ISO Registered Company

MODEL CA5/SA5

CA5 and SA5 - ULTRA HIGH PURITY, SPRING LOADED BACK PRESSURE REGULATORS

SECTION I

I. DESCRIPTION AND SCOPE

Models CA5/SA5 are spring operated back pressure regulators used to control upstream (inlet or P1) pressure. Sizes are 3/4" (DN20) and 1" (DN25). With proper trim utilization, the unit is suitable for liquid or gaseous service. (***NOTE:*** *This product was formerly identified as a Model C5 or S5; a Model CA5/SA5 and C5/S5 are one and the same product.)*

II. REFERENCES

SECTION II

Refer to Technical Bulletin CA5/SA5-TB for technical specifications of a Model CA5/SA5 regulator.

ABBREVIATIONS

CCW	–	Counter Clockwise
CW	–	Clockwise
ITA	–	Inner Trim Assembly

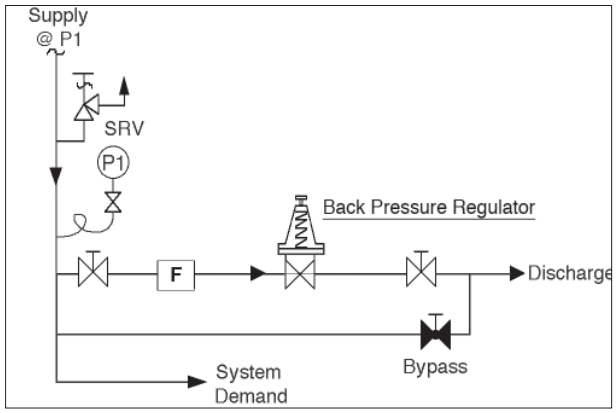
SECTION III

III. INSTALLATION

1. Install per direction of flow arrow indicated on body, or "IN" and "OUT" markings.
2. Regulator may be rotated around pipe axis 360 degrees. For ease of maintenance, the recommended orientation is with the spring chamber (4) upwards.
3. Provide space below, above, and around regulator for removal of parts during maintenance.
4. Install block valves and pressure gauges to provide means for adjustment, operation, bypass, or removal of the regulator. A UHP filter is recommended before inlet to remove typical pipeline debris from entering valve and damaging internal "soft goods", primarily the dynamic seal and valve seat.

CAUTION

DO NOT HYDROSTATIC TEST THROUGH AN INSTALLED UNIT; ISOLATE REGULATOR FROM TEST. The upper range spring pressure level on the nameplate is the recommended "upper operating limit" for the sensing diaphragm. Higher pressures could cause internal damage.



Recommended Piping Schematic
For Back Pressure/Relief Station

SECTION IV

IV. PRINCIPLE OF OPERATION

1. Movement occurs as pressure variations register on the diaphragm. The registering pressure is the inlet, P1, or upstream pressure. The range spring opposes diaphragm movement. As inlet pressure drops, the range spring pushes the diaphragm down, closing the port; as inlet pressure increases, the diaphragm pushes up and the port opens.

2. A complete diaphragm failure will cause the regulator to fail close and fluid will discharge from the spring chamber vent hole.

SECTION V

V. STARTUP

1 Start with the block valves closed.

2. Relax the range spring by turning the adjusting screw (1) CCW (viewed from above) a minimum of three (3) full revolutions. This reduces the inlet (upstream) pressure set point.

3. Crack open manual bypass valve to initially pressurize the system while simultaneously controlling P_1 pressure through manual actuation of bypass valve.

CAUTION

Do not walk away and leave a bypassed regulator unattended!

4. Closely monitor inlet (upstream) pressure via gauge to ensure not over-pressurizing. ***NOTE:*** *If no bypass valve is installed, extra caution should be used in starting up a cold system; i.e. do everything slowly.*

5. Open the outlet (downstream) block valve.

6. Slowly open the inlet (upstream) block valve to about 25% open, observing the inlet (upstream) pressure gauge. Determine if the regulator is flowing. If not, slowly rotate the regulator adjusting screw (1) CCW (viewed from above) until flow begins.

7. When flow is established steady enough that the inlet (upstream) block valve can be fully opened, begin to slowly close the bypass valve if installed.

8. Develop system flow to a level near its expected normal rate, and reset the regulator set point by turning the adjusting screw (1) CW to increase inlet pressure, or CCW to reduce inlet pressure.

9. Reduce system flow to a minimum level and observe pressure set point. Inlet pressure will increase from the set point of Step 7. The maximum build in inlet pressure on increasing flow should not exceed the stated upper limit of the range spring by greater than 30%. If it does, consult factory.

SECTION VI

VI. SHUTDOWN

1. On systems with a bypass valve, and where system pressure is to be maintained as the regulator is shut down, slowly open the bypass valve while closing the inlet (upstream) block valve. Fully close the inlet (upstream) block valve. (When on bypass, the system pressure must be constantly observed and manually regulated.)

CAUTION

Do not walk away and leave a bypassed regulator unattended!

2. Remove range spring compression by turning the adjusting screw (1) CCW to reduce the inlet pressure.

3. Close the outlet (downstream) block valve.

4. Relieve the trapped upstream and downstream pressure.

5. The regulator may now be disassembled for inspection and preventative maintenance while in-line.

SECTION VII

VII. MAINTENANCE

A. General:

1. The regulator may be serviced without removing the regulator from pipeline. The regulator is designed with quick-change trim to simplify maintenance.

2. Record the nameplate information to requisition spare parts for the regulator. The information should include: Size, Product Code, and Serial Number.

3. Refer to Section IX for recommended spare parts. Only use original equipment parts supplied by Cashco for rebuilding or repairing regulators.

4. Owner should refer to owner's procedures for removal, handling, cleaning and disposal of nonreusable parts, i.e. seals, etc.

5. The Inner Trim is removed and replaced in the body (23) as an assemblage of parts. The Inner Trim Assembly, hereinafter called **ITA**, consists of the following parts:

Item No.	Dynamic Seal Type	Part Description
13	All	Piston-Guide Bearing
15	All	Cage O-ring Seal
16	UC	Shim
19	All	Cage
20	All	Valve Plug
21	All	Seat Ring
27	All	Dynamic Side Seal
27.1	CP	Cap Seal
27.2	CP	O-ring Energizer/Seal
27.3	UC	U-Cup Seal w/Metal Energizer
31	All	Seat Disc
32	All	Disc Washer
34	All	Cap Screw

6. A detailed view of the dynamic side seal parts is shown in Figure 1; an assembled ITA in Figure 2; and a cross-sectional drawing of the entire regulator is shown in Figure 3.

WARNING

SYSTEM UNDER PRESSURE. Prior to performing any maintenance, isolate the regulator from the system and relieve all pressure. Failure to do so could result in personal injury.

B. Main Regulator Disassembly:

1. Shut down the system in accordance with Section VI.

2. Loosen adjusting screw lock nut (2) and relax range spring (6) pressure by turning adjusting screw (1) CCW (viewed from above) until removed from spring chamber (4).

3. Loosen the diaphragm flange bolts (11) and nuts (12) uniformly. Remove bolting (11,12).

4. Place matchmarks on body (23) and spring chamber (4) flanges. Remove the spring chamber (4) by lifting vertically.

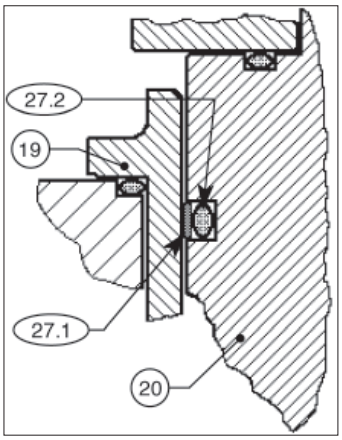
5. Remove the washers (14), spring follower (5) and range spring (6).

6. Remove upper diaphragm pressure plate (8).

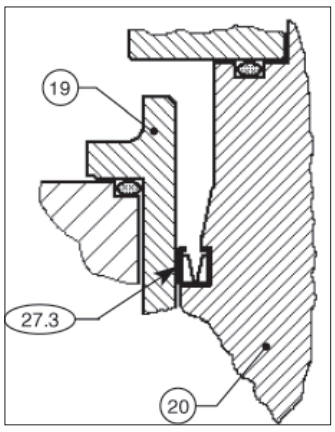
7. Remove diaphragm(s) (9) and examine to determine if failed. If diaphragms (9) failed, determine if operating conditions are exceeding designed pressure or temperature limits.

8. Remove metal C-ring seal (28) from body (23) diaphragm flange groove.

9. Evenly loosen the three cage cap screws (18) in single revolution increments and remove screws and washers (17).



Type CP - Cap Dynamic Seal



Type UC - U-Cup Dynamic Seal

Figure 1: Dynamic Side Seals

10. Remove the ITA from the cage pulling up on the piston-guide bearing (13). Set ITA aside.

11. Remove cage (19), o-ring seals (15) and (21).

12. Clean all metal parts to be reused according to owner's procedures. ***NOTE:*** *Regulators are originally supplied with a level of cleanliness equal to Cashco cleaning standard #S-1662. Contact factory for details.*

C. Disassembly of the ITA:

1. To Disassemble the ITA (See Figure 2):

   a. Fit 2 pieces of 3/8" wide x 3" long square steel bar stock into the flats on either side of the plug and secure snug in the vise with the lower part (seat end) of the valve plug (20) down. **Do not** clamp on any machined, cylindrical surface on the plug.

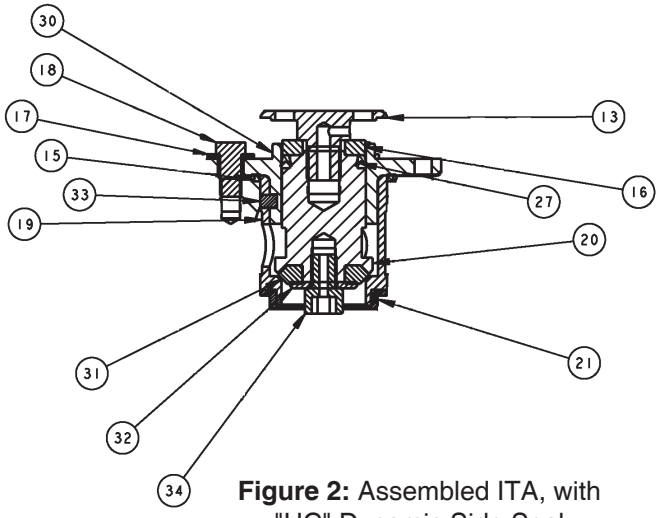


Figure 2: Assembled ITA, with "UC" Dynamic Side Seal

   b. Using a special double-posted spanner wrench fitting (to order see NOTE in Section IX, Parts Ordering Information), turn the piston-guide bearing (13) CCW to loosen. The piston-guide bearing (13) may be removed by hand after loosening.
   c. Remove shim (16).
   d. Remove and examine the dynamic seal (27.1, 27.2, 27.3) to determine if significant leakage was occurring. If the seal (27) shows signs of leakage, determine if operating conditions exceed pressure, pressure drop, or temperature limits. ***NOTE:*** *Special care should be taken when using "tools" to remove the plug and seal to ensure that no scratches are made to any portion of the plug (20) groove or plug itself.*
   e. Remove plug assembly and 3/8" bar stock pieces from vise and rotate end for end and secure in vise again.
   f. Using an allen wrench, rotate screw (34) CCW and remove screw, disc washer (32) and seat disc (31).
   g. Clean all metal parts to be reused according to owner's procedures. ***NOTE:*** *Regulators are originally supplied with a level of cleanliness equal to Cashco cleaning standard #S-1662. Contact factory for details.*

D. Inspection of Parts:

1. Remove and discard the following parts: diaphragm(s) (9), o-ring (15), seals (21, 27, 28). These parts MUST be replaced with factory supplied new parts.

2. Inspect the metal parts that will be reused. The parts should be free of surface contaminants, burrs, oxides, and scale. Rework and clean the parts as necessary. Surface conditions that affect the regulator performance are stated below; replace parts that can not be reworked or cleaned.

3. QC Requirements:
   a. Valve plug (20);
      1. 16 rms finish on its seating surface for tight shutoff.
   b. Cage (19);
      1. 16 rms finish on cage bore. No "ledges" formed due to wear from moving dynamic side seal (27) or plug (20).

E. Reassembly of the ITA:

1. Secure plug (20) in a vise with seat end up using the steel bar stock pieces from C. 1. previous.

2. Place new seat disc (31) and washer (32) over end of plug (20).

3. Thread screw (34) into plug and torque to 20 - 35 ft-lbs (27 - 47 Nm).

4. Remove plug assembly and 3/8" bar stock pieces from vise and rotate end for end and secure in vise, again using the bar stock pieces.

5. Installation of dynamic side seal (27) (See Figures 1 & 2):
   a. Type CP:
      1. Stretch o-ring energizer/seal (27.2) over end of plug (20), taking care not to "cut" o-ring energizer/seal (27.2). Using thumbs, work the o-ring energizer/seal (27.2) into the groove of the plug (20).
         NOTE: Use NO lubricants!
      2. Position cap seal (27.1) ring with rectangular cross-section at end of plug (20). Stretch cap seal over the plug, use thumbs to work the cap seal onto the plug. DO NOT USE A TOOL OR LUBRICANT FOR THIS STEP. Continue pressing cap seal towards the groove until the cap seal "snaps" into the groove.
      3. Insert shim (16) onto end of plug (20).
      4. Thread piston-guide bearing (13) into end of plug (20) and use the spanner wrench to tighten to 60 to 70 ft-lbs (81 to 95 Nm).
   b. Type UC:
      1. Position u-cup seal (27.3) over end of plug (20). Ensure the u-cup seal is oriented with the center-open-upwards as shown in Figure 1, as the u-cup seal depends upon the P1-Inlet pressure to activate proper sealing action. DO NOT USE A TOOL OR LUBRICANT FOR THIS STEP.
      2. Insert shim (16) onto plug (20).
      3. Thread piston-guide bearing (13) into end of plug (20) and use the spanner wrench to tighten to 60 to 70 ft-lbs (81 to 95 Nm).

6. Remove plug assembly from vise.

7. Place properly oriented seal (21) onto the shoulder at the lower end of cage (23).

8. Insert valve plug (20) down through top of cage (19).

F. Main Regulator Reassembly:

1. Fit cage o-ring seal (15) into the body (23) groove.

2. With the ITA and cage held manually in the closed position, insert ITA into body (23).

3. Properly align all three cage bolt (18) holes as there is only one proper alignment possible. Apply a downward force to the top of the cage (19) to hold the ITA in place. Place cage washers (17) on bolts (18) and engage the bolts into the body (23). Tighten the bolts in alternating one-half revolution increments to pull down the ITA evenly.
   ENSURE THE ITA DOES NOT BECOME WEDGED AS IT IS SLID INTO THE BODY. Tighten cage bolts to a torque of 13-15 Ft-lbs (17.5-20.5 Nm).

4. Units with CTFE or VTFE seat disc (31): Due to the relative "hardness" of the CTFE and VTFE material, to obtain the best possible shutoff it is necessary to generate a "coined" seating chamfer.

5. To coin the seat disc, use a soft-headed mallet (rubber, leather), sharply rap the top center of the piston-guide bearing (13) a couple of times to press the plug (20) down into the bottom of the cage, leaving a "coined" seating chamfer on the seat disc (31).

6. To Install Diaphragm(s):
   a. Install a new metal C-ring seal (28) into the body (23) diaphragm flange groove.
   b. Center diaphragm(s) (9) onto body's (23) diaphragm flange.
   c. Position upper diaphragm pressure plate (8) centered on top of diaphragm(s) (9) with "cup" upwards.

7. Place a small amount of light lithium grease onto the adjusting screw (1) threads. Insert the adjusting screw (1) (with lock nut (2)) into the spring chamber (4). Allow the end of adjusting screw to protrude into the interior approximately 1/2 inch (12 mm).

8. Place range spring (6) centered on upper diaphragm plate (8).

9. Place a small amount of light lithium grease into the recess of the spring follower (5). Install washers (14) on spring follower. Place the spring follower (5) on top of range spring (6).

10. Aligning matchmarks and bolt holes, place spring chamber (4) over range spring (6). If spring chamber flange rests on body (23) flange without a gap, remove spring chamber and rotate adjusting screw (1) deeper into spring chamber cavity another 1/4 inch (6 mm). Repeat this procedure until the adjusting screw keeps the two flanges faces from touching by approximately 1/8 inch (3 mm).

NOTE: *If flanges do not come together equally, the upper diaphragm pressure plate (8) may be off-center.* Remove spring chamber (4) and reposition upper diaphragm pressure plate (8) until the spring chamber (4) comes down evenly on all sides.

11. Install all flange bolts (12) and nuts (11) with nameplate (99) located under one bolt head. Hand-tighten nuts (11).

12. Evenly tighten body bolting (11,12) using an alternating cross pattern in one revolution increments. Tighten all bolts to 30-35 Ft-lbs (41-47 Nm).

SECTION VIII

VIII. TROUBLE SHOOTING GUIDE

When trouble shooting this regulator there are many possibilities as to what may be causing problems. Many times, the regulator itself is not defective, but one or more of the accessories may be. Sometimes the process may be causing difficulties.

The key to efficient trouble shooting is information and communication. The customer should try to be as precise as possible in their explanation of the problem, as well as their understanding of the application and operating conditions.

It is imperative the following information be provided by the customer:

Fluid (with fluid properties)
Range of flow rate
Range of inlet pressure
Range of outlet pressure
Range of fluid temperature
Range of ambient temperature

Pressure readings should be taken at every location that pressure plays a role - i.e., regulator inlet (as close as possible to inlet port), regulator outlet (as close as possible to outlet port), etc.

Below are some of the more common complaints along with possible causes and remedies.

1. Erratic regulation, instability or hunting.

Possible Causes	Remedies
A. Sticking of internal parts	A. Remove internals, clean, and if necessary, replace.
B. Oversized regulator	B. Check actual flow conditions; resize regulator for minimum and maximum flow; if necessary, replace with smaller regulator.

2. Upstream pressure to high.

Possible Causes	Remedies
A. Debris in trim preventing movement	A. Clean unit of debris
B. Undersized regulator.	B. Check actual flow conditions; resize regulator for minimum and maximum flow; if necessary, replace with larger regulator.

3. Diaphragm continually breaks.

Possible Causes	Remedies
A. Differential pressure across diaphragm may have exceeded limits. (See Tech Bulletin).	A. Reference limits as recorded in technical bulletin as well as where the various pressures are acting.

4. Leakage at diaphragm flange.

Possible Causes	Remedies
A. Body bolts not torqued properly.	A1. Torque to proper value (see Section VII, F.12).

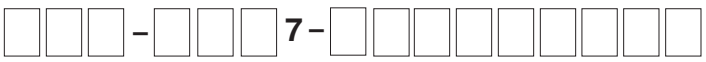
5. Leakage across seat.

Possible Causes	Remedies
A. Contamination (debris) in regulator.	A1. Remove internals, clean and if necessary, replace regulator. A2. Install UHP filter at inlet.
B. Oversized regulator; plug operates directly next to seat.	B. Check actual flow conditions; resize regulator for minimum and maximum flow; if necessary, replace with smaller regulator.

SECTION IX

IX. ORDERING INFORMATION
NEW REPLACEMENT UNIT VS PARTS "KIT" FOR FIELD RE

To obtain a quotation or place an order, please retrieve the Serial Number and Product Code that was stamped on the metal name plate and attached to the unit. This information can also be found on the Bill of Material ("BOM"), a parts list that was provided when unit was originally shipped. (Serial Number typically 6 digits). Product Code typical format as follows: (last digit is alpha character that reflects revision level for the product).



NEW REPLACEMENT UNIT:

Contact your local Cashco, Inc., Sales Representative with the Serial Number and Product code. With this information they can provide a quotation for a new unit including a complete description, price and availability.

⚠ CAUTION

Do not attempt to alter the original construction of any unit without assistance and approval from the factory. All purposed changes will require a new name plate with appropriate ratings and new product code to accommodate the recommended part(s) changes.

PARTS "KIT" for FIELD REPAIR:

Contact your local Cashco, Inc., Sales Representative with the Serial Number and Product code. Identify the parts and the quantity required to repair the unit from the "BOM" sheet that was provided when unit was originally shipped.

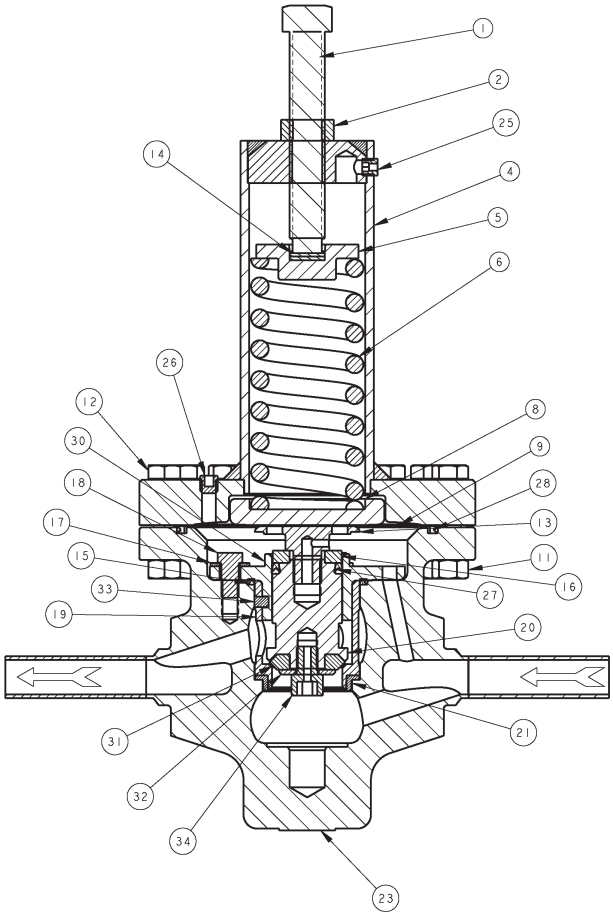
NOTE: *Those part numbers that have a quantity indicated under "Spare Parts" in column "A" reflect minimum parts required for inspection and rebuild, - "Soft Goods Kit". Those in column "B" include minimum trim replacement parts needed plus those "Soft Goods" parts from column "A".*

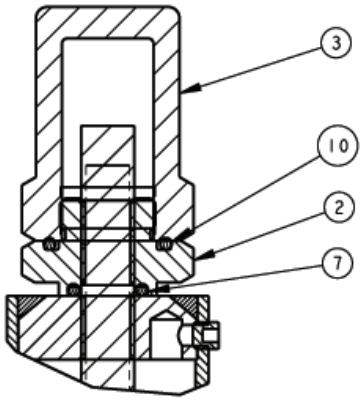
If the "BOM" is not available, refer to the cross-sectional drawings included in this manual for part identification and selection.

A Local Sales Representative will provide quotation for appropriate Kit Number, Price and Availability.

NOTE: In addition to ordering repair parts, it is recommended that a special double-posted spanner wrench fitting be ordered for use in the maintenance of the ITA.

Double-Posted Spanner Wrench Fitting	
Body Size	**Part Number**
All	A96-75-0-P0459-00





Opt-1 - Closing Cap

Figure 3:
Model CA5/SA5

Item No.		Description
1		Adjusting Screw
2		Adjusting Screw Lock Nut
3		Closing Cap
4		Spring Chamber
5		Spring Follower
6		Range Spring
7		Nut Seal
8		Upper Diaphragm Plate
9	*	Diaphragm
10		Closing Cap Seal
11		Flange Bolt Nuts
12		Flange Bolt
13	‡	Piston-Guide Bearing
14		Thrust Washers
15	*	Cage O-ring Seal
16		Shim

Item No.		Description
17		Cage Washer
18		Cage Cap Screw
19		Cage
20		Valve Plug
21	*	Seal
23		Body
25 / 26		Plug / Vent
27	*	Dynamic Side Seal
27.1	*	Cap Seal
27.2	*	O-ring Energizer
27.3	*	U-Cup Seal w/ energizer
28	*	Diaphragm Seal
30		Cage Collar
31		Seat Disc
32		Disc Washer
33		Pin
34		Cap Screw

* Recommended Repair Parts

‡ It is recommended that a special double-posted spanner wrench fitting be ordered for use in the maintenance of the ITA. To order, see NOTE in Section IX, Parts Ordering Information.

IOM ADDENDUM:

ATEX DIRECTIVE 2014/34/EU and THE EQUIPMENT AND PROTECTIVE SYSTEMS INTENDED FOR USE IN POTENTIALLY EXPLOSIVE ATMOSPHERES REGULATIONS 2016

Cashco, Inc. declares that the products listed in the table below has been found to comply with the Essential Health and Safety Requirements relating to the design and construction of products intended for use in potentially explosive atmospheres given in Annex II of the ATEX Directive 2014/34/EU and given in Schedule 1 of The Equipment and Protective Systems Indented for Use in Potentially Explosive Atmospheres Regulations 2016. Compliance with the Essential Health and Safety Requirements has been assured by compliance with EN ISO 80079-36:2016 and EN ISO 80079-37:2016. The product will be marked as follows:

II 2 G
Ex h IIB T6... T1 Gb
1000ATEXR1 X

The 'X' placed after the technical file number indicates that the product is subject to specific conditions of use as follows:

1. The maximum surface temperature depends entirely on the operating conditions and not the equipment itself. The combination of the maximum ambient and the maximum process medium temperature shall be used to determine the maximum surface temperature and corresponding temperature classification, considering the safety margins described prescribed in EN ISO 80079-36:2016, Clause 8.2. Additionally, the system designer and users must take precautions to prevent rapid system pressurization which may raise the surface temperature of system components and tubing due to adiabatic compression of the system gas. Furthermore, the Joule-Thomson effect may cause process gases to rise in temperature as they expand going through a regulator. This could raise the external surface temperature of the regulator body and the downstream piping creating a potential source of ignition. Whether the Joule-Thomson effect leads to heating or cooling of the process gas depends on the process gas and the inlet and outlet pressures. The system designer is responsible for determining whether the process gas temperature may raise under any operating conditions.

2. Where the process medium is a liquid or semi-solid material with a surface resistance in excess of 1GΩ, special precautions shall be taken to ensure the process does not generate electrostatic discharge.

3. Special consideration shall be made regarding the filtration of the process medium if there is a potential for the process medium to contain solid particles. Where particles are present, the process flow shall be <1m/s (<3.3 ft/s) in order to prevent friction between the process medium and internal surfaces.

4. Effective earthing (grounding) of the product shall be ensured during installation.

5. The valve body/housing shall be regularly cleaned to prevent build up of dust deposits.

6. Regulators must be ordered with the non-relieving option (instead of the self-relieving option) if the process gas they are to be used with is hazardous (flammable, toxic, etc.). The self-relieving option vents process gas through the regulator cap directly into the atmosphere while the non-relieving option does not. Using regulators with the self-relieving option in a flammable gas system could create an explosive atmosphere in the vicinity of the regulator.

7. Tied diaphragm regulators with outlet ranges greater than 7 barg (100 psig) should be preset to minimize the risk that improper operation might lead to an outboard leak and a potentially explosive atmosphere.

8. All equipment must only be fitted with manufacturer's original spare parts.

9. Ensure that only non-sparking tools are used, as per EN 1127-1, Annex A.

	PRODUCT
REGULATORS	31-B, 31-N
	1164, 1164(OPT-45)
	1171, 1171(OPT-45), 1171(CRYO)
	2171, 2171(OPT-45), 2171(CRYO), 3171
	1465, 3381, 3381(OPT-45), 3381(OPT-40)
	4381, 4381(OPT-37), 4381(CRYO), 4381(OPT-45), 5381
	MPRV-H, MPRV-L
	PBE, PBE-L, PBE-H
	CA-1, CA-2
	CA1, SA1, CA4, SA4, CA5, SA5
	DA2, DA4, DA5, DA6, DA8
	DA0, DA1, DAP, SAP
	SLR-1, SLR-2, PTR-1
	ALR-1, ULR-1, PGR-1
	BQ, BQ(OPT-45), BQ(CRYO)
	123, 123(CRYO), 123(OPT-45), 123(OPT-46G)
	123-1+6, 123-1+6(OPT-45), 123-1+6(OPT-46G), 123-1+6+S, 123-1+6+S(OPT-40)
	1000HP, 1000HP(OPT-37), 1000HP(OPT-45), 1000HP(OPT-45G), 1000HP(CRYO)
	1000HP-1+6, 1000HP-1+8, 1000LP, 1000LP(OPT-45), 1000LP(OPT-46G)
	6987
	8310HP, 8310HP-1+6, 8310HP-1+8, 8310LP, 8311HP, 8311LP
	345, 345(OPT-45)
	BA1/BL1, PA1/PL1
	C-BPV, C-PRV, C-CS
	D, D(CRYO), D(OPT-37), D(OPT-20), D(OPT-45)
	DL, DL(LCC), DL(OPT-45)
	BR, BR(CRYO)
	HP, HP(LCC), HP(OPT-45), HP(OPT46G), HP-1+6+S(OPT-40), HP-1+6+S
	P1, P2, P3, P4, P5, P7
	B2, B7
	POSR-1, POSR-2
	5200P, 5300P
	135
	NW-PL, NW-SO
	CG-PILOT
	FG1
CONTROL VALVES	RANGER, 987, PREMIER
	964, 521, 988, 988-MB, 989
	2296/2296HF
	SCV-30, SCV-S
TANK BLANKETING	8700, 8910, 8920, 8930, 8940
	2100, 2199
	3100, 3200, 3300, 3400, 3500, 3600, 3700
	1078, 1088, 1100, 1049
	5100, 5200, 5400 ,5500
	4100, 4200, 4300, 4400, 4500, 4600
MISC	764P/PD, 764-37, 764T

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-IOM

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