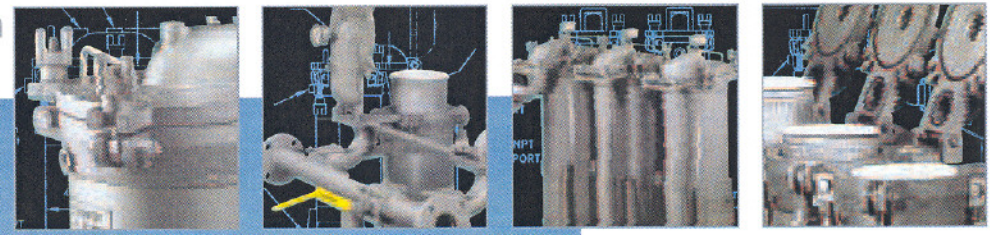
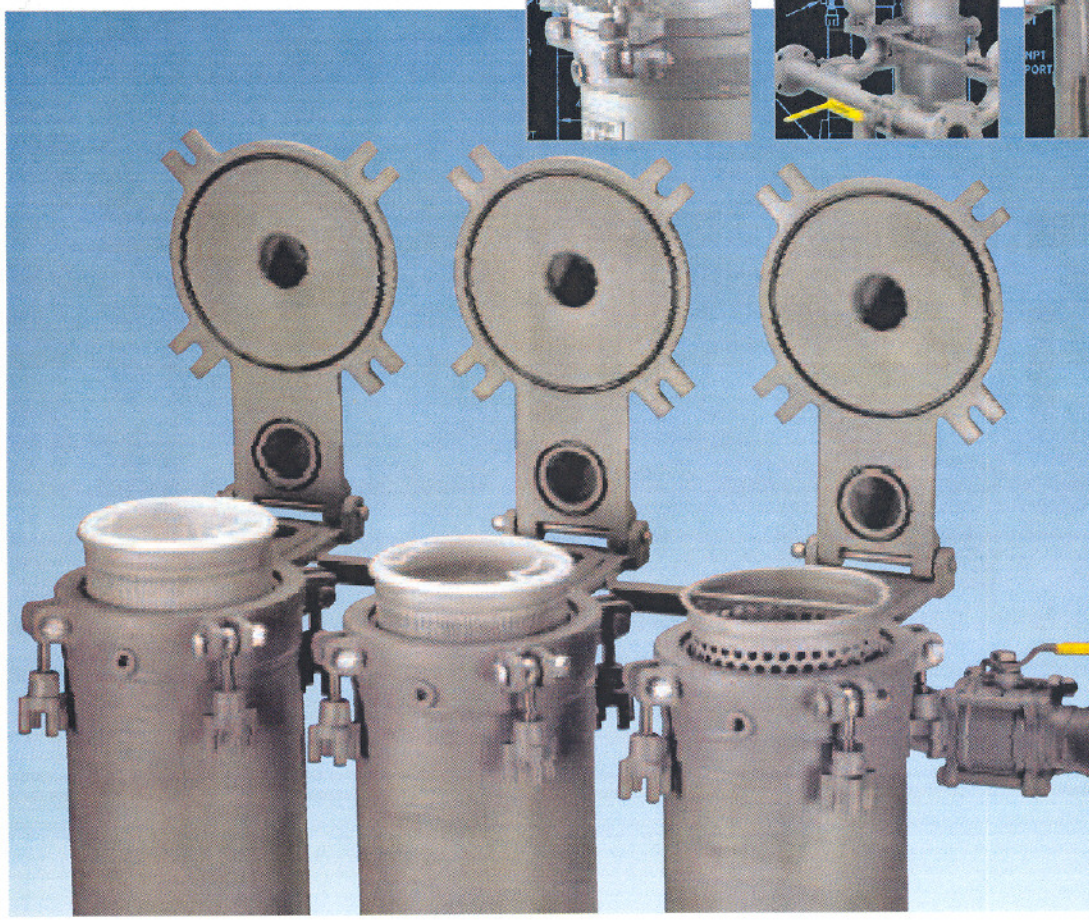
Industrial Grade
Series Filter Systems
Parallel/Series Filter Systems

Over-the-Top® Design





Technical Bulletin B1

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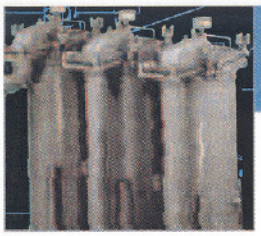
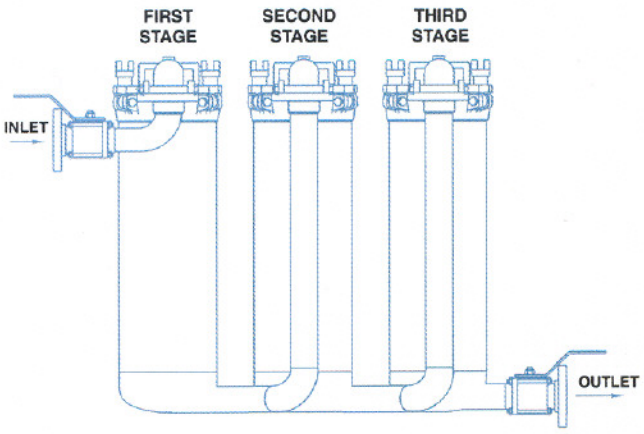
Filtration Systems
Division of Mechanical Mfg. Corporation



SERIES FILTER SYSTEMS

Model
NS-122-LP-V-3 STAGE



REAR VIEW

NOTE: DRAINS AND FRAME ARE INCLUDED, BUT NOT SHOWN IN THIS ILLUSTRATION FOR CLARITY.

MODEL	H"	W"	L"	WT/LBS
2-STAGE	37"	19"	35"	265
3-STAGE	37"	19"	47"	365
4-STAGE	37"	19"	59"	465

Description

Series Filter Systems are designed to remove suspended solids from liquids in multiple stages. Housings are piped in sequence, allowing particles of a specific size range to be captured at each stage. As liquid flows through the system, larger particles are collected upstream, preventing them from prematurely blinding media in subsequent stages.

Variations of both particle size and solids concentration in a solution can be accurately addressed through the selection of filter media. Any combination of Strainers, Mesh or Micron-Lined Baskets, Liquid Filter Bags, or Cartridges may be used to maximize performance and reduce costs associated with disposable media.

Valves on the inlet and outlet of the system allow liquid flow to be shut off at the unit, rather than at a distant source, saving time during media change-out. Series Filter Systems are available in Two, Three, or Four Stages.

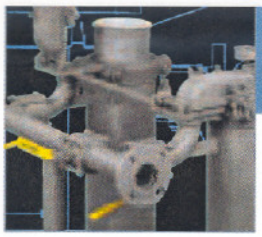
Parallel/Series Filter Systems allow conversion from Series to Parallel Filtration by the use of isolation valves on an integrated manifold. In *Parallel Filtration*, both housings filter simultaneously, doubling the flow rate capacity of a single vessel. Isolation of an individual housing allows each vessel to operate independently for continuous service during media replacement, so your filtering process never shuts down. Parallel/Series Filter Systems are available with two filter housings.

Benefits of Series Filter Systems

- *Increased Solids Loading* – The first stage pre-filters large solids; each successive stage removes smaller particulate for finer filtration or liquid polishing.
- *Reduced Cost* – Users may select more economical or reusable media to pre-filter larger particles, reserving higher cost or disposable products for subsequent stages.
- *Improved Quality Control* – Filters of the same micron rating may be used in Series to improve capture rates and ensure filtrate quality through redundant passes.

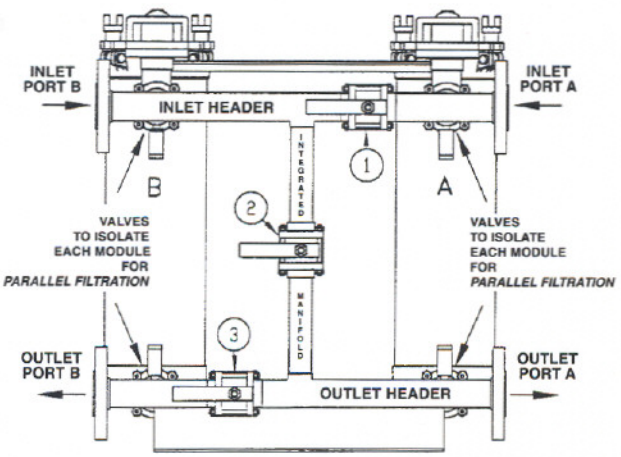
Over-The-Top® design secures the filter bag between the housing lid and the top of the support basket. Compression of the bag collar by the lid provides a positive 360-degree seal, preventing bypass of unfiltered material. Solids are trapped and collected in the bag, eliminating clean up of the vessel interior during bag change-out.

The Low-Profile, Horizontal Outlet is a one-piece investment casting exclusive to the *Filtration Systems* product line. This feature lowers the working height of the filter system and is standard on our Series and Parallel/Series Filter Systems.



PARALLEL/SERIES FILTER SYSTEMS

Model
NS-222-V-PS



REAR VIEW

MODEL	H"	W"	L"	WT/LBS
NS-222-V-PS	36"	28"	34"	294

PARALLEL/SERIES FILTER SYSTEMS

TYPE OF FILTRATION	VALVES OPEN	VALVES CLOSED	FLOW PATH
Parallel Filtration Both housings filter simultaneously.	No. 1& 3	No. 2	Liquid enters Inlet Port A or B, passes through both vessels simultaneously, and discharges through Port A or B.
Series (Staged) Filtration Liquid is filtered through Vessel A and then Vessel B, in sequence.	No. 2	No. 1& 3	Liquid enters Inlet Port A, passes through Vessel A (First Stage); through the Integrated Manifold; then, through Vessel B (Second Stage); and discharges through Outlet Port B.

Specifications

NS- Models: T-304 S/S
NC- Models: Carbon Steel
Over-The-Top Filter Vessels, hold Size #2 media (7"dia. x 33"long)
Maximum Working Pressure: 150psi
Maximum Working Temperature: 300°F
Maximum Water Flow:
220gpm @ 2.2psid (***Series Filtration***, without filter media)
Series Filter Systems maintain single vessel flow rates.
440gpm @ 2.2psid (***Parallel Filtration***, without filter media)
Maximum Support Basket Differential Operating Pressure: 100psi
Hydrostatically Tested to 250psi
Ball Valves: 2" Full-Port, Three-Piece,
T-316 Stainless Steel/Teflon, 800psi
Series Filter Systems: 2 per system
Parallel/Series System: 7 per system
Inlet & Outlet: 2" Flanges, 150 lb., R/F, ANSI

Standard Features

Over-The-Top Design
Built to ASME Code standards
Blasted Finish, interior, exterior, and baskets (**NS**- Models)
One Coat Shop Primer, exterior (**NC**- Models)
Low-Profile, Horizontal Outlet
Investment Cast Lid and Body
Hinged Lid with Handle, Built-in Lid Stop, and Safety Detents
Plated Carbon Steel Hardware, closure bolts & bar knobs
Gauge Ports, upstream & downstream, 1/4" NPT
Vent Ports, 1/4" NPT
Upstream Drain Ports, 1/4" NPT
Downstream Drain Ports, 3/4" NPT
Perforated T-316 S/S Support Baskets with Longitudinal Taper
Buna-N O-Rings
Stainless Steel Frame (**NS**- Models)
Carbon Steel Frame (**NC**- Models)