

Coaxial Pressure Sensor System



*NEC coaxial pressure sensor Model CPS2
on 3.5" O.D. NEC flange.*

APPLICATIONS

The NEC coaxial pressure sensor and trigger controller are used with the fast acting valve and sensor trigger controller for reliable protection against catastrophic vacuum failure. See the separate specification sheet describing the NEC fast acting valve.

DESIGN

Coaxial Pressure Sensor (CPS2)

A pressure rise, to a selectable level of 10^{-4} to 10^{-2} Torr is detected by the NEC coaxial pressure sensor which consists of a fine wire along the axis of a small grounded cylinder. This wire is kept at a few kilovolts potential. As the pressure rises above the selected limit, a discharge occurs and a large current

flows between the wire and the cylinder. This signal allows actuation of the trigger solenoid at the fast acting valve.

All materials in the coaxial pressure sensor are ultra-high vacuum compatible. There are no organic compounds in the vacuum volume.

Sensor Trigger Controller

This circuit uses the current signal from the coaxial sensor to discharge a capacitor into the valve trigger solenoid. This in turn releases the trigger plate that normally holds the handle of the fast acting valve in the open (cocked) position. Closure time is less than 35 milliseconds after the trigger signal is received.

The sensor controller panel indicates the status of the valve, fired or disabled, and power to the unit. There is a switch on the front panel that allows the manual firing and able or disable of firing mechanism. There is also a trigger pressure sensitivity adjustment.

The complete system - consisting of the fast acting valve, coaxial pressure sensor and the trigger controller - provides reliable protection against damage due to catastrophic vacuum failure.

OPTIONS

If multiple valves need to be triggered simultaneously, an additional controller (valve trigger controller) can be added to the CPS system to trigger a secondary valve when the CPS system triggers the primary valve.

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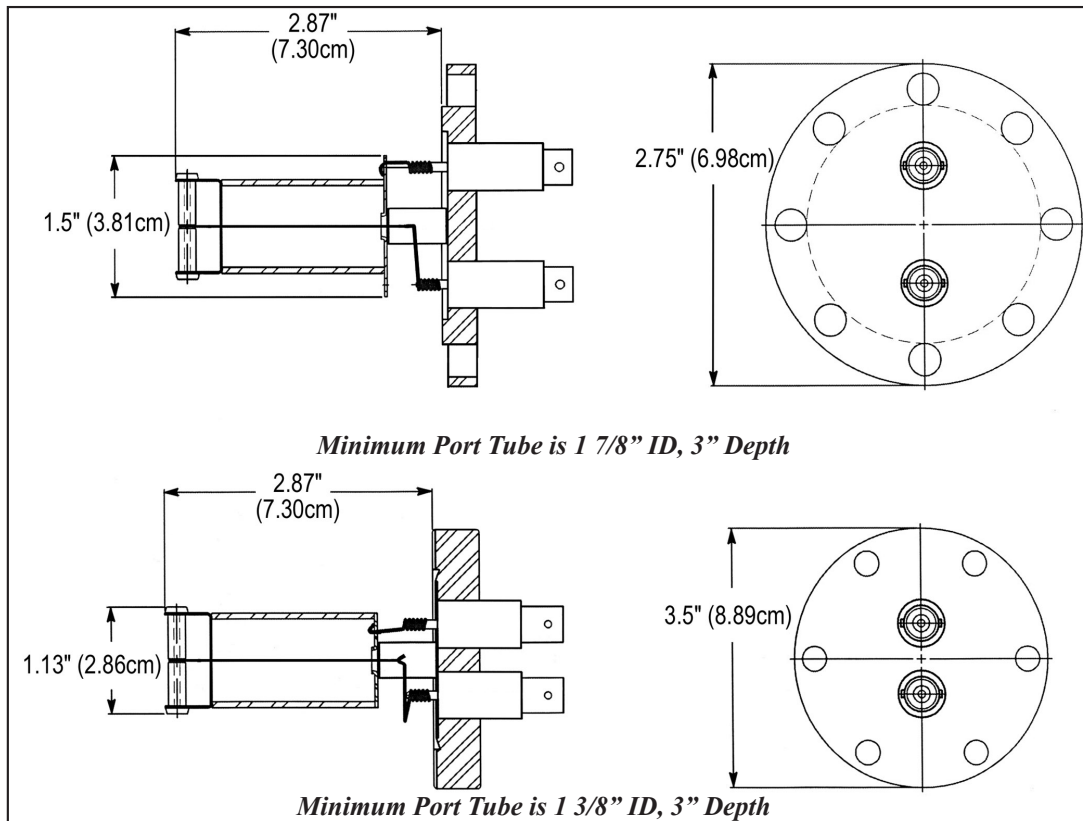
SPECIFICATIONS

The coaxial pressure sensor is designed to interface with the NEC sensor trigger controller, Model PS4, to actuate the NEC fast acting valve.

Triggering Pressure: Adjustable from 1×10^{-4} Torr to 1×10^{-2} Torr
(measured for a gradual pressure rise)

Sensor Mount: Standard NEC 3.5" O.D. NEC flange.
(other flanges available on request)

Sensor Controller: Input: 115V, 50-60Hz, 0.5A
Output: 4.3kV peak, 200mA



ORDERING INFORMATION

Catalog No.: **2GA007460**, (3.5" OD NEC Flange) - Shipping weight: 5 lbs.

Catalog No.: **2GA012600** (2.75" CF flange) - Shipping weight: 5 lbs.

Sensor Controller:

Catalog No.: **2HA032510** - Shipping weight: 18 lbs.



[CPS v1]

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