

# Automatic Changeover Regulators and Systems

Manifolds/Changeover Regulators

DCHOV1908X012

## ACS012 - Low Flow Changeover Regulator

- Maximum inlet pressure: 400 or 3500 psig / 27.6 or 241 bar
- Four delivery pressures from 100 to 250 psig / 6.9 to 17.2 bar
- Designed to provide a continuous flow of gas for applications requiring stored gas supplies
- Available in 316 Stainless Steel, Brass, or Nickel-plated Brass
- Based on Tescom's field-proven 44-2200 Regulator
- Mounting bracket is standard

## CS-2200 - Low Flow Changeover System

- Maximum inlet pressure: 3500 psig / 241 bar
- Four maximum delivery pressures from 25 to 150 psig / 1.7 to 10.3 bar
- Designed to provide a continuous flow of gas for applications requiring stored gas supplies
- Available in 316 Stainless Steel or Brass
- Based on Tescom's field-proven 44-2200 Regulator
- Mounting bracket is standard

## ACS3200 - High Flow Changeover Regulator

- Maximum inlet pressure: 3000 psig / 207 bar
- Delivery pressure: 160/200 psig / 11.0/13.8 bar
- Available in 316 Stainless Steel or Brass
- Based on Tescom's field-proven 44-3200 Regulator
- Mounting bracket is standard

## CR441800 - High Pressure Changeover System

- Maximum inlet pressure: 3500 or 6000 psig / 241 or 414 bar
- Seven maximum delivery pressures from 500 to 2000 psig / 34.5 to 138 bar
- Designed to provide a continuous flow of gas for applications requiring stored gas supplies
- Available in 316 Stainless Steel or Brass
- Based on Tescom's field-proven 44-1800 Regulator

ACS012



CS-2200



ACS3200



CR441800



## Applications

- CO<sub>2</sub> for tissue and cell culture incubators supply
- Shielding and laser assist gases in metal fabrication (ACS3200 only)
- Analyzer carrier gas
- Laser cutting assist gas

## ACS3200 Specifications

For other materials or modifications, please consult TESCOM.

### OPERATING PARAMETERS

Pressure rating per criteria of ANSI/ASME B31.3

**Maximum Inlet Pressure**

3000 psig / 207 bar

**Outlet Pressure**

160-200 psig / 11.0-13.8 bar

**Design Proof Pressure**

150% of maximum operating

**Leak Rate**

**Internal:** Bubble-tight

**External:** Designed to meet  $\leq 2 \times 10^{-8}$  atm cc/sec He

**Operating Temperature**

-40°F to 140°F / -40°C to 60°C

**Flow Capacity**

$C_v = 1.2$

### MEDIA CONTACT MATERIALS

**Body**

316 Stainless Steel or Brass

**Bonnet**

Nickel-plated Brass

**Valve Seat**

PCTFE

**Valve O-Ring**

Viton®

**Diaphragm**

316 Stainless Steel

**Spring**

316 Stainless Steel

**Remaining Parts**

316 Stainless Steel

### OTHERS

**Gauges** (3 standard)

316 Stainless Steel gauges with Stainless Steel regulators,  
Brass gauges with Brass regulators

**Cleaning**

CGA 4.1 and ASTM G93

**Weight**

10 lbs / 4.5 kg

Viton® is a registered trademark of E.I. du Pont de Nemours and Company.

TESCOM ACS3200 Series is a compact, lightweight high purity, high flow changeover system for specialty, corrosive, and pyrophoric gases. Diffusion-resistant metal diaphragm seal ensures gas purity and integrity. It provides continuous flow of gas from two pressure sources.

## CS2200 Specifications

For other materials or modifications, please consult TESCOM.

### OPERATING PARAMETERS

Pressure rating per criteria of ANSI/ASME B31.3

**Maximum Inlet Pressure**

3500 psig / 241 bar

**Design Proof Pressure**

150% of maximum rated

**Leak Rate**

**Internal:** Bubble-tight

**External:** Designed to meet  $\leq 2 \times 10^{-8}$  atm cc/sec He

**Operating Temperature**

-40°F to 165°F / -40°C to 74°C

**Flow Capacity**

$C_v = 0.06$

### MEDIA CONTACT MATERIALS

**Body**

316 Stainless Steel or Brass

**Bonnet**

300 Series Stainless Steel or Brass

**Valve Seat**

PTFE

**Diaphragm**

316 Stainless Steel

**Friction Sleeve**

**Inner:** PTFE

**Outer:** 316 Stainless Steel

**Spring**

316 Stainless Steel

**Remaining Parts**

316 Stainless Steel (and Brass for Brass bodies)

### OTHERS

**Gauges** (3 standard)

316 Stainless Steel gauges with Stainless Steel regulators,  
Brass gauges with Brass regulators

**Connections**

1/4" Female NPTF

**Cleaning**

CGA 4.1 and ASTM G93

**Weight**

5 lbs / 2.3 kg

TESCOM CS-2200 Series is a complete high purity changeover system which combines the changeover regulator and a line regulator into a compact wall mount system for specialty, corrosive, and pyrophoric gases. Diffusion-resistant metal diaphragm seal ensures gas purity and integrity. It provides continuous low flow of gas from two pressure sources.

## ACS012 Specifications

For other materials or modifications, please consult TESCOM.

### OPERATING PARAMETERS

Pressure rating per criteria of ANSI/ASME B31.3

#### Maximum Inlet Pressure

400 or 3500 psig / 27.6 or 241 bar

#### Maximum Delivery Pressure

85/115, 135/165, 185/215, 235/265 psig  
5.9/7.9, 9.3/11.4, 12.8/14.8, 16.2/18.3 bar

#### Design Proof Pressure

150% of maximum operating

#### Leak Rate

**Internal:** Bubble-tight

**External:** Designed to meet  $\leq 2 \times 10^{-8}$  atm cc/sec He

#### Operating Temperature

-40°F to 165°F / -40°C to 74°C

#### Flow Capacity

$C_v = 0.06$

### MEDIA CONTACT MATERIALS

#### Body

316 Stainless Steel, Brass, or Nickel-plated Brass

#### Bonnet

300 Series Stainless Steel or Brass

#### Valve Seat

PTFE

#### Diaphragm

316 Stainless Steel

#### Friction Sleeve

**Inner:** PTFE

**Outer:** 316 Stainless Steel

#### Spring

316 Stainless Steel

#### Remaining Parts

316 Stainless Steel (and Brass for Brass bodies)

### OTHERS

#### Gauges (3 standard)

316 Stainless Steel gauges with Stainless Steel regulators,  
Brass gauges with Brass regulators

#### Connections

1/4" Female NPTF

#### Cleaning

CGA 4.1 and ASTM G93

#### Weight

5 lbs / 2.3 kg

*Vespel® is a registered trademark of E.I. du Pont de Nemours and Company.*

TESCOM ACS012 Series is a compact, lightweight high purity changeover system for specialty, corrosive, and pyrophoric gases. Diffusion-resistant metal diaphragm seal ensures gas purity and integrity. It provides continuous low flow of gas from two pressure sources.

## CR441800 Specifications

For other materials or modifications, please consult TESCOM.

### OPERATING PARAMETERS

Pressure rating per criteria of ANSI/ASME B31.3

#### Maximum Inlet Pressure

3500 or 6000 psig / 241 or 414 bar

#### Maximum Outlet Pressure Ranges

475/525, 575/625, 675/725, 775/825, 875/925, 975/1025,  
1975/2025 psig  
32.8/36.2, 39.6/43.1, 46.5/50.0, 53.4/56.9, 60.3/63.8,  
67.2/70.7, 136/140 bar

#### Design Proof Pressure

150% of maximum operating

#### Leak Rate

Bubble-tight

#### Operating Temperature

-15°F to 165°F / -26°C to 74°C

#### Flow Capacity

$C_v = 0.06$

### MEDIA CONTACT MATERIALS

#### Body

Brass, 316 Stainless Steel, or Nickel-plated Brass

#### Bonnet

300 Series Stainless Steel, Brass, or Nickel-plated Brass

#### Valve Seat

Vespel®

#### O-Ring

FKM

#### Remaining Parts

Brass and 300 Series Stainless Steel

### OTHERS

#### Cleaning

CGA 4.1 and ASTM G93

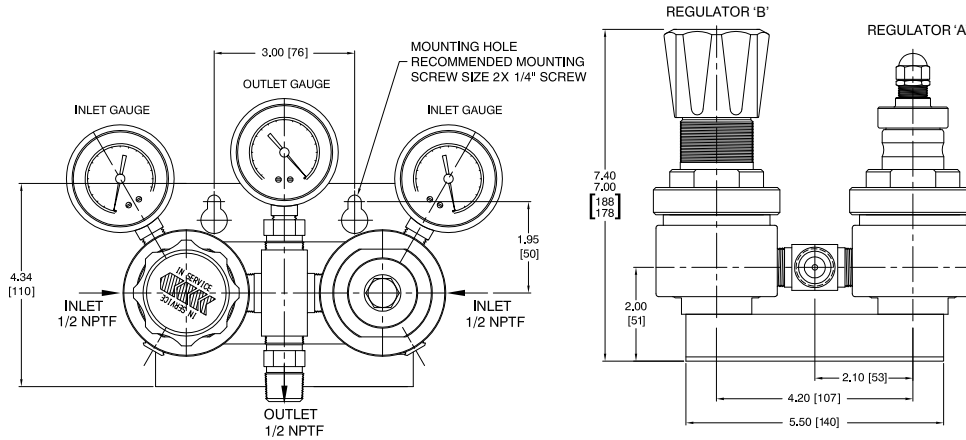
#### Weight

3 lbs / 1.4 kg

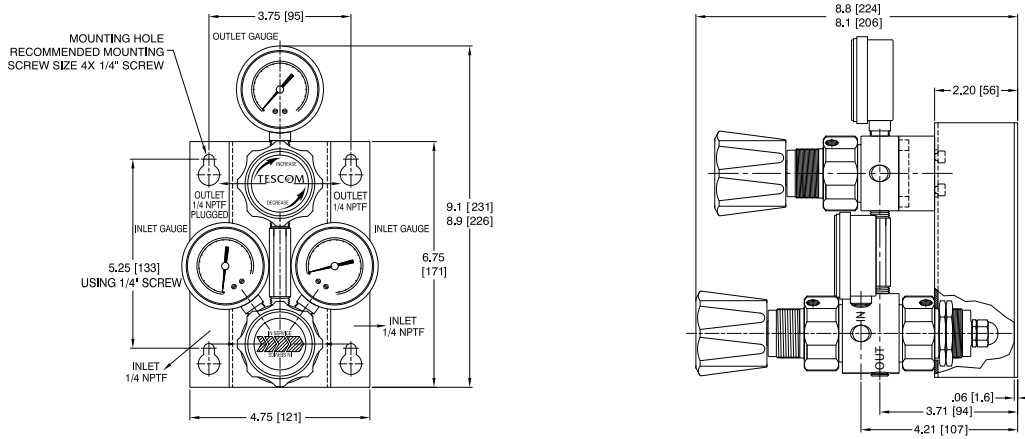
TESCOM CR441800 Series is a compact, high pressure changeover system which combines the changeover regulator and a line regulator into a compact wall mount system for general purpose and industrial gases. It provides continuous low flow of gas from two high pressure sources.

## Automatic Changeover Regulators and Systems Drawings

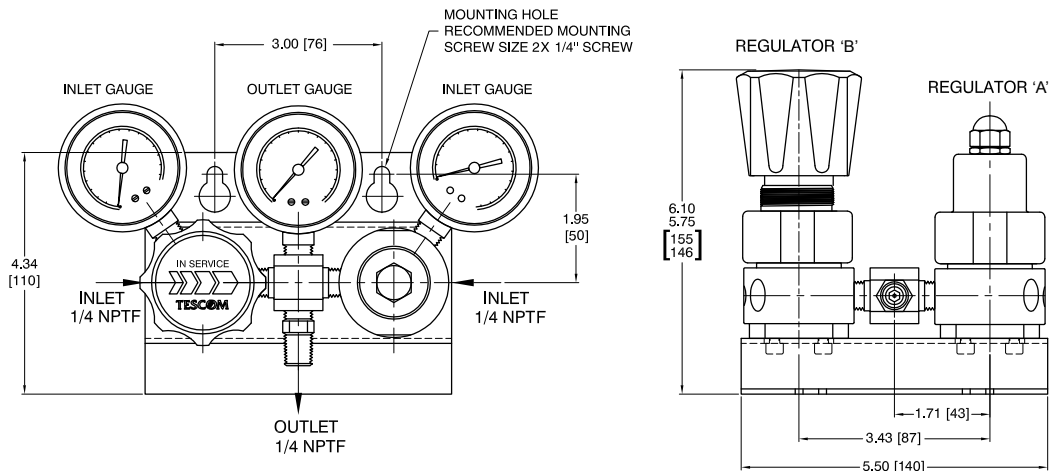
### ACS3200 SERIES CHANGEOVER SYSTEMS (HIGH FLOW)



### CS2200 SERIES CHANGEOVER SYSTEMS (LOW FLOW)



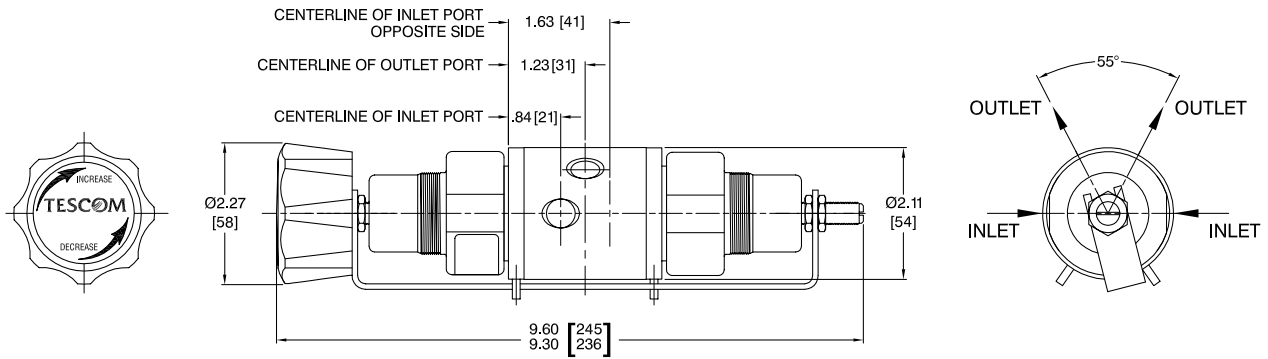
### ACS012 SERIES CHANGEOVER SYSTEMS (LOW FLOW)



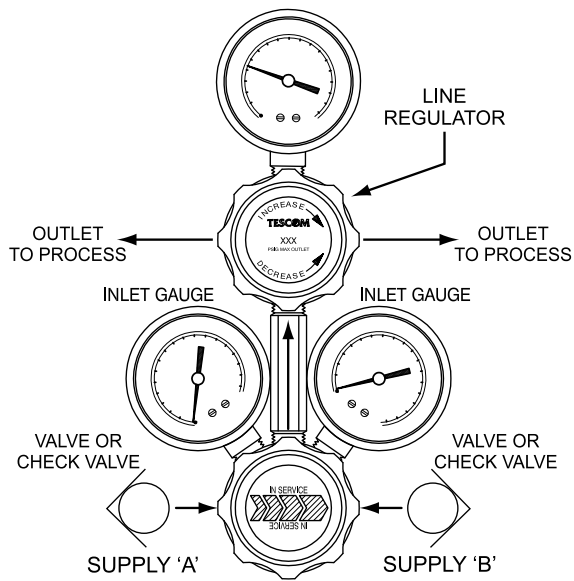
All dimensions are reference & nominal  
Metric [millimeter] equivalents are in brackets

## Automatic Changeover Regulators and Systems Drawings

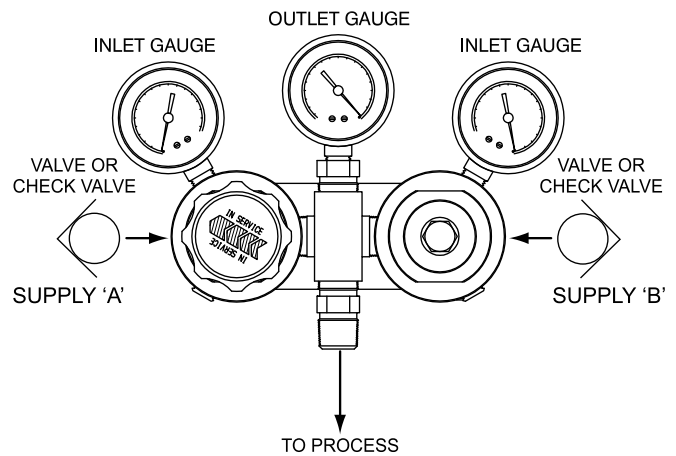
### CR441800 SERIES CHANGEOVER SYSTEMS (HIGH PRESSURE)



### BASIC FUNCTIONAL DESCRIPTION CHANGEOVER SYSTEMS



**SINGLE BODY CHANGEOVER SYSTEM**



**TWO BODY CHANGEOVER SYSTEM**

All dimensions are reference & nominal  
Metric [millimeter] equivalents are in brackets

When primary supply to the changeover regulator (supply 'A') is consumed, the secondary supply (supply 'B') feeds the line regulator and/or process. The line regulator supplies media to the process at the precise pressure required. By turning the changeover regulator handknob clockwise, supply

'A' can then be replenished. When supply 'B' is depleted, supply 'A' will then begin to feed the line regulator and/or process. With a counterclockwise turn of the changeover regulator handknob, supply 'B' can be replenished.

## Automatic Changeover Regulators and Systems Part Number Selector

Repair Kits, Accessories & Modifications may be available for this product. Please contact TESCOM for more information.

Example for selecting a part number:

**ACS32                                  1                                  4                                  1                                  1**

| BASIC SERIES | BODY AND TRIM                        | OUTLET PRESSURE  | GAUGE OPTION                                    | MAXIMUM INLET PRESSURE  |
|--------------|--------------------------------------|--|---|---|
| ACS32        | 1 – Brass<br>6 – 316 Stainless Steel | 4 – 160/200 psig<br>11.0/13.8 bar<br>(optional 400 psig /<br>27.6 gauge) | 0 – No gauges installed<br>1 – Gauges installed | 1 – 3000 psig<br>207 bar<br>(optional 4000 psig /<br>276 bar gauge) |

**CS - 22                                  6                                  3                                  -                                  2                                  4                                  1**

| BASIC SERIES | BODY MATERIAL                        | OUTLET PRESSURE RANGES  | INLET AND OUTLET PORT TYPE | INLET AND OUTLET PORT SIZE | MAXIMUM INLET PRESSURE   |
|--------------|--------------------------------------|---|----------------------------|----------------------------|--|
| CS - 22      | 1 – Brass<br>6 – 316 Stainless Steel | 0 – 0-25 psig<br>0-1.7 bar<br>1 – 0-50 psig<br>0-3.4 bar<br>2 – 0-100 psig<br>0-6.9 bar<br>3 – 0-150 psig<br>0-10.3 bar | 2 – NPTF                   | 4 – 1/4"                   | 1 – 3500 psig<br>241 bar<br>(with gauges)<br>2 – 3500 psig<br>241 bar<br>(no gauges) |

**ACS012                                  1                                  3                                  0                                  1**

| BASIC SERIES | BODY MATERIAL   | PRESSURE SETTINGS  | OUTLET GAUGE INSTALLED (OPTIONAL)  | GAUGES   | MAXIMUM INLET PRESSURE   |
|--------------|---|--|--|--|--|
| ACS012       | 1 – Brass<br>6 – 316 Stainless Steel<br>P – Nickel-plated Brass | 0 – 85/115 psig<br>5.9/7.9 bar<br>1 – 135/165 psig<br>9.3/11.4 bar<br>2 – 185/215 psig<br>12.8/14.8 bar<br>3 – 235/265 psig<br>16.2/18.3 bar | 200 psig<br>13.8 bar<br>200 psig<br>13.8 bar<br>300 psig<br>20.7 bar<br>300 psig<br>20.7 bar | 0 – No Gauges<br>1 – With Three Gauges <sup>1</sup><br>(installed) | 1 – 3500 psig<br>241 bar (optional 4000 psig /<br>276 bar gauge)<br>2 – 400 psig<br>27.6 bar (optional 600 psig /<br>41.4 bar gauge) |

*1. Brass gauges are provided with Brass regulators and Stainless Steel gauges are provided with Stainless Steel regulators.*

**CR4418                                  6                                  2                                  -                                  2                                  4                                  1**

| BASIC SERIES | BODY MATERIAL   | OUTLET PRESSURE RANGES   | INLET AND OUTLET PORT TYPE | INLET AND OUTLET PORT SIZE | MAXIMUM INLET PRESSURE                               |
|--------------|---|--|----------------------------|----------------------------|--|
| CR4418       | 1 – Brass<br>6 – 316 Stainless Steel<br>P – Nickel-plated Brass | 1 – 475/525 psig<br>32.8/36.2 bar<br>2 – 575/625 psig<br>39.6/43.1 bar<br>3 – 675/725 psig<br>46.5/50.0 bar<br>4 – 775/825 psig<br>53.4/56.9 bar<br>5 – 875/925 psig<br>60.3/63.8 bar<br>6 – 975/1025 psig<br>67.2/70.7 bar<br>7 – 1975/2025 psig<br>136/140 bar | 2 – NPTF                   | 4 – 1/4"                   | 1 – 3500 psig<br>241 bar<br>3 – 6000 psig<br>414 bar |



**WARNING!** Do not attempt to select, install, use or maintain this product until you have read and fully understood the *TESCOM Safety, Installation and Operation Precautions*.