



# Portable Fluid Conditioning Cart

Models 5PFCC & 10PFCC



ENGINEERING YOUR SUCCESS.

# Portable Fluid Conditioning Cart

## Applications

- Filtering new fluid before putting into service
- Transferring fluid from drums or storage tanks to system reservoirs
- Conditioning fluid that is already in use
- Complimenting existing system filtration
- Removing free and emulsified water from a system
- For use with fluids such as hydraulic, gear and lube oils

Parker portable filter carts are the ideal way to prefilter and transfer fluids into reservoirs or to clean up existing systems.

Fluid should always be filtered before being put into use. New fluid is not necessarily clean fluid. Most new fluids (right out of the drum) are unfit for use due to high initial contamination levels. Contamination, both particulate and water, may be added to a new fluid during processing, mixing, handling and storage.

Water is removed by installing Par-Gel™ elements in the outlet filter. Par-Gel™ elements are made from a polymer which has a very high affinity for free water.

Once water comes into contact with this material, it is removed from the system.

The Parker portable filter cart uses two high capacity ModuFlow™ Plus filters for long element life and better system protection. The first stage (inlet) filter captures larger particles, while the second stage (outlet) filter captures finer particles or removes water. A rugged industrial quality gear pump gets the job done fast.

Using a Parker portable filter cart is the most economical way to protect your system from the harm that can be caused by contamination.

Features	Advantages	Benefits
In-series filtration	Capable of multi-staged filtration Ability to remove free water and particulate in the same pass	Can extend the service life, reduce maintenance hours in servicing the filtration systems and equipment, and remove contaminant and water out of a system in a single pass across the elements
Wide variety of particulate elements available	Capable of getting a fluid to a desired cleanliness level	Extends fluid life and system performance
Heavy duty frame	Rugged and durable	Built to last
Lightweight and Portable	Easy to move from place-to-place	One person operation
Two flow rates available: 5 GPM or 10 GPM	Motor is now 1 HP, enabling use in lower or higher viscosity applications	Matched to your needs
Eleven-foot hose and wand assemblies included	Additional hardware not necessary	Ready to use as received
Narrow design	Better maneuverability	Exceptional movement through tight spaces, narrow aisles, and smaller overall footprint
Ergonomic frame design	Improved handle height and center of gravity for most average users	Decreased force needed for tipping into moving position, improved handle height for comfort and decreased strain on neck, back, and shoulders
10 inch wheels	Larger 10 inch wheels	Increased mobility and handling in various terrains
Removable drip tray	Drip tray now removable	Ability to easily dispose of any excess oil in drip pan by disconnecting it from the frame
Filter pump strainer	Protection of pump from large contaminant	The addition of a filter pump strainer provides protection from large contaminants allowing both filters to be used in series after the pump
IcountPD	Capable of polishing a systems hydraulic fluid to a specific ISO cleanliness code	Ensure fluid entering system meets or exceeds specific component recommended ISO codes, guaranteeing longer service life and reduced maintenance of system

# Portable Fluid Conditioning Cart

## Features



### icountPD (Intelli-Cart™ option)

- Allows for real time monitoring of fluid ISO code cleanliness while running
- Early warning digital display indicators for low, medium and high contamination levels
- Moisture % RH LED indicator

### Gear pump

- Available in both 5 gpm and 10 gpm sizes
- Industrial quality with a long life and quiet operation

### Inlet suction strainer

- Protects the gear pump from large contamination
- Allows the main double length filters to be used in series after the pump

### 110V/220VAC motor

- Standard 1 HP industrial brand name motor for both 5 gpm and 10 gpm models
- Allows for use in both higher and lower viscosity applications

### Kick stand bar

- Ergonomic & weight Balanced design easy to move and stand

### Hose & wand assembly

- Ready to use; no additional hardware needed
- Parker EZ form hoses provide extreme flexibility for easy use and eliminates kinks

### Service cover

- Allows for easy top access for changing filter elements

### Visual indicator

- Know from just a glance when to change the filter element
- Helps prevent bypass condition
- 35 psid 3-band

### Dual - In Series Filters

- Two stage filtration provides flexibility to combine particulate and water removal on the same pass
- Extends service life and reduces maintenance/ servicing hours
- In series filtration provides ultra clean level of fluid cleanliness

### Heavy Duty frame

- Built to last even with rugged use
- Ergonomic design for easy maneuverability

### Removable Drip tray

- Helps keep the work area safe and clean
- Allows for an easy clean up by removing the tray to dispose of any excess oil properly

### Elements (not shown)

- Available for both particulate in 02Q, 05Q, 10Q, 20Q and WR (Water Removal) for main stage filters
- Standard Filter Cart is equipped with 149W woven wire strainer element and Intelli-Cart is equipped with 74W woven wire strainer element



# Portable Fluid Conditioning Cart

## Features

### Maximum Recommended Fluid Viscosity:

5PFCC – 5 GPM pump  
3500 SUS (755cSt)

10PFCC – 10 GPM pump  
1000 SUS (215 cSt)

*For optimum particle detector performance results when monitoring contamination levels, fluid viscosity range should be 50 - 250 SUS.*

### Visual Indicator (outlet filter):

Visual differential type  
3-band (clean, change, bypass)

### Filter Bypass Valve Settings (Integral to Element):

Element 1 – 35 psid (2.4 bar)  
Element 2 – 35 psid (2.4 bar)

### Operating Temperature:

Seal option "B" (standard)  
-40°F to +150°F (-40°C to +66°C)

### Electrical Service Required:

110/220 volts, 60 Hz  
Single phase, 10/5.5 amps

### Electrical Motor:

1 hp @ 1745 rpm  
open, drip proof

### Construction:

Cart frame – Steel  
Filter head – Aluminum  
Filter bowl – Steel  
Hoses – Parker EZ form Buna  
Wands – PVC

### Weight:

145 lbs (65.77 kg)



A - Height: 43 in (1092 mm)  
B - Width: 21 in (536 mm)  
C - Depth: 19 in (472 mm)

## Typical Fluid Cleanliness Level Requirements

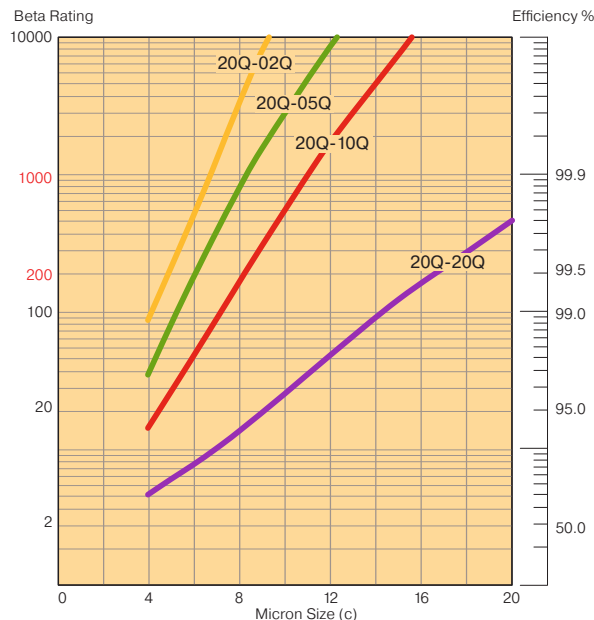
Many manufacturers of hydraulic components have established fluid cleanliness levels for their components. Using a portable filter cart can be a very effective way to reach and maintain these cleanliness levels.

Component	ISO Cleanliness Level
Servo control valves	16/14/11
Proportional valves	17/15/12
Vane and piston pumps/motors	18/16/13
Directional and pressure control valves	18/16/13
Gear pumps/motors	19/17/14
Flow control valves cylinders	20/18/15
New fluid	20/18/15

## Filter Cart Element Performance (two-stage filtration)

Element 1	Element 2	Minimum Overall Capacity, grams
20Q	20Q	391
20Q	10Q	375
20Q	05Q	326
20Q	02Q	296

## In-Series Filtration Efficiency



Notes: Multipass test run @ 25 GPM, 70 PSID terminal, 10 mg/l BUGL

## Filter Cart Performance

Fluid cleanliness levels are a function of initial contamination levels, contamination ingress rates, reservoir size and filter element efficiency. The chart below lists approximate time requirements to achieve certain cleanliness levels based on the assumptions noted.

Reservoir Capacity (Gallons)	Time Required (Hours)	Projected Cleanliness Level (ISO)
50	0.5	20/18/15
50	1.0	17/15/12
50	2.5	16/14/11
100	1.5	18/16/13
100	2.5	17/15/12
100	4.0	16/14/11
200	2.5	19/17/14
200	3.5	18/16/13
200	5.0	17/15/12

Notes:

The results in the chart are based on the following assumption:

1. Initial contamination level is 500,000 particles greater than 10 micrometers per 100 ml of fluid (10PFCC cart).
2. Element 1:20Q element; Element 2:10Q element.
3. System ingress rate equal to  $1 \times 10^6$  particles greater than 10 micrometers entering the system per minute.

The Intelli-Cart™ with particle detector provides an excellent method for filtering and trending contamination levels.

For optimum particle detector performance results when monitoring contamination levels, fluid viscosity range should be 50 - 250 SUS.

## Par-Gel™ Media Water Capacity

Model	Fluid Viscosity	Capacity
5PFCC	75 SUS	600 ml
	200 SUS	420 ml
10PFCC	75 SUS	500 ml
	200 SUS	300 ml

Notes:

1. Par-Gel™ elements are designed to remove “free water”, which is defined as water that is above a particular fluid’s saturation level.
2. Capacity is very dependent on flow rate and viscosity. Not recommended with fluids in excess of 500 SUS.

# Portable Fluid Conditioning Cart

## Assembly

1. Install hoses to inlet strainer and outlet of series filters by threading the hose end with the straight thread o-ring seal fitting.
2. Connect the PVC tube wands to the swivel fitting.
3. The Intelli-Cart™ is shipped with a bag that contains accessory parts.
4. The iPD is shipped with the factory default setting. Users can reprogram the iPD with the cable located in the attached bag and the iPD owners manual.

## Operating Instructions

1. Insert the inlet wand assembly into the supply fluid receptacle (drum/reservoir).
2. Insert the outlet wand assembly into the clean fluid receptacle (drum/reservoir).

**Caution:** Do not kink the hose assemblies. This may result in excessive vacuum or pressure at the pump.

3. Verify that the ON/OFF switch is OFF and plug the cord into the proper grounded power source (3 wire).
4. Turn switch to ON position and check outlet wand for oil flow. Allow 30 to 60 seconds for filters to fill with oil. If repeated attempts to obtain oil flow fail, check pump inlet fittings for tightness.

5. The condition of the filter elements should be monitored by observing the cleanliness indicator on the filters. When the indicator is in the CHANGE position, both filter elements MUST be replaced to prevent fluid from going through the bypass in the filters.
6. The inlet strainer element is provided to protect the pump from damaging contaminants. The series filter elements are provided with a 35 PSI bypass to prevent excessive pressure which may be harmful to personnel or to the filter cart.

**Warning:** The filter bypass acts as a relief valve for the pump. Do not restrict the discharge hose in any way which will defeat the function of the bypass valve, causing excessive pressure, which may be harmful to personnel or to the filter cart.

7. The cleanliness indicator works on differential pressure and will indicate the condition of the element (CLEAN - green, CHANGE - yellow, or BYPASS - red).

**NOTE:** The filter cart must be in operation for the indicator to read properly.

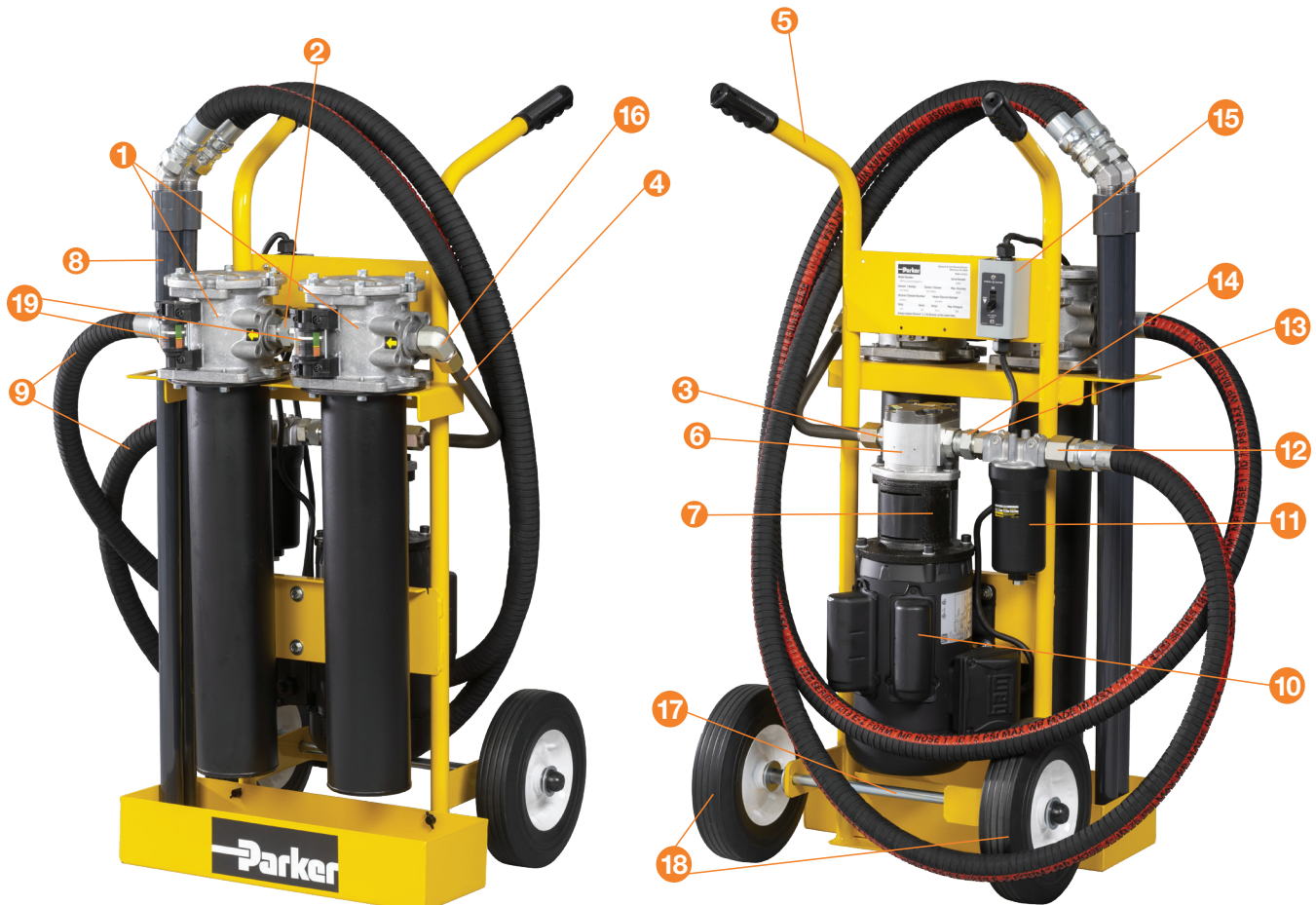
## Maintenance Instructions

1. Turn switch to OFF position and unplug cord from electrical outlet.
2. Remove tube wands from oil to prevent siphoning.
3. Loosen hex head screws on filter cover. Turn cover to clear screws, remove cover.
4. Pull filter element from the filter head.
5. Replace with new filter element. Make sure element o-rings seat properly into the head, making sure that the notch on the element lines up with the notch in the head.
6. Inspect the cover o-ring and replace if necessary.
7. Replace cover and tighten hex head screws until they are snug. Do not over-torque (16 - 19 Ft. lbs.) these screws.
8. Remove drain plug from strainer bowl and allow oil to drain. Remove strainer bowl and replace used element with a new element.

Problem	Cause	Solution
Does not start	<ul style="list-style-type: none"> <li>• ON/OFF Switch</li> <li>• No electrical power</li> <li>• Defective motor</li> <li>• Motor overload</li> <li>• Fuse failure</li> </ul>	<ul style="list-style-type: none"> <li>• Turn switch ON, replace switch if defective</li> <li>• Plug in cart/Check power source</li> <li>• Replace</li> <li>• Reset ON/OFF switch</li> </ul>
No oil flow or erratic pump noise	<ul style="list-style-type: none"> <li>• Filter housing not filled with oil</li> <li>• Suction leak</li> <li>• Defective pump</li> </ul>	<ul style="list-style-type: none"> <li>• Allow pump to run 30 to 60 seconds</li> <li>• Check tightness of inlet fittings</li> <li>• Check for kink or restriction in inlet hose</li> <li>• Replace strainer element</li> <li>• Replace pump</li> </ul>
Indicator reads CHANGE or BYPASS	<ul style="list-style-type: none"> <li>• Element dirty</li> <li>• Oil extremely cold or viscous</li> </ul>	<ul style="list-style-type: none"> <li>• Replace elements</li> <li>• Change element to coarser micron rating</li> </ul>
Indicator does not seem to move	<ul style="list-style-type: none"> <li>• No element</li> </ul>	<ul style="list-style-type: none"> <li>• Install element</li> </ul>

# 5PFCC & 10PFCC

## Parts List



Item No.	Qty	PN	Description
1	2	941666	Filter Housing
2	1	16 F5OX-S	Straight Thread Fitting
3	1	12 F5OX-S	Straight Thread Fitting
4	1	947584	Inlet Tube Assembly w/o IPD
4		See Below	Inlet Tube Assembly with IPD
	1	947556	Tubing
	1	12 6F4OMXS	Male tubing connector
	1	STI.0144.100	IPD In-Line Sensing Ports
	1	16 3-8 AOE40-S	Male Elbow
5	1	947636	Filter Cart Frame
6	1	947586	10 GPM Pump
6	1	947623	5 GPM Pump
7	1	947561	Bell Housing
8	2	928784	Wand Assembly - Buna
9	2	945582	EZ Form Hose
10	1	947398	1 HP Motor

Item No.	Qty	PN	Description
11	1	947632	Strainer Assembly
12	1	12-16 F5OX-S	Fitting Reducer / Expander
13	2	16-F65OX-S	Fitting
14	1	16-12 F5OX-S	Straight Thread Fitting
15	1	947458	Manual Motor Starter Assembly
16	1	940978	Elbow Fitting
17	1	947633	Axle
18	2	947638	10 Inch Wheel
19	2	926750	Visual Indicator
	1 each	See Chart *	Elements for both Stage 1, 2, and Strainer
	1	IPD12322230	LCD IPD with RH Sensor
	2	ACC6NH001	Hose Extension with M12 Coupling
	2	EMA3_1_8ED	IPD Fitting
	2	2-2A4OEG4M-S	IPD Fitting

# 5PFCC & 10PFCC<sup>1</sup>

## Portable Fluid Conditioning Cart

### How To Order

Select the desired symbol (in the correct position) to construct a model code. Example:

BOX 1	BOX 2	BOX 3	BOX 4	BOX 5	BOX 6	BOX 7	BOX 8
10PFCC	2	20Q	10Q	B	VP	I	1

BOX 1: Filter Series	
Symbol	Description
5PFCC	5 GPM (4000 SUS max)
10PFCC	10 GPM (1000 SUS max)

BOX 4: Stage 2 Element	
Symbol	Description
10Q	Microglass, 10 micron
WR	Par-Gel Water Removal
X	No Element <sup>2</sup>

BOX 7: Bypass	
Symbol	Description
I	35 PSID (2.4 bar) (on both elements)

BOX 2: Element Length	
Symbol	Description
2	Double

BOX 5: Seals	
Symbol	Description
B	Nitrile

BOX 8: Options	
Symbol	Description
1	None
PDL	Particle Detector <sup>3</sup>

BOX 3: Stage 1 Element	
Symbol	Description
20Q	Microglass, 20 micron
X	No Element <sup>2</sup>

BOX 6: Indicator	
Symbol	Description
VP	Visual indicator, 3-band (mounted on both stages)

#### Notes:

- The cart includes the elements you select installed.
- For the No Element option, "X" must be selected in Boxes 3 & 4.
- Particle Detector option is only available on model 10PFCC.
- 74W comes standard with particle detector option.

### Replacement Elements

Symbol	Media	Element 1	Element 2	Strainer
02Q	Microglass	NA	937397Q	NA
05Q	Microglass	NA	937398Q	NA
10Q	Microglass	937399Q	937399Q	NA
20Q	Microglass	937400Q	937400Q	NA
WR	Water Removal	NA	940734	NA
74W <sup>4</sup>	Woven Wire	NA	NA	947629
149W	Woven Wire	NA	NA	947630

