XTEG-G100b/0.02/M	Pressure Measurement Module with Control Centre Interface 0 to 100 bar (1500 psi), 0.02 % FS accuracy.	For mid/high range pneumatic calibration work. Used with 7194A pump.
14	1	XTEG-G200b/0.02/M	Pressure Measurement Module with Control Centre Interface 0 to 200 bar (3000 psi), 0.02 % FS accuracy.	For high range pneumatic calibration work. Used with 7194A pump.
15	1	XTEG-G700b/0.02/M	Pressure Measurement Module with Control Centre Interface 0 to 700 bar (10,000 psi), 0.02 % FS accuracy.	For hydraulic calibration with accompanying pump.
16	1	7056	Dual Adjustable Power Supply Module 2 x 30 V DC 3 A.	A variable DC supply to supplement various applications.
17	1	7087	Quad DC Power Supply Module 6 V (20 A), 12 V (10 A), 24 V (6 A), 48 V (3 A).	Provides a DC power supply to various loop instrumentation under test.
18	1	7076	Fixed 110 V AC Power Supply Module 110 V AC up to 8 A, 2 mains sockets & 4 mm safety sockets.	Provides a 110 V AC output on 230 V AC CalBenches, meaning US type products can be powered and used.
19	1	7149	Electrical Vacuum Pump	Provides a vacuum that connects to the RMTEG-CV7b module, enabling regulation for negative pressure calibration work.
20	1	7149-HCO	Housing and Connectivity Option for the 7149 vacuum pump	Compact housing for the 7149 pump, situated under bench. Sound proofed and power control via 7082 module on CalBench.
21	1	7161	Benchtop Pneumatic Pressure Calibration Manifold Dual port for use from vacuum to 200 bar (3000 psi).	Provides a convenient UUT connection on the bench. Used with the RMTEG modules for calibration of pressure devices.
22	1	7115	Contamination Trap For pneumatic use from vacuum to 200 bar (3000 psi).	To protect pressure calibrators and controllers against impurities and residues released by pressure instrumentation under test.
23	1	7195	Benchtop Hydraulic Pressure Calibration Pump Vacuum to 700 bar (10,000 psi).	Hydraulic pressure to 700 bar. Used with MTEG-G700b module, with a dual output manifold for both UUT & module connection.
24	1	7194A	Benchtop Pneumatic High Pressure Calibration Pump Vacuum to 200 bar (3000 psi).	Pressure generation to 200 bar. Used with MTEG-G200b module, with a dual output manifold for both UUT & module connection.
25	1	7198	Pressure Calibration Accessories Kit A comprehensive selection of fittings, adaptors and hoses.	Provides all the required pressure connections and fittings for modules and pumps to UUTs.
26	1	8100	Instrumentation Test Stand	For positioning of UUTs like transmitters & gauges on benchtop.
27	1	5025E-S2	Benchtop Electrical Multifunction Calibrator AC/DC 1050 V / 22 A, variable resistance, Pt100 simulation, thermocouple simulation, conductance, capacitance, power calibration, 10 MHz digital frequency.	Source & simulation of signals for electrical, electronic, frequency, temperature calibration. Enables users to test and verify process and electrical instruments like sensors, multimeters, clamp meters and more.
28	1	9780	Clamp Meter Adaptor	Used with 5025E to calibrate clamp meters.
29	1	9773	Optical Tacho Adaptor	Used with 5025E to calibrate optical tachometers.
30	1	8072	Dry Block Calibrator (28 to 660 °C) with metric multi hole insert (1x3,2x4,1x5,1x6,1x9 mm), blank insert, EasyCal software driver.	Temperature source for the calibration of probes, RTDs, and more. Automated operation with 8060+ and EasyCal software.
31	1	8072-METP	Pack of 16 Metric Inserts for 8072: 3 mm to 20 mm holes	Inserts for use with different probe sizes, used with 8072.
32	1	8002	CalBench Environmental Monitoring System	Measures and logs temperature, relative humidity and barometric pressure, with control centre interface.
33	1	CERTS	Traceable Calibration Certificates. For all test modules and additional test equipment.	Certifies all calibration modules and additional test instruments have been tested in the TE factory to international standards.



## CBP-ELEC1: Electrical CalBench Package

*A pre-configured CalBench for electrical, electronic, frequency and temperature calibration*



### About the CBP-ELEC1 Package

A CalBench package that provides users with modules and extras for the calibration of electrical and electronic test tools, instruments and devices. It allows users to test and maintain a wide range of instruments commonly used by engineers in industrial plants, with a high level of automation to ensure rapid turnarounds.

- Comprehensive calibration of electrical and electronic test tools
- Multifunction calibrator module with 6.5 digit multimeter and PC control centre
- Source and measure voltage, current, resistance, frequency and more
- Oscilloscope calibration with 2.2 GHz levelled sine wave generation
- RTD and thermocouple simulation and measurement
- Electrical tester calibrator module for RCD, loop, and insulation
- Benchtop insulation tester calibrator for increased range/application coverage
- 50 MHz function generator module for test and repair work
- Variable AC and DC power supply modules for functional testing of equipment
- Control centre operated 100 MHz oscilloscope and 6 GHz frequency counter
- Automated calibration using EasyCal software with printers and extras supplied
- Extras include solder and re-work station, service kit and ESD workstation kit

### Calibration Capabilities

#### Electrical and Electronic

Multimeters, AC/DC signal sources, clamp meters, data loggers, tachometers, ohmmeters, decade boxes, RCL meters, conductance meters, inductance meters, continuity testers.

#### Electrical Test and Frequency

RCD testers, loop testers, earth ground testers, insulation testers, multifunction installation testers, oscilloscopes, frequency meters, frequency counters, timer counters.

#### Temperature

Sensors, transmitters, indicators, RTDs, thermocouples, recorders, controllers, thermometers, process calibrators, PRTs, thermistors.

*Note: A dry block calibrator is required for temperature sourcing on certain applications*





## CBP-ELEC1: Items in the Package

*The modules and items in the CBP-ELEC1 Electrical CalBench package*



Item #	Qty	Code	Basic Description	Basic Purpose
1	1	7080-HD	CalBench Heavy Duty Version (W 2000 x D 850 x H 1568 mm) Framework bench style with worktop, perforated panel, primary console with 7082 mains power controller module.	Provides an ergonomic workspace for various calibration applications. Modules below to be fitted to the primary console for testing workload.
2	1	7137	Perfo Panel Option: 40 piece Tool Hook Kit	For holding various tools and accessories.
3	1	7139	Perfo Panel Option: Shelf (W 450 x D 250 x H 130 mm)	Suitable for storing equipment and tools.
4	1	7133	Magnet Set for Perfo Panel (10 x round, 10 x hook type)	For securing documents and small tools to perfo panel.
5	1	7141	Perfo Panel Option: Storage Bin Strip (W 450 x H 75 mm) Supplied with 4 x 1 L bins.	For storage of components and small tools.
6	1	7132	5 Drawer Unit (W 525 x D 550 x H 600 mm)	For storage of equipment, tools, documents etc.
7	3	7134	Slotted Divider Kit for drawers inside 7132	Partitions the drawer units for parts and components.
8	1	7051+	Multifunction Calibrator and Control Centre Module Advanced system package for precision source and measure capabilities. Integral calibrator, 6.5 digit multimeter, PC and EasyCal software. Operation via 12.1" touch screen display. Built-in communication with compatible modules.	Source and measure electrical, electronic, frequency, temperature. Enables users to calibrate process and electrical instruments like sensors, multimeters, clamp meters, scopes and more. EasyCal software and accessories included for automation, administration and certificate generation.
9	1	9769	7051 Internal Option: 2.2 GHz Levelled Sine Generator	An internally fitted option that enables the calibrator to output a pure sine wave up to 2.2 GHz, for calibration of oscilloscopes.
10	1	5030B	Electrical Tester Calibrator Module	Calibrate RCD, loop, insulation, earth testers and multifunction installation testers.
11	1	CCSCOPE-2208B	Control Centre Integral Oscilloscope (2 channel) 100 MHz with connection module, control centre operation.	For basic R&M applications, fault finding and diagnostic work.
12	1	CC-FRQC	Control Centre Integral Frequency Counter & Power Meter 6000 MHz with connection module, control centre operation.	For frequency and power measurement applications in fault diagnostics and repair work.
13	1	7031	50 MHz Function/Arbitrary/Pulse Generator	Used to generate different types of electrical waveforms over the frequency range, for test and repair applications.
14	1	7088D	Adjustable AC Supply Module with Digital Displays Variable output voltage from 0 to 110 % above line input. 0 to 265 V 50 Hz, 10 A at 240 V. 0 to 121 V 50 Hz, 10 A at 110 V.	Provides variable 50 Hz AC power up to 10 A with two digital meters monitoring the output voltage and current. For general purpose use and R&M applications.
15	1	7053	56 V DC 4 A Adjustable Power Supply Module - Digital	A variable DC supply to supplement various applications.
16	1	5069	Benchtop Insulation Tester Calibrator Decade resistance 100 kΩ - 100 GΩ.	For calibrating insulation testers and megohmmeters with test voltages up to 10 kV.
17	1	7145	High Performance Soldering/De-soldering/Rework Station Includes soldering iron, de-soldering tool & hot air rework tool, standard tips and nozzles.	High quality soldering, for electronics, components etc. A comprehensive unit that features a built-in pump for vacuum and air flow, and three simultaneously powered ports.
18	1	7146	Extra solder tips (6 piece set)	A selection of soldering tips for use with the 7145 unit.
19	1	TL90	High Performance Magnification and Inspection Light	A magnifier with 48 premium LEDs to illuminate a 6" wide-angle, distortion-free lens. For inspection of circuit boards etc.
20	1	7180	Circuit Board Holder	For holding circuit boards with quick and easy rotation and component insertion/soldering.
21	1	7183	Electronic service case (76 tools)	A comprehensive selection of tools for electrical and electronic service work.
22	1	7186	ESD Workstation Kit for CalBench Benchtop mat, signage, bonding plugs, wrist strap & leads.	An antistatic mat to cover the benchtop when needed. A kit to eliminate static electricity and prevent ESD damage.
23	1	8002	CalBench Environmental Monitoring System	Measures and logs temperature, relative humidity and barometric pressure, with control centre interface.
24	1	CERTS	Traceable Calibration Certificates For all test modules and additional test equipment.	Certifies all calibration modules and additional test instruments have been tested in the TE factory to international standards.



## CBP-ELEC2: Electrical CalBench Package

*A pre-configured CalBench for electrical, electronic, frequency and temperature calibration*



### About the Package

A CalBench package that provides users with a combination of modules and accompanying products for calibrating electrical and electronic test equipment and devices. It allows users to test and verify a wide range of instruments, with a high level of automation to ensure rapid turnarounds.

- Comprehensive calibration of electrical and electronic test tools
- Multifunction calibrator module with 6.5 digit multimeter and PC control centre
- Source/measure voltage, current, resistance, capacitance, inductance, frequency
- Oscilloscope calibration with 2.2 GHz levelled sine wave generation
- RTD and thermocouple simulation and measurement
- Insulation tester calibrator module for use up to 10 GΩ, 2.5 kV test voltages
- LCR meter module for electronics measurement applications
- Control centre operated 100 MHz oscilloscope and 6 GHz frequency counter
- Control centre operated 20 MHz function/arbitrary waveform generator
- Variable AC and DC power supply modules for functional testing of equipment
- Automated calibration using EasyCal software with printers and extras supplied
- Extras include solder and re-work station, service kit and ESD workstation kit

### Calibration Capabilities

#### Electrical and Electronic

Multimeters, AC/DC signal sources, clamp meters, data loggers, tachometers, ohmmeters, decade boxes, RCL meters, conductance meters, inductance meters, continuity testers.

#### Electrical Test and Frequency

Insulation testers, megohmmeters, tachometers, oscilloscopes, frequency meters, frequency counters, timer counters.

#### Temperature

Sensors, transmitters, indicators, RTDs, thermocouples, recorders, controllers, thermometers, process calibrators, PRTs, thermistors.

*Note: A dry block calibrator is required for temperature sourcing on certain applications*



## CBP-ELEC2: Items in the Package

*The modules and items in the CBP-ELEC2 Electrical CalBench package*



Item #	Qty	Code	Basic Description	Basic Purpose
1	1	7080-HD	CalBench Heavy Duty Version (W 2000 x D 850 x H 1568 mm) Framework bench style with worktop, perforated panel, primary console with 7082 mains power controller module.	Provides an ergonomic workspace for various applications. Modules below to be fitted to the primary console for the necessary workload.
2	1	7185	ESD grey laminate worktop for CalBench Chipboard, conductive core, 3 mm ABS edges, antistatic, scratch, impact and stain resistant.	A high quality durable anti-static worktop for the CalBench.
3	1	7137	Perfo Panel Option: 40 piece Tool Hook Kit	For holding various tools and accessories.
4	1	7139	Perfo Panel Option: Shelf (W 450 x D 250 x H 130 mm)	Suitable for storing equipment and tools.
5	1	7141	Perfo Panel Option: Storage Bin Strip (W 450 x H 75 mm) Supplied with 4 x 1 L bins.	For storage of components and small tools.
6	1	7157	Articulating Keyboard Tray for CalBench	Situates the keyboard and mouse for the control centre module operations. Can be positioned under bench when not in use.
7	1	8134	Mobile 4 Drawer Unit, ESD, RAL 7035 light grey colour	Mobile storage that can situate under the CalBench.
8	1	7051+	Multifunction Calibrator and Control Centre Module Advanced system package for precision source and measure capabilities. Integral calibrator, 6.5 digit multimeter, PC and EasyCal software. Operation via 12.1" touch screen display. Built-in communication with compatible modules.	Source and measure electrical, electronic, frequency, temperature. Enables users to calibrate process and electrical instruments like sensors, multimeters, clamp meters, scopes and more. EasyCal software and accessories included for automation, administration and certificate generation.
9	1	9769	7051 Internal Option: 2.2 GHz Levelled Sine Generator	An internally fitted option that enables the calibrator to output a pure sine wave up to 2.2 GHz, for calibration of oscilloscopes.
10	1	CCPAD	Control Centre Numeric Keypad Module with jog dial	Provides an ergonomic method of using the control centre module without mouse or keyboard.
11	1	CCSCOPE-2208B	Control Centre Integral Oscilloscope (2 channel) 100 MHz with connection module, control centre operation.	For basic R&M and testing applications, fault finding and diagnostic work.
12	1	CC-FRQC	Control Centre Integral Frequency Counter & Power Meter 6000 MHz with connection module, control centre operation.	For frequency and power measurement applications in fault diagnostics and repair work.
13	1	CC-AFG20	Control Centre Integral Function Generator 20 MHz with connection module, control centre operation.	Used to generate different types of electrical waveforms over the frequency range, and frequency measurement for fault diagnostics and repair work.
14	1	5068B	Insulation Tester Calibration Module (100 kΩ to 10 GΩ)	For calibrating insulation testers and megohmmeters with test voltages up to 2.5 kV.
15	1	7033	High Precision LCR Meter Module (200 kHz)	Used to measure inductance, capacitance and resistance of components and devices at various frequencies.
16	1	7088D	Adjustable AC Supply Module with Digital Displays Variable output voltage from 0 to 110% above line input. 0 to 265 V 50 Hz, 10 A at 240 V. 0 to 121 V 50 Hz, 10 A at 110 V.	Provides variable 50 Hz AC power up to 10 A with two digital meters monitoring the output voltage and current. For general purpose use and R&M applications.
17	1	M-PSW250-4.5	Multi-Range DC Power Supply Module 0 to 250 V, 0 to 4.5 A, 360 W.	A regulated high range DC supply for inputting stable voltages, for bench testing of devices and circuits.
18	1	7145	High Performance Soldering/De-soldering/Rework Station Includes soldering iron, de-soldering tool & hot air rework tool, standard tips and nozzles.	High quality soldering, for electronics, components etc. A comprehensive unit that features a built-in pump for vacuum and air flow, and three simultaneously powered ports.
19	1	7146	Extra Solder Tips (6 piece set)	A selection of soldering tips for use with the 7035 module.
20	1	TL90	High Performance Magnification and Inspection Light	A magnifier with 48 premium LEDs to illuminate a 6" wide-angle, distortion-free lens. For inspection of circuit boards etc.
21	1	7180	Circuit Board Holder	For holding circuit boards with quick and easy rotation and component insertion/soldering.
22	1	7154	Benchtop turntable with locking mechanism	For practical placement of devices and parts being worked on.
23	1	7183	Electronic Service Case (76 tools)	A comprehensive selection of tools for electrical and electronic service work.
24	1	7186	ESD Workstation Kit for CalBench Benchtop mat, signage, bonding plugs, wrist strap & leads.	An antistatic mat to cover the benchtop when needed. A kit to eliminate static electricity and prevent ESD damage.
25	1	8002	CalBench Environmental Monitoring System	Measures and logs temperature, relative humidity and barometric pressure, with control centre interface.
26	1	CERTS	Traceable Calibration Certificates For all test modules and additional test equipment.	Certifies all source/measure modules and extra instruments have been tested in the TE factory to international standards.





## CBP-ELEC3: Electrical CalBench Package

*A pre-configured CalBench for electrical calibration and measurement applications*



### About the CBP-ELEC3 Package

The CBP-ELEC3 is a package featuring a CalBench with various modules and extras for common electrical and electronic service and testing applications. It includes the 5025E benchtop multifunction calibrator that provides a solution for end users to perform calibration of engineer test tools like multimeters and clamp meters. EasyCal calibration software runs on the supplied PC workstation, enabling users to automate and manage the calibration process. Peripherals are supplied, including a printer kit, label printer and bar code reader.

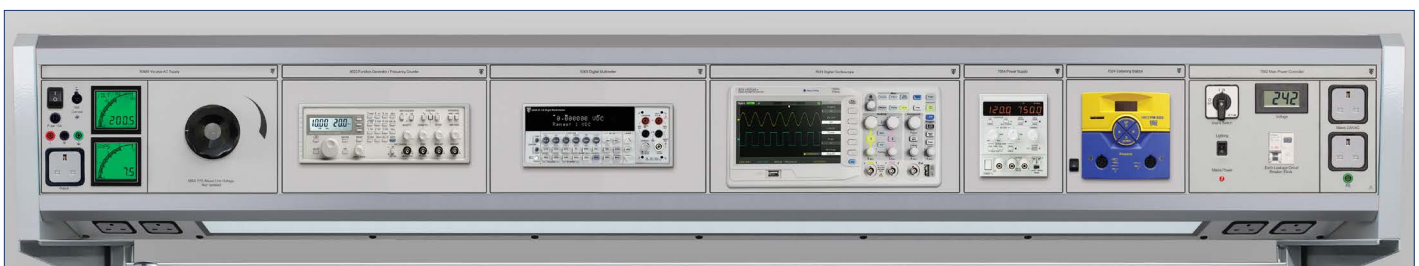
This package creates a highly organised workspace with modules such as variable AC and DC power supplies, an oscilloscope, function generator and digital multimeter. This module selection provides engineers with a range of features and functions to perform service work where signal generation and analysis is required. The benchtop instruments add further calibration capabilities.

Additionally a soldering station module allows users to perform repairs of devices and work on electrical components. Accessories that complement the module include a 6 piece tip set, magnifying lamp and circuit board holder.

An antistatic workstation kit is supplied, featuring matting to cover the worktop, bonding plugs, wrist strap and leads. For storage the bench is fitted with a 3 drawer unit, and the perforated panel has a selection of quick access storage fittings. These include tool hooks and holders, shelf, plastic bins and magnet set.

### Features

- CalBench for electrical calibration, R&M and diagnostics
- Oscilloscope and digital multimeter modules
- Variable AC and DC power supply modules
- Function generator with frequency counter module
- Benchtop electrical multifunction calibrator
- Transportable insulation tester calibrator
- PC workstation running EasyCal software for automated calibration
- Soldering station module with accessories
- Magnifying lamp and circuit board holder
- Antistatic mat included, with bonding plugs, wrist strap & leads
- Under bench drawer unit, perforated panel shelf, bins and hooks



## CBP-ELEC3: Items in the Package

*The modules and items in the CBP-ELEC3 Electrical CalBench package*



Item #	Qty	Code	Basic Description	Basic Purpose
1	1	7080-HD	CalBench Heavy Duty Version (W 2000 x D 850 x H 1568 mm) Framework bench style with worktop, perforated panel, primary console with 7082 mains power controller module.	Provides an ergonomic workspace for various applications. Modules below to be fitted to the primary console for the necessary workload.
2	1	7125	Perfo Panel Option: 20 piece Tool Hook Kit	For holding various tools and accessories.
3	1	7139	Perfo Panel Option: Shelf (W 450 x D 250 x H 130 mm)	Suitable for storing equipment and tools.
4	1	7133	Magnet Set for Perfo Panel (10 x round, 10 x hook type)	For securing documents and small tools to perfo panel.
5	1	7141	Perfo Panel Option: Storage Bin Strip (W 450 x H 75 mm) Supplied with 4 x 1 L bins.	For storage of components and small tools.
6	1	7122	3 Drawer Unit (W 525 x D 550 x H 450 mm)	For storage of equipment, tools, documents etc.
7	1	7123	Under Bench CPU Holder	For housing computer (CBPC) under worktop.
8	1	5065B	6.5 Digital Multimeter Module AC/DC voltage, AC/DC current, 2/4 wire resistance, frequency, period, diode, continuity, thermocouples and RTD.	A versatile 6½ digit multimeter module with 19 measurement functions. Simple operation, stability, and high accuracy make the 5065B an ideal DMM for a variety of applications.
9	1	7023	Digital Oscilloscope Module 150 MHz, 2 channel, colour LCD display.	Oscilloscope ideal for maintenance of electronic equipment and general purpose laboratory work.
10	1	8023	10 MHz Function Generator Module with Frequency Counter DDS function generator with sweep and 120 MHz counter.	Used to generate different types of electrical waveforms over the frequency range, and frequency measurement for fault diagnostics and repair work.
11	1	7088D	Adjustable AC Supply Module with Digital Displays Variable output voltage from 0 to 110% above line input. 0 to 265 V 50 Hz, 10 A at 240 V. 0 to 121 V 50 Hz, 10 A at 110 V.	Provides variable 50 Hz AC power up to 10 A with two digital meters monitoring the output voltage and current. For general purpose use and R&M applications.
12	1	7054	120 V DC 0.75 A Adjustable Power Supply Module - Digital	A regulated DC supply for inputting stable voltages, for bench testing of devices and circuits.
13	1	7034	Digital Soldering Station Module Includes soldering iron, standard tip and holder	High quality soldering, for electronics, components etc.
14	1	7146	Extra Solder Tips (6 piece set)	A selection of soldering tips for use with the 7035 module.
15	1	5025E-S2	Benchtop Electrical Multifunction Calibrator AC/DC 1050 V / 22 A, variable resistance, Pt100 simulation, thermocouple simulation, conductance, capacitance, power calibration, 10 MHz digital frequency.	Source & simulation of signals for electrical, electronic, frequency, temperature calibration. Enables users to test and verify process and electrical instruments like sensors, multimeters, clamp meters and more.
16	1	CBPC	CalBench PC Workstation Includes high performance PC, touch screen monitor, TL102 mounting arm, keyboard and mouse. Pre-loaded with EasyCal calibration software (ECFLA below).	Primarily for use with 5025E, 5065B and EasyCal software. An ergonomic mounting arm fixes the monitor to the perfo panel enabling it to be positioned away from the tabletop when not in use. The PC is housed in the 7123 under worktop holder.
17	1	ECFLA	EasyCal Calibration Software	Software for automated calibration and workflow management. It enables scheduling, booking in, control & readback from compatible instruments, optimised calibration processes. Create, print & issue calibration certificates, labels & reports.
18	1	9795	Printer and Connectivity Kit Printer, DVD-RW, USB Hub, Numeric Key Pad & Memory Stick.	Allows certificates and reports to be printed as required. Also data storage, backups and connectivity.
19	1	9778	Cal and ID Label Printer	Print calibration labels, bar codes, and ID labels for tagging devices and instruments.
20	1	9777	Bar Code Reader	For reading instruments/devices that have been bar coded. Enables instant identification within EasyCal.
21	1	9780	Clamp Meter Adaptor	Used with 5025E to calibrate clamp meters.
22	1	9773	Optical Tacho Adaptor	Used with 5025E to calibrate optical tachometers.
23	1	9796	Premium Test Lead Set	Provides necessary connections for 5025E testing applications.
24	1	5069	Benchtop Insulation Tester Calibrator Decade resistance 100 kΩ to 100 GΩ.	For calibrating insulation testers and megohmmeters with test voltages up to 10 kV.
25	1	7181	Magnifying Lamp Magnifier with 175 mm diameter, 1.75x magnifying lens.	Magnification and illumination on the benchtop, for inspection of circuit boards, components etc.
26	1	7182	Table Base for magnifying lamp	Table base for 7181, allowing the unit to be moved as required.
27	1	7180	Circuit Board Holder	For holding circuit boards with quick and easy rotation and component insertion/soldering.
28	1	7186	ESD Workstation Kit for CalBench Benchtop mat, signage, bonding plugs, wrist strap & leads.	An antistatic mat to cover the benchtop when needed. A kit to eliminate static electricity and prevent ESD damage.
29	1	CERTS	Traceable Calibration Certificates For all test modules and additional test equipment.	Certifies all source/measure modules and extra instruments have been tested in the TE factory to international standards.



## CBP-RM1: Repair and Maintenance CalBench Package

*A pre-configured CalBench for electrical and electronic service work, repairs and diagnostics*



### About the R&M CalBench

The CBP-RM1 is a package featuring a multi-purpose CalBench with various extras for common repair and maintenance applications. It is an excellent system for electrical workshops that need a solution to fast and efficient instrument and device diagnostics.

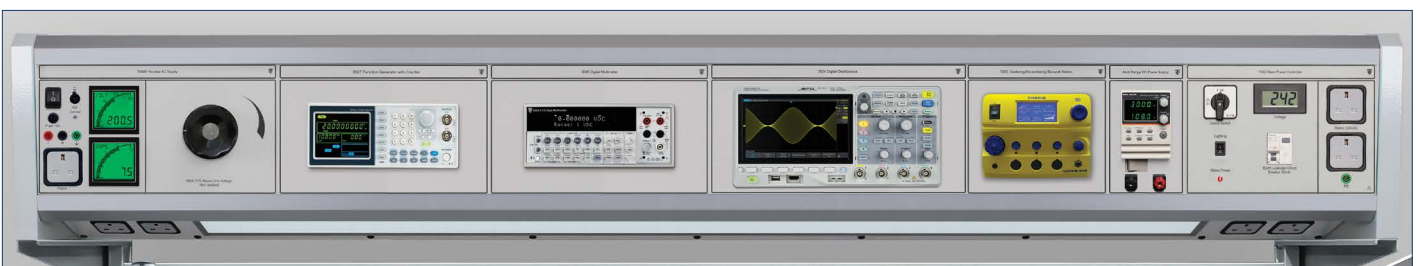
This package creates a highly organised workspace with familiar test and measurement instruments integrated into the console of the CalBench. Modules include variable AC and DC power supplies, an oscilloscope, function generator and digital multimeter. This module selection provides engineers with a range of features and functions to perform service work where signal generation and analysis is required.

Additionally a soldering/de-soldering/re-work station module allows users to perform repairs of devices and work on electrical components. Accessories that complement the module include a fume extractor, magnifying lamp and circuit board holder.

The package includes a PC that situates under the bench. The accompanying touch screen monitor mounts to a retractable arm that fixes to the perfo panel.

### Features

- CalBench for R&M, diagnostics, fault finding and analysis
- Suitable for electrical workshops in process and power plants
- Modules to help users investigate behaviours of instruments
- Oscilloscope and digital multimeter modules
- Variable AC and DC power supply modules
- Function generator with frequency counter module
- Solder and re-work module with accompanying benchtop extras
- PC housed under worktop with monitor mounted to perfo panel
- Antistatic mat included, with bonding plugs, wrist strap & leads
- Comprehensive kit of electronics service tools included





## CBP-RM1: Items in the Package

*The modules and items in the CBP-RM1 Repair and Maintenance CalBench package*



Item #	Qty	Code	Basic Description	Basic Purpose
1	1	7080-HD	CalBench Heavy Duty Version (W 2000 x D 850 x H 1568 mm) Framework bench style with worktop, perforated panel, primary console with 7082 mains power controller module.	Provides an ergonomic workspace for various applications. Modules below to be fitted to the primary console for the necessary workload.
2	1	7137	Perfo Panel Option: 40 piece Tool Hook Kit	For holding various tools and accessories.
3	1	7139	Perfo Panel Option: Shelf (W 450 x D 250 x H 130 mm)	Suitable for storing equipment and tools.
4	1	7133	Magnet Set for Perfo Panel (10 x round, 10 x hook type)	For securing documents and small tools to perfo panel.
5	1	7141	Perfo Panel Option: Storage Bin Strip (W 450 x H 75 mm). Supplied with 4 x 1 L bins.	For storage of components and small tools.
6	1	7132	5 Drawer Unit (W 525 x D 550 x H 600 mm)	For storage of equipment, tools, documents etc.
7	1	7123	Under Bench CPU Holder	For housing computer (CBPC) under worktop.
8	1	5065B	6.5 Digital Multimeter Module AC/DC voltage, AC/DC current, 2/4 wire resistance, frequency, period, diode, continuity, thermocouples and RTD.	A versatile 6½ digit multimeter module with 19 measurement functions. Simple operation, stability, and high accuracy make the 5065B an ideal DMM for a variety of applications.
9	1	7024	Digital Oscilloscope Module 200 MHz, 4 channel, colour LCD display.	High performance scope ideal for maintenance of electronic equipment and general purpose laboratory work.
10	1	8027	25 MHz Arbitrary DDS Function Generator Module With counter, sweep, AM, FM and FSK modulation.	Used to generate different types of electrical waveforms over the frequency range, and frequency measurement for fault diagnostics and repair work.
11	1	7088D	Adjustable AC Supply Module with Digital Displays Variable output voltage from 0 to 110% above line input. 0 to 265 V 50 Hz, 10 A at 240 V. 0 to 121 V 50 Hz, 10 A at 110 V.	Provides variable 50 Hz AC power up to 10 A with two digital meters monitoring the output voltage and current. For general purpose use and R&M applications.
12	1	M-PSW160-7.2	Multi-Range DC Power Supply Module 0 to 160 V, 0 to 7.2 A, 360 W.	A regulated DC supply for inputting stable voltages, for bench testing of devices and circuits.
13	1	7035	High Performance Soldering/De-soldering/Rework Module Includes soldering iron, de-soldering tool & hot air rework tool, standard tips and nozzles.	High quality soldering for electronics, components etc. A comprehensive module that features a built-in pump for vacuum and air flow, and three simultaneously powered ports.
14	1	7146	Extra Solder Tips (6 piece set)	A selection of soldering tips for use with the 7035 module.
15	1	7147	Benchtop Fume Extraction Kit	Fume extractor for use with 7035 soldering module.
16	1	TL90	High Performance Magnification and Inspection Light	A magnifier with 48 premium LEDs to illuminate a 6 " wide-angle, distortion-free lens. For inspection of circuit boards etc.
17	1	7180	Circuit Board Holder	For holding circuit boards with quick and easy rotation and component insertion/soldering.
18	1	7183	Electronic Service Case (82 tools)	A comprehensive selection of tools for electrical and electronic service work.
19	1	7186	ESD Workstation Kit for CalBench Benchtop mat, signage, bonding plugs, wrist strap & leads.	An antistatic mat to cover the benchtop when needed. A kit to eliminate static electricity and prevent ESD damage.
20	1	CBPC	CalBench PC Workstation Includes high performance PC, touch screen monitor, TL102 mounting arm, keyboard and mouse.	Enable users to access necessary programs and data. An ergonomic mounting arm fixes the monitor to the CalBench perfo panel enabling it to be positioned away from the tabletop when not in use. The PC is housed in the 7123 under worktop holder.
21	1	CERTS	Traceable Calibration Certificates For all test modules and additional test equipment.	Certifies all measurement modules and additional instruments have been tested in the TE factory to international standards.



## CBP-RM2: Repair and Maintenance CalBench Package

*A pre-configured CalBench for R&M applications*



### About the CBP-RM2 Package

The CBP-RM2 is a functionally advanced CalBench package featuring a touch screen PC control centre and a selection of software controlled test modules. Users can access the wide range of functions and features from one ergonomic and organised workspace.

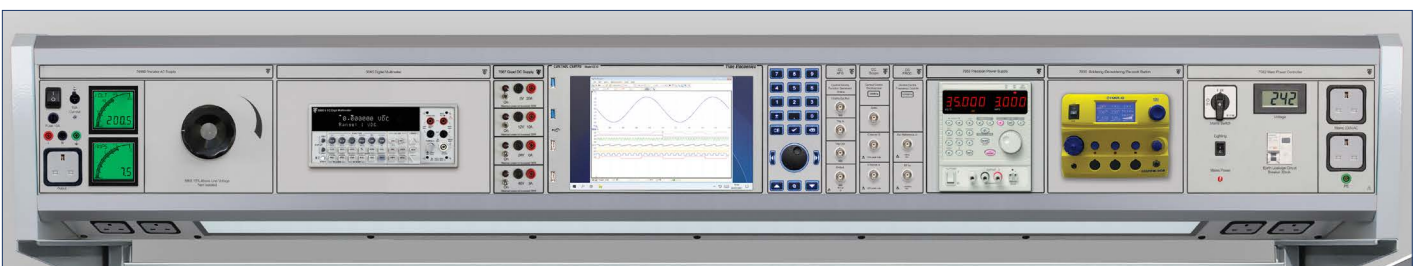
The control centre situates centrally in the console, with the connections for the software operated modules next to it. These include a 20 MHz function generator, 6 GHz frequency counter with power meter, and 100 MHz oscilloscope. These modules are utilised via their dedicated software applications running on the control centre.

Further modules include a variable AC power supply, fixed and adjustable DC power supplies, and digital multimeter. The module selection benefits engineers and technicians by combining familiar test equipment with intuitive and versatile interfaces. It is a solution for fast and efficient diagnostics and service work, but also enables users to implement and maintain quality processes from one station.

For on-bench repairs a soldering/re-work module allows users to work on devices, PCBs and components. Accompanying products include a fume extractor, magnifying lamp, circuit board holder, turntable and electronics service tool kit.

### Features

- Advanced R&M CalBench for diagnostics & fault finding
- Suitable for E&I workshops in process and power plants
- Combination of software controlled & manual operation modules
- 12.1" touch screen control centre PC module in middle of console
- Control centre function generator, frequency counter & power meter
- Control centre operated 100 MHz oscilloscope module
- Digital multimeter module (6.5 digit)
- Fixed and variable AC and DC power supply modules
- Solder and re-work module with accompanying benchtop extras
- Antistatic top and mat, with bonding plugs, wrist strap & leads
- Comprehensive kit of electronics service tools included



## CBP-RM2: Items in the Package

*The modules and items in the CBP-RM2 Repair and Maintenance CalBench package*



Item #	Qty	Code	Basic Description	Basic Purpose
1	1	7080-HD	CalBench Heavy Duty Version (W 2000 x D 850 x H 1568 mm) Framework bench style with worktop, perforated panel, primary console with 7082 mains power controller module.	Provides an ergonomic workspace for various applications. Modules below to be fitted to the primary console for the necessary workload.
2	1	7185	ESD grey laminate worktop for CalBench Chipboard, conductive core, 3 mm ABS edges, antistatic, scratch, impact and stain resistant.	A high quality durable anti-static worktop for the CalBench.
3	1	7137	Perfo Panel Option: 40 piece Tool Hook Kit	For holding various tools and accessories.
4	1	7139	Perfo Panel Option: Shelf (W 450 x D 250 x H 130 mm)	Suitable for storing equipment and tools.
5	1	7141	Perfo Panel Option: Storage Bin Strip (W 450 x H 75 mm) Supplied with 4 x 1 L bins.	For storage of components and small tools.
6	1	7157	Articulating Keyboard Tray for CalBench	Situates the keyboard and mouse for the control centre module operations. Can be positioned under bench when not in use.
7	1	8134	Mobile 4 Drawer Unit, ESD, RAL 7035 light grey colour	Mobile storage that can situate under the CalBench.
8	1	CC12	12.1" Capacitive Touch Screen PC Control Centre Module	For use with various software and applications.
9	1	CCPAD	Control Centre Numeric Keypad Module with jog dial	Provides an ergonomic method of using the control centre module without mouse or keyboard.
10	1	5065B	6.5 Digital Multimeter Module AC/DC voltage, AC/DC current, 2/4 wire resistance, frequency, period, diode, continuity, thermocouples and RTD.	A versatile 6½ digit multimeter module with 19 measurement functions. Simple operation, stability, and high accuracy make the 5065B an ideal DMM for a variety of applications.
11	1	CCSCOPE-2208B	Control Centre Integral Oscilloscope (2 channel) 100 MHz with connection module, control centre operation.	For basic R&M applications, fault finding and diagnostic work.
12	1	CC-FRQC	Control Centre Integral Frequency Counter & Power Meter 6000 MHz with connection module, control centre operation.	For frequency and power measurement applications in fault diagnostics and repair work.
13	1	CC-AFG20	Control Centre Integral Function Generator 20 MHz with connection module, control centre operation.	Used to generate different types of electrical waveforms over the frequency range, and frequency measurement for fault diagnostics and repair work.
14	1	7088D	Adjustable AC Supply Module with Digital Displays Variable output voltage from 0 to 110% above line input. 0 to 265 V 50 Hz, 10 A at 240 V. 0 to 121 V 50 Hz, 10 A at 110 V.	Provides variable 50 Hz AC power up to 10 A with two digital meters monitoring the output voltage and current. For general purpose use and R&M applications.
15	1	7053	56 V DC 4 A Adjustable Power Supply Module - Digital	A variable DC supply to supplement various applications.
16	1	7087	Quad DC Power Supply Module 6 V (20 A), 12 V (10 A), 24 V (6 A), 48 V (3 A).	Provides a DC power supply to various instrumentation and devices under test.
17	1	7035	High Performance Soldering/De-soldering/Rework Module Includes soldering iron, de-soldering tool & hot air rework tool, standard tips and nozzles.	High quality soldering for electronics, components etc. A comprehensive module that features a built-in pump for vacuum and air flow, and three simultaneously powered ports.
18	1	7146	Extra Solder Tips (6 piece set)	A selection of soldering tips for use with the 7035 module.
19	1	7147	Benchtop Fume Extraction Kit	Fume extractor for use with 7035 soldering module.
20	1	TL90	High Performance Magnification and Inspection Light	A magnifier with 48 premium LEDs to illuminate a 6 " wide-angle, distortion-free lens. For inspection of circuit boards etc.
21	1	7180	Circuit Board Holder	For holding circuit boards with quick and easy rotation and component insertion/soldering.
22	1	7154	Benchtop turntable with locking mechanism	For practical placement of devices and parts being worked on.
23	1	7183	Electronic Service Case (76 tools)	A comprehensive selection of tools for electrical and electronic service work.
24	1	7186	ESD Workstation Kit for CalBench Benchtop mat, signage, bonding plugs, wrist strap & leads.	An antistatic mat to cover the benchtop when needed. A kit to eliminate static electricity and prevent ESD damage.
25	1	9795	Printer and Connectivity Kit Printer, DVD-RW, USB Hub, Numeric Key Pad & Memory Stick	Peripherals for use with the control centre module, to connect and print documents and data, storage and backups.
26	1	CERTS	Traceable Calibration Certificates For all test modules and additional test equipment.	Certifies all source/measure modules and extra instruments have been tested in the TE factory to international standards.





## CBP-RM3: Repair and Maintenance CalBench Package

*A pre-configured CalBench for R&M applications and electrical service work*



### About the CBP-RM3 Package

The CBP-RM3 is a package featuring a multi-purpose CalBench with various modules and extras for common repair and maintenance applications. It is an excellent system for electrical workshops that need a solution to fast and efficient instrument and device diagnostics.

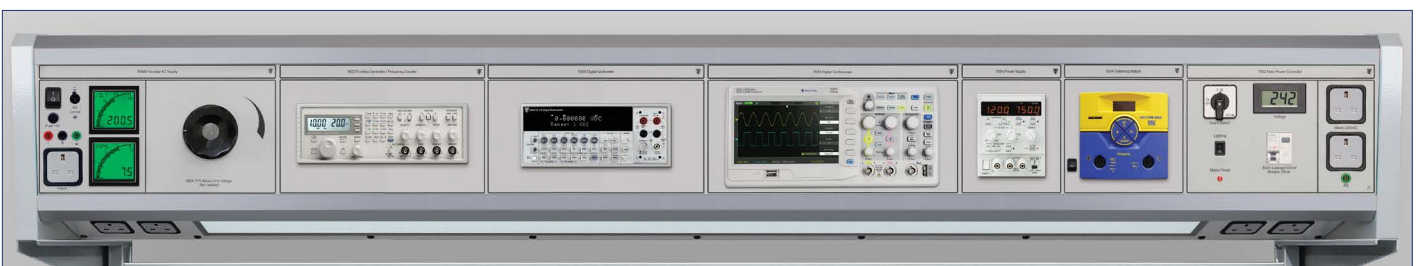
This package creates a highly organised workspace with familiar test and measurement instruments integrated into the console of the CalBench. Modules include variable AC and DC power supplies, an oscilloscope, function generator and digital multimeter. This module selection provides engineers with a range of features and functions to perform service work where signal generation and analysis is required.

Additionally a soldering station module allows users to perform repairs of devices and work on electrical components. Accessories that complement the module include a 6 piece tip set, magnifying lamp and circuit board holder.

An antistatic workstation kit is supplied, featuring matting to cover the worktop, bonding plugs, wrist strap and leads. For storage the bench is fitted with a 3 drawer unit, and the perforated panel has a selection of quick access storage fittings. These include tool hooks and holders, shelf, plastic bins and magnet set.

### Features

- CalBench for R&M, diagnostics, fault finding and analysis
- Suitable for E&I workshops in process and power plants
- Modules to help users investigate behaviours of instruments
- Oscilloscope and digital multimeter modules
- Variable AC and DC power supply modules
- Function generator with frequency counter module
- Soldering station module with accessories
- Magnifying lamp and circuit board holder
- Antistatic mat included, with bonding plugs, wrist strap & leads
- Under bench drawer unit, perforated panel shelf, bins and hooks



## CBP-RM3: Items in the Package

*The modules and items in the CBP-RM3 Repair and Maintenance CalBench package*



Item #	Qty	Code	Basic Description	Basic Purpose
1	1	7080-HD	CalBench Heavy Duty Version (W 2000 x D 850 x H 1568 mm) Framework bench style with worktop, perforated panel, primary console with 7082 mains power controller module.	Provides an ergonomic workspace for various applications. Modules below to be fitted to the primary console for the necessary workload.
2	1	7125	Perfo Panel Option: 20 piece Tool Hook Kit	For holding various tools and accessories.
3	1	7139	Perfo Panel Option: Shelf (W 450 x D 250 x H 130 mm)	Suitable for storing equipment and tools.
4	1	7133	Magnet Set for Perfo Panel (10 x round, 10 x hook type)	For securing documents and small tools to perfo panel.
5	1	7141	Perfo Panel Option: Storage Bin Strip (W 450 x H 75 mm) Supplied with 4 x 1 L bins.	For storage of components and small tools.
6	1	7122	3 Drawer Unit (W 525 x D 550 x H 450 mm)	For storage of equipment, tools, documents etc.
7	1	5065B	6.5 Digital Multimeter Module AC/DC voltage, AC/DC current, 2/4 wire resistance, frequency, period, diode, continuity, thermocouples and RTD.	A versatile 6½ digit multimeter module with 19 measurement functions. Simple operation, stability, and high accuracy make the 5065B an ideal DMM for a variety of applications.
8	1	7023	Digital Oscilloscope Module 150 MHz, 2 channel, colour LCD display.	Oscilloscope ideal for maintenance of electronic equipment and general purpose laboratory work.
9	1	8023	10 MHz Function Generator Module with Frequency Counter DDS function generator with sweep and 120 MHz counter.	Used to generate different types of electrical waveforms over the frequency range, and frequency measurement for fault diagnostics and repair work.
10	1	7088D	Adjustable AC Supply Module with Digital Displays Variable output voltage from 0 to 110% above line input. 0 to 265 V 50 Hz, 10 A at 240 V. 0 to 121 V 50 Hz, 10 A at 110 V.	Provides variable 50 Hz AC power up to 10 A with two digital meters monitoring the output voltage and current. For general purpose use and R&M applications.
11	1	7054	120 V DC 0.75 A Adjustable Power Supply Module - Digital	A regulated DC supply for inputting stable voltages, for bench testing of devices and circuits.
12	1	7034	Digital Soldering Station Module Includes soldering iron, standard tip and holder.	High quality soldering, for electronics, components etc.
13	1	7146	Extra Solder Tips (6 piece set)	A selection of soldering tips for use with the 7035 module.
14	1	7181	Magnifying Lamp Magnifier with 175 mm diameter, 1.75x magnifying lens.	Magnification and illumination on the benchtop, for inspection of circuit boards, components etc.
15	1	7182	Table Base for magnifying lamp	Table base for 7181, allowing the unit to be moved around the bench work area.
16	1	7180	Circuit Board Holder	For holding circuit boards with quick and easy rotation and component insertion/soldering.
17	1	7186	ESD Workstation Kit for CalBench Benchtop mat, signage, bonding plugs, wrist strap & leads.	An antistatic mat to cover the benchtop when needed. A kit to eliminate static electricity and prevent ESD damage.
18	1	CERTS	Traceable Calibration Certificates For all test modules and additional test equipment.	Certifies all source/measure modules and extra instruments have been tested in the TE factory to international standards.



## CBP-TRN1: Process Instrumentation Trainer CalBench Package

*A pre-configured CalBench for training instrumentation technicians and engineers*



### About the Package

The CBP-TRN1 CalBench can be used to demonstrate and practice pressure, process, and temperature instrumentation calibration. It is suitable as a teacher workstation that is easy to operate manually, but can also perform software driven calibration. Educate trainees on applications relating to commissioning, calibration and maintenance of the typical devices used for measurement in industrial systems.

The 8060+ module sits centrally in the console, providing source, simulation and measurement of process signals, HART communication and 24 V loop power. It features an integral multimeter, and a PC control centre with 12.1" touch screen display. Both manual control and EasyCal software driven calibration can be performed. EasyCal communicates with pressure modules and dry block calibrator.

For pressure, pneumatic and hydraulic calibration can be performed. A regulated pneumatic module with high accuracy digital gauge is used for vacuum to 7 bar (100 psi). Then gauge modules for 20 bar (300 psi) and 350 bar (5000 psi) are used with supplied pumps.

The package has various extras to aid training applications and create an ergonomic workspace. These include on-bench storage with drawers, holders, perfo panel hooks, document holder, and shelves. Calibration accessories include an adaptors/fittings kit, and an instrumentation test stand with manifold, vice and transmitter bracket.

### Features

- Process/pressure instrumentation test & trainer CalBench
- Multifunction process calibrator module with 6.5 digit multimeter
- Control centre module with 12.1" touch screen display
- Regulated vacuum to 7 bar (100 psi) module with digital gauge
- Digital gauge modules for 20 bar (300 psi) & 350 bar (5k psi)
- All pressure modules have control centre readback interface
- Electrical vacuum pump in housing, power switch on bench
- Pneumatic & hydraulic benchtop pumps, adaptor kit, UUT stand
- Fixed and variable DC power supply modules
- Control centre oscilloscope module, decade box module
- Automated calibration with EasyCal software, peripherals supplied
- Under bench drawer unit & holder, perforated panel fittings, tool kit





## CBP-TRN1: Items in the Package

*The modules and items in the CBP-TRN1 Process Instrumentation Trainer CalBench package*



Item #	Qty	Code	Basic Description	Basic Purpose
1	1	7080-HD	CalBench Heavy Duty Version (W 2000 x D 850 x H 1568 mm) Framework bench style with worktop, perforated panel, primary console with 7082 mains power controller module.	Provides an ergonomic workspace for various calibration applications. Modules below to be fitted to the primary console for testing workload.
2	1	7125	Perfo Panel Option: 20 piece Tool Hook Kit	For holding various tools and accessories.
3	1	7139	Perfo Panel Option: Shelf (W 450 x D 250 x H 130 mm)	Suitable for storing equipment and tools.
4	1	7143	Perfo Panel Option: Document Holder (W 450 x H 360 mm)	For placing instructions, user manuals, guides etc.
5	1	7132	5 Drawer Unit (W 525 x D 550 x H 600 mm)	For storage of equipment, tools, components and extras.
6	3	7134	Slotted Divider Kit for drawers inside 7132	Partitions the drawer units for parts and components.
7	1	7123	CPU/Dry Block Calibrator Holder	For storing dry block calibrators when not in use.
8	1	8060+	Process Calibrator and Control Centre Module Advanced system package for precision source and measure capabilities. Integral process calibrator, 6.5 digit multimeter, PC and EasyCal software. Operation via 12.1" touch screen display. Built-in communication with pressure modules.	Source and measure process signals for electrical, frequency, temperature. Enables users to calibrate process instrumentation like transmitters. HART communication and integral 24 V DC supply. EasyCal software and accessories included for automation, administration and certificate generation.
9	1	CCPAD	Control Centre Numeric Keypad Module with jog dial	Ergonomic method of data entry to EasyCal software.
10	1	RMTEG-CV7b/0.02	Digital Pressure Gauge Module with Regulator Vacuum to 7 bar (100 psi), 0.02 % FS accuracy.	For pneumatic calibration from vacuum to 7 bar (100 psi), used with the 7149 electrical vacuum pump and external air supply. Can be used manually with pump also (measure mode).
11	1	MTEG-CV20b/0.02	Digital Pressure Gauge Module Vacuum to 20 bar (300 psi), 0.02 % FS accuracy.	For mid range pneumatic calibration and testing work. Pressure input to the module from the 7192 benchtop pump.
12	1	MTEG-G350b/0.02	Digital Pressure Gauge Module 0 to 350 bar (5000 psi), 0.02 % FS accuracy.	For accurate hydraulic pressure measurement to 350 bar. Pressure input to the module from the 7195 benchtop pump.
13	1	1051B	Resistance Decade Box Module (0.01 $\Omega$ to 1 M $\Omega$ )	For testing work, Pt100 simulation for checking RTD transmitters.
14	1	CCSCOPE-2208B	Integral Oscilloscope with Connection Module 100 MHz, 2 channel, operation via control centre.	For basic R&M applications, fault finding and diagnostic work.
15	1	7056	Dual Adjustable Power Supply Module 2 x 30 V DC 3 A.	A variable DC supply to supplement various applications.
16	1	7087	Quad DC Power Supply Module 6 V (20 A), 12 V (10 A), 24 V (6 A), 48 V (3 A).	Provides a DC power supply to various loop instrumentation under test.
17	1	7149	Electrical Vacuum Pump	Provides a vacuum that connects to the RMTEG-CV7b module, enabling regulation for negative pressure calibration work.
18	1	7149-HCO	Housing and Connectivity Option for the 7149 vacuum pump	Compact housing for the 7149 pump, situated under bench. Sound proofed and power control via 7082 module on CalBench.
19	1	7195	Benchtop Hydraulic Pressure Calibration Pump Vacuum to 700 bar (10,000 psi).	Hydraulic pressure to 700 bar. Used with MTEG-G350b module, with a dual output manifold for both UUT & module connection.
20	1	7192	Benchtop Pneumatic Pressure Calibration Pump Vacuum to 25 bar (350 psi).	Pressure generation to 25 bar. Used with MTEG-CV20b module, with a dual output manifold for both UUT & module connection.
21	1	7198	Pressure Calibration Accessories Kit A comprehensive selection of fittings, adaptors and hoses.	Provides all the required pressure connections and fittings for modules and pumps to UUTs.
22	1	8100	Instrumentation Test Stand	For positioning of UUTs like transmitters & gauges on benchtop.
23	1	8070	Dry Block Calibrator (-23 to 155 $^{\circ}$ C) With metric multi hole insert (1x3, 2x4, 1x5, 1x6, 1x9 mm), blank insert, EasyCal software driver pre-configured on control centre.	Temperature source for the calibration of probes, RTDs, and thermocouples. Manual control and EasyCal software compatible to automate calibration applications.
24	1	8070-METP	Pack of 11 Metric Inserts for 8070: 3,4,5,6,7,8,9,10,11,12, 13 mm	Inserts for use with different probe sizes, used with 8070.
25	1	CERTS	Traceable Calibration Certificates. For all test modules and additional test equipment.	Certifies all calibration modules and additional test instruments have been tested in the TE factory to international standards.



## CBP-TRN2: Dual User Instrumentation Trainer CalBench Package

*A pre-configured CalBench for instrumentation test and training*



### About the Package

The CBP-TRN2 CalBench is a dual user workstation for instrumentation test and training work. Students can work side by side to practice various applications relating to commissioning, calibration and maintenance of the typical devices used for measurement in process and oil & gas industries.

The CalBench console is configured with 2 sets of identical modules fitted to each side. This makes a combined solution for two students to work on tasks at the same time. 8060 modules provide source, simulation and measurement of process signals, HART communication and 24 V loop power. Each features a PC control centre with 12.1" touch screen display, running the calibrator control application. EasyCal software is available as an option, to enable automated calibration and test management.

For pressure, regulated pneumatic modules with digital gauges are used for 0 to 7 bar (100 psi) controlled output. Additional modules include two variable DC power supplies and two dual AC power socket modules situated at each end of the console.

The package has various extras to aid training applications and create an ergonomic workspace. These include perfo panel hooks, document holder, and shelves. Calibration accessories include an adaptors/fittings kit, and an instrumentation test stand with manifold, vice and transmitter bracket.

### Features

- Dual user instrumentation test & trainer CalBench
- For 2 students, side by side operation
- 2 x Multifunction process calibrator & control centre modules
- 2 x regulated 0 to 7 bar (100 psi) modules with digital gauges
- Pressure modules have control centre readback interface
- 2 x variable DC power supply modules
- 2 x dual AC V power socket modules
- 2 x configurable instrumentation test stands
- 2 x dual port manifolds (thread type can be specified)
- 2 x comprehensive pressure fittings/adaptors kits
- Mobile 4 drawer unit for storage, situates under bench
- Perforated panel fittings, document holder, shelves, tool kit



## CBP-TRN2: Items in the Package

*The modules and items in the CBP-TRN2 Process Instrumentation Trainer CalBench package*



Item #	Qty	Code	Basic Description	Basic Purpose
1	1	7080-HD	CalBench Heavy Duty Version (W 2000 x D 850 x H 1568 mm) Framework bench style with worktop, perforated panel, primary console with 7082 mains power controller module.	Provides an ergonomic workspace for various calibration applications. Modules below to be fitted to the primary console for testing workload.
2	1	7125	Perfo Panel Option: 20 piece Tool Hook Kit	For holding various tools and accessories.
3	2	7139	Perfo Panel Option: Shelf (W 450 x D 250 x H 130 mm)	Suitable for storing equipment and tools.
4	2	7143	Perfo Panel Option: Document Holder (W 450 x H 360 mm)	For placing instructions, user manuals, guides etc.
5	1	8134	Mobile 4 Drawer Unit, ESD, RAL 7035 light grey colour	Mobile storage that can situate under the CalBench.
6	2	8060	Process Calibrator and Control Centre Module Integral process calibrator with source & measure, PC with 12.1 " touch screen interface. Built-in communication with compatible modules.	Source and measure process signals for electrical, frequency, temperature. Enables users to calibrate process instrumentation like transmitters, RTDs, thermocouples and more.
7	2	RMTEG-G7b/0.02	Digital Pressure Gauge Module with Regulator 0 to 7 bar (100 psi), 0.02 % FS accuracy.	For pneumatic calibration work from 0 to 7 bar (100 psi), input from an external air supply (9 bar / 130 psi). Can be used manually with a hand pump also (measure mode).
8	2	7057	Adjustable DC Power Supply Module 60 V DC 1.5 A.	A variable DC supply to supplement various applications.
9	2	7198	Pressure Calibration Accessories Kit A comprehensive selection of fittings, adaptors and hoses.	Provides all the required pressure connections and fittings for modules and pumps to UUTs.
10	2	8100	Instrumentation Test Stand	For positioning of UUTs like transmitters & gauges on benchtop.
11	2	7161	Dual Port Benchtop Manifold For Pneumatic use from vacuum to 200 bar (3000 psi).	Compact pneumatic manifold that provides two output ports. Hand-tight connectors for pressure instrumentation under test.
12	1	CERTS	Traceable Calibration Certificates For all test modules and additional test equipment.	Certifies all calibration modules and additional test instruments have been tested in the TE factory to international standards.







## CBP-TRN3: Process Instrumentation Trainer CalBench Package

*A pre-configured CalBench for training instrumentation technicians and engineers*



### About the Package

The CBP-TRN3 CalBench is a multi-parameter workstation for pressure, process, and temperature instrumentation calibration training. It features a selection of easy to use modules and extras for practicing instrumentation setup, connections and testing. Educate trainees on applications relating to commissioning, calibration and maintenance of the typical devices used for measurement in industrial systems.

The 8060 module sits centrally in the console, providing source, simulation and measurement of process signals, HART communication and 24 V loop power. It features a PC control centre with 12.1" touch screen display, running the calibrator control application. EasyCal software is available as an option, to enable automated calibration and test management.

For pressure, a simple operation regulated pneumatic module with analogue gauge is used for 0 to 5 bar (70 psi) controlled output. Then a precision digital gauge module is used with the supplied pneumatic pump for vacuum to 20 bar (300 psi) coverage. Additional modules include a control centre operated oscilloscope, function generator with frequency counter, Pt100 simulator and DC power supplies.

The package has various extras to aid training applications and create an ergonomic workspace. These include on-bench storage with drawers, holders, perforated panel hooks, document holder, and shelves. Calibration accessories include an adaptors/fittings kit, and an instrumentation test stand with manifold, vice and transmitter bracket.

### Features

- Process/pressure instrumentation test & trainer CalBench
- Multifunction process calibrator module
- Control centre module with 12.1" touch screen display
- Regulated 0 to 5 bar (70 psi) module with analogue gauge
- Digital gauge module for vacuum to 20 bar (300 psi)
- Fixed and variable DC power supply modules
- Function generator module with frequency counter
- Control centre oscilloscope module
- Pt100 simulator module with 23 set points
- Configurable instrumentation test stand
- Benchtop pneumatic pump, pressure fittings/adaptors kit
- Under bench drawer unit & holder, perforated panel fittings, tool kit





Item #	Qty	Code	Basic Description	Basic Purpose
1	1	7080-HD	CalBench Heavy Duty Version (W 2000 x D 850 x H 1568 mm) Framework bench style with worktop, perforated panel, primary console with 7082 mains power controller module.	Provides an ergonomic workspace for various calibration applications. Modules below to be fitted to the primary console for testing workload.
2	1	7125	Perfo Panel Option: 20 piece Tool Hook Kit	For holding various tools and accessories.
3	1	7139	Perfo Panel Option: Shelf (W 450 x D 250 x H 130 mm)	Suitable for storing equipment and tools.
4	1	7143	Perfo Panel Option: Document Holder (W 450 x H 360 mm)	For placing instructions, user manuals, guides etc.
5	1	7124	5 Drawer Unit (W 525 x D 550 x H 600 mm)	For storage of equipment, tools, components and extras.
6	3	7134	Slotted Divider Kit for drawers inside 7132	Partitions the drawer units for parts and components.
7	1	7123	Under Bench Holder	For storing the 7198 adaptors/fittings kit when not in use.
8	1	8060	Process Calibrator and Control Centre Module Integral process calibrator with source & measure, PC with 12.1" touch screen interface. Built-in communication with compatible modules.	Source and measure process signals for electrical, frequency, temperature. Enables users to calibrate process instrumentation like transmitters, RTDs, thermocouples and more.
9	1	CCPAD	Control Centre Numeric Keypad Module with jog dial	Provides an ergonomic method of using the control centre module without mouse or keyboard.
10	1	MTEG-CV20b/0.02	Digital Pressure Gauge Module Vacuum to 20 bar (300 psi), 0.02 % FS accuracy.	For mid range pneumatic calibration and testing work. Pressure input to the module from the 7192 benchtop pump.
11	1	7084/7102	Analogue Pressure Gauge Module with Regulator 0 to 5 bar (70 psi).	For pneumatic output up to 5 bar (70 psi), input from an external air supply, ie shop air (7 bar / 100 psi).
12	1	CCSCOPE-2206B	Integral Oscilloscope with Connection Module 100 MHz, 2 channel, operation via control centre.	For basic R&M applications, fault finding and diagnostic work.
13	1	7001	Pt100 Simulator Module (-200 to +800 °C)	Simple operation simulator module for Pt100 resistance thermometers.
14	1	8023	10 MHz Function Generator Module with Frequency Counter DDS function generator with sweep and 120 MHz counter.	Used to generate different types of electrical waveforms over the frequency range, and frequency measurement for fault diagnostics and repair work.
15	1	7056	Dual Adjustable Power Supply Module 2 x 30 V DC 3 A.	A variable DC supply to supplement various applications.
16	1	7083	Dual 24 V Fixed DC Power Supply Module	For powering loop instrumentation, transmitters and other equipment requiring 24 V DC.
17	1	7192	Benchtop Pneumatic Pressure Calibration Pump Vacuum to 25 bar (350 psi).	Pressure generation to 25 bar. Used with MTEG-CV20b module, with a dual output manifold for both UUT & module connection.
18	1	7198	Pressure Calibration Accessories Kit A comprehensive selection of fittings, adaptors and hoses.	Provides all the required pressure connections and fittings for modules and pumps to UUTs.
19	1	8100	Instrumentation Test Stand	For positioning of UUTs like transmitters & gauges on benchtop.
20	1	CERTS	Traceable Calibration Certificates. For all test modules and additional test equipment.	Certifies all calibration modules and additional test instruments have been tested in the TE factory to international standards.



## Pre-Sales Services - CalBench Configuration Consultancy

*A step by step guide on how to create the best CalBench for your applications*

CalBench



### Step 1: Contact the CalBench Sales Team

Get in contact with us to discuss your requirements. We have a team of experts who will be able to run through the available options and explain the features and functions available.

- Email [sales@calbench.com](mailto:sales@calbench.com), call Time Electronics, or an authorised distributor.
- Let us know your location and industry, and relevant background information.
- Tell us about your existing set up and what you want to achieve with your CalBench.
- Look at the example CalBenches for a quick guide to common configurations.
- If applicable to your requirement we can base the configuration on an example CalBench and modify if needed.
- Provide the information based on steps 2 to 4.

Perfo Options

Bench Fittings



### Step 2: The CalBench Type, Fittings and Extras

Review the various options in Section 1 of this catalogue. The CalBench sales team can advise on suitable solutions based on your industry and type of work you will be using the CalBench to perform.

- Choose the 7080 cantilever CalBench or 7080-HD heavy duty framework CalBench.
- If it is a multiple CalBench requirement then decide if the 7080-CNR corner bench is an option to bridge the two main CalBenches and form an L-shaped workstation.
- Select the under worktop fittings that are appropriate based on storage needs.
- Choose the perforated panel options best suited, for your quick access storage.
- If a complete workshop or lab design requirement, then send us the dimensions.

Modules



### Step 3: Module Requirements

Selecting the correct modules for your applications is the most critical part of the process. See Section 2 for available modules, or we will advise you based on various criteria below.

- What are the general requirements for the CalBench, i.e. calibration, training, R&M etc.
- Do you want to automate calibration and testing applications.
- What are the parameters you want to cover, i.e. electrical, temperature, pressure etc.
- What instruments and devices do you want to calibrate.
- Range coverage: For parameters like pressure and temperature what are the min & max ranges, plus the most common range. For pressure what types are required.
- If available, the models or information on the UUT's you plan to calibrate.

Accompanying Products



### Step 4: Accompanying Instruments Requirements

Accompanying products are required to supplement applications on the CalBench. Typically these would be for pressure and temperature, or items used for service work in the laboratory/workshop, and for field applications.

- Line pressure: What is required and what is readily available on-site.
- Manual pressure generation: Pumps and extras for inputting pressure to modules.
- Dry block calibrators: A typical requirement, selecting the models needed based on temperature range coverage, i.e. for RTDs and thermocouples.
- R&M products such as soldering stations and extras that may be needed.
- Determine what other products are needed for lab and/or field applications.

Documentation



### Step 5: Receive Detailed Information About Your CalBench

Once the configuration of the CalBench and additional items have been confirmed, the CalBench team or distributor will provide detailed documentation.

- Technical proposal with an overview of all items in the package.
- Full project file with individual data sheets, specifications and relevant literature
- Concept images of the CalBench or CalBenches
- If a lab design an overview and concept images of the work space
- Pricing, delivery and ordering information
- Information on services like installation and training. Both on-site and UK based training programs are available.





## On-Site Services

### Installation, Commissioning, Training

A travelling engineer will visit the customer's facility to install and commission the CalBench, supporting instruments, and laboratory furniture. Our team can perform site visits worldwide and are qualified to work on offshore platforms, power and processing plants, and refineries.

Training is most often included with the CalBench or lab installation, or can be scheduled for a later date. A qualified CalBench engineer will educate users on how to set up their system, to operate modules and additional test instruments. They will also simulate the calibration process by demonstrating tests on actual devices at the site, as well as consulting on best practice calibration.

### Calibration and Maintenance

A technician can visit the test facility annually to perform calibration of the CalBench and additional test equipment. This can be scheduled before or after installation and can include additional training if required.



## Factory Acceptance Testing & Training in UK

### Factory Acceptance Testing

Factory acceptance testing can be undertaken by the end user or their designated inspection company. A full program is provided to cover the visual and functional checks of the CalBench and other equipment for supply.

### UK Based Training

Customers can visit Time Electronics UK and receive training on their ordered system prior to shipment. We will schedule and arrange all aspects of the visit, including local transport and accommodation. The factory is based in Tonbridge, situated in the south east of England, approximately thirty miles from London.



## Remote Training and Support

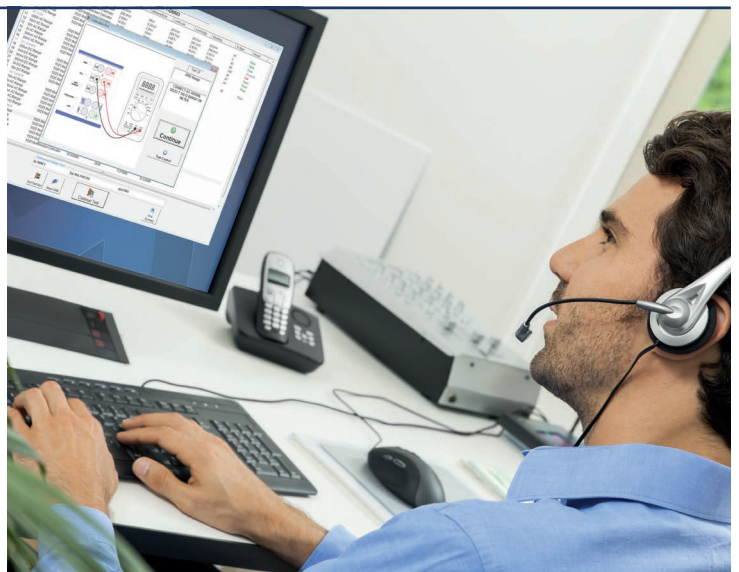
### Online EasyCal Training

Using remote desktop sharing we can help customers understand and utilise EasyCal software for calibration work and management. We can provide basic tutorials or troubleshoot specific applications relative to end user requirements.

### EasySupport for CalBench

CalBenches that features a control centre modules come supplied with the Time Electronics EasySupport program. This application enables users to communicate directly with the factory, allowing the CalBench technical support team to log in and control the customer's system remotely.

This is an extremely useful tool for both support and training. The UK based team can run diagnostics and functional checks as required, and help customers resolve software issues. Customers can contact the support team by phone or via the Time Electronics website to schedule sessions.





# 55

Y E A R S



***Time Electronics***  
*Calibration, Test and Measurement*

*Time Electronics Ltd, Unit 5, TON Business Park, 2-8 Morley Road,  
Tonbridge, Kent, TN9 1RA. United Kingdom.*

*T: +44 (0) 1732 355993    F: +44 (0) 1732 350198    E: [mail@timeelectronics.co.uk](mailto:mail@timeelectronics.co.uk)*

***[www.timeelectronics.com](http://www.timeelectronics.com)***