

Calibration System

(Product ID: CAL-04, CTC-04)

The ISSI calibration system is a multi-function system designed for controlling the mass-flow of two gases and temperature within a sealed cell. This new evolution of ISSI's pressure and temperature sensitive paint calibration system utilizes a gas flow design whereby the nitrogen to oxygen mass flow ratio is controlled to simulate pressure. The advantage of this technique is the ability to simulate pressures from approximately 0 to 4.5 bar without the noise and complexity of the diaphragm pump. Nitrogen and oxygen from gas bottles flow into the gas inlet fittings

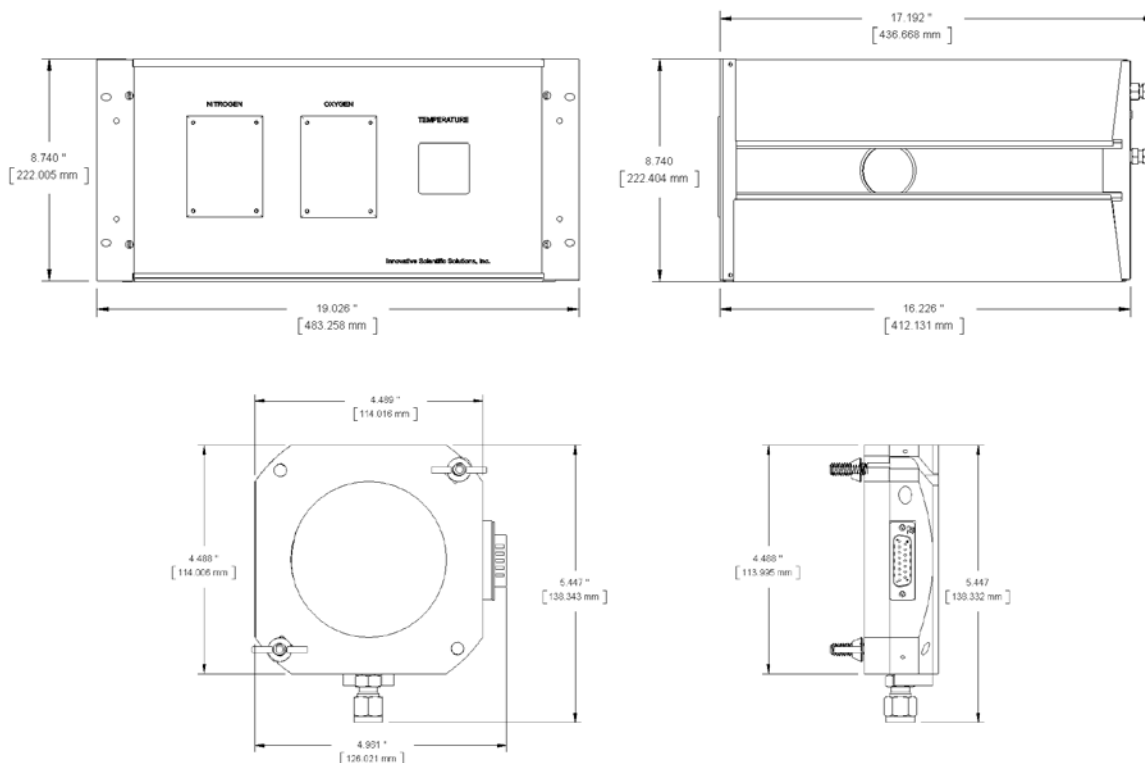


on the calibration box via appropriate dual stage regulators (**ISSI does NOT supply bottle gas or regulators**). The mixed gas exits the calibration system box via the output rear fitting and then into the calibration cell where the gas flows over the sample. The temperature control has been upgraded to provide faster temperature control and improved stability. All of the displays are backlit and colored for ease of recognition.

Operation of the system can be completely manual via the front panel interface for custom calibration purposes or in an automatic mode via software where the customer collects calibration data over a chosen set of conditions in an automated fashion. ISSI provides a graphical user interface for manual or automatic control of the calibration system.

The system sends a TTL level trigger to the camera to acquire an image once it is on condition via a trigger output BNC connection. The camera returns a TTL level pulse to the trigger input BNC connection once it frames, signaling the calibration system that an image has been acquired and to move to the next condition.

The calibration cell requires a low steady flow of water for cooling purposes. A quiet, low-maintenance water circulator with radiative cooling is included with the system. Another advantage of the system is the Ethernet interface which simplifies communication with a computer, especially over long distances. The calibration system can be installed in a convenient location and communicated with over an existing network. Firmware updates and support by ISSI personnel are possible from our offices to where the system is installed. The system can also be used to control mass flow ratios of other gases within the cell. The system is capable of handling many other gases. The cell is for gases only, no liquids.

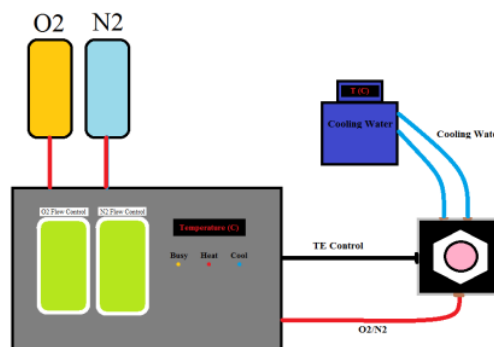


SPECIFICATIONS

Pressure Range	0.0 - 4.5 bar
Temperature Range.....	0 – 70 °C
Pressure Accuracy	0.5% of full scale
Temperature Accuracy	0.1 °C
Interface.....	Ethernet (RJ45)
Power.....	120-240 VAC, 50/60 Hz
Trigger Input/Output.....	TTL
Warranty.....	1 year limited
ECCN	EAR99

Accessories:

1. Calibration Cell (1)
2. RTD cable for temperature control (1)
3. Ethernet patch cable (1)
4. BNC cable for camera trigger (2)
5. BNC Barrel connectors for camera to cable (2)
6. ¼" tubing for supply and output to cell with gas fittings(3)
7. Thermal compound (1)
8. Power Cable (2)
9. *PT Control* software for control of system (1)
10. *OMS Calibrate* software license (1)
11. Koolance cooling unit (1)
12. Power supply and adapter for Koolance cooling unit (1)
13. Fittings and hose for cooling water (2)
14. Hose clamps for water hose connection to cooling unit (2)
15. Push-on hose fitting adapters for cooling unit (2)
16. Coupons for paint calibration (5)
17. Mounting screws for cell to mount (3)
18. Cell Mount (1)
19. Calibration Control Box (1)



Schematic of CAL-04 System

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