

# Separators for Steam, Air and Gas Systems

## Types S1, S2, S3 Cast Iron Separators

## S4A Fabricated Steel Separators

### Description

Moisture separators are used to improve the quality of steam or compressed air either within the distribution system or on the supply inlet to equipment. Removal of moisture is by a series of baffles on which the suspended water droplets impinge and fall out by gravity to the drain, which must be piped to a trap. The Model S1, S2, and S3 are cast iron construction. The Model S4A is of fabricated steel construction in accordance with Section VIII, Division I of the ASME Boiler and Pressure Vessel Code.

### Limiting Conditions

Model	PMO	TMO
S1	200 psig	388°F
S2, S3	145 psig	363°F
1/2" to 2" S4A	600 psig	650°F
2-1/2" to 6" S4A ANSI 150 lb	150 psig	650°F
2-1/2" to 6" S4A ANSI 300 lb	300 psig	650°F
2-1/2" to 6" S4A ANSI 600 lb*	600 psig	650°F

\*optional

**PMO** - Maximum Operating Pressure

**TMO** - Maximum Operating Temperature

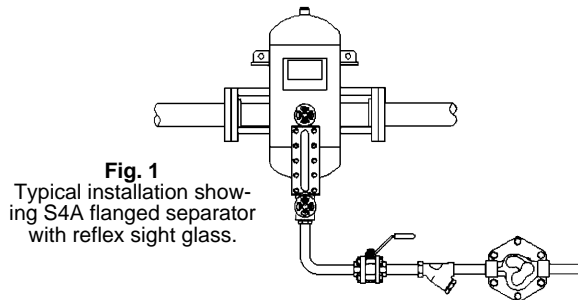
### Maintenance

The separator's simple, robust design requires no maintenance other than periodic vessel inspection. Trap and strainer should be maintained in accordance with recommended procedures for each product.

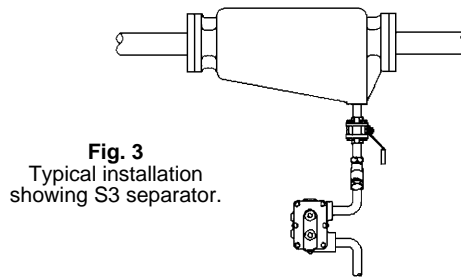
### Installation

A separator is required for proper removal of moisture from steam, air and gas systems. Locate separator as close to equipment to be protected as possible. Install in a horizontal pipeline with flow direction to match arrow located on separator with drainport at bottom for vertical downline discharge. Proper drainage to be provided through use of a Spirax Sarco steam trap or liquid drain trap and Y strainer as outlined below. Proper pipework support and provision for thermal expansion should be used consistent with good engineering practice. 2-1/2" and larger sized S4A provide built in pipe supports for ease of installation.

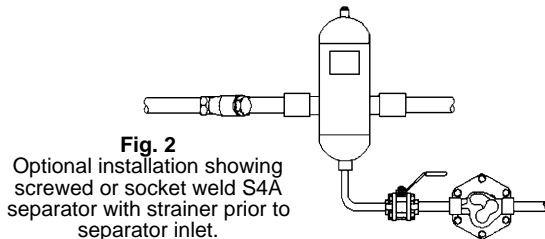
Recommended steam hook-up as shown in Fig. 1, 2 and 3 using a float and thermostatic steam trap, Y strainer and isolation valve. Figure 4 provides proper installation for compressed air or gas systems with liquid drain trap and pressure balance line.



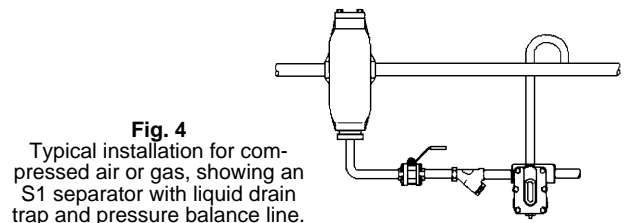
**Fig. 1**  
Typical installation showing S4A flanged separator with reflex sight glass.



**Fig. 3**  
Typical installation showing S3 separator.



**Fig. 2**  
Optional installation showing screwed or socket weld S4A separator with strainer prior to separator inlet.



**Fig. 4**  
Typical installation for compressed air or gas, showing an S1 separator with liquid drain trap and pressure balance line.

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