

# Orion 2C/Orion 3A

## Precision Pneumatic Controllers



Orion 2C

Test Port #2, see  
Options/Accessories



Orion 3A

Test Port #2, see  
Options/Accessories



"120422 - NO TOOLS REQUIRED"



"120462 - NO TOOLS REQUIRED"



Orion 2C cased version 89216 shown with DPDG Gauge and optional adapters 55394 and 120422

Orion 2C/Orion 3A Cased Controller Literature sheet available - 121189

### Please refer to price schedule for part numbers.

Ideal for use in testing environments, the Orion 2C and Orion 3A pneumatic pressure controllers provide unrivaled performance in a variety of industrial applications.

Both the 2C and 3A utilize an exclusive precision vernier for exact "dial in" of pressure settings. These easy-to-use manifolds feature soft seat construction and an adjustable stop that resists over tightening. Fingertip adjustment provides ultra-fine measurement that eliminates overshoot. Two test ports on panel mountable units allow for multiple applications.

The Orion 2C offers up to 3000 psi and vacuum, while the all stainless steel Orion 3A controls up to 10,000 psi and vacuum. Cased models have a test port located on front as well as an input and vent port on back of unit. Some versions also have an additional test port on back of unit. Regardless of the environment, choose the industry-leading Orion for high-quality, high-pressure control.

Using an adaptor assembly, to combine one of the cased models with a DPDG digital gauge or hand-held calibrator, will provide a means of attaining accurate readings and ultra-fine "dial in" of target value.



Orion 2C cased version 89216 shown with optional quick-disconnect adjustable adapter, 120422



## Applications

- Gas applications
- Operation to 10,000 psi, based on model
- Test stands
- OEM pressure control applications

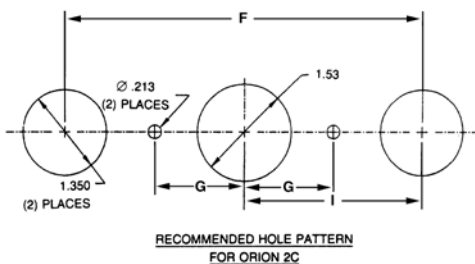
## Standard Features

- System working pressure:  
Orion 2C, non-cased/cased versions: Up to 3000 psi  
Orion 3A, non-cased version: Up to 10,000 psi  
Orion 3A, cased version: Up to 10,000 psi based on model
- Orion 2C: Aluminum body, Buna-N o-rings standard  
Orion 3A: Stainless steel body, Viton o-rings standard
- Precision patented vernier to precisely "dial in" a selected pressure
- Fingertip closed system pressure adjustment to better than 0.0005 psi
- Soft seat construction and adjustable stop - immune to over tightening
- Two low-torque, fine micro-metering valves with positive shut off
- Two test ports allow for multiple applications:  
Non-cased models (see below for optional seal plug  
Cased models, # of test ports based on version

### ORION 2C DIMENSIONS

A = 2.70 in. (68.58 mm)	E = 6.90 in. (175.26 mm)
B = 1.82 in. (46.22 mm)	F = 5.80 in. (147.32 mm)
C = 1.75 in. (44.45 mm)	G = 1.45 in. (36.83 mm)
D = 2.80 in. (71.12 mm)	I = 2.90 in. (73.66 mm)

Consult factory for Orion 3A (cased or uncased version) and the 2C (cased version) dimensions.

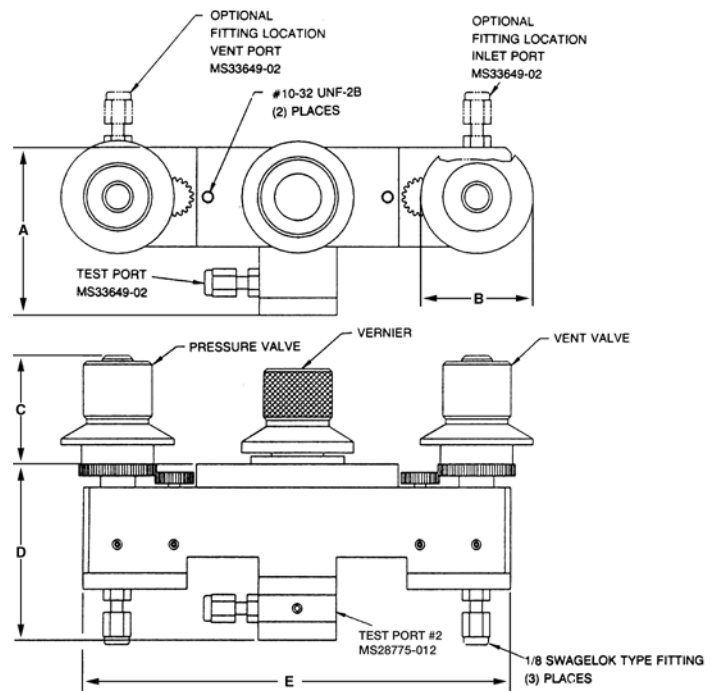


## Options/Accessories

- 68859**.....Additional adjustment and maintenance manual
- 68862**.....Seal plug for Orion test port #2 (non-cased Orion 2C requires O-ring 61035, non-cased Orion 3A requires Cheat Seal 54854)
- 61035**.....O-ring (used with non-cased Orion 2C and seal plug 68862)
- 54854**.....Cheat Seal (used with non-cased Orion 3A, seal plug 68862, adapters 120422 and 120462)
- 58499**.....Replacement Orion 2C, Buna-N O-ring kit
- 55277**.....Replacement Orion 3A, Viton O-ring kit
- 120422**.....Test port quick-disconnect adjustable adapter assembly, Female Quick-Disconnect to 1/4-37 degree AN-4 swivel other end, 3000 PSI (for hands-free display reading when used between Orion 2C cased unit test port and CONDEC DPDG gauge, see pictorial next to product, requires Cheat Seal 54854)
- 120462**.....Test port quick-disconnect adjustable adapter assembly, 1/8 NPT swivel to 1/4-37 degree AN-4 swivel other end, 5000 psig working pressure (for hands-free display reading when used between Orion 2C cased unit test port and CONDEC 3030, see pictorial next to picture, requires Cheat Seal 54854)

Please consult factory for availability of these non-standard O-ring materials:

- Ethylene-propylene
- Neoprene
- Silicone



## ORION 2C

### PRESSURE RANGE:

0-3000 psi and vacuum

### PROOF PRESSURE:

4000 psi

### PRESSURE AND VENT VALVE ORIFICE:

0.032

### C<sub>v</sub> FACTOR:

0.007

### MECHANICAL ROTATION:

3.5 turns, nominal

### TORQUE:

Finger tip adjust

### VERNIER VOLUME:

0.5 cubic inch, nominal

### VERNIER MECHANICAL ROTATION:

16 turns, nominal

### ADJUSTABLE SENSITIVITY:

0.0005 psi, minimum

### VERNIER TORQUE:

Finger tip adjust to 3000 psi

### CONSTRUCTION:

Body: Aluminum, clear anodize

Knobs: Aluminum, black anodize

O-rings: Buna-N standard, others available

Ports:

Orion 2C (uncased version, 55283):

- Test port #1, input port and output port -fitting (59716) for 1/8" OD tube
- Test port #2, 7/16-20 UNF female (MS33649-04) straight thread. Optional: use one each 68862 & 61035 to plug

Orion 2C (cased version, 89216):

- Input port, two test ports and vent port - male 7/16-20 AN-4, stainless steel
- All other parts 300 series stainless steel

### CASE MATERIAL

16 gauge painted steel

## ORION 3A

### PRESSURE RANGE:

0-10,000 psi and vacuum (uncased version, 55287)

0-6000 psi and vacuum (cased version, 89343)

0-10,000 psi and vacuum (cased version, 113949)

### PROOF PRESSURE:

15,000 psi (uncased version, 55287)

9000 psi (cased version, 89343)

11,000 psi (cased version, 113949)

### PRESSURE AND VENT VALVE ORIFICE:

0.032

### C<sub>v</sub> FACTOR:

0.007

### MECHANICAL ROTATION:

3.5 turns, nominal

### TORQUE:

Finger tip adjust

### VERNIER VOLUME:

0.4 cubic inch, nominal

### VERNIER MECHANICAL ROTATION:

15 turns, nominal

### ADJUSTABLE SENSITIVITY:

0.005 psi, minimum

### VERNIER TORQUE:

Finger tip adjust to 10,000 psi

### CONSTRUCTION:

Body: 300 series stainless steel

Knobs: Aluminum, black anodize

O-rings: Viton standard, others available

Ports:

Orion 3A (uncased version, 55287)

- Test port #1, input port and output port - stainless steel fitting (59731) for 1/8 in. OD tubing
- Test port #2, 7/16-20 UNF female (MS33649-04) straight thread. Optional; use one each 68862 & 54854 to permanently plug

Orion 3A (cased version, 89343):

- Input port, test port and vent port - 7/16-20 AN-4 males, stainless steel

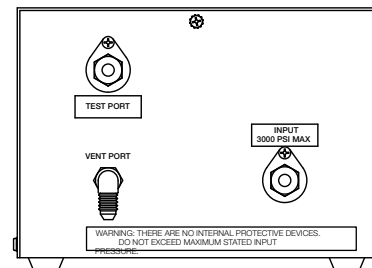
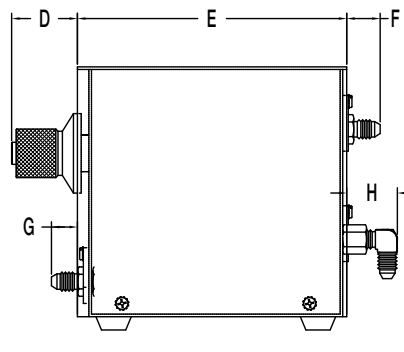
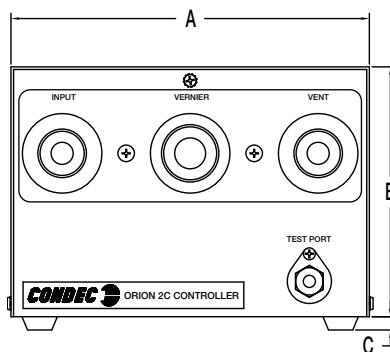
Orion 3A (cased version, 113949):

- Input port and two test ports- stainless steel fitting for 1/4 in. OD tubing
- Vent port - stainless steel fitting for 1/8 in. OD tubing
- All other parts 300 series stainless steel

### CASE MATERIAL

16 gauge painted steel

ORION 2C CASIED VERSION  
PN 89216



### ORION 2C CASIED DIMENSIONS

A = 8.14 in. (144.78 mm) E = 6.10 in. (154.94 mm)

B = 5.70 in. (144.78 mm) F = 0.80 in. (20.32 mm)

C = 0.30 in. (7.62 mm) G = 0.60 in. (15.24 mm)

D = 1.50 in. (38.10 mm) H = 1.15 in. (29.21 mm)