



# NOWATA FILTRATION

## “1SY” . “1UY” . “1HY” SERIES

### cartridge filter vessels



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

#### “1SY” . “1UY” . “1HY” Features

- 1, 2, 3 or 4 Cartridge Models
- 1440 or 3000 PSI Working Pressures
- Bolted Closure
- O-Ring Seal
- Gases or Fluids Filtration
- Water Flow Rates to 24 GPM
- 1” Internal Pipe Thread Connections Standard
- “1SY” Carbon Steel, “1UY” 316 Stainless Steel, and “1HY” Hastelloy C276 construction available in 1440 & 3000 PSI
- Nowata Standard Rigid Post Internals
- All Units Available in ASME Code Construction

## General Information

The “1SY”, “1UY” and “1HY” Series filters are available with 1, 2, 3 or 4 disposable cartridges mounted on a rigid support post with a threaded end seal. Standard cartridge size is 2-1/2” outside diameter x 1” inside diameter x either 9-3/4” or 10” length. On the 2 and 3 cartridge models the 9-3/4” or 10” length cartridges stack on the support post. A single cartridge 19-1/2” or 20” long can be utilized on the 2C model. Likewise, a single 29-1/4” or 30” length cartridge can be installed in the 3C models or 3 single lengths can be used. The 4C models hold 4 single lengths or one 40” long cartridge.

These filters are principally used by the petroleum and chemical industries for precision applications requiring numerous cartridge changes, ease of operation and long housing life. Several different types of media are available to handle a wide spectrum of applications.

The carbon steel “1SY”, the 316 stainless steel “1UY” and the Hastelloy C276 “1HY” Series come in two pressure ratings, 1440 and 3000 psi. The filter head has inline 1” internal pipe thread, FNPT, connections. The tubular body is

flange mounted to the head. The body of the filter is connected to the head by four heat treated carbon steel bolts and sealed with an o-ring. Each model has a 1/4” internal pipe thread, FNPT, drain in the bottom of the body. The 3000 psi model has lifting handles located on the body for ease of removal. The head mounts directly in the flow line. The filter may be mounted in any position. Fluid enters one side of the head and is channeled to the area around the cartridges. The fluid or gas passes through the cartridge media where particles of contaminant are removed and trapped. The clean fluid or gas flows into the rigid cartridge support post and out the opposite side of the head from the inlet.



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## “1SY” Carbon Steel Construction

The “1SY” Series head and body are made of carbon steel. The filters have, as standard, brass internal cartridge support and retainer. Brass is used for water and mildly corrosive applications. For glycol service order the no cost option of plated carbon steel

internals. 316 stainless steel internals are available. The housing seal is a Buna O-Ring. Four heat treated carbon steel bolts attach the body to the head. 1, 2, 3 and 4 cartridge models are available in 1440 and 3000 psi non-shock working pressures.

## “1UY” 316 Stainless Steel Construction

The “1UY” Series head and body are made of 316 stainless steel for corrosive applications. The filter has 316 stainless steel internal cartridge support and retainer. The housing seal is a Buna O-Ring. Four heat treated carbon steel bolts attach the body to the head.

316 Stainless Steel bolting available on special order. The 1, 2, 3 and 4 cartridge models are rated for 1440 and 3000 psi non-shock working pressures.

## “1HY” Hastelloy C276 Construction

The “1HY” Series head and body are made of Hastelloy C276 for highly corrosive applications. The filter has Hastelloy C276 internal cartridge support and retainer. The housing seal is a

Buna O-Ring. Four heat treated carbon steel bolts attach the body to the head. The 1, 2, 3 and 4 cartridge models are rated for 1440 and 3000 psi, non-shock, working pressure.

## Optional Construction Features

### Inlet and Outlet Connections

Standard connections are 1” FNPT, internal pipe thread. 1” flanged or 1” socket weld connections are available on special order.

### Internal Materials

For the “1SY” Series, standard brass or optional plated carbon steel internal cartridge supports are stocked at the factory. The “1UY” Series has standard 316 stainless steel internals which are also available at extra charge on the “1SY” Series. The “1HY” Series has Hastelloy C276 rigid post internals.

### Body Drain

All “1SY”, “1UY” and “1HY” models have, as standard, a 1/4” FNPT internal pipe thread drain in the body. Other size or drain types are available on special order. Contact Nowata Filtration for price and availability.

### Gasket Material

A Buna O-Ring seal is provided as standard. Special O-Ring materials are available such as Viton, Ethylene Propylene and Fluorocarbon Encapsulated Viton. Contact Nowata Filtration for price and availability.

## ASME Code Construction

All units are designed in accordance with Section VIII, Division 1 of the pressure vessel code of the American Society of Mechanical Engineers. When required, each unit can be stamped

with the “U” symbol denoting fabrication and testing performed by specific procedures.

## Dimensional Information

| Model              | Max Pressure (1) |         | Number of Cartridges | Shipping Weight |           | A      | B      | C (5) | D     | E (2) | F (3) | G (4)   |
|--------------------|------------------|---------|----------------------|-----------------|-----------|--------|--------|-------|-------|-------|-------|---------|
|                    | PSI              | KGM/CM2 |                      | Pounds          | Kilograms |        |        |       |       |       |       |         |
| 1SY1 / 1UY1 / 1HY1 | 1440             | 101     | 1                    | 27              | 13        | 14-1/2 | 13     | 12    | 4-5/8 | 3-1/2 | 1     | (4) 5/8 |
| 1SY2 / 1UY2 / 1HY2 |                  |         | 2                    | 36              | 17        | 24-1/2 | 23     | 22    |       |       |       |         |
| 1SY3 / 1UY3 / 1HY3 |                  |         | 3                    | 45              | 21        | 34-1/2 | 33     | 32    |       |       |       |         |
| 1SY4 / 1UY4 / 1HY4 |                  |         | 4                    | 54              | 25        | 44-1/2 | 43     | 42    |       |       |       |         |
| 1SY1 / 1UY1 / 1HY1 | 3000             | 211     | 1                    | 85              | 39        | 16     | 14-1/4 | 13    | 6-3/8 | 4-1/2 | 1     | (4) 1   |
| 1SY2 / 1UY2 / 1HY2 |                  |         | 2                    | 110             | 50        | 26     | 24-1/4 | 23    |       |       |       |         |
| 1SY3 / 1UY3 / 1HY3 |                  |         | 3                    | 135             | 61        | 36     | 34-1/4 | 33    |       |       |       |         |
| 1SY4 / 1UY4 / 1HY4 |                  |         | 4                    | 160             | 72        | 46     | 44-1/4 | 43    |       |       |       |         |

### NOTES:

- (1) Maximum allowable non-shock working pressure PSIG
- (2) Body diameter
- (3) FNPT Internal Pipe Thread inlet and outlet connection size
- (4) Closure bolt quantity and diameter
- (5) Additional clearance required to remove housing body
- (6) Handles provided on the 3000 psi model only

Dimensions shown in inches

