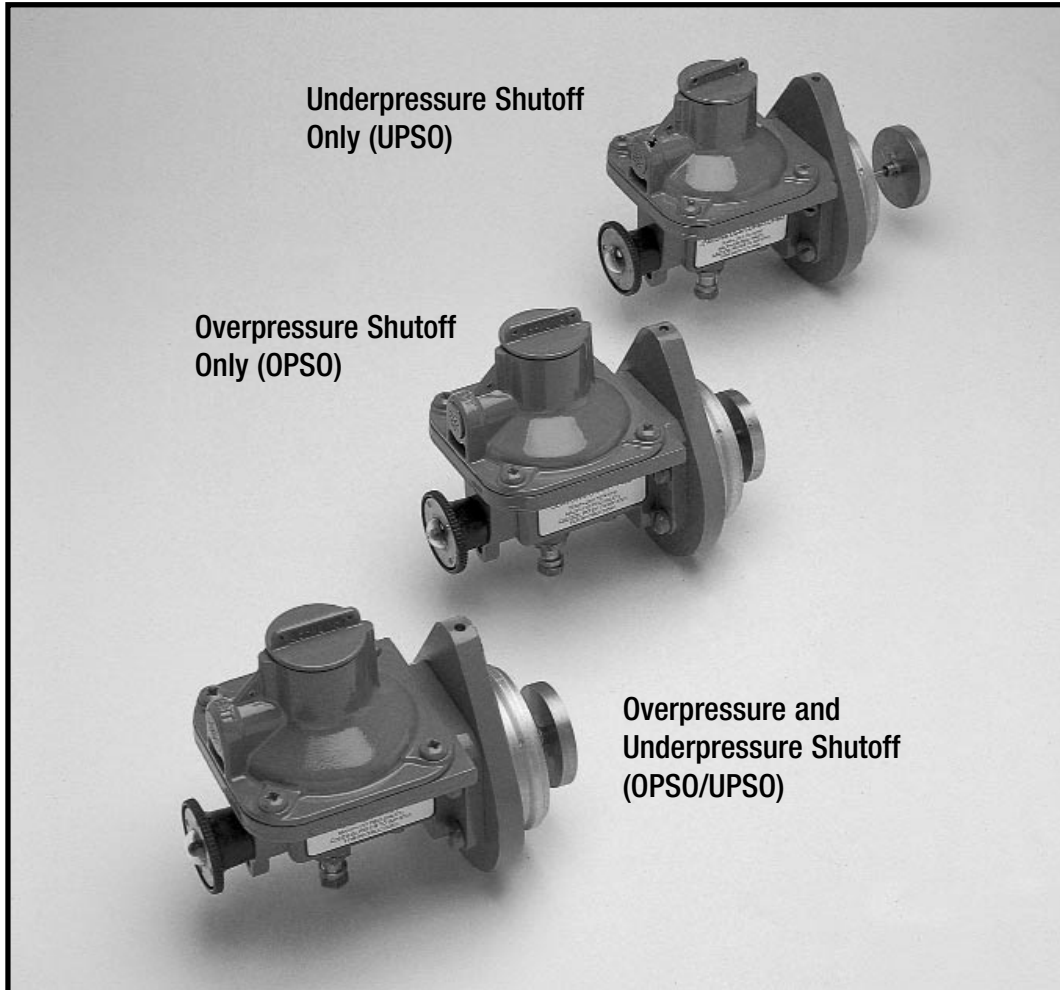
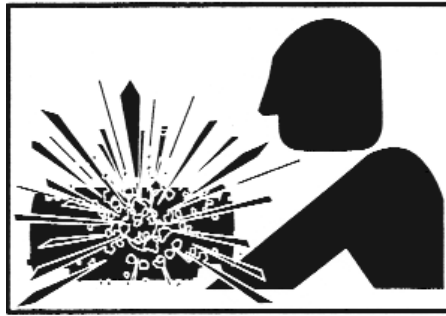


Jeavons Universal Safety Shutoff Assembly (USSA)

Installation and Maintenance Instructions Repair Parts List





WARNING
EXPLOSION HAZARD

Read carefully and follow all instructions shipped with this regulator. The incorrect specification or installation of this equipment could result in escaping gas, and pose a potential explosion hazard. Refer to AMCo documents SB 8540 and IMP 8740 (1800/2000 Regulators) and SB 8551 and IMP 8751 (1800 PFM Regulators), as well as AMCo document SB 8745 (USSA) for installation instructions and technical reference.

**American Meter Co. – Five-Year Limited Warranty
Industrial Regulators**

American Meter Co. Industrial Products Division (hereinafter referred to as "the Company") supplies Industrial Regulators of high quality, materials, and workmanship. The company will correct any defect(s) of workmanship occurring during the period of one year after shipment (the "Warranty Start Date") providing the purchaser has given the company immediate written notice of the defects.

In addition, a Five-Year Warranty to the original owner in a permanent regulator installation is offered against structural failure, and for individual components (list furnished by writing our general offices) from the Warranty Start Date under normal use, operation, and maintenance.

The company obligation under this warranty is limited at its option to repayment of the purchase price, repair or furnishing of a similar part upon inspection and confirmation of the defective condition.

THERE ARE NO OTHER WARRANTIES, EITHER EXPRESSED OR IMPLIED AND ANY OTHER WARRANTIES ARE HEREBY DISCLAIMED.

A full copy of the American Meter Company Warranty may be obtained by writing our general offices. Laws of the Commonwealth of Pennsylvania are applicable to this warranty.

CAUTION

"As a knowledgeable user of American Meter Company products, we are sure that you are aware that parts in the Company's meters and regulators contain, or are coated with, heavy metals such as cadmium, zinc, lead, and chromate. Obviously, therefore, repair and refurbishment of this equipment should take into account the presence of these materials, and should comply with all state and federal requirements concerning worker protection, proper repair procedure, and proper disposal."

USSA (Universal Safety Shutoff Assembly)

Definitions: OPSO = OverPressure Shutoff
 UPSO = UnderPressure Shutoff

General:

The Jeavons Universal Safety Shutoff Assembly (USSA) is a modern, dual-pivot design with long service life and high accuracy/repeatability. All USSAs are classified as USA DOT 192 Safety Shutoff Devices – USSAs meet all applicable EN334 (European) standards for Accuracy, Performance, and Durability.

The USSA (Universal Safety Shutoff Assembly) can be ordered as an OEM (original equipment manufacturers) or as a retrofit to American Meter 1800/2000 Industrial Regulators (1-1/2" and 2" Sizes). USSAs fit all American Meter Company 1800/2000 Regulators currently equipped with AMCo Overpressure Shut-offs – as a "drop-in" replacement. (Please note that AMCo 1800/2000 regulators equipped with AMCo Underpressure Shut-offs should not use the USSA).

USSAs combine OverPressure and UnderPressure Safety Mechanisms into (1) Single External Device. All USSA Set Pressure Ranges (OPSO and UPSO) are available by changing USSA OPSO and/or UPSO Range Springs – **NO** internal USSA modification is needed to obtain either Lowest Set Pressure or Highest Set Pressure.



Models: The USSA is available in (3) Separate Models:

- ☐ OverPressure Shutoff Only – (OPSO)
- ☐ OverPressure and UnderPressure Shutoff – (OPSO/UPSO)
- ☐ UnderPressure Shutoff Only – (UPSO)

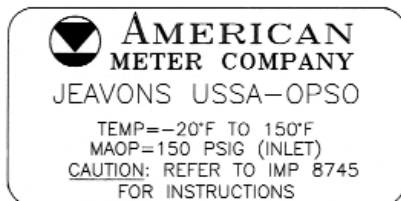
USSA Service Parts:

The Jeavons USSA is a tested and durable product with a reliable service life of many years. Factory assembly and test of USSAs produce units of uniform high quality and performance at a modest cost; therefore, internal USSA parts are **NOT** serviced, and rebuilding/refurbishment of internal USSA components is **NOT** recommended.

Genuine American Meter Company service parts are engineered to keep your USSA leak free and in proper working condition. USSA springs, spring tower parts, o-rings, and mounting hardware are available from AMCo.

Labels:

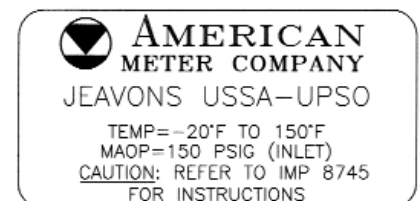
USSAs are available in (3) separate models – models with differing internal parts have similar external appearance and must have the correct label affixed to assure proper identification (All Labels are available as AMCo service parts.)



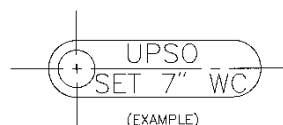
Part # 44677P530 – for OPSO Unit



Part # 44677P531 – for OPSO/UPSO Unit

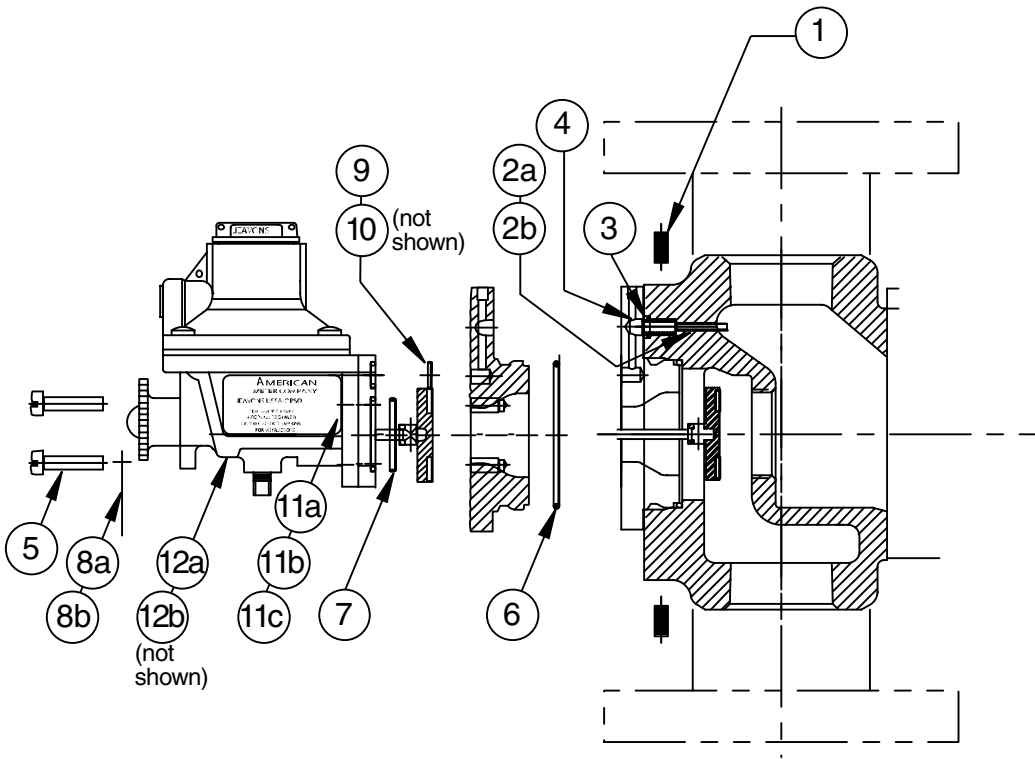


Part # 44677P532 – for UPSO Unit



Part # 78070 G001 – Brass Set-Point Identification Tag

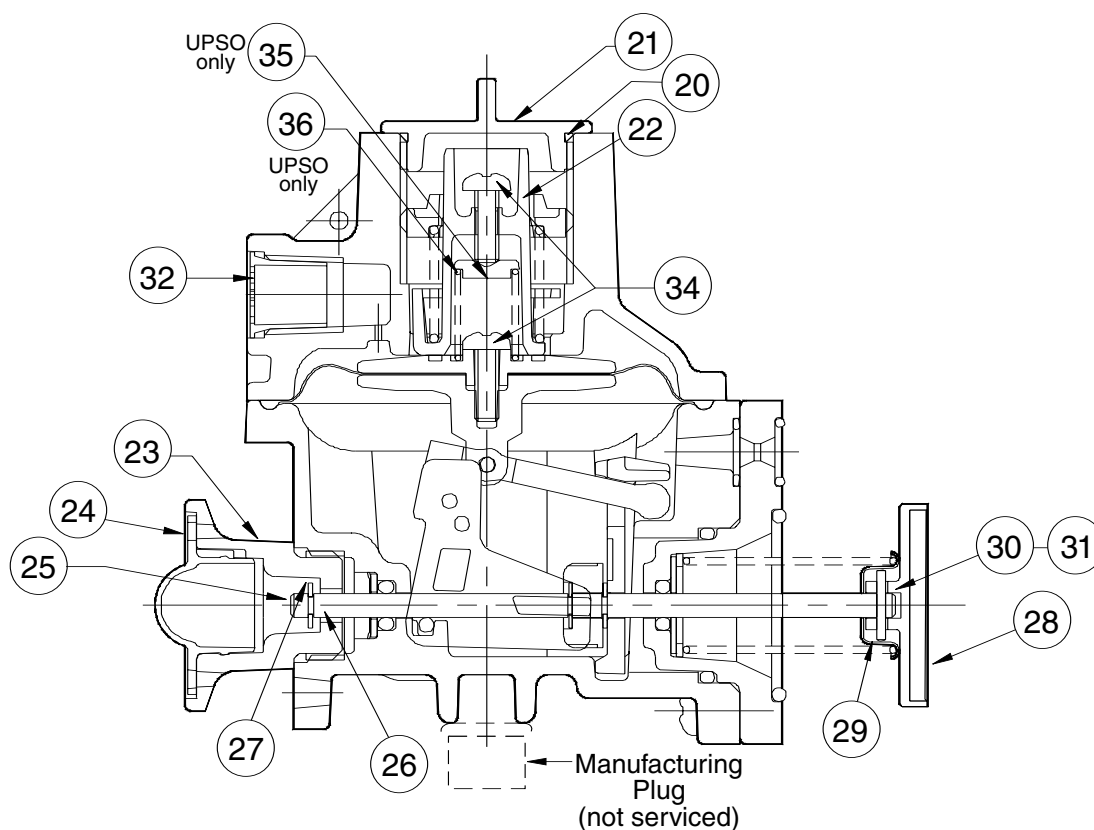
USSA Service Parts (all Models)



Item #	AMCo Part #	Description	Model Usage	Qty.
1	55060P037	Socket Head Set Screw – Valve Head to Adapter	All	4
2a	72778P004	Tube, Brass – Valve Head Sense Line	1-1/2" Valve Heads	1
2b	72778P003	Tube, Brass – Valve Head Sense Line	2 " Valve Heads	1
3	42710P048	O-Ring, Buna N – Valve Head Sense Port	All Valve Heads	1
4	72653P001	Pin, Roll – Valve Head Sense Port	All Valve Heads	1
5	55060P037	Screw, Fillister Head – USSA to Adapter Plate	All	4
6	42710P154	O-Ring, Large/Buna N – Adapter Plate to Valve Head	All	1
7	42710P251	O-Ring, Buna N – USSA to Adapter Plate	All	1
8a	78070G001	Identification Tag, Brass – Set Pressure (Blank)	OPSO (or) UPSO	1
8b	78070G001	Identification Tag, Brass – Set Pressure (Blank)	OPSO/UPSO	2
9	42710G001	O-Ring & Restrictor Assy – USSA Sense Port	All	1
10	73036P002	Plug, Sense Line for External Sense (Monitor)	All	1
11a	42677P530	Adhesive Badge – OPSO Only	OPSO only	2
11b	42677P531	Adhesive Badge – OPSO/UPSO Combined	OPSO/UPSO	2
11c	42677P532	Adhesive Badge – UPSO Only	UPSO only	2
12a	73786P002	Instruction Tag – Reset Procedures	All	1
12b	73787P004	Instruction Tag – Setting and Testing Procedures	All	1

To purchase USSA pressure springs, see page 6.

USSA Service Parts (all Models)



Item #	AMCo Part #	Description	Model Usage	Qty.
20	42710P248	O-Ring – Top Cap	All	1
21	70103P005	Top Cap	All	1
22	73175P005	Bottom Spring Holder	All	1
23	72943P002	Reset Spindle End Cap (Black Main Cap)	All	1
24	72943P003	Reset Spindle End Cap Clear Cover	All	1
25	70103P015	Green Indicator Cap	All	1
26	70019P109	End Cap Washer – Rear (White Nylon)	All	1
27	92943P138	Circlip – End Cap Indicator Retaining	All	1
28	70041P167	Valve Seat Disc – Rubber and Metal	All	1
29	03734P005	R Clip – Seat Disc to USSA Stem Retaining Clip	All	1
30	42710P252	O-Ring – Seat Disc Piloting Stem	All	1
31	70019P110	Gasket – Seat Disc Piloting Stem	All	1
32a	70034P001	Vent Screen (Standard Press In)	All	1
33b	78069P014	Vent Screen (EC Flow Limiting)	All	1
34	73183P002	Screw – Spring Adjustment	UPSO & OPSO/UPSO	1 or 2
35	73175P006	UPSO (only) Spring Tower Spring Holder	UPSO & OPSO/UPSO	1
36	12725P001	UPSO (only) Spring Tower Spacer Tube	UPSO & OPSO/UPSO	1

To purchase USSA pressure springs, see page 6.

USSA Service Parts (all Models)

USSA Range Springs



All USSA models can be converted to all alternate pressure ranges simply by changing the pressure spring. There are no high-pressure diaphragms or pressure-reducing rings to install.

Range in. w.c.	psig	Color	AMCo Part #
Springs, Overpressure (OPSO)			
7.5" w.c. to 24" w.c.	0.27 – 0.87 psig	Black	70017P123
20" w.c. to 32" w.c.	0.72 – 1.16 psig	Orange	70017P124
24" w.c. to 44" w.c.	0.87 – 1.60 psig	Red	70017P125
40" w.c. to 84" w.c.	1.5 – 3 psig	Dark Green	70017P126
	3 – 5 psig	Yellow	70017P127
	4 – 7 psig	White	70017P128
	7.8 – 14.5 psig	Dark Blue/Black	70017P129
	14.5 – 29 psig	Dark Blue/Orange	70017P130
	29 – 58 psig	Dark Blue/Red	70017P131
	14 – 35 psig	Dark Blue/Green	70017P132
Springs, Underpressure (UPSO)			
3" w.c. to 6" w.c.	0.11 – 0.22 psig	Light Blue	70017P133
6" w.c. to 24" w.c.	0.22 – 0.87 psig	Brown	70017P134
24" w.c. to 60" w.c.	0.87 – 2.17 psig	Purple	70017P135

Jeavons USSA – How To Order

PLEASE NOTE:

- * American Meter Company does **NOT** recommend field rebuilding or reconditioning of USSAs.
- * Complete USSA assemblies are available at reasonable cost for maintenance USSA replacement .

USSAs can be ordered by Description – Please Supply :

1. Type of USSA (OPSO, OPSO/UPSO, or UPSO)
2. Internal Regulator Sense (Standard) or External (Monitor) Sense Port
3. Required Spring Range of OPSO – (Refer to Chart) – OPSO and OPSO/UPSO units only
4. Required Spring Range of UPSO – (Refer to Chart) – OPSO/UPSO and UPSO units only
5. Requested Set Pressures of OPSO and/or UPSO.
6. AMCo Main Regulator Model and Valve Head Size (1800/2000), (1-1/2" or 2")

Note:

- All USSA Assemblies are delivered with Adaptor Plate for AMCo 1800/2000 Industrial Regulators
- All USSA Assemblies are delivered with, and must use, Restrictor/O-Ring @ Inlet Port. (Part #42710G001)
- All USSA Assemblies are delivered with an 1800/2000 Regulator O-Ring Installation Kit.
- Optional for all USSA Assemblies is a Monitor (Remote Sense) Kit.

Order Parts: 74036P002 Plug, 49689P006 Adaptor, 42710P146 O-Ring, and 42710P253 O-Ring.

How to Install the USSA

Retrofit Installation of a USSA (OPSO, OPSO/UPSO, and UPSO models) to an American Meter Company 1800/2000 Industrial Regulator is straightforward:

Tools Required:

- 1/8" Allen® wrench
- Straight-slot screwdriver
- PoziDriver® (UPSO adjustment only)

Procedure: (Refer to Figure 1 for Typical Installation)

1. Close regulator station-block valves and slowly depressurize station.
2. To remove existing OPSO, loosen (4) of 1/8" Allen cap set screws by turning them 2-1/2 – 3 turns anticlockwise. (The Allen capscrews retaining the shutoff do not need to be fully removed.)
3. Grasp the (old) shutoff and pull it straight off the main regulator. (Do NOT twist the shutoff.)
4. Reach inside the main regulator valve head and remove the (large) o-ring – if it has stayed behind when the shutoff was removed.
5. Remove the small o-ring from the sense line and discard.
6. a) If standard (internal) regulator sense – lightly coat new 42710P146 o-ring with silicone grease and install on sense port pin in main regulator.
b) If external (monitor) regulator sense – remove sense line roll pin and o-ring and discard. Lightly coat plug #74036P002 (USSA monitor blocking plug and o-ring) with silicon grease and install on sense port pin in main regulator.

7. IMPORTANT

To install the new USSA:

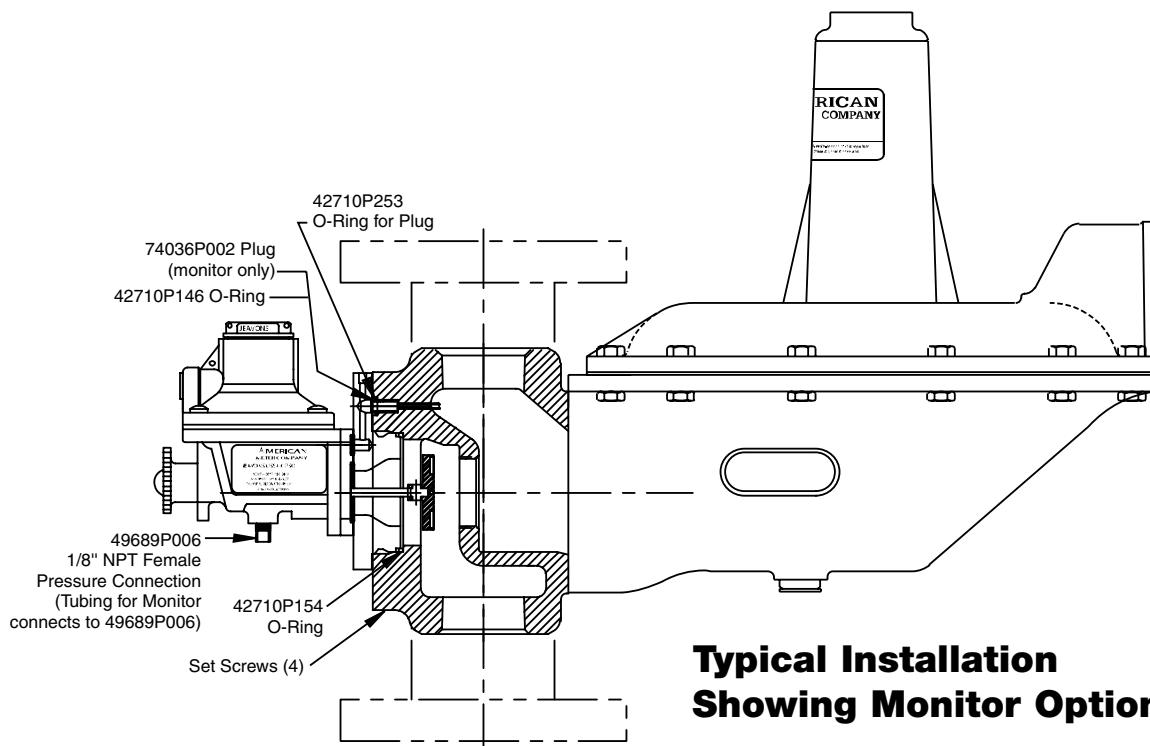
- Lightly coat the large (42710P154) o-ring with silicone grease and place it on the USSA adaptor in the groove provided.
- Move the USSA into the regulator valve head in one straight motion – make sure that the sense line port is aligned with the sense line pin in the valve head.
- While holding the USSA in position on the main regulator, sequentially tighten the (4) Allen cap set screws to 40 inch-lbs. This tightening should draw the USSA into the valve head. If the USSA is reluctant to draw into the valve head, the o-ring may not be properly positioned. To position it correctly, repeat steps 2–6.

8. IMPORTANT

When the USSA is installed onto the 1800/2000 regulator and the Allen set screws are torqued, a leak test of the assembly should be performed. Slowly repressurize the main regulator and check for leaks over the regulator/USSA assembly using soap solution or electronic sniffer. (Any leak detected must be corrected before the unit can be placed into service.)

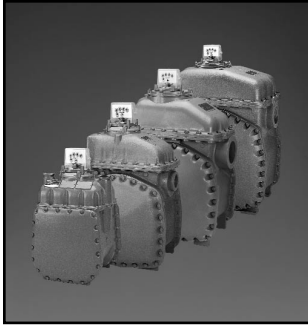
9. If required, USSA set pressures can be checked on-site by (slowly) supplying the regulator downstream side with the required higher pressure (OPSO) or by slowly bleeding away downstream side pressure (UPSO). Again, please note that all UPSO units require a minimum downstream pressure > UPSO set pressure to relatch after test.

10. Refer to SB 8745 for reset procedure.



**Typical Installation
Showing Monitor Option**

A Complete Family of Gas Measurement, Pressure Regulation, and Filtering Systems



Diaphragm Meters

American Meter's compact, light-weight, aluminum-case meters are designed to provide positive displacement accuracy for industrial or commercial loads. See bulletin SB 3510 for more information.



1800/2000 Series Industrial Regulators

1800/2000 Regulators are designed to give years of accurate regulation service with minimal maintenance. Models are available for all Class 125 service. See bulletin SB 8540.2 for more information.



1800 PFM Series

1800 PFM industrial regulators are designed for applications requiring medium-to-high capacity, extremely precise outlet-pressure control, and fast response to changing loads. See Bulletin SB 8551 for more information.



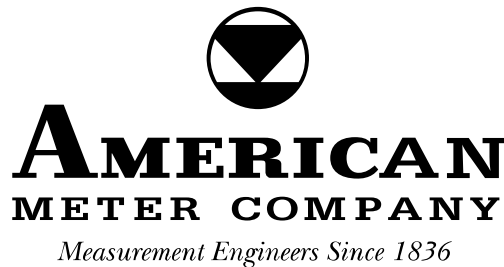
Turbine Gas Meters

High-performance meters provide accurate measurement of high-volume gas flow. Turbines are available from 3" to 12" line sizes and line pressures up to 1440 psig. See bulletin SB 4510 for more information.



Rotary Meter With Continuous Mechanical Temperature Compensator

The new CMTC RPM® Series gas meter provides flowing-gas volume registration continuously and mechanically corrected to the standard base temperature (60°F). See bulletin SB 5520 for more information.



ELSTER  **AMCO**

Represented by:



Rotary Meter with Integral Mercury Corrector

A new generation of Mercury Mini-Max® and Mini-AT® Correctors now mount integrally to American Meter's RPM® Series Rotary Meters. See Bulletin SB 5510 for more information.



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