



NOWATA Filtration: “1S” Series: Cartridge Filter Vessels

For water flood operations, disposal systems, pollution control systems, & more!



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“1S” SERIES

cartridge filter vessels

Filters for: water flood operations, disposal systems, pollution control systems, glycol dehydrators, and industrial uses.

“1S” Series Features

- 1, 2, 3 or 4 Cartridge Models
- 2000 PSI Working Pressure
- Grooved Closure
- Buna Gasket
- Gases or Fluid Filtration
- Water Flow Rates to 24 GPM
- Glycol Flow Rates to 15 GPM
- 1” Internal Pipe Thread Connections
- 1/4” Internal Pipe Thread Drain
- Optional 1/4” Internal Pipe Thread Differential Pressure Ports
- Cast Ductile Head
- Plain Steel or Epoxy Lined Body
- Brass or Steel Internals

General Information

The “1S” Series filters are available in 1, 2, 3 or 4 cartridge models. The filters are used by the petroleum production industry in secondary recovery water floods. The filter is normally placed at each individual input well just ahead of the meter. The filters are ideal for many high pressure, low volume glycol applications. The “1S” Series is also suited for other applications requiring low cost, durable, easily operated filters. The head mounts directly in the flow line. The filter may be mounted in any position. The body is connected to the head by a two bolt grooved coupling and sealed with a double lip gasket. Fluid enters one side of the head and is channeled to the area around the cartridges. The fluid or gas passes through the depth type cartridge into the center tube and out the side of the head. The direction

of flow, from dirty inlet to clean outlet, is indicated by an arrow cast in the filter head. The “1S” Series comes in three basic models for various flow rates. All models are available with epoxy lined bodies for added corrosion resistance. Each model is equipped with a 1/4” internal pipe thread drain in the bottom of the body.



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Standard Construction for Liquid and Gas Filtration

"1S" Series

The cast ductile iron head has inline 1" internal pipe thread inlet and outlet connections. The tubular body is made of carbon steel seamless tube. The head and body are connected by a two bolt grooved coupling with a Buna gasket. Internal fittings, center tube and retainer are made of brass for water applications. The 1, 2, 3 and 4 cartridge models are available for 2000 psi working pressures at a maximum temperature of 250°F. See the Flow Characteristics Chart for flow sizing at a specific micron level of filtration. For information on all 316 stainless steel filters similar to the "1S" Series see the "1U" Series bulletin.

"1SP" Series

The "1SP" Series has all of the same construction features as the "1S" Series with the addition of epoxy lining to the tubular steel body. The epoxy lined body should be used when the corrosion rate is great enough to considerably shorten the life of plain steel units. "1SP" models are normally used for salt water and mildly corrosive fluids. For information on filters with 316 stainless steel head and epoxy lined steel body see the "1UP" Series section in the "1U" bulletin.

Standard Construction for Glycol Filtration

The "1S" Series housings are available for glycol with plated steel internals. These filters are used on gas dehydrators to remove solids from the glycol stream. Such solids will damage glycol pumps and plug spray nozzles. Most applications require 25 or 50 micron protection. The "1S" Series filters will

handle triethylene glycol flow rates to 15 GPM at 70°F. Steel internals are used for glycol service instead of the standard brass material. When ordering glycol filters specify "Steel Internals".

Optional Construction

The Following Features Offer Special Benefits at No Extra Cost:

Body Drain

All "1S" and "1SP" models have, as standard, a 1/4" internal pipe thread drain in the body. All "1S" models are available with a 1/2" or 3/4" internal pipe thread drain on special order.

Differential Pressure Connections

Two 1/4" internal pipe thread connections in the head are available on special order. Use two gauges or a DP indicator to monitor cartridge performance.

Gasket Material

Buna gasket is provided as standard. Viton and ethylene propylene are also available on special order.

Internal Materials

Standard brass and optional plated steel internals are stocked at the factory. Other internal materials, such as 316 stainless steel, are available on special order.

Non-Code Construction

The "1S" Series is not available with ASME Code stamp due to the use of the grooved coupling closure system. For 1, 2, 3 and 4 cartridge models in ASME Code construction see the "1SY" Series bulletin.

Dimensional Information

Model	Max Pressure (1)		Number of Cartridges	Shipping Weight		A	B	C (2)	D	E (3)	F (4)
	PSI	KGM/SQCM		Pounds	Kilograms						
1S1N 1SP1N	2000	140	1	19	9	16	15	11-1/2	4-1/2	3-1/2	1" FNPT
1S2N 1SP2N	2000	140	2	27	13	26	25	21-1/2	4-1/2	3-1/2	1" FNPT
1S3N 1SP3N	2000	140	3	35	16	36	35	31-1/2	4-1/2	3-1/2	1" FNPT
1S4N 1SP4N	2000	140	4	43	20	46	45	41-1/2	4-1/2	3-1/2	1" FNPT

NOTES:

- (1) Maximum allowable non-shock working pressure PSIG
- (2) Additional clearance required to remove body
- (3) Body diameter
- (4) Internal pipe thread inlet and outlet connection size

Dimensions shown in inches

