Custom systems
Model 9477 pressure calibration system

09/2023

Applications

- Healthcare and avionics
- Research and development laboratories
- Ideal for manufacturing

Special features

- High accuracy
- Wide pressure range
- GPIB(IEEE-488) controlled
- Computer control module (Model 9479)

Description

The Mensor model 9477 pressure calibration system is a high accuracy, wide pressure range pneumatic control system. Different pressure ranges configurations can beordered to best suit the intended application.

Functionality

The Mensor model 9477 pressure calibration system consists of multiple CPC6050 controllers and a computer control module (designated the Model 9479) whose function is to select the active pressure range, control the transition between ranges, and control the on/off activation of the vacuum pump. Also included in the system is a rear mounted pressure panel with pressure regulators to adjust incoming pressures for the individual CPC6050 controllers, direct the controller outputs to the proper pressure output port, and a power bus bar.

Unit Setup

The rack system is mounted on casters and should be installed on a level surface with adequate airflow. The emergency shutoff button should be accessible to the operator. Wheel chucks or threadedfeet/supports should be used where appropriate to keep the unit in place. Any handles provided on the side of the rack (if equipped) are intended to assist in the rolling of the rack but are not intended for lifting. A standard 15 or 20-amp wall circuit is sufficient for normal operation.

Model 9477- Pressure calibration system

Maintenance

Standard maintenance may include checking for loose fitting and screws and general housekeeping. The transducers located in the controllers should be periodically checked (annual calibration checks are recommended.) Either the entire unit can be shipped to Mensor for calibration or the transducers can be removed from the unit and shipped by themselves to Mensor. Spare transducers can be purchased for continuous operation during calibration checks. Only qualified technicians should open up the CPC6050 housing and remove the transducers.

Each new unit has a 1-year warranty from the date of delivery.

Configuration options
Model 9477

Basic instrument - Model 9477	
Instrument version	Standard: ¼” FNPT fittings; top CPC6050 A (0 to 1000 psi A), B (0 to 250 psi A), bottom CPC6050 C (0 to 100 psi A), D (0 to 12.5 psi A) options: port fittings (refer to "Pneumatic interface"); CPC6050 channel range (refer to "Pressure range options")
Operating temperature	15 to 45 C
Storage temperature	0 to 50C
Humidity	10 to 85% RH (non-condensing)
Communications	GPIB (IEEE-488)
Screen	10.1" color LCD with capacitive touchscreen
Warm-up time	Approx. 15 min
Permissible pressure media	Quality class of 1.2.1 (ISO Standard 8573.1)
Pneumatic interface	Two sets of 3 pressure ports in ¼” FNPT, ¼” tube, 7/16-20 female SAE, 6mm Tube, or 6mm push-to-connect tube fittings
Permissible supply port pressure	110% FS or 10 psi (0.69 bar), whichever is greater
Permissible measure/control port pressure	105% FS transducer range
Weight	~400lbs (181kg)
Dimensions	31 " (78.74 cm) deep , 23 " (58.42 cm) width, 50 " (127 cm) height
Power	100 to 240 VAC, 47 to 63 Hz, 1500 VA max, 750 VA typical

Pressure Range Options- Model 9477		
Designation & channel	**Pressure range**	**Accuracy**
A-high range A channel	0 to 1000 psi A	0.01% IS-50
A-high range A channel	0 to 500 psi A	0.01% IS-50
B-high range B channel	0 to 250 psi A	0.01% IS-50
C-low range A channel	0 to 100 psi A	0.01% IS-50
C-low range A channel	0 to 37.5 psi A	0.01% IS-50
D-low range B channel	0 to 12.5 psi A	0.01% FS

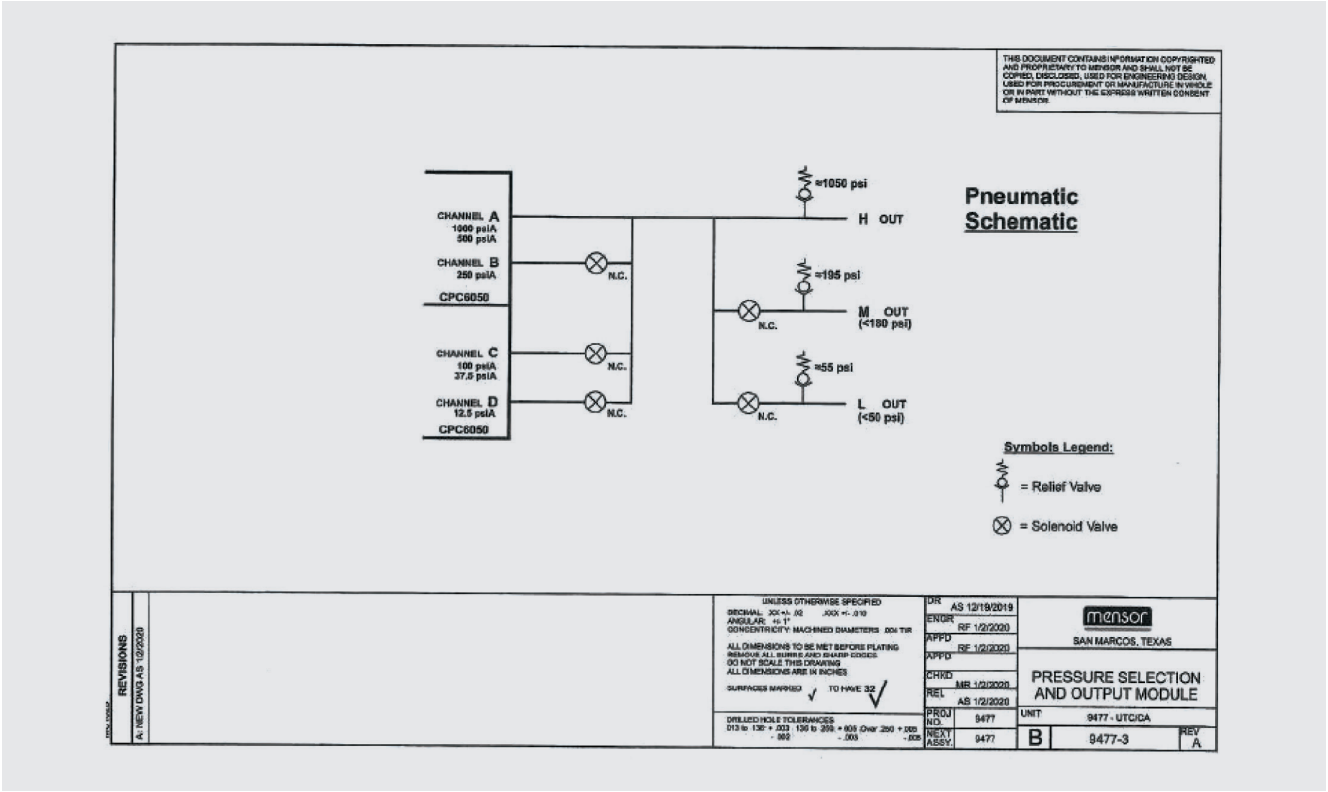
1) Each of the two CPC6050 controllers has dual control channels. The channels on a CPC6050 are called A and B. When there are two CPC 6050 the channels on the top unit are designated as A and B. The channels on the bottom unit are designated as C and D. The ranges and accuracy breakdown is shown in the “pressure Range Options- Model 9477 table above.

2) Accuracy of 0.01% IS-50 is equivalent to 0.01% of reading in the upper 50% of range and a fixed 0.005% of FS in the lower half of the pressure range.

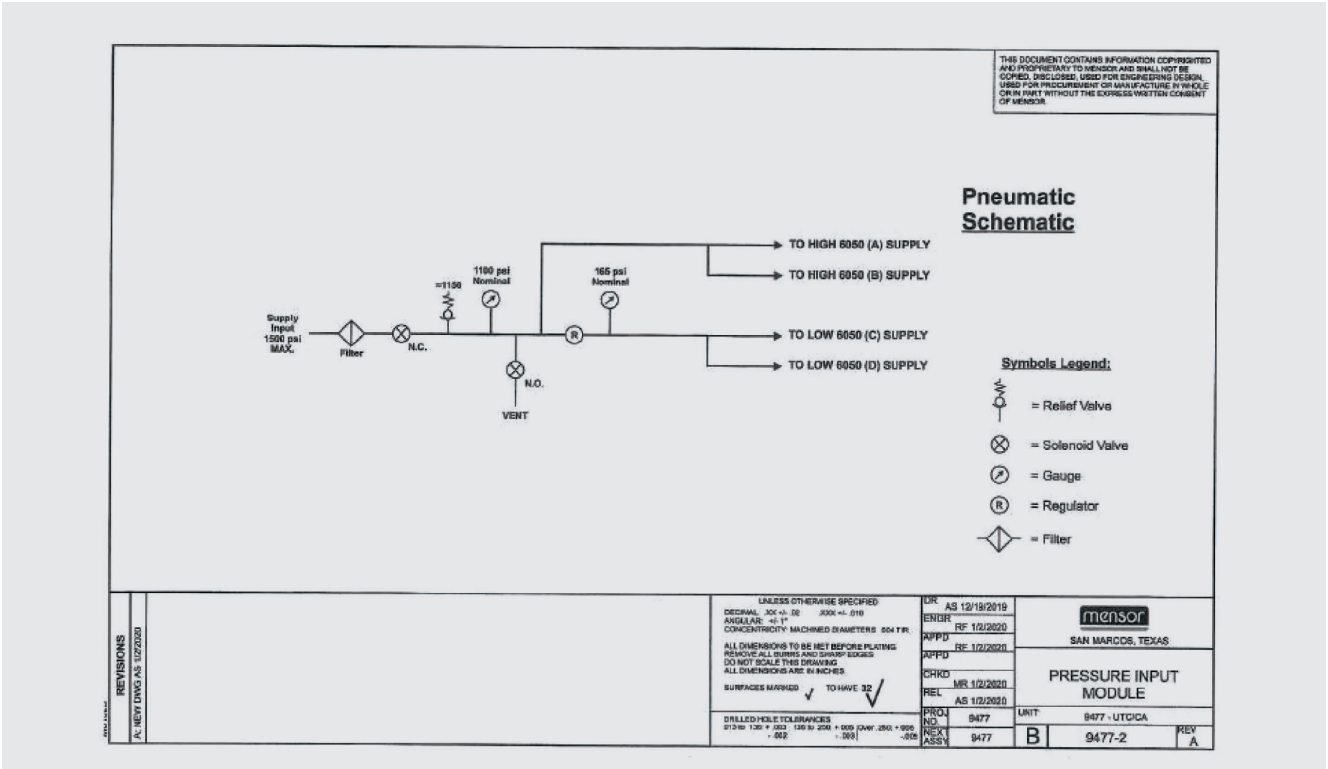
Approvals

Logo	Description	Region
CE	**(EU declaration of conformity *(TBD)*** EU Importer: WIKA, 63911 Klingenberg, Germany *(TBD)*	European Union
UKCA	**UKCA declaration of conformity *(TBD)*** Importer: WIKA instruments Ltd, unit 6 & 7 Goya business park, the moor road, sevenoaks kent, TN15 5GY *(TBD)*	Great Britain

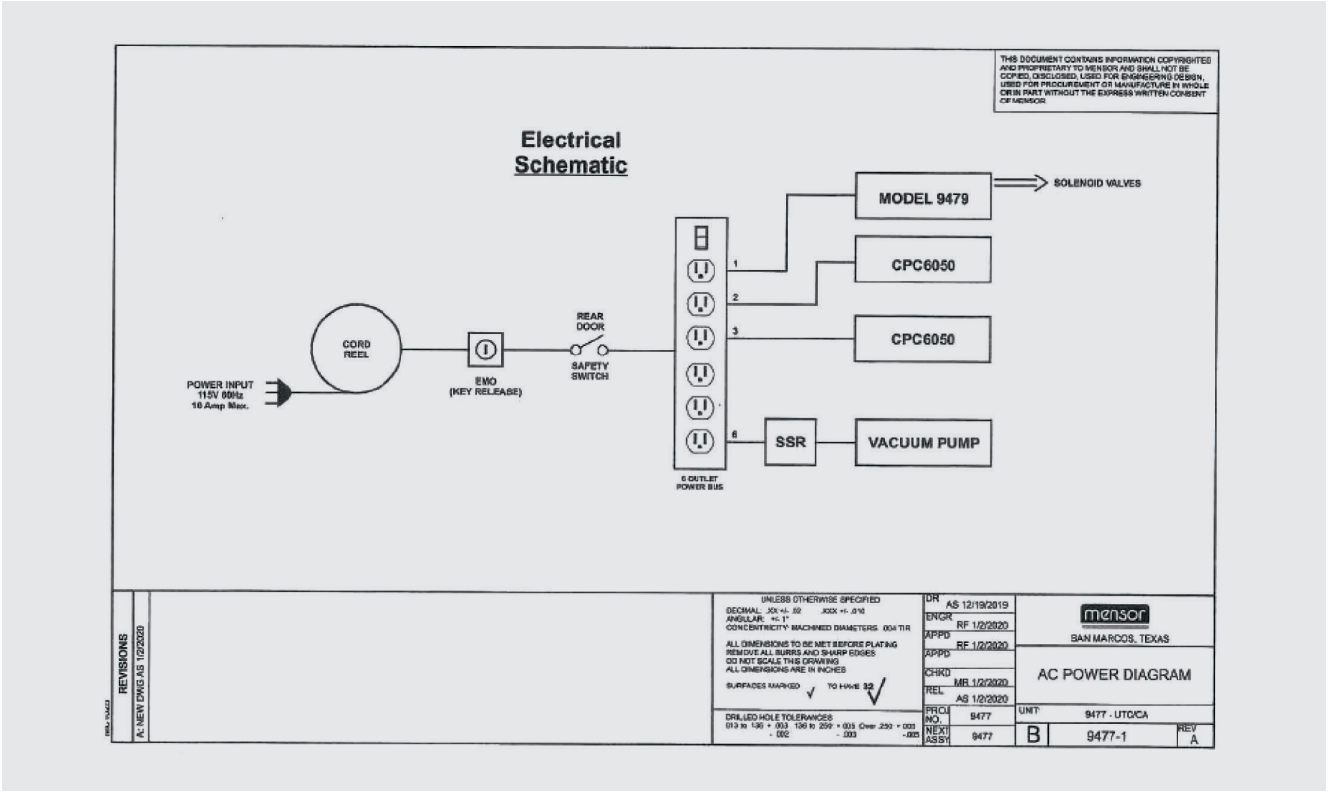
Pneumatic schematic (output) :



Pneumatic schematic (internal) :



Rear panel features



Scope of delivery

- A Model 9479, two CPC6050s, Agilent IDP-15 vacuum pump, and a pressure regulator panel in a rack
- Operating manual
- A2LA calibration certificates

Options

- Interface cables
- DKD/DAkkS calibration certificate
- Hoses
- Spare removable transducers

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