



aerospace
climate control
electromechanical
filtration
fluid & gas handling
hydraulics
pneumatics
process control
sealing & shielding



MPD Series

Medium Pressure Filters



ENGINEERING YOUR SUCCESS.

MPD Series

Applications

- Circulating Lube Oil Systems
- Power Generation Control Systems
- Steel Mill Control Systems
- Pulp & Paper Control Systems
- Test Stands
- Automotive Stamping Presses
- Offshore & Land Based Oilfield Applications

MPD series filters are an outstanding choice for today's demanding hydraulic control and circulating oil systems. The MPD's innovative modular design, rugged ductile iron construction and coreless element technology, combined with many other features, provide solutions across a broad range of industrial applications.

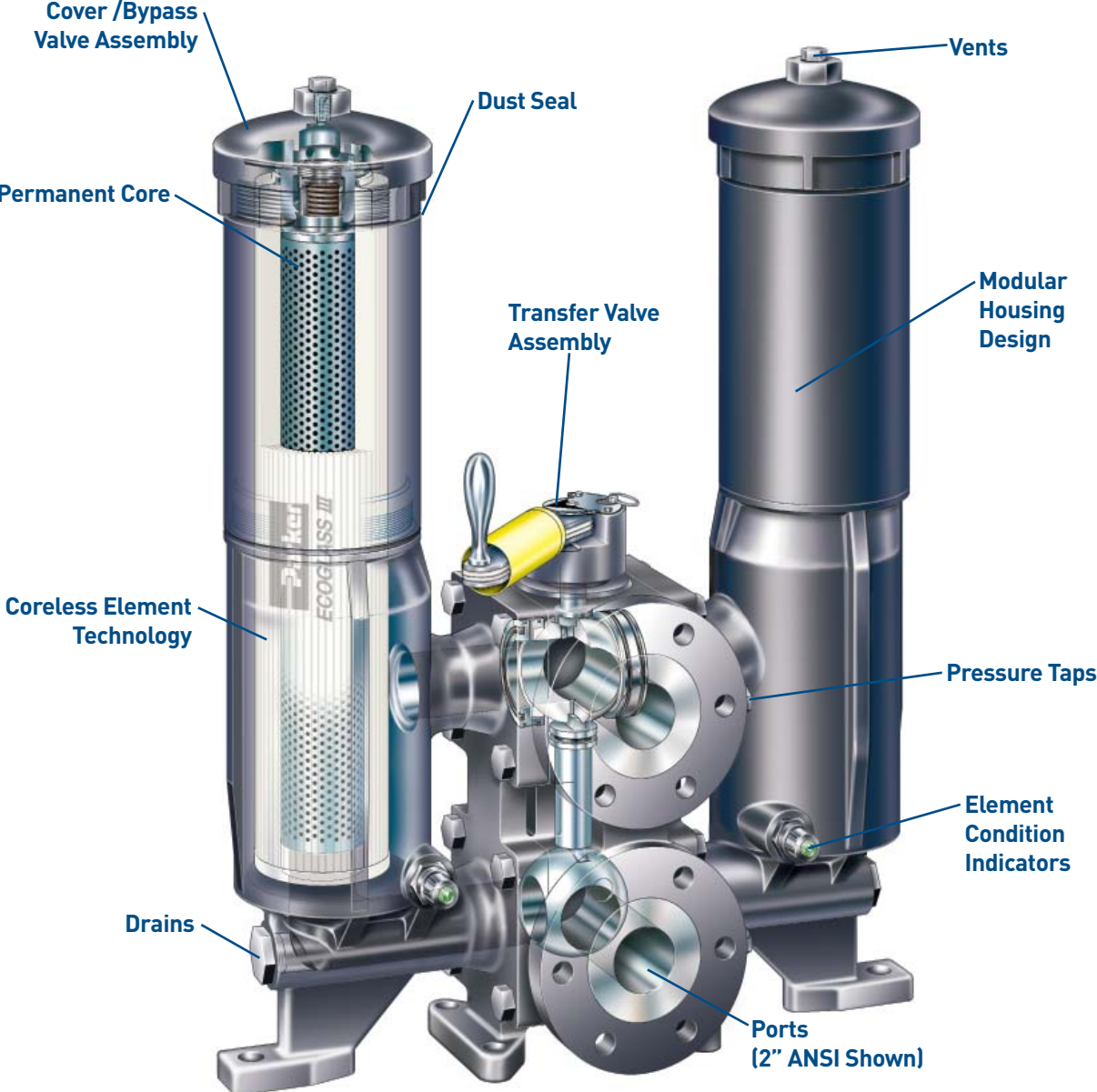
The Modular design provides user flexibility for simplex or duplex applications. Incorporating side chambers as simplex filters along with duplex installations provide common elements across the circuit design.

Construction features like full ported transfer valve with neutral center flow capability offer tremendous benefit in cold start conditions. Standard features like pressure sensing taps, vents, drains and internal pressure equalization make this product incomparable in industry.



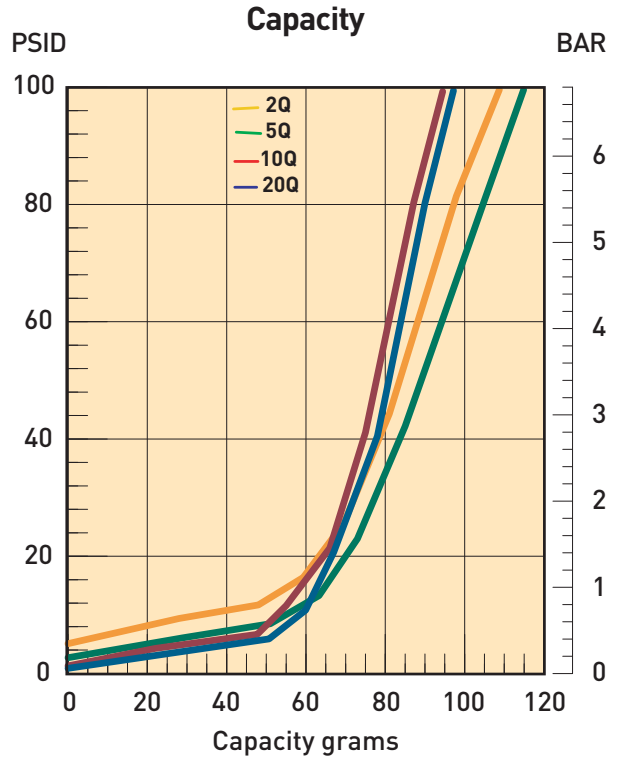
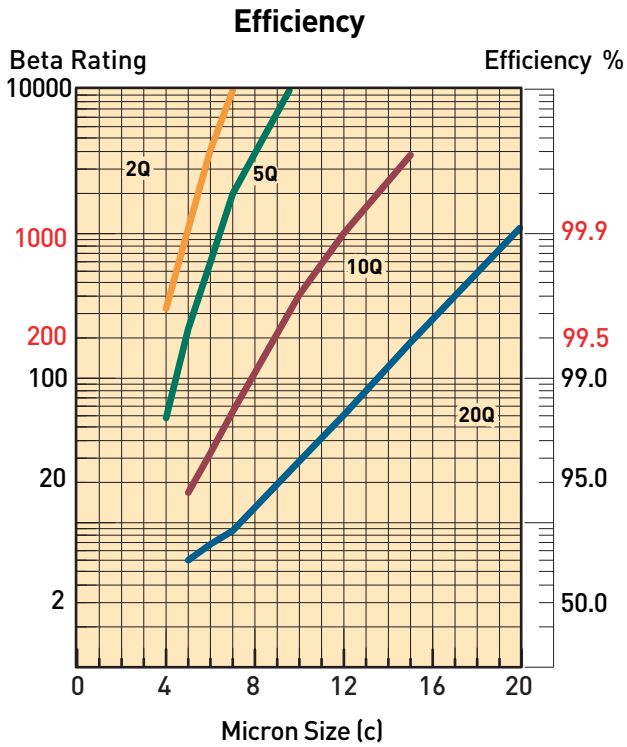
MPD Series

Features



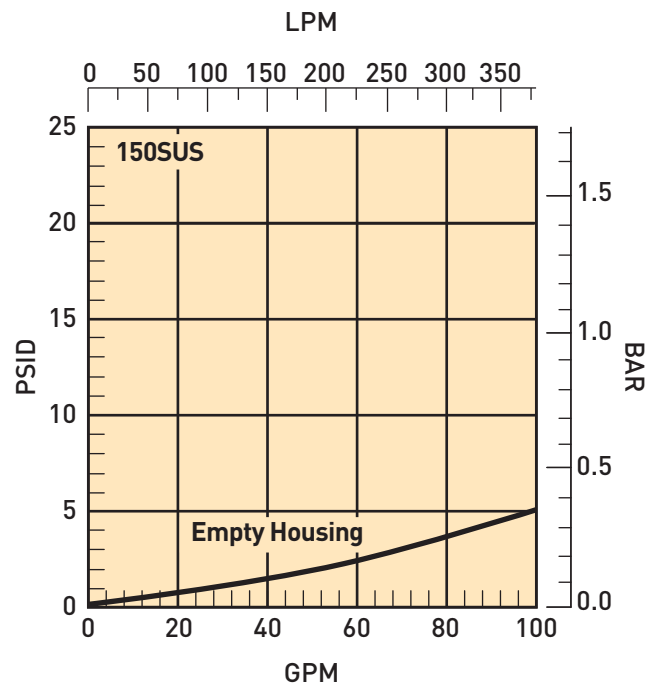
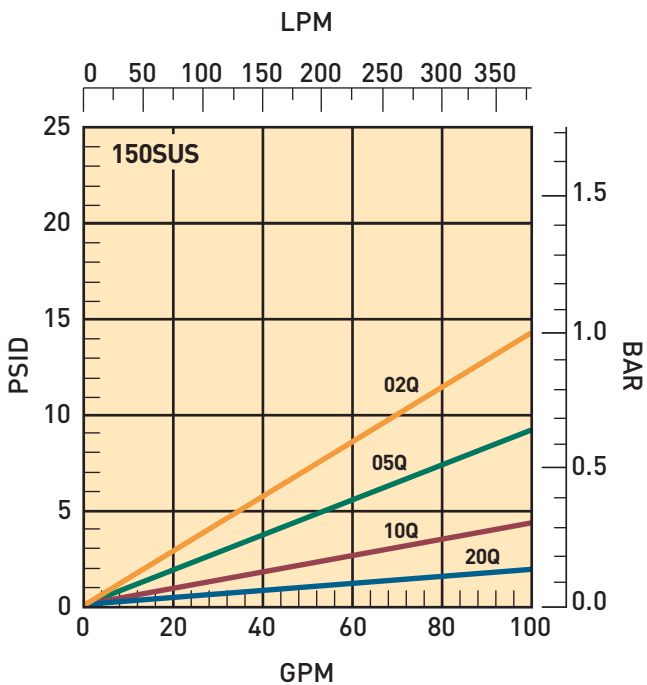
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MPD-1 Element Performance



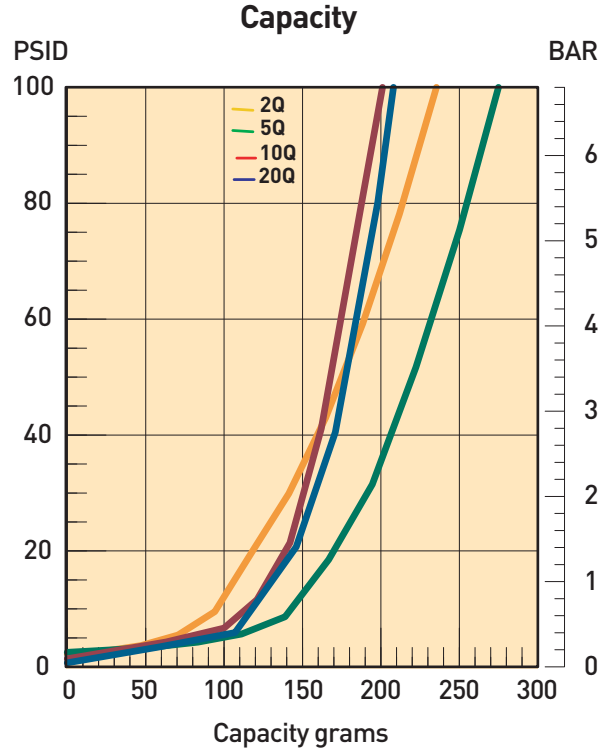
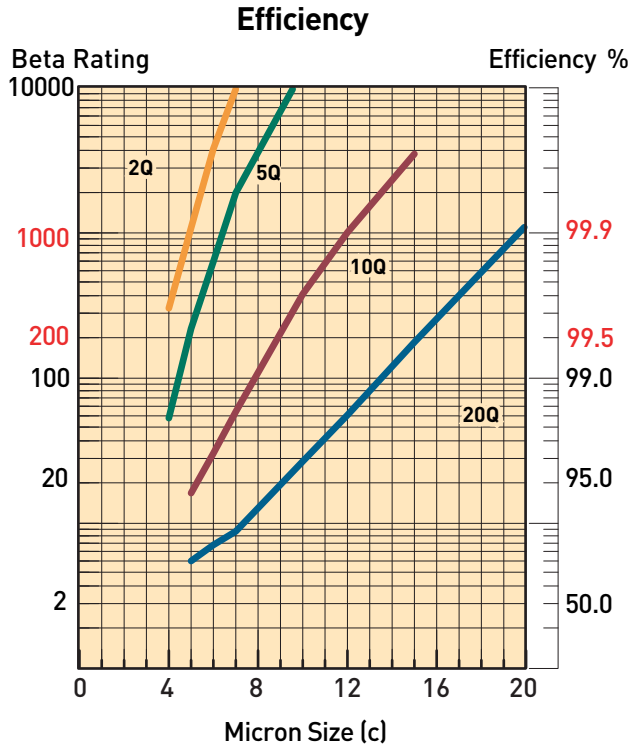
Results typical from Multi-pass tests run per test standard ISO 16889 @ 50 gpm to 100 psid terminal - 10 mg/L BUGL
 Refer to Appendix on pages 264-265 for relationship to test standard ISO 4572.

Flow vs. Pressure Loss



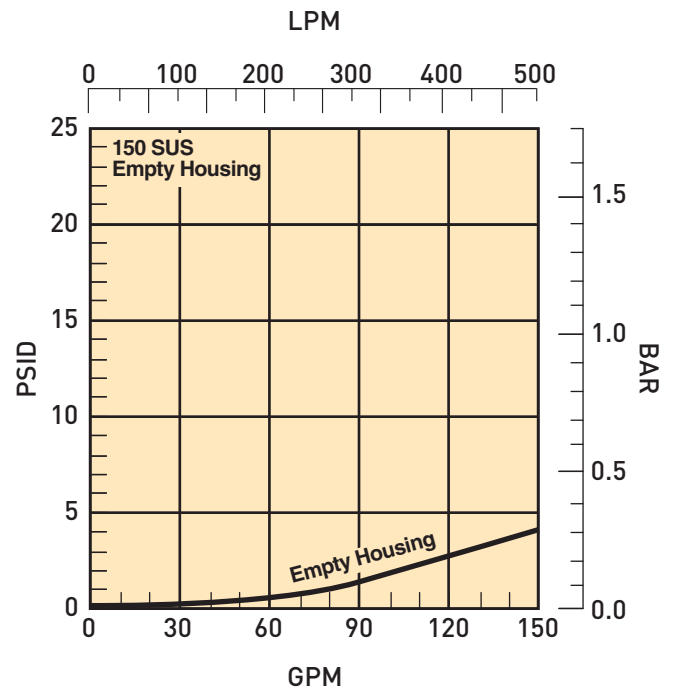
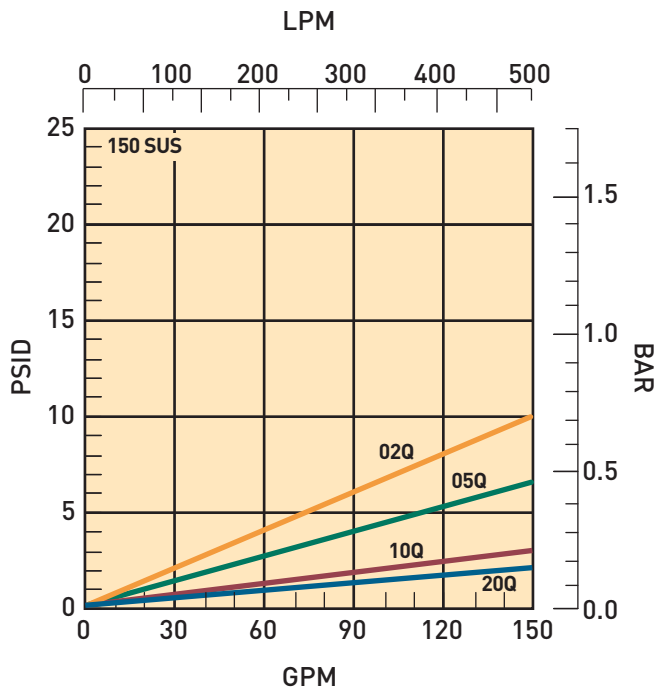
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MPD-2 Element Performance



Results typical from Multi-pass tests run per test standard ISO 16889 @ 80 gpm to 100 psid terminal - 10 mg/L BUGL
 Refer to Appendix on pages 264-265 for relationship to test standard ISO 4572.

Flow vs. Pressure Loss



MPD Series

Replacement Elements

Ecoglass III represents the merging of high performance filtration technology with environmentally conscious engineering. The Ecoglass III line of replacement elements features 100% non-metallic construction.

The design reduces solid waste and minimizes disposal costs for industry. The non-metallic construction means lightweight elements (60% less weight) for easier servicing.

The Ecoglass III elements utilize the same proprietary media design as our Microglass III line of replacement elements.

With Ecoglass III, a reusable core is installed into the filter housing and remains in service throughout the life of the assembly.



Microglass III Replacement Elements

Microglass III represents a leap forward in the performance obtainable in hydraulic and lube filter elements.

The unique multi-layer design combines high efficiencies with exceptional dirt holding capacities for performance that is unequalled in the industry today. This performance is further enhanced in the MPD series with the introduction of the deep pleat design. The deep pleat element design increases the amount of media in the element and therefore increases capacity.

With Microglass III, you do not have to make a compromise between efficiency and capacity; you can have both.

Feature	Advantage	Benefit
<ul style="list-style-type: none"> Modular design filter 	<ul style="list-style-type: none"> Use a simplex or duplex 	<ul style="list-style-type: none"> Reduced installation due to common elements Application flexibility
<ul style="list-style-type: none"> Top access cover 	<ul style="list-style-type: none"> Remove element from top Lighter than removing entire bowl 	<ul style="list-style-type: none"> No oil mess
<ul style="list-style-type: none"> Visual and electrical indicators 	<ul style="list-style-type: none"> Know exactly when to service elements 	<ul style="list-style-type: none"> Keeps system clean
<ul style="list-style-type: none"> Drain port 	<ul style="list-style-type: none"> Drain all oil from assembly prior to servicing 	<ul style="list-style-type: none"> Eliminates cross contamination
<ul style="list-style-type: none"> Vent port 	<ul style="list-style-type: none"> Purges all trapped air in filter 	<ul style="list-style-type: none"> Get the maximum performance from elements Prevents a "spongy" system
<ul style="list-style-type: none"> Multipass tested elements (per ANSI/NFPA T3.10.8.8 R1-1990) 	<ul style="list-style-type: none"> Element performance backed by recognized test standards 	<ul style="list-style-type: none"> Elements selected will have consistent performance levels
<ul style="list-style-type: none"> Option of Ecoglass III or Microglass III elements 	<ul style="list-style-type: none"> Multi-layer media Coreless as standard HF4 as option 	<ul style="list-style-type: none"> High capacity with high efficiency No performance loss from pleat bunching
<ul style="list-style-type: none"> Equalizing valve & manifold 	<ul style="list-style-type: none"> No external plumbing 	<ul style="list-style-type: none"> Safety & reliability
<ul style="list-style-type: none"> Upstream & downstream sensing ports 	<ul style="list-style-type: none"> Add additional instrumentation 	<ul style="list-style-type: none"> Product flexibility

MPD Series

Specifications

Specifications: MPD Series

Pressure Ratings:

Maximum Allowable Operating Pressure (MAOP):

3000 psi (206.9 bar) SAE port — MPDH only

1200 psi (81.6 bar) SAE port;

500 psi (34 bar) ANSI port

Rated Fatigue Pressure:

3000 psi (206.9 bar) SAE port — MPDH only

1200 psi (81.6 bar) SAE port;

500 psi (34 bar) ANSI port

Design Safety Factor: 3:1

*Consult factory for higher operating pressures

Operating Temperatures:

-15°F (-26°C) to 160°F (71°C)

*Consult factory for temperatures outside specified range

Element Collapse Rating:

Standard: 150 psid (10.3 bar)

High collapse Microglass only:

1200 psid (81.6 bar) (SAE);

500 psid (34 bar) (ANSI)

Materials:

Transfer Valve: Ductile Iron

Side Chamber: Ductile Iron

Side Chamber Extension: Steel

Cover: Ductile Iron (MPD), Carbon Steel (MPDH)

Equalizing Valve and Manifolds: Steel

Shipping Weights (approximate):

MPD-1: 215 lbs. (98 kg)

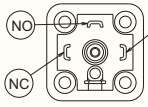
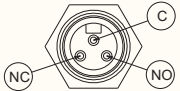
MPD-2: 285 lbs. (129 kg)

Element Condition Indicators:

Type M2 Series: Visual, auto-resetting with a red indication at the designated differential pressure.

In the clean condition, indication is green.

Type E Series: Electrical/Visual, auto-resetting with a red indication at the designated differential pressure. In the clean condition, indication is green. Rated 5 Amps at 125/250 VAC; 5 Amps resistive, 3 amps inductive (sea level) at 28 VDC; SPDT.

'E' SERIES ELECTRICAL INDICATOR CONNECTOR CHART		
CONNECTOR	MODEL CODING	WIRING / MALE CONNECTOR
DIN 43650 3 POLE + EARTH DIN 50005 PLUG PIN CODE	E2	
3 PIN ANSI/B93.55M (DIMENSIONS ONLY)	E3	

Type H Series: Heavy duty electrical/no visual, rated 0.25 Amps resistive, 12 to 28 VDC and .25 Amps resistive, 110-175 VAC; 5 watts; SPDT.

'H' SERIES ELECTRICAL INDICATOR CONNECTOR CHART		
CONNECTOR	MODEL CODING	WIRING / MALE CONNECTOR
½"-14 NPT CONDUIT ADAPTER W/24" WIRE LEADS (FOR ALL LIGHT TO HEAVY CONDUIT USES)	H	BLACK (NO), BLUE (NC), AND WHITE (C)
NONE: 12" WIRE LEADS ONLY	H1	BLACK (NO), BLUE (NC) AND WHITE (C)

No indicator P option: plugged indicator port.

Contact factory for other available indicator options & types.

Element Servicing Instructions: MPD

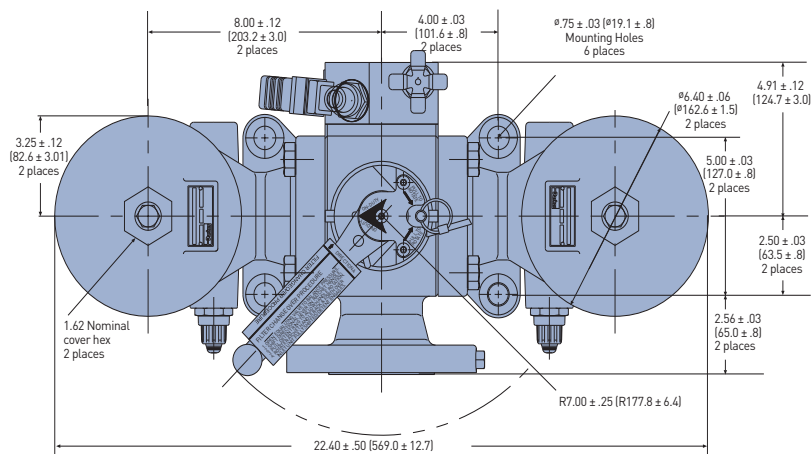
The system does not need to be shut down to service elements; however, pressure must be equalized at both side chambers of the duplex filter before performing transfer valve changeover.

1. Black flow arrow on top of the transfer valve points to the on-duty chamber.
2. Open the equalizing valve (counter-clockwise) to balance pressure at the side chambers.
3. Shift directional lever on the ratchet handle to switch the ratchet direction.
4. Pull detent ring up to disengage the locking pin and allow handle to rotate.
5. Rotate ratchet handle back and forth over the inlet port until the transfer valve is fully shifted and the detent locking pin engages.
6. Slack flow arrow now points to the new on-duty side chamber.
7. Close equalizing valve (clockwise) to isolate the side chambers.
8. Loosen new off-duty vent plug (counter-clockwise) approximately 2 turns. Do not thread out complete.
9. Remove drain plug (counter-clockwise) from new off-duty chamber to lower oil level.
10. Remove new off-duty chamber cover by rotating (counter-clockwise) until unthreaded then lift from chamber.
11. Pull element out from chamber. Discard used disposable elements as they are not cleanable. With Ecoglass elements the permanent core will remain in the chamber.
12. Install new element by centering it on the element locator in the bottom of the chamber and pushing down into place. For Ecoglass elements slide all the way down onto the permanent core.
13. Inspect cover o-rings and replace if necessary.
14. Install cover onto the chamber by rotating clockwise) and tightening to 90-100 ft.-lbs.
15. Install and tighten drain plug (clockwise) to 60-70 ft.-lbs.
16. Open equalizing valve (counter-clockwise) to purge air from the new off-duty chamber.
17. When oil flows from the vent close the equalizing valve (clockwise).
18. Tighten new off-duty vent plug (clockwise) to 15-20 ft.-lbs.

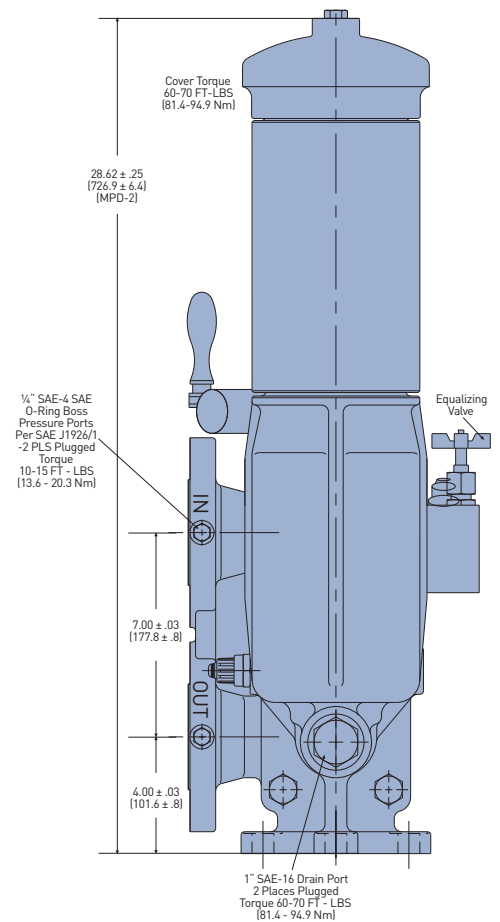
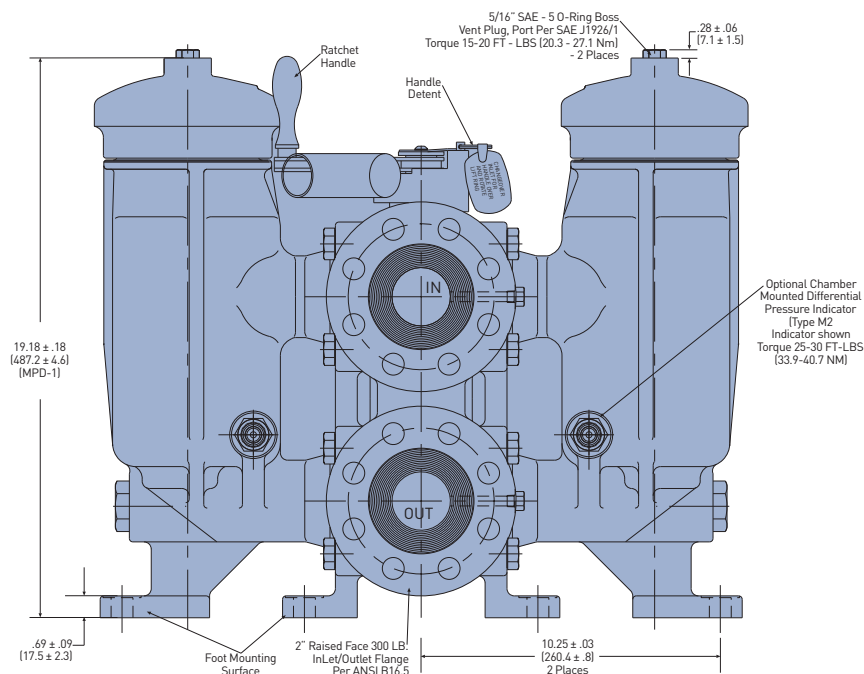
MPD Series

Specifications

ANSI Dimensional Drawing



Linear Measure: inch [millimeter]

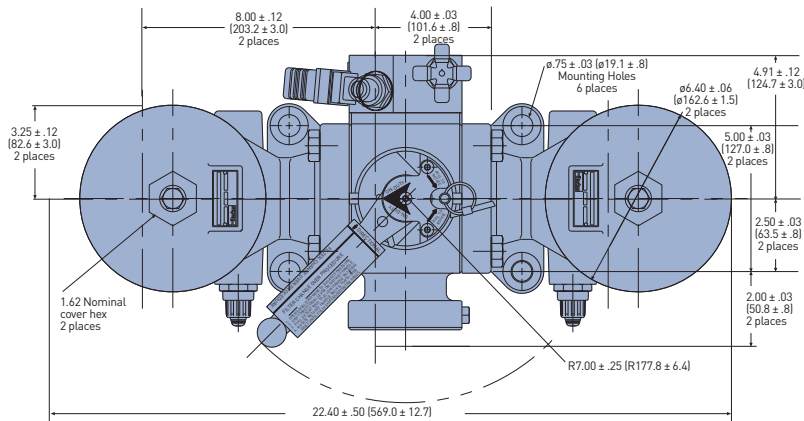


Drawings are for reference only.
Contact factory for current version.

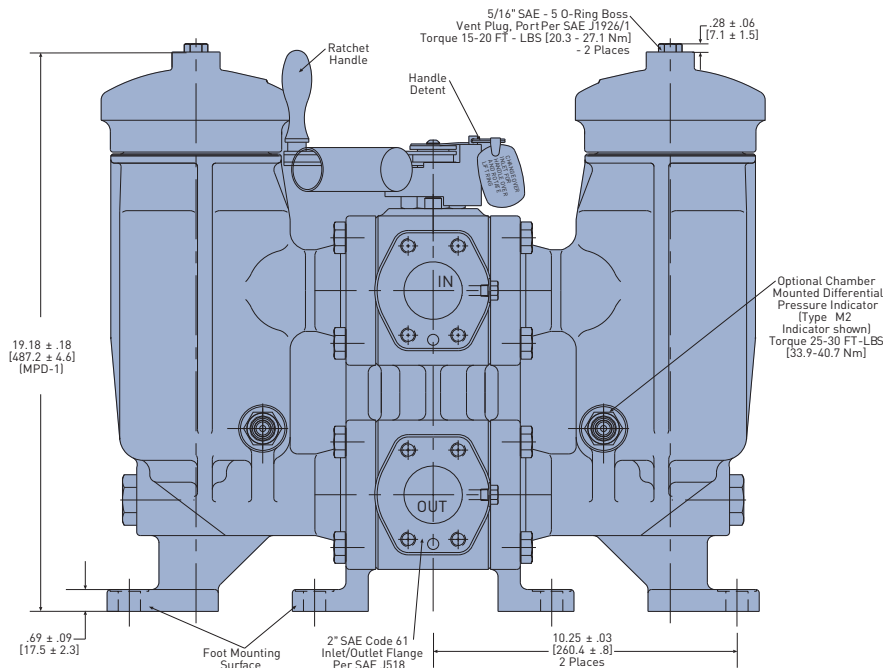
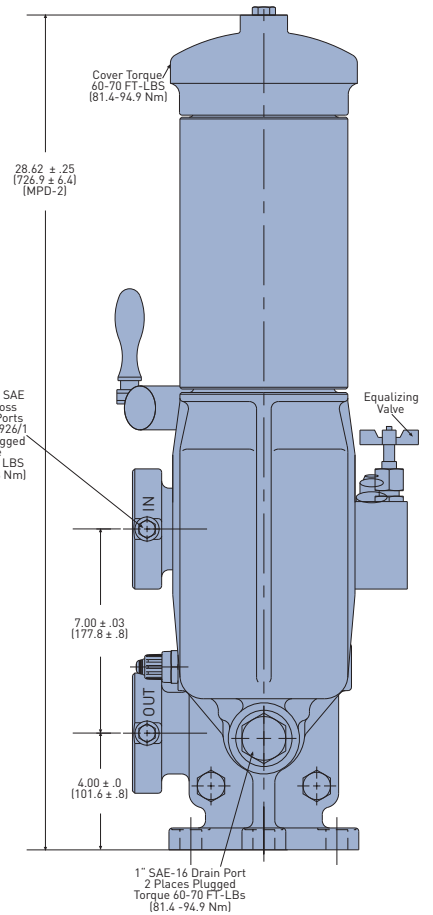
MPD Series

Specifications

SAE Dimensional Drawing



Linear Measure: inch [millimeter]



Drawings are for reference only.
Contact factory for current version.

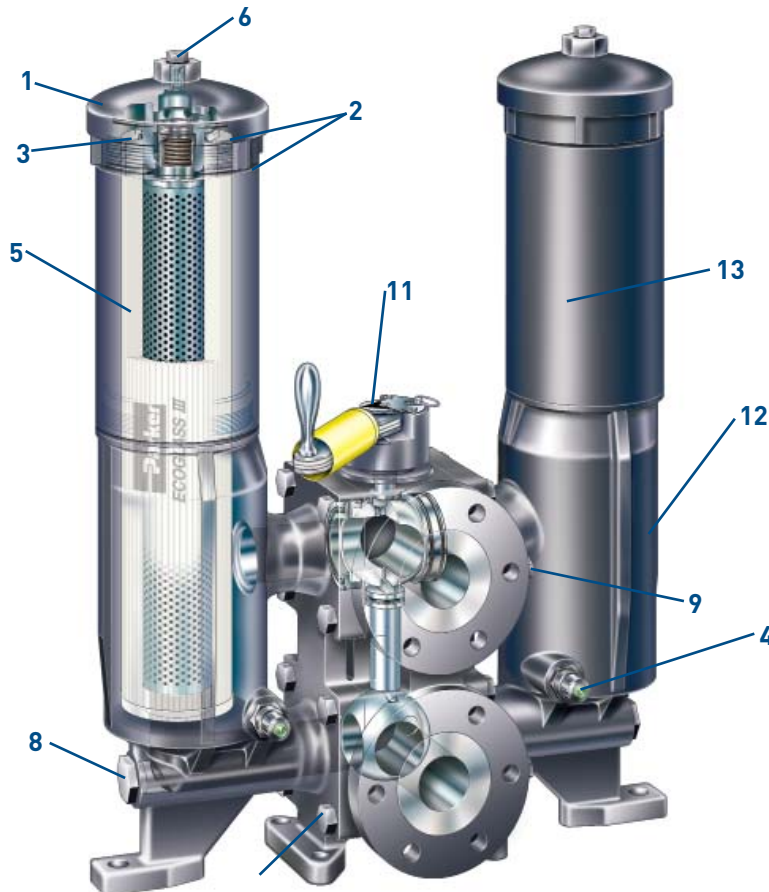
MPD Series

Parts List

Index	Description	Element Type		Index	Description	Element Type	
		Ecoglass	Microglass			Ecoglass	Microglass
1	Cover Assembly w/ 25psi bypass w/ 50psi bypass w/ no bypass	936964	936964	6	Vent Plug	935466	935466
		935965	935965	7**	Vent Plug O-ring	V93905	V93905
		935966	935966	8	Drain Plug w/ O-ring	928364	928364
2	Cover (O-ring & Dust Seal)	V72247	V72247	9	Pressure Tap Plug w/ O-ring	928882	928882
3	Cover Backup Ring	935419	935419	10**	Equalizing Valve	928118	928118
4	Indicator P option-indicator port plug M2 25psi M2 50psi E2 25psi E2 50psi E3 25psi E3 50psi H 25psi H 50psi H1 25psi H1 50psi	925515	925515	11	Transfer Valve Assembly ANSI 2" w/ indicator port SAE 2" w/ indicator port	935968	935968
		932026	932026			935969	935969
		932027	932027	12	Housing Assembly right side w/ indicator port right side w/o Indicator port left side w/ indicator port left side w/o Indicator port	935970	935972
		931153	931153			935974	935975
		929599	929599			935971	935973
		932773	932773			935974	935975
		929596	929596	13	Housing Extension (MPD-2)	935489	935489
		933053	933053			922812	922812
		932905	932905	14	5/8" - 11x1 1/4" HHCS	922812	922812
		933054	933054			15**	Seal Kit-Transfer Valve
932906	932906	16**	Seal Kit-Housing Assembly			Consult Factory	
5	Element	(see chart on model code page)					

* Consult factory for MPDH components

** Not Shown



MPD Series

How to Order

BOX 1	BOX 2	BOX 3	BOX 4	BOX 5	BOX 6	BOX 7	BOX 8
	MPD	1	10QE	NE2	25	B2	1

BOX 1: Seals	
Symbol	Description
None	Nitrile
F3	Fluorocarbon

BOX 2: Model Number	
Symbol	Description
MPD	Duplex filter
MPDH	High pressure, 3000 psi duplex filter

BOX 3: Element Length	
Symbol	Description
1	Single
2	Double

BOX 4: Element Media	
Symbol	Description
20QE	Ecoglass III
10QE	Ecoglass III
05QE	Ecoglass III
02QE	Ecoglass III

BOX 5: Indicators	
Symbol	Description
M2	Visual/Auto reset
H	Electrical (w/1/2" npt conduit connection and wire pads)
H1	Electrical (w/1/2" leads only)
E2	Electrical (DIN 43650 Hirschman style connection)
E3	Electrical (ANSI/B93.55M 3-Pin Brad Harrison style connection)
P	Indicator port plugged
N	No side chamber indicator port

Note: Two (2) symbols required. First symbol denotes side chamber indicator mounted on inlet side. Second symbol denotes indicator on equalizing valve manifold.

BOX 6: Bypass	
Symbol	Pressure Setting
25	25 PSI (1.7 bar) setting
50	50 PSI (3.5 bar) setting

If "no bypass" option (-11) and an indicator is selected, above symbols (25,50) denote indicator setting

BOX 7: Ports	
Symbol	Description
B2*	2" 300 lb RF ANSI Flange (500 psi)
Y9	2" SAE 4 Bolt Code 61 Flange Face

Note: * Only available for MPD.

BOX 8: Options	
Symbol	Description
1	None
11	No Bypass

Please note the bold options reflect standard options with a reduced lead-time of (8) weeks or less. Consult factory on all other lead-time options.

Ecoglass III Replacement Elements (Fluorocarbon)

Media	MPD-1	MPD-2
20QE	935519Q	935521Q
10QE	935518Q	935520Q
05QE	935517Q	935458Q
02QE	935516Q	935488Q

HF4 Replacement Elements (Fluorocarbon)

Media	Element Collapse Rating	Single Length	Double Length
3 Micron	150 psi	HF41L3VQ	HF42L3VQ
3 Micron	2000 psi	HF41H3VQ	HF42H3VQ
5 Micron	150 psi	HF41L5VQ	HF42L5VQ
5 Micron	2000 psi	HF41H5VQ	HF42H5VQ
10 Micron	150 psi	HF41L10VQ	HF42L10VQ
10 Micron	2000 psi	HF41H10VQ	HF42H10VQ
20 Micron	150 psi	HF41L20VQ	HF42L20VQ
20 Micron	2000 psi	HF41H20VQ	HF42H20VQ