

FCL Filter Cart

Flow rate up to 22 gpm (83 lpm)



Ideal for high viscosity lubrication and hydraulic oils (ISOVG22 ~ ISOVG460).

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 contaminant.

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: Steel

Operating Temperature

Nitrile (Buna) -40°F (-40°C) to 150°F (66°C)
 Fluorocarbon (Viton®)* -15°F (-26°C) to 200°F (93°C)
 *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: 350 Lbs (159 kg) approximate
 FCL2: 360 Lbs (164 kg) approximate
 FCL3: 430 Lbs (195 kg) approximate

Explosion Proof Option

Explosion Proof NEC Article 501, Class 1, Div 1, Grp C & D optional. Call for IEC, Atex or other requirements.

Electric Motor Specifications

TEFC 56C Frame
 60 Hz - 1750 RPM
 50 Hz - 1450 RPM

Recommended Viscosity Range*

Max recommended actual viscosity (based on pump suction line limitations through hoses)

FCL1= 800 cSt

i.e. ISO220 ≥ 68°F (20°C)
 ISO320 ≥ 80°F (26°C)
 ISO460 ≥ 90°F (32°C)

FCL2 = 500 cSt

i.e. ISO220 ≥ 75°F (23°C)
 ISO320 ≥ 86°F (30°C)
 ISO460 ≥ 97°F (36°C)

FCL3 = 500 cSt

i.e. ISO220 ≥ 75°F (23°C)
 ISO320 ≥ 86°F (30°C)
 ISO460 ≥ 97°F (36°C)

*FCL series carts are design optimized for high viscosity lube oils, large filter element size allows media selection down to 1M on FCL1 & FCL2 even with high viscosity fluids. Contact factory for modified FCL/FSL units designed for high viscosity fluids at cold and ambient temperature.

Maximum Acceptable Suction Condition

Maximum operating pressure loss 6 psi, 12 Hg.

Pump Specifications

Gear pump
 Internal relief full flow @ 100 psi standard.

HY-PRO

FCL1, FCL2, FCL3 FILTER CART APPLICATION INFO



Retractable power cord reel on FCL1& FCL2 single phase 115VAC and 230VAC, FCL3 230VAC 1P 50Hz only.

Non shredding solid wheels standard (Off road / severe duty inflatable tires optional).

Top loading housing minimizes mess.

On-Off Switch with Overload Protection. IEC-IP65 enclosure (Dust & Water Tight)

Suction and return hoses included standard (hose extensions available).

Anti-siphon valve keeps FCL primed and prevents housing from draining after use.

Dual locking front casters.

True differential pressure gauge with green to red template (PSI and Bar).

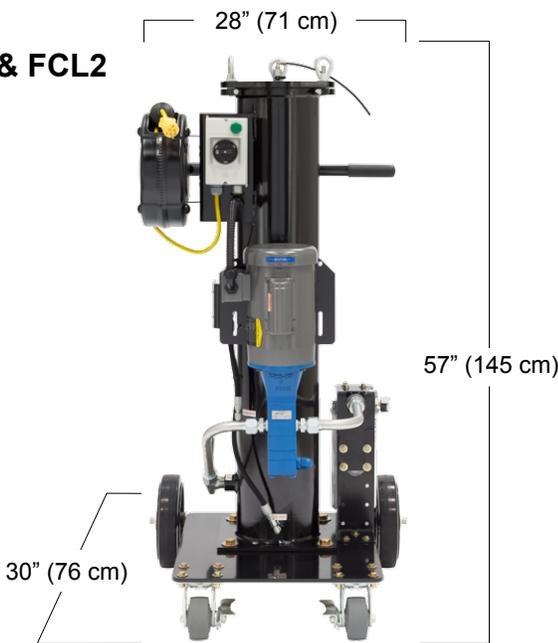


Optional wire mesh spin-on strainer, pump protector (K option).

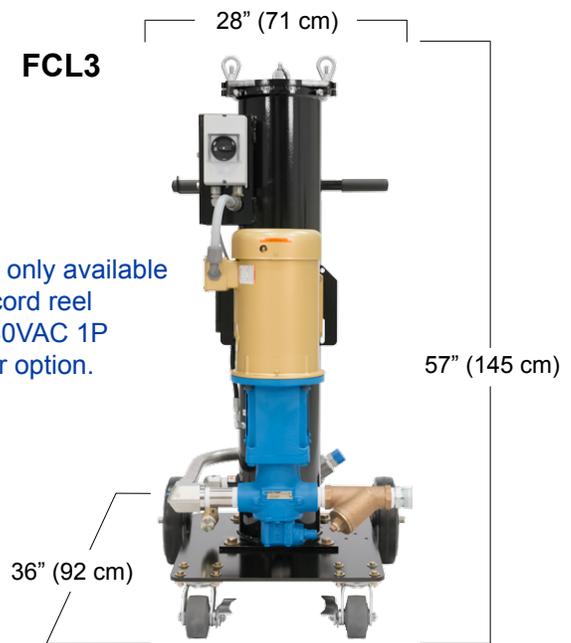


FCL DIMENSIONS

FCL1 & FCL2



FCL3



FCL3 only available with cord reel on 230VAC 1P power option.

Coreless Filter Element Technology

Hy-Pro coreless elements are featured in the FCL series. The elements are oversized to yield extended element life and handle a wide variety of high viscosity oils. Hy-Pro 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. Visual and visual/electrical options available.

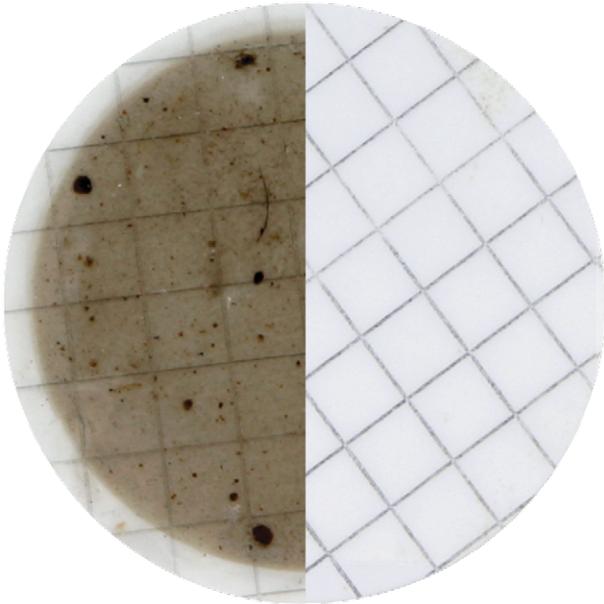


Cleaner Fluid, Greater Reliability

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 improvement 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 Hy-Pro filters deliver lower ISO cleanliness codes, and do it with greater consistency.



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 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 $\beta_x = 200$, $\beta_{x_{[c]}} = 1000$).

Figure 1

Current ISO Code	Target ISO Code	Target ISO Code	Target ISO Code	Target ISO Code
Start	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
22/22/19	20/18/15	16/16/13	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	-	-	-

Don't Put Dirty Oil Into Your System

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

Flush and Condition Existing Systems

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

