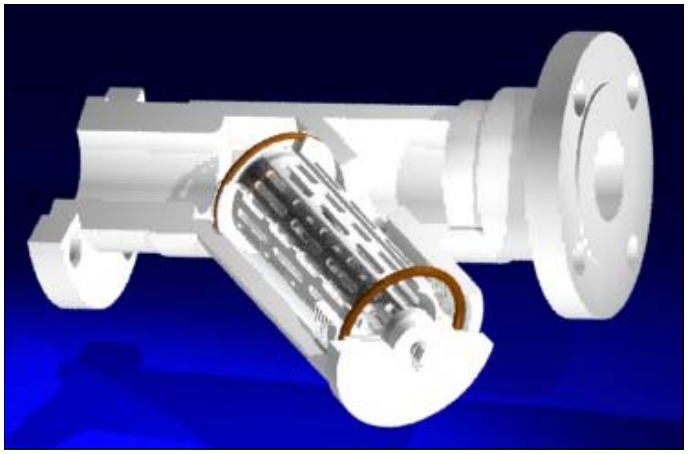
FLUOR-O-FLO®

PVDF & PTFE Y-Strainers

Removable PTFE Strainer Cartridge with Fluoropolymer Screen

Flanged • NPT • Socket Weld • Tri-Clamp



- Available Nominal Size Ranges: PVDF-1/8" through 4"
  PTFE-1/8" through 3"
- Standard end connections include:
  - ANSI Class 150 flanged
  - Socket – IPS or metric sizes (PVDF units only)
  - Female NPT
  - Tri-Clamp
  - Other connections available include ISO metric flanges, and true-union
- Particle sizes strained: 1 to 25,400 microns (0.00003" to 1") using either membranes, mesh screens, or drilled holes. Please refer to our *Strainer Screens Technical Bulletin* for details.
- Minimum 2:1 open area ratio when used with 48% or higher open area mesh
- All wetted materials are fluoroplastic:
  - Body and Connections: Kynar® PVDF or MICROFLON™ special Virgin PTFE
  - Screen: ETFE or alternates
  - Cartridges and Drain Plugs: PTFE
  - Seals: FEP encapsulated silicone rubber o-ring. PFA encapsulated or other o-ring materials can be supplied.

Micromold's FLUOR-O-FLO® PVDF and PTFE Y-Strainers are especially well suited for use in removing suspended solids from extremely corrosive or high-purity fluid streams. They help prevent damage to sensitive downstream process components such as pumps, valves, instruments, and spray nozzles. The benefits of our special design include:

- All fluoroplastic construction that provides far greater corrosion resistance and higher operating temperature capability than PVC, CPVC, or polypropylene units
- Available with a variety of end connections and screen mesh sizes
- Both PTFE and PVDF strainers feature a removable, and easily cleaned PTFE cartridge with fluoropolymer screen. Teflon® FEP encapsulated silicone rubber o-ring seal combined with machined seat on cartridge prevents blow-by
- Knurled cap for easy strainer cartridge removal and clean-out. Teflon® FEP encapsulated silicone rubber o-ring seal combined with machined seat on cap prevents external leakage
- PTFE plug allows drainage of residual liquids before cartridge removal
- Installation can be either horizontal or vertical

For similar benefits where greater strainer capacity is needed, ask about Micromold's FLUOR-O-FLO® Basket Strainers.

Also available:
FLUOR-O-FLO® PVDF & PTFE Y-Strainers
- Product Specifications
- Installation and Maintenance Guide
- Strainer Screens Technical Bulletin

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Removable PTFE Strainer Cartridge with Fluoropolymer Screen

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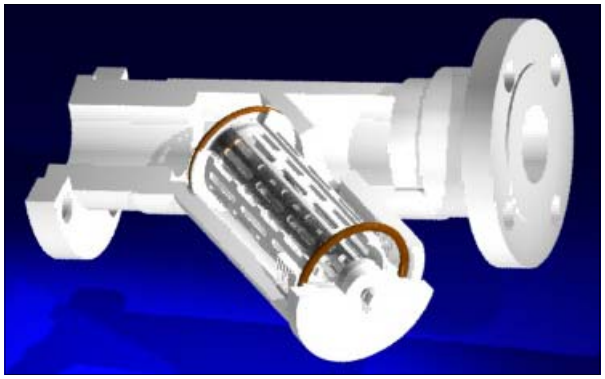


Micromold's Y-Strainers remove particles or debris from process lines handling extremely corrosive or high-purity fluids. To ensure maximum corrosion resistance and purity, all wetted materials are fluoroplastics.

PVDF Y-Strainers are available in 1/8" through 4" and PTFE Y-Strainers are available in 1/8" through 3" pipe sizes.

Easily cleaned, removable PTFE cartridges securely support ETFE screens in standard 11, 17, 30 or 51 mesh sizes. Standard PEEK screens available in mesh sizes ranging from 400 to 65 (12 to 155 microns). Other mesh sizes and types available on special order.

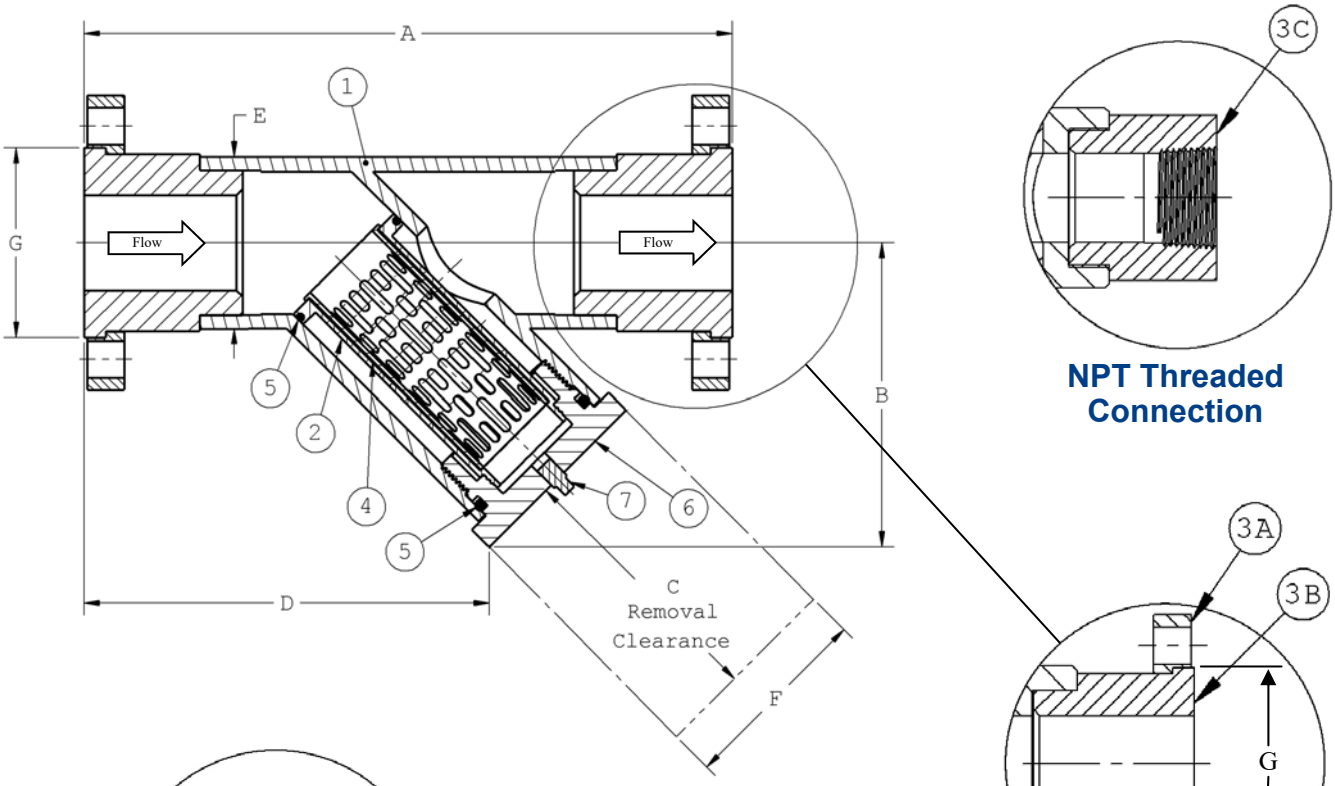
Open area ratio of screen to pipe meets or exceeds 2:1 for all sizes when used with a mesh having a minimum 48% open area.

Standard end connections fit NPT threaded, Tri-Clamp, flanged, and socket– or butt-weld (PVDF only) piping systems. We can provide virtually any connection (True-Union, etc.) on special order.

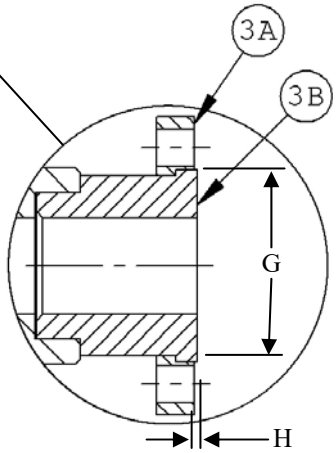
Units may be installed either horizontally or vertically.

Also available:
FLUOR-O-FLO® PVDF & PTFE Y-Strainers

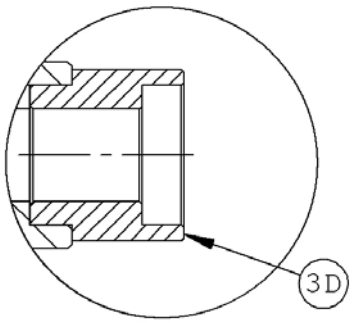
- Sales Bulletin
- Installation and Maintenance Guide
- Strainer Screens Technical Bulletin



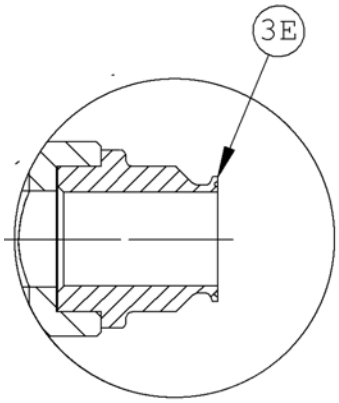
NPT Threaded Connection



Class 150 Flange Connection
(Stub Ends with PVDF Van Stone Flanges)



Socket Weld Connection (PVDF Only)



Tri-Clamp Connection

Connection Availability and Size Ranges

Strainer Material	NPT	Flanged	Socket Weld	Tri-Clamp
PVDF	1/8" – 4"	1/2" – 4"	3/8" – 4"	1/2" – 4"
PTFE	1/8" – 3"	1/2" – 3"	N/A	1/2" – 3"

All flanges are Van Stone type with stub ends (rotatable)

Dimensions*

Nominal Pipe Size	A	B	C	D	E (PVDF)	E (PTFE)	F	G	H	PLUG NPT
1/8	8.3	2.8	2.9	4.7	1.32	1.50	1.60	NA	NA	1/8
1/4	8.3	2.8	2.9	4.7	1.32	1.50	1.60	NA	NA	1/8
3/8	8.3	2.8	2.9	4.7	1.32	1.50	1.60	NA	NA	1/8
1/2	8.3	2.8	2.9	4.7	1.32	1.50	1.60	1.62	0.065	1/8
3/4	9.9	3.5	3.7	5.5	1.90	2.00	2.20	1.99	0.065	1/8
1	9.9	3.5	3.7	5.5	1.90	2.00	2.20	2.37	0.065	1/8
1-1/4	11.1	5.5	5.8	7.4	2.88	2.88	3.00	2.74	0.065	1/8
1-1/2	11.1	5.5	5.8	7.4	2.88	2.88	3.00	3.12	0.065	1/8
2	12.2	6.3	6.2	7.7	3.50	3.75	3.94	3.87	0.065	1/8
3	14.7	8.9	8.7	9.9	5.00	5.25	5.44	5.12	0.065	1/4
4	17.3	11.5	10.7	11.9	6.63	N/A	7.20	6.63	0.065	1/4
* All dimensions shown in inches										

Construction

Item No.	PVDF Y-Strainers	PTFE Y-Strainers
1	PVDF Body	MICROFLON™ PTFE Body
2	PTFE Cartridge	PTFE Cartridge
3A	PVDF Flange (Other materials available)	PVDF Flange (Other materials available)
3B	PVDF Stub End	PTFE Stub End
3C	PVDF NPT Connector	PTFE NPT Connector
3D	PVDF Socket Weld Connector	Not Available
3E	PVDF Tri-Clamp Connector	PTFE Tri-Clamp Connector
4	Fluoropolymer Screen	Fluoropolymer Screen
5	FEP Encapsulated Silicone Rubber O-Ring	FEP Encapsulated Silicone Rubber O-Ring
6	PVDF Knurled Cap	PTFE Knurled Cap
7	PTFE Drain Plug	PTFE Drain Plug

Engineering Specifications

FLOUR-O-FLO® Y-Strainers shall be (PVDF or virgin PTFE) construction with (socket weld, NPT threaded, Tri-Clamp, or flanged) end connections. The strainers shall have covers removable without the use of tools to facilitate cleaning, and have an FEP encapsulated silicone rubber o-ring seal. Strainer to have a (1/8" or 1/4") NPT removable drain plug. Strainers to have a minimum 2:1 ratio of open area to the size-corresponding cross-sectional pipe area when used with a mesh screen having a minimum open area of 48%. Strainers shall have a removable PTFE strainer cartridge with FEP encapsulated silicone rubber o-ring seal that is secured to and removable with the cover. Strainer cartridges shall have perforated PTFE inner and outer cartridge components to secure screen mesh. As manufactured by MICROMOLD PRODUCTS, INC.

PVDF Y-Strainer Part Numbers and Pressure Ratings*

Nominal Size (in.)	Nominal Size (mm)	FNPT Threaded	IPS Socket Weld	Metric Socket Weld	ANSI Class 150 Flanged	Tri-Clamp	Pressure Ratings (psi)
1/8"	NA	S-YK01FTNNN	S-YK01SINNN	N/A	N/A	N/A	150
1/4"	NA	S-YK02FTNNN	S-YK02SINNN	N/A	N/A	N/A	150
3/8"	16	S-YK03FTNNN	S-YK03SINNN	S-YK03SMNNN	N/A	N/A	150
1/2"	20	S-YK04FTNNN	S-YK04SINNN	S-YK04SMNNN	S-YK04FLNNN	S-YK04TCNNN	150
3/4"	25	S-YK06FTNNN	S-YK06SINNN	S-YK06SMNNN	S-YK06FLNNN	S-YK06TCNNN	150
1"	32	S-YK08FTNNN	S-YK08SINNN	S-YK08SMNNN	S-YK08FLNNN	S-YK08TCNNN	150
1-1/4"	40	S-YK10FTNNN	S-YK10SINNN	S-YK10SMNNN	S-YK10FLNNN	S-YK10TCNNN	150
1-1/2"	50	S-YK12FTNNN	S-YK12SINNN	S-YK12SMNNN	S-YK12FLNNN	S-YK12TCNNN	150
2"	63	S-YK16FTNNN	S-YK16SINNN	S-YK16SMNNN	S-YK16FLNNN	S-YK16TCNNN	100
3"	90	S-YK24FTNNN	S-YK24SINNN	S-YK24SMNNN	S-YK24FLNNN	S-YK24TCNNN	60
4"	110	S-YK32FTNNN	S-YK32SINNN	S-YK32SMNNN	S-YK32FLNNN	S-YK32TCNNN	60

PTFE Y-Strainer Part Numbers and Pressure Ratings*

Nominal Size (in.)	Nominal Size (mm)	FNPT Threaded	ANSI Class 150 Flanged	Tri-Clamp	Pressure Ratings (psi)
1/8"	NA	S-YT01FTNNN	N/A	N/A	65
1/4"	NA	S-YT02FTNNN	N/A	N/A	65
3/8"	16	S-YT03FTNNN	N/A	N/A	65
1/2"	20	S-YT04FTNNN	S-YT04FLNNN	S-YT04TCNNN	65
3/4"	25	S-YT06FTNNN	S-YT06FLNNN	S-YT06TCNNN	50
1"	32	S-YT08FTNNN	S-YT08FLNNN	S-YT08TCNNN	50
1-1/4"	40	S-YT10FTNNN	S-YT10FLNNN	S-YT10TCNNN	35
1-1/2"	50	S-YT12FTNNN	S-YT12FLNNN	S-YT12TCNNN	35
2"	63	S-YT16FTNNN	S-YT16FLNNN	S-YT16TCNNN	30
3"	90	S-YT24FTNNN	S-YT24FLNNN	S-YT24TCNNN	25

Standard Mesh Specifications

Particle sizes strained: 1 to 25,400 microns (0.00003" to 1") using either membranes, mesh screens, or drilled holes. Please refer to our *Strainer Screens Technical Bulletin* for details.

*NNN refers to mesh size of screen. Pressure Ratings are maximum long-term operating pressures at room temperature.

Strainer Screens

For FLUOR-O-FLO® Fluoroplastic

Y-Strainers • Basket Strainers • In-Line Strainers

Screens for Micromold FLUOR-O-FLO® fluoroplastic Y, basket, and in-line type strainers are available in a wide variety of sizes and materials.

Particle sizes strained: 1 to 25,400 microns (0.00004" to 1") using either porous membranes, monofilament mesh screens, or drilled holes.

Standard screens: Standard mesh screens are shown in the table following. Coarse mesh available in ETFE, finer mesh available in PEEK:

Material	Nominal Particle Size (Microns)	Nominal Particle Size (Inches)	Approximate Mesh Size (Holes/Lineal inch)
ETFE	1,800	0.071	11
	1,000	0.039	17
	590	0.023	30
	300	0.012	51
PEEK	155	0.0061	65
	85	0.0033	80
	35	0.0014	345
	12	0.0005	400

Chemical resistance:

- ETFE: At ambient temperatures, same as PTFE. Consult factory for higher temperatures.
- PEEK: At ambient temperatures, compatible with almost all chemicals. Consult factory for further details including higher temperatures.

Non-standard options:

- In stock leftovers: We often have leftovers from special jobs. If you don't see what you want, just ask.
- Additional mesh sizes: On special order, other ETFE and PEEK mesh sizes are available.
- Other screen materials: Woven mesh, perforated, and porous membrane screens are available in a variety of other materials and sizes (e.g., PTFE, Hastelloy, Alloy 20, Monel, Tantalum).

For additional information on any of the above, please contact the factory.

MICROMOLD™

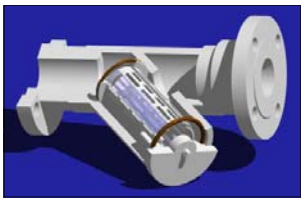
ENGINEERED PLASTIC FLUID-FLOW PRODUCTS

Technical Bulletin
4.1-3a

FLUOR-O-FLO®

PVDF & PTFE Y-Strainers

INSTALLATION AND MAINTENANCE GUIDE



Installation Tips

1. Flow Orientation: Cartridge/Cap projection will point downstream.

2. Axial Alignment: To avoid damage to the housing - ensure that the inlet and outlet piping centerlines are in alignment. For flanged units, ensure connecting flanges are parallel with the strainer's sealing surfaces.

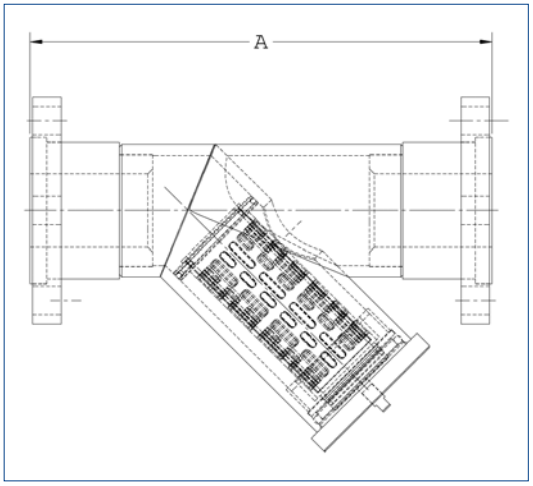
3. Connection Spacing: Observe end-connection spacing, given in table to the right. For flanged units, do not rely on bolts to draw connecting pipes to strainer. Err on the side of less, rather than more spacing to minimize stresses on the housing welds. Allowance for NPT thread, or Socket Weld insertion will further reduce the spacing.

4. Flanged Connection Gaps or Misalignment: If the gap between rigidly mounted inlet and outlet piping flanges is too large to accommodate the strainer (e.g., gap of 1/16" or more), or if the inlet and outlet piping flanges are not carefully aligned (e.g. angular deviation of 2° or more), Micromold can make spacers to fill the gap, fix the alignment, or both. For information on purchasing such spacers, provide the centerline distance plus the angular gap to be filled to your distributor who will provide you with a quotation from Micromold.

If the gap is less than 1/16" or the misalignment is less than 2°, 1/16" gaskets at each end are satisfactory to fill the gap/ misalignment.

5. NPT Threaded Connections: When tightening male NPT threaded pipe or fittings into the female NPT threads of the basket strainer, it is important to minimize the stress on the outlet bosses. To accomplish this, while using a wrench to tighten the male NPT side, grip the strainer side using a strap wrench around the strainer's female NPT outlet boss.

NOTE: We strongly recommend use of Formula-8 Teflon PTFE paste sealant, available from Micromold, on PTFE-to-PTFE NPT threaded joints.



Operating Pressures

Maximum operating pressure varies with temperature, strainer size and material. As a general rule, maximum long-term operating pressures at room temperature are shown in the table below. Short-term operating pressures can be substantially higher with PTFE units since creep would not be a factor. For guidance in higher temperature environments, contact the factory.

End Connection Spacing and Maximum Long-Term Operating Pressures at Room Temperature

Nominal Size		*End Connection Spacing Dim A*	*PVDF Y-Strainer*	*PTFE Y-Strainer*
(in.)	(mm)	(inches)	(PSI)	(PSI)
1/8"	NA	7.4	150	65
1/4"	NA	7.4	150	65
3/8"	16	7.4	150	65
1/2"	20	7.4	150	65
3/4"	25	9.9	150	50
1"	32	9.9	150	50
1-1/4"	40	10.6	150	35
1-1/2"	50	10.6	150	35
2"	63	12.2	100	30
3"	90	14.7	60	25
4"	110	17.3	60	N/A

O-ring Replacement: For O-ring replacement, please refer to our Technical Bulletin 4.1-3b Strainer O-Ring Replacement, which can be found in the Literature Tab of our website www.micromold.com.

O-ring AS 568 Dash Numbers

Nominal Size		*PVDF and PTFE Y-Strainer*	*PVDF Y-Strainer*	*PTFE Y-Strainer*
(in.)	(mm)	Cartridge[1] O-ring	Cap[2] O-ring	Cap[2] O-ring
1/8"	NA	-116	-118	-119
1/4"	NA	-116	-118	-119
3/8"	16	-116	-118	-119
1/2"	20	-116	-118	-119
3/4"	25	-125	-221	-221
1"	32	-125	-221	-221
1-1/4"	40	-226	-228	-228
1-1/2"	50	-226	-228	-228
2"	63	-231	-335	-335
3"	90	-242	-346	-346
4"	110	-356 - N/A	-358	N/A

[1]Standard cartridge o-ring: FEP encapsulated hollow-core silicone rubber
[2]Standard cap o-ring: FEP encapsulated solid-core silicone rubber.

Technical Bulletin 4.1-3a