

SPECIALISTS IN SOLID/LIQUID SEPARATION



PRESSURE FILTRATION SYSTEMS



WATER TREATMENT



CHEMICAL/PHARMACEUTICAL



MANUFACTURING/AUTOMOTIVE



POWER/MINING



About the **OBERLIN FILTER COMPANY**

Since 1964, the Oberlin Filter Company has applied the Automatic Pressure Filter to solve many of our customers' Liquid-Solid separation problems. Its **fully automatic features and simple design** deliver both dry solids and clean filtrate without operator contact. Our filter is used throughout the chemical, pharmaceutical, automotive, metal finishing, food and beverage industries.

Oberlin Filter Company is ISO 9001 certified and strongly committed to the quality and success of our customers. Our staff is available 24 hours for *real* technical support.

Oberlin Filter also supplies complete system packages and distributes a full line of disposable media including DuPont SoloFlo™ – a low-cost filter medium used where clean water is an *absolute* necessity.

SoloFlo™ is a DuPont trademark.



APPLICATION

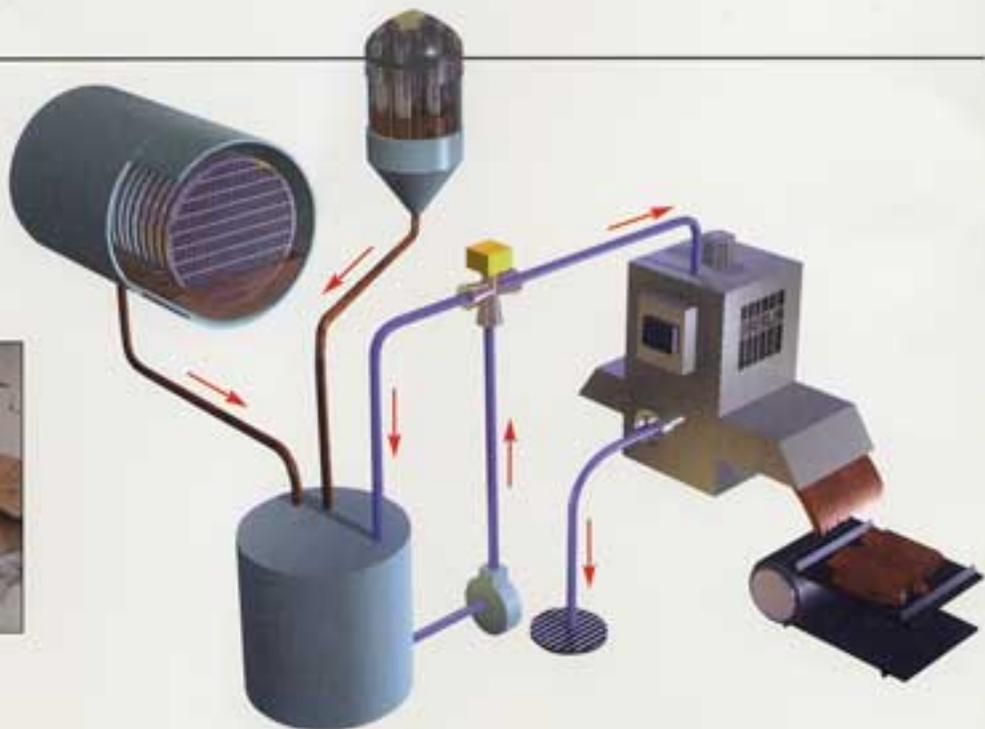
HIGH SOLIDS/HIGH TEMPERATURE/ HIGH CORROSION

- Crystallizers
- Wet Scrubbers
- Reactor Separations/Cleanouts
- Radioactive Processing



BACKWASH SEPARATIONS FROM TUBULAR/ PRESSURE LEAFS

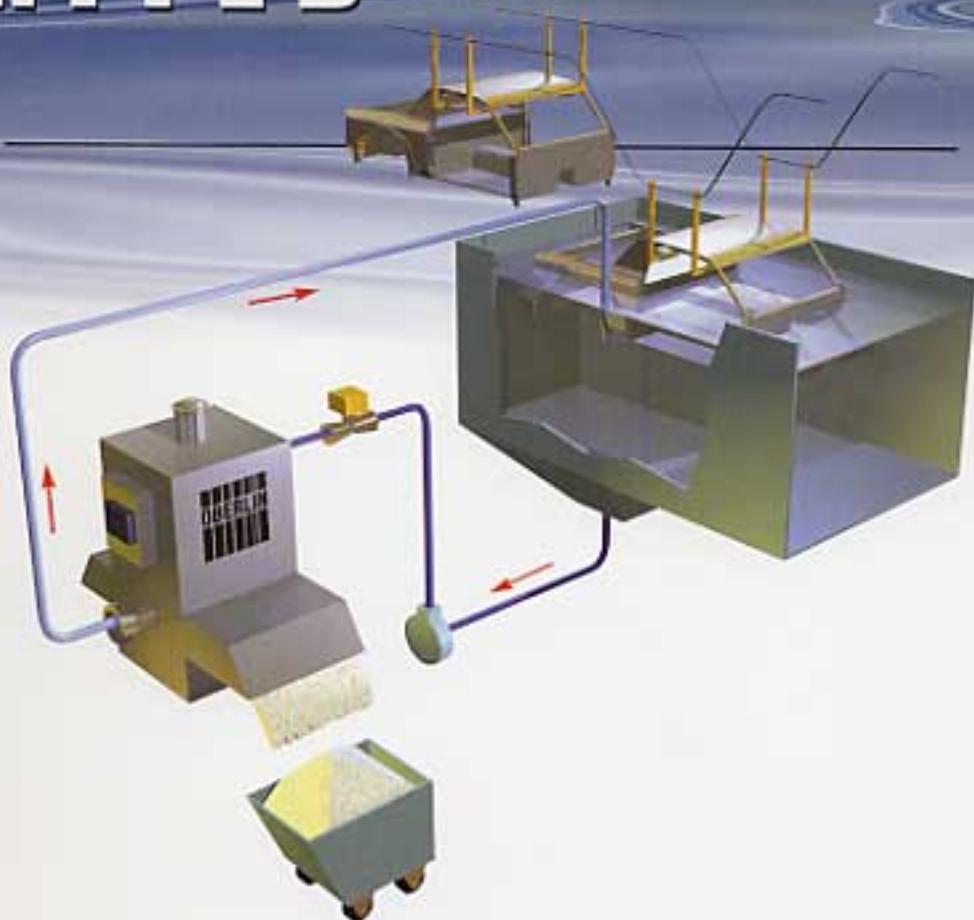
- Brewery
- Winery
- Chlor-Alkali
- Juice Processing
- Chemical



S UNLIMITED

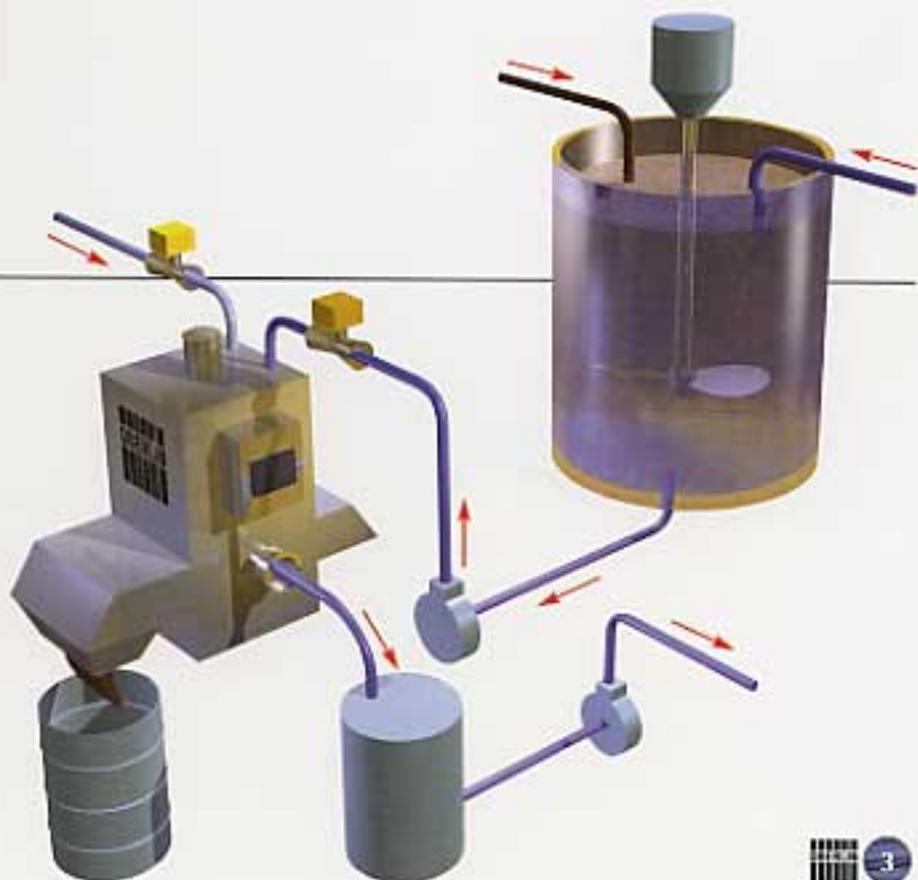
LOW SOLIDS - POLISHING

- Phosphating System
- Plating Baths
- Cooling Towers
- Alkaline/Caustic Cleaner Baths
- UF/RO Prefiltration
- Clarifier Overflows
- Metal Working Fluids and Coolants (See page 11)



BATCH PROCESSING

- Specialty Chemical Separations
- Sludge Dewatering
- Catalyst Recovery
- Clarifier Underflows
- Pelletizer Water



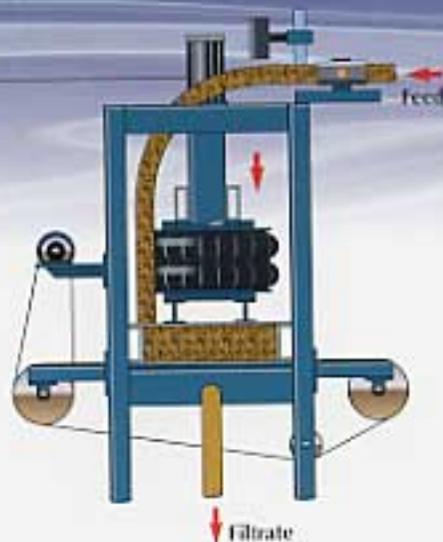
OBERLIN FILTER SYSTEMS

How The System Works... Simple as...

1

FILTERING CYCLE

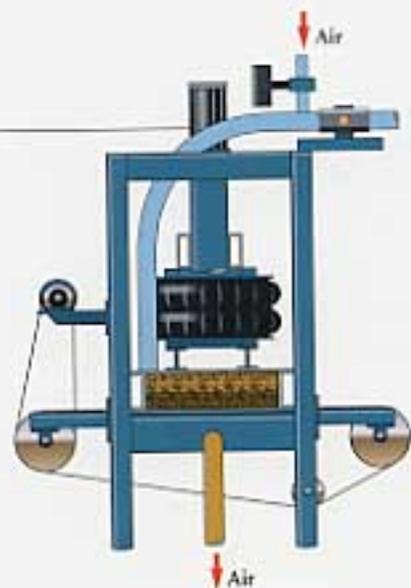
First the pneumatic airbag holds the filter upper chamber against the lower chamber. Platen seals on the perimeter of the chambers create a liquid-tight seal completely around the filter media. Solids-bearing liquid is pumped into the upper chamber. Pump pressure forces the liquid through the filter media. The filtered liquid is collected in the lower chamber and drains out. Solids are held back by the filter media.



2

DRYING CYCLE

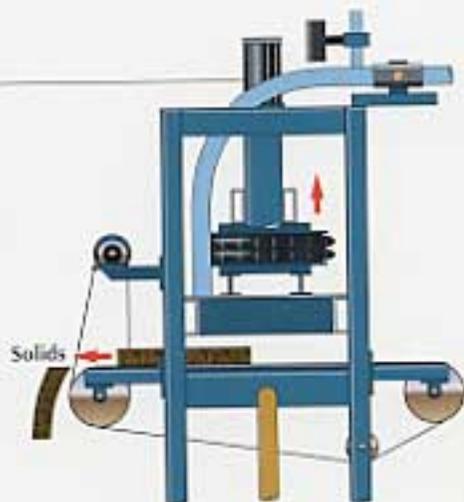
When the filter pressure reaches 30-40 psi (or higher in some applications), pressurized air or gas is fed into the upper chamber. This forces the liquid through the filtered solids and media. After the solids are dried, determined by the back pressure and time elapsed, the chamber is lifted.



3

DISCHARGE CYCLE

The solids are automatically discharged using an endless cleanable belt conveyor (or disposable media reroller). The belt discharges the filtered solids into a hopper. After discharging, the upper chamber automatically descends and a new filtration cycle starts.



FEATURES THAT MAKE THE OBERLIN PRESSURE FILTER THE TOP PERFORMER IN DEMANDING APPLICATIONS

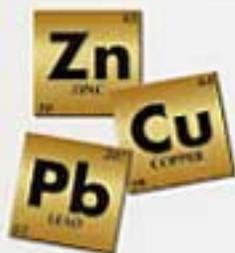


OPF-7 WITH CLEANABLE BELT

THE OBERLIN FILT

Compare our Numbers — Great at Both Ends

FILTRATE: BATTERY MANUFACTURER

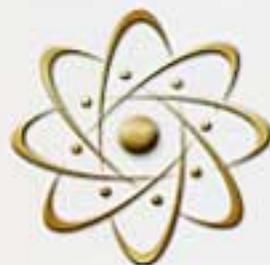


Property	Feed Waste	Oberlin* / DuPont Medium	Discharge Limits**
Turbidity (NTU)	>1,000	1.0	NR
TSS (ppm)	17,000	2.5	20.0
Lead (ppm)	40	<0.01	5.0
Zinc (ppm)	410	0.2	5.0
Copper (ppm)	1,050	1.2	5.0

* Existing plant clarifier underflow sludge was previously hauled off-site to hazardous landfill

** NR = Not Regulated

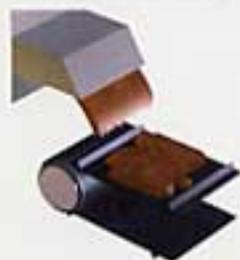
FILTRATE: LOW LEVEL RADIOACTIVE WATER



Property	Feed Waste	Oberlin* / DuPont Medium	NPDES Limits*
Turbidity (NTU)	110	0.32	-
TSS (ppm)	687	1.4	31
Aluminum (ppm)	127	0.95	302
Lead (ppm)	1.6	0.2	0.43
Zinc (ppm)	0.5	<0.1	0.32
Copper (ppm)	2.0	<0.1	0.21
Uranium (ppm)	2.3	0.01	0.5

* Actual state discharge permit values

FILTER CAKE DISCHARGES:



Percent Dryness	Solids Type
75% - 95%	Crystalline and Rigid Shaped Particles
45% - 65%	Diatomaceous Earth/Filter Aid Backwashes
30% - 40%	Metal Hydroxides

PERFORMANCE

Engineering Specifications

STANDARD UNIT SIZES:



Model	Filtering Area (Sq. Ft.)	Footprint (in.) L x W x H	Footprint (mm) L x W x H
OPF-1	1	46" x 48" x 66"	1168mm x 1219mm x 1676mm
OPF-2	2	80 x 50 x 68	2032 x 1270 x 1727
OPF-4	4	84 x 56 x 72	2134 x 1422 x 1830
OPF-7	7	96 x 64 x 72	2440 x 1626 x 1830
OPF-12	12	96 x 90 x 96	2440 x 2286 x 2440
OPF-18	18	128 x 90 x 96	3250 x 2286 x 2440
OPF-24	24	144 x 90 x 96	3660 x 2286 x 2440
OPF-36	36	190 x 90 x 96	4826 x 2286 x 2440
OPF-48	48	240 x 90 x 96	6096 x 2286 x 2440

UTILITY REQUIREMENTS:



Electrical	Air	Water
<ul style="list-style-type: none">All Voltages Supported Including 120, 230, 400, 460 VAC and 24 VDC50 Hz and 60 Hz5-Amp Base Power	<ul style="list-style-type: none">4-6 SCFM/ft² for 1 Minute Duration/Cycle80-100 PSIG	<ul style="list-style-type: none">Supply as Needed for Cake Wash & Cleaning Options

Pressure Limits	Capacity
<ul style="list-style-type: none">45 PSIG Standard, 75 PSIG Special	<ul style="list-style-type: none">Up to 3 ft³ Solids/hr/ft² of Filter Area

Available Design Standards
<ul style="list-style-type: none">NFPA (Oberlin Standard), UL, CSA, IEC, NEMA, CE, Automotive



The Oberlin Filter Company technology, paired with DuPont media, was successfully demonstrated in 1990 under the EPA's Superfund Innovative Technology Evaluation (SITE) program. Details can be found in the Applications Analysis Report EPA/540/A5-90/007 which can be found on the EPA website (www.epa.gov/ordntrmt/ORD/SITE/reports/0018.html).

THE OBERLIN PRESSURE FILTER ALTERNATIVE ...

Used in Place of the Most Common Liquid/Solid
Separation Technologies

OLD TECHNOLOGY	THE OBERLIN ADVANTAGES
<ul style="list-style-type: none"> • Cartridges/Bags Filters 	<ul style="list-style-type: none"> • Automatic Media Change Out • Reduce or Eliminate Media Costs Using Rolled Media or Cleanable Belt
<ul style="list-style-type: none"> • Plate & Frame Filters 	<ul style="list-style-type: none"> • Horizontal Surface Provides a Stable Cake Formation • Easier for Dilute Slurry Handling • Suitable for Batch Processing • Uniform Cake Washes • No Downtime for Operator Cleaning and Setup • Minimal Human Exposure • No Hydraulic Packages
<ul style="list-style-type: none"> • Tower Verti-Presses 	<ul style="list-style-type: none"> • Cuts Equipment Costs by Half • Simplicity of Design Reduces Maintenance Downtime and Costs
<ul style="list-style-type: none"> • Centrifuges 	<ul style="list-style-type: none"> • Less Capital Cost • Excellent Filtrate Quality • High Solids Recovery • No Special Foundation Needed • No High Speed Rotating Parts for Lower Maintenance/Minimizing Crystal Product Damage
<ul style="list-style-type: none"> • Rotary Vacuum 	<ul style="list-style-type: none"> • No Vacuum Pump Means Less Energy Consumption • Higher Pressure Differential for More Solids Capacity • Minimizes or Eliminates Need for Filter Aids • Minimal Product Exposure
<ul style="list-style-type: none"> • Strainers 	<ul style="list-style-type: none"> • Dry Solid Discharge - No Messy Backwashes • Improved Solids Separation
<ul style="list-style-type: none"> • Clarifiers 	<ul style="list-style-type: none"> • One Step Separation to Dry Solids and Clean Liquid
<ul style="list-style-type: none"> • Others 	<ul style="list-style-type: none"> • Call Oberlin Filter to Compare

ONE CONCEPT – MULTIPLE CAPABILITIES



Advantage is Oberlin

PACKAGED PROCESS AND TREATMENT SYSTEMS



OPF-24



OPF-2 with Treatment Tank Skid

FILTERS AND SYSTEMS TAILOR MADE TO FIT YOUR PROCESS REQUIREMENTS

- Tubular Filters
- Explosion Proof
- Cake Washing
- Chemical Addition Systems
- Post Treatment Systems
- Filter Aid Addition Systems – Wet and Dry
- Heated Chambers for Temperature Sensitive Products
- Filter Washing/Clean in Place (CIP)
- Cleanable Filter Belts/Variety of Disposable Media Options
- Vapor Containment
- PLC Control Options
- Skid Mounted Systems
- Clarifiers
- Solids Transport Systems



OPF-2 with Tubular Filter



Chemical Addition

OBERLIN MEDIA TECHNOLOGY GROUP

MANUFACTURER OF OBERLIN MICROFILTRATION PRODUCTS

USING

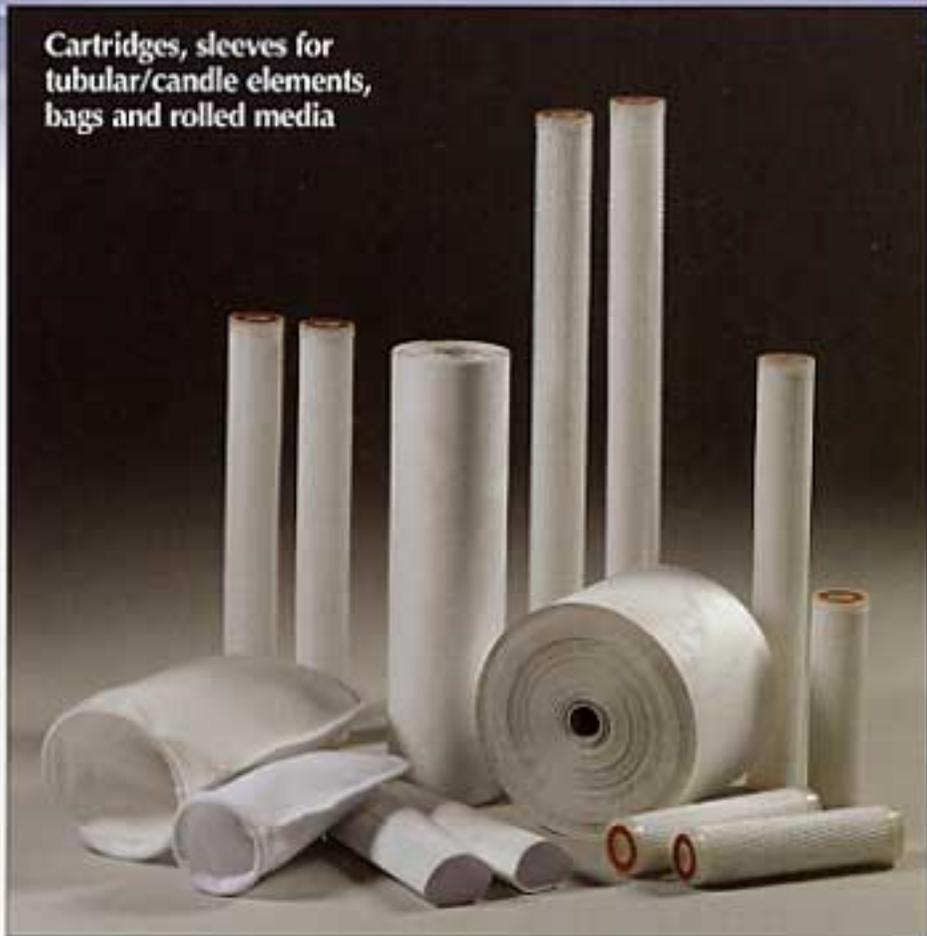


SoloFlo™

DuPont SoloFlo™ filtration medium allows for solids removal down to 1 micron **ABSOLUTE!** This will meet most local waste water discharge limits. When it comes to chemical processing this means 100% product solids recovery – or – near pure liquid product generation. The unique construction of DuPont SoloFlo™ allows for applications to work in the microfiltration range and is often used in place of ultrafiltration membrane (UF) systems. The benefits that DuPont SoloFlo™ offers are:

- **OUTSTANDING CHEMICAL RESISTANCE TO MOST ACIDS, BASES AND SALTS**
- **EFFICIENT SUBMICRON SEPARATION YIELDING A HIGH QUALITY FILTRATE**
- **EXCEPTIONAL STRENGTH, RESISTANCE TO ABRASIONS, TEARS AND PUNCTURES**
- **SMOOTH SURFACE FOR EXCELLENT FILTER CAKE RELEASE**

Cartridges, sleeves for tubular/candle elements, bags and rolled media



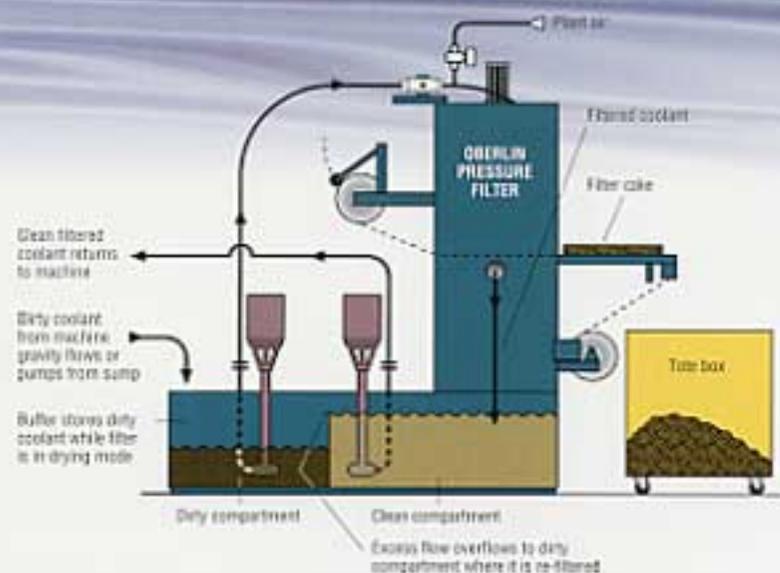
Oberlin
Microfiltration
Cartridge

DuPont SoloFlo™ Sheet



FILTRATION FOR METAL WORKING FLUIDS

Oberlin Filter Provides High Performance Filtration for Grinding and Machining Applications



BENEFITS

- EXTENDS COOLANT SERVICE LIFE INDEFINITELY
- IMPROVES SURFACE FINISHES
- REDUCES INCIDENCE OF DERMATITIS
- DRY FILTERED SOLIDS REDUCES COOLANT LOSS
- LESS TOOL WEAR AND WHEEL DRESSING

OBERLIN PRESSURE FILTERS ARE PROVEN PERFORMERS FOR MOST METALLIC AND NON-METALLIC GRINDING APPLICATIONS



Gear grinding – oil hasn't been replaced in over five years! This model OPF-7 Oberlin Pressure Filter supplies 70 gpm of 300 SSu oil to four gear grinders. Oil cleanliness is superb. It equals less than 5mg/L solids above 15 microns... less than 10mg/L solids above 5 microns. Note the thick, dry filter cake of over 97% solids by weight.

- GEAR GRINDING
- CREEP FEED GRINDING
- SURFACE GRINDING
- SLOT GRINDING
- TUNGSTEN CARBIDE GRINDING
- HONING
- MACHINING SYSTEMS
- PISTON RING GRINDING
- BEARINGS: RACE, TRACK AND BALL NEEDLE GRINDING
- ID, OD, CENTERLESS GRINDING
- DRIVESHAFT, CRANKSHAFT, CONNECTING ROD GRINDING
- NON-METALLIC – COUNTERTOPS, FIBERGLASS, PHENOLIC RESINS, CERAMICS, POWDERED CARBON GRINDING, SAWING AND SANDING

Advantage is Oberlin

