

**Save the Expense - Rent Portable Filter Carts to Meet Temporary Needs**



## OUR RENTAL EQUIPMENT

Anderson Process offers portable filter carts and vacuum dehydrators as rental units to fulfill your temporary oil filtration needs. If you need to recondition your hydraulic oil to achieve certain ISO cleanliness goals, remove free or saturated water, sludge, and other oxidizable by-products leading to varnish build-up, then Anderson Process has the equipment to be of immediate service. Our portable and skid-mounted units utilize high-quality HyPro micro-fiberglass elements, water absorbing and varnish control media, and incorporate vacuum dehydration technology for more complex water saturation removal from your hydraulic fluid. These fabricated systems are ideal when managing against plant equipment or capital expenditure limitations and we offer a variety of rental programs/terms to fit your budget.

### PORTABLE 2-WHEEL FC FILTER CARTS

For flow rates normally ranging from 1 gpm to 20 gpm. These units can be equipped with standard, water-absorbing, or VTM (varnish control elements); as well as multiple power options and custom accessories. Units are assembled as 2-wheel dollies for easy transport. If not readily available, we can work with our partners to have one built or sourced.



#### LIKE YOUR UNIT?

Ask about our rent-to-own financing options.

### FULLY-OPERATIONAL VACUUM DEHYDRATORS

Ideal for light and medium-weight ISO grade oils where oil is completely saturated or with high-levels of water content. Compact designs for 1 gpm, 3 gpm, and 5 gpm units. Systems include a variety of power options, properly sized heater elements for maximum dehydration, and high-efficiency particulate filtration to completely recondition oil to desired ISO Cleanliness Code. Stationary units of up to 100 gpm are available for permanent applications.

Before



After

## OIL ANALYSIS & TESTING

Whether on-site at your location or by sending in a representative oil sample to us, Anderson Process can utilize both testing equipment available from our offering and that of HyPro's full scale plant testing facility to evaluate the current state of your hydraulic fluids. We utilize the latest equipment to cover the testing spectrum of basic contaminant and water ppm (parts per million) through MPC values for varnish or acid presence (TAN) in your fluid.



## Primary Culprits of Contaminated Hydraulic Fluids



**Abrasive or Hard Contaminants:**  
Examples include dust, dirt, small metallic parts from machine wear or piping breakdown. These contaminants can begin to break down oil cleanliness and cause equipment problems in the hydraulic circuitry.



**Water:**  
Water can enter a hydraulic system in many ways, such as through poor hydraulic reservoir breathers or faulty heat exchanger equipment. The extent of damage can range from minor "free water" contamination to heavier, saturated contamination.



**Oxidation/Varnish Build-Up:**  
When your hydraulic fluid/system is poorly filtered and managed; problems accumulate and most-often lead to very expensive varnish build-up, machinery failure, and total loss of hydraulic system integrity.

## UNDERSTANDING ISO CODES

The ISO Cleanliness Code (per ISO4406-1999) is used to quantify particulate contamination levels per milliliter of fluid at 3 sizes - 4 $\mu$ [C], 6 $\mu$ [C], and 14 $\mu$ [C]. It is expressed in 3 numbers (example 19/17/14) where each number represents a contaminant level code for the correlating particle size. The code includes all particles of the specified size and larger. It is important to note that each time a code increases, the quantity range of particles is doubling. Inversely, as a code decreases by one the contaminant level is cut in half.



### ISO 4406:1999 Code Chart

ISO Code	Particles per Milliliter (PPM)		Sample Values Before Filtration			
	Lower Limit	Upper Limit	Particle Size	PPM	ISO 4406 Code Range	ISO Code
24	80,000	160,000	4 $\mu_{(C)}$	151773	80,000-160,000	24
23	40,000	80,000	4.6 $\mu_{(C)}$	87210		
22	20,000	40,000	6 $\mu_{(C)}$	38363	20,000-40,000	22
21	10,000	20,000	10 $\mu_{(C)}$	8229		
20	5,000	10,000	14 $\mu_{(C)}$	3339	2,500-5,000	19
19	2,500	5,000	21 $\mu_{(C)}$	1048		
18	1,300	2,500	38 $\mu_{(C)}$	112		
17	640	1,300	68 $\mu_{(C)}$	2		
16	320	640				
15	160	320				
14	80	160				
13	40	80	4 $\mu_{(C)}$	69	40-80	13
12	20	40	4.6 $\mu_{(C)}$	35		
11	10	20	6 $\mu_{(C)}$	7	5-10	10
10	5	10	10 $\mu_{(C)}$	5		
9	2.5	5	14 $\mu_{(C)}$	0.4	0.32-0.64	6
8	1.3	2.5	21 $\mu_{(C)}$	0.1		
7	0.64	1.3	38 $\mu_{(C)}$	0.0		
6	0.32	0.64	68 $\mu_{(C)}$	0.0		

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