



FCL Filter Cart

Flow rate up to 22 gpm (82 lpm)

Ideal for high viscosity Lubrication and hydraulic oils (ISOVG22 ~ ISOVG320)

Filter new fluids during transfer and replenishment (top-off)

Flush fluids already in service with high efficiency elements in addition to existing filtration (Reliability).

Remove particulate and water contamination.

Condition bulk oil before use.

Large element yields extended life.

Materials of Construction

Assembly Frame: Painted Steel
 Wheels: Rubber (solid, non-shredding)
 Filter Assembly: Epoxy coated steel
 25 or 50 psid bypass available
 True differential pressure indicator
 Hoses: Reinforced synthetic
 Wands: Synthetic (standard), Steel (high temp)

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.

Weight

FCL1: 260 Lbs (117 kg) approximate
 FCL2: 273 Lbs (124 kg) approximate
 FCL3: 292 Lbs (133 kg) approximate

Electrical Service Options

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

Electric Motor Specifications

TEFC or ODP, 56C frame
 FCL1: 1 HP, 115VAC, 60Hz, 1P, 1750 RPM
 FCL2: 1 1/2 HP, 230VAC, 60Hz, 1P, 1750 RPM
 or 440VAC, 60Hz, 3P, 1750 RPM
 FCL3: 3HP, 230VAC, 60Hz, 1P, 1750 RPM
 or 440VAC, 60Hz, 3P, 1750 RPM

Recommended Viscosity Range*

FCL1*: 28 SSU ~ 4000 SSU, 6 cSt ~ 800 cSt
 FCL2*: 28 SSU ~ 4000 SSU, 6 cSt ~ 800 cSt
 FCL3*: 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.

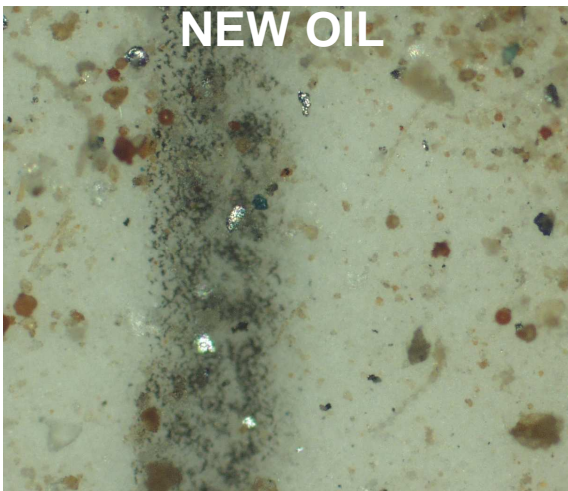
Pump Specifications

Gear pump
 Internal relief full flow @ 100 psi standard.

Explosion Proof Option

Class 1 explosion option is available.

FCL1, FCL2, FCL3 FILTER CART APPLICATION INFO



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 ingress.

The FCL 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 FCL series filter cart includes a wide range of element combination options to tackle any challenge. The "A" media adsorbs water while controlling particles with absolute efficiency (beta ratio of $\beta_X = 200$, $\beta_{X(c)} = 1000$).

Flush and Condition Existing Systems

The FTC 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 FTC as a portable side loop system that can service several machines.

FCL1, FCL2, FCL3 FILTER CART APPLICATION INFO

Cleaner Fluid, Greater Reliability

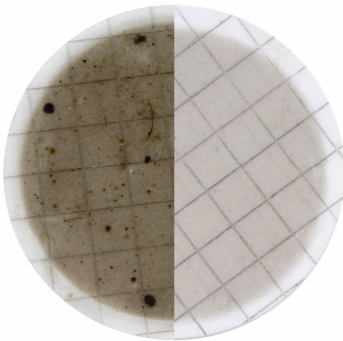
When establishing a target ISO cleanliness code first identify the most sensitive component. New oil added should be cleaner than the target ISO code for the system.

Figure 1 details the improvements in component life as the ISO cleanliness is improved for roller contact bearings. Improving and stabilizing fluid cleanliness codes can increase hydraulic component and bearing life exponentially.

Lab and field tests prove time and again that our filters deliver lower ISO cleanliness codes, and do it with greater consistency.

Figure 1

Current ISO Code	Target ISO Code	Target ISO Code	Target ISO Code	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	-	-	-



3

Prepared using PTK1 patch test kit

Don't Put Dirty Oil Into Your System

Figure 3 shows the difference in particulate contamination between unfiltered new fluid with an ISO Cod of 24/22/19 and fluid that has been conditioned to an ISO Code of 16/14/11.



4

Coreless Filter Element Technology

Our coreless elements are featured in the FCL series (see figure 4). The elements are oversized to yield extended element life and handle a wide variety of high viscosity oils. Our coreless elements utilize wire mesh pleat support which ensures that the pleats won't collapse or lose integrity.

True Differential Pressure Gauges & Switches

Differential pressure gauges with green to red display ensures proper monitoring of filter element condition. DIN connector switch can be added to any pressure gauge (see figure 5).



5

FILTER MEDIA . . . THE HEART OF A FILTER

Dynamic Filter Efficiency (DFE) Testing

Revolutionary test methods assure that DFE rated elements perform true to rating even under demanding variable flow and vibration conditions. Today's industrial and mobile hydraulic circuits require elements that deliver specified cleanliness under ALL circumstances. Wire mesh supports the media to ensure against cyclical flow fatigue, temperature, and chemical resistance failures possible in filters with synthetic support mesh.

Media Options

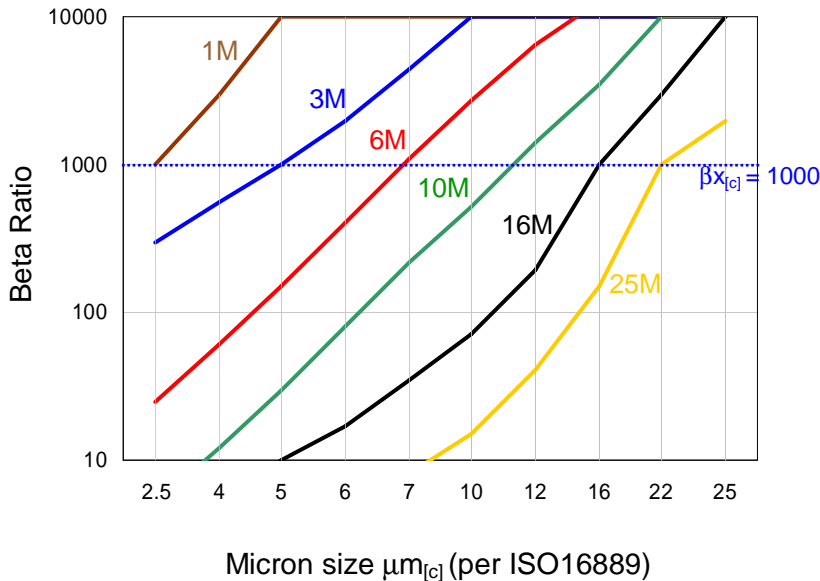
Through extensive testing we have developed media choices to handle any application. Options include G7 Dualglass, G7 Dualglass + Water Removal and Stainless steel wire mesh.

Fluid Compatibility

Petroleum based fluids, water glycol, polyol ester, phosphate ester, High water based fluids, and many other synthetics. Contact us for seal material selection assistance.

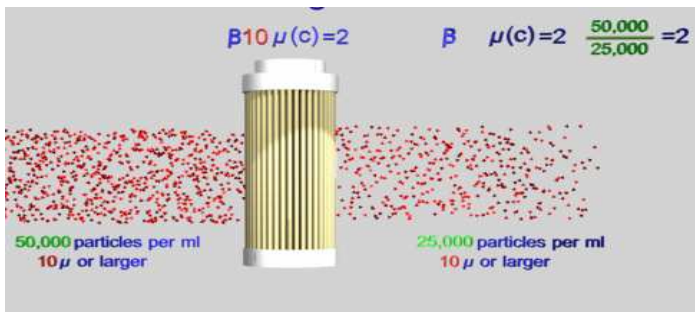
FILTER MEDIA SPECIFICATIONS

Glass Media Code Filtration Efficiency (Beta Ratio) vs Micron Size (per ISO16889 multipass)



media code	media description
A	G7 Dualglass high performance media combined with water removal scrim. $\beta_{x[c]} = 1000$ ($\beta_x = 200$)
M	G7 Dualglass our latest generation of DFE rated, high performance glass media for all hydraulic & lubrication fluids. $\beta_{x[c]} = 1000$ ($\beta_x = 200$)
W	Stainless steel wire mesh media $\beta_{x[c]} = 2$ ($\beta_x = 2$) nominally rated

Typical cellulose media performance



G7 Dualglass media performance

