CSI / AMETEK

PRODUCT DATA SHEET

S_xSeal® 1000
SRU Sulfur Seal

Fig.1 *S_xSeal® 1000* an above-ground sulfur seal shown with ControTrace steam tracing panel and jumper hoses.

KEY BENEFITS

- ***Safe and reliable sealing performance:*** Fully drains sulfur while preventing vapor flow
- ***Easy to install:*** Installed entirely above-ground with simple flanged connections
- ***Online cleaning:*** Debris collects in a strainer basket that can be cleaned in a quick, online operation
- ***Reliable:*** CSI's proprietary internal sealing mechanism has proven operation at SRU's around the world
- ***Easy to maintain:*** The complete sealing assembly is fully removable and replaceable

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Sulfur Process Equipment Page
SxSeal® ICON®

S_xSeal® 1000

OVERVIEW

An above-ground Sulfur Seal solution for Sulfur Recovery Unit (SRU) rundown lines, replacing traditional sulfur seal legs.

All SRU's require some means of sealing the sulfur rundown lines between the condensers and temporary storage. A sealing device prevents process vapor loaded with H_2S and SO_2 gases from passing through the condenser with the liquid sulfur to the collection stage.

Historically, refineries and gas plants have used below-ground ***seal legs*** to prevent process vapor from entering sulfur pits or collection vessels. While seal legs are capable of this function they are prone to water intrusion and mechanical plugging issues, which results in costly repairs and unplanned SRU downtime.

CSI's above-ground sulfur seals are now the industry standard for this application in the oil and gas refineries, providing excellent sealing performance with increased reliability and easy online, "on-the-run," maintainability.

This data sheet covers the newly revitalized ***S_x Seal® 1000*** which is CSI's entry-level sulfur seal, providing the expected performance, built with durable materials and the essential safety, reliability and maintainability for cost-conscious projects.

Whereas, the ***S_x Seal® 2000*** is our flagship product and the top choice globally. It uses all premium materials to extend the lifetime, additional safety features and a proprietary settling chamber design to eliminate regular cleaning requirements.

- Extended Lifetime (316 SS wetted materials)
- Reduced Maintenance (settling chamber)
- Increased Safety (reduce risk H_2S exposure)

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PRODUCT FEATURES

Standard Models - DIMs	1010	1020	1040	1060	1080
❶ Shell NPS	10”	12”	14”	16”	18”
❷ Inlet - Outlet Nozzle NPS	3”	3”	4”	6”	6”
❸ Inlet - Outlet Flange	21-1/4”	23-1/4”	25”	27”	29”
❹ Inlet - Outlet Centerline	14”	15-1/2”	17-3/4”	20-1/4”	24-1/4”
❺ Outlet Centerline - Base	4-3/4”	4-3/4”	5-1/2”	6-1/2”	6-1/2”

Table 1. Nominal external dimensions (DIMs) for Fig. 2 (imperial units)

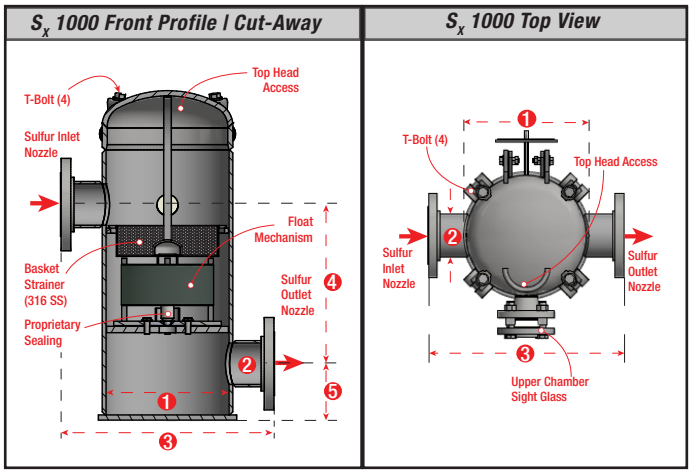

Fig.2 *S_xSeal® 1000* (left) front-profile cut-away, external dimensions and product feature overview, (right) top view.

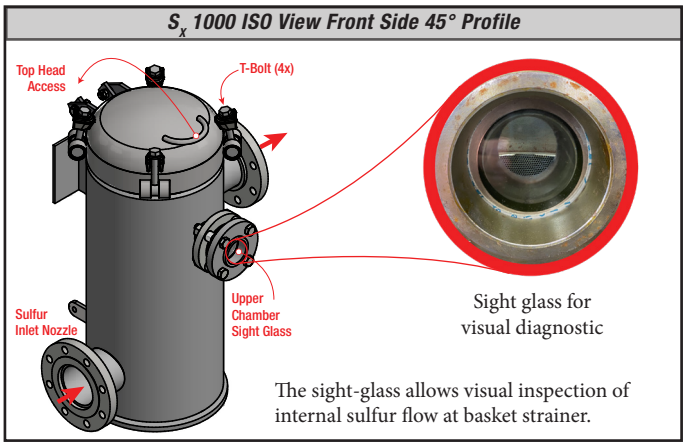

Fig.3 *S_xSeal® 1000* ISO view front-side 45° profile, product feature overview, with detail on Sight Glass, operating status indicator.

OPERATING RANGE

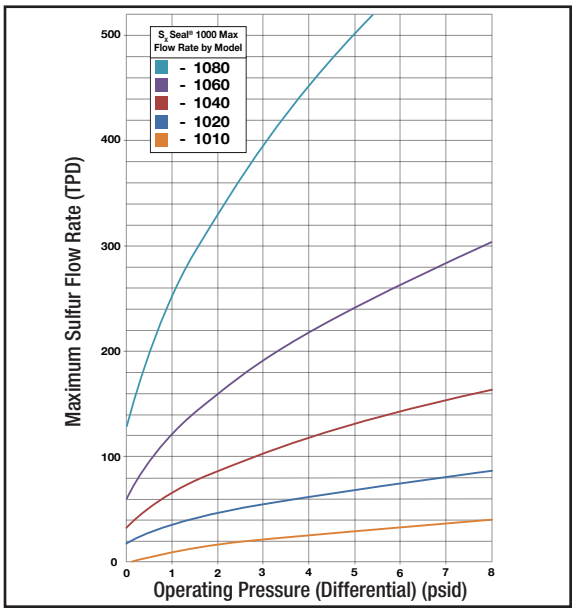

Fig.4 *S_xSeal® 1000,* Operating Range Chart - The maximum operating flow rate through the unit is a function of the upstream operating pressure as summarized in the chart.

STANDARD FEATURES

- Nozzle size and orientation per site needs
- Quick-opening top head for fast online cleaning
- Robust, long-lasting all stainless, removable sealing assembly
- Upper chamber sight glass for visual diagnostic
- Bolt-on ControTrace jacketing
- Sealing mechanism remains closed in an over-pressure event

OPTIONAL FEATURES

- Bottom discharge
- Through-vessel rod-out nozzles
- Additional sight glasses
- Custom vessel support and head configurations
- Spare hot-swap components (recommended: Strainer Basket & Float / Seal Mechanism)

RELATED LITERATURE - [LINKS]

- S_X Seal® 2000: The Industries Premier Sulfur Seal
- S_X Seal® Application Data Sheet / Questionaire
- Application Report: Refinery Upgrades to S_X Seal®
- Case Study: In-Ground vs S_X Seal® - Sulfur Sealing

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+1 (704) 644 5000 • sales.csi@ametek.com
www.csiheat.com