

# SR100 Series Service Regulators

## Technical Bulletin



The compact, high capacity SR113 service regulator is designed for residential or light commercial/industrial applications using various hydrocarbon or other non-corrosive gases.

### Features

- Outlet pressure ranges available in 6" to W.C. up to 2 PSIG
- Variety of interchangeable orifices
- Cast Iron Valve Body Sizes 3/4" and 1"; available in 90 degree (right angle), 180 degree (straight) and offset configurations
- Capacities through 2500 SCFH
- Full capacity internal relief valve
- 3/4" or 1" NPT threaded vents
- Molded Diaphragm provides more precise outlet pressure control
- All models conform to ANSI Code B109.4 and CGA Service-type Regulator Specification CAN/CGA 6.18-M95.

### Advantages

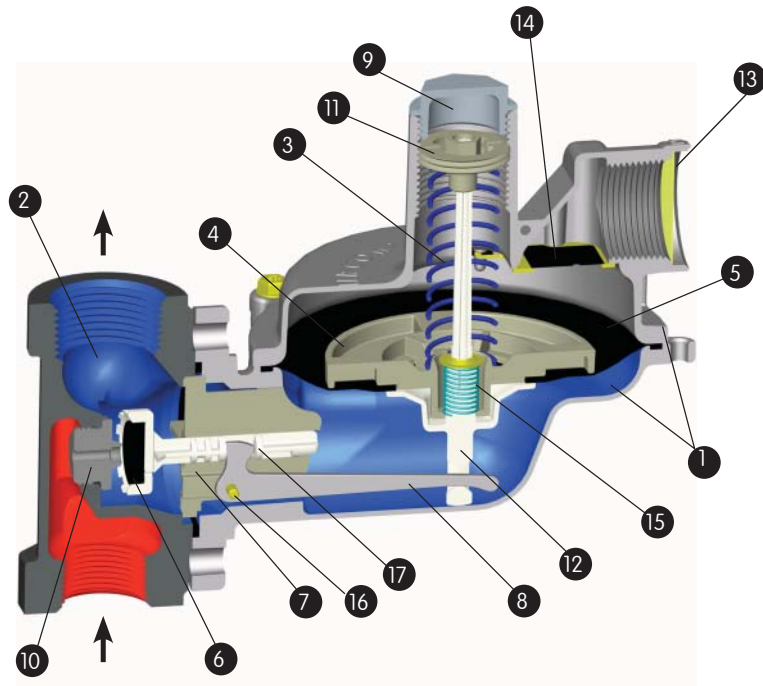
- Wide capacity range provides the ability to standardize on varying applications
- Full lockup capability provides assurance that downstream pressure will not build up during no-flow situations
- Full capacity relief provides safety during abnormal overpressure occurrences
- Compact design combined with high performance

### Options

- Vent Elbow
- Splashguard
- Pressure Taps
- Offset Valve Body

### Applications

- Residential
- Light commercial



- 1 Diaphragm Case - Precision die-cast aluminum with an exclusive seven-step advanced conversion coating, single-coat polyester primer and high solid polyurethane top coat.
- 2 Valve Body - Cast grey iron, undercoated, single coat polyester primer and high solid polyurethane top coat. Threads meet ANSI/ASME B1.20.1 or BS 21/EN 10226.
- 3 Pressure Spring - Steel, zinc plated and chromate. Color coded for identification.

Outlet Pressure	Color Code	Part Number
6" to 8" W.C.	Blue/Yellow	70017P138
7" to 12" W.C.	Blue/Red	70017P139
13" to 16" W.C.	Blue/White	70017P140
21" to 35" W.C.	Blue/Org	70017P141
1.8 - 2#	White	70017P060

- 4 Diaphragm Plate - Reinforced nylon
- 5 Diaphragm - Nylon fabric reinforced Buna N.
- 6 Seat Disc - Buna N; 60, 70 (std.) or 80 durometer rating.
- 7 Plunger Guide - Reinforced nylon
- 8 Lever - Stamped aluminum
- 9 Seal Plug - Reinforced nylon

- 10 Orifice Valve - High strength, corrosion resistant aluminum.

Orifice Size	Standard Part Number
5/16"	72494P022
1/4"	72494P021
3/16"	72494P020
1/8" x 3/16"	72494P030

- 11 Pressure Adjustment Screw - Reinforced nylon
- 12 Relief Valve - Reinforced nylon
- 13 Vent Screen - Stainless steel - All models are designed with a removable weather and bug-proof stainless steel screen to resist freeze-ups and to exclude foreign matter. The vent is threaded 3/4" or 1" NPT (BSP-TR threads available).
- 14 Vent Valve - Stainless steel with Electrogalvanized steel retainer.
- 15 Relief Valve Spring - Steel, zinc plated and yellow chromate. Non-adjustable. Color coded for identification. Standard set point of 9" w.c. above outlet set pressure of 7" w.c. Standard set point of 1.1 psig above outlet set pressure of 2 psig.
- 16 Lever Pin - Carbon steel, zinc plated
- 17 Plunger - Reinforced nylon

# SR100 Series Service Regulators

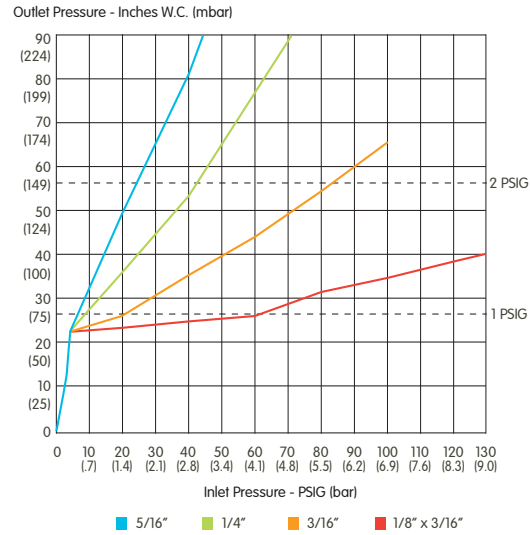
Capacity 1" Outlet Valve Body, SCFH (m<sup>3</sup>/h)  
Set Pressure of 7" W.C. @ 50 SCFH

Inlet Pressure PSIG (bar)	1/8"x 3/16" Orifice	3/16" Orifice	1/4" Orifice	5/16" Orifice
5 (0.34)	250 (7.08)	400 (11.33)	550 (15.57)	475 (13.45)
10 (0.69)	350 (9.91)	700 (19.82)	1100 (31.15)	1500 (42.48)
15 (1.03)	450 (12.74)	900 (25.49)	1700 (48.14)	2100 (59.47)
20 (1.38)	500 (14.16)	1100 (31.15)	2000 (56.63)	2500 (70.79)
30 (2.07)	650 (18.41)	1500 (42.48)	2500 (70.79)	2500 (70.79)
40 (2.76)	800 (22.65)	1800 (50.97)	2500 (70.79)	2500 (70.79)
60 (4.14)	1100 (31.15)	2400 (67.96)	2500 (70.79)	2500 (70.79)

0.60 Specific Gravity Gas at 60°F and 14.7 PSIA (15.6°C and 1.01 bar)  
Outlet pressure variance not to exceed +2/-1" W.C. from set pressure

Regulator Relief Valve Performance  
Outlet Pressure Relative to Inlet Pressure\*

Screened Vent – No Vent Pipe  
Set Pressure 7" W.C.



\*Failure by disconnecting linkage between the diaphragm and valve mechanism.

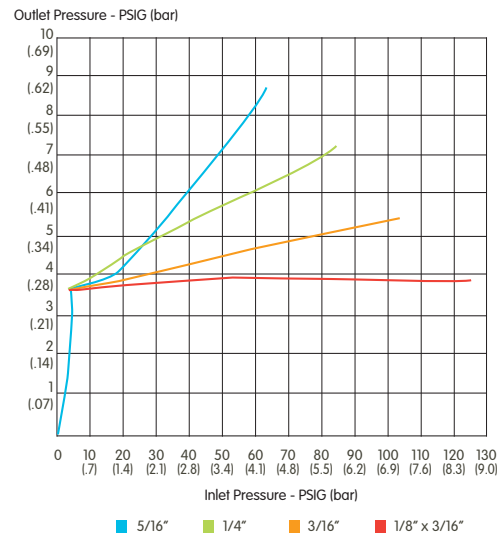
Capacity 1" Outlet Valve Body, SCFH (m<sup>3</sup>/h)  
Set Pressure of 2 PSIG @ 50 SCFH

Inlet Pressure PSIG (bar)	1/8"x 3/16" Orifice	3/16" Orifice	1/4" Orifice	5/16" Orifice
5 (0.34)	175 (4.96)	150 (4.25)	300 (8.50)	250 (7.08)
10 (0.69)	300 (8.50)	275 (7.79)	400 (11.33)	425 (12.03)
15 (1.03)	375 (10.62)	350 (9.91)	600 (16.99)	550 (15.57)
20 (1.38)	450 (12.74)	450 (12.74)	700 (19.82)	750 (21.24)
30 (2.07)	550 (15.57)	600 (16.99)	950 (26.90)	1000 (28.32)
40 (2.76)	750 (21.24)	800 (22.65)	1300 (36.81)	1400 (39.64)
60 (4.14)	1000 (28.32)	1300 (36.81)	1900 (53.80)	2100 (59.47)

0.60 Specific Gravity Gas at 60°F and 14.7 PSIA (15.6°C and 1.01 bar)  
Outlet pressure variance not to exceed 10% from set pressure

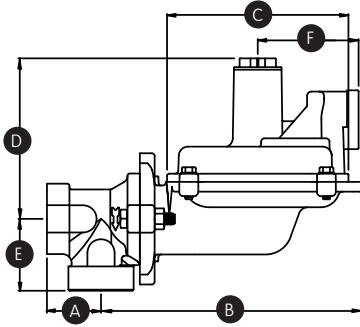
Regulator Relief Valve Performance  
Outlet Pressure Relative to Inlet Pressure\*

Screened Vent – No Vent Pipe  
Set Pressure 2 PSIG



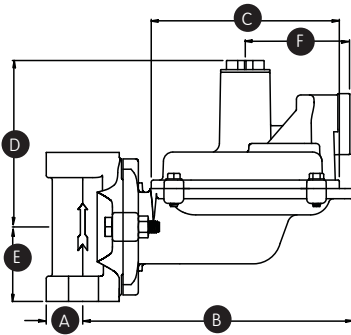
\*Failure by disconnecting linkage between the diaphragm and valve mechanism.

# SR100 Service Regulator Dimensions



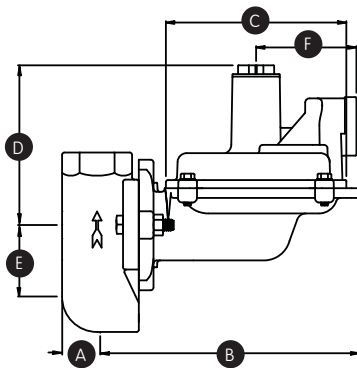
Model SR113 - 90°

Inlet	Outlet	A	B	C	D	E	F
3/4"	3/4"	1-1/2" 38.10mm	7-1/8" 180.98mm	5-3/8" 136.53mm	4-7/16" 112.73mm	2" 50.80mm	2-13/16" 71.45mm
3/4"	1"	1-1/2" 38.10mm	7-1/8" 180.98mm	5-3/8" 136.53mm	4-7/16" 112.73mm	2" 50.80mm	2-13/16" 71.45mm
1"	1"	1-1/2" 38.10mm	7-1/8" 180.98mm	5-3/8" 136.53mm	4-7/16" 112.73mm	2" 50.80mm	2-13/16" 71.45mm



Model SR113- 180°

Inlet	Outlet	A	B	C	D	E	F
3/4"	3/4"	1" 25.40mm	7-1/8" 180.98mm	5-3/8" 136.53mm	4-7/16" 112.73mm	2" 50.80mm	2-13/16" 71.45mm
3/4"	1"	1" 25.40mm	7-1/8" 180.98mm	5-3/8" 136.53mm	4-7/16" 112.73mm	2" 50.80mm	2-13/16" 71.45mm
1"	1"	1" 25.40mm	7-1/8" 180.98mm	5-3/8" 136.53mm	4-7/16" 112.73mm	2" 50.80mm	2-13/16" 71.45mm



Model SR113 - Offset

Inlet	Outlet	A	B	C	D	E	F
3/4"	3/4"	1" 25.40mm	8-9/16" 217.49mm	5-3/8" 136.53mm	4-7/16" 112.73mm	2" 50.80mm	2-13/16" 71.45mm
3/4"	1"	1" 25.40mm	8-9/16" 217.49mm	5-3/8" 136.53mm	4-7/16" 112.73mm	2" 50.80mm	2-13/16" 71.45mm
1"	1"	1" 25.40mm	8-9/16" 217.49mm	5-3/8" 136.53mm	4-7/16" 112.73mm	2" 50.80mm	2-13/16" 71.45mm

## Regulator Pressure Rating

125 PSIG (8.6 bar) = Maximum recommended inlet pressure for normal service.  
Maximum recommended pressure may vary with orifice size.

175 PSIG (12 bar) = Maximum inlet pressure for abnormal or emergency service, without causing damage to regulator case.

2 PSIG (138 mbar) = Maximum outlet pressure for normal service.

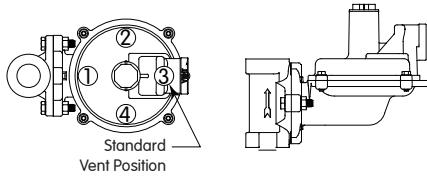
10 PSIG (689 mbar) = Maximum outlet pressure which can be contained by pressure carrying components (no flange leakage to atmosphere except for normal relief action). **If regulator is subjected to these conditions, it should be removed from service.**

50 PSIG (3.5 bar) = Maximum outlet pressure for abnormal service without damage to internal components. **If regulator is subjected to these conditions, it should be removed from service.**

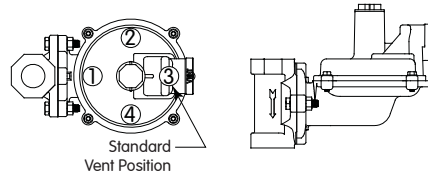
# Regulator Assembly Positions

## 180° Models

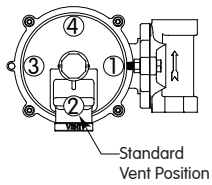
### Valve Head Position "A"



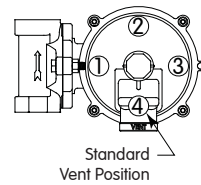
### Valve Head Position "B"



### Valve Head Position "C"



### Valve Head Position "D"



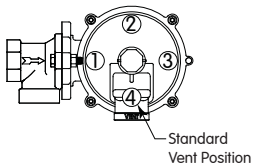
AC-250 Meter with SR113 Regulator

## Example of Regulator Assembly Position

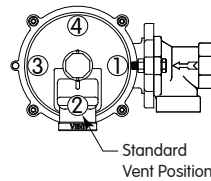
In the photo above the SR113 Regulator shown has an 180 degree valve head in Position "C" (Flow upward) with the vent in position 2 (Looking down). This would be assembly position C2.

## 90° Models

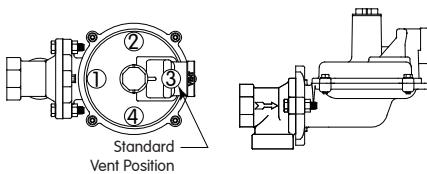
### Valve Head Position "A"



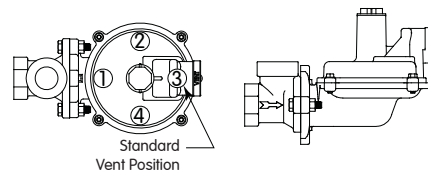
### Valve Head Position "B"



### Valve Head Position "C"



### Valve Head Position "D"

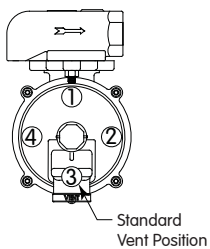


## Ordering Information

- 1 Model number
- 2 Size of inlet and outlet
- 3 Valve Head type
- 4 Inlet pressure, PSIG (bar)
- 5 Outlet pressure, inches W.C. (mbar) or PSIG (bar)
- 6 Spring Range
- 7 Flow, SCFH (m<sup>3</sup>/h)
- 8 Kind and specific gravity of gas
- 9 Orifice size
- 10 Regulator assembly position number

## Offset Models

### Valve Head Position "D"



## Shipping Weight

12.8 lbs/carton of four regulators

## About Elster Group

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