



DTF Drum Top Filter Unit 1 GPM Flow Rate · High Viscosity Fluids

Our **Drum Top Filter Unit** sits securely on top of a 55 gallon drum. It is constructed with strong, powder coated steel, all welded frame. Our DTF Filter Unit is the ideal filtration system for recirculation or transferring fluids in and out of a 55 gallon drum.

The **DTF Filter Unit** is ideal for high viscosity lubrication and hydraulic oils. It can be used for filtering new fluids during transfer and replenishment, as well as filtering fluids currently in service. The two stage filtration offers the advantage of removing both particulate and water contamination.

The **DTF Filter Unit** includes sampling ports on the inlet and outlet connections to provide ISO Code comparisons. This will allow you to meet your target ISO Cleanliness Codes and prolong the life of your equipment and fluids.

Advantages:

BETA 1000 Rated Filter Elements per ISO 16889 Standards

SSU Chart

5

2,323

3,305

4,062

7,199

7,654

6,795

Calculations above are based on filtering ISO320 @ 1 GPM at the desired PSID. Effective filter sizing requires consideration of flow rate, viscosity (operating and cold start), fluid type and degree

*Manufacturer's maximum recomm

PSID

15

7,000

9,915

12,186

21,597

22,961

20,386

20

9,292

13,220

16,248

28,795*

30,614*

27,180*

10

4,646

6,610

8,124

14,398

15,307

13,590

nded viscosity is 25 000 SSU

- Water Removal Filter Elements
- Low Center of Gravity
- ISO Viscosity Range of ISO 22 to ISO 320

Micron Rating

1µm Microglass

3µm Microglass

6µm Microglass

12µm Microglass

25µm Microglass

25µm Water Absorbing

Features:

- 1 GPM Flow Rate For High Viscosity Fluids*
- 3/4" NPT Connections
- Powder Coated Steel, All Welded Frame**
- 25 PSID By-pass Setting Standard •
- 2 Stage Filtration
- **Differential Pressure Indicators**
- Sample Ports
- Lift Handle
- * 5 GPM Option Available

** Aluminum Frame Option is available





Sample Ports



Differential Pressure Indicators

New oil is clean? On average, new oil delivered from a drum has a cleanliness level of ISO Code 22/21/19. Water content from new oil averages 200 to 300 PPM.





DRUM ADAPTER KIT

Before Installation:

- This adapter is intended for use on a 55 Gallon Drum, but can be modified to fit other standard sizes. It requires that the drum have a 2" NPT and 3/4" NPT Connections.
- 2. Verify that the storage drum is upright and that there is at least 11 inches of clearance above the drum.

Items Included in this Kit:

- 1. Drum Breather Adapter
- 2. Drain and Fill tube with quick disconnect couplings
- 3. Breather Adapter
- 4. Breather

Installing Adapter to the Reservoir:

- 1. Read and follow the Before Installation Guide at the beginning of this instruction sheet.
- 2. Thread the Drum Adapter into the 2" NPT port on the top Surface of the drum.
- 3. Insert the fill and drain tubes into the two 3/4" holes in the Drum Adapter.
- 4. Thread the Breather Adapter into the 3/4" NPT port on the top surface of the drum.
- 5. Thread the Breather into the Breather Adapter. Hand tighten only.

Additional Support:

PFP may be able to provide special fittings and fasteners which will aid in the installation of this product.

Please contact Technical Support with questions regarding in the installation and/or servicing of this product at 888-679-6645.



Phone: 215-679-6645 · Fax: 215-679-6648 · sales@precisionfiltration.com · www.precisionfiltration.com





SFC Spin-On Filter Cart Flow rate up to 22 gpm (82 lpm)

Our **SFC Spin-On Filter Cart** is ideal for hydraulic fluids (ISO VG22 ~ ISO VG68). Our **SFC Filter Cart** is designed for filtering new fluids during transfer and replenishment, flushing fluids already in service, removing particulate and water contamination, and conditioning bulk oil before use. The two stage filtration offers the advantage of removing both particulate and water contamination.

The **SFC Filter Cart** is constructed with strong, lightweight aluminum cart with puncture-resistant tires. It is available with Beta 1000 rated Microglass and Water Absorbing filter elements. It also includes oil sampling ports on the inlet and outlet connections to provide ISO Code comparisons. This will allow you to meet your target ISO Cleanliness Codes and prolong the life of your equipment and fluids.

Advantages:

- BETA 1000 Rated Filter Elements per ISO 16889 Standards
- Water Removal Filter Elements
- Oil Sampling Ports
- True Differential Indicators
- 25 PSID By-pass
- ISO Viscosity Range of ISO VG22 to ISO VG68

Electrical Service Requirements

115VAC 60Hz 1P / 120VAC 50Hz 1P (standard) see options table for other selections

Electric Motor Specifications

TEFC or ODP, 56C frame SFC5: 1 HP, 1750 RPM, thermal overload reset SFC10: 1 HP, 1750 RPM, thermal overload reset SFC22*: 3 HP, 1750 RPM, thermal overload reset *230VAC 1P or 440VAC 3P required for SFC22

Recommended Viscosity Range

SFC5*: 28 SSU ~ 2000 SSU, 6 cSt ~ 400 cSt SFC10*: 28 SSU ~ 1000 SSU, 6 cSt ~ 200 cSt SFC22*: 28 SSU ~ 1000 SSU, 6 cSt ~ 200 cSt *At maximum viscosity clean element pressure drop with 3M media code < 12 psid/0.85 bar. Check maximum viscosity of oil in coldest condition. For high viscosity lubricating oils consider the LCFC series filter cart.

Pump Specifications

Gear pump Internal relief full flow 100 psi, 6 bar standard

Motor Options

Class 1 explosion proof Pneumatic Pump with Pulsation Dampener 50 Hertz, 3 Phase

Materials of Construction

Assembly Frame: Lightweight Aluminum Tires: Rubber (puncture-resistant) Filter Assembly: Aluminum head, Steel canister 25 psid bypass valve True differential pressure indicator Hoses: Med Pressure Hydraulic Wands: Stainless Steel Wands Standard

Operating Temperature

Nitrile (Buna) -40f to 150f -40c to 66c Fluorocarbon (Viton)* -15f to 200f -26c to 93c

*High temperature / phosphate ester design **Fluid Compatibility**

Petroleum and mineral based fluids (standard). For polyol ester, phosphate ester, and other specified synthetics use Viton seal option or contact factory.





Filtering New Oil - Particulate and Water

New oil is typically not clean oil, and might not be suitable for use in hydraulic and lube systems. During the production and transportation process new oil collects high levels of solid contaminant and water.

A common ISO code for new oil is 24/22/19. New oil is one of the worst sources of particulate contaminant system ingression. The SFC will effectively remove free water while capturing particulate with high efficiency. Free and dissolved water in hydraulic and lube systems leads to accelerated abrasive wear, corrosion of metal surfaces, increased electrical conductivity, viscosity variance, loss of lubricity, fluid additive breakdown, bearing fatigue, and more. The SFC series filter cart includes a wide range of element combination options to tackle any challenge.

Flush and Condition Existing Systems

NEW OIL

The SFC is also effective for condition fluids that are already in service. Equipping hose ends and reservoirs with quick disconnect fittings allows you to use the SFC as a portable side loop system that can service several machines.



Reducing ISO Codes

Cleaner Fluid . . . Longer Component & Fluid Life . . . More UpTime! **Roller Contact Bearing**

Laboratory and field tests prove time and again that our filters consistently deliver lower ISO fluid cleanliness codes.

Improving fluid cleanliness means reduced downtime, more reliable equipment, longer fluid life, fewer maintenance hours, and reduces costly component replacement or repair expenses.

Develop a Fluid Cleanliness Target

PFP will help you develop a plan to achieve and maintain target fluid cleanliness. Arm yourself with the support, training, tools and practices to operate more efficiently, maximize uptime and save money.

New Oil is Typically Dirty Oil . . .

New oil can be one of the worst sources of particulate and water contamination.

25/22/19 is a common ISO code for new oil which is not suitable for hydraulic or lubrication systems. A good target for new oil cleanliness is 16/14/11.





COOL ANT FILTER CARTS

TRANSFER/REPLENISHMENT CARTS





MINI	MAX HA	AND
HELD	FILTER	UNI

Current	Target	Target	Target	Target
ISO Code				
	2 x Life	3 x Life	4 x Life	5 x Life
28/26/23	25/22/19	22/20/17	20/18/15	19/17/14
27/25/22	23/21/18	21/19/16	19/17/14	18/16/13
26/24/21	22/20/17	20/18/15	19/17/14	17/15/12
25/23/20	21/19/16	19/17/14	17/15/12	16/14/11
25/22/19	20/18/15	18/16/13	16/14/11	15/13/10
23/21/18	19/17/14	17/15/12	15/13/10	14/12/9
22/20/17	18/16/13	16/14/11	15/13/10	13/11/8
21/19/16	17/15/12	15/13/10	13/11/8	-
20/18/15	16/14/11	14/12/9	-	-
19/17/14	15/13/10	13/11/8	-	-
18/16/13	14/12/9	-	-	-
17/15/12	13/11/8	-	-	-
16/14/11	13/11/8	-	-	-
15/13/10	13/11/8	-	-	-
14/12/9	13/11/8	-	-	-

Hydraulic Component

Current	Target	Target	Target	Target
ISO Code				
	2 x Life	3 x Life	4 x Life	5 x Life
28/26/23	25/23/21	25/22/19	23/21/18	22/20/17
27/25/22	25/23/19	23/21/18	22/20/17	21/19/16
26/24/21	23/21/18	22/20/17	21/19/16	21/19/15
25/23/20	22/20/17	21/19/16	20/18/15	19/17/14
25/22/19	21/19/16	20/18/15	19/17/14	18/16/13
23/21/18	20/18/15	19/17/14	18/16/13	17/15/12
22/20/17	19/17/14	18/16/13	17/15/12	16/14/11
21/19/16	18/16/13	17/15/12	16/14/11	15/13/10
20/18/15	17/15/12	16/14/11	15/13/10	14/12/9
19/17/14	16/14/11	15/13/10	14/12/9	14/12/8
18/16/13	15/13/10	14/12/9	13/11/8	-
17/15/12	14/12/9	13/11/8	-	-
16/14/11	13/11/8	-	-	-
15/13/10	13/11/8	-	-	-
14/12/9	13/11/8	-	-	-



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click here to return to website



LCFC Filter Cart Above Shown with 22 GPM Pump and Optional Spin-On Filter Strainer

Advantages:

- BETA 1000 Rated Filter Elements per ISO 16889 Standards
- Single or Double Length Element Options
- Water Removal Filter Elements
- Condition Bulk Oil Before Use
- Extend Service Life of Oil
- ISO Viscosity Range of ISO 22 to ISO 320





Standard Features:*

- 5, 11, and 22 GPM Flow Rates
- 115 VAC 60 Hz 1P Electrical Service
- Internal Pressure Relief on pump @ 100 PSI
- 45 PSID True Differential Pressure Gauge
- (2) Oil Sampling Ports
- (1) Vent Relief Valve
- (2) Medium Pressure Hydraulic Hoses *Additional options are available upon request. All carts can be completely customized to your specific application.



New oil is clean? On average, new oil delivered from a drum has a cleanliness level of ISO Code 22/21/19. Water content from new oil



Precision Filtration Products - P.O. Box 218 Pennsburg, PA 18073 Phone: 215-679-6645 · Fax: 215-679-6648 · sales@precisionfiltration.com · www.precisionfiltration.com

LCFC Filter Cart Flow Rates Up to 22 GPM (82 LPM)

Our LCFC Liquid Cartridge Filter Cart is the ideal filtration system for the recirculating or transferring of fluids in and out of reservoirs and holding tanks. It is ideal for high viscosity lubrication and hydraulic oils.

The LCFC is the perfect filtration unit to use when high levels of particulate contamination are present. The high surface area yields extended service life of the filter elements reducing downtime and filter change-outs.

The LCFC Filter Cart is manufactured with U.S. made epoxy coated steel. It has large 10" non-shred rubber wheels with swivel/locking casters for ease of portability. All tubing is 304 Stainless Steel for a large compatibility range.

The standard cart is compatible with petroleum and mineral based fluids. For polyol ester, phosphate ester, and other specified synthetics use our Viton seal option or contact factory.

Recommended Viscosity Range*

5 GPM*: 28 SSU ~ 4000 SSU, 6 cSt ~ 800 cSt 11 GPM*: 28 SSU ~ 4000 SSU, 6 cSt ~ 800 cSt 22 GPM*: 28 SSU ~ 2000 SSU, 6 cSt ~ 400 cSt *At maximum viscosity clean element pressure drop on 6M media code < 10 psid. Please check maximum viscosity of oil in coldest condition.



Particulate and Water Removal from New Oil

New oil may not be suitable for use in some hydraulic and lube systems because of contamination caused during the production and transportation process. High levels of particulate and water contamination may collect in the oil causing it to be out of code. A common ISO Code for new oil is 24/22/19.

Our LCFC Filter Cart is ideal for removing free water contamination, as well as, capturing particulate to help you achieve your ISO Cleanliness Codes. If free or dissolved water are present it can lead to and accelerate abrasive wear, corrosion, system failure and many more. All of which lead to costly repairs and downtown.







Reducing ISO Codes

Cleaner Fluid . . . Longer Component & Fluid Life . . . More UpTime! **Roller Contact Bearing**

Laboratory and field tests prove time and again that our filters consistently deliver lower ISO fluid cleanliness codes.

Improving fluid cleanliness means reduced downtime, more reliable equipment, longer fluid life, fewer maintenance hours, and reduces costly component replacement or repair expenses.

Develop a Fluid Cleanliness Target

PFP will help you develop a plan to achieve and maintain target fluid cleanliness. Arm yourself with the support, training, tools and practices to operate more efficiently, maximize uptime and save money.

New Oil is Typically Dirty Oil . . .

New oil can be one of the worst sources of particulate and water contamination.

24/22/19 is a common ISO code for new oil which is not suitable for hydraulic or lubrication systems. A good target for new oil cleanliness is 16/14/11





COOL ANT FILTER CARTS

TRANSFER/REPLENISHMENT CARTS



VACUUM DEHYDRATORS





HELD FILTER UNIT

Current	Target	Target	Target	Target
ISO Code				
	2 x Life	3 x Life	4 x Life	5 x Life
28/26/23	25/22/19	22/20/17	20/18/15	19/17/14
27/25/22	23/21/18	21/19/16	19/17/14	18/16/13
26/24/21	22/20/17	20/18/15	19/17/14	17/15/12
25/23/20	21/19/16	19/17/14	17/15/12	16/14/11
25/22/19	20/18/15	18/16/13	16/14/11	15/13/10
23/21/18	19/17/14	17/15/12	15/13/10	14/12/9
22/20/17	18/16/13	16/14/11	15/13/10	13/11/8
21/19/16	17/15/12	15/13/10	13/11/8	-
20/18/15	16/14/11	14/12/9	-	-
19/17/14	15/13/10	13/11/8	-	-
18/16/13	14/12/9	-	-	-
17/15/12	13/11/8	-	-	-
16/14/11	13/11/8	-	-	-
15/13/10	13/11/8	-	-	-
14/12/9	13/11/8	-	-	-

Hydraulic Component

Current	Target	Target	Target	Target
150 Code			ISO CODE	ISO Code
	2 X Life	3 X Life	4 X Life	5 X LITE
28/26/23	25/23/21	25/22/19	23/21/18	22/20/17
27/25/22	25/23/19	23/21/18	22/20/17	21/19/16
26/24/21	23/21/18	22/20/17	21/19/16	21/19/15
25/23/20	22/20/17	21/19/16	20/18/15	19/17/14
25/22/19	21/19/16	20/18/15	19/17/14	18/16/13
23/21/18	20/18/15	19/17/14	18/16/13	17/15/12
22/20/17	19/17/14	18/16/13	17/15/12	16/14/11
21/19/16	18/16/13	17/15/12	16/14/11	15/13/10
20/18/15	17/15/12	16/14/11	15/13/10	14/12/9
19/17/14	16/14/11	15/13/10	14/12/9	14/12/8
18/16/13	15/13/10	14/12/9	13/11/8	-
17/15/12	14/12/9	13/11/8	-	-
16/14/11	13/11/8	-	-	-
15/13/10	13/11/8	-	-	-
14/12/9	13/11/8	-	-	-



SFP Spin-On Filter Panel

Flow rate up to 11 gpm (41 lpm), Max operating pressure 150 psi, 10 bar

Ideal for hydraulic fluids (ISO VG22 ~ ISO VG68)

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Filter new fluids during replenishment (top-off)

Enhance existing filtration (high efficiency elements.)

Remove particle and water contaminant.



Materials of Construction

Assembly Frame: Lightweight Aluminum Plate Filter Assembly: Aluminum head, Steel canister 25 psid bypass valve True differential pressure indicator

Operating Temperature

Nitrile (Buna)

-40°F to 150°F -40°C to 66°C

Fluorocarbon (Viton)* -15°F to 200°F -26°C to 93°C *High temperature / phosphate ester design

Fluid Compatibility

Petroleum and mineral based fluids (standard). For polyolester, phosphate ester, and other specified synthetics use Viton seal option or contact factory.

Weight

SFP 5 GPM: 110 Lbs (49.90 kg) approximate SFP 11 GPM: 120 Lbs (54.43 kg) approximate

Explosion Proof Option

Class 1, Div 2, Group C/D explosion optional.

Electrical Service

115VAC 60Hz 1P (standard) other electrical options available upon request

Electric Motor Specifications

TEFC or ODP, 56C frame SFP 5 GPM: 1 HP, 1750 RPM, thermal overload reset SFP 11 GPM: 1 HP, 1750 RPM, thermal overload reset

Recommended Viscosity Range

SFP 5 GPM*: 28 SSU ~ 2000 SSU, 6 cSt ~ 400 cSt SFP 11 GPM*: 28 SSU ~ 1000 SSU, 6 cSt ~ 200 cSt

*At maximum viscosity clean element pressure drop with 3M media code < 12 psid/0.85 bar. Check maximum viscosity of oil in coldest condition. For high viscosity lubricating oils consider the LCFC series.

Pump Specifications

Gear pump Internal relief full flow 100 psi, 6 bar standard Pneumatic Variable Flow Pump Option Available



SFP FILTER PANEL APPLICATION INFO



Filtering New Oil - Particulate and Water

New oil is typically not clean oil, and not suitable for use in hydraulic and lube systems. During the production and transportation process new oil collects high levels of solid contaminant and water. A common ISO code for new oil is 24/22/19. New oil is one of the worst sources of particulate contaminant system ingression.

The SFP will effectively remove free water while capturing particulate with high efficiency. Free and dissolved water in hydraulic and lube systems leads to accelerated abrasive wear, corrosion of metal surfaces, increased electrical conductivity, viscosity variance, loss of lubricity, fluid additive breakdown, bearing fatigue, and more. The SFP series filter panel includes a wide range of element combination options to tackle any challenge. The PFP75AT8B water removal element holds 23 ounces of water while controlling particles with a beta ratio of β 25 = 200, β 22[c] = 1000.

NEW OIL

Flush and Condition Existing Systems

The SFP is also effective for conditioning fluids that are already in service. PFP's high efficiency elements can be used to enhance the filtration existing on the system without affecting system performance due to higher element differential pressures.



PFC Pneumatic Filter Cart Flow rates up to 49 GPM (185.49 LPM)



Our **PFC Pneumatic Filter Cart** was designed by a Certified Lubrication Specialist. The **PFC Filter Cart** is ideal for high viscosity lubrication and hydraulic oils. It can be used for filtering new fluids during transfer and replenishment, as well as filtering fluids currently in service. The two stage filtration offers the advantage of removing both particulate and water contamination.

Our **PFC Filter Cart** utilizes a positive displacement pneumatic pump that transfers fluids by movement of diaphragms driven by compressed air. Our **PFC Filter Cart** incorporates a pulsation dampener which acts as an air cushion and automatically adjusts to the pressure change and absorbs any pulsation.

Features:

- 3.4 GPM to 49 GPM (12.87 LPM to 185.49 LPM)
- 1/4" to 1" Connection Sizes
- Pneumatic Pump
- Pulsation Dampener
- 2 Stage Filtration
- Stainless Steel Filter Housings
- Differential Pressure Gauges
- Sample Ports



Our **PFC Filter Cart** was designed with the operator in mind. It includes wands storage and a drip pan to minimize spillage. The 10" Pneumatic Wheels provide shock absorption, quiet operation, and ease of rolling over rough terrain. The **PFC Filter Cart** can lay in a horizontal position allowing it to sit flat in the back of a truck for easy transportation from various locations.



Wand Storage



Drip Pan



10" Pneumatic



Horizontal Storage

COOL ANT

FILTER CARTS



Additional Mobile Equipment Available for Rent or Purchase:

TRANSFER/REPLENISHMENT CARTS



VACUUM DEHYDRATORS



2-STAGE FLUSHING CARTS





PFCB Pneumatic Bag Cart Flow rates up to 49 GPM (185.49 LPM)



Our **PFCB Pneumatic Bag Cart** utilizes the industry standard #2 Size Bag Housing. The **PFCB Filter Cart** is ideal for batch processing, or filtering from tanks or drums. It can be used for filtering new fluids during transfer and replenishment, as well as, filtering fluids currently in service. Our Bag Filter Carts are most effective controlling particulate problems before they cause damage to critical production equipment.

Our **PFCB Filter Cart** utilizes a positive displacement pneumatic pump that transfers fluids by movement of diaphragms driven by compressed air. Our **PFCB Filter Cart** incorporates a pulsation dampener which acts as an air cushion and automatically adjusts to the pressure change and absorbs any pulsation.

Applications:

Our **PFCB Filter Carts** can be used with coolants, metalworking, and other fluids. Most of these fluids are out of spec before they even come in contact with the hydraulic or lube systems. Contamination enters the fluid during processing, mixing, handling and storage. Our portable carts are the ideal means of pre-filtering and transferring these fluids.

Features:

- 3.4 GPM to 49 GPM (12.87 LPM to 185.49 LPM)
- 1/4" to 1" Connection Sizes
- Aluminum Pneumatic Pump
- Aluminum Pulsation Dampener
- Quick-Opening Covers That Do Not Require Special Tools
- Uses Standard Number 2 Size Filter Bags
- Filter Regulator

Options:

- Flow Meters
- Temperature Gauges

- Bag Housing
- Carbon Steel or Stainless Steel Construction
- Pressure Gauges
- Sample Ports
- (2) 5 Foot Hydraulic Hoses
- 14" Semi-Pneumatic Tires
- Seamless Stainless Steel Tubing
- Dip Wands
- Throttle Valves

Our **PFCB Filter Cart** was designed with the operator in mind. It includes (2) 5 foot hoses for transferring of fluids. The 14" Pneumatic Wheels provide shock absorption, quiet operation, and ease of rolling over rough terrain.



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HYDRA-CART 8 PORTABLE FILTER 8 GPM FLOW RATE CART



APPLICATION

PFP offers a heavy duty, portable, dual-housing filter cart designed for industrial applications. Two stage filtration is of benefit for water removal or heavily contaminated fluids. Stage one may be used for initial contaminate removal, including water removal from petroleum base and synthetic fluids, and stage two for ultra fine filtration or further removal of water. The Hydra-Cart 8 can be used for the following:

- Pre-filtering of hydraulic fluid before input to a reservoir. • Contamination of water and particulates from the drum can cause damage to components in hydraulic systems.
- Preventative maintenance of hydraulic systems. Routine tittering helps maintain components and extend the life of the fluid.
- Reclamation of used fluids.

The Hydra-Cart 8 with Viton seals is compatible with petroleum base, fire retardant, and synthetic fluids. The Hydra-Cart 8 is not intended for use with flammable fluids. The maximum flow is 8 gpm/30 lpm. The maximum working pressure is 100 psi/6.9 bar for all applications.

FEATURES

- The pump has an internal by-pass valve. A pressure differential gauge monitors the element.
- The 1/2 HP motor is 115V single phase with capacitor start and thermal protection overload.
- Standard industrial quick disconnect plugs and sockets are included for ease of hose connection. Two types of suction and discharge hose and tube assemblies in 12' lengths are available.
- The heavy-duty 10 gauge steel housings are externally and internally epoxy coated for strength and durability. The covers to the housings are retained by four bolts.



- The Hydra-Cart Series utilize the same element measuring 6" in diameter by 18" in length.
- Elements are available in a wide range of media types in various micron ratings for all applications. The Ordering Information on the reverse side of this catalog specifies fluid compatibility for the
 - **Resin Impregnated Cellulose**
 - Microglass

Water Absorbing

Wire Mesh



HOUSING OPERATION

Unfiltered liquid enters the housing above the filter bags or strainer baskets, fills the interior of the housing and continues through the bag or strainer basket. Solids are trapped inside the filter bags or strainers and easily removed when the housing is serviced. Our standard o-ring seal between the baskets and the housing ensures a positive seal to prevent bypass.

HOUSING OPTIONS

- 300 PSI pressure rating
- Mesh-lined strainer baskets
- Alternative o-ring materials
- Heavy-duty support legs

Multi-Round Liquid BAG HOUSINGS

Multi-Round Liquid Bag Housings effectively remove dirt, pipe scale, and other contaminants from process liquids. Quality construction and design assure clean effluent and protection for all downstream equipment.

APPLICATIONS

- Chemical
- General Industrial
- Oil and Gas
- Water

FEATURES

- Flow rates up to 3500 gpm
- Two basket to 17 basket housing designs, depending upon the required surface area and volume of fluid to be filtered
- Carbon steel and 304, or 316 Stainless Steel material
- Each vessel is factory hydro-tested
- Low pressure drop
- Swing bolts with bearing-assisted davit closure
- Buna-N[®] seals lid and basket
- Differential, drain, and vent ports
- 316 Stainless Steel strainer baskets
- Two-part epoxy finish on carbon vessels
- Accepts #2-size bag filters
- Hydraulic lid lift

SPECIFICATIONS

Model	Maximum Dimensions
Pressure Rating	150 PSI at 300°F (up to 300 PSI optional)
Connections	2-, 3-, 4-, 6-, 8-, 10- or 12-inch RF FLG
Housing Lid	Swing bolts with davit cover lift
Lid & Basket Seals	Buna-N®
Pressure Ports	Two differential ports measure pressure across filter bag
Construction/Finish	Carbon steel w/two-part epoxy finish; 304 or 316 Stainless Steel w/satin finish
Basket Material	316 Stainless Steel with 9/64-inch perforations
Bags Sizes	#2 liquid bags accepted
Base	Heavy duty support legs

Multi-Round Bag Housings

ORDERING INFORMATION

Custom configurations available; please contact Customer Service.



DIMENSIONS*



* For reference purposes only.

BASKET DATA

Housing	Number of Baskets	Straining Filtering Area (sq. ft.)	Standard Pipe Size Available (in.)	Nominal Flow Rate (gpm)	
LR2	2	8.8	2, 3, 4	400	
LR3	3	13.2	3.2 2, 3, 4		
LR4	4	17.6	3, 4, 6	800	
LR6	6	26.4	3, 4, 6	1200	
LR8	8	35.2	4, 6, 8	1600	
LR12	12	44.0	6, 8, 10 2		
LR17	17	74.8	8, 10, 12 35		
LR21	21	92.4	8, 10, 12	4300	

DIMENSIONS* (IN.)

	Pipe								Leg Bolt Center	Weight Approx.
Housing	Size	A	В	C	D	E	F	G	H	(lbs.)
	2		2				Call fact	tory		
LR2	3	16"	3				Call fact	tory		
	4		4				Call fact	tory		
	2		2	40.6	56.1	5.0	10.3	11.9	12.0	410
LR3	3	18"	3	43.0	59.0	5.8	11.0	11.9	12.0	435
	4		4	49.0	65.5	6.5	12.75	11.9	12.0	460
	2		2	48.3	67.0	5.0	11.5	15.0	16.5	535
LR4	3	22"	3	49.8	68.5	6.0	12.9	15.0	16.5	555
	4		4	52.5	70.0	6.5	14.5	15.0	16.5	590
	3		3	49.8	68.5	6.0	12.9	15.0	16.5	535
LR6	4	26"	4	52.5	70.0	6.5	14.5	15.0	16.5	555
	6		6	50.1	67.6	7.0	16.8	15.0	16.5	590
	3		3	51.5	68.9	6.0	15.1	18.0	20.8	665
LR8	4	30"	4	53.0	70.4	7.0	16.4	18.0	20.8	705
	6		6	50.5	71.0	8.0	19.1	18.0	20.8	850
	4		4	51.8	76.8	6.5	20.5	21.0	24.7	870
LR12	6	36"	6	52.0	76.5	8.3	22.5	21.0	24.7	1010
	8		8	54.5	79.0	10.8	23.8	21.0	24.7	1150
	6		6	59.2	80.7	8.3	25.1	24.0	29.0	1960
LR17	8	42"	8	63.5	85.0	9.5	26.1	24.0	29.0	2070
	10		10	68.0	89.5	11.0	27.2	24.0	29.0	2200
	8		8	59.9	85.2	8.3	28.8	27.0	33.2	2200
LR21	10	48"	10	64.4	89.7	9.5	29.8	27.0	33.2	2350
	12		12	69.2	94.5	11.0	32.3	27.0	33.2	2530

All dimensions are approximate.

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Vacuum Dehydrator Oil Purification System (VDOPS)

VACUUM DEHYDRATION OIL PURIFICATION SYSTEM

The harmful effects of water and particulate contamination in hydraulic, lubrication & dielectric oils have been well documented. By maintaining absolutely clean and dry oil, the life of critical wear components in rotational and hydraulic equipment can be significantly extended, minimizing equipment downtime, optimizing its efficiency, and maximizing profitability.

We design and build the most effective, reliable, and user-friendly vacuum dehydrators on the market today. Several design features enable our systems to consistently outperform all others, and our water-extraction rates are the best in the industry.

- Remove free, emulsified, and dissolved water by vacuum distillation & mass transfer – achieve overall water content as low as 20 PPM
- Remove entrained air and dissolved gases by vacuum distillation
- Achieve particle counts as low as ISO 14/12/9 Cleanliness Level
- Process flow rates from 3 to 100 GPM
- No other utilities other that electricity are required (no costly water consumption)

Our Vacuum Dehydration Oil Purification Systems (VDOPS) are recommended for use on the following applications:

Turbine Lube Oils Paper Machine Lube Oils Gearbox Oils (ISO 150 to ISO 680) Transformer Oils (Mineral Based) Silicon Oils Refrigerant Oils Compressor Oils EHC Fluids (Fyrquel) PAO Fluids



Model 30 GPM VDOPS NEMA 4

FEATURES

Dry Running Claw Vacuum Pump - Pulls deeper vacuum than conventional vacuum pumps, dramatically increasing water extraction rates. Requires virtually no maintenance - no vanes to wear out and no lubricating oil to become contaminated by a wet air stream.

Permanent Dispersion Media in Vacuum Tower – Maximizes water extraction rates, enables processing of high viscosity gear oils, and eliminates the need for frequent and costly coalescer element change-outs.

High Efficiency Particulate Removal Element Synthetic pleated microglass filter media rated Beta(c)>1000 per ISO 16889 removes particles as small as 2.5 micron with 99.9% efficiency in multi-pass. An electrical differential pressure gauge/switch indicates when the filter element is plugged and needs to be changed.

Variable Frequency Drive - Greatly enhances overall system performance & reliability during cold start-ups, on high viscosity gear oils, or when a restricted inlet condition exists.

System View Windows – For ease of operation and instant understanding of system performance and oil condition.





Vaccum Dehydrator Oil Purification System (VDOPS)

VDOPS Purifies and Conditions

The Vacuum Dehydration Oil Purification System (VDOPS) is designed to effectively remove free, emulsified, and dissolved water, particulate, and gaseous contamination from petroleum and synthetic based fluids. The water removal principle used is simple, reliable, and will dependably remove water well below the oil saturation point, even when tightly bound in an emulsion. The high performance VDOPS removes 100% of free and emulsified water, air, & gases, 90% of dissolved water, air, & gases, is capable of reducing water content to as low as 20 PPM, and can reduce particle counts to ISO 14/12/9 Cleanliness Levels.

Common sources of water contamination are heat exchanger and seal leaks, condensation, inadequate reservoir covers, and temperature drops that lead to dissolved water becoming free. Entrained and dissolved gases can cause foaming and lead to cavitation of pumps, produce higher fluid temperatures, and reduce system response time. Particulate contamination can cause premature component failure and lower the system efficiency by increasing internal leakage in pumps, cylinders, and other components.

System Principles

Figure 1 below shows schematically the VDOPS operation. A vacuum pump creates a vacuum that draws fluid into the unit through a circulation heater, where the fluid temperature is raised to roughly 150°F (66°C). Oil then flows through Permanent Dispersion Media (PDM) located inside the vacuum tower. Oil flows through the pores of this media where it is exposed to vacuum, normally 22-24" Hg (635m Hg). The boiling point of water is below the 150°F fluid temperature at that vacuum, so water and dissolved gases are "boiled off" and the fluid is effectively dehydrated. An oil discharge pump removes the dehydrated oil from the bottom of the vacuum chamber and pumps it through a high efficiency particulate-removal filter element rated β c>1000 per ISO 16889 and back into the reservoir.



Precision Filtration Products

YOUR ONE STOP FOR FILTERS

Vaccum Dehydrator Oil Purification System (VDOPS)

Effects of Water



- Corrosion of Metal Surfaces
- Accelerated Abrasive Wear
- Accelerated Fatigue
- Additive Precipitation
- Fluid Oxidation
- Viscosity Variation
- Reduced Lubricity

Value Packed Standard Features

FEATURES	ADVANTAGES	BENEFITS
Compact Size and Weight	 Smallest Envelope in the Industry Ease of Portability 	 Fits Through Doorways and Narrow Aisles Increased Usage
Caster Wheels and Fork Lift Guides	 Provides Safe, Secure Method for Transporting Unit 	 Easily Transported Increased Usage
Automatic Operation	 Promotes Unattended Use 	 Increased Run Time
Programmable Thermostat	 Maintains Fluid Temperature to within 1degree F 	 Prevents Fluid Breakdown Increased Fluid Life
Self-Diagnostic Controls	 Indicates Problem Areas and Services to be Performed 	 Reduced Downtime for Maintenance
Condensate Holding Tank with High Level Switch	 Captures Removed Water and Solvents Auto-Shutdown when Tank is Full or Foaming Occurs 	 Eliminates Potential of Hazardous Discharge Prevents Spills
Close Coupled Heavy Duty Lube Pump	 Eliminates Belt Driven Pump Maintenance More Robust than Typical Gear Pumps True Rated Flow Performance Even Under Vacuum 	 Ease of Maintenance Faster Purification
Air Cooled Condenser	 Extends Dry Seal Vacuum Pump Life 	 Longer Equipment Life
Variable Flow Circuit	 Permits Redirection of Outlet Flow to Heaters Quickly Raise Temperature of Process Fluid 	 Faster Purification
Phase Fail Circuit / Reversal Switch	 Enable Immediate Unit Start without the Need of an Electrician 	 Reduced Downtime
Corrosion Proof Vacuum Tower with Large Observation Window	 Eliminates Corrosion Monitor the Vacuum Dehvdration Process 	 Longer Equipment Life Visual Verification of Equipment Function

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Vaccum Dehydrator Oil Purification System (VDOPS)

Samples of ISO 32 Turbine Oil







2 GPM "Mini-V"



BEFORE Water Concentration – 1800 PPM Particle Count – ISO 21/20/18

AFTER Water Concentration – 24 PPM Particle Count – ISO 14/12/10



VDOPS CONFIGURATIONS (0 = Optional)

	3 GPM	5 GPM	10 GPM	15 GPM	20 GPM	30 GPM	50 GPM
Dry Running Claw Vacuum Pump	STANDARD						
420X Outlet Filter Housing	STANDARD	0	0	0	0	0	0
820X Outlet Filter Housing	0	STANDARD	STANDARD				
840X Outlet Filter Housing		0	0	STANDARD	STANDARD	STANDARD	STANDARD
B2.5>1000 Outlet Filter Cartridge	0	0	0	0	0	0	0
β5>1000 Outlet Filter Cartridge	STANDARD						
B7>1000 Outlet Filter Cartridge	0	0	0	0	0	0	0
230VAC / 3Ph / 60Hz Power	0	0	0	0	0	0	0
380VAC / 3Ph / 50Hz Power	0	0	0	0	0	0	0
480VAC / 3Ph / 60Hz Power	STANDARD						
575VAC / 3Ph / 60Hz Power	0	0	0	0	0	0	0
12 kW Heater	STANDARD						
16 kW Heater	0	STANDARD					
24 kW Heater	0	0	STANDARD				
32 kW Heater	0	0	0	STANDARD	STANDARD		
48 kW Heater	0	0	0	0	0	STANDARD	
64 kW Heater	0	0	0	0	0	0	STANDARD
Permanent Dispersion Media	STANDARD						
Air Intake Filter	STANDARD						
Air Cooled Condenser	STANDARD						

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Vaccum Dehydrator Oil Purification System (VDOPS)



50 GPM VDOPS



30 GPM VDOPS



20 GPM VDOPS

Optional Features

- Any Custom Configuration Option
- 4 point lifting lug structure
- Automatic Water Drain for Condensate Sump
- NEMA 4 or NEMA 7 Explosion Proof
- All Stainless Steel Wetted Components and Housings
- Inline Digital Particle Counter
- Inline Digital Moisture Indicator
- Touch Screen Control Panels
- Filter Lifting Mechanism for Draining Element
- Standard or Custom Colors
- Can Be Equipped With ION Exchange, Fuller's Earth or Activated Alumina Cartridges for Acid Neutralization Electrostatic Filtration
- Custom Caster and Tire Options
- Vacuum Pump options: Standard is Dry Running, Optional liquid ring
- High Foam Detection
- Auto Air Purge /Foam Break
- Single or Multi-Element Housings
- Single or Multi Heater Housings
- Optional voltages are available (Standard voltage is 460 Volt Three Phase)

Precision Filtration Products



High Flow Portable Oil Filtration System

HIGH FLOW PORTABLE FILTRATION SYSTEM

The harmful e ects of particulate contamination in hydraulic, lubrication, and fuel oils has been well documented. Precision Filtration Products offers a line of High Flow Portable Oil Filtration Systems to quickly and reliably remove particulate contamination from a variety of uids, enabling end-users to extend the life of component parts, reduce maintenance costs and down-time, and maximize pro tability. These systems are portable, and can be used for uid transfer, high velocity oil ushing, or o -line kidney-loop Itration. Filter elements are available in a wide variety of micron sizes and media types to handle virtually any application.



400 GPM Portable Filtration System

Standard Features:

- Positive Displacement Gear Pumps or Self-Priming Centrifugal Pumps
- TEFC Electric Motors
- NEMA 4 Electric Control Panels with Main Power Disconnect and Pushbutton On-Off Switches
- Variable Frequency Drives

Flow Rates From 20-2000 GPM or Higher.

Achieve Very Low Particle Counts To Meet Or Exceed An ISO 16/13/10 Cleanliness Level

Achieve Reynolds Number >4000 To Perform High Velocity Flushing Of Pipes

Suitable For Use With:

- Hydraulic Oil
- Lubrication Oil (ISO 32 ISO 680)
- Turbine Lube Oil
- Diesel Fuel
- EHC Fluid (Phosphate Ester)
- PAO Fluid

Filter Element Options:

High Efficiency Pleated Microglass Particulate Removal Filter Elements Available In Micron Sizes Ranging From 1-Micron To 25 Micron Beta>200 per ISO 4572 (99.5% Efficient)

Nominally Rated Pleated Cellulose Filter Elements or Polyester Felt Bag Filters Cost Effective Way To Remove Large Amounts of Bulk Particulate Contamination From Very Dirty Systems



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High Flow Portable Oil Filtration System

Electrical Specifications

Voltage: 480 VAC, 3 Ph, 60 Hz (Other voltages are available upon request)

Motors: Premium Efficiency TEFC or Explosion Proof (if required)

Control Panel: NEMA 4 or NEMA 7

Mechanical Specifications

Flow Rate Options: 20 GPM - 2000 GPM

Filter Housings: Multiple Configurations for High Flow and Particulate Removal

Plugged Element Indication: Differential pressure gauges and indicator lights provide positive indication when the elements are plugged and need to be changed.

Pump: Heavy-duty self-priming positive displacement style with built in relief.

Connections: 1" to 4" NPT with Camlock or Flanged Connections (Other Options Are Available).

Power Cord: 25' / 7.62 meter heavy gauge with high visibility yellow color (standard).

Hoses: 20' Inlet and Outlet Hoses

Oil Sample Ports: Upstream & Downstream Sample Ports

Custom Options Are Available

For technical support & applications help, call us at &% !* +- !* * ().



SYSTEM ORDERING INFORMATION
Standard part-number <u>POFS</u> - $\overset{**}{+}$ - $\overset{**}{+}$ - $\overset{**}{+}$
Indicates Portable Oil <u>Filtration System</u> Indicates flow rate (20-1000 gpm) Indicates particulate <u>removal housing (PR)</u> Indicates water <u>removal housing (WR)</u> Indicates acid <u>removal housing (AR)</u> (Note: If not using WR or AR then omit from P/N.)
ELEMENT ORDERING INFORMATION
Pleated particulate removal elements available in1, 3, 5, 15, & 25 micron increments. P/N: PFP840P(**)

Water removal element P/N: PFP840W

Insert micron size1, 3, 5, 15, or 25_

Acid removal element P/N: PFP840AR

Precision Filtration Products

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