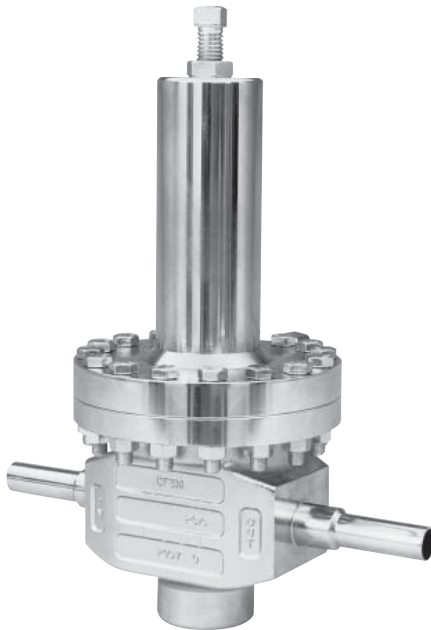


MODELS CA5 and SA5

ULTRA HIGH PURITY BACK PRESSURE REGULATORS Spring-Operated: 3/4" - 1" (DN20 – DN25)

Models CA5 and SA5 are high performance spring-operated, flow-to-open back pressure regulators with an internal pressure balancing piston-cylinder that provides medium flow capacity and high pressure drop capability.



Model CA5
(Investment Casting)

APPLICATIONS

For "electronic grade" and other ultra high purity fluids. For either gaseous or liquid service. Most common fluids are high purity oxygen, nitrogen, hydrogen, helium and argon.

FEATURES

- All SST wetted trim materials.
- Electro-polished finish.
- Tube end connections.
- High pressure capability.
- Body Finish -15 μ -in. Ra average surface finish is standard. (Opt.-77 10 μ -in. Ra average surface finish available for Barstock body only).
- In-line maintenance.

TECHNICAL SPECIFICATIONS

BODY SIZES

3/4" & 1" (DN20 & 25)

MAXIMUM PRESSURES

Design Pressure up to 600 psig
Operating Pressure up to 300 psig
Allowable Delta Pressure 300 psid

Function of body size and elastomeric internal materials. See Table 4 on Product Coder for Temperature Ratings. (Internals can withstand a full vacuum.)

OUTLET PRESSURE RANGE

5 – 300 psig (.34 – 20.7 Barg)
In multiple spring ranges. See Table 6 of "Product Coder" for available range springs.

TEMPERATURE RANGE

-20 to +400° F (-29° to +204° C)
Function of elastomeric internal materials. See Position 7 on Product Coder.

FLOW CAPACITY

| FUNCTION OF BODY FORM | | | |
|-----------------------|----------|-----------|--------------|
| BODY SIZE | | BODY FORM | WIDE OPEN Cv |
| in | (DN) | | |
| 3/4", 1" | (20, 25) | IC, BS | 3 |

AGGREGATE INTERNAL LEAKAGE

Combination of dynamic seal and seat leakage rates:
0.001% of rated Cv.

HELIUM LEAK TEST

Inboard leakage less than 1 X 10⁻⁹ std cc/sec, actual test.

MATERIAL SPECIFICATIONS

BODY FORM

IC - Investment Casting; 3/4" & 1" (DN20 & 25).
BS - Barstock; All sizes.

BODY MATERIALS - SST

IC - ASTM A351, Gr. CF3M.
BS - ASTM A479, Tp. 316L.

Spring Chamber fabricated from materials of 316L SST.

INTERNAL TRIM & MISC MATERIALS

Trim - 316L SST
Diaphragm - 17-7PH SST
Static Seals - TFE/SST U-cup
Dynamic Seal - Type "UC": TFE/SST
 or CTFE/SST
Seat Disc - PolyAll (GN2, He, Ar, H2)
 V-TFE (GOX)
 CTFE (All above fluids)
Cap Screws - Ag-plated SST
Flange Bolting - SST
Adjusting Screw - Ag-plated SST
Diaphragm Seal - Ag-jacketed C-ring

END CONNECTIONS

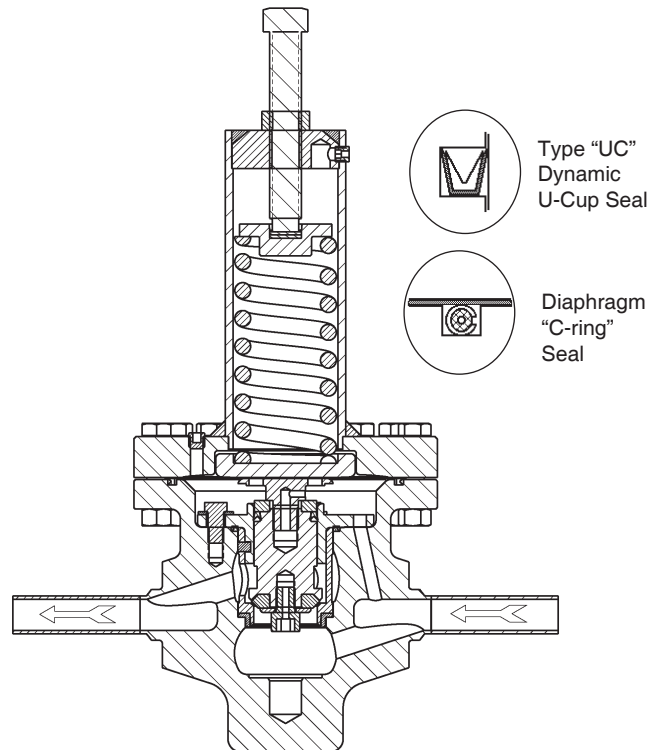
Tube-ends for butt welding using orbital welder. Wall thickness = 0.065 in. (1.65 mm); Nominal Body Size = Tube OD.

SURFACE FINISH

Metallic parts are electro-polished, passivated, and ultra-sonically cleaned to Cashco cleaning spec. #S-1662.

| Surface Finish - μ -in. | |
|-----------------------------|-----------|
| Metal Trim Parts | 15 Ra Avg |

Alternate: See Opt-77.

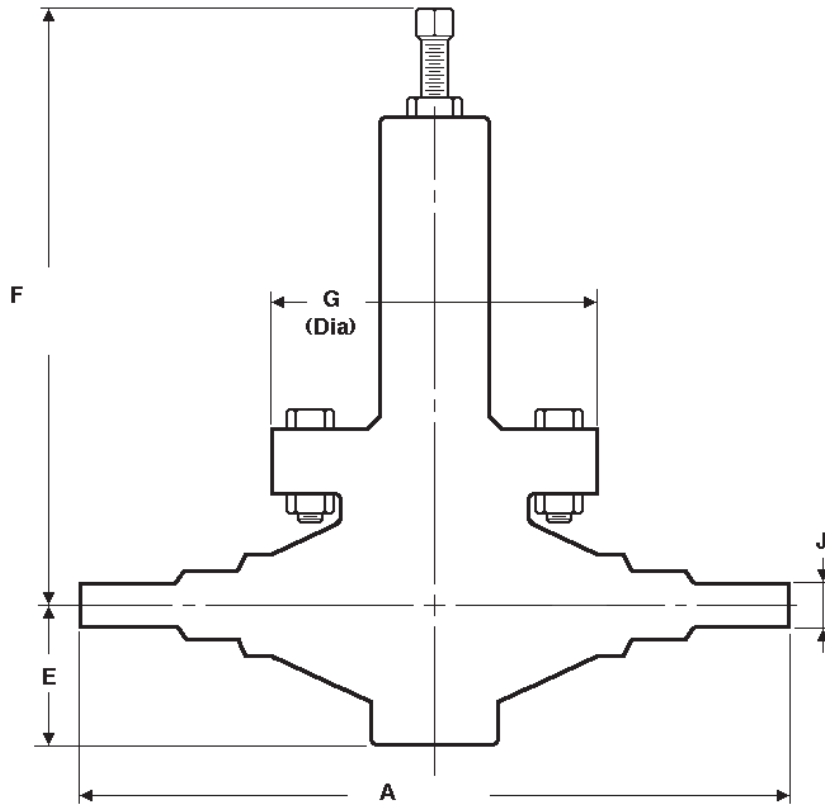


OPTION SPECIFICATIONS

OPT-1: CLOSING CAP. Modification to top of spring chamber to include a 316L SST closing cap to cover adjusting screw and discourage frequent adjusting of the set point.

OPT-77: 10 μ -in Ra AVG. SURFACE FINISH. For Barstock body only. Body and trim electro-polished to 10 μ -in Ra average surface finish.

DIMENSIONS & WEIGHTS



| ENGLISH UNITS | | | | | | | | |
|---------------|--------------|--------------------|------|-------|-------------|------|------|------------------|
| Size in | Body Form | Dimension (inches) | | | | | | Weight (lbs.) |
| | | A | E | F | F- Opt-1 | G | J | |
| 3/4" | IC, BS | 10.75 | 2.75 | 11.75 | 12.92 | 6.00 | .75 | 30 |
| 1" | IC, BS | 11.75 | 2.75 | 11.75 | 12.92 | 6.00 | 1.00 | |

| METRIC UNITS | | | | | | | | |
|--------------|--------------|----------------|----|-----|-------------|-----|------|----------------|
| Size (DN) | Body Form | Dimension (mm) | | | | | | Weight (kg) |
| | | A | E | F | F- Opt-1 | G | J | |
| (20) | IC, BS | 273 | 70 | 298 | 328 | 152 | 19.1 | 14 |
| (25) | IC, BS | 298 | 70 | 298 | 328 | 152 | 25.4 | |

The contents of this publication are presented for informational purposes only, and while every effort has been made to ensure their accuracy, they are not to be construed as warranties or guarantees, express or implied, regarding the products or services described herein or their use or applicability. We reserve the right to modify or improve the designs or specifications of such product at any time without notice. Cashco, Inc. does not assume responsibility for the selection, use or maintenance of any product. Responsibility for proper selection, use and maintenance of any Cashco, Inc. product remains solely with the purchaser.

MODELS CA5 & SA5 PRODUCT CODER

03/11/16



| POSITION 1 & 2 - MODEL | |
|--------------------------|------|
| Body | CODE |
| SA5 - Barstock | B5 |
| CA5 - Investment Casting | C5 |
| See Position 3 & 5 | |

| POSITION 3 - SIZE & STYLE | | | | |
|---------------------------|------|----------|--------------------|------|
| Size | | Barstock | Investment Casting | CODE |
| in. | (Dn) | | | |
| 3/4" | (20) | Yes | Yes | B |
| 1" | (25) | | | C |

| POSITION 5 - BODY / SPRING CHAMBER MATERIALS | |
|--|------|
| Materials | CODE |
| CF3M/316L SST Inv. Casting (Select "C5" in Position 1 & 2) | C |
| 316L SST/316L SST (Select "B5" in Position 1 & 2) | S |

| POSITION 7 - TRIM MATERIALS | | | | | | |
|---------------------------------|-----------------|-------------|---------|----------------|--------------------|------|
| Temperature Range | Service | Diaphragm | Seat | Seals | | CODE |
| | | | | Static | Dynamic | |
| -40 to +225°F (-40 to +108°C) | GN2, Ar, H2, He | 17-7 PH SST | PolyAll | U-Cup; TFE/SST | Type "UC" TFE/SST | U |
| -150 to +400°F (-101 to +205°C) | * ALL | 17-7 PH SST | V-TFE | U-Cup; TFE/SST | Type "UC" TFE/SST | W |
| -150 to +350°F (-101 to +177°C) | * ALL | 17-7 PH SST | CTFE | U-Cup; TFE/SST | Type "UC" TFE/SST | H |
| -325 to +350°F (-163 to +177°C) | * ALL | 17-7 PH SST | CTFE | U-Cup; TFE/SST | Type "UC" CTFE/SST | K |

* ALL = GOX, GN2, Ar, H2 and He.

| POSITION 8 - Product Classification Under European "Pressure Equipment Directive" | | |
|---|----------------------------------|------|
| PRODUCT DESTINATION | HAZARD CATEGORY | CODE |
| Anywhere except Europe | N/A | 7 |
| European Countries * | Sound Engineering Practice (SEP) | S |
| | ATEX | A |

* For products to be placed in service in Europe - Ref to Directive 2014/68/EU. Contact Cashco for Assistance.

| POSITION 11 - RANGE SPRING | | |
|----------------------------|--------------|------|
| Pressure Range | | CODE |
| psig | (Barg) | |
| 5 - 20 | (.34 - 1.4) | A |
| 10 - 35 | (.69 - 2.4) | B |
| 20 - 80 | (1.4 - 5.5) | C |
| 30 - 150 | (2.1 - 10.3) | D |
| 70 - 200 | (4.8 - 13.8) | E |
| 100 - 300 | (6.9 - 20.7) | F |

| POSITION 14 - SPRING CHAMBER OPTION | | |
|-------------------------------------|--------|------|
| Description | Option | CODE |
| None | - | 0 |
| Closing Cap | -1 | Y |

| POSITION 16 - SURFACE FINISH OPTIONS | | | |
|--------------------------------------|----------|--|------|
| Body | Option | Description | CODE |
| Barstock & Investment Casting | Standard | High Purity Electro Polish to 15 µ-in Ra Average Finish Cleaned to Spec #S-1662; Helium Leak Test per Spec #S-1661. | 0 |
| Barstock ONLY | -77 | High Purity Electro Polish to 10 µ-in Ra Average Finish. Cleaned to Spec #S-1662; Helium Leak Test per Spec #S-1661. | 4 |

Cashco, Inc.
P.O. Box 6
Ellsworth, KS 67439-0006
PH (785) 472-4461
Fax. # (785) 472-3539
www.cashco.com
email: sales@cashco.com
Printed in U.S.A. CA5/SA5-TB

Cashco GmbH
Handwerkerstrasse 15
15366 Hoppegarten, Germany
PH +49 3342 30968 0
Fax. No. +49 3342 30968 29
www.cashco.com
email: germany@cashco.com

Cashco do Brasil, Ltda.
Al.Venus, 340
Indaiatuba - Sao Paulo, Brazil
PH +55 11 99677 7177
Fax. No.
www.cashco.com
email: brazil@cashco.com