

The background of the entire image is a repeating pattern of the letters 'S' and 'V' in a light yellow color. The letters are stylized and interlocked, creating a dense, textured effect. In the upper left quadrant, the letters 'SVA' are prominently displayed in a large, bold, black sans-serif font.

**SVA**

**TEST, MEASUREMENT &  
CALIBRATION INSTRUMENTS**

STARDARDS, SYSTEMS & SOFTWARE



**Ideal for quick / fast Site Calibration of RTDs / TCs / Bi-Metal Thermometers, Temperature Switches / Indicators etc. in Industrial & Marine Applications**

**Meets the requirements of "Safety of Life at Sea" (SOLAS IX Maintenance Regulations) & "International Safety Management" (ISM)**

## TEMPERATURE

# LOW TEMPERATURE DRY BLOCK CALIBRATOR

**Portable / Bench-top, Heavy Duty Models** *with an array of Interchangeable / Multihole Thermowells*

## MODEL 350 H / 350-H2

- Range: 10°C above Ambient to 350°C
- Accuracy:  $\pm 1^\circ\text{C}$
- Immersion Depth :      350 H      350-H2  
   110 mm    190 mm
- Heavy Duty Portable / Bench-top Model
- Rugged Field Use & for Calibration at Site
- Auto-tune PID Control
- Switch Test Capability
- Fast and Reliable
- Improved Accuracy, Resolution & Stability
- Interchangeable Thermowell Inserts, Single / Multihole
- Meets CE Norms

## SPECIFICATIONS

Range	10°C above Ambient to 350°C
Resolution	0.1°C
Accuracy	$\pm 1^\circ\text{C}$
Stability	$\pm 0.3^\circ\text{C}$ (350 H) $\pm 0.4^\circ\text{C}$ (350-H2)
Stabilisation Time	15 Minutes
Well Diameter	25 mm
Immersion Depth	110 mm (350 H) 190 mm (350-H2)
Heating Time (Ambient to max.)	20 Minutes (350 H) 28 Minutes (350-H2)
Cooling Time (to 100°C)	45 Minutes (350 H) 60 Minutes (350-H2)
Interchangeable Thermowells	Single hole to suit 1/4" & 1/2" Probes – Standard Other Sizes / Multihole – optional
Switch Test facility / Supply	Provided / 5V DC (open)

## SPECIFICATIONS

Power Supply / Consumption	230V AC / 50 Hz / 500 W
Instrument Dimensions (L x D x H)	160 x 330 x 350 mm (350 H) 160 x 365 x 450 mm (350-H2)
Instrument Weight	7 Kg. (350 H)      8.5 Kg. (350-H2)

## STANDARD DELIVERY

- Basic Instrument
- Test Leads
- Mains Cable
- Insertion Tubes (to suit 1/4" & 1/2" probes)
- Tool for Insertion Tubes
- Spare Fuses
- Traceable Calibration Certificate
- Instruction Manual
- Carrying Case

## OPTIONALS

- RS-232 Computer Interface
- "Caltemp" Calibration Software
- Additional Thermowells / Insertion Tubes (to choose from):  
Single hole standard sizes to suit:  
1/8", 1/4", 3/8", 1/2", 3/4", 7/8" & 3, 4, 5, 6, 7, 8, 10, 12, 13, 15, 17, 19 & 21 mm probes  
Multihole (Typical): (1x6 + 1x8), (3x6), (1x10 + 1x4) mm
- 115V AC / 60 Hz Power Supply
- Dual Voltage selection (115V AC & 230V AC)
- Calibration Certificate from NABL Accredited – as per ISO/IEC 17025:2005 Laboratory



**BUDGET SOLUTION**



**Ideal for quick / fast Site Calibration of RTDs / TCs / Bi-Metal Thermometers, Temperature Switches / Indicators etc. in Industrial & Marine Applications**

**Meets the requirements of "Safety of Life at Sea" (SOLAS IX Maintenance Regulations) & "International Safety Management" (ISM)**

## TEMPERATURE

# MEDIUM TEMPERATURE DRY BLOCK CALIBRATOR

**Portable / Bench-top, Heavy Duty Models** *with an array of Interchangeable / Single – Multihole Thermowells*

## MODELS ETC 600 / ETC 600-2

- Range: 50 to 600°C
- Accuracies:      ETC 600      ETC 600-2  
                          $\pm 0.1\%$  F.S. +1 digit     $\pm 0.15\%$  F.S. +1 digit
- Cost Effective – Economy Model
- Immersion Depth:    ETC 600      ETC 600-2  
                                 110 mm      190 mm
- Calibration at Site, Fast & Reliable

## SPECIFICATIONS

Range	50°C to 600°C
Resolution	1°C
Display	Digital Display, 3½ digit LED
Accuracy	$\pm 0.1\%$ F.S. + 1 digit    ETC 600 $\pm 0.15\%$ F.S. + 1 digit    ETC 600-2
Stability	$\pm 0.5^\circ\text{C}$
Temperature Readout	°C / °F Switchable
Well Diameter	25 mm
Immersion Depth	110 mm (ETC 600) 190 mm (ETC 600-2)
Heating Time (Ambient to max.)	18 Minutes (approx.) ETC 600 40 Minutes (approx.) ETC 600-2
Cooling Time (to 100°C)	60 Minutes (approx.) ETC 600 100 Minutes (approx.) ETC 600-2
Interchangeable Thermowells	Single hole to suit 1/4" & 1/2" Probes – Standard Other Sizes / Multihole – optional
Switch Test Facility / Supply	Provided / 7 VDC Nominal
Analog Output (F.S.)	10 mV / °C
Power Supply / Consumption	230V AC / 50 Hz / 1200 Watts
Instrument Dimensions (L x W x H)	270 x 124 x 240 mm    ETC 600 270 x 124 x 306 mm    ETC 600-2
Instrument Weight	7 Kgs. (ETC 600) 9 Kgs. (ETC 600-2)

- PD Temperature Control
- Analog Output
- Provision for Thermostat Switch Testing
- Interchangeable Thermowell Inserts, Single / Multihole

## STANDARD DELIVERY

- Basic Instrument
- Test Leads
- Mains Cable
- Insertion Tubes (to suit 1/4" & 1/2" probes)
- Tool for Insertion Tubes
- Spare Fuses
- Traceable Calibration Certificate
- Instruction Manual
- Carrying Case

## OPTIONALS

- Additional Thermowells / Insertion Tubes (to choose from):  
Single hole standard sizes to suit:  
1/8", 1/4", 3/8", 1/2", 3/4", 7/8" & 3, 4, 5, 6, 7, 8, 10, 12, 13, 15, 17, 19 & 21 mm probes  
Multihole (Typical): (1x6 + 1x8), (3x6), (1x10 + 1x4) mm
- 115V AC / 60 Hz Power Supply
- Calibration Certificate from NABL Accredited – as per ISO/IEC 17025:2005 Laboratory



**Ideal for quick / fast Site Calibration of RTDs / TCs / Bi-Metal Thermometers, Temperature Switches / Indicators etc. in Industrial & Marine Applications**

**Meets the requirements of "Safety of Life at Sea" (SOLAS IX Maintenance Regulations) & "International Safety Management" (ISM)**

## TEMPERATURE

**MEDIUM TEMPERATURE DRY BLOCK CALIBRATOR**

**Portable / Bench-top, Heavy Duty Models with an array of Interchangeable / Multihole Thermowells**

**MODELS** 650 H / 650-H2

- Range: 20°C above Ambient to 650°C
- Accuracy:  $\pm 1.5^\circ\text{C}$
- Immersion Depth: 650 H    650-H2
- Heavy Duty Portable / Bench-top Model
- Rugged Field Use & for Calibration at Site
- Auto-tune PID Control
- Fast and Reliable
- Improved Accuracy, Resolution & Stability
- Interchangeable Thermowell Inserts : Single / Multihole
- Meets CE Norms
- Switch Test Capability

110 mm    190 mm

**SPECIFICATIONS**

Range	20°C above Ambient to 650°C	
Resolution	0.1°C	
Accuracy	$\pm 1.5^\circ\text{C}$	
Stability	$\pm 0.5^\circ\text{C}$ (650 H)	$\pm 0.6^\circ\text{C}$ (650-H2)
Stabilisation Time	25 Minutes	
Well Diameter	25 mm	
Immersion Depth	110 mm (650 H)	190 mm (650-H2)
Heating Time (Ambient to max.)	20 Minutes (650 H)	40 Minutes (650-H2)
Cooling Time (to 100°C)	60 Minutes (650 H)	180 Minutes (650-H2)
Interchangeable Thermowells	Single hole to suit 1/4" & 1/2" Probes – Standard Other Sizes / Multihole – optional	
Switch Test facility / Supply	Provided / 5V DC (open)	
Power Supply / Consumption	230V AC / 50 Hz / 1200 W (650 H)	230V AC / 50 Hz / 1400 W (650-H2)
Instrument Dimensions (L x D x H)	160 x 330 x 350 mm (650 H)	160 x 365 x 450 mm (650-H2)
Instrument Weight	8.5 Kg. (650 H)	11 Kg. (650-H2)

**STANDARD DELIVERY**

- Basic Instrument
- Test Leads
- Mains Cable
- Insertion Tubes (to suit 1/4" & 1/2" probes)
- Tool for Insertion Tubes
- Spare Fuses
- Traceable Calibration Certificate
- Instruction Manual
- Carrying Case

**OPTIONALS**

- RS-232 Computer Interface
- "Caltemp" Calibration Software
- Additional Thermowells / Insertion Tubes (to choose from):  
Single hole standard sizes to suit:  
1/8", 1/4", 3/8", 1/2", 3/4", 7/8" & 3, 4, 5, 6, 7, 8, 10, 12, 13, 15, 17, 19 & 21 mm probes  
Multihole (Typical) : (1x6 + 1x8), (3x6), (1x10 + 1x4) mm
- 115V AC / 60 Hz Power Supply
- Dual Voltage selection (115V AC & 230V AC)
- Calibration Certificate from NABL Accredited – as per ISO/IEC 17025:2005 Laboratory



**Ideal for quick / fast Lab / Site Calibration of TC / RTD, Bi-Metal Thermometers, Temperature Switches / Indicators etc. – in Industrial & Marine Applications.**

**Microprocessor based Precision Dry Block**

## TEMPERATURE

**SUB-ZERO TEMPERATURE CALIBRATOR**

**Portable / Bench-top Model**

**MODEL** MP40R

- Range: -40°C above Ambient to 123°C
- Accuracy:  $\pm 0.3^\circ\text{C}$
- Advanced – Microprocessor based Technology
- High Precision / Exceptional Stability
- Portable – Field & Lab use
- Fast heating & Cooling
- Switch Test & Hold facility
- Current Measurement & Transmitter Supply
- Programmable Slope Rate
- Analog Output
- RS-232 Computer Interface
- Calibration Software (optional)

**SPECIFICATIONS**

Range	-40°C from Ambient to 123°C
Resolution	$\pm 0.1^\circ\text{C}$
Accuracy	$\pm 0.3^\circ\text{C}$
Stability *	$\pm 0.05^\circ\text{C}$
Stabilisation Time	7 Minutes
Temperature Readout	°C / °F Switchable
Well Diameter	19 mm
Immersion Depth	100 mm
Heating Time	14 Minutes (from Ambient to max.)
Cooling Time	34 Minutes (from Ambient to min.)
Interchangeable Thermowells	Single Hole to suit 1/4" - Standard
Current Input	0 to 24 mA
Resolution	0.01 mA
Accuracy (mA)	$\pm 0.05\%$ FS + 1 digit
Transmitter Supply / Temperature Switch	24V / 30 mA DC / 5V
Power Supply / Consumption	230V AC / 50 Hz / 120 W
Instrument Dimensions (L x D x H)	155 x 375 x 300 mm
Instrument Weight	10 Kgs.

**STANDARD DELIVERY**

- Basic Instrument
- Test Leads
- Mains Cable
- Insertion Tube (to suit 1/4" Probe)
- Tool for Insertion Tube
- Spare Fuses
- RS-232 Computer Interface
- Traceable Calibration Certificate
- Instruction Manual
- Carrying Case

**OPTIONALS**

- Additional Single hole Insert (Maximum 15 mm)
- Multi-hole Insert (consult us)
- "Caltemp" Calibration Software
- 115V AC / 60 Hz Model
- Calibration Certificate from NABL Accredited – as per ISO/IEC 17025:2005 Laboratory

\* Measured at bottom of well with Precision Sensors

## Portable / Bench-top Model

## MODEL MP 650

- Range: 50°C to 650°C
- Accuracy:  $\pm 0.7^\circ\text{C}$
- Advanced – Microprocessor based Technology
- High Precision / Exceptional Stability
- Portable – Field & Lab use
- Fast heating & Cooling
- Switch Test & Hold facility
- Current Measurement & Transmitter Supply
- Programmable Slope Rate
- Analog Output
- RS-232 Computer Interface
- Calibration Software (optional)



Ideal for quick / fast Lab/ Site Calibration of TC / RTD, Bi-Metal Thermometers, Temperature Switches / Indicators etc. – in Industrial & Marine Applications

Microprocessor based Precision Dry Block

## SPECIFICATIONS

Range	50°C to 650°C
Resolution	$\pm 0.1^\circ\text{C}$
Accuracy	$\pm 0.7^\circ\text{C}$
Stability *	$\pm 0.06^\circ\text{C}$
Stabilisation Time	20 Minutes
Temperature Readout	°C / °F Switchable
Well Diameter	25 mm
Immersion Depth	110 mm
Heating Time	27 Minutes (Ambient to Max.)
Cooling Time	35 Minutes (from Max. to 100°C)
Interchangeable Thermowells	Single Hole to suit 1/4" & 1/2" probes – Standard Other Sizes / Multihole - optional

## SPECIFICATIONS

Current Input	0 to 24 mA Resolution: 0.01 mA Accuracy (mA): $\pm 0.05\%$ FS + 1 digit
Transmitter Supply / Temperature Switch	24V / 30 mA DC / 5V
Power Supply / Consumption	230V AC / 50 Hz / 1200 W
Instrument Dimensions (L x D x H)	155 x 375 x 300 mm
Instrument Weight	10 Kgs.

## STANDARD DELIVERY

\* Measured at bottom of well with Precision Sensors

- Basic Instrument
- Test Leads
- Mains Cable
- Insertion Tubes (to suit 1/4" & 1/2" Probes)
- Tool for Insertion Tube
- Spare Fuses
- RS-232 Computer Interface
- Traceable Calibration Certificate
- Instruction Manual
- Carrying Case

## OPTIONALS

- "Caltemp" Calibration Software
- Additional Thermowells / Insertion Tubes (to choose from):  
Single hole standard sizes to suit 1/8", 1/4", 3/8", 1/2", 3/4", 7/8" & 3, 4, 5, 6, 7, 8, 10, 12, 19, 21 mm probes  
Multihole (Typical): 1 x 6 + 1 x 8, 3 x 6, 1 x 10 + 1 x 4 mm
- 115V AC / 60 Hz Model
- Calibration Certificate from NABL Accredited – as per ISO/IEC 17025:2005 Laboratory

## Portable / Bench-top, Precision Dry Block Calibrator with Interchangeable Thermowells

## MODEL MTC 350

- Range: 50°C to 350°C
- Accuracy:  $\pm 0.4^\circ\text{C}$
- Advanced – Microprocessor based Technology
- Heavy Duty Portable / Bench-top Model
- High Accuracy, Resolution & Stability
- 128 x 64 Graphic Display
- Measurement Capability for TC, RTD, mV / mA / V & Resistance Signals
- Touch Membrane Keypad
- Switch Test Contact Measurement
- Interchangeable Thermowell Inserts, Single / Multihole
- RS-232 Interface & Calibration Software

## SPECIFICATIONS

Range	50°C to 350°C
Resolution	$0.1^\circ\text{C}$
Accuracy	$\pm 0.4^\circ\text{C}$
Stability	$\pm 0.05^\circ\text{C}$
Stabilisation Time	15 to 20 Minutes
Temperature Readout	°C / °F Switchable
Well Diameter	25 mm
Immersion Depth	110 mm
Heating Time (Ambient to max.)	20 Minutes
Cooling Time (to 100°C)	33 Minutes
Switch Test facility / Supply	Provided / 5 V DC (open)
Interchangeable Thermowells	Single hole to suit 1/4" & 1/2" Probes. Other Sizes / Multihole available as optional
Housing / Mounting	Bench-top
Power Supply / Consumption	230V AC / 50 Hz / 600 W
Instrument Dimensions (L x D x H)	160 x 365 x 350 mm
Instrument Weight	8 Kg.
Measurement Capability	

**THERMOCOUPLES:** ISA Types J, K, R, S, N  
**RTD:** Pt100 IEC Std. **MA:** 0 to 25 mA  
**MV:** 0 to 100 / 1000 mV **VOLT:** 0 to 10 V  
**RESISTANCE:** 0 to 500 Ohms / 3.5 KOhms

## MEASUREMENT: RANGE, RESOLUTION &amp; ACCURACY

TYPE	RANGE	RESOLUTION	ACCURACY
mV (Low)	0 to 100	0.01	mV (Low)
mV (High)	0 to 1000	0.1	
Volts	0 to 10	0.001	$\pm 0.05\%$ F.S.
mA	0 to 25	0.001	
Ohms	0 to 500	0.01	
KOhms	0 to 3.5	0.0001	
TC Type J	-100 to 1200		$\pm 0.1\%$ F.S.
TC Type K	-60 to 1260		
TC Type R	150 to 1760	0.1	
TC Type S	170 to 1760		
TC Type N	0 to 1300		$\pm 0.05\%$ F.S.
RTD Pt100	-100 to 800		

## STANDARD DELIVERY

- Basic Instrument
- Test Leads
- Mains Cable
- Insertion Tubes (to suit 1/4" & 1/2" probes)
- Tool for Insertion Tubes
- Spare Fuses
- RS-232 Computer Interface
- "Caltemp" Calibration Software
- Traceable Calibration Certificate
- Instruction Manual
- Carrying Case

## OPTIONALS

- Additional Thermowells / Insertion Tubes (to choose from):  
Single hole standard sizes to suit:  
1/8", 1/4", 3/8", 1/2", 3/4", 7/8" & 3, 4, 5, 6, 7, 8, 10, 12, 13, 15, 17, 19 & 21 mm probes  
Multihole (Typical): (1x6 + 1x8), (3x6), (1x10 + 1x4) mm
- 115 VAC / 60 Hz Power Supply
- Calibration Certificate from NABL Accredited – as per ISO/IEC 17025:2005 Laboratory



Ideal for quick / fast Site Calibration of RTDs / TCs / Bi-Metal Thermometers, Temperature Switches / Indicators etc. in Industrial & Marine Applications

High Accuracy, Resolution & Stability with

Measurement Capability

for mV / V / mA, Resistance TC (ISA Types: J, K, R, S, N), RTD (Pt100: IEC Standard) Signals





**Ideal for quick / fast Site Calibration of RTDs / TCs / Bi-Metal Thermometers, Temperature Switches / Indicators etc. in Industrial & Marine Applications**

**High Accuracy, Resolution & Stability with**

**Measurement Capability**

**for mV / V / mA, Resistance TC (ISA Types: J, K, R, S, N), RTD (Pt100: IEC Standard) Signals**

## Portable / Bench-top, Precision Dry Block Calibrator with Interchangeable Thermowells

### MODEL MTC 650

- Range: 50°C to 650°C
- Accuracy:  $\pm 0.6^\circ\text{C}$
- Advanced – Microprocessor based Technology
- Heavy Duty Portable / Bench-top Model
- High Accuracy, Resolution & Stability
- 128 x 64 Graphic Display
- Measurement Capability for TC, RTD, mV / mA / V & Resistance Signals
- Touch Membrane Keypad
- Switch Test Contact Measurement
- Interchangeable Thermowell Inserts, Single / Multihole
- RS-232 Interface & Calibration Software

### SPECIFICATIONS

Range	50°C to 650°C
Resolution	0.1°C
Accuracy	$\pm 0.6^\circ\text{C}$
Stability	$\pm 0.05^\circ\text{C}$
Stabilisation Time	15 to 20 Minutes
Temperature Readout	°C / °F Switchable
Well Diameter	25 mm
Immersion Depth	110 mm
Heating Time (Ambient to max.)	20 Minutes
Cooling Time (to 100°C)	33 Minutes
Switch Test facility / Supply	Provided / 5 V DC (open)
Interchangeable Thermowells	Single hole to suit 1/4" & 1/2" Probes. Other Sizes / Multihole available as optional
Housing / Mounting	Bench-top
Power Supply / Consumption	230V AC / 50 Hz / 1200 W
Instrument Dimensions (L x D x H)	160 x 365 x 350 mm
Instrument Weight	11 Kg.
Measurement Capability	<b>THERMOCOUPLES:</b> ISA Types J, K, R, S, N <b>RTD:</b> Pt100 IEC Std. <b>MA:</b> 0 to 25 mA <b>MV:</b> 0 to 100 / 1000 mV <b>VOLT:</b> 0 to 10 V <b>RESISTANCE:</b> 0 to 500 Ohms / 3.5 KOhms

### MEASUREMENT: RANGE, RESOLUTION & ACCURACY

TYPE	RANGE	RESOLU- TION	ACCURACY
mV (Low)	0 to 100	0.01	±0.05% F.S.
mV (High)	0 to 1000	0.1	
Volts	0 to 10	0.001	
mA	0 to 25	0.001	
Ohms	0 to 500	0.01	
KOhms	0 to 3.5	0.0001	±0.1% F.S.
TC Type J	-100 to 1200	0.1	
TC Type K	-60 to 1260		
TC Type R	150 to 1760		
TC Type S	170 to 1760		
TC Type N	0 to 1300		
RTD Pt100	-100 to 800		±0.05% F.S.

### STANDARD DELIVERY

- Basic Instrument
- Test Leads
- Mains Cable
- Insertion Tubes (to suit 1/4" & 1/2" probes)
- Tool for Insertion Tubes
- Spare Fuses
- RS-232 Computer Interface
- "Caltemp" Calibration Software
- Traceable Calibration Certificate
- Instruction Manual
- Carrying Case

### OPTIONALS

- Additional Thermowells / Insertion Tubes: (to choose from): Single hole standard sizes to suit: 1/8", 1/4", 3/8", 1/2", 3/4", 7/8" & 3, 4, 5, 6, 7, 8, 10, 12, 13, 15, 17, 19 & 21 mm probes  
Multihole (Typical): (1x6 + 1x8), (3x6), (1x10 + 1x4) mm
- 115V AC / 60 Hz Power Supply
- Calibration Certificate from NABL Accredited – as per ISO/IEC 17025:2005 Laboratory

## Semi-Portable Model

### MODEL 1200 HN

- Range : 300°C to 1200°C
- Accuracy : Better than  $\pm 3^\circ\text{C}$  \*
- Cost effective High Temperature Source (Max. : 1200°C)
- Multihole / Interchangeable (Thermowell) Inserts to suit

### SPECIFICATIONS

\* Improved Accuracies achieved thro' Comparison Techniques

Range	300°C to 1200°C
Resolution	1°C
Accuracy	Better than $\pm 3^\circ\text{C}$
Stability	Better than $\pm 0.5^\circ\text{C}$ (below 600°C)
Stabilisation Time	20 Minutes (above 500°C)
Temperature Readout	°C / °F Switchable
Well Diameter	45 mm
Immersion Depth	150 mm
Heating Time (to max)	90 Minutes
Cooling Time	45 Minutes
Multihole Thermowells	4 x 7 mm + 3 x 9 mm or to suit
Switch Test facility / Supply	Provided / 5 VDC (open)
Power Supply / Consumption	230V AC / 50 Hz / 1800 W
Temperature Control	Auto-tune PID Control
Forced Air Cooling **	Provision available
Transmitter Power Supply	24V DC
Instrument Dimensions (W x D x H)	205 x 365 x 480 mm
Instrument Weight	16 Kgs.

- High Stability & Accuracy
- Auto-tune PID Control
- Forced Air Cooling provision
- RS-232 Computer Interface
- "Caltemp" Calibration Software - Optional

### STANDARD DELIVERY

- Basic Instrument
- Cable for Thermostat Switch Test
- Mains Cable
- Insertion Tube - Multihole
- Tool for Insertion Tube
- Spare Fuses
- 1/4" BSP (F) Hose Adaptor with 6 mm Hose (1.5 Meter Length)
- RS-232 Computer Interface
- Traceable Calibration Certificate
- Instruction Manual

### OPTIONALS

- "Caltemp" Calibration Software
- 115V AC / 60 Hz Model
- Calibration Certificate from NABL Accredited – as per ISO/IEC 17025:2005 Laboratory

\*\* Dry Compressed Air required (@ 7 Bar).

Consult us for Special **HEAVY DUTY MODEL** with Dry Block 70 mm Dia & Immersion Depth 250 mm to accommodate Multiple Inserts at a time & an Interchangeable Thermowell. Ideal for calibration of longer & bulky Temperature Probes / Assemblies – consult us with specific requirement.



**Ideal for Steel, Glass, Metallurgical Industries, Cement Plants, Refineries, Fertilizer Plants, Thermal Power Stations etc.**

**Stable High Temperature Source (1200°C) for Calibration of Multiple (upto 6) Sensors at High Temperature**

**Semi-Portable with Castor Wheels****MODEL 1500 HN**

- Range: 500°C to 1500°C
- Accuracy:  $\pm 0.5\%$  of Span
- Fast, Stable & Accurate
- Autotune PID Controller
- Heating Element: Silicon Carbide
- Dry Block – High Alumina Ceramic Single (Interchangeable)
- Immersion Depth: 250 mm
- Interchangeable Single Hole Thermowells: ID 7, 11 & 15 mm
- Semi-Portable (with Castor Wheels)
- RS-232 Computer Interface
- "Caltemp" Calibration Software - Optional



**Ideal for Steel, Glass, Ceramic Semi-Conductor Industries etc. for Calibration of noble Metal Thermocouples – Type R / S / B etc.**

**Fast, Stable & Accurate**

**SPECIFICATIONS**

Range	500°C to 1500°C
Resolution	1°C
Accuracy	$\pm 0.5\%$ of Span *
Stability	$\pm 2^\circ\text{C}$
Stabilisation Time	50 Minutes (approx.)
Temperature Readout	°C / °F Switchable
Ceramic Dry Block Dia	55 mm
Probe Immersion Depth	250 mm
Heating Element	Silicon Carbide
Heating Time (to max)	190 Minutes (approx.)
Interchangeable Thermowells	ID : 7 mm; 11 mm; 15 mm
Transmitter Power Supply	24V DC
Power Supply / Consumption	230V AC / 50 Hz / 6 KW
Housing / Mounting	Floor Model on Castor Wheels
Temperature Control	Auto-tune PID Control
Instrument Dimensions (W x D x H)	345 x 510 x 830 mm (with wheel)
Instrument Weight	40 Kgs.

**STANDARD DELIVERY**

- Basic Instrument
- Ceramic Dry Block with 3 sizes of Single Hole Interchangeable Thermowells
- Test Leads
- RS-232 Computer Interface
- Traceable Calibration Certificate
- Instruction Manual

**OPTIONALS**

- Interchangeable / Single Hole Thermowells – other sizes
- Reference Thermocouple
- "Caltemp" Calibration Software
- Digital Temperature Indicator
- Calibration Certificate from NABL Accredited – as per ISO/IEC 17025:2005 Laboratory

\* In Comparison Mode, much higher Accuracies can be achieved.

**BLACK BODY SOURCES****BLACK BODY CALIBRATION SOURCES****Table-top / Bench-top Version For Low, Medium & High Temperature Ranges****MODELS BBSL, BBSM & BBSH**

- Compact, Light Weight & Portable
- Excellent Accuracy & Stability
- Auto-tune PID Controller
- Low Power Consumption
- Cost effective – Best value for Money
- RS-232 Interface & Calibration Software - Optional

**SPECIFICATIONS**

MODELS	BBSL	BBSM	BBSH
Range	10°C above Ambient to 350°C	20°C above Ambient to 600°C	500°C to 1200°C
Accuracy	Within 0.5% of indicated temperature (Min. 1°C)	Within 0.5% of indicated temperature (Min. 2°C)	Within 0.5% of indicated temperature (Min. 3°C)
Stability	$\pm 0.5^\circ\text{C}$	$\pm 0.5^\circ\text{C}$	$\pm 1.5^\circ\text{C}$
Resolution	0.1°C	0.1°C	1°C
Temperature Control	Auto-tune PID Controller	Auto-tune PID Controller	Auto-tune PID Controller
Heating time (Ambient to max.)	45 Minutes	45 Minutes	60 Minutes
Stabilization time (above 75°C)	20 minutes	20 minutes	20 minutes
Temperature Readout	°C / °F selectable	°C / °F selectable	°C / °F selectable
Emissivity	0.98	0.98	0.98
Aperture Dia	25 mm	25 mm	25 mm
Power Supply / Consumption	230V AC / 50 Hz / 500 W	230V AC / 50 Hz / 750 W	230V AC / 50 Hz / 1100 W
Dimension (L x D x H)	485 x 430 x 190 mm	485 x 430 x 190 mm	485 x 430 x 190 mm
Weight	11 Kg.	11 Kg.	11 Kg.
Housing / Mounting	Bench-top (Portable)	Bench-top (Portable)	Bench-top (Portable)

**STANDARD DELIVERY**

- Basic Instrument
- Mains Cable
- Spare Fuses
- Traceable Calibration Certificate
- Instruction Manual

**OPTIONALS**

- RS-232 Computer Interface
- "Caltemp" Calibration Software
- Contact Thermocouple (to measure cavity temperature)
- Calibration Certificate from NABL Accredited – as per ISO/IEC 17025:2005 Laboratory
- 115V AC / 60 Hz Model



**Basic Accuracy :  $\pm 0.5\%$  F.S.**

**For Non-contact Pyrometer Calibration**

## Stability & Precision of a Liquid Bath, Compact Size & Portability of a Dry Block Calibrator Portable / Bench-top Model

### MODEL MOB 250

- Range: 20°C above Ambient to 250°C
- Stability:  $\pm 0.1^\circ\text{C}$
- Accuracy:  $\pm 0.6^\circ\text{C}$
- Compact, Portable / Bench-top Model
- No Problems of Fitment / Immersion
- Auto-tune PID Controller
- Stirrer to ensure Temperature uniformity
- (Oil) Spill proof Transport Lid
- Overflow Outlet provision
- RS-232 Computer Interface & Calibration Software - Optional



**Ideal for Liquid-in-Glass Thermometers & Bi-Metal Thermometers / RTD Calibration.**

**Site Calibration of Multiple / Multi-type / ODD Shaped Sensors (Lid / Probe holder can be designed to suit)**

### SPECIFICATIONS

RANGE	20°C above Ambient to 250°C
Resolution	0.1°C
Accuracy	$\pm 0.6^\circ\text{C}$
Stability	$\pm 0.1^\circ\text{C}$
Stabilisation Time	20 Minutes
Temperature Control	Auto-tune PID Controller
Temperature Readout	°C / °F Switchable
Working Chamber Dia	95 mm
Working Chamber Depth	170 mm
Chamber Capacity	1500 ml
Medium	Special Silicon Oil
Heating Time (Ambient to max.)	60 Minutes
Cooling Time (to 100°C)	60 Minutes
Power Supply / Consumption	230V AC / 50 Hz / 600 W
Housing / Mounting	Bench-top
Instrument Dimensions (W x D x H)	160 x 365 x 350 mm
Instrument Weight	10 Kgs. (without Oil)

### STANDARD DELIVERY

- Basic Instrument with standard Lid / Probe Holder
- Special Silicon Oil (1000 ml)
- Mains Cable
- Spare Fuses
- Traceable Calibration Certificate
- Instruction Manual
- Carrying Case

### OPTIONALS

- RS-232 Computer Interface
- "Caltemp" Calibration Software
- Lid / Probe Holder – custom designed to suit
- 115V AC / 60 Hz Model
- Calibration Certificate from NABL Accredited – as per ISO/IEC 17025:2005 Laboratory

## Semi-Portable Medium Temperature Calibrators

### MODEL FB 06S /FB 06L

- Range: 20°C above Ambient to 600°C
- Accuracy:  $\pm 1.5^\circ\text{C}$
- Dry, relatively inert / clean / non-toxic safe
- Compact Design / Cost Effective
- No Fitment / Immersion Problems
- Short / Long Immersion - to suit Multitype / Multiple Sensor Calibration
- Rapid Heat Transfer & Precise Temperature Control
- Stainless Steel Inner Container
- Complete with Moisture Separator, Flow Meter, Pressure Regulator, Autotune PID Temperature Control, Cooling Coil etc.
- Switch Test facility
- Castor Wheels for easy movement
- RS-232 Computer Interface & "Caltemp" Calibration Software – Optional

### STANDARD DELIVERY

- Fluidized Bath complete with Moisture separator, Flow Meter, Pressure Regulator
- Over Spill Flange & Cooling Coil attachment \*
- Test Leads for Switch Test
- Aluminium Oxide Powder: 6 Kgs. (FB 06S), 17 Kgs. (FB 06L)
- Evacuation System
- Traceable Calibration Certificate
- Instruction Manual

### OPTIONALS

- Probe Plate Basket (Plate drilled to suit probes)
- Probe Carrier / Holder to suit – specify dia of Probe to be calibrated & number of probes (max. 8)
- Air Filter
- Equalizing Block (Single/Multihole) to achieve higher Stability ( $\pm 0.1^\circ\text{C}$ )
- RS-232 Computer Interface & Calibration Software
- Calibration Certificate from NABL Accredited – as per ISO/IEC 17025:2005 Laboratory

### SPECIFICATIONS

	FB 06S	FB 06L
Range	20°C above Ambient to 600°C	20°C above Ambient to 600°C
Resolution	1°C	1°C
Accuracy	$\pm 1.5^\circ\text{C}$	$\pm 1.5^\circ\text{C}$
Stability	$\pm 0.5^\circ\text{C}$	$\pm 0.5^\circ\text{C}$
Stabilisation Time	25 Minutes	25 Minutes
Working Chamber Dia	155 mm	225 mm
Immersion Depth	250 mm	400 mm
Heating Time (Ambient to max.)	50 Minutes	90 Minutes
Cooling time (to 100°C)	3 Hours (without cooling attachment) 45 Minutes (with cooling attachment)	5 Hours (without cooling attachment) 75 Minutes (with cooling attachment)
Temperature Readout (PID Controller)	°C / °F Selectable	°C / °F Selectable
Air Pressure **	1 to 1.5 Kg/cm <sup>2</sup>	1 to 1.5 Kg/cm <sup>2</sup>
Air Flow	25 LPM	45 LPM
Weight of Medium	6 Kgs	17 Kgs
Inner Container	Stainless Steel	Stainless Steel
Power Supply	2 KW	4 KW
Dimension (W x D x H)	800 x 350 x 570 mm	750 x 450 x 800 mm
Weight (without Medium)	40 Kgs.	65 Kgs.
Weight of Medium	Floor Model / Castor Wheel	Floor Model / Castor Wheel

\* Tap Water supply required

\*\* Dry Compressed Air required (@ 7 Bar).



**Ideal choice for simultaneous Calibration of several Temperature Sensors in quick time – Thermocouples / RTD Assemblies, Glass Thermometers, Filled System (Dial) Thermometers/ Temperature Switches etc.**

**Calibration of bulky / heavy, odd shaped / sized Sensors – a must for Process Industries, Power Stations etc. with 1000s of Temperature Sensors installed.**



**Ideal Lab / Site Tool for checking & Calibration of Pneumatic Pressure / Differential Pressure Gauges / Switches / Transmitters / Receiver Gauges / Loops etc.**

**Pneumatic Pressure Calibrator**

## Portable / Handheld Model

### MODEL MPCE-P

- Ranges : -0.85 to 2 / 10 / 20 / 35 / 40 Bar
- Accuracy :  $\pm 0.1\%$  F.S.
- 2 Line Alpha Numeric Display
- Touch Membrane Keypad
- Selectable Engineering Pressure Units
- DC Current Measurement : 0 to 25 mA

- Switch Test capability & Zero Offset facility
- Audio & Visual Alarms for Over Pressure
- Pressure Transducer – all Media compatible with SS316
- 9V Battery operated with 'Low Battery' indication
- Digital Pressure Indicator with matching Pneumatic Hand Pump with Vernier

### SPECIFICATIONS

Ranges	-0.85 to 2 / 10 / 20 / 35 / 40 Bar	Over Pressure Alarm	105% FS (Audio / Visual)
Accuracy	$\pm 0.1\%$ F.S.	Matching Pumps	Thro' Matching Pneumatic Hand Pump with Fine Adjustment Vernier & Release Valve
Resolution	Minimum 4½ digits	Battery Type & Life	9 Volts; Approx. 12 Hours
Display	2 line, 16 characters LCD (Alpha-Numeric)	Low Battery Indication	Provided
mA Input	0 to 25 mA DC	Instrument Dimension	480 x 260 x 150 mm (L x D x H)
Pressure Switch Test	Maximum 5V DC	Weight	5 Kg.

### STANDARD DELIVERY

- Pressure Indicator with matching Hand Pump
- Set of Adaptors (BSP & NPT)
- Test Leads & Seals Kit
- Hose with End Fittings
- 9V Alkaline Battery
- Carrying Case
- Traceable Calibration Certificate
- Instruction Manual

### OPTIONALS

- Rechargeable Battery with external Charger
- Calibration Certificate from NABL Accredited – as per ISO/IEC 17025:2005 Laboratory

**BUDGET SOLUTION**



**Ideal Lab / Site Tool for checking & Calibration of Hydraulic Pressure / Differential Pressure Gauges / Switches / Transmitters / Receiver Gauges / Loops etc.**

**Hydraulic Pressure Calibrator**

## Portable / Handheld Model

### MODEL MPCE-H

- Ranges: 0 to 70 / 100 / 200 / 350 / 600 / 700 Bar
- Accuracy :  $\pm 0.1\%$  F.S.
- 2 Line Alpha Numeric Display
- Touch Membrane Keypad
- Selectable Engineering Pressure Units
- DC Current Measurement : 0 to 25 mA

- Switch Test capability & Zero Offset facility
- Audio & Visual Alarms for Over Pressure
- Pressure Transducer – all Media compatible with SS316
- 9V Battery operated with 'Low Battery' indication
- Digital Pressure Indicator with matching Pneumatic Hand Pump with Vernier

### SPECIFICATIONS

Ranges	0 to 70 / 100 / 200 / 350 / 600 / 700 Bar	Pressure Switch Test	Maximum 5 VDC
Accuracy	$\pm 0.1\%$ F.S.	Over Pressure Alarm	105% FS (Audio / Visual)
Resolution	Minimum 4½ digits	Pressure Generation	Thro' matching Hydraulic Hand Pump with Fine Adjustment Vernier & Release Valve
Display	2 line, 16 characters LCD (Alpha-Numeric)	Battery Type & Life	9 Volts; Approx. 12 Hours
Engineering Units	Mpa, Atm, Bar, Kg/cm <sup>2</sup> , mH <sub>2</sub> O, PSI, inHg, ftH <sub>2</sub> O, Kpa, inH <sub>2</sub> O, mmHg, cmH <sub>2</sub> O	Low Battery Indication	Provided
mA Input	0 to 25 mA DC	Instrument Dimension	480 x 260 x 150 mm (L x D x H)
		Weight	7 Kg.

### STANDARD DELIVERY

- Pressure Indicator with matching Hand Pump
- Set of Adaptors (BSP & NPT)
- Test Leads & Seals Kit
- Hose with End Fittings
- 9V Alkaline Battery
- Carrying Case
- Traceable Calibration Certificate
- Instruction Manual

### OPTIONALS

- Rechargeable Battery with external Charger
- Calibration Certificate from NABL Accredited – as per ISO/IEC 17025:2005 Laboratory

**BUDGET SOLUTION**





**Ideal Lab / Site Tool for checking & Calibration of Pneumatic Pressure / Differential Pressure Gauges / Switches / Transmitters / Receiver Gauges / Loops etc.**

**Pneumatic Pressure Calibrator**

## Portable / Handheld Models

### MODEL MPC-P

- Ranges : -0.85 to 2 / 10 / 20 / 35 / 40 Bar
- **Accuracy :  $\pm 0.05\%$  F.S.**
- Automatic Temperature Compensation (0 to 50°C)
- 2 line Alpha-numeric Display
- Touch Membrane Keypad
- Selectable Engineering Pressure Units
- DC Current Measurement: 50 mA (Active) & 25 mA (Passive)
- Switch Test capability & Zero Offset facility
- Audio & Visual Alarms for Over Pressure
- Pressure Transducer – all Media compatible with SS316
- 9V Battery operated with 'Low Battery' indication
- Digital Pressure Indicator with matching Pneumatic Hand Pump with Vernier

### SPECIFICATIONS

Ranges	-0.85 to 2 / 10 / 20 / 35 / 40 Bar	Volt Input	0 to 30V DC
<b>Accuracy</b>	<b><math>\pm 0.05\%</math> F.S.</b>	Resolution (mA / V)	0.01
Temperature Compensation	0 to 50°C (Automatic)	Pressure Switch Test	Maximum 5 VDC
Resolution	Minimum 5 digits	Over Pressure Alarm	120% FS (Audio / Visual)
Display	2 line, 16 Characters LCD	Pressure generation	Thro' matching Pneumatic Hand Pump with Fine Adjustment Vernier & Release Valve
Engineering Units	Bar, PSI, Kg/cm <sup>2</sup> , Kpa, Mpa, mmHg, Atm, mH <sub>2</sub> O, inHg, ftH <sub>2</sub> O, cmH <sub>2</sub> O, Pa, mBar	Battery Type & Life	9 Volts; Approx. 12 Hours
mA Input	50 mA (Active Loop) & 25 mA (Passive Loop) Load Resistance : 800 $\Omega$	Low Battery Indication	Provided
		Instrument Dimension	480 x 260 x 150 mm (L x D x H)
		Weight	5 Kg.

### STANDARD DELIVERY

- Pressure Indicator with matching Hand Pump
- Set of Adaptors (BSP & NPT)
- Test Leads & Seals Kit
- Hose with End Fittings
- 9V Alkaline Battery
- Carrying Case
- Traceable Calibration Certificate
- Instruction Manual

### OPTIONALS

- RS-232 Computer Interface
- "Calpress" Calibration Software
- Rechargeable Battery & External Charger
- Calibration Certificate from NABL Accredited – as per ISO/IEC 17025:2005 Laboratory



**Ideal Lab / Site Tool for checking & Calibration of Pneumatic Pressure / Differential Pressure Gauges / Switches / Transmitters etc.**

**Pneumatic Pressure Calibrator**

## Portable / Handheld Model

### MODEL MPC-P+

- Ranges: -0.85 to 2 / 10 / 20 / 35 / 40 Bar
- Accuracy:  $\pm 0.025\%$  F.S.**
- Automatic Temperature Compensation (0 to 50°C)
- Graphic Display
- Touch Membrane Keypad
- Selectable Engineering Pressure Units
- DC Current Measurement: 50 mA (Active) & 25 mA (Passive)
- Switch Test capability & Zero Offset facility
- Audio & Visual Alarms for Over Pressure
- Pressure Transducer – all Media compatible with SS316
- Rechargeable Battery with External Charger
- Digital Pressure Indicator with matching Pneumatic Hand Pump with Vernier

### STANDARD DELIVERY

- Pressure Indicator with matching Hand Pump
- Set of Adaptors (BSP & NPT)
- Test Leads & Seals Kit
- Hose with End Fittings
- External Battery Charger
- RS-232 Computer Interface
- Carrying Case
- Calibration Certificate from NABL Accredited – as per ISO/IEC 17025:2005 Laboratory
- Instruction Manual

### OPTIONALS

- "Calpress" Calibration Software

### SPECIFICATIONS

Ranges	-0.85 to 2 / 10 / 20 / 35 / 40 Bar
<b>Accuracy</b>	<b><math>\pm 0.025\%</math> F.S.</b>
Temperature Compensation	0 to 50°C (Automatic)
Resolution	Minimum 5 digits
Display	Graphic
Engineering Units	Kg/cm <sup>2</sup> , Bar, mBar, PSI, mH <sub>2</sub> O, mmH <sub>2</sub> O, cmH <sub>2</sub> O, inH <sub>2</sub> O, ftH <sub>2</sub> O, mmHg, inHg, Atm, Mpa, Kpa, Pa
mA Input	50 mA (Active Loop) & 25 mA (Passive Loop) Load Resistance : 800 $\Omega$
Volt Input	0 to 30V DC
Resolution (mA / V)	0.001
Pressure Switch Test	Maximum 5 VDC
Over Pressure Alarm	120% FS (Audio / Visual)
Pressure generation	Thro' matching Pneumatic Hand Pump with Fine Adjustment Vernier & Release Valve
Battery Type	Rechargeable Battery
Low Battery Indication	Provided
Instrument Dimension	480 x 260 x 150 mm (L x D x H)
Weight	5 Kg.



**Ideal Lab / Site Tool for checking & Calibration of Hydraulic Pressure/ Differential Pressure Gauges / Switches / Transmitters / Receiver Gauges / Loops etc.**

**Hydraulic Pressure Calibrator**

## Portable / Handheld Model

### MODEL MPC-H

- Ranges : 0 to 70 / 100 / 200 / 350 / 600 / 700 Bar
- **Accuracy :  $\pm 0.05\%$  F.S.**
- Automatic Temperature Compensation (0 to 50°C)
- 2 Line Alpha Numeric Display
- Touch Membrane Keypad
- Selectable Engineering Pressure Units
- DC Current Measurement: 50 mA (Active) & 25 mA (Passive)
- Switch Test capability & Zero Offset facility
- Audio & Visual Alarms for Over Pressure
- Pressure Transducer – all Media compatible with SS316
- 9V Battery operated with 'Low Battery' indication
- Digital Pressure Indicator with matching Hydraulic Hand Pump with Vernier

### SPECIFICATIONS

Ranges	0 to 70 / 100 / 200 / 350 / 600 / 700 Bar	Volt Input	0 to 30V DC
Accuracy	<b><math>\pm 0.05\%</math> F.S.</b>	Resolution (mA / V)	0.01
Temperature Compensation	0 to 50°C (Automatic)	Pressure Switch Test	Maximum 5 VDC
Resolution	Minimum 5 digits	Over Pressure Alarm	120% FS (Audio / Visual)
Display	2 line, 16 characters LCD (Alpha-Numeric)	Pressure generation	Matching Hydraulic Hand Pump with Fine Adjustment Vernier & Release Valve
Engineering Units	Bar, PSI, Kg/cm <sup>2</sup> , Kpa, Mpa, Atm, mH <sub>2</sub> O, inHg, ftH <sub>2</sub> O	Battery Type & Life	9 Volts; Approx. 12 Hours
mA Input	50 mA (Active Loop) Load Resistance : 800 $\Omega$	Low Battery Indication	Provided
		Weight	7 Kg.

### STANDARD DELIVERY

- Pressure Indicator with matching Hand Pump
- Set of Adaptors (BSP & NPT)
- Test Leads & Seals Kit
- Hose with End Fittings
- 9V Alkaline Battery
- Carrying Case
- Traceable Calibration Certificate
- Instruction Manual

### OPTIONALS

- RS-232 Computer Interface
- "Calpress" Calibration Software
- Rechargeable Battery & External Charger
- Calibration Certificate from NABL Accredited – as per ISO/IEC 17025:2005 Laboratory



**Ideal Lab / Site Tool for checking & Calibration of Hydraulic Pressure / Differential Pressure Gauges / Switches / Transmitters etc.**

**Hydraulic Pressure Calibrator**

## Portable / Handheld Model

### MODEL MPC-H+

- Ranges : 0 to 70 / 100 / 200 / 350 / 600 / 700 Bar
- **Accuracy :  $\pm 0.025\%$  F.S.**
- Automatic Temperature Compensation (0 to 50°C)
- Graphic Display
- Touch Membrane Keypad
- Selectable Engineering Pressure Units
- DC Current Measurement: 50 mA (Active) & 25 mA (Passive)
- Switch Test capability & Zero Offset facility
- Audio & Visual Alarms for Over Pressure
- Pressure Transducer – all Media compatible with SS316
- Rechargeable Battery with External Charger
- Digital Pressure Indicator with matching Hydraulic Hand Pump with Vernier

### SPECIFICATIONS

Ranges	0 to 70 / 100 / 200 / 350 / 600 / 700 Bar	Pressure Switch Test	Maximum 5 VDC
Accuracy	<b><math>\pm 0.025\%</math> F.S.</b>	Over Pressure Alarm	120% FS (Audio / Visual)
Temperature Compensation	0 to 50°C (Automatic)	Pressure generation	Matching Hydraulic Hand Pump with Fine Adjustment Vernier & Release Valve
Resolution	Minimum 5 digits	Battery	Rechargeable Battery
Display	Graphic	Low Battery Indication	Provided
Engineering Units	Kg/cm <sup>2</sup> , Bar, mBar, PSI, mH <sub>2</sub> O, mmH <sub>2</sub> O, cmH <sub>2</sub> O, inH <sub>2</sub> O, ftH <sub>2</sub> O, mmHg, inHg, Atm, Mpa, Kpa, Pa	Instrument Dimension	480 x 260 x 150 mm (L x D x H)
mA Input	50 mA (Active Loop) & 25 mA (Passive Loop) Load Resistance : 800 $\Omega$	Weight	7 Kg.
Volt Input	0 to 30V DC		
Resolution (mA / V)	0.001		

### STANDARD DELIVERY

- Pressure Indicator with matching Hand Pump
- Set of Adaptors (BSP & NPT)
- Test Leads & Seals Kit
- Hose with End Fittings
- External Battery Charger
- RS-232 Computer Interface
- Carrying Case
- Calibration Certificate from NABL Accredited – as per ISO/IEC 17025:2005 Laboratory
- Instruction Manual

### OPTIONALS

- "Calpress" Calibration Software

**Bench-top / Panel Mounted Model****MODEL MPC-P-B**

- Ranges : -0.85 to 2 / 10 / 20 / 35 / 40 Bar
- **Accuracy :  $\pm 0.05\%$  FS**
- Automatic Temperature Compensation (0 to 50°C)
- Advanced Technology
- Light Weight / Compact
- Trendy, Elegant Case – Truly Portable – Lab / Site use
- Resolution : Minimum 5 digits
- Large Graphic Display
- Touch Membrane Keypad
- Selectable Engineering Pressure Units
- DC Current Measurement:
  - 50 mA (Active Loop) & 25 mA (Passive Loop)
- Switch Test capability & Zero Offset facility
- Audio & Visual Alarms for Over Pressure
- Pressure Transducer – all Media compatible with SS316
- Matching External Pneumatic Hand Pump
- **Panel Mounted Models** with External Pressure Module(s) (EPM) – Refer specifications inside...

**SPECIFICATIONS**

Ranges	-0.85 to 2 / 7 / 10 / 20 / 35 / 40 Bar
Accuracy	<b><math>\pm 0.05\%</math> F.S.</b>
Temperature Compensation	0 to 50°C (Automatic)
Resolution	Minimum 5 digits
Display	Large Graphic Display
Engineering Units	Kg/cm <sup>2</sup> , Bar, mBar, PSI, mH <sub>2</sub> O, mmH <sub>2</sub> O, cmH <sub>2</sub> O, inH <sub>2</sub> O, ftH <sub>2</sub> O, mmHg, inHg, Atm, Mpa, Kpa, Pa
mA Input	50 mA (Active Loop) & 25 mA (Passive Loop) Load Resistance : 800 $\Omega$
Volt Input	0 to 30V DC
Resolution (mA / V)	0.01
Pressure Switch Test	Maximum 5V DC
Instrument Casing	Trendy, Elegant Case – Truly Portable
Over Pressure Alarm	120% FS (Audio / Visual)
Pressure generation	Thro' matching External Pneumatic Hand Pump with Fine Adjustment Vernier & Release Valve Rechargeable Battery & Charger
Battery	Provided
Low Battery Indication	Provided
Instrument Dimension	260 x 130 x 105 (L x B x H) 1.5 Kg
Weight	1.5 Kg

**STANDARD DELIVERY**

- Pressure Indicator with matching Hand Pump
- Set of Adaptors (BSP & NPT)
- Test Leads & Seals Kit
- Hose with End Fitting
- External Battery Charger
- Traceable Calibration Certificate
- Instruction Manual
- Calibration Certificate from NABL Accredited – as per ISO/IEC 17025:2005 Laboratory
- Instruction Manual

**OPTIONALS**

RS-232 Computer Interface  
 "Calpress" Calibration Software  
 Calibration Certificate from NABL Accredited – as per ISO/IEC 17025:2005 Laboratory

**PANEL MOUNTED MODELS WITH EXTERNAL PRESSURE MODULE(S)**

Internal Sensor Ranges & Other Specifications (as in Bench-top Models)

EPM Ranges	Pneumatic	-0.85 to 2 / 7 / 10 / 20 / 35 / 40 Bar
	Hydraulic	0 to 70 / 100 / 200 / 400 / 600 / 700 Bar
EPMs	2 / 3 / 4	
Accuracies	<b><math>\pm 0.05\%</math> F.S. / <math>\pm 0.025\%</math> F.S.</b>	
Mounting	Panel Mounted (19" Rack Size)	
Dimensions	350 x 185 x 178 mm (L x B x H) - Typical for 3 EPMs	



**Ideal Lab / Site Tool for checking & Calibration of Pneumatic Pressure / Differential Pressure Gauges / Switches / Transmitters / Receiver Gauges / Loops etc..**

**Pneumatic Pressure Calibrator**

**PNEUMATIC  
& HYDRAULIC  
MODELS**

**Bench-top / Panel Mounted Model****MODEL MPC-P-B+**

- Range : -0.85 to 2 / 10 / 20 / 35 / 40 Bar
- **Accuracy :  $\pm 0.025\%$  FS**
- Automatic Temperature Compensation (0 to 50°C)
- Advanced Technology
- Light Weight / Compact
- Trendy, Elegant Case – Truly Portable – Lab / Site use
- Resolution : Minimum 5 digits
- Large Graphic Display
- Touch Membrane Keypad
- Selectable Engineering Pressure Units
- DC Current Measurement :  
50 mA (Active Loop) & 25 mA (Passive Loop)
- Switch Test capability & Zero Offset facility
- Audio & Visual Alarms for Over Pressure
- Pressure Transducer – all Media compatible with SS316
- Matching External Pneumatic Hand Pump
- **Panel Mounted Models** with External Pressure Module(s)  
(EPM) – Refer specifications inside...

**SPECIFICATIONS**

Ranges	-0.85 to 2 / 7 / 10 / 20 / 35 / 40 Bar
Accuracy	<b><math>\pm 0.025\%</math> F.S.</b>
Temperature Compensation	0 to 50°C (Automatic)
Resolution	Minimum 5 digits
Display	Large Graphic Display
Engineering Units	Kg/cm <sup>2</sup> , Bar, mBar, PSI, mH <sub>2</sub> O, mmH <sub>2</sub> O, cmH <sub>2</sub> O, inH <sub>2</sub> O, ftH <sub>2</sub> O, mmHg, inHg, Atm, Mpa, Kpa, Pa
mA Input	50 mA (Active Loop) & 25 mA (Passive Loop) Load Resistance : 800 $\Omega$
Volt Input	0 to 30V DC
Resolution (mA / V)	0.001
Pressure Switch Test	Maximum 5V DC
Instrument Casing	Trendy, Elegant Case – Truly Portable
Over Pressure Alarm	120% FS (Audio / Visual)
Pressure generation	Thro' matching External Pneumatic Hand Pump with Fine Adjustment Vernier & Release Valve
Battery	Rechargeable Battery & Charger
Low Battery Indication	Provided
Instrument Dimension	260 x 130 x 105 (L x B x H)
Weight	1.5 Kg

**STANDARD DELIVERY**

- Pressure Indicator with matching Hand Pump
- Set of Adaptors (BSP & NPT)
- Test Leads & Seals Kit
- Hose with End Fitting
- External Battery Charger
- RS-232 Computer Interface
- Calibration Certificate from NABL Accredited – as per
- ISO/IEC 17025:2005 Laboratory
- Instruction Manual

**OPTIONALS**

"Calpress" Calibration Software

**PANEL MOUNTED MODELS WITH EXTERNAL PRESSURE MODULE(S)**

Internal Sensor Ranges & Other Specifications (as in Bench-top Models)

EPM Ranges	Pneumatic	-0.85 to 2 / 7 / 10 / 20 / 35 / 40 Bar
	Hydraulic	0 to 70 / 100 / 200 / 400 / 600 / 700 Bar
EPMs	2 / 3 / 4	
Accuracies	<b><math>\pm 0.05\%</math> F.S. / <math>\pm 0.025\%</math> F.S.</b>	
Mounting	Panel Mounted (19" Rack Size)	
Dimensions	350 x 185 x 178 mm (L x B x H) – <i>Typical for 3 EPMs</i>	



**Ideal Lab / Site Tool for checking & Calibration of Pneumatic Pressure / Differential Pressure Gauges / Switches / Transmitters etc.**

**Pneumatic Pressure Calibrator**

**PNEUMATIC  
& HYDRAULIC  
MODELS**





**Bench-top / Panel Mounted Model****MODEL MPC-H-B**

- Ranges : 0 to 70 / 100 / 200 / 400 / 600 / 700 Bar
- **Accuracy :  $\pm 0.05\%$  FS**
- Automatic Temperature Compensation (0 to 50°C)
- Advanced Technology
- Light Weight / Compact
- Trendy, Elegant Case – Truly Portable – Lab / Site use
- Resolution : Minimum 5 digits
- Large Graphic Display
- Touch Membrane Keypad
- Selectable Engineering Pressure Units
- DC Current Measurement:  
50 mA (Active Loop) & 25 mA (Passive Loop)
- Switch Test capability & Zero Offset facility
- Audio & Visual Alarms for Over Pressure
- Pressure Transducer – all Media compatible with SS316
- Matching External Hydraulic Hand Pump
- **Panel Mounted Models** with External Pressure Module(s) (EPM) – Refer specifications inside ...

**SPECIFICATIONS**

Ranges	0 to 70 / 100 / 200 / 400 / 600 / 700 Bar
Accuracy	<b><math>\pm 0.05\%</math> F.S.</b>
Temperature Compensation	0 to 50°C (Automatic)
Resolution	Minimum 5 digits
Display	Large Graphic Display
Engineering Units	Kg/cm <sup>2</sup> , Bar, mBar, PSI, mH <sub>2</sub> O, mmH <sub>2</sub> O, cmH <sub>2</sub> O, inH <sub>2</sub> O, ftH <sub>2</sub> O, mmHg, inHg, Atm, Mpa, Kpa, Pa
mA Input	50 mA (Active Loop) & 25 mA (Passive Loop) Load Resistance : 800 $\Omega$
Volt Input	0 to 30V DC
Resolution (mA / V)	0.01
Pressure Switch Test	Maximum 5V DC
Medium	Oil (Water : optional)
Instrument Casing	Trendy, Elegant Case – Truly Portable
Over Pressure Alarm	120% FS (Audio / Visual)
Pressure generation	Matching External Hydraulic Hand Pump with Fine Adjustment Vernier & Release Valve
Battery	Rechargeable Battery & Charger
Low Battery Indication	Provided
Instrument Dimension	260 x 130 x 105 (L x B x H)
Weight	1.5 Kg

**STANDARD DELIVERY**

- Pressure Indicator with matching Hand Pump
- Set of Adaptors (BSP & NPT)
- Test Leads & Seals Kit
- Hose with End Fitting
- External Battery Charger
- Traceable Calibration Certificate
- Instruction Manual

**PANEL MOUNTED MODELS WITH EXTERNAL PRESSURE MODULE(S)**

Internal Sensor Ranges &amp; Other Specifications (as in Bench-top Models)

EPM Ranges Pneumatic	-0.85 to 2 / 7 / 10 / 20 / 35 / 40 Bar
Hydraulic	0 to 70 / 100 / 200 / 400 / 600 / 700 Bar
EPMs	2 / 3 / 4
Accuracies	<b><math>\pm 0.05\%</math> F.S. / <math>\pm 0.025\%</math> F.S.</b>
Mounting	Panel Mounted (19" Rack Size)
Dimensions	350 x 185 x 178 mm (L x B x H) - Typical for 3 EPMs

**OPTIONALS**

RS-232 Computer Interface  
 "Calpress" Calibration Software  
 Calibration Certificate from NABL Accredited – as per ISO/IEC 17025:2005 Laboratory



**Ideal Lab / Site Tool for checking & Calibration of Hydraulic Pressure / Differential Pressure Gauges / Switches / Transmitters / Loops etc.**

**Hydraulic Pressure Calibrator**

**PNEUMATIC & HYDRAULIC MODELS**

**Portable / Handheld Model****MODEL MPC-H-B+**

- Ranges: 0 to 70 / 100 / 200 / 400 / 600 / 700 Bar
- **Accuracy:  $\pm 0.025\%$  F.S.**
- Automatic Temperature Compensation (0 to 50°C)
- Advanced Technology
- Light Weight / Compact
- Trendy, Elegant Case – Truly Portable – Lab / Site use
- Resolution: Minimum 5 digits
- Large Graphic Display
- Touch Membrane Keypad
- Selectable Engineering Pressure Units
- DC Current Measurement:  
50 mA (Active Loop) & 25 mA (Passive Loop)
- Switch Test capability & Zero Offset facility
- Audio & Visual Alarms for Over Pressure
- Pressure Transducer – all Media compatible with SS316
- Matching External Hydraulic Hand Pump
- **Panel Mounted Models** with External Pressure Module(s)  
(EPM) – Refer specifications inside...

**SPECIFICATIONS**

Ranges	0 to 70 / 100 / 200 / 350 / 600 / 700 Bar
Accuracy	<b><math>\pm 0.025\%</math> F.S.</b>
Temperature Compensation	0 to 50°C (Automatic)
Resolution	Minimum 5 digits
Display	Graphic
Engineering Units	Kg/cm <sup>2</sup> , Bar, mBar, PSI, mH <sub>2</sub> O, mmH <sub>2</sub> O, cmH <sub>2</sub> O, inH <sub>2</sub> O, ftH <sub>2</sub> O, mmHg, inHg, Atm, Mpa, Kpa, Pa
mA Input	50 mA (Active Loop) & 25 mA (Passive Loop) Load Resistance : 800 $\Omega$
Volt Input	0 to 30V DC
Resolution (mA / V)	0.001
Pressure Switch Test	Maximum 5 VDC
Instrument Casing	Trendy, Elegant Case – Truly Portable
Over Pressure Alarm	120% FS (Audio / Visual)
Pressure generation	Matching External Hydraulic Hand Pump with Fine Adjustment Vernier & Release Valve
Battery	Rechargeable Battery & Charger
Low Battery Indication	Provided
Instrument Dimension	260 x 130 x 105 (L x B x H)
Weight	1.5 Kg

**STANDARD DELIVERY**

- Pressure Indicator with matching Hand Pump
- Set of Adaptors (BSP & NPT)
- Test Leads & Seals Kit
- Hose with End Fitting
- External Battery Charger
- RS-232 Computer Interface
- Calibration Certificate from NABL Accredited – as per
- ISO/IEC 17025:2005 Laboratory
- Instruction Manual

**PANEL MOUNTED MODELS WITH EXTERNAL PRESSURE MODULE(S)**

Internal Sensor Ranges &amp; Other Specifications (as in Bench-top Models)

EPM Ranges	Pneumatic	-0.85 to 2 / 7 / 10 / 20 / 35 / 40 Bar
	Hydraulic	0 to 70 / 100 / 200 / 400 / 600 / 700 Bar
	EPMS	2 / 3 / 4
Accuracies	<b><math>\pm 0.05\%</math> F.S. / <math>\pm 0.025\%</math> F.S.</b>	
Mounting	Panel Mounted (19" Rack Size)	
Dimensions	350 x 185 x 178 mm (L x B x H) - <i>Typical for 3 EPMS</i>	



**Ideal Lab / Site Tool for checking & Calibration of Hydraulic Pressure / Differential Pressure Gauges / Switches / Transmitters / Loops etc.**

**Hydraulic Pressure Calibrator**

**PNEUMATIC  
& HYDRAULIC  
MODELS**





**Ideal Lab / Site Tool for checking & Calibration of Low Ranges of Pressure/ Differential Pressure Gauges / Transmitters / Indicators, Pneumatic Receiver Gauges, Control Valves, Pressure Transducers / Loops etc. - in Industrial & Marine Applications**

**Pneumatic Pressure Calibrator**

## Table-top / Bench-top Heavy Duty

### MODEL PPC-P

- Ranges : -0.85 to 2 / 7 / 10 / 20 Bar
- **Accuracy :  $\pm 0.05\%$  F.S.**
- Automatic Temperature Compensation (0 to 50°C)
- Light Weight & Compact
- Trendy, Elegant 'Rugged' Carry Case – Truly Portable
- Large Graphic Display
- Touch Membrane Keypad
- Selectable Engineering Pressure Units
- DC Current Measurement: 50 mA (Active) & 25 mA (Passive)
- Switch Test capability & Zero Offset facility
- Audio & Visual Alarms for Over Pressure
- Pressure Transducer
- – all Media compatible with SS316
- Rechargeable Battery with 'Low Battery' indication
- Built-in Pump & Fine Adjustment Vernier Assembly

### STANDARD DELIVERY

- Digital Pressure Calibrator
- Set of Adaptors (BSP & NPT)
- Test Leads & Seals Kit
- Hose with End Fitting
- External Battery Charger
- Traceable Calibration Certificate
- Instruction Manual

### SPECIFICATIONS

Ranges	-0.85 to 2 / 7 / 10 / 20 Bar
Accuracy	<b><math>\pm 0.05\%</math> F.S.</b>
Temperature Compensation	0 to 50°C (Automatic)
Resolution	Minimum 5 digits
Display	Large Graphic Display
Engineering Units	Kg/cm <sup>2</sup> , Bar, mBar, PSI, mH <sub>2</sub> O, mmH <sub>2</sub> O, cmH <sub>2</sub> O, inH <sub>2</sub> O, ftH <sub>2</sub> O, mmHg, inHg, Atm, Mpa, Kpa, Pa
mA Input	50 mA (Active Loop) & 25 mA (Passive Loop) Load Resistance : 800 $\Omega$
Volt Input	0 to 30V DC
Resolution (mA / V)	0.01
Pressure Switch Test	Maximum 5V DC
Instrument Casing	Trendy, Elegant 'Rugged' Case – Truly Portable
Over Pressure Alarm	120% FS (Audio / Visual)
Pressure generation	Integral / Built-in Pump & Fine Adjustment Vernier Assembly
Battery	Rechargeable Battery & Charger
Low Battery Indication	Provided
Instrument Dimension	330 x 235 x 125 mm (L x B x H) (2 / 7 / 10 Bar) 330 x 235 x 200 mm (L x B x H) (20 Bar)
Instrument Weight	4 Kg. (2 / 7 / 10 Bar) 6 Kg. (20 Bar)

### OPTIONALS

- RS-232 Computer Interface
- "Calpress" Calibration Software
- Calibration Certificate from NABL Accredited – as per ISO/IEC 17025:2005 Laboratory



**Ideal Lab / Site Tool for checking & Calibration of Low Ranges of Pressure/ Differential Pressure Gauges / Transmitters / Indicators, Pneumatic Receiver Gauges, Control Valves, Pressure Transducers / Loops etc. - in Industrial & Marine Applications**

**Pneumatic Pressure Calibrator**

## Table-top / Bench-top, Heavy Duty

### MODEL PPC-P+

- Ranges : -0.85 to 2 / 7 / 10 / 20 Bar
- **Accuracy :  $\pm 0.025\%$  F.S.**
- Automatic Temperature Compensation (0 to 50°C)
- Light Weight & Compact
- Trendy, Elegant 'Rugged' Carry Case – Truly Portable
- Large Graphic Display
- Touch Membrane Keypad
- Selectable Engineering Pressure Units
- DC Current Measurement : 50 mA (Active) & 25 mA (Passive)
- Switch Test capability & Zero Offset facility
- Audio & Visual Alarms for Over Pressure
- Pressure Transducer – all Media compatible with SS316
- Rechargeable Battery with 'Low Battery' indication
- Built-in Pump & Fine Adjustment Vernier Assembly

### STANDARD DELIVERY

- Digital Pressure Calibrator
- Set of Adaptors (BSP & NPT)
- Test Leads & Seals Kit
- Hose with End Fitting
- External Battery Charger
- RS-232 Computer Interface
- Calibration Certificate from NABL Accredited – as per ISO/IEC 17025:2005 Laboratory
- Instruction Manual

### SPECIFICATIONS

Ranges	-0.85 to 2 / 7 / 10 / 20 Bar
Accuracy	<b><math>\pm 0.025\%</math> F.S.</b>
Temperature Compensation	0 to 50°C (Automatic)
Resolution	Minimum 5 digits
Display	Large Graphic Display
Engineering Units	Kg/cm <sup>2</sup> , Bar, mBar, PSI, mH <sub>2</sub> O, mmH <sub>2</sub> O, cmH <sub>2</sub> O, inH <sub>2</sub> O, ftH <sub>2</sub> O, mmHg, inHg, Atm, Mpa, Kpa, Pa
mA Input	50 mA (Active Loop) & 25 mA (Passive Loop) Load Resistance : 800 $\Omega$
Volt Input	0 to 30V DC
Resolution (mA / V)	0.001
Pressure Switch Test	Maximum 9V DC
Housing	Trendy, Elegant 'Rugged' Case – Truly Portable
Over Pressure Alarm	120% FS (Audio / Visual)
Pressure generation	Integral / Built-in Pump & Fine Adjustment Vernier & Release Valve
Battery	Rechargeable Battery & Charger
Low Battery Indication	Provided
Instrument Dimension	330 x 235 x 125 mm (L x B x H) (2 / 7 / 10 Bar) 330 x 235 x 200 mm (L x B x H) (20 Bar)
Instrument Weight	4 Kg. (2 / 7 / 10 Bar) 6 Kg. (20 Bar)

### OPTIONALS

- "Calpress" Calibration Software



**Ideal Lab / Site Tool for checking & Calibration of Pressure / Differential Pressure Gauges / Transmitters / Indicators / Control Valves, Transducers / Loops etc.- in Industrial & Marine Applications**

**Hydraulic Pressure Calibrator**

## MODEL PPC-H

- Ranges: 0 to 200 / 400 / 600 Bar
- **Accuracy:  $\pm 0.05\%$  F.S.**
- Automatic Temperature Compensation (0 to 50°C)
- Light Weight & Compact

- Trendy, Elegant 'Rugged' Carry Case – Truly Portable
- Large Graphic Display
- Touch Membrane Keypad
- Selectable Engineering Pressure Units

- DC Current Measurement: 50 mA (Active) & 25 mA (Passive)
- Switch Test capability & Zero Offset facility
- Audio & Visual Alarms for Over Pressure

- Pressure Transducer – all Media compatible with SS316
- Rechargeable Battery with 'Low Battery' indication
- Built-in Priming Pump & Fine Adjustment Vernier assembly

## SPECIFICATIONS

Ranges	0 to 200 / 400 / 600 Bar
Accuracy	<b><math>\pm 0.05\%</math> F.S.</b>
Temperature Compensation	0 to 50°C (Automatic)
Resolution	Minimum 5 digits
Display	Large Graphic Display
Engineering Units	Kg/cm <sup>2</sup> , Bar, mBar, PSI, mmH <sub>2</sub> O, cmH <sub>2</sub> O, inH <sub>2</sub> O, ftH <sub>2</sub> O, mmHg, inHg, Atm, Mpa, Kpa, Pa
mA Input	50 mA (Active Loop) & 25 mA (Passive Loop) Load Resistance : 800 $\Omega$
Volt Input	0 to 30V DC
Resolution (mA / V)	330 x 235 x 125 mm (Lx B x H) - 200 & 400 Bar Models 0.01
Pressure Switch Test Medium	Maximum 5V DC Oil (Water: optional) #
Instrument Casing	Trendy, Elegant 'Rugged' Case – Truly Portable
Over Pressure Alarm	120% FS (Audio / Visual)
Pressure generation	Thro' Priming Pump & Fine Adjustment Vernier
Battery	Rechargeable Battery & Charger
Low Battery Indication	Provided
Instrument Dimension	330 x 235 x 125 mm (Lx B x H) - 200 & 400 Bar Models 330 x 235 x 200 mm (Lx B x H) - 600 Bar Model
Instrument Weight	200 & 400 Bar Models : 6 Kg.; 600 Bar Model : 9 Kg.

## STANDARD DELIVERY

- Digital Pressure Calibrator
- Set of Adaptors (BSP & NPT)
- Test Leads & Seals Kit
- Hydraulic Hose with End Fitting (1 Meter)
- Oil: 250 ml
- External Battery Charger
- Traceable Calibration Certificate
- Instruction Manual

## OPTIONALS

- RS-232 Computer Interface
- "Calpress" Calibration Software
- Calibration Certificate from NABL Accredited – as per ISO/IEC 17025:2005 Laboratory
- Water Operated Model #

Other Special Ranges also available

# PORTABLE PRECISION PRESSURE CALIBRATOR **Table-top / Bench-top, Heavy Duty**



**Ideal Lab / Site Tool for checking & Calibration of Pressure / Differential Pressure Gauges / Transmitters / Indicators / Control Valves, Transducers / Loops etc.- in Industrial & Marine Applications**

**Hydraulic Pressure Calibrator**

## MODEL PPC-H+

- Ranges : 0 to 200 / 400 / 600 Bar
- **Accuracy :  $\pm 0.025\%$  F.S.**
- Automatic Temperature Compensation (0 to 50°C)
- Light Weight & Compact
- Trendy, Elegant 'Rugged' Carry Case – Truly Portable
- Large Graphic Display
- Touch Membrane Keypad
- Selectable Pressure Units
- DC Current Measurement : 50 mA (Active) & 25 mA (Passive)
- Switch Test capability & Zero Offset facility
- Audio & Visual Alarms for Over Pressure
- Pressure Transducer – all Media compatible with SS316
- Rechargeable Battery with 'Low Battery' indication
- Built-in Priming Pump & Ram Screw Pump with Fine Adjustment Vernier

## STANDARD DELIVERY

- Digital Pressure Calibrator
- Set of Adaptors (BSP & NPT)
- Test Leads & Seals Kit
- Hydraulic Hose with End Fitting
- Oil : 250 ml
- External Battery Charger
- RS-232 Computer Interface
- Calibration Certificate from NABL Accredited – as per ISO/IEC 17025:2005 Laboratory
- Instruction Manual

## SPECIFICATIONS

Ranges	0 to 200 / 400 / 600 Bar
Accuracy	<b><math>\pm 0.025\%</math> F.S.</b>
Temperature Compensation	0 to 50°C (Automatic)
Resolution	Minimum 5 digits
Display	Large Graphic Display
Engineering Units	Kg/cm <sup>2</sup> , Bar, mBar, PSI, mmH <sub>2</sub> O, cmH <sub>2</sub> O, inH <sub>2</sub> O, ftH <sub>2</sub> O, mmHg, inHg, Atm, Mpa, Kpa, Pa
mA Input	50 mA (Active Loop) & 25 mA (Passive Loop) Load Resistance: 800 $\Omega$
Volt Input	0 to 30V DC
Resolution (mA / V)	0.001
Pressure Switch Test Medium	Maximum 5V DC Oil (Water : optional) #
Instrument Casing	Trendy, Elegant 'Rugged' Case – Truly Portable
Over Pressure Alarm	120% FS (Audio / Visual)
Pressure generation	Thro' Priming Pump & Fine Adjustment Vernier
Battery	Rechargeable Battery & Charger
Low Battery Indication	Provided
Instrument Dimension	330 x 235 x 125 mm (Lx B x H) - 200 & 400 Bar Models 330 x 235 x 200 mm (Lx B x H) - 600 Bar Model

Other Special Ranges also available ...

## OPTIONALS

- "Calpress" Calibration Software
- Water Operated Model #





**Ideal Lab / Site Tool for checking & Calibration of Pressure / Differential Pressure Gauges / Transmitters / Indicators / Loops, Pneumatic Receiver Gauges, Control Valves, Pressure / Transducers etc.- in Industrial & Marine Applications**

**Heavy Duty (Dual) Pressure Calibrator**

**Pneumatic & Hydraulic**

## Table-top / Bench-top DUAL (PNEUMATIC & HYDRAULIC) Model

### MODEL PPC-D

- Dual Ranges: -0.85 Bar Vacuum to 20 Bar (Pneumatic) & 0 to 400 Bar (Hydraulic)
- **Accuracy:  $\pm 0.05\%$  F.S.**
- Automatic Temperature Compensation (0 to 50°C)
- Unique Combo 2-in-1 Space Saver
- Light Weight & Compact; Housed in Rugged Carry Case
- Large Graphic Display
- Touch Membrane Keypad
- Selectable Engineering Pressure Units
- DC Current Measurement: 50 mA (Active) & 25 mA (Passive)
- Switch Test capability & Zero Offset facility
- Audio & Visual Alarms for Over Pressure
- Pressure Transducer – all Media compatible with SS316
- Rechargeable Battery with 'Low Battery' indication
- Digital Pressure Indicator with 2 integral / built-in Pumps & Fine Adjustment Vernier

### STANDARD DELIVERY

- Digital Pressure Calibrator
- Set of Adaptors (BSP & NPT)
- Hoses with End Fitting (Pneumatic & Hydraulic)
- Test Leads & Seals Kit
- Oil : 250 ml
- External Battery Charger
- Traceable Calibration Certificate
- Instruction Manual

### SPECIFICATIONS

Ranges	-0.85 Bar Vacuum to 20 Bar (Pneumatic) & 0 to 400 Bar (Hydraulic) (Oil)
Accuracy	<b><math>\pm 0.05\%</math> F.S.</b>
Temperature Compensation	0 to 50°C (Automatic)
Resolution	Minimum 5 digits
Display	Large Graphic Display
Engineering Units	Kg/cm <sup>2</sup> , Bar, mBar, PSI, mmH <sub>2</sub> O, cmH <sub>2</sub> O, inH <sub>2</sub> O, ftH <sub>2</sub> O, mmHg, inHg, Atm, Mpa, Kpa, Pa
mA Input	50 mA (Active Loop) & 25 mA (Passive Loop) Load Resistance : 800 $\Omega$
Volt Input	0 to 30V DC
Resolution (mA / V)	0.01
Pressure Switch Test Medium	Maximum 5V DC Air & Oil (Water: optional) <sup>#</sup>
Instrument Casing	Trendy, Elegant 'Rugged' Case – Truly Portable
Over Pressure Alarm	120% FS (Audio / Visual)
Pressure Generation	Integral / inbuilt Pneumatic & Hydraulic Pumps with Fine Adjustment Vernier & Release Valves
Battery	Rechargeable Battery & Charger
Low Battery Indication	Provided
Instrument Dimension	425 x 335 x 200 mm (L x B x H)
Instrument Weight	10 Kg.

### OPTIONALS

- RS-232 Computer Interface
- "Calpress" Calibration Software
- Calibration Certificate from NABL Accredited – as per ISO/IEC 17025:2005 Laboratory
- Water Operated <sup>#</sup>



**Ideal Lab / Site Tool for checking & Calibration of Very Low Ranges of Pressure / Differential Pressure Gauges / Transmitters / Indicators, Draft Gauges, Pressure Transducers etc.- in Industrial & Marine Applications**

**Heavy Duty (Dual) Pressure Calibrator**

**Pneumatic & Hydraulic**

## Table-top / Bench-top DUAL (PNEUMATIC & HYDRAULIC) Model

### MODEL PPC-D+

- Dual Ranges: -0.85 Bar Vacuum to 20 Bar (Pneumatic) & 0 to 400 Bar (Hydraulic)
- **Accuracy:  $\pm 0.025\%$  F.S.**
- Automatic Temperature Compensation (0 to 50°C)
- Unique Combo 2-in-1 Space Saver
- Light Weight & Compact; Housed in Rugged Carry Case
- Large Graphic Display
- Touch Membrane Keypad
- Selectable Engineering Pressure Units
- DC Current Measurement: 50 mA (Active) & 25 mA (Passive)
- Switch Test capability & Zero Offset facility
- Audio & Visual Alarms for Over Pressure
- Pressure Transducer – all Media compatible with SS316
- Rechargeable Battery with 'Low Battery' indication
- Digital Pressure Indicator with 2 integral / built-in Pumps with Fine Adjustment Vernier

### STANDARD DELIVERY

- Digital Pressure Calibrator
- Set of Adaptors (BSP & NPT)
- Test Leads & Seals Kit
- Hoses with End Fitting (Pneumatic & Hydraulic)
- Oil : 250 ml
- External Battery Charger
- RS-232 Computer Interface
- Calibration Certificate from NABL Accredited – as per ISO/IEC 17025:2005 Laboratory
- Instruction Manual

### SPECIFICATIONS

Ranges	-0.85 Bar Vacuum to 20 Bar (Pneumatic) & 0 to 400 Bar (Hydraulic) (Oil)
Accuracy	<b><math>\pm 0.025\%</math> F.S.</b>
Temperature Compensation	0 to 50°C (Automatic)
Resolution	Minimum 5 digits
Display	Large Graphic Display
Engineering Units	Kg/cm <sup>2</sup> , Bar, mBar, PSI, mmH <sub>2</sub> O, cmH <sub>2</sub> O, inH <sub>2</sub> O, ftH <sub>2</sub> O, mmHg, inHg, Atm, Mpa, Kpa, Pa
mA Input	50 mA (Active Loop) & 25 mA (Passive Loop) Load Resistance : 800 $\Omega$
Volt Input	0 to 30V DC
Resolution (mA / V)	0.001
Pressure Switch Test Medium	Maximum 5V DC Air / Oil (Water : optional) <sup>#</sup>
Instrument Casing	Trendy, Elegant 'Rugged' Case – Truly Portable
Over Pressure Alarm	120% FS (Audio / Visual)
Pressure Generation	Integral / inbuilt Pneumatic & Hydraulic Pumps with Fine Adjustment Vernier & Release Valves
Battery	Rechargeable Battery & Charger
Low Battery Indication	Provided
Instrument Dimension	425 x 335 x 200 mm (L x B x H)
Instrument Weight	10 Kg.

### OPTIONALS

- "Calpress" Calibration Software
- Water Operated Model <sup>#</sup>



Range upto  
±2000 mmH<sub>2</sub>O



Ranges:  
±5000 mmH<sub>2</sub>O /  
±8000 mmH<sub>2</sub>O /  
±10000 mmH<sub>2</sub>O

**Ideal Lab / Site Tool for checking & Calibration of Very Low Ranges of Pressure / Differential Pressure Gauges/ Transmitters / Indicators, Draft Gauges, Pressure Transducers etc.- in Industrial & Marine Applications**

**Very Low Pressure Calibrator (Pneumatic)**

#### MODEL PPC-PL (mmH<sub>2</sub>O)

- Ranges: ±2000 / ±5000 / ±8000 / ±10000 mmH<sub>2</sub>O
- **Accuracy: ±0.075% F.S.**
- Automatic Temperature Compensation (0 to 50°C)
- Light Weight & Compact
- Trendy, Elegant 'Rugged' Carry Case – Truly Portable
- Large Graphic Display
- Touch Membrane Keypad
- Pressure Unit: mmH<sub>2</sub>O (mmWC)
- Selectable Engineering Pressure Units
- DC Current Measurement: 50 mA (Active) & 25 mA (Passive)
- Switch Test capability & Zero Offset facility
- Audio & Visual Alarms for Over Pressure
- Pressure Transducer – all Media compatible with SS316
- Rechargeable Battery with 'Low Battery' indication
- Built-in Pump & Fine Adjustment Vernier Assembly

#### SPECIFICATIONS

Ranges	±2000 / ±5000 / ±8000 / ±10000 mmH <sub>2</sub> O
Accuracy	<b>±0.075% F.S.</b>
Temperature Compensation	0 to 50°C (Automatic)
Resolution	Minimum 5 digits
Display	Large Graphic Display
Engineering Units	mmH <sub>2</sub> O (mmWC) #
mA Input	50 mA (Active Loop) & 25 mA (Passive Loop) Load Resistance : 800 Ω
Volt Input	0 to 30V DC
Resolution (mA / V)	0.01
Pressure Switch Test	Maximum 5V DC
Instrument Casing	Trendy, Elegant 'Rugged' Case – Truly Portable
Over Pressure Alarm	120% FS (Audio / Visual)
Pressure Generation	Integral / Built-in Pump & Fine Adjustment Vernier Assembly
Battery	Rechargeable Battery & Charger
Low Battery Indication	Provided
Instrument Dimension	330 x 235 x 125 mm (L x B x H)
Instrument Weight	4 Kg.

# For other Units like InH<sub>2</sub>O / mBar, kindly consult us .....

#### STANDARD DELIVERY

- Digital Pressure Calibrator
- Set of Adaptors (BSP & NPT)
- Test Leads & Seals Kit
- Hose with End Fitting
- External Battery Charger
- Traceable Calibration Certificate
- Instruction Manual

#### OPTIONALS

- RS-232 Computer Interface
- "Calpress" Calibration Software
- Calibration Certificate from NABL Accredited – as per ISO/IEC 17025:2005 Laboratory

#### PRIMARY STANDARDS

## PNEUMATIC DEAD WEIGHT TESTERS

### Bench-top / Table-top Models

#### MODEL P8000 / P8600 Series

- Ranges : 0.5 to 1 / 2 / 10 / 20 / 35 Bar \*
- **Accuracy : ±0.05% & ±0.025%** of Reading
- Single Piston type
- Non-Magnetic Stainless Steel Weight Sets
- Air / Gas operated
- Engineering Units : Bar / Kg/Cm<sup>2</sup> / PSI
- Adjustable Foot & Spirit Level
- Piston Calibrated thro' "Cross Float Techniques"
- Pressure generation direct via Priming Pump & Ram Screw
- Built-in / Integral (Priming) Pump  
Maximum Pressure: 7 Bar  
External Air supply required for Higher Pressures (Integrated with Pressure Gauge & Regulator)
- Accuracies Traceable to International Standards



**Ideal tool for Fine Increments & for Medium Volume Applications. Ensures – easy & controllable Pressure generation for Calibration of Pneumatic Digital Indicators, Manometers, Pressure Transducers / Transmitters, Pneumatic Digital Calibrators / Pressure Gauges etc.**

**Screw Pump with built-in Priming Pump**

MODELS		PRESSURE RANGES		
		1 / BAR	2 / KG/CM <sup>2</sup>	3 / PSI
P8000-SP	P8600-SP	0.5 to 1 (1000 mBar)	0.5 to 1	2 to 15
P8000-SP	P8600-SP	0.5 to 2 (2000 mBar)	0.5 to 2	2 to 30
P8000-SP	P8600-SP	0.2 to 10	0.2 to 10	5 to 150
P8000-SP	P8600-SP	0.5 to 20	0.5 to 20	10 to 300
P8000-SP	P8600-SP	0.5 to 35	0.5 to 35	10 to 500

External Pressure Source (for Models above 7 Bar) to be provided by customer.

#### STANDARD DELIVERY

- Basic Instrument
- Set of Adaptors (BSP / NPT)
- Non-Magnetic Stainless Steel Weight Sets
- Spirit Level, Dust Cover & Wooden Carrying Case (for Weight Sets)
- Pointer Puller / Punch, Spanner Set & Screw Driver
- Traceable Calibration Certificate (for P8000 Series)
- Calibration Certificate from NABL Accredited – as per ISO/IEC 17025:2005 Laboratory (for P8600 Series)
- Instruction Manual

#### OPTIONALS

- Two Gauge & Right angled Adaptors
- Conversion Weight Sets to convert from one unit of Pressure to another
- Incremental Weight Sets for smaller increments of Pressure
- Calibration Certificate from NABL Accredited – as per ISO/IEC 17025:2005 Laboratory (for P8000 Series)

## HYDRAULIC DEAD WEIGHT TESTERS

Bench-top /  
Table-top Model

Motorized Version - optional

**Ideal for Fine Increments & for Medium Volume Calibration. Ensures – Easy & Controllable Pressure generation for Calibrating Pressure Gauges / Transducers / Transmitters, Transfer Standards, Recorders, Digital Calibrators etc.**

**Screw Pump with built-in Priming Pump**

## MODEL H3000 Series

- Ranges: Upto 700 Bar
- **Accuracy:  $\pm 0.1\%$  of Reading**
- Single / Dual Piston
- Oil operated
- Engineering Units: Bar / Kg/Cm<sup>2</sup> / PSI
- Adjustable Foot & Spirit Level
- Piston Calibrated thro' "Cross Floating Techniques"
- Calibrated to Standard Gravity
- Accuracies Traceable to International Standards
- Mild Steel / Non-Magnetic Stainless Steel Weight Sets

## STANDARD DELIVERY

- Basic Instrument
- Calibrated M.S. / S.S Weight Sets [Refer Table 1 & 2](#)
- Operating Fluid (500 ml)
- Dust Cover, Wooden Carrying Case (for Weight Sets), 'O' Ring & Seals
- Traceable Calibration Certificate
- Instruction Manual

## OPTIONALS

- Full set of Adaptors consisting of 1/8", 1/4", 3/8", 1/2" BSP (Set of NPT Adaptors available on request)
- Right angled Adaptor / Two Gauge Adaptor
- Conversion Weight Sets to convert from one unit of Pressure to another
- Incremental Weight Sets for smaller increments of Pressure
- Pointer Puller / Punch, Set of Spanners & Screw Driver
- Motorized Version
- Calibration Certificate from NABL Accredited Laboratory (as per ISO/IEC 17025:2005) [Refer Table 1](#)

## SPECIFICATIONS

Ranges	35 / 70 / 100 / 160 / 350 / 600 / 700 Bar	
Piston	Single / Dual	<a href="#">Refer Table 2</a>
Standard Accuracy	$\pm 0.1\%$ of Reading	<a href="#">Refer Table 1</a>
Traceability	International Standards	
Weights	Mild Steel / Non-Magnetic Stainless Steel	
Pressure generation	Thro' Priming Pump & Screw Ram	
Standard Corrections	Gravity: 9.80665 m/s <sup>2</sup> * / Temperature : 20°C / Air Density : 1.2 Kg/Cm <sup>2</sup>	
Weight (approx.)	Instrument: 19 Kg.; Weight Sets: 8 to 33 Kg.	<a href="#">Refer Table 2</a>
No. of Weights	12 to 15	
Instrument Dimensions	530 x 325 x 230 mm (L x W x D)	
Operating Fluid	Oil	

TABLE 1

MODEL	ACCURACY	PCU	WEIGHT SET	CERTIFICATION	REMARKS
H3000	$\pm 0.1\%$ of Reading	Hardened Special Steel Piston & Matching Cylinder	Mild Steel / Non-Magnetic Stainless Steel	Overall Accuracy	Traceable to ISO/IEC 17025:2005 Accredited Calibration Lab

TABLE 2

PISTON TYPE	PISTON MODEL	PRESSURE RANGES		
		1 / Bar	2 / Kg/Cm <sup>2</sup>	3 / PSI
Single	SP-35	0.5 to 35	1 to 35	5 to 500
Single	SP-70	0.5 to 70	1 to 70	10 to 1000
Single	SP-100	5 to 100	5 to 100	75 to 1500
Single	SP-160	5 to 160	5 to 160	80 to 2500
Single	SP-350	5 to 350	5 to 350	80 to 5000
Single	SP-600	10 to 600	10 to 600	160 to 9000
Single	SP-700	10 to 700	10 to 700	150 to 10000
Dual	DP-160	1 to 160	1 to 160	15 to 2500
Dual	DP-350	1 to 350	1 to 350	15 to 5000
Dual	DP-600	1 to 600	1 to 600	15 to 9000
Dual	DP-700	1 to 700	1 to 700	15 to 10000

## PRIMARY STANDARDS

## HYDRAULIC DEAD WEIGHT TESTERS

## Bench-top / Table-top Model

## MODEL H6000 Series

- Ranges: Upto 700 Bar
- **Accuracy:  $\pm 0.05\%$  of Reading**
- Single / Dual Piston
- Oil operated
- Engineering Units: Bar / Kg/Cm<sup>2</sup> / PSI
- Adjustable Foot & Spirit Level
- Piston Calibrated thro' "Cross Floating Techniques"
- Calibrated to Standard Gravity (Customer specific Gravity adjustment can also be done optionally)
- Accuracies Traceable to International Standards
- Mild Steel / Non-Magnetic Stainless Steel Weight Sets

TABLE 1

MODEL	ACCURACY	PCU	WEIGHT SET	CERTIFICATION	REMARKS
H6000	$\pm 0.05\%$ of Reading	Hardened Special Steel Piston & Matching Cylinder	Mild Steel / Non-Magnetic Stainless Steel	Overall Accuracy	Traceable to ISO/IEC 17025:2005 Accredited Calibration Lab

TABLE 2

PISTON TYPE	PISTON MODEL	PRESSURE RANGES		
		1 / Bar	2 / Kg/Cm <sup>2</sup>	3 / PSI
Single	SP-35	0.5 to 35	1 to 35	5 to 500
Single	SP-70	0.5 to 70	1 to 70	10 to 1000
Single	SP-100	5 to 100	5 to 100	75 to 1500
Single	SP-160	5 to 160	5 to 160	80 to 2500
Single	SP-350	5 to 350	5 to 350	80 to 5000
Single	SP-600	10 to 600	10 to 600	160 to 9000
Single	SP-700	10 to 700	10 to 700	150 to 10000
Dual	DP-160	1 to 160	1 to 160	15 to 2500
Dual	DP-350	1 to 350	1 to 350	15 to 5000
Dual	DP-600	1 to 600	1 to 600	15 to 9000
Dual	DP-700	1 to 700	1 to 700	15 to 10000

## SPECIFICATIONS

Ranges	35 / 70 / 100 / 160 / 350 / 600 / 700 Bar	
Piston	Single / Dual	<a href="#">Refer Table 2</a>
Standard Accuracy	$\pm 0.05\%$ of Reading	<a href="#">Refer Table 1</a>
Traceability	International Standards	
Weights	Mild Steel / Non-Magnetic Stainless Steel	
Pressure generation	Thro' Priming Pump & Screw Ram	
Standard Corrections	Gravity: 9.80665 m/s <sup>2</sup> * / Temperature: 20°C / Air Density: 1.2 Kg/Cm <sup>2</sup>	<a href="#">Refer Table 2</a>
Weight (approx.)	Instrument: 19 Kg.; Weight Sets: 8 to 33 Kg.	
No. of Weights	12 to 15	
Instrument Dimensions	530 x 325 x 230 mm (L x W x D)	
Operating Fluid	Oil	
DWTCal Software	Optional	



Motorized Version - optional

**Ideal for Fine Increments & for Medium Volume Calibration. Ensures – Easy & Controllable Pressure generation for Calibrating Pressure Gauges / Transducers / Transmitters, Transfer Standards, Recorders, Digital Calibrators etc.**

**Screw Pump with built-in Priming Pump**

**MORE DETAILS ON THE NEXT PAGE >**

## STANDARD DELIVERY

- Basic Instrument
- Calibrated S.S Weight Sets Refer Table 1 & 2
- Full set of Adaptors consisting of 1/8", 1/4", 3/8", 1/2" BSP (Set of NPT Adaptors available on request)
- Operating Fluid (500 ml)
- Spirit Level, Pointer Puller / Punch, Set of Spanners & Screw Driver
- 'O' Ring & Seals
- Dust Cover, Wooden Carrying Case (for Weight Sets)
- Traceable Calibration Certificate
- Instruction Manual

## OPTIONALS

- Right angled Adaptor / Two Gauge Adaptor
- Conversion Weight Sets to convert from one unit of Pressure to another
- Incremental Weight Sets for smaller increments of Pressure
- DWTCal Calibration Software
- Motorized Version
- Calibration Certificate from NABL Accredited Laboratory (as per ISO/IEC 17025:2005) Refer Table 1

SIVA

## PRIMARY STANDARDS

# HYDRAULIC DEAD WEIGHT TESTERS

## Precision, Bench-top / Table-top Model

### MODEL H6600 Series

- Ranges : Upto 700 Bar
- **Accuracy :  $\pm 0.025\%$**  of Reading
- Single / Dual Piston
- Oil operated
- Engineering Units : Bar / Kg/Cm<sup>2</sup> / PSI
- Adjustable Foot & Spirit Level
- Piston Calibrated thro' "Cross Floating Techniques"
- Calibrated to Standard Gravity (Customer specific Gravity adjustment can also be done optionally)
- Accuracies Traceable to International Standards
- Non-Magnetic Stainless Steel Weight Sets
- Calibration Certificate – for overall Accuracy + PCU (Area) + Weights (Mass) from NABL Accredited Lab – as per ISO/IEC 17025:2005
- DWTCal Calibration Software – Optional

## SPECIFICATIONS

Ranges	35 / 70 / 100 / 160 / 350 / 600 / 700 Bar
Piston	Single / Dual
Standard Accuracy	$\pm 0.025\%$ of Reading
Traceability	International Standards
Weights	Non-Magnetic Stainless Steel
Pressure generation	Thro' Priming Pump & Screw Ram
Standard Corrections	Gravity: 9.80665 m/s <sup>2</sup> * / Temperature: 20°C / Air Density: 1.2 Kg/Cm <sup>3</sup>
Weight (approx.)	Instrument: 19 Kg.; Weight Sets: 8 to 33 Kg. Refer Table 2
No. of Weights	12 to 15
Instrument Dimensions	530 x 325 x 230 mm (L x W x D)
Operating Fluid	Oil
DWTCal Software	Optional

TABLE 1

MODEL	ACCURACY	PCU	WEIGHT SET	CERTIFICATION	REMARKS
H6600	$\pm 0.025\%$ of Reading	Tungsten Carbide Piston & Matching Hardened Cylinder	Non-Magnetic Stainless Steel	Overall Accuracy + PCU (Area) + Weights (Mass)	Issued by NABL ISO/IEC 17025:2005 Accredited Lab

TABLE 2

PISTON TYPE	PISTON MODEL	PRESSURE RANGES		
		1 / BAR	2 / KG/CM <sup>2</sup>	3 / PSI
Single	SP-35	0.5 to 35	1 to 35	5 to 500
Single	SP-70	0.5 to 70	1 to 70	10 to 1000
Single	SP-100	5 to 100	5 to 100	75 to 1500
Single	SP-160	5 to 160	5 to 160	80 to 2500
Single	SP-350	5 to 350	5 to 350	80 to 5000
Single	SP-600	10 to 600	10 to 600	160 to 9000
Single	SP-700	10 to 700	10 to 700	150 to 10000
Dual	DP-160	1 to 160	1 to 160	15 to 2500
Dual	DP-350	1 to 350	1 to 350	15 to 5000
Dual	DP-600	1 to 600	1 to 600	15 to 9000
Dual	DP-700	1 to 700	1 to 700	15 to 10000

## STANDARD DELIVERY

- Basic Instrument
- Full set of Adaptors consisting of 1/8", 1/4", 3/8", 1/2" BSP (Set of NPT Adaptors available on request)
- Calibrated S.S Weight Sets Refer Table 1 & 2
- Spirit Level, Pointer Puller / Punch, Set of Spanners & Screw Driver
- 'O' Ring & Seals
- Operating Fluid (500 ml)
- Dust Cover, Wooden Carrying Case (for Weight Sets)
- Calibration Certificate from NABL Accredited Laboratory (as per ISO/IEC 17025:2005)
- Instruction Manual

## OPTIONALS

- Right angled Adaptor / Two Gauge Adaptor
- Two Gauge Adaptor
- Conversion Weight Sets to convert from one unit of Pressure to another
- Incremental Weight Sets for smaller increments of Pressure
- DWTCal Calibration Software
- Motorized Version



Motorized Version - optional

**Ideal for Fine Increments & for Medium Volume Calibration. Ensures – Easy & Controllable Pressure generation for Calibrating Pressure Gauges / Transducers / Transmitters, Transfer Standards, Recorders, Digital Calibrators etc.**

**Screw Pump with built-in Priming Pump**



## High Precision, Bench-top / Table-top Model

## MODEL H6900 Series

- Ranges: Up to 700 Bar
- **Accuracy:  $\pm 0.015\%$**  of Reading
- Single / Dual Piston
- Oil operated
- Engineering Units: Bar / Kg/Cm<sup>2</sup> / PSI
- Adjustable Foot & Spirit Level
- Piston Calibrated thro' "Cross Floating Techniques"
- Calibrated to Standard Gravity (Customer specific Gravity adjustment can also be done optionally)
- Accuracies Traceable to International Standards
- Non-Magnetic Stainless Steel Weight Sets
- Calibration Certificate – for overall Accuracy + PCU (Area) + Weights (Mass) from NABL Accredited Lab – as per ISO/IEC 17025:2005
- DWTCal Calibration Software

## STANDARD DELIVERY

- Basic Instrument
- Full set of Adaptors consisting of 1/8", 1/4", 3/8", 1/2" BSP (Set of NPT Adaptors available on request)
- Calibrated SS Dead Weight Sets
- Spirit Level, Pointer Puller/Punch, Set of Spanners & Screw Driver
- Operating Fluid (500 ml)
- 'O' Ring & Seals
- Dust Cover, Wooden Carrying Case (for Weight Sets) Refer Table 1 & 2
- DWTCal Calibration Software
- Calibration Certificate from NABL Accredited Laboratory (as per ISO/IEC 17025:2005) Refer Table 1
- Instruction Manual

## OPTIONALS

- Right angled Adaptor
- Two Gauge Adaptor
- Conversion Weight Sets to convert from one unit of Pressure to another
- Incremental Weight Sets for smaller increments of Pressure
- Motorized Version

## SPECIFICATIONS

Ranges	35 / 70 / 100 / 160 / 350 / 600 / 700 Bar	
Piston	Single / Dual	Refer Table 2
Standard Accuracy	$\pm 0.015\%$ of Reading	Refer Table 1
Traceability	International Standards	
Weights	Non-Magnetic Stainless Steel	
Pressure generation	Thro' Priming Pump & Screw Ram	
Standard Corrections	Gravity : 9.80665 m/s <sup>2</sup> / Temperature: 20°C / Air Density: 1.2 Kg/Cm <sup>3</sup>	
Weight (approx.)	Instrument: 19 Kg.; Weight Sets: 8 to 33 Kg.	Refer Table 2
No. of Weights	12 to 15	
Instrument Dimensions	530 x 325 x 230 mm (L x W x D)	
Operating Fluid	Oil	
DWTCal Software	Standard	

TABLE 1

MODEL	ACCURACY	PCU	WEIGHT SET	CERTIFICATION	REMARKS
H6900	$\pm 0.015\%$ of Reading	Tungsten Carbide Piston & Matching Hardened Cylinder	Non-Magnetic Stainless Steel	Overall Accuracy + PCU (Area) + Weights (Mass)	Issued by NABL ISO/IEC 17025:2005 Accredited Lab

TABLE 2

PISTON TYPE	PISTON MODEL	PRESSURE RANGES		
		1 / Bar	2 / Kg/Cm <sup>2</sup>	3 / PSI
Single	SP-35	0.5 to 35	1 to 35	5 to 500
Single	SP-70	0.5 to 70	1 to 70	10 to 1000
Single	SP-100	5 to 100	5 to 100	75 to 1500
Single	SP-160	5 to 160	5 to 160	80 to 2500
Single	SP-350	5 to 350	5 to 350	80 to 5000
Single	SP-600	10 to 600	10 to 600	160 to 9000
Single	SP-700	10 to 700	10 to 700	150 to 10000
Dual	DP-160	1 to 160	1 to 160	15 to 2500
Dual	DP-350	1 to 350	1 to 350	15 to 5000
Dual	DP-600	1 to 600	1 to 600	15 to 9000
Dual	DP-700	1 to 700	1 to 700	15 to 10000



Motorized Version - optional

**Ideal for Fine Increments & for Medium Volume Calibration. Ensures – Easy & Controllable Pressure generation for Calibrating Pressure Gauges / Transducers / Transmitters, Transfer Standards, Recorders, Digital Calibrators etc.**

**Screw Pump with built-in Priming Pump**

## SOFTWARE

## DWTCAL

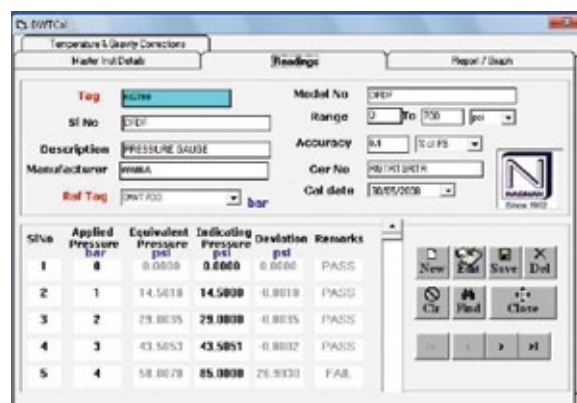
## Pressure Calculation, Correction &amp; Certificate Generation Software for Precision Dead Weight Testers

## MODEL DWTCal

- Menu Driven, easy to use software
- Maintain Multiple Dead Weight Tester files
- 5 Pressure Units
- Pre-loaded Calibration Data
- Automatic generation of Calibration Certificates
- Pressure Equivalent calculations with all corrections applied
- Allows users to apply all necessary corrections (Local Gravity, Pressure Head, Temperature etc.) to enhance the performance / Accuracy of the Dead Weight Tester
- Calibration details are stored and/or automatically inserted into a Calibration Certificate
- Windows XP or higher OS Compatible



**Flexible Working Tool for Easier, Quicker & More Accurate Calibration**





**SCREW PUMP MODELS**  
SP Series



SPES Series

#### HAND PUMP MODEL



#### Screw Pumps & Hand Pumps

Useful for checking  
Pressure Measuring  
Devices / Master  
Devices/ Test Gauges

## Portable / Bench-top Models

#### MODEL GCL / GCH Series

- Ranges : 0 to 250 upto 1000 Bar
- Budget Solutions
- Very Low Maintenance Cost
- Compact & Easy to carry for Lab & Field use
- Priming Pump with Fine Adjustment Vernier for Incremental Pressure generation
- Adjustable Foot
- Water Operated Models – optional
- Medium: Oil

#### STANDARD DELIVERY

- Basic Instrument
- Hydraulic Fluid (500 ml)
- Set of Seals
- Conformance Certificate
- Instruction Manual

#### OPTIONALS

- Analog / Digital Master Gauges
- Set of Adaptors (BSP / NPT)
- Right Angled & Two Gauge Adaptors
- Water Operated Model # (for SP Models only)

#### COMPARISON TESTERS

#### SCREW PUMPS / HAND PUMPS

MODELS	GCL 250 SP / GCH 700 SP	GCH 700 SPES / GCH 1000 SPES	GCL 250 HP / GCL 600 HP
Ranges	250 / 700 / 1000 Bar	700 / 1000 Bar	250 / 600 Bar
Type	Screw Pump	Screw Pump	Hand Pump
Pressure generation	Priming Pump for initial pressures & Screw RAM Pump for high pressures	Screw Ram Pump in an elevated stand	Hand Pump with Divider Block / Vernier Valve Assembly
Test Port Connection	1/2" BSP (F) Swivel	1/2" BSP (F) Swivel	1/2" BSP (F) Swivel
Medium	Oil / Water #	Oil	Oil
Instrument Dimensions (L x D x H)	350 x 350 x 230 mm	300 x 400 x 375 mm	420 x 210 x 130 mm
Weight	14 Kg.	13 Kg.	5 Kg.

## PNEUMATIC HAND PUMP

### Hand held Model Combined – Vacuum & Low Pressure Hand Pump

#### MODEL PHP 2

- Compact, Light Weight, Hand Operated
- Combined Vacuum & Low Pressure Pump with Pressure / Vacuum Changeover option
- Generation (Range) of
  - Pressure: Upto 2 Bar
  - Vacuum : Upto 0.9 Bar
- High Sensitivity / Resolution
- Fine Adjustment Vernier with built-in Volume Chamber to realize High Resolution / Sensitivity of around 0.05 mBar (0.5 mmWC)
- Very Low Leakage rate
- Flexible Nylon Hose (1 Meter) with Swivel Adaptor to connect devices under test
- Test Connection Port: 1/4" (F) BSP
- Weight (approx.): 1.1 Kg.
- Instrument Dimension (H x W x D): 230 x 220 x 70 mm

#### SPECIFICATIONS

Range	-0.9 Bar Vacuum to 2 Bar Pressure
Medium	Air
Sensitivity / Resolution	0.05 mBar / 0.5 mmWC
Instrument Dimension	230 x 220 x 70 mm (H x W x D)
Instrument Weight	1.1 Kg.

#### STANDARD DELIVERY

Basic Pump  
Nylon Hose (1 Meter)  
Set of Seals  
Conformance Certificate  
Instruction Manual

#### OPTIONALS

Set of Adaptors – BSP / NPT  
Carrying Case (Soft)  
Analog / Digital Pressure Gauges  
Quick Release Coupling  
Spare Seals Kit

Ideal tool for  
checking &  
Calibration of Low/  
Very Low Pressure  
Digital Indicators,  
Manometers, Inclined  
Manometers, Analog  
(Capsule) Gauges,  
Draft Gauges,  
Differential Pressure  
Transmitters,  
Pneumatic Loops etc.

Generates Low / Very  
Low Pressure / Vacuum  
with  
High Resolution /  
Sensitivity achieved thro'  
Fine Adjustment  
Vernier & built-in  
Volume Chamber



## PNEUMATIC HAND PUMP

Handheld Model *Combined Vacuum & Pressure Hand Pump*

**Ideal tool for checking & Calibration of Pneumatic Digital Indicators, Manometers, Pressure Transducers/ Transmitters, Pneumatic Loops etc.**

**Generates (Pneumatic) Pressure / Vacuum thro' convenient Scissor action/ minimum effort, Fine Adjustment Vernier**

**MODELS** PHP 10 / PHP 25 / PHP 35 / PHP 40

- Compact, Light Weight, Hand Operated
- Combined Vacuum & Pressure Pump with Pressure / Vacuum Changeover option
- Generation (Range) of
- Fine Adjustment Vernier to realize upto 1 mBar Resolution / Sensitivity
- Very Low Leakage rate
- Flexible Nylon Hose (1 Meter) with Swivel Adaptor to connect devices under test
- Test Connection Port: 1/4" (F) BSP
- Weight (approx.): 750 gms.
- Instrument Dimension (H x W x D): 230 x 140 x 65 mm

**SPECIFICATIONS**

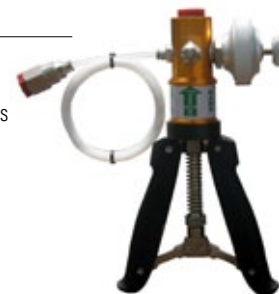
Range	-0.9 Bar Vacuum to 10 / 25 / 35 / 40 Bar Pressure
Medium	Air
Sensitivity / Resolution	Upto 1 mBar
Instrument Dimension	230 x 140 x 65 mm (L x B x H)
Instrument Weight	750 gms.

**STANDARD DELIVERY**

- Basic Pump
- Nylon Hose (1 Meter)
- Set of Seals
- Conformance Certificate
- Instruction Manual

**OPTIONALS**

- Set of Adaptors – BSP / NPT
- Carrying Case (Leather)
- Analog / Digital Pressure Gauges
- Quick Release Coupling
- Spare Seals Kit

OEM  
PRODUCT

## HYDRAULIC HAND PUMP

## Handheld Models for Medium Pressure Applications

**Ideal tool for checking & Calibration of Digital/ Analog Pressure Gauges/ Indicators, Pressure Transmitters/ Transducers & Hydrostatic Pressure Testing etc.**

**Generates Medium Pressure thro' convenient Scissor action / minimum effort, Fine Adjustment Vernier & Open/ Close Release Valve facilitates small Incremental Pressure adjustments**

**MODELS** HHP 200 / HHP 350

- Compact, Light Weight, Hand Operated
- Ranges: Upto 200 / 350 Bar (3000 / 5000 PSI)
- Fine Adjustment Vernier with Open / Close Release Valve for small incremental Pressure readings
- Test Connection Port: 1/4" (F) BSP
- Gauge / Indicator Connection Port: 1/4" (F) BSP
- Medium: Oil
- Oil Reservoir Material: Transparent Acrylic
- Reservoir Capacity: 100 cc
- Instrument Dimension (H x W x D): 270 x 150 x 110 mm
- Weight (approx.): 1.15 Kg.

**SPECIFICATIONS**

Range	Upto 200 / 350 Bar
Medium	Oil
Instrument Dimension	270 x 150 x 110 mm (H x W x D)
Instrument Weight	1.15 Kg.

**STANDARD DELIVERY**

- Basic Pump
- Hydraulic Oil: 100 cc
- Hydraulic Hose with end fittings (Length : 1 Meter)
- Conformance Certificate
- Set of Seals
- Instruction Manual

**OPTIONALS**

- Set of Adaptors – BSP / NPT
- Carrying Case (Soft)
- Analog / Digital Pressure Gauges
- Spare Seals Kit
- Quick Release Coupling

OEM  
PRODUCT

## HYDRAULIC HAND PUMP

## Handheld Model for High Pressure Applications

**MODEL** HHP 700 / HHP 1000

- Compact & Hand Operated
- Ranges: Upto 700 / 1000 Bar (10000 / 15000 PSI)
- Fine Adjustment Vernier with Open / Close Release Valve for small incremental Pressure readings
- Test Connection Port: 1/4" (F) BSP
- Gauge / Indicator Connection Port: 3/8" (F) BSP
- Medium: Oil / Water (optional)
- Oil Reservoir Material: Transparent Acrylic
- Reservoir Capacity: 100 cc
- Stainless Steel Body
- Instrument Dimension (H x W x D): 240 x 185 x 95 mm

**Ideal tool for checking & Calibration of Digital/ Analog Pressure Gauges/ Indicators, Pressure Transmitters/ Transducers & Hydrostatic Pressure Testing etc.**

**Generates High Pressure thro' convenient Scissor action / minimum effort Fine Adjustment Vernier & Open / Close Release Valve facilitates small Incremental Pressure adjustments**

OEM  
PRODUCT**SPECIFICATIONS**

Range	Upto 700 / 1000 Bar
Medium	Oil / Water (optional)
Instrument Dimension	240 x 185 x 95 mm (H x W x D)
Instrument Weight	1.8 Kg.

**STANDARD DELIVERY**

- Basic Pump
- Hydraulic Oil: 100 cc
- Conformance Certificate
- Instruction Manual
- Set of Seals

**OPTIONALS**

- Set of Adaptors – BSP / NPT
- Hydraulic Hose with end fittings (Length : 1 Meter)
- Carrying Case (Soft)
- Analog / Digital Pressure Gauges
- Spare Seals Kit
- Quick Release Coupling



## Portable, Handy, Easy to carry &amp; Sturdy Case with grip

## MODEL Siva 02

- Compact, Light Weight Unit with Holster
- Selectable Temperature Output Readings (in °C / °F)
- Measurement & Simulation of Thermocouple types R, S, B, E, K, J, T & N and Voltage (100 mV)

## SPECIFICATIONS (MEASURING FUNCTIONS)

INPUT	TYPES	INPUT RANGE	RESOLUTION	ACCURACY	REMARKS
Voltage	100 mV	-10 to 110 mV	0.01 μV	±0.05% measured value + 30 μV	Impedance 1MΩ
	R	-40 to 1760°C	1°C	±0.05% measured value ±3°C (≤100°C)	
	S	-20 to 1760°C	1°C	±0.05% measured value ±2°C (>100°C)	
	B	400 to 1800°C	1°C	±0.05% measured value ±3°C (400 to 600°C) ±0.05% measured value ±2°C (>600°C)	
Thermocouple	E	-200 to 1000°C	0.1°C	±0.05% measured value ±2°C (≤ -100°C)	Impedance 1MΩ ITS-90
	K	-200 to 1370°C	0.1°C		
	J	-200 to 1200°C	0.1°C	±0.05% measured value ±1°C (> -100°C)	
	T	-200 to 400°C	0.1°C		
	N	-200 to 1300°C	0.1°C		

## SPECIFICATIONS (OUTPUT FUNCTIONS)

OUTPUT	TYPES	OUTPUT RANGE	RESOLUTION	ACCURACY	REMARKS
Voltage	100 mV (Low)	-10.00 to 110.00 mV	0.01 mV	±0.05% set value + 30 μV	Max. output current ±5 mA
	1000 mV (High)	-100.00 to 1100.00 mV	0.1 mV	±0.05% set value + 0.3 mV	
Thermocouple	R	-40 to 1760°C	1°C	±0.05% set value ±3°C (≤100°C)	ITS-90
	S	-20 to 1760°C	1°C		
				±0.05% set value ±2°C (>100°C)	
	B	400 to 1800°C	1°C	±0.05% set value ±3°C (400 to 600°C)	
	E	-200 to 1000°C	0.1°C		
	K	-200 to 1370°C	0.1°C		
	J	-200 to 1200°C	0.1°C	±0.05% set value ±2°C (>600°C)	
	T	-200 to 400°C	0.1°C	±0.05% set value ±2°C (≤100°C) ±0.05% set value ±1°C (>100°C)	
N	-200 to 1300°C	0.1°C			



Basic Accuracy:  
 $\pm 0.05\%$  F.S.

Capability to Measure  
& Simulate  
Voltage & Thermocouple  
Readings

## STANDARD DELIVERY

- Thermocouple Calibrator – Model: Siva 02
- 9V Alkaline Battery
- Operation Manual
- Test Leads
- Traceable Calibration Certificate

## OPTIONALS

- Calibration Certificate from NABL Accredited – as per ISO/IEC 17025:2005 Laboratory

## Portable, Handy, Easy to carry &amp; Sturdy Case with grip

## MODEL Siva 03

- Compact, Light Weight Unit with Holster
- Selectable Temperature Output Readings (in °C / °F)
- Measurement & Simulation of
- RTD Types: Pt100: -200 to 850°C  
Cu50: -50 to 150°C
- Resistance: 400  $\Omega$

## SPECIFICATIONS (MEASURING FUNCTIONS)

INPUT	RANGE / TYPE	INPUT RANGE	RESOLUTION	ACCURACY	REMARKS
Resistance	400 $\Omega$	0 to 450 $\Omega$	0.1 $\Omega$	$\pm 0.05\%$ set value $\pm 0.2\Omega$	Measuring Current 1 mA
	Pt100	-200 to 850°C	0.1°C	$\pm 0.05\%$ set value $\pm 0.6^\circ\text{C}$	$\pm 1$ mA exciting Current use Pt100-385
RTD	Cu50	-50 to 150°C	0.1°C		Measuring Current $\pm 1$ mA  $\pm 1$ mA exciting Current



Basic Accuracy:  
 $\pm 0.05\%$  F.S.

Capability to Measure  
& Simulate  
Resistance & RTD  
Readings

**MORE DETAILS ON THE NEXT PAGE >**

#### SPECIFICATIONS (OUTPUT FUNCTIONS)

OUTPUT	RANGE / TYPE	OUTPUT RANGE	RESOLUTION	ACCURACY	REMARKS
Resistance	400 $\Omega$	0 to 400 $\Omega$	0.1 $\Omega$	$\pm 0.05\%$ set value $\pm 0.2\Omega$	$\pm 1$ mA exciting Current
RTD	Pt100	-200 to 850°C	0.1°C	$\pm 0.05\%$ set value $\pm 0.6^\circ\text{C}$	$\pm 1$ mA exciting Current use Pt 100-385
	Cu50	-50 to 150°C	0.1°C		$\pm 1$ mA exciting Current

#### STANDARD DELIVERY

- RTD Calibrator – Model : Siva 03
- 9V Alkaline Battery
- Operation Manual
- Test Leads
- Traceable Calibration Certificate

#### OPTIONALS

- Calibration Certificate from NABL Accredited – as per ISO/IEC 17025:2005 Laboratory

SIVA

SIGNAL

## mA & V CALIBRATOR

**Portable, Handy, Easy to carry & Sturdy Case with grip**

#### MODEL Siva 05

- Compact, Light Weight Unit with Holster
- Capability to Measure & Simulate Voltage & Current Readings
- Capability to provide Loop Supply (24V) for Transmitters

#### SPECIFICATIONS (MEASURING FUNCTIONS)

INPUT	RANGE / TYPE	INPUT RANGE	RESOLUTION	ACCURACY	REMARKS
Voltage	28 V	-0.2 to 28 V	1 mV	$\pm 0.02\%$ reading $\pm 2$ mV	Impedance 2 M $\Omega$
CURRENT	20 mA	-1 to 22 mA	0.001 mA	$\pm 0.02\%$ reading $\pm 4$ $\mu\text{A}$	Impedance 20 M $\Omega$
Loop Current	20 mA	0 to 22 mA	0.001 mA	$\pm 0.02\%$ reading $\pm 4$ $\mu\text{A}$	Supply 24 V Loop Power

#### SPECIFICATIONS (OUTPUT FUNCTIONS)

OUTPUT	RANGE / TYPE	OUTPUT RANGE	RESOLUTION	ACCURACY	REMARKS
Current	20 mA	0 to 22 mA	0.001 mA	$\pm 0.05\%$ set value $\pm 4$ $\mu\text{A}$	20 mA, maximum overload is 1 k $\Omega$
Analog Transducer	-20 mA	0 to 22 mA	0.001 mA	$\pm 0.05\%$ set value $\pm 4$ $\mu\text{A}$	20 mA, maximum overload is 1 k $\Omega$
Loop Power	24 V	---	---	$\pm 10\%$	Maximum output current 25 mA



**Basic Accuracy:**  
 $\pm 0.05\%$  F.S.

**Capability to Measure & Simulate Voltage & Current Readings**

#### STANDARD DELIVERY

- mA & V Calibrator – Model : Siva 05
- 9V Alkaline Battery
- Operation Manual
- Test Leads
- Traceable Calibration Certificate

#### OPTIONALS

- Calibration Certificate from NABL Accredited – as per ISO/IEC 17025:2005 Laboratory



## Portable, Handy, Easy to carry &amp; Sturdy Case with grip

## MODEL SIVA 14+

- Compact, Light Weight Unit with Holster
- Capability to Measure & Simulate DC Voltages, Resistances, Thermocouples and RTD
- 5 digits display of Measurement & 6 digits display for Simulation
- Dual LCD with white LED for backlight
- Measurement & Simulation of: Thermocouple types: R, S, B, E, K, J, T, N, L & U  
RTD Types: PT100, Pt200, Pt500, Pt1000, Cu10 & Cu50  
Resistances :  
500  $\Omega$  & 5 K $\Omega$  in Measurement Mode  
400  $\Omega$  & 4 K $\Omega$  in Simulation Mode  
DC Voltages :  
50 mV & 500 mV in Measurement Mode  
100 mV & 1000 mV in Simulation Mode

## SPECIFICATIONS (MEASURING FUNCTIONS)

FUNCTIONS	RANGE / TYPE	RANGES	RESOLUTION	ACCURACY	REMARKS
DC VOLTAGE	50 mV	-5 to 55 mV	1 $\mu$ V	0.02 + 0.02	Impedance approximately 100 M $\Omega$
	500 mV	- 50 to 550 mV	10 $\mu$ V	0.02 + 0.01	
RESISTANCE	500 $\Omega$	0 to 550 $\Omega$	0.01 $\Omega$	0.05 + 0.02	Test current for 500 $\Omega$ ; approximately 1 mA; Test current for 5 K $\Omega$ ; Approximately 0.1 mA; Open circuit Voltage; About 2.5 V; Does not include Lead Resistance
	5 K $\Omega$	0 K $\Omega$ to 5.5 K $\Omega$	0.1 $\Omega$	0.05 + 0.02	
THERMOCOUPLE	R	0 to 1767°C	1°C	0 to 500°C: 1.8°C	ITS-90
	S	0 to 1767°C		500 to 1767°C: 1.5°C	
	K	-100 to 1372°C	0.1°C	-100 to 0°C: 1.2°C	
				0 to 1372°C: 0.8°C	
	E	-50 to 850°C		-50 to 0°C: 0.9°C	
				0 to 85°C: 1.5°C	
	J	-60 to 1120°C		-60 to 0°C: 1°C	
				0 to 1120°C: 0.7°C	
	T	-100 to 400°C		-100 to 0°C: 1°C	
				0 to 400°C: 0.7°C	
	N	-200 to 1300°C		-200 to 0°C: 1.5°C	
				0 to 1300°C: 0.9°C	
	B	600 to 1820°C	1°C	600 to 800°C: 2.2°C	
				800 to 1000°C: 1.8°C	
RTD	L	-60 to 900°C	0.1°C	-60 to 0°C: 0.7°C	ITS-90
				0 to 900°C: 0.5°C	
	U	-100 to 600°C	0.1°C	-100 to 0°C: 0.7°C	
				0 to 600°C: 0.5°C	
	Pt100 385	-200 to 800°C		-200 to 0°C: 0.5°C	
				0 to 400°C: 0.7°C	
				400 to 800°C: 0.8°C	
	Pt1000 385	-200 to 630°C		-200 to 100°C: 0.3°C	
				100 to 300°C: 0.5°C	
				300 to 630°C: 0.7°C	
	Pt200 385	-200 to 630°C	0.1°C	-200 to 100°C: 0.8°C	
				100 to 300°C: 0.9°C	
	Pt500 385	-200 to 630°C		300 to 630°C: 1°C	
				-200 to 100°C: 0.4°C	
				-100 to 300°C: 0.5°C	
	Cu10	-100 to 260°C		300 to 30°C: 0.7°C	
	Cu50	-50 to 150°C		1.8°C	
	500 $\Omega$	<50 $\Omega$		0.7°C	
			0.02 $\Omega$		500 $\Omega$ Approximately 1 mA test Current



Basic Accuracy:  
 $\pm 0.02\%$  F.S.

Capability to Measure & Simulate  
DC Voltages,  
Resistances,  
Thermocouples & RTD

**SPECIFICATIONS (OUTPUT FUNCTIONS)**

OUTPUT	RANGE / TYPE	RANGES	RESOLUTION	ACCURACY	REMARKS
DC VOLTAGE	100 mV	-10 to 110 mV	1 μV	0.02 + 0.01	Maximum Output : 0.5 mA Maximum Output : 2 mA
	1000 mV	-100 to 1100 mV	10 μV	0.02 + 0.01	
RESISTANCE	400 Ω	0 to 400 Ω	0.01 Ω	0.02 + 0.02	Excitation Current : ±0.5 to 3 mA if ±0.1 to 0.5 mA add 0.1Ω; does not include lead resistance
	4 Ω	0 KΩ to 4 KΩ	0.1 Ω	0.05 + 0.025	Excitation Current : ±0.05 to 0.3 mA; does not include lead resistance
THERMOCOUPLE	R	0 to 1767°C	1°C	0 to 100°C: 1.5°C	ITS-90
				100 to 1767°C: 1.2°C	
	S	0 to 1767°C		0 to 100°C: 1.5°C	
				100 to 1767°C: 1.2°C	
	K	-200 to 1372°C	-200 to -100°C: 0.6°C		
			-100 to 400°C: 0.5°C		
			400 to 1200°C: 0.7°C		
			1200 to 1372°C: 0.9°C		
	E	-200 to 1000°C	-200 to 100°C: 0.6°C		
			-100 to 600°C: 0.5°C		
			600 to 1000°C: 0.4°C		
	J	-200 to 1200°C	-200 to -100°C: 0.6°C		
			-100 to 800°C: 0.5°C		
			800 to 1200°C: 0.7°C		
	T	-250 to 400°C	-250 to 400°C: 0.6°C		
			-200 to -100°C: 1.0°C		
	N	-200 to 1300°C	-100 to 900°C: 0.7°C		
			900 to 1300°C: 0.8°C		
	B	600 to 1820°C	1°C	600 to 800°C: 1.5°C	
				800 to 1820°C: 1.1°C	
	L	-200 to 900°C	0.1°C	-200 to 0°C :0.7°C	
				0 to 900°C: 0.5°C	
	U	-200 to 600°C	0.1°C	-200 to 0°C: 0.7°C	
				0 to 600°C: 0.5°C	
RTD	Pt100 385	-200 to 800°C	0.1°C	-200 to 0°C: 0.3°C	ITS-90 Excitation Current " ±0.5 to ±3 mA for Pt100, Cu10, Cu50, add 0.5°C when excitation current is ±0.1 mA to 0.5 mA; Excitation Current " ±0.05 mA to ±0.3 mA for Pt200, Pt500, Pt1000; does not include Lead Resistance
				0 to 400°C: 0.5°C	
				400 to 800°C: 0.8°C	
	Pt1000 385	-200 to 630°C		-200 to 100°C: 0.2°C	
				100 to 300°C: 0.5°C	
				300 to 630°C: 0.7°C	
	Pt200 385	-200 to 630°C		-200 to 100°C: 0.8°C	
				100 to 300°C: 0.9°C	
				300 to 630°C: 1°C	
	Pt500 385	-200 to 630°C		-200 to 100°C: 0.4°C	
				100 to 300°C: 0.5°C	
				300 to 630°C: 0.7°C	
	Cu10	-10 to 260°C		-10 to 260°C: 1.8°C	
	Cu50	-50 to 150°C		-50 to 150°C: 0.6°C	

**STANDARD DELIVERY**

- Temperature Calibrator – Model : Siva 14+
- 1.5 x 4 Nos. Alkaline Batteries
- Operation Manual
- Test Leads
- Traceable Calibration Certificate

**OPTIONALS**

- Calibration Certificate from NABL Accredited – as per ISO/IEC 17025:2005 Laboratory

## Portable, Handy &amp; Sturdy case with grip

## MODEL SIVA 15+

- Compact, Light Weight Unit with Holster
- Capability to Measure & Simulate DC Voltages, DC Current & Frequency
- 5 digits display of Measurement & 6 digits display for Simulation
- Dual LCD with white LED for backlight
- Measurement & Simulation of :
  - DC Voltages: 50 mV & 500 mV, 5 V & 50 V in Measurement Mode  
100 mV, 1 V & 10 V in Simulation Mode
  - DC Current:  
50 mA in Measurement Mode  
20 mA in Simulation Mode
  - Frequency:  
100 Hz, 1 KHz & 10 KHz in Measurement Mode  
100 KHz, 1 KHz, 10 KHz & 100 KHz in Simulation Mode
  - Capability to perform Continuity Test & provide Loop Supply (24 V) for Transmitters

## SPECIFICATIONS (MEASURING FUNCTIONS)

FUNCTIONS	RANGE / TYPE	RANGES	RESOLUTION	ACCURACY	REMARKS
DC Voltage	-20 to 220 mV	10 $\mu$ V	0.02 + 0.02	-20 to 220 mV	Impedance approximately 100 M $\Omega$
	-0.5 to 5.5 V	0.1 mV	0.02 + 0.01	-0.5 to 5.5 V	
	-5 to 55 V	1 mV	0.03 + 0.01	-5 to 55 V	
DC mA	50 mA	-4 to 55 mA	1 $\mu$ A	0.02 + 0.01	Impedance : 5 $\Omega$
Frequency	500 Hz	3 to 500 Hz	0.01 Hz	$\pm 2$ count	Impedance : 100 k $\Omega$ Min. Sensitivity : 3 Vp-p min. Duty Cycle : 50%
	5 KHz	3 Hz to 5 KHz	0.1 Hz		
	50 KHz	3 Hz to 50 KHz	1 Hz		
Continuity	<250 $\Omega$	Close / open	---	---	Open Circuit Voltage : about 2.5 V

## SPECIFICATIONS (OUTPUT FUNCTIONS)

FUNCTIONS	RANGE / TYPE	RANGES	RESOLUTION	ACCURACY	REMARKS
DC VOLTAGE	1000 mV	-100 to 1100 mV	10 $\mu$ V	0.02 + 0.01	Maximum output : 2 mA
	10 V	-1 to 11 V	0.1 mV	0.02 + 0.01	Maximum output : 5 mA
DC CURRENT	20 mA	0 to 22 mA	1 $\mu$ A	0.02 + 0.01	Simulator Transmitter : 5 to 28 V Power Supply outside; 1 K $\Omega$ at 20 mA
FREQUENCY	100 Hz	1 to 110 Hz	0.01 Hz	$\pm 2$ count	Output voltage : 1 to 11 V (zero base waveform); Amplitude Accuracy : $\pm 10\%$ + 0.5 V; Maximum load : >100 K $\Omega$ Duty Cycle : 50%
	1 KHz	0.1 to 1.1 KHz	1 Hz		
	10 KHz	1 to 11 KHz	0.1 KHz		
PULSE	100 Hz	1 to 100000 cycles	1 cycle	---	
	1 KHz				
	10 KHz				
LOOP	24 V	---	---	$\pm 10\%$	Maximum output current : 25 mA Short circuit protected

## STANDARD DELIVERY

- Voltage / Milliamp Calibrator - Model Siva 15+
- 1.5 x 4 Nos. Alkaline Batteries
- Operation Manual
- Test Leads
- Traceable Calibration Certificate

## OPTIONALS

- Calibration Certificate from NABL Accredited – as per ISO/IEC 17025:2005 Laboratory



Basic Accuracy :  
 $\pm 0.02\%$  F.S.

Capability to  
Measure & Simulate  
DC Voltages, DC  
Current, Frequency,  
Pulse & Loop

## Portable, Handy &amp; Sturdy case with grip

## MODEL SIVA 25

- Compact, Light Weight Unit with Holster
- Capability to Measure & Simulate DC Voltages, DC Current, Frequency, Resistance, Thermocouples & RTDs
- 5 digits display of Measurement & 6 digits display for Simulation
- Dual LCD with white LED for backlight
- Measurement & Simulation of:  
 DC Voltages: 50 mV & 500 mV, 5 V & 50 V in Measurement Mode  
 100 mV, 1 V & 10 V in Simulation Mode  
 DC Current: 50 mA in Measurement Mode  
 20 mA in Simulation Mode  
 Resistance: 500  $\Omega$  & 5 K $\Omega$  in Measurement Mode  
 400  $\Omega$ , 4 K $\Omega$  & 40 K $\Omega$  in Simulation Mode  
 Thermocouples: R, S, B, E, K, J, T & N  
 RTDs: Pt100, Pt1000 & Cu50  
 Frequency: 100 Hz, 1 KHz & 10 KHz in Measurement Mode  
 100 KHz, 1 KHz, 10 KHz & 100 KHz in Simulation Mode  
 Capability to perform Switch Test & Continuity Test

## SPECIFICATIONS (MEASURING FUNCTIONS)

FUNCTIONS	RANGE / TYPE	RANGES	RESOLUTION	ACCURACY	REMARKS
DC VOLTAGE	50 mV	-5 to 55 mV	1 $\mu$ V	0.02% + 10	impedance: about 100 M $\Omega$
	500 mV	-10 to 550 mV	10 $\mu$ V	0.02% + 2	
	5 V	-0.1 to 5.5 V	0.1 mV	0.02% + 5	impedance: 1 M $\Omega$
	50 V	0 to 55 V	10 mV	0.02% + 5	
DC CURRENT	50 mA	-5 to 50 mA	1 $\mu$ A	0.02% + 2	impedance: 10 M $\Omega$
RESISTANCE	500 $\Omega$ about 1 mA exciting	0 to 550 $\Omega$	0.01 $\Omega$	0.02% + 0.1 $\Omega$	Plough voltage about 2.5 V not including the accuracy of down-lead resistance
	5 K $\Omega$ about 0.1 mA exciting	0 to 5.5 K $\Omega$	0.1 $\Omega$	0.02% + 0.5 $\Omega$	
FREQUENCY	100 Hz	2 to 110 Hz	0.1 Hz	$\pm 2$	impedance: 100 k $\Omega$ or more Square wave atleast 1Vp-p 50% duty cycle
	1 KHz	0.1 KHz to 1.1 KHz	1 Hz		
	10 KHz	0.1 KHz to 10 KHz	0.1 KHz		
THERMOCOUPLES	R	0 to 1767°C	1°C	0 to 500°C: 1.8°C	Adopt ITS-90 Thermostatic scale not including the accuracy of inner temperature compensatory error
	S	0 to 1767°C		500 to 1767°C: 1.5°C	
	K	-100 to 1372°C		-100 to 0°C: 1.2°C	
				0 to 1372°C: 0.8°C	
	E	-50 to 1000°C	0.1°C	-50 to 0°C: 0.9°C	
				0 to 1000°C: 1.5°C	
	J	-60 to 1200°C		-60 to 0°C: 1°C	
				0 to 1200°C: 0.7°C	
	T	-100 to 400°C		-100 to 0°C: 1°C	
				0 to 400°C: 0.7°C	
	N	-200 to 1300°C		-200 to 0°C: 1.5°C	
				0 to 1300°C: 0.9°C	
	B	600 to 1820°C	1°C	600 to 800°C: 2.2°C	
				800 to 1000°C: 1.8°C	
				1000 to 1800°C: 1.4°C	
	Pt100	-200 to 800°C	0.1°C	-200 to 0°C: 0.5°C	
				0 to 400°C: 0.7°C	
RTD				400 to 850°C: 0.8°C	
	Pt1000	-200 to 630°C		-200 to 100°C: 0.22°C	Pt100-385 Thermometric scale not including the accuracy of down-lead resistance
				100 to 300°C: 0.3°C	
				300 to 630°C: 0.4°C	
	Cu50	-50 to -150°C		-50 to 0°C: 0.5°C	
				0 to 150°C: 0.7°C	
SWITCH METER MEASURE	About 1 mA exciting	Close / open			
CONTINUITY TEST	500 $\Omega$ about 1 mA exciting	<50 $\Omega$ vocalism	0.01°C		

Basic Accuracy :  $\pm 0.02\%$  F.S.

Capability to Measure & Simulate  
 DC Voltages, DC Current, Frequency,  
 Resistance,  
 Thermocouples & RTD

MORE DETAILS ON THE NEXT PAGE &gt;

FUNCTIONS	RANGE / TYPE	RANGES	RESOLUTION	ACCURACY	REMARKS
DC VOLTAGE	100 mV	-10 to 110 mV	1 μV	0.02% + 10	Max output current 5 mA Output resistance <0.1Ω
	1 V	-0.1 to 1.10 V	10 μV	0.02% + 10	
	10 V	-1 to 11 V	0.1 mV	0.02% + 10	
DC CURRENT	20 mA	0 to 22 mA	1 μA	0.02% + 10	Inside power supply 24 V, 1 KΩ resistance at 20 mA
ANALOG TRANSDUCER	-20 mA	-0 to 22 mA	1 μA	0.02% + 10	Outside power supply 5 to 28 V, 1 KΩ resistance at 20 mA
RESISTANCE	400 Ω	0 to 400 Ω	0.01 Ω	0.02% + 0.1 Ω	±0.1 to 3 mA exciting current
	4 KΩ	0 to 4 KΩ	0.1 Ω	0.05% + 1 Ω	±0.05 to 0.3 mA exciting current
	40 KΩ	0 to 40 KΩ	1 Ω	0.1% + 10 Ω	±0.01 to 0.03 mA exciting current
THERMOCOUPLE	R	0 to 1767	1°C	0 to 100°C: 1.5°C	ITS-90
				100 to 1767°C: 1.2°C	
	S	0 to 1767		0 to 100°C: 1.5°C	
				100 to 1767°C: 1.2°C	
	K	-200 to 1372	-200 to -100°C: 0.6°C		
			-100 to 400°C: 0.5°C		
			400 to 1200°C: 0.7°C		
			1200 to 1372°C: 0.9°C		
	E	-200 to 1000	-200 to -100°C: 0.6°C		
			-100 to 600°C: 0.5°C		
			600 to 1000°C: 0.4°C		
			-200 to -100°C: 0.6°C		
	J	-200 to 1200	-100 to 800°C: 0.5°C		
			800 to 1200°C: 0.7°C		
	T	-250 to 400	-250 to 400°C: 0.6°C		
			-200 to -100°C: 1°C		
	N	-200 to 1300	-100 to 900°C: 0.7°C		
			900 to 1300°C: 0.8°C		
			400 to 600°C: 2°C		
			600 to 800°C: 1.5°C		
B	400 to 1820	1°C	800 to 1820°C: 1.1°C		
			-200 to 0°C: 0.3°C		
			0 to 400°C: 0.5°C		
RTD	Pt100	-200 to 850	0.1°C	400 to 850°C: 0.8°C	Pt100-385 thermometric scale Pt100, Cu50 ±0.1 mA excitation current. Accuracy does not contain lead resistance
				-200 to 100°C: 0.22°C	
				100 to 300°C: 0.3°C	
	300 to 630°C: 0.4°C				
	Cu50	-50 to 150		-50 to 150°C: 0.6°C	
FREQUENCY	100 Hz	1 to 110 Hz	0.1 Hz	±2	1 to 11Vp-p square wave Accuracy ±10% 50% duty cycle load >100 KΩ
	1 KHz	0.1 to 11. KHz	1 Hz		
	10 KHz	1 to 11 KHz	0.1 KHz		
	100 KHz	1 to 110 KHz	1 KHz		
PULSE	100 Hz	10 to 100000 cycles	1 cycle	±2	1 to 11 Vp-p square wave Accuracy ±10% 50% duty cycle load > 100 KΩ
1 KHz					
10 KHz					
100 KHz					
SWITCH	100 Hz		0.1 Hz	±2	Max switch current voltage / current : +28 V / 50 mA
	1 KHz	1 Hz			
	10 KHz	0.1 KHz			
	100 KHz	1 KHz			
LOOP	24 V				Max output current about 25 mA short circuit protection

#### STANDARD DELIVERY

- Multifunction Process Calibrator - Siva 25
- 1.5V x 4 Nos. Alkaline Batteries
- Operation Manual
- Test Leads
- Traceable Calibration Certificate

#### OPTIONALS

- Calibration Certificate from NABL Accredited – as per ISO/IEC 17025:2005 Laboratory



## Portable, Handy, Easy to carry &amp; Sturdy case with grip

## MODEL VC980+

- 4½ digit handheld Digital Multimeter
- Large LCD Screen
- Capability to Measure: DC & AC Current upto 20 A
- Capacitance & Resistance upto 200  $\mu$ F & 200 M $\Omega$
- Frequency: 200 KHz
- Capability to measure True RMS AC
- Capability to perform Diode & Continuity Test
- Low Battery Indication with Auto Power Off



**Basic Accuracy :**  
 **$\pm 0.05\%$  F.S.**

**Capability to Measure  
True RMS AC;  
Perform Diode &  
Continuity Test**

## SPECIFICATIONS

BASIC FUNCTION	RANGE	ACCURACY
DC Voltage	200 mV / 2V / 20 V / 200 V / 1000 V	$\pm(0.05\% + 3)$
AC Voltage	200 mV / 2V / 20 V / 200 V / 750 V	$\pm(0.8\% + 25)$
DC Current	200 $\mu$ A / 2 mA / 200 mA / 20 A	$\pm(0.5\% + 4)$
AC Current	200 mA / 20 A	$\pm(1.5\% + 25)$
Resistance	200 $\Omega$ / 2 k $\Omega$ / 20 k $\Omega$ / 200 k $\Omega$ / 2 M $\Omega$ / 200 M $\Omega$	$\pm(0.2\% + 5)$
Capacitance	2 nF / 2 $\mu$ F / 200 $\mu$ F	$\pm(4.5\% + 50)$
Frequency	20 kHz / 200 kHz	$\pm(1.5\% + 25)$

## STANDARD DELIVERY

- Digital Multimeter - Model VC980+
- 9V Alkaline Battery
- Operation Manual
- Test Leads
- Traceable Calibration Certificate

## OPTIONALS

- Calibration Certificate from NABL Accredited – as per ISO/IEC 17025:2005 Laboratory

## Portable, Table-top Version

## MODEL 8145B

- 4½ digit Dual Display Bench-top Multimeter
- Large LCD Screen
- 33000 Count Digital reading Primary Display
- Capability to Measure :  
DC / AC Voltages:  
- upto 1000 V / 750 V respectively  
DC / AC Current upto 10 A  
Frequency &  
Resistance: 30 MHz / 100 M $\Omega$  response
- Capability to communicate with PC thro' USB Interface



**Basic Accuracy :**  
 **$\pm 0.03\%$  F.S.**

**Capability to Measure  
DC/AC Voltages &  
Current, Frequency &  
Resistance**

## SPECIFICATIONS

BASIC FUNCTION	RANGE	BASIC ACCURACY
DC Voltage	300 mV / 3 V / 30 V / 300 V / 1000 V	$\pm(0.03\% + 5)$
AC Voltage	300 mV / 3 V / 30 V / 300 V / 750 V	$\pm(0.5\% + 50)$
DC Current	0.3 mA / 300 mA / 30 mA / 300 mA / 10 A	$\pm(0.05\% + 3)$
AC Current	30 mA / 300 mA / 10 A	$\pm(0.5\% + 30)$
Resistance	300 $\Omega$ / 3 k $\Omega$ / 30 k $\Omega$ / 300 k $\Omega$ / 3 M $\Omega$ / 30 M $\Omega$ / 100 M $\Omega$	$\pm(0.05\% + 3)$
Frequency	300 Hz / 3 kHz / 30 kHz / 300 kHz / 3 MHz / 30 MHz	$\pm(0.03\% + 2)$
Power Supply	230 VAC, 60 Hz (Optional : 110 VAC, 60 Hz)	$\pm 5\%$
Dimension	245 x 220 x 82 (mm)	
Weight	2 Kgs. (approx.)	

## CONTINUITY

RANGE	CONTINUOUS RESISTANCE	OPEN CIRCUIT VOLTAGE	SHORT CIRCUIT CURRENT	MAXIMUM INPUT VOLTAGE
300 $\Omega$	150 $\Omega$	2.5 V	About 1.25 mA	250 VDC / RMS AC

## DIODE TEST

RANGE	ACCURACY	MAXIMUM MEASURING VOLTAGE	MAXIMUM MEASURING CURRENT	MAXIMUM INPUT VOLTAGE
20 V	1%	$\leq 2$ V	About 1.25 mA	250 VDC / RMS AC

## STANDARD DELIVERY

- Digital Multimeter - Model 8145B
- Mains Power Cable
- Operation Manual
- Test Leads
- Traceable Calibration Certificate

## OPTIONALS

- Calibration Certificate from NABL Accredited – as per ISO/IEC 17025:2005 Laboratory

## Portable, Handy, Easy to carry &amp; Sturdy case with grip

## MODEL 8155

- 5½ digit Dual Display Multimeter with Large LCD Screen
- Capability to Measure :
  - DC Voltage upto 1000 V
  - AC Voltage upto 750 V
  - DC & AC Current upto 10 A
  - Resistance : upto 200 MΩ
  - Frequency : upto 50 MHz
- Capability to measure 8 different types of Thermocouples (R, S, K, E, J, T, B & N) & Pt100 RTD
- Capability to measure True RMS AC & perform Diode Test
- Built-in self test with closed case Calibration – no internal Calibration adjustment required.

## SPECIFICATIONS

BASIC FUNCTION	RANGE	ACCURACY	IMPEDANCE
DC Voltage	200 mV / 2V / 20 V / 200 V / 1000 V	±(0.02% + 5)	
AC Voltage	200 mV / 2V / 20 V / 200 V / 750 V	±(0.5% + 50)	1 MΩ in series 1 μF
DC Current	200 μA / 500 mA / 10 A	±(0.05% + 5)	
AC Current	200 mA / 100 mA / 10 A	±(0.5% + 30)	0.01 Ω
Resistance	200 Ω / 2 kΩ / 20 kΩ / 200 kΩ / 2 MΩ / 20 MΩ / 200 MΩ	±(0.03% + 3)	
Frequency	500 Hz / 5 kHz / 50 kHz / 500 kHz / 5 MHz / 50 MHz	±(0.03% + 2)	
Power Supply	230 VAC, 60 Hz (Optional : 110 VAC, 60 Hz)	±5%	
Dimension	245 x 220 x 82 (mm)		
Weight	2 Kgs. (approx.)		

## CONTINUITY

RANGE	CONTINUOUS RESISTANCE	OPEN CIRCUIT VOLTAGE	SHORT CIRCUIT CURRENT	MAXIMUM INPUT VOLTAGE
200 Ω	150 Ω	2.5 V	About 1.25 mA	250 VDC / RMS AC

## DIODE TEST

RANGE	ACCURACY	MAXIMUM MEASURING VOLTAGE	MAXIMUM MEASURING CURRENT	MAXIMUM INPUT VOLTAGE
20 V	1%	≤2 V	About 1.25 mA	250 VDC / RMS AC

## TEMPERATURE MEASUREMENT

	TYPE	RESOLUTION	RANGE	ACCURACY	MAX. INPUT
THERMOCOUPLE	R	1°C	-40 to 1760°C	0 to 500°C : 2°C / 500 to 1760°C : 1.5°C	1000 VDC 750 Vrms AC
	S	1°C	-20 to 1760°C	0 to 500°C : 2°C / 500 to 1760°C : 1.5°C	
	K	0.1°C	-200 to 1370°C	0 to 1370°C : 2°C	
	E	0.1°C	-200 to 1000°C	0 to 1000°C : 1.5°C	
	J	0.1°C	-200 to 1200°C	0 to 1200°C : 1.5°C	
	T	0.1°C	-200 to 400°C	0 to 400°C : 2°C	
	B	1°C	600 to 1800°C	400 to 800°C : 2.2°C / 800 to 1000°C : 2°C	
	N	0.1°C	-200 to 1300°C	-200 to 0°C : 1.5°C / 0 to 1300°C : 2°C	
RTD	Pt100	0.1°C	-200 to 850°C	-200 to 0°C : 0.5°C / 0 to 400°C : 0.7°C / 400 to 850°C : 0.8°C	250 VDC / rms AC



Basic Accuracy :  
±0.02% F.S.

Capability to Measure  
DC/AC Voltages,  
Current, Frequency &  
Resistance

## STANDARD DELIVERY

- Digital Multimeter - Model 8155
- Mains Power Cable
- Operation Manual
- Test Leads
- Traceable Calibration Certificate

## OPTIONALS

- Calibration Certificate from NABL Accredited – as per ISO/IEC 17025:2005 Laboratory



## CENTRE FOR CALIBRATION

### TRAINING PROGRAM ON CALIBRATION PRINCIPLES & TECHNIQUES

#### ABOUT THE TRAINING PROGRAM ...

Instrumentation (& Electronics / Control) Graduates from other discipline – fresh from Engineering Colleges / Technical Institutions – aspiring for a career in the field of Instrumentation, need to equip themselves adequately on the practical aspects of Instrumentation – to enable them to face the challenges with confidence as they enter the field / start their career.

Practicing Engineers in the field of Instrumentation – more particularly in the field of Calibration – also need to avail opportunities for getting adequately trained (& updated) in the modern concepts of Calibration Techniques, Calibration Lab Management Techniques & the diverse requirements of ISO/IEC 17025:2005 (for obtaining Accreditation of Calibration Labs etc.)

Siva's Centre for Calibration have drawn out a four fixed Modules & well structure Training Program, duly considering the needs of the above professionals vis-à-vis the industry / institutions they serve / aspire to serve!

The Training Modules include an Intro / Basic Module on Instrumentation – Test & Measuring, Calibration & Process Monitoring and Control Instrumentation & Equipments is followed by 3 tiered Modules on Calibration – Basics, ISO/IEC 17025 & Lab Management.

#### TRAINING FACILITIES AT SIVA, INCLUDE ...

- Excellent learning ambience : Air-conditioned hall with Audio System, Laptop Computer & LCD Projector
- A variety of Process Monitoring / Control (Field) Instruments & Equipments & Calibration Instruments for hands-on practical training.
- Specially designed Calibration Test Benches with Master Standard Modules for wide ranging Parameters & other utilities, all integrated by Calibration Management Software for enabling practice Manual, Semi-automatic, Calibration Techniques.
- A unique integrated Software for actively participating & interacting during training.
- Modular, well structured & tiered to suit Training Courses

## MODULE 1 : CALIBRATION PRINCIPLES & TECHNIQUES

This Module offers an introduction to basic concepts of Calibration. Deals in brief the overall concept of Calibration, Terminology used and Principle of Traceability. Calibration Techniques and a note on Accuracy are touched upon. The concept of Uncertainty in Measurement is introduced along with Proficiency Testing. A brief note on pre-requisite for Certification is added. This Module is to be attended by Technicians, Calibration Engineers and persons responsible for Laboratory Management at various levels.

#### TOPICS COVERED - IN DETAIL

##### UNCERTAINTY OF MEASUREMENT (UOM)

The process of Measurement involves various Elements & Parameters – characteristics & behaviour of Master Instrument, environmental parameters, operating conditions, variations in resources performances, competency of personnel. All these introduce an element called "Uncertainty" in the process of Measurement resulting in "certain amount of Uncertainty" in the "observed value of Measurement". This Module goes into the depth of identifying and quantifying each of the parameters and estimating the combined effect of all those parameters on the measured parameter. It is suggested that Calibration Engineers make it a point to attend the Module, a basic technical requirement of ISO/IEC 17025:2005.

##### TRACEABILITY

Concept gives total confidence in the measurement taken which ensures the validity of measurement during Calibration to an Internationally / Nationally accepted reference, through an unbroken chain. A better understanding of Traceability makes the Calibration Engineers and the functional management staff to ensure and keep the chain of Masters used for Calibration properly calibrated – an important criteria for Accreditation.

##### BEST MEASUREMENT CAPABILITY (BMC)

BMC is the minimum amount of Uncertainty, a Calibration Laboratory will introduce in the

process of Measurement of a parameter an instrument is intended to measure generally. It depends upon the capability of a laboratory's resources – human, infrastructure facility, equipment, environment etc. Scope of Accreditation of a Laboratory is based on BMC with regard to the particular parameters. Understanding the concept and estimation of BMC require thorough knowledge of estimation of UOM. The Best Measurement Capability of the Laboratory to a great extent depends upon the technical competency of the Calibration Engineers. Laboratory Functional In-charges therefore need to understand the concept as the Laboratory has to be technically assessed for its BMC to consider the same for scope of Accreditation.

#### PRACTICAL TRAINING \*

The practical training covers imparting Standard Calibration Procedures to carry out Calibration in Mechanical, Electro-Technical & Thermal Measurements.

This includes Calibration of DMMs, Multi-function Calibrators, Electronic Controllers, Voltmeters, Ammeter to name a few in the field of Electro-Technical Measurement.

In Thermal Measurements Calibration Techniques for RTD, TC, Temperature Gauges, Temperature Switches, Temperature Transmitters are included.

Calibration of Pressure Gauges, Pressure Calibrators, Pressure Transmitters, Dead Weight Testers, Pressure Switches etc. are covered in Mechanical Measurements.

\* The proposed Practical Training will cover the following Instruments / Equipments:

#### MECHANICAL MEASUREMENTS

- ✓ Pressure Dead Weight Testers (Hydraulic & Pneumatic)
- ✓ Vacuum Gauges / Switches Transducers
- Transmitters Manometers
- ✓ Indicators / Controllers Calibrators
- ✓ Balance
- ✓ Standard Weights

#### ELECTRO-TECHNICAL MEASUREMENTS

- ✓ Voltmeter / Ammeter
- ✓ Power / Energy Meter
- ✓ Voltage / Current Calibrator
- ✓ Multi-function Calibrator
- ✓ Digital Multimeter
- ✓ Decade Resistance Box

#### THERMAL MEASUREMENTS

- ✓ Ovens / Furnace / Incubators / Autoclaves
- ✓ RTD, TC, Thermistor, Vapour Pressure
- ✓ Gas / Hg in Glass, Bimetal Thermometers
- ✓ Temperature Transmitter
- ✓ Temperature Gauges
- ✓ Temperature Indicator / Controllers
- ✓ Temperature Switches
- ✓ Temperature Sources / Calibrators

#### MISCELLANEOUS

- ✓ RH Meter
- ✓ pH Meter
- ✓ Conductivity Meter

#### DURATION: 4 DAYS (MONDAY TO THURSDAY)

Calibration Engineers of a Calibration Laboratory attending the course will enhance their technical capability and competency to meet the technical requirements as per ISO/IEC 17025:2005.

## MODULE 2 : AN INTRODUCTION TO ISO/IEC 17025:2005

This Module – discusses the various clauses of the standard to give an exposure to all the Laboratory personnel regarding the salient features of the standard to ensure quality of Calibration results.

### A DETAILED PROGRAM ON ISO/IEC 17025:2005

Discusses - in depth – each clause of the standard – 15 clauses in Management and 10 clauses in Technical requirements. This Module enables the Engineers & Senior Personnel to have a thorough understanding of the requirement of the standard for effective implementation of ISO/IEC 17025:2005. Sample exercise, notes & questions help the process of understanding.

### PROFICIENCY TESTING (INTER-LABORATORY COMPARISON – ILC)

This is one of the QC Techniques for monitoring the validity of Calibrations undertaken. Each Laboratory is to participate once in 4 years for the parameters it has to be accredited. This Module which needs to be attended by Senior Personnel, deals with the PT techniques and the method of analyzing PT results. NABL organizes the PT Program. Concepts to organize self initiated Inter-Laboratory Comparison.

### INTERNAL AUDIT

It is a Monitoring Tool used by the system to assess the effectiveness and compliance of the system. This Module is exclusively meant for the Top Management of the Laboratory covers the philosophy of Audit and the Techniques of conducting an effective Audit. Lot of exercises and mock Audits prepare competent International Auditors for system effectiveness.

### DURATION: 4 DAYS (MONDAY TO THURSDAY)

**NOTE:** A trained Calibration Engineer with 2/3 years experience should attend the course.

## MODULE 3: CALIBRATION LABORATORY MANAGEMENT PROGRAM - COVERS FOLLOWING ASPECTS:

### AN OVERVIEW OF CALIBRATION

(This is to give a total picture about Calibration – from need and definition of Calibration to getting Accreditation to the Calibration Laboratory)

- Need for Calibration & basics in Calibration
- About ISO/IEC 17025:2005
- About Documentation
- Internal Audit
- Management Review
- Tips on Laboratory Management
- Process of Laboratory Accreditation

### AWARENESS ABOUT ISO/IEC 17025:2005

This Module – in brief – discusses the various clauses of the standard to give an exposure to all the Laboratory personnel regarding the salient features of the standard to ensure quality of Calibration results.

### DOCUMENTATION

Module gives hint to the preparation documentation system of ISO/IEC 17025:2005 like Quality Manual, System Procedure, Work Instructions etc. List of reference documents of NABL, EAL, OIML are included for a better understanding to effectively implement ISO/IEC

17025:2005 System pertaining to Management & Technical requirements. Senior personnel of the Laboratory Management are to attend the Module.

### LABORATORY MANAGEMENT & MANAGEMENT REVIEW

This Module prepares the Senior Laboratory Personnel to understand the nuances of managing effectively an Accredited Laboratory.

### QC Techniques

Discusses QC Techniques – ILC, Testing of retained items, Re-testing, PT etc.

The process of getting Accreditation

This Module is a must for all Laboratory Personnel as it educates the Personnel regarding the steps involved in Accreditation. This will enable all to participate in Accreditation as a whole team.

### DURATION : 2 DAYS

## FOR MODULES 1, 2 & 3 – TRAINING METHOD & EVALUATION WILL BE AS FOLLOWS :

All theoretical aspects will be presented on Laptop Computer to Projector and the detailed discussion with interactive.

Exercises will be supplied to the individual in the specified formats to the trainees and the steps are to be worked out by the trainees (using scientific calculators) and results are submitted for assessment and evaluation by the Siva Trainer.

Regarding actual Calibration, detailed Calibration Principle / Methods / Procedures will be discussed for each type of Calibration in the Training Hall and the Calibration of maximum number of possible instruments will be arranged as per the availability of instruments dividing into batches of 2 or 3 (after finalization of the list of instruments / system). Each Trainee is to enter the details of recording and calculate errors in percentage of reading or full scale and preparing the Calibration Certificate. A sample case of Uncertainty may also have to be worked out.

Though the assessment is continuous, a final examination covering all aspects of theory & practical will be conducted for overall assessment and issue of Certificate.

### NOTE :

1. At the completion of Process Monitoring and Control Instruments Module & Module 1 – the Trained Engineers will have acquired the competency to work in an Accredited Calibration Laboratory as a Calibration Engineer.
2. An experienced Calibration Engineer after completing Module 2 will have the competency to conduct Internal Audit – a mandatory requirement for an Accredited Laboratory.
3. An experienced Calibration Engineer having attended Modules 1, 2 & 3 over a period of time will have acquired both Technical & Management competency to organize and manage an Accredited Calibration Laboratory.

### NOTE :

1. The above Training Programs are conducted at regular intervals at Siva's facility, Chennai – during the middle of the month.
2. If sufficient number of candidates are sponsored by any organization, one or more of these Training Programs can also be conducted on dates convenient to the organization.
3. These Training programs can also be organized at customers' premises – if the number of candidates warrant this.
4. Combination of Modules can also be organized as per customer request.

## ENGINEERING &amp; INDUSTRIAL / VOCATIONAL TRAINING SYSTEMS



**STANDARD  
DESIGNS**



**POP-UP  
SYSTEMS**

## ELECTRICAL / ELECTRONICS TRAINER TEST BENCHES / WORKSTATIONS

**SERIES: E5000 / MODEL E5060T**

Table-top Design with Typical Set of Modules / Utilities \*

**TYPICAL CONFIGURATION OF MODULES  
(COMMON FOR BOTH TABLE-TOP & ELEVATED DESIGNS)****SINGLE PHASE  
MAINS POWER  
SUPPLY: MPS**

Universal AC Supply 230V,  
5A with On/Off Switch &  
Lamp Indication

**AC SOCKET  
PANEL: SPM**

Universal AC  
Sockets /  
UK Sockets

**FIXED DC POWER  
SUPPLY: FDC**

Output Voltage /  
Current :  
3 x 12V / 1A  
2 x 15V / 1A  
5V / 3A  
3.3V / 3A

**TRUE RMS  
MULTIMETER:  
DMM**

3999 Counts – Auto /  
Manual Ranging 3½ Digits  
Capacitance Frequency  
Measurement Diode Test  
True RMS

**DIGITAL LCD  
METER: LCR**

High Resolution  
Zero Adjustment  
3 Function LCR  
Measurement  
(Capacitance, Inductance  
& Resistance)

**SOLDERING /  
DESOLDERING  
STATION: SDS**

Multipurpose  
Soldering &  
De-soldering Station

**SERIES : E5000 / MODEL E5060E** Elevated Design with Typical Set of Modules / Utilities \***VARIABLE AC  
POWER SUPPLY: VAC**

Input Voltage: 230V AC  
Output Voltage:  
0 to 260V AC  
Current Rating: 6A

**VARIABLE DC POWER  
SUPPLY: VDC**

Programmable Output:  
0 to 36V DC  
Output Current: 1A  
Constant Current: 0 to 3A

**FUNCTION  
GENERATOR: FG**

Range: 0.5 Hz to 5 MHz  
Sine, Triangle, Square,  
Ramp  
TTL & CMOS Output

**DIGITAL STORAGE  
OSCILLOSCOPE: DSO**

600/100 MHz Bandwidth  
Dual Sampling Mode  
4000 Points Memory  
Length per Channel  
56" TFT Colour Display

\* Consult us on other Modules / Utilities of your choice.

**TYPICAL SAMPLE TEST UNITS (UUTS)**

- Voltmeters
- Ammeters
- Decade Resistance / Capacitance / Inductance Boxes
- Tongue Tester
- Watt Meter
- Energy Meter
- Frequency Meter



## TEMPERATURE TRAINER TEST BENCHES / WORKSTATIONS

### SERIES : E6000 / MODEL E6060D

Double Deck Design with Typical Set of Modules / Utilities \*



#### THREE PHASE MAINS POWER SUPPLY: MPS

415 VAC, 50/60 Hz  
Residual Current Circuit Breaker  
Emergency Off-Switch with Reset  
Line Indicating Lamp



#### AC SOCKET PANEL: SPM

Universal AC Sockets / UK Sockets



#### VARIABLE AC POWER SUPPLY: VAC

Input Voltage : 230V AC  
Output Voltage : 0 to 260V AC  
Current Rating : 6A  
Digital Voltmeter & Ammeter for indication of Output Voltage & Current  
Standard Make Power Socket with Lamp Indication Switch



#### FIXED DC POWER SUPPLY: FDC

Supply Voltage : 230 VAC, 50 Hz  
Output : 2 x  $\pm 24V$ , 1A  
Banana Type Socket



#### Variable DC Power Supply: VDC

Programmable Output:  
0 to 36V DC  
Output Current: 1A  
Constant Current: 0 to 3A



#### Digital Multimeter

6½ digit Resolution  
3 Hz ... 300 KHz AC Bandwidth  
Null feature allows to remove Lead Resistance / Fixed Offsets  
Min / Max / Avg Readouts  
Continuity & Diode Test



#### Multifunction Calibrator: MFC

Simultaneous Measurement & Simulation of mV, V, mA, Ohms, Frequency, Pulse, T/ Cs & RTDs



#### Air Supply Module: ASM

Air Filter / Pressure Regulator  
Supply Pressure: 10 Bar  
Pressure Gauges of Range 0 to 2.5 Bar & 0 to 6 Bar with Dial Size 63 mm & Accuracy 1.6%  
Pressure Output Ports  
Quick Fit Type



#### Temperature Scanner: TSM

Enables Multiple (6) simultaneous TC / RTD Calibration – reducing time to 1/6th.

\* Consult us on other Modules / Utilities of your choice.



Temperature Calibrators in Movable Trolley #

**TEMPERATURE CALIBRATORS**

**HIGH TEMPERATURE**  
Model: 1200 HN  
Range: 300 to 1200°C



**MEDIUM TEMPERATURE**  
Model: MP 650  
Range: 50 to 650°C



**SUB-ZERO**  
Temperature  
Model: MP40R  
Range: -40 from Ambient to 123°C

**OPTIONAL: (IN 2<sup>ND</sup> TROLLEY)**

**MICRO OIL BATH**  
Model: MOB: 250  
Range: 50 to 250°C



**BLACK BODY SOURCE**  
Model: BBS  
Series  
Range: 100 to 600°C



**IR THERMOGRAPHY TRAINER**  
Model: IRT  
Range: 50 to 200°C

# With a Handheld Multifunction Calibrator & Master Temperature Probe, this Mobile Trolley can also double as a Stand-alone Mobile Temperature Trainer for Class Room Applications.

**TYPICAL SAMPLE TEST UNITS (UUTs)**

- Type J / K / T Thermocouple Probes
- RTD (PT100) Probe
- Temperature Transmitter (Head Mounting Type)
- Temperature Switches (50 to 120°C & 230 to 300°C)
- Temperature Controller
- Temperature Indicator
- Dial Thermometers
- Glass Thermometers \*
- Thermistors (PTC / NTC)
- IR Pyrometer \*
- IR Thermography Camera \*



## PRESSURE TRAINER TEST BENCHES / WORKSTATIONS

**SERIES : E3000**

**MODEL E3060D**

Double Deck Design with Typical Set of Modules / Utilities \*



**SINGLE PHASE MAINS POWER**

**SUPPLY: MPS**

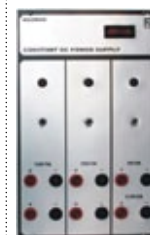
Universal AC Supply 230V, 5A with On/Off Switch & Lamp Indication



**AC SOCKET PANEL: SPM**

Universal AC Sockets / UK Sockets

- a) 230V AC
- b) 110V AC



**FIXED DC POWER**

**SUPPLY: FDC**

Output Voltage / Current :

- a) 3 x 12V / 1A
- b) 2 x 15V / 1A
- c) 5V / 3A
- d) 3.3V / 3A



**VARIABLE AC POWER**

**SUPPLY: VAC**

Input Voltage : 230V AC  
Output Voltage : 0 to 260V AC  
Current Rating : 6A  
Digital Voltmeter & Ammeter for indication of Output Voltage & Current  
Standard Make Power Socket with Lamp Indication Switch



**VARIABLE DC POWER**

**SUPPLY: VDC**

Programmable Output: 0 to 36V DC  
Output Current: 1A  
Constant Current: 0 to 3A



**AIR SUPPLY  
MODULE: ASM**

Air Filter / Pressure Regulator  
Supply Pressure : 10 Bar  
Pressure Gauges of Range 0 to 2.5 Bar & 0 to 6 Bar with Dial Size 63 mm & Accuracy 1.6%  
Pressure Output Ports Quick Fit Type



**DIGITAL PRESSURE  
INDICATOR: MPC-B+**

Range : 0 to 2 / 25 / 350 / 700 Bar \*  
Accuracy :  $\pm 0.05\%$  FS + 1 digit  
Selectable Pressure Units thro' keypad  
DC Current / Voltage Measurement upto 50 mA / 30V  
Switch Test facility  
Zero Offset facility  
\* Single (Internal) or Multi (EPM) Sensor



**5 1/2 DIGIT DIGITAL MULTIMETER: DMM**

Min / Max / Avg / Relative Value /  
Measurement of DC Voltage, AC Voltage, DC Current, AC Current, Resistance, Frequency, Continuity Test, Diode Test, Decibel (dB)

\* Consult us on other Modules / Utilities of your choice.

## PRESSURE TRAINER TEST BENCHES / WORKSTATIONS

### SERIES: E3000

#### OPTIONS & ACCESSORIES: HYDRAULIC DEAD WEIGHT TESTER

Single / Dual Piston  
Range: 350 Bar  
Accuracy:  $\pm 0.05\%$  reading  
Units: Bar / PSI / Kg/cm<sup>2</sup>



#### PNEUMATIC HAND PUMPS \*

Ranges : -0.9 to 2 Bar / 25 Bar  
Resolution : 0.5 mmWC / 1 mBar  
Pressure / Vacuum changeover selection

#### HYDRAULIC HAND PUMPS \*

Ranges : Upto 350 / 700 / 100 Bar  
Transparent Reservoir  
Fine Adjustment Vernier

\* With Hose Pies & Set of Adaptors

### PORTABLE CLASS ROOM PRESSURE TRAINERS



#### PNEUMATIC VERSION

Model : PPC-P  
Ranges : -0.85 to 2 / 7 / 10 / 20 Bar  
Accuracy : 0.05% F.S

#### HYDRAULIC VERSION

Model : PPC-H  
Range : 0 to 200 / 400 Bar  
Accuracy : 0.05% F.S.

#### PNEUMATIC & HYDRAULIC VERSIONS (DUAL)

Model : PPC-D  
Range : 0.85 to 20 Bar & 0 to 400 Bar  
Accuracy : 0.05% F.S.

- Graphic Display
- Selectable Pressure Units thro' keypad
- Built-in Pressure & Vacuum Hand Pump
- Vernier Adjustment Valves & Release Valves
- Housed in Trendy, Rugged Case – Truly Portable

### TYPICAL SAMPLE TEST UNITS (UUTS)

- Set of Analog Pressure / Vacuum Gauges (-1 to 0 Bar, 0 to 1.6 Bar, 0 to 25 Bar, 0 to 350 Bar)
- Pressure Switches (Diaphragm sealed Piston type)
- Vacuum Switch (-1 to 0 Bar)
- Electronic Pressure Transmitter
- Differential Pressure Transmitter
- I/P, P/I Convertors



## COMPACT CLASS ROOM TRAINERS

Perfect Low Budget Trainers covering experiments in Temperature, Pressure and/or Electrical & Electronics Parameters

### MOBICAL SERIES

Modules mounted in rack, placed inside Mobile (sturdy) Trolley case, ready for use as Table-top Unit. (Entire Rack can also be removed & placed on top of Class Room Table)

### TYPICAL CONFIGURATION OF MODULES



Movable Trolley Case with Mobical fixed inside



#### ELECTRICAL & ELECTRONICS TRAINER: MOBICAL EE

- Function Generator
- 5½ digit Digital Multimeter
- Multifunction Calibrator
- Decade Resistance Box
- Variable AC & DC (Programmable) Power Supplies
- Power Supply for Unit Under Test

#### PRESSURE & TEMPERATURE TRAINER: MOBICAL PT

- Pressure Indicator – Pneumatic : -0.85 to 25 Bar & Hydraulic : upto 350 Bar
- Built-in / External Hand Pumps
- Dual Dry Block Temperature Calibrators
- Range : -35 from Ambient to 123°C & 50 to 350°C
- Multifunction Calibrator & Power Supply for Unit Under Test



#### MULTIPARAMETER (ELECTRICAL, ELECTRONICS, PRESSURE & TEMPERATURE) TRAINER: MOBICAL PTES

- Dry Block Temperature Calibrators (2 Nos) – Ranges : -35 from Ambient to 123°C & 50 to 350°C
- Function Generator
- 5½ digit Digital Multimeter
- Process (Multifunction) Calibrator
- Decade Resistance Box
- Variable AC & DC Power Supply for Units Under Test
- Integrated / Interfaced with
  - CPU & foldable Touch Screen Monitor
  - CALMAN – Calibration Management Software for Automatic / Semi-Automatic Test / Calibration routines; Data Collection / Storage etc.



## COMPUTER AIDED MULTIPARAMETER TRAINER TEST BENCHES / WORKSTATIONS

### SERIES : E9000 MODEL E9060D

Double Deck Design with Typical Set of Modules / Utilities \*



This is an **ALL-IN-ONE TRAINER WORKSTATION** for (Testing & Calibration of) Temperature, Pressure & Electrical / Electronics Parameters.

An ideal choice for Automatic / Semi-Automatic Testing & Calibration of Pressure Instruments like Pneumatic Pressure / Differential Pressure & Vacuum Gauges, Indicators, Transmitters, Switches, P/I and I/P Converters etc. **TEMPERATURE MEASURING INSTRUMENTS** including Temperature Indicators, Recorders, Controllers, Thermoswitches, RTDs, TCs of all International Standards.

Besides, it also has facilities for **SIMULATION & MEASUREMENT OF MOST ELECTRICAL PARAMETERS** like V / mV / mA / Ohms / TCs & RTDs for Calibration of Electrical (Signal) Inserts.

The Standard **MODULES / FACILITIES** \* fitted in this Workstation include...

- Microprocessor based High Accuracy Dry Block Temperature Calibrators
- Microprocessor based Pressure Calibrator Modules (Pneumatic / Hydraulic) with Quick Disconnect Pressure Inlet / Outlet Ports.
- External Pressure Pumps with Vernier Adjustment, Divider Blocks & Connecting Holes
- Very High Precision Multifunction Calibrator
- High Precision Preset Digital Pressure Controller for Automatic Pneumatic Pressure generation
- Utilities like AC & DC Power Supplies (Stabilized & Variable) & Power Analyzer
- High Precision 6½ Digit Multimeter etc.
- Air Set

The above Work Station is interfaced / integrated with the powerful **"CALMAN" CALIBRATION MANAGEMENT SOFTWARE** capable of Performing **AUTOMATIC / SEMI-AUTOMATIC / MANUAL CALIBRATION** and generation of **CUSTOM DESIGNED REPORTS / CERTIFICATES** as per ISO Standards.

Most of the Modules herein are described in pre-pages.

*\* Consult us on other Modules / Utilities of your choice.*

Illustrations are typical – actual execution, design / configuration may be different, to suit – consult us.

Visit [www.siva.com](http://www.siva.com) / Review Catalog Hand Book / Data Sheet  
– for other possible designs / configurations & detailed specifications of Modules

– Contact us for List of Typical Experiments –

## MOTORIZED MULTIPURPOSE WORKSTATION (HEIGHT ADJUSTABLE) FOR STUDENT / TEACHER – TRAINING APPLICATIONS

	
<p>Work Table with Device Panel <b>IN</b></p> <p><b>SIZES AVAILABLE FROM:</b>  1200 mm to 2200 mm (W)  900 mm to 1200 mm (D)  760 mm to 1360 mm (H)</p>	<p>Work Table with Device Panel <b>OUT</b></p> <p>Height adjustable Device Panel Rack  Height adjustable Work-top / Table (optional)  Height adjustment can be controlled centrally (by Teacher)  19" Rack fitted with Control Panel / Utilities / Shelf etc.  Load Rating : 100 Kgs.  Cable ducts to accommodate socket Strips  Movable Drawer Units / Trolley Units with Modules  Options : ESD Protection / Width adjustable PC holder / Monitor Arms.</p>

## MULTI-FLEX TEST BENCHES / WORKSTATIONS

Specially Designed for Engineering & Industrial Vocational Training purpose

	<p>Next Generation  Multiposition / Multipurpose  Ergonomic &amp; Electrically operated</p> <div data-bbox="1082 1346 1369 1585" data-label="Image"> </div>
<p>Device Panel, Temperature &amp; Pressure Trolleys <b>IN</b> - for use as <b>WORK TABLE</b></p>  <div data-bbox="655 1720 938 1966" data-label="Image"> </div>	<p>Work Table with Device Panel <b>OUT</b></p> 
<p>Device Panel <b>OUT</b>, Temperature Trolley <b>OUT</b>, Pressure Trolley <b>IN</b>  <b>TEMPERATURE WORKSTATION</b></p>	<p>Device Panel <b>OUT</b>, Temperature Trolley <b>IN</b>, Pressure Trolley <b>OUT</b>  <b>PRESSURE WORKSTATION</b></p>

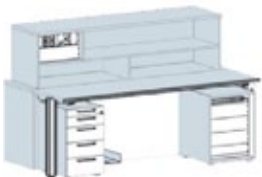



	
<p>Device Panel <b>OUT</b>, (Ready for work) Temperature &amp; Pressure Trolleys <b>IN</b> <b>ELECTRICAL / ELECTRONICS WORKSTATION</b></p>	<p>Device Panel <b>OUT</b> Temperature &amp; Pressure Trolleys <b>OUT</b> <b>MULTI-PARAMETER WORKSTATION</b></p>

**ALL-  
IN-ONE  
MULTIPARAMETER**

## ARRAY OF WORKSTATION MODELS & ACCESSORIES

		
<p>With Tilting Device Panel (IN) Unit</p>	<p>With Tilting Device Panel (OUT)</p>	<p>With Movable Drawer</p>
		
<p>Movable Drawer Unit</p>	<p>Central Remote Control Unit</p>	<p>CPU Mounted</p>

## SCHEMATIC DRAWING

			
<p>Teacher ESD Workstation</p>	<p>Student ESD Workstation</p>	<p>Row / Side ESD Workstation</p>	<p>Teacher Workstation</p>



360° Instrumentation **Solutions Provider**

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