CARBON ADSORPTION SYSTEMS

Flow rates from 50 to 4200 gallons per minute. Carbon loadings from 50 oz. to 600 oz. per ton of carbon.



1000 GPM CARBON COLUMN SYSTEM

FEATURES:

- Center feed downcommer
- -Fluidized bed, up-flow system
- Cascading gravity flow
- -Even flow distribution
- •No "carry-over" free-board
- •Bypass overflow weir (No more spilling on the floor)
- -Adjustable flow/level valve
- -Wear band at high velocity zones
- •Sturdy PVC bubble caps
- •HDPE tray liner
- •Low friction losses
- •Drain nozzle
- •Carbon bed expansions from 30% to 100%

- Superficial flow velocities 20 to 30 gpm/ft²
- Bottom with clean-out nozzle

OPTIONS:

- Stairs
- Ladders
- Handrail
- Walkways
- Eductors
- Recessed impeller pumps
- -Trash and safety screens
- ·Pipes, valves, and fittings
- Barren tank
- Cone bottoms
- Carbon conditioning systems
- Transfer hoses



Linketon, CO 80/25.

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Model No.	Flow Range (GPM)	Tank Dia. (feet)	Tank Height (feet)	Carbon Capacity Range (lbs)
ADS-2-75	50-100	2'-0"	6'-0"	150 to 200
ADS-3-175	125-225	3'-0"	6'-0"	425 to 550
ADS-4-310	200-400	4'-0"	6'-0"	900 to 1200
ADS-5-490	350-625	5'-0"	7'-0"	1865 to 2250
ADS-6-700	500-900	6'-0"	7'-0"	2865 to 3350
ADS-7-960	650-1225	7'-0"	7'-0"	3850 to 4850
ADS-7.5-1100	750-1450	7'-6"	8'-0"	4850 to 6350
ADS-8-1250	900-1600	8'-0"	8'-0"	6040 to 6900
ADS-9-1590	1200-1950	9'-0"	8'-0"	7010 to 8510
ADS-10-1960	1300-2500	10'-0"	10'-0"	10025 to 12775
ADS-11-2375	1500-3000	11'-0"	10'-0"	12000 to 16000
ADS-12-2825	1800-3500	12'-0"	10'-0"	14500 to 19000
ADS-13-3310	2300-4200	13'-0"	10'-0"	19000 to 24000

CARBON STRIPPING SYSTEMS MODULAR ELUTION PLANT

COMPLETE system pretested and ready for installation. Simply set module on a concrete slab, connect utility piping, process piping and connect 3 phase power to the control panel. Reassembly of stack and caged ladder will be required. One day installation.

FEATURES:

- Modular design, complete, pretested and ready to operate • ASME code pressure vessel
- ASIVE code pressure vessel
 Design temperature 300° F
 Design pressure 100 PSIG
 Insulated and jacketed
 11" x 15" manway
 Plate and frame heat exchanger, stainless steel
- Flash tank, carbon steel
- Two level structural steel module
- Caged access ladder
- Handrails
- Y-strainer
- Easy maintenance screens (removable from out side)
 - Wedge wire, stainless steel, pipe based distributor screen
 - Wedge wire stainless steel, discharge screen
- Strip solution heater, direct fired coils
- Fuel regulator valve
- Temperature controller and high temperature shut-off
- Stack with damper valve
- Circulation pump, stainless steel, low flow with high head
- Strip solution tank, carbon steel
- Pipes, valves and fittings (insulated)
- Flow meter



2 TON STRIP MODULE

- Pressure relief valves
- · Flow switch heater protection
- Pressure regulating valve (adjustable settings)
- O & M manual
- Electrical panel with controls and start/stops

OPTIONS:

- 50 HZ, 3 phase
- PLC Control
- Automated valving
- Diesel or electric solution heater
- Carbon transfer pumps
- Carbon transfer eductors
- Flexible transfer hose
- AARL strip available with rubber lined vessel



10,001 S. Highway 121, RR#1 Littleton, CO 80125



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SPECIFICATIONS

Carbon Capacity	Flow Rate GPM	Strip Vessel Size Dia.xSeam to Seam	Strip Solu. Tank Capacity Gallons	Strip Solu. Tank Capacity Gallons
1/2 Ton	9	2'-0" x 12'-0"	550	0.5 MBTU
1 Ton	17	3'-0" x 12'-0"	1100	1.0 MBTU
2 Ton	34	3'-6" x 16'-0"	2100	2.0 MBTU
3 Ton	51	4'-0" x 16'-0"	3750	3.0 MBTU
4 Ton	68	4'-0" x 20'-0"	4500	4.0 MBTU
6 Ton	102	5'-0" x 20'-0"	7000	6.0 MBTU
8 Ton	136	6'-0" x 20'-0"	10000	8.0 MBTU
10 Ton	170	6'-0" x 24'-0"	11700	10.0 MBTU
12 Ton	204	6'-0" x 28'-0"	13400	12.0 MBTU

ACID WASH SYSTEMS



Acid washing has proven to be a very cost-effective means of maintaining the activity of activated carbon. During operation, carbon will typically become fouled due to an accumulation of precipitated mineral salts. This reduces the carbon particle area available for gold and silver adsorption. Cyanide leaching and carbon adsorption systems are typically saturated with scale forming minerals, due to the presence of lime and resultant high pH environment. Operational problems associated with scale buildup include reduced carbon loading capacity, reduced gold recovery, and poor stripping circuit performance.

Denver Mineral Engineers' acid wash systems remove mineral scale from carbon by circulating a dilute acid solution through a static bed of carbon. The acid removes the scale by dissolving it back into solution.

Inherently, during the acid wash process, small amounts of sodium cyanide are contacted by acid. This results in the formation of potentially deadly hydrogen cyanide gas. The systems are designed to safely handle the conditions, but proper operating procedures must be followed.



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SPECIFICATIONS

FEATURES

- Nitric or Hydrochloric Acid Compatible
- Completely Modular System Ready To Operate
- Manway
- Hub and Lateral Feed Distributor
- Wedge Wire Collection Header
- Pipes, Valves and Fittings
- Magnetic Drive Pump
- Acid Resistant Paint
- Caged Access Ladder
- O & M Manual
- ASME Code Vessel
- Electrical Panel
- Drum Pump

CARBON CAPACITY	VESSEL SIZE	CIRCULATION TANK (gallons)
1/2 TON	2' dia. x 12' seam to seam	525
1 TON	3' dia. x 12' seam to seam	710
2 TON	3.5' dia. x 16' seam to seam	1200
3 TON	4' dia. x 16' seam to seam	1500
4 TON	4' dia. x 20' seam to seam	2000
6 TON	5' dia. x 20' seam to seam	3000
8 TON	6' dia. x 20' seam to seam	4000
10 TON	6' dia. x 24' seam to seam	5000
12 TON	6' dia. x 28' seam to seam	6000

OPTIONS

- Carbon Transfer Pumps
- Transport Trailer
- Eductors
- Cone Bottom Holding Tanks
- Flexble Transfer Hoses
- Vent Fans
- Duct Work
- ••••••



10001 S. Highway 121 RR1

> Littleton Colorado 80125 USA

Phone 303 932-6280

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CARBON REGENERATION SYSTEMS



50 lb/Hour Regeneration Kiln

A carbon regeneration kiln process uses heat, time and tumbling to regenerate exhausted carbon. The carbon is regenerated by rotating and tumbling the carbon particles at high temperature over time. Residence time in the kiln is determined by a combination of the rotating speed of the tube and by the pitch of the tube. Increasing the rotating speed and/or increasing the pitch of the tube will decrease the residence time (increase the rate the carbon travels through the kiln). The units are furnished with a variable speed drive on both the kiln tube and on the screw conveyor.

Exhausted carbon is transported to the kiln feed hopper. The carbon is then fed into the kiln tube using a dewatering screw conveyor. The carbon then moves down the kiln tube using the tube rotation, the lifting flights, and the pitch of the tube. The carbon moves into the combustion chamber portion of the tube raising the temperature of the carbon to temperature. In this stage, steam and volatile impurities are gassed off and exit the kiln tube through the top of the discharge breech. The carbon continues to tumble down the tube, cooling gradually in the last stage of the tube, after the combustion chamber. The carbon continues to move down the tube, fully regenerated, until it drops off the end of the tube in the discharge breech and drops out the bottom of the breech, usually into a quench tank.

Denver Mineral Engineers offers indirect-fired rotary kilns for carbon regeneration. Gas and/or fuel oil may be fired in the insulated kiln furnace. Kiln temperature is controlled by approved combustion controls, varying the fire with the load. Available capacities range from 50 pounds per hour to 400 pounds per hour.

DME-NKM INTERSTAGE CARBON SCREENS

Keep your CIP or CIL circuits more efficient and low in maintenance.

- Easy mounting & removal (no bolts)
- Self-sealing
- Self-cleaning
- Flow range from 50 m³ per hour to 800 m³ per hour (220 gpm to 3500 gpm)
- Solids handling, 250 stpd to 40000 stpd
- · Keep carbon, roots, wood chips, wire ties and trash from clogging screens

FEATURES:

- Volute (discharge launder) carbon steel, rubber lined
- Rotating (sweeping style) cage (rubber lined)
- Shaft, carbon steel, rubber lined
- Pulsing blades, shaft mounted, rubber lined
- Cylinder screen, stainless steel wedge wire
- Cone screen, stainless steel wedge wire
- Quick disconnect "twist-lock" type power plugs
- Gear motor drive (50 or 60 hz)
- Balance valve, butterfly type
- Inner recirculation tube, carbon steel, rubber lined
- Quick attaching hooks
- Lifting lugs





6 m²CIP DME-NKM SCREEN

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TOENVERTelephone: (303) 932-6280MINERAL ENGINEERS, INC.Telephone: (303) 932-620510,001 S. Highway 121, RR #9E-Mail: sales@denvermineral.com Web Page: http://www.denvermineral.com



Model	Nominal	Motor size	Waight	Flow range				Dime	ensions	(incl	nes)			
number	screen area	(60 hz)	weight	m³/hr	Α	В	C	D	E	F	G	H	Ι	J
NKM-1	1.0 m ²	3.0 HP	850 lbs.	40 to 80	71	54	24	15	32	22	12	22	18	6
NKM-2	2.0 m ²	5.0 HP	1050 lbs.	80 to 160	83	66	24	15	32	22	12	22	18	6
NKM-4	4.0 m ²	7.5 HP	1900 lbs.	160 to 320	98	81	39	22.5	37.75	29	19	29	23,75	6
NKM-5	5.0 m ²	7.5 HP	2460 lbs.	200 to 400	113	96	39	22.5	37.75	29	19	29	23.75	6
NKM-6	6.0 m ²	7.5 HP	2825 lbs.	240 to 480	133	106	39	22.5	37.75	29	19	29	23.75	6
NKM-10	10.0 m ²	15.0 HP	7635 lbs.	400 to 800	181	126	71	46	51	37	27	44	38.25	6

SPECIFICATIONS



Web Page: http://www.denvermineral.com



Model	Nominal	Motor size	Weight Flow range		Dimensions (inches)									
number	screen area	(60 hz)	weight	weight m ³ /hr	Α	В	С	D	E	F	G	Н	Ι	J
NKM-1	1.0 m^2	3.0 HP	850 lbs.	40 to 80	71	54	24	15	32	22	12	22	18	6
NKM-2	2.0 m ²	5.0 HP	1050 Ibs .	80 to 160	83	66	24	15	32	22	12	22	18	6
NKM-4	4.0 m ²	7.5 HP	1900 lbs.	160 to 320	98	81	39	22.5	37.75	29	19	29	23.75	6
NKM-5	5.0 m ²	7.5 HP	2460 lbs.	200 to 400	113	96	39	22.5	37.75	29	19	29	23.75	6
NKM-6	6.0 m ²	7.5 HP	2825 lbs.	240 to 480	133	106	39	22.5	37.75	29	19	29	23.75	6
NKM-10	10.0 m ²	15.0 HP	7635 lbs.	400 to 800	181	126	71	46	51	37	27	44	38.25	6

SPECIFICATIONS

CRUCIBLE FURNACES

SKID MOUNTED & TILTING CRUCIBLE STYLE GOLD MELTING FURNACE



30 MELTING FURNACE

INDUSTRY USES:

- Gold Mining
- Investment Casters
- Small Foundries
- Jewelry Production
- Glass Working
- Hobbyists

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DESIGN FEATURES:

- Silicon carbide fused lip crucibles
- Full tilting capabilities for "easy pour"
- Propane or diesel fired burners, (all-electric furnaces special order)
- 50 hz or 60 hz blower motors
- "Fail-safe" burner controls for safe dependable operation
- Thick wall refractory for longer life
- Lever type "swing-away" lids for easy access to the crucible



#225 MELTING FURNACE





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#600 MELTING FURNACE

SPECIFICATIONS

Furnace Size	Max. Heat Input (MM BTU/HR)	Fuel Consumption Rate Propane/Diesel(Gal/Hr)	Overall Dim. L x W x H (ft-in)	Crucible Working Capacity (cu. ft.)	Blower Capacity (CFM)	Blower Motor Size (hp)	Weight (lb)
30*	0.96	10/7	4'-7" x 3'-10" x 5'-10"	0.23	230	1/3	1375
50	0.96	10/7	8'-0" x 6'-10" x 7'-2"	0.35	240	3	1515
80	0.96	10/7	8'-1" x 6'-11" x 7'-3"	0.53	240	5	1600
125	0.96	10/7	8'-2" x 7'-1" x 7'-4"	0.72	240	7 1/2	1735
175	1.57	17/11	8'-4" x 7'-2" x 7'-5"	1.09	320	10	1910
225	1.57	17/11	8'-6" x 7'-3" x 7'-6"	1.37	320	10	2080
300	1.57	17/11	8'-7" x 7'-3" x 7'-6"	1.75	320	5	2520
400	2.7	29/19	8'-10" x 6'-3" x 7'-0"	2.26	410	7 1/2	2870
500	2.7	29/19	9'-2" x 6'-7" x 7'-0"	2.90	410	7 1/2	3200
600	2.7	29/19	9'-2" x 6'-7" x 7'-0"	3.48	410	7 1/2	3590

* stationary furnace, lifting & pouring tongs can be provided

TILTING ELECTRIC FURNACE

SMELTING FOR:

- Gold
- Silver
- Copper
- Base alloys

FEATURES:

- Automatic adjustable temperature control, remote mounting for easy access operation
- Digital temperature readout
- Two position latchable lid, insulated with vent hole
- Rugged light weight construction, stainless steel outer lining and steel frame
- Inside insulating brick lining
- Adjustable breaking winch for easy tilt control
- Graphite crucible with spout
- Maximum temperature 2300°F



MANUAL TILT FURNACE

OPTIONS:

- Hydraulic tilt
- 50 hz





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HYDRAULIC TILT FURNACE

Model Cruci		Capacity	Capacity]	POWER	2	Dimensions	Approximate	
Number	Size	Red Brass	Cubic Feet	Volis	Amps	Watts	WxDxH	Weight (lbs.)	
MF-ET-16	16	70 lbs.	0.12	240	30	7200	40"x40"x76"	300	
MF-ET-60	60	200 lbs.	0.40	240	56	11760	44"x44"x80"	500	
MF-ET-150	150	450 lbs.	0.93	240	65	15600	48"x48"x84"	700	
MF-ET-225	225	700 lbs.	1.37	240	86	20640	56"x56"x88"	900	
MF-ET-300	300	900 lbs.	1.75	240	95	22800	60"x60"x92"	1000	
MF-ET-400	400	1200 lbs.	2.26	240	107	25690	66"x66"x92"	1200	

REFINING ACCESSORIES

DESIGN FEATURES:

- Cast iron pouring molds are available in various capacities.
- Cascading mold stands custom made to fit existing melting furnace installations, available in stationary or portable designs.
- Silicon carbide fused lip crucibles for use in all melting furnaces, ranging in size from a number 50 to a number 600 tilting furnace.
- Custom fabricated carts for transporting cast iron slag pots, multi level tray carts equipped with swivel casters for handling pouring molds.
- Aluminized hard hat hoods with high temperature lexan windows.
- Aluminized garments including hand gauntlet, coats, pants, boot covers, fire retardant nomex® lined with velcro® fasteners.
- Aluminized curtains cut to order, used for isolating designated "hot spot" areas within the melting furnace operation.
- Material handling tools, cast iron ladles and tongs designed for a variety of applications.



INDUSTRY USES:

Denver Mineral Engineers, Inc. offers a variety of tested and proven products for use in handling and containment of precious metal concentrates including:

- Cast iron pouring molds
- Aluminized garments
- Silicon carbide crucibles
- Specialized hand tools



MINERAL ENGINEERS, INC. 10,001 S. Highway 121, RR#1 Littleton, CO 80125



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SPECIFICATIONS



CAST IRON INGOT MOLDS **FUSED LIP CRUCIBLES** WEIGHT DIMENSIONS Height Topdia. Bottom dia CAPACITY DIMENSIONS CAPACITY WEIGHT MODELCOMPOSITION MODEL cu.ft. lb. Length Width Depth Gold troy oz. Silicon carbide DME#5 7 1/4"x4 1/4"x3 7/8" 45 cu m./500 oz. 20 В. #30 11 5/8" x8 9/16" x6 7/16" 23 (not fused lip) DME#10 14 5/8'x5"x4 3/8" 75 cu.in./1000 oz. 32 b. #50 Silicon carbide 13 13/16"x10 1/4"x8 1/4" 0.35 55 16 3/4"x9 1/4"x6" 115 cu.in./1100 oz. DME#11 35 **b**. #80 Silicon carbide 15 13/16"x11 9/16"x9 7/16" 0.52 75 DME#17 16 3/4"x9"x7 1/2" 190 cuin/1700 oz. 40 **b**. #125 Silicon carbide 17 1/2"x12 7/8"x10 3/8" 0.69 100 CONICAL SLAG POT #225 20 7/8"x15 7/16"x12 1/2" Silicon carbide 1.35 145 WEIGHT DIMENSIONS CAPACITY MODEL #300 Silicon carbide 22 3/4"x16 3/4"x13 3/8" 1.75 165 Gold troy oz. **Diameter Depth** #400 Silicon carbide 24 1/2"x18 1/2"x14 1/2" 2.13 185 DME#55 8"x14" 100.5 cu in. 37 **b**. #500 22 1/2"x23 3/8"x14 1/2" 265 Silicon carbide 2.90 DME#75 19"x14" 1323 cu.in. 85 B. #600 27 3/8"x23 3/8"x14 1/2" 305 Silicon carbide 3.42

PERSONAL PROTECTION





Aluminized Hood This hood incorporates a welder's helmet or hard hat with adjustable rachet for sizing. It includes protection over shoulders with a bib offering protection to upper chest and neck.



Aluminized Back Glove With durable, heat resistant cowhide palm. Aluminized 1-piece back reflects radiant heat. 14" long (36cm). Available in packs of 1 pair.



Fully Aluminized Glove Ideal for jobs that call for radiant heat reflection for the entire hand. 14" long (36cm). Available in packs of 1 pair.

Coat and Pants Aluminized coat and pants to protect torso, arms and legs from hot splashing metals and radiant heat. Pants have reinforced waistband and flame retardant liner.



Heavy-duty PBI Gloves and Mitts. Double wool-lined palms. Provide protection at temperatures up to 927°C (1700°F). Ideal for foundry work, metal curing and refining, aluminum extrusion, and welding. Available in packs of 1 pair.







Spats Aluminized protection for shoes, features heavy stitching on areas heavily exposed to heat.

Leggings Aluminized spat-style protection for shins and top of foot.



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58" crucible charging tongs,	Scissors tongs
DME 1800	DMF 2400
58" crucible pouring tongs,	Scissors tongs
DME 1700	DME 2300

Fire assay Equipment

Part Number	Description
DME 1500	36" cupel tong
DME 1600	42" cupel tong
DME 1700	58" crucible tong, pouring
DME 1800	58" crucible tong, charging
DME 1900	48" crucible tong, pouring
DME 2000	48" crucible tong, charging
DME 2100	Large refining tong
DME 2200	Lead button/bead tongs,7" length
DME 2300	Small scissor tongs
DME 2400	Large scissor tongs
DME 2500	9" Stainless steel crudible tongs
DME 2600	60" cast iron ladle with carbon steel handle

For loading and unloading crucibles and cupels in the furnace one at a time.

Safety Protection

Part Number	Description	Ship Weight		
DME 3000	23" reinforced He-tex mitts	4 Ib.		
DME 3100	14" non-reinforced He-tex mitts	2 lb.		
DME 3200	18" Heat resistant, wool lined gloves	2 lb.		
DME 3300	23" Kevlar, PBI reinforced gloves	2 lb.		
DME 3400	14" Aluminized gloves	2 lb.		
DME 3500	Aluminized gloves, with double back	2 lb.		
DME 3600	Aluminized sleeves, 18" long	2 lb.		

Non-asbestos gloves and mitts. Made with non-asbestos fabrics. Reinforced items feature a double palm and give extra abrasion and wear resistance as well as additional heat protection.

Part Number	Description	Ship Weight
DME 3700	23" reinforced palm asbestos mitts	4 lb.
DME 3800	14" reinforced palm asbestos mitts	2 lb.

Asbestos Mittens. These mittens are designed with a double asbestos pad on the palm, for superior heat and abrasion resistance.

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DART VALVES





DENVER MINERAL ENGINEERS, INC. P.O. Box 3556 Littleton, CO 80161 **FAX:** (303) 932-6205

(303) 932-6280

ELECTROWINNING CELLS

DESIGN FEATURES:

(FOR GOLD/SILVER RECOVERY)

- Polypropylene or SS tank construction.
- SS cathode frame with removable SS mesh pads.
- Perforated SS anode plates.
- Hinged lids with built in ventilation hoods.
- Drip-proof design.
- Exterior copper Busbar for ease of electrical connections and corrosion resistance.
- Slopped bottoms toward drain for easier sludge removal.
- Adjustable interior weir plate for tank level control.



SS EW CELL



POLYPRO EW CELL





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SPECIFICATIONS

Model No.	Capacity	ty Weight) (lbs.)		Dimensions							
Model No.	(cu. fl.)		Α	В	C	D	E	F			
EC-229 ss	28	980	6-51/2"	2-93/8"	4-0 13/16	6-1 1/2"	1'-93/4''	7 13/16"			
EC-229 pp	27	950	6-51/2"	2-93/8"	4-0 13/16"	6-11/2"	1'-93/4"	7 13/16"			
EC-2218 ss	52	2115	10-91/4"	2-93/8"	4-0 13/16	10-51/4"	1'-93/4''	7 13/16'			
EC-2218 pp	50	2100	10-91/4"	2-93/8"	4-0 13/16"	10-51/4"	1'-934'	7 13/16"			
EC-239 ss	38	1500	6-51/2"	2-93/8"	5-0 13/16	6-11/2"	2-33/4"	8"			
EC-239 pp	37	1400	6-51/2"	2-93/8"	5-0 13/16	6-11/2"	2-33/4"	8"			
EC-2318 ss	69	2315	10-91/4"	2-93/8"	5-0 13/16	10-51/4"	2-33/4"	8"			
EC-2318 pp	69	2315	10-91/4"	2-93/8"	5-0 13/16	10-51/4"	2-33/4"	8"			
EC-339 ss	57	1470	6-51/2"	3-93/8"	5-0 13/16	6-11/2"	2-33/4"	8"			
EC-339 pp	56	1450	6-51/2"	3-93/8"	5-0 13/16	6-1 1/2"	2-33/4"	8"			
EC-3318 ss	106	2940	10-91/4"	3'-11 3/8'	5-0 13/16	10-51/4"	2-33/4"	8"			
EC-3318 pp	101	2880	10-91/4"	3'-11 3/8'	5-0 13/16	10-51/4	2-33/4"	8"			

ss: stainless steel pp: polypro

ELECTROWINNING CELL ACCESSORIES

RECTIFIERS

(DC POWER SUPPLY FOR ELECTROW-INNING PROCESS)

DESIGN FEATURES:

- · Various AC input voltages/frequencies
- NEMA 1 or NEMA 3 enclosures.
- SCR or Manual Powerstats.





CATHODE WASHBOX W/PRESSURE WASHER

DESIGN FEATURES: (A FAST AND EFFICIENT WAY TO RECOVER GOLD SLUDGE FROM LOADED CATHODES!!)

- Sizes to fit individual cathodes
- Hanger for use with overhead crane
- Enclosed area keeps gold in box-not on floor
- 1500 PSI pressure washer
- 120V, 60Hz or 220V, 50Hz motor
- Adjustable spray wand
- · Hooks up to common garden hose





Telephone: (303) 932-6280 Fax: (303) 932-6205 E-Mail: <u>sales@denvermineral.com</u> Web Page: http://www.denvermineral.com



EXHAUST FAN WITH MOTOR

(FOR EFFICIENT VENTILATION OF CELLS)

FEATURES:

- 700 CFM blower
- 120V,60 Hz or 220V, 50Hz motor
- Mounts directly to EWcells

FUME BLOWER

(FOR EFFICIENT VENTILATION OF CELLS)

FEATURES:

700 CFM blower 120V,60 Hz or 220V, 50Hz motor Mounts directly to EWcells



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FILTER-PRESS LIQUID/SOLID SEPARATION

LIQUID/SOLID SEPARATION FOR:

- Zinc precipitates
- EDM solutions
- Plating solution
- Sludge dewatering
- Biological
- Brewing



Volumes from 2 to 125 cubic feet Filter areas from 45 to 2500 square feet



FEATURES:

- Heavy duty fabricated steel frame
- Corrosion resistant polypropylene plates
 - Recessed plate standard
 - Available also in canlked and gasketed CGR or plate and frame
 - Light weight for easy handling
- Air/hydraulic closure system
- Plate rollers for easy opening and closure
- Filter clothss

OPTIONS/ACCESSORIES:

- Feed pumps
- Pre-piped manifolds
- Air blowdown manifolds
- Cake hoppers and drum carts
- Self dumping cake carts
- Mounting platforms
- Plate shifters
- Pump control systems
- Electric/hydraulic closure systems





Telephone: (303) 932-6280 Fax: (303) 932-6205 E-Mail: sales@denvermineral.com Web Page: http://www.denvermineral.com



SPECIFICATIONS

Number (FT*) (FT2*) Weight (lbs.) Chambers A B C D FT-630-2 2 45 2800 7 52 36 86 26 FT-630-3 3 70 2950 11 52 36 96 26 FT-630-4 4 90 3100 14 52 36 102 26 FT-630-5 5 115 3275 18 52 36 120 26 FT-630-6 6 135 3375 21 52 36 136 26 FT-630-8 8 179 3700 28 52 36 136 26 FT-800-10 10 101 5650 20 60 44 140 26 FT-800-12 12 121 5900 24 60 44 182 26 FT-800-12 12 121 5900 24 60 44	Model	Volume Filter Area Appro		Approximate	proximate Number of	Dimensions (inches)				
$\begin{array}{c c c c c c c c c c c c c c c c c c c $	Number	(FT ³)	(FT²)	Weight (lbs.)	Chambers	Α	В	С	D	
FT-630-337029501152369626FT-630-4490310014523610226FT-630-55115327518523612026FT-630-66135337521523612026FT-630-88179370028523613626	FT-630-2	2	45	2800	7	52	36	86	26	
FT-630-4490310014523610226FT-630-55115 3275 18523611226FT-630-66135 3375 21523612026FT-630-88179 3700 28523613626T-7800-8880540016604413026FT-800-1010101565020604414026FT-800-1212121590024604414826FT-800-1515151625029604418226FT-800-2020202686039604418226FT-800-2525252747049604426FT-1000-2525522857030685217626FT-1000-3030626911036685221826FT-1000-3535730965042685221826FT-1000-40408351019048685221826FT-1000-50509401127060685221826FT-1200-606012031342047766024026FT-1200-606012031342047766026026FT-1200-70<	FT-630-3	3	70	2950	- 11	52	36	96	26	
$\begin{array}{c ccccccccccccccccccccccccccccccccccc$	FT-630-4	4	90	3100	14	52	36	102	26	
$\begin{array}{c ccccccccccccccccccccccccccccccccccc$	FT-630-5	5	115	3275	18	52	36	112	26	
FT-630-8 8 179 3700 28 52 36 136 26 FT-800-8 8 80 5400 16 60 44 130 26 FT-800-10 10 101 5650 20 60 44 140 26 FT-800-12 12 121 5900 24 60 44 148 26 FT-800-15 15 151 6250 29 60 44 182 26 FT-800-20 20 202 6860 39 60 44 182 26 FT-800-25 25 252 7470 49 60 44 204 26 FT-1000-25 25 522 8570 30 68 52 176 26 FT-1000-30 30 626 9110 36 68 52 188 26 FT-1000-35 35 730 9650 42 68 52 218 26 FT-1000-40 40 835 10190 48	FT-630-6	6	135	3375	21	52	36	120	26	
FT-800-8880540016604413026 $FT-800-10$ 10101565020604414026 $FT-800-12$ 12121590024604414826 $FT-800-15$ 15151625029604418226 $FT-800-20$ 20202686039604418226 $FT-800-25$ 25252747049604420426 $FT-800-25$ 25522857030685217626 $FT-1000-25$ 25522857030685218826 $FT-1000-30$ 30626911036685218826 $FT-1000-35$ 35730965042685220426 $FT-1000-45$ 457831073054685221826 $FT-1000-50$ 509401127060685224526 $FT-1200-50$ 509981266039766024026 $FT-1200-50$ 509981266039766024026 $FT-1200-60$ 6012031342047766024026 $FT-1200-60$ 6016121494063766028026 $FT-1200-90$ 901817157007176 <t< td=""><td>FT-630-8</td><td>8</td><td>179</td><td>3700</td><td>28</td><td>52</td><td>36</td><td>136</td><td>26</td></t<>	FT-630-8	8	179	3700	28	52	36	136	26	
FT-800-8880540016604413026 $FT-800-10$ 10101565020604414026 $FT-800-12$ 12121590024604414826 $FT-800-15$ 15151625029604418226 $FT-800-20$ 20202686039604418226 $FT-800-25$ 25252747049604420426 $FT-100-25$ 25522857030685217626 $FT-100-30$ 30626911036685218826 $FT-100-35$ 35730965042685220426 $FT-100-35$ 35730965042685221826 $FT-100-35$ 35730965042685221826 $FT-100-35$ 357831019048685221826 $FT-100-50$ 509401127060685224526 $FT-1200-50$ 509981266039766022026 $FT-1200-70$ 7014081418055766028026 $FT-1200-70$ 9018171570071766030026 $FT-1200-100$ 100202214460797660<										
FT-800-1010101565020604414026FT-800-1212121590024604414826FT-800-1515151625029604418226FT-800-2020202686039604418226FT-800-2525252747049604420426T-800-2525522857030685217626FT-1000-2525522857030685218826FT-1000-3030626911036685218826FT-1000-3535730965042685221426FT-1000-40408351019048685221826FT-1000-45457831073054685224526FT-1000-50509401127060685224526FT-1200-50509981266039766022026FT-1200-606012031342047766028026FT-1200-707014081418055766028026FT-1200-808016121494063766030026FT-1200-909018171570071766032026 </td <td>FT-800-8</td> <td>8</td> <td>80</td> <td>5400</td> <td>16</td> <td>60</td> <td>44</td> <td>130</td> <td>26</td>	FT-800-8	8	80	5400	16	60	44	130	26	
FT-800-1212121590024604414826FT-800-1515151 6250 29 60 44 160 26FT-800-2020202 6860 39 60 44 182 26FT-800-2525252 7470 49 60 44 204 26 FT-1000-2525522 7470 49 60 44 204 26 FT-1000-2525522 8570 30 68 52 176 26 FT-1000-3030 626 9110 36 68 52 188 26 FT-1000-3535 730 9650 42 68 52 218 26 FT-1000-4040 835 10190 488 68 52 218 26 FT-1000-4545 783 10730 54 68 52 218 26 FT-1000-5050 940 11270 60 68 52 245 26 FT-1200-50 50 998 12660 39 76 60 240 26 FT-1200-60 60 1203 13420 47 76 60 240 26 FT-1200-70 70 1408 14180 55 76 60 280 26 FT-1200-80 80 1612 14940 63 76 60 320 26 FT-1200-90 90 181	FT-800-10	10	101	5650	20	60	44	140	26	
FT-800-1515151625029604416026FT-800-2020202686039604418226FT-800-2525252747049604420426T-800-2525522857030685217626FT-1000-2525522857030685218826FT-1000-3030626911036685218826FT-1000-3535730965042685220426FT-1000-40408351019048685221826FT-1000-45457831073054685223026FT-1000-50509401127060685224526FT-1200-50509981266039766022026FT-1200-707014081418055766028026FT-1200-707018171570071766030026FT-1200-909018171570071766030026FT-1200-10010020221446079766032026FT-1200-12512525081626598766036826	FT-800-12	12	121	5900	24	60	44	148	26	
FT-800-2020202686039604418226FT-800-2525252747049604420426FT-1000-2525522857030685217626FT-1000-3030626911036685218826FT-1000-3535730965042685220426FT-1000-40408351019048685221826FT-1000-45457831073054685223026FT-1000-50509401127060685224526FT-1200-50509981266039766022026FT-1200-707014081418055766028026FT-1200-808016121494063766028026FT-1200-909018171570071766030026FT-1200-10010020221446079766032026FT-1200-12512525081626598766036826	FT-800-15	15	151	6250	29	60	44	160	26	
FT-800-2525252747049604420426FT-1000-2525522857030685217626FT-1000-3030626911036685218826FT-1000-3535730965042685220426FT-1000-40408351019048685221826FT-1000-45457831073054685223026FT-1000-50509401127060685224526FT-1200-50509981266039766022026FT-1200-606012031342047766024026FT-1200-707014081418055766028026FT-1200-808016121494063766028026FT-1200-909018171570071766030026FT-1200-10010020221446079766032026FT-1200-12512525081626598766036826	FT-800-20	20	202	6860	39	60	44	182	26	
FT-1000-2525522857030685217626FT-1000-3030 626 911036 68 52 18826FT-1000-35357309650 42 68 52 20426FT-1000-40408351019048 68 52 21826FT-1000-45457831073054 68 5223026FT-1000-50509401127060 68 5224526FT-1200-50509981266039766022026FT-1200-606012031342047766024026FT-1200-707014081418055766028026FT-1200-909018171570071766030026FT-1200-10010020221446079766032026FT-1200-12512525081626598766032026	FT-800-25	25	252	7470	49	60	44	204	26	
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$\begin{array}{c ccccccccccccccccccccccccccccccccccc$	FT-1000-25	25	522	8570	30	68	52	176	26	
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FT-1000-40 40 835 10190 48 68 52 218 26 FT-1000-45 45 783 10730 54 68 52 230 26 FT-1000-50 50 940 11270 60 68 52 245 26 FT-1000-50 50 940 11270 60 68 52 245 26 FT-1200-50 50 998 12660 39 76 60 220 26 FT-1200-60 60 1203 13420 47 76 60 240 26 FT-1200-70 70 1408 14180 55 76 60 260 26 FT-1200-80 80 1612 14940 63 76 60 280 26 FT-1200-80 90 1817 15700 71 76 60 300 26 FT-1200-100 100 2022 14460 79 76 60 320 26 FT-1200-125 125 2508 16	FT-1000-35	35	730	9650	42	68	52	204	26	
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FT-1000-50 50 940 11270 60 68 52 245 26 FT-1200-50 50 998 12660 39 76 60 220 26 FT-1200-50 50 998 12660 39 76 60 220 26 FT-1200-60 60 1203 13420 47 76 60 240 26 FT-1200-70 70 1408 14180 55 76 60 260 26 FT-1200-80 80 1612 14940 63 76 60 280 26 FT-1200-90 90 1817 15700 71 76 60 300 26 FT-1200-100 100 2022 14460 79 76 60 320 26 FT-1200-125 125 2508 16265 98 76 60 368 26	FT-1000-45	45	783	10730	54	68	52	230	26	
Image: Mark Note of the system Image:	FT-1000-50	50	940	11270	60	68	52	245	26	
FT-1200-50509981266039766022026FT-1200-606012031342047766024026FT-1200-707014081418055766026026FT-1200-808016121494063766028026FT-1200-909018171570071766030026FT-1200-10010020221446079766032026FT-1200-12512525081626598766036826										
FT-1200-606012031342047766024026FT-1200-707014081418055766026026FT-1200-808016121494063766028026FT-1200-909018171570071766030026FT-1200-10010020221446079766032026FT-1200-12512525081626598766036826	FT-1200-50	50	998	12660	39	76	60	220	26	
FT-1200-707014081418055766026026FT-1200-808016121494063766028026FT-1200-909018171570071766030026FT-1200-10010020221446079766032026FT-1200-12512525081626598766036826	FT-1200-60	60	1203	13420	47	76	60	240	26	
FT-1200-808016121494063766028026FT-1200-909018171570071766030026FT-1200-10010020221446079766032026FT-1200-12512525081626598766036826	FT-1200-70	70	1408	14180	55	76	60	260	26	
FT-1200-909018171570071766030026FT-1200-10010020221446079766032026FT-1200-12512525081626598766036826	FT-1200-80	80	1612	14940	63	76	60	280	26	
FT-1200-10010020221446079766032026FT-1200-12512525081626598766036826	FT-1200-90	90	1817	15700	71	76	60	300	26	
FT-1200-125 125 2508 16265 98 76 60 368 26	FT-1200-100	100	2022	14460	79	76	60	320	26	
	FT-1200-125	125	2508	16265	98	76	60	368	26	

Cake thickness assumed to be 32 mm (1.26 inches)

Design temperature to: 212°F

Design pressure rating to:100 psi

Standard recessed (nongasketed) polypropylene plates

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	% Suspended Solids	Avg. Dry Wt. cu. ft.
Gold Electrowon	25-75	90
Gold/silver Precipitate	50-80	90
Biological	15-25	15
Metal Hydroxide	25-40	25
Lime Treated	15-60	30

Gal.x%Suspended Solid x 8.33

Avg. Lbs. Dry Wt / Cu. ft.

SLUDGE FILTER PRESS



470 mm Sludge Press Center Feed 10-35 GPM

LIQUID/SOLID SEPARATION FOR:

- Gold Sludges
- Plating Solutions
- Sludge Dewatering
- EDM Solutions
- Biological
- Brewing

FEATURES:

- Portable
- Expandable
- Filter Plates, Solid Polypropylene Recessed Chamber Plates, Caulked and Gasketed General Purpose Corrosion Resistant
- Simple Manual Hydraulic Closure
- Filter Cloths, Woven Multifilament Polypropylene
- Heavy Duty Head and Tail Plates
- Air Blowdown Manifold With Valves
- Diaphragm Feed Pump, Polypropylene Construction Double Diaphragm Type Air Operated with Gauge And Regulator
- Heavy Duty Dual Stage
 Manual Hydraulic Pump
- Discharge Pan, Polypropylene or Stainless Steel
- Cleaning Paddle
- Shop Assembled and Tested
- Fork Lift Pockets



320 mm Sludge Press Comer Feed 5-10 GPM

- Mobile Press, Heavy Duty Casters, Lockable Swivels
- Steel or Polypropylene Base
- Epoxy Painted for Maximum Chemical Resistance
- Minimum Working Temperature 20° C
- Maximum Working Temperature 100°C Pressures up to 100 PSI

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10,001 S. Highway 121, RR#1 Littleton, CO 80125



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SPECIFICATIONS

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MODEL NO.	CAPACI- TY (FT3)	NUME OFCHAM	ER IBERS	APPRC WEIG	DXIMA	ATE 3S)	PLATE S	IZE (/ x D	IN)	TOTAL AREA (SQ. FT.)	`	CLOSURES SYSTEM	
FP-320-2	.12	2		2	47.4		12.6 X 12	.6 X	2.17	1.31	м	MANUAL/HYD	
FP-320-3	.18	3	3		254.8		12.6 X 12.6 X 2.17		2.63	м	MANUAL/HYD		
FP-320-4	.24	4		2	62.2		12.6 X 12	.6 X	2.17	3.94	М	ANUAL/HYD	
FP-320-5	.30	5		2	69.6		12.5 X 12	.6 X	2.17	5.25	м	ANUAL/HYD	
FP-320-6	.36	6		2	77.0		12.5 X 12	.6 X	2.17	6,57	М	ANUAL/HYD	
FP-470-4	.54	4		1	135.0		18.5 X 18	.5 X	2.25	11.37	M	ANUAL/HYD	
FP-470-6	.81	6		1	165.0		18.5 X 18	.5 X	2.25	17.05	M	ANUAL/HYD	
FP-470-8	1.08	8		1	195.0		18.5 X 18	.5 X	2.25	22.74	М	ANUAL/HYD	
FP-470-10	1.35	10		1:	225.0		18.5 X 18	.5 X	2.25	28.42	М	ANUAL/HYD	
FP-470-12	1.62	12		1:	295.0		18.5 X 18	.5 X	2.25	34.10	M	ANUAL/HYD	
FP-470-14	1.89	14		1:	325.0		18.5 X 18	.5 X	2.25	39.79	М	MANUAL/HYD	
FP-470-16	2.16	16		1	1355.0		18.5 X 18.5 X 2.25		45.47	М	ANUAL/HYD		
FP-470-18	2.43	18		1385.0			18.5 X 18	.5 X	2.25	51.16	М	ANUAL/HYD	
MODEL	CAKE THK	PL. Vol.	PL. Wt		DIM	ENSIO	SIONS (Inches)		F	Sludge Pump Conn. NPT	AIR	RQMTS	
FP-320-2	1.26	.45	7.4	20.0	47.0	23.25	5.12	5.0	6.50	1" X ¾"	5	40	
FP-320-3	1.26	.45	7.4	20.0	47.0	23.25	5.12	5.0	8.66	1" X ¾ "	5	40	
FP-320-4	1.26	.45	7.4	20.0	47.0	23.25	5.12	5.0	10.83	1" X ¾"	5	40	
FP-320-5	1.26	.45	7.4	20.0	47.0	23.25	5.12	5.0	12.99	1" X ¾"	5	40	
FP- 320-6	1.26	.45	7.4	20.0	47.0	23.25	5.12	5.0	15.16	1" X ¾"	5	40	
FP-470-4	1.26	1.01	15.0	36.25	78 .0	42.0	6.0	9.0	11.12	3"X 1-1⁄2"	12	50	
FP-470-6	1.26	1.01	15.0	36.25	78.0	42.0	6.0	9.0	15.62	3" X 1-1⁄2"	12	50	
FP-470-8	1.26	1.01	15.0	36.25	78.0	42.0	6.0	9.0	20.12	3" X 1-1⁄2"	12	50	
FP-470-10	1.26	1.01	15.0	36.25	78.0	42.0	6.0	9.0	24.62	3" X 1-1/2"	12	50	
FP-470-12	1.26	1.01	15.0	36.25	92.0	42.0	6.0	9.0	29.12	3" X 1-1/2"	12	50	
FP-470-14	1.26	1.01	15.0	36.25	92.0	42.0	6.0	9.0	33.62	3" X 1-1/2"	12	50	
FP-470-16	1.26	1.01	15.0	36.25	92.0	42.0	6.0	9.0	38.12	3" X 1-1/2"	12	50	
FP-470-18	1.26	1.01	15.0	36.25	92.0	42.0	6.0	9.0	42.62	3" X 1-1/2"	12	50	

Sizing: CU. FT. CAPACITY = GAL.x %Suspended Solids X 8.33 AVG. Lbs. Dry Wt./CU. FT.

Sludge Type	% Suspended Solids	Average Dry Weight/CU. FT.
Gold Electrowon	25-75	90
Biological	15-25	15
Metel Hydroxide	25-40	25
Lime Treated	15-60	30

STATIC SIEVE BEND DSM SCREEN

INDUSTRY USES:

- Mineral Processing
- Chemical Industry
- Food Processing
- Pulp and Paper
- Waste Treatment



static sieve bend DSM screen



DESIGN FEATURES:

- High Capacity
- Non-Clogging
- No Moving Parts
- Stainless Steel Wedge Wire Screen
- Low Space Requirement
- Mild Steel Housing
- Gravity Feed, 60° Slope
- Adjust Flow Wier

OPTIONS:

- Rubber Lining
- Feed Chute
- Discharge Chute
- Self Adjusting Feed
- Customized Nozzle Locations





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SPECIFICATIONS

Model	Dewatering	Screen	Sump Volume	Dimensions (inches)								Weight	
Number	Capacity GPM	Width in fl.	Gallons	А	В	С	D	E	F	G	Η	Lbs	
DSM-2	200 to 400	2	25	24.5	66	36	45	12	4	6	15	550	
DSM-3	300 to 600	3	37	36.5	66	36	45	12	6	8	15	850	
DSM-4	400 to 800	4	50	48.5	66	36	45	12	6	10	15	1150	
DSM-6	600 to 1200	6	75	72.5	66	36	45	12	8	12	15	1450	
DSM-8	800 to 1600	8	100	96.5	66	36	45	12	10	12	15	1750	



Static Sieve Opening Table

Separation	Screen Opening						
Size (Mesh)	Inches	mm					
4	.280	7.00					
6	.200	5.00					
8	.140	3.50					
10	.120	3.00					
12	.110	2.70					
14	.100	2.50					
16	.080	2.00					
20	.060	1.50					
28	.040	1.00					
35	.030	0.75					
48	.020	0.50					
60	.016	0.40					
80	.013	0.33					
100	.010	0.25					
150	.008	0.20					
200	.006	0.15					
325	.004	0.10					
400	.003	0.075					

Note: Capacities shown are typical, but are not guaranteed for any specific application.

SOLUTION HEATERS

1,000,000 TO 4,000,000 BTU PER HOUR **INSTANTANEOUS HOT SOLUTION HEATER DIESEL - LPG - NATURAL GAS**

FEATURES:

- Direct-fired coil heater
- Pre-plumbed fuel and solution train
- Pre-wired control panel 115V/1ph/60 hz
- High temperature shut-off
- Automatic control valve for continuous proportional control
- Relief valve
- Draft diverter/dampener
- Discharge thermometer
- Discharge pressure gauge
- Discharge throttling valve
- ·Honeywell flame guard system
- Honeywell ignition system
- All carbon/stainless steel construction

TEMPERATURE RISE 70° F TO 140°F UP TO 70 GALLONS PER MINUTE DESIGN MAX. PRESSURE 100 PSIG DESIGN MAX. TEMPERATURE 300°F



1 mbtu solution heater

OPTIONS:

- Stainless steel coil
- 220V/1ph/50hz
- Rain cap
- Vent stack
- Motorized damper



Littleton, CO 80125

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Madal Na	Fu	el Consumption	n	Unit Dimensions	Weight
Model Ind.	OL	GAS	LPG	(L" x W" x H")	LBS
SH-1 MBTU	9 GPH	1400 CFM	16 GPH	48 x 36 x 86	1200
SH-2 MBTU	18 GPH	2800 CFM	32 GPH	60 x 48 x 86	1850
SH-3 MBTU	27 GPH	4200 CFM	48 GPH	60 x 84 x 86	3050
SH-4 MBTU	36 GPH	5600 CFM	64 GPH	60 x 96 x 86	3700

Madal Na	Co	oil	Process	Conn.	Fuel Co	LPG Tank	
Middel IND.	Size	Length	Inlet*	Outlet*	Gas+	Oil+	Requirements
SH-1 MBTU	1.315"dia	320'	(1) 1" dia.	(1) 1" dia.	(1) 1 1/2"	(1)3/4"	(1) 1000 gallon
SH-2 MBTU	1.9"dia	48 0'	(1) 1 1/2" dia.	(1) 1" dia.	(1) 1 1/2"	(1)3/4"	(2) 1000 gallon
SH-3 MBTU	1.9"dia	640'	(2) $1 \frac{1}{2}$ " dia.	(2) 1 1/2" dia.	(2) 1 1/2"	(2)3/4"	(3) 1000 gallon
SH-4 MBTU	1.9"dia	960'	(2) 1 1/2" dia.	(2) 1 1/2" dia.	(2) 1 1/2"	(2)3/4"	(4) 1000 galon

Requirement:

- 50 to 75 PSI solution pressure
- Fuel pressure at burner:
 - Natural gas 9-13" H₂O
 - LPG 18-27" H₂O
 - Diesel 100 PSI
- Mimimum room temperature 45°F
- 16" diameter exhaust stack

Performance chart notes:

- Ratings shown at 70°F sea level
- Derate efficiency at 4% per each 1000 ft of altitude over 3000 ft
- * Flange connection 150# ANSI
- + Threaded female NPT connection





V-NOTCH TROUGH FLOW DISTRIBUTORS



FEATURES:

- Even distribution of liquids
- High capacities 10gpm to 4400gpm
- 4:1 Turndown ratio
- Stainless steel construction
- Feed velocities up to 10 feet per second
- All components are segmented to fit through
- 16" ID manway for easy assembly
- Center support beam required for diameters 9 feet or larger
- Computerized cut v-notches

INDUSTRY USES:

- Scrubbers
- Deaerators
- Strippers
- Fractionators

OPTIONS:

- Tower packing polypropylene or stainless steel
- Feed distributor piping carbon steel or stainless steel
- Ladders
- Platforms





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SPECIFICATIONS

Model No.	Tower ID A	Troughs center to center	Parting box center to	V-notch No.		Caj	pacity and w	veight	chart	
		В	C		single partin	g box	double partin	g box	tripple parting	g box
			GPM	LBS	GPM	LBS	GPM	LBS		
FD-3	36" to 47"	12"		2	10 to 370	55	-	-	-	-
FD-4	48" to 59"	12"	20"	3	20 to 550	150	135 to 700	170	-	-
FD-5	60" to 71"	12"	24"	4	30 to 750	220	180 to 1100	250	-	-
FD-6	72" to 83"	12"	28"	5	40 to 970	300	240 to 1700	340	1	-
FD-7	84" to 95"	12"	34"	6	-	-	85 to 2200	440	-	-
FD-8	96" to 108"	12"	36"	7	-	-	90 to 2550	570	-	-
FD-9	108" to 120"	12"	40"	8	-	-	100 to 2800	700	-	-
FD-10	120" to 132"	15"	54"	10	-	-	150 to 3400	855	-	-
FD-11	132" to 144"	15"	60"	11	-	-	250 to 3800	1015	-	-
FD-12	144" to 150"	18"	76"	12	_	-	-	-	775 to 4400	1100

Note:
1. Single parting box mounted on vessel center line.
2. Double parting boxes to straddle vessel center line.
3. Triple parting box to mount on vessel center line. and others to straddle center line.

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MIXER-SETTLER SYSTEMS

Mixer-Settlers are utilized for liquid-liquid ion exchange, and chemical reaction in the metallurgical and chemical process industries.

The following operations are performed in one stage of a mixer-settler.

- 1. Intimate contact in the mixer between the feed solution and the immiscible extraction solvent that is selective for a given constituant in the feed.
- 2. Gravity separation of the two-phase mixture in a settling chamber.

The separated two phases then pass counter-currently to adjacent stages for a stage-wise extraction, or reaction process. Sizes are offered from laboratory/pilot scale to large commercial sizes.



DESIGN FEATURES

- Pumping Turbine Mixers allow entire systems to be mounted on a single level without the need for interstage pumps. Turbine position may be varied to optimize pumping and mixing performance. Fixed speed gear drive, belt drive and continuously variable-speed mixers are available with TEFC or explosion-proof motors.
- Smaller systems may utilize common wall tanks to reduce cost and space requirements.
- Overflow weirs for the heavier phase are adjustable. This allows the position of the interphase in each settler to be independently regulated according to the densities of the two phases.
- Phase re-cycling capability to allow organic or aqueous continuous phases, regardless of overall phase throughput, is standard.
- Optional covers for mixers and settlers are available;
- Available materials of construction include, fiberglass, polypropylene, kynar and stainless steel.



P.O. Box 3556 Littleton, CO 80161 (303) 798-4442 FAX (303) 730-2431



10,001 S. Highway 121, RR #1 Littleton CO. 80125

(303)-932-6280 (VOICE) (303)-932-6205 (FAX)

MIXER SETTLER SYSTEMS



PILOT AND SMALL COMMERCIAL SYSTEMS



STAINLESS STEEL, FRP OR POLYPRO CONSTRUCTION

MERCURY RETORTS

INDUSTRY USES

Denver Mineral Engineers' mercury retorts are designed to remove water and mercury from:

- Precious metal concentrates
- Contaminated soils and refuse
- Fluorescent light bulbs

STANDARD DESIGN FEATURES

- 316 stainless steel retort chamber
- Insulated carbon steel shell (surface temperature no greater than 150 deg. F, 65 deg. C)
- Electrically heated and controlled with a variable "ramp and soak" temperature controller
- Retort door sealed with a heat resistant O-ring
- Sulfur-impregnated activated carbon mercury filters
- Stainless steel condensers and heat exchangers
- Carbon steel oversized mercury collection tank with drain and level gauge
- 316 SS retort trays
- Skid mounted, pre-piped, pre-wired, for easier set-on-site installation



OPTIONS AVAILABLE

- Fuel oil fired
- Gas fired
- All SS/PVC process equipment
- Closed-loop chilled water
- RA-330 SS retort
- 380 VAC/3PH/50HZ
- RS-485 or RS-232 data communication
- Alternate control schemes
- Custom designs





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Telephone: (303) 932-6280 Fax: (303) 932-6205 E-Mail: <u>sales@denvermineral.com</u> Web Page: http://www.denvermineral.com

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SPECIFICATIONS

MODEL	BATC	H VOL	POWER	RETORT	RETO	rt dia	W	xLxH	WEI	GHT
	Cubic Feet	Cubic Meters	REQUIRED	TRAYS	Feet	Meters	Feet	Meters	Lbs	Kg
MR-LAB	0.04	0.001	8KW	1-6"x4" dia.			4x4x4	1.2x1.2x1.2	600	272
MR-1	1.0	0.028	15KW	3-6"x12" dia.	1.67	0.51	6x4x6	1.8x1.2x1.8	1200	544
MR-2	2.0	0.057	22KW	4-5"x16" dia.	2.5	0.76	8x6x8	2.4x1.8x2.4	1600	726
MR-4	4.0	0.113	27KW	4-4"x18"x30"	3	0.91	8x10x8	2.4x3.0x2.4	2600	1179
MR-8	8.0	0.227	40KW	5-4"x21"x44"	3.5	1.07	8x14x8	2.4x4.3x2.4	3600	1633
MR-15	15.0	0.425	55KW	4-6"x30"x44"	4	1.22	8x14x8	2.4x4.3x2.4	4100	1860
MR-25	25.0	0.708	65KW	4-6"x36"x60"	5	1.52	8x18x8	2.4x5.5x2.4	5200	2359
MR-35	35.0	0.991	80KW	5-6"x36"x66"	5	1.52	8x18x8	2.4x5.5x2.4	5800	2631

WATER TREATMENT SYSTEMS

Denver Mineral Engineers, Inc. custom designs and fabricates modular water treatment systems to solve a wide variety of water problems. Generally, laboratory testwork must be performed to develop the appropriate solution. Typical problems solved and treatment methods include:

Heavy Metal Removal: Chemical Precipitation

Chemical Precipitation Ion Exchange pH Adjustment Flocculation Clarification Filtration Electrolytic Precipitation Electrowinning

Oily Water Treatment:

Gravity Separation Coalescing Dissolved Air Flotation Carbon Adsorption Organoclay Adsorption Ultrafiltration



LINERAL ENGINEERS, INC 10,001 S. Highway 121, RR#1 Littleton, CO 80125



Cyanide Destruction: Hydrogen Peroxide SO – Air Chlorine Ferrous Sulfate Electrolytic Oxidation Reverse Osmosis

Potable Water: Chlorination Ozonation Softening Filtration Reverse Osmosis



Telephone: (303) 932-6280 Fax: (303) 932-6205 E-Mail: <u>sales@dervermineral.com</u> Web Page: http://www.dervermineral.com

Ground Water: Ion Exchange Chemical Precipitation Reverse Osmosis Ultrafiltration

Air Stripping Carbon Adsorption

Wash Water Recycling: Gravity Separation

Gravity Separation Coalescing Chemical Precipitation Ultrafiltration Filtration

Solids Removal:

Clarification Coagulation Flocculation Gravity Filtration Pressure Filtration Multimedia Filtration



Sludge Treatment:

Thickening Clarification Filtration Stabilization Drying



Water treatment systems are typically supplied as modular shop-built systems that are completely assembled, tested, and ready to run. Custom modifications to suit site specific criteria can be easily accommodated. Portable systems suitable for construction sites or temporary requirements are also available. A one GPM pilot plant is offered on a rental basis to test various process methods on site before committing to a full scale system.

POLYPROPYLENE • PVC • LDPE • CPVC • HDPE • ABS

Excellent Quality + Low Price + Fast Delivery = 100% Customer Satisfaction! At PFI, our customers make us Number One. We are your complete source of expertise in plastics fabrication including... all types of tanks, hoppers, prototypes and custom process equipment.

PFI can also assist in repairing your current equipment, either at our site... or at yours with our "On-Site-Service".

Call Process Fabricators for a quote on all of your plastic fabrication needs.



- Custom Tanks
- Custom Bins
- R & D Systems

Water Treatment Pilot Plant

- Special Components
- Modular Assemblies
- Trailer Mounted Assemblies



Electrowinning Cells



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Excellent Quality + Low Price + Fast Delivery = 100% Customer Satisfaction! At PFI, our customers make us Number One. We are your complete source of expertise in plastics fabrication including... all types of tanks, hoppers, prototypes and custom process equipment.

PFI can also assist in repairing your current equipment, either at our site... or at yours with our "On-Site-Service".

Call Process Fabricators for a quote on all of your plastic fabrication needs.



- Custom Tanks
- Custom Bins
- R & D Systems

Water Treatment Pilot Plant

- Special Components
- Modular Assemblies
- Trailer Mounted Assemblies



Electrowinning Cells



Telephone: (303) 932-6885 Fax: (303) 932-6205 E-Mail: <u>staff@processfabricators.com</u> Web Page: http://www.processfabricators.com

MOBILE WATER TOWER



Mobile Water Tower Up Position

- Fills water trucks in 2 to 5 minutes
- Reduces trip time
- Uses low capacity wells and hydrants

- Easily transportableQuick set-up
- Move with a 1 ton or larger truck
- Simple hydraulic raising



Mobile Water Tower Down Position



10,001 S. Highway, RR#9 Littleton, CO 80125

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 INC.
 E-Mail: staff@processfabricators.com

 10,001 S. Highway 121. RR#9
 Web Page: http://www.processfabricators.com

SPECIFICATIONS

Littleton, CO 80125

Capacity:	12000 gallons
Tank Design:	Cylindrical cross-section flat vertical with butt seam construction A-36 steel plate
Tank Frame:	Heavy duty construction, square tubing
Painting:	Exterior painted Desert Tan
Discharge Pipe:	12" with quick discharge dump valve
Discharge Capacity:	3500 to 4200 GPM
Fill Line:	4" with automatic slow shut-off valve
Clearance:	12'-0" under loading pipe
Tank Raising Method:	DC powered hydraulic pump and cylinders
DOT Standard:	Complete running lights, stop/tail lights with ICC seven connector plug
Wheels:	20" heavy duty truck type
Loading Gear:	Hydraulic powered
Brakes:	Standard air powered
Towing Hitch:	Standard fifth-wheel type attached to tank
Weight:	18500 lbs

DIMENSIONS IN OPERATING POSITION

Height:	20'-8"
Width:	7'-11 ½"
Length:	43'-0"

DIMENSIONS IN TRAVEL POSITION

Height:	13'-5"
Width:	7'-11 ½"
Length:	43'-0"



Process Fabricators Inc. manufactures a complete line of liquid vacuum tanks both in NON-CODE and FULL ASME - D.O.T. 407/412 CODE units, and truck or trailer mounted units, from 400 gallons to 6000 gallons, constructed from mild steel, stainless steel, and aluminum, to serve the septic, industrial, oil field, municipal, portable sanitation, and hazardous waste industries.

CAPACITY	TANK SIZE
3800 gal. (90BBL)	72" dia. X 17'-0" lg.
3400 gal. (80BBL)	72" dia. X 15'-0" lg.
2200 gal. (60BBL)	60" dia. X 15'-0" lg.
1400 gal	60" dia. X 10'-0" lg.
900 gal.	48" dia. X 10'-0" lg.

Standard sizes:

Standard Features (larger units):

- ¹/₄" thick shell and heads
- 2 ¼" thick internal baffles
 2 20" diameter manways
- Primary shutoff
- Secondary shutoff3" and 4" load and dump
- Full length sub frame
- Load level indicator
- Full bumper
- Hose rack fenders and hose hooks
- Prime painted
- Rear work lights



P.O. Box 3556 Littleton, CO 80161 E-Mail: staff@processfabricators.com Web Page: http://www.processfabricators.com





VACUUM TANK SYSTEM

Options:

Vacuum pump system Choice of drive types Pressure and vacuum relief valves **Final Filter** Vacuum pump Fresh water tank Fresh water pump Toilet rack Pressure offloading Load line and dump hose Load and dump valves Internal coating Jetter unit Hydraulic tilt and dump cylinder

Components in a vacuum tank system:

- 1) Primary Shutoff
- 2) Secondary Shutoff
- 3) Final Filter
- 4) Vacuum Pump
- 5) Oil Catch Muffler
- 6) Valve
- 7) 36" Manway8) Sight Eye Assembly9) Vacuum Tank
- 10) 21" Manway
- 11) Load Level Indicator

WATER TRUCK TANKS



Options:

Finish paint Interior coating Stainless steel tank Ladder Pumping systems Spray valves Monitor Flusher nozzles Cab controls Level gauge Hydrant fill Hose reel Tool boxes Rear bumper Lights and reflectors Suction loading system Mounting bracket Rear quick dump

Standard Features:

Rugged ASTM A-36 steel construction Entire tank welded inside and out Engineered heads Reinforced support frame Engineered surge baffles with offset crawl holes 20" splash guard fill hole Low profile design Heavy duty fenders Exterior prime coated Bare tank or complete system

Standard Sizés:

- 1300 gallon x 8 ft long
- 2000 gallon x 12 ft long
- 2000 gallon x 9 ft long
- 3100 gallon x 14 ft long • 3500 gallon x 16 ft long
- 4000 gallon x 18 ft long
- •4000 galion x 18 ft long



PROCESS FABRICATORS INC.

10001 S Highway 121 RR #9 Littleton, CO 80125 Telephone: (303) 932-6885 Fax: (303) 932-6205 E-Mail: <u>staff@processfabricators.com</u> Web Page: http://www.processfabricators.com



Littleton, CO 80125

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STANDARD WATER TRUCK SYSTEM

HEAVY DUTY DUMP BODIES

FEATURES

- Semi-elliptical shape combines the best features of both round bottom (bath tub) and standard rectangular shaped dump boxes.
- 1/4" thick AR-400 abrasion and impact resistant steel construction resists damage caused by large falling objects.
- Straight sides and bottom improves load stability on curves.
- Fully boxed, air operated, dual action, high lift tailgate system with protected side mount air cylinders. This system allows the tailgate to function as a standard hilift system for dumping large rock and debris, or as a spreader gate for sand, gravel, and dirt.
- Diamond shaped top rail designed to effectively shed material and prevent damage.

• Dual air cylinder actuated high torque tailgate latches.







10001 S Highway 121 RR #9 Littleton, CO 80125

The HD Series is designed for numerous applications such as:

- Paving
- Excavating
- Material hauling
- General contracting
- Rip-Rap
- Demolition Debris

Telephone: (303) 932-6885 Fax: (303) 932-6205 E-Mail: <u>sales@denvermineral.com</u> Web Page: http://www.processfabricators.com

HD SERIES SPECIFICATIONS

LENGTH	SIDE HEIGHT	TAILGATE HEIGHT	CUBIC YARDS	BODY ONLY WEIGHT
13 FT.	3'-4"	3'-9"	13	4858lbs.
14 FT.	3'-4"	3'-9"	14	5069 lbs.
15 FT.	3'-4"	3'-9"	15	5280 lbs.
16 FT.	3'-4"	3'-9"	16	5492 lbs.
17 FT.	3'-4"	3'-9"	17	5703 lbs.

CAUTION: The combined weights of truck, body, hoist and load mut not exceed the truck's Gross Vehicle Weight rating.

The Company reserves the reight under its product improvement policy to change construction or design details and furnish equipment when so altered without reference to illustrations or specifications used herein.





10001 S Ilighway 121 RR #9 Littleton, CO 80125

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ELLIPTICAL DUMP BODIES



Key Features:

- Elliptical shape provides clean dumping, limits impact forces, provides self centering loads.
- 1/4" AR-400 steel sides and floor.
- ¹/₄" AR-400 doghouse.
- ¹/4" AR-400 fully boxed, air operated, dual action, high lift tailgate system with protected side mount air cylinders. This system allows the tailgate to function as s standard hi-lift system for dumping large rock and debris, or as a spreader gate for sand, gravel, and dirt.
- Air latched gate.
- 8" permanently mounted asphalt spreader apron.
- 10 gauge tandem rear fenders.
- Rugged rear corner posts.
- Diamond shaped top rail designed to effectively shed material and prevent damage.
- Continuous weld seams for greater strength.
- Available in 14 ft., 15 ft., 16 ft., and 17 ft. lengths.



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10001 **REFERENCE LIST** S. Highway 121 RR1 **CARBON ADSORPTION COLUMNS** Littleton Colorado 80125 Placer Dome Pipeline Project American Pacific Minerals Ltd. USA Cortez, Nevada Gold field, Nevada Phone Battle Mountain Gold Co. 303 932-6280 Tibbetts Gold Kori Kollo, Bolivia Wyoming Fax 303 932-6205 Placer Dome Mineral Ridge Alligator Ridge, Nevada Silver Peak, Nevada E-mail staff@ Cripple Creek & Victor Mining Co. Kilborn Cogema denvermineral.com Victor, Colorado Illinois Creek USMX, Alaska Lluvia de Oro Sonora, Mexico Amax Guanaco Antofagasta, Chile Geomacque de Mexico Sonora, Mexico Technologia Minerales Venezuela **Exploraciones** Eldorado Sonora, Mexico La Trinidad Sonora, Mexico Westmont Mining Co. Brewer, South Carolina Amax Sleeper Winnemucca, Nevada Ruby Hill Mining Co. Eureka, Nevada **Camelot Technologies** Russia USMX Yankee Expansion Ely, Nevada Mineral Ridge Project Silver Peak, Nevada USMX Inc. Casino Project Ely, Nevada **Tres Amigos** Costa Rica USMX Inc., Yankee Project Ely, Nevada Canyon Resources Corp. Kendall, Montana Revised 3/98



Reference List <u>Carbon Regeneration</u>

10001	<u>Carbon Regeneration</u>		
10001 S. Highway 121 RR1	Leadville Corporation Leadville, Colorado	100 lb./hr. unit	
Littleton Colorado 80125	PAG Technical Services Kilometer 88, Venezuela	50 lb./hr. unit	
USA Phone	Tenneco Minerals, Inc. Battle Mountain, Nevada	200 lb./hr. unit	
303 932-6280 Fax 303 932-6205	San Sebastian Gold Mines San Cristobal, El Salvador	50 lb./hr. unit	
E-mail staff@	FIMA Lima, Peru	75 lb./hr. unit	
denvermineral.com	USMX Illinois Creek Mine Fairbanks, AK	135 lb./hr. unit	
	Exploraciones Eldorada La Colorada Mine Sonora, Mexico	50 lb./hr. unit	
	Amax Guanaco Chile	50 lb./hr. unit	
	Mineral Ridge Resources Mineral Ridge Project Silver Peak, NV	50 lb./hr. unit	
	Tres Amigos Development Co. Arvada De Las Juntas Project Costa Rica	30 lb./hr. unit	
	Minera La Garto Beta Vargas Project Costa Rica	55 lb./hr. unit	
	Carmen Rosa Project Goldore Investments Inc. Venezuela	30 lb./hr. unit	
	Ararat Armenia	200 lb./hr. unit	

Revised 3/98



10001		
S. Highway 121		REFERENCE LIST
RR1		DEAERATORS
RR1 Littleton Colorado 80125 USA Phone 303 932-6280 Fax 303 932-6205 E-mail staff@ denvermineral.com	Placer Dome Campbell Red Lakes, Canada Minera Yanacocha / Mincorp Yanacocha, Peru (1992) Minera Yanacocha Yanacocha, Peru (1995) Newmont Mining Co. Carlin, Nevada Minera Aurifera Retamas	DEAERATORS
	Lima, Peru (1992) Minera Aurifera Retamas Lima, Peru (1993) Servicios Industriales Penoles Mexico Overseas Bechtel Yanacocha, Peru Cia. Minera Sipan Cajamarca, Peru Cia. Minera Ares Arequipa, Peru	

Revised 3/98



10001

REFERENCE LIST <u>FILTER PRESSES</u>

S. Highway 121				
RR1	CLIENT	QUANTITY	TYPE	<u>SIZE</u>
Littleton Colorado	Fima, Inc. Lima, Peru	2	Plate and Frame	915 mm
80125 USA	Minera Aurifera Retamas Lima, Peru	4	Recessed Plates	470 mm
Phone	Minera Aurifera Retamas Lima, Peru	4	Recessed Plates	630 mm
303 932-6280	USMX Inc. Ely, Nevada	1	CGR Plates	470 mm
Fax 303 932-6205	Barrick Goldstrike Mines Carlin, Nevada	1	CGR Plates	47 0 mm
E-mail staff@	Battle Mountain Gold Co. San Luis, Colorado	1	CGR Plates	470 mm
denvermineral.com	Commerce Group Corp. San Cristabol, El Salvador	1	CGR Plates	250 mm
	Addwest Gold Oatman, Arizona	1	CGR Plates	250 mm
	Canyon Resources Kendall Hilger, Montana	1	CGR Plates	250 mm
	American Resources Goldfield, Nevada	1	CGR Plates	250 mm
	Geomacque de Mexico Sonora, Mexico	1	CGR Plates	250 mm
	Lluvia de Oro Sonora, Mexico	1	CGR Plates	250 mm
	Cyprus / Amax Fairbanks, Alaska	2	Recessed Plates	630 mm 915 mm
	Fima, Inc. Lima, Peru	2	Recessed Plates	630 mm
	Ruby Hill Project Eureka, Nevada	1	Recessed Plates	915 mm
	Amax Guanaco Antofagasta, Chile	1	Recessed Plates	320 mm
	Mineral Ridge Project Silver Peak, Nevada	2	Recessed Plates	470 mm
	Technologia de Minerales Venezuela	1	Recessed Plates	320 mm
	Camelot Technologies Russia	1	Recessed Plates	320 mm
	Tres Amigos Costa Rica	1	Recessed Plates	320 mm
	Cia. Minera Sipan Cajamarca, Peru	1	Recessed Plates	320 mm



10001 S. Highway 121 RR1 Littleton Colorado 80125 USA Phone	REFERENCE LIST MELTING FURNACE			
503 932-6200 Fax 303 932-6205	Kennecott / Greens Creek Juneau, Alaska Exploraciones Eldorado, La Colorada Sonora, Mexico Exploraciones Eldorado, La Trinidad El Rosario, Mexico Lluvia De Oro Sonora, Mexico	Minex / Pincock, Allen & Holt Kilometer 88, Venezuela Battle Mountain Gold Co. San Luis, Colorado Ruby Hill Mining Co. Eureka, Nevada Camelot Technologies Ural, Russia		
	Geomaque de Mexico Sonora, Mexico Commerce Group Corp. San Cristobal, El Salvador Newmont Mining Corp. Yanacocha, Peru Newmont Mining Corp. Muruntau, Uzbekistan Balkhash Mining Kazahkstan Cripple Creek & Victor Mining Co.	Mineral Ridge Project Silver Peak, Nevada Cia. Minera Sipan Yanacocha, Peru Cia. Minera Ares Yanacocha, Peru Goldore Investments Carmen Rosa, Venezuela Tres Amigos Costa Rica First Dynasty		
	Victor, Colorado	Yerevan, Armenia		



10001 S. Highway 121 RR1	REFERENCE LIST			
	MERCURY RETORT			
Littleton Colorado 80125 USA	Company	Application		
Phone 303 932-6280	Alta Gold Co. Ely, Nevada	Electrowinning Cathodes		
Fax 303 932-6205 F-mail	Wind Mountain Mining Co./AMAX Empire, Nevada	Merrill-Crowe Precipitate		
staff@ denvermineral.com	Allied Technology Group Fremont, California	Fluorescent Light Bulb Powder		
	Superior Recycling Port Washington, Wisconsin	Mercury Contaminated Refuse and Fluorescent Light Bulb Powder		
	Advanced Environmental Recycling Corp. Richmond, California	Fluorescent Light bulb Powder		
	Babcox & Wilcox	Mercury Contaminated Uranium		
	Idaho National Energy laboratories	Mercury Contaminated Refuse		
	Confidential Client	Fluorescent Light Bulb Powder		
	Cia. Minera Sipan, S.A. Cajamarca, Peru	Merrill-Crowe Precipitate		
	Ares Gold Project Arequipa, Peru	Merrill-Crowe Precipitate		



10001 S. Highway 121 RR1 Littleton Colorado 80125 USA	REFERENCE LIST <u>MERRILL-CROWE SYSTEMS</u> <u>AND</u> <u>DEAERATORS</u>
Phone 303 932-6280 Fax 303 932-6205	Minera del Oro Nicaragua Placer Dome Campbell Red Lakes, Canada Minera Yanacocha / Mincorp Yanacocha, Peru (1992) Minera Yanacocha / Fluor Yanacocha, Peru (1995) Newmont Mining Co. / Davy International Carlin, Nevada (1995) Minera Aurifera Retamas / Fima Lima, Peru (1992) Minera Aurifera Retamas / Fima Lima, Peru (1993) Sipan Project / Morrison Knudsen Lima, Peru (1997) Ares Project / Fima Lima, Peru (1997) Minera Yanacocha / Bechtel Lima, Peru (1997) Penoles Project / M3 Engineering Mexico (1997)



10001

REFERENCE LIST MODULAR GOLD RECOVERY PLANTS

S. Highway 121 **Exploraciones** Eldorado RR1 La Trinidad Project Sonora. Mexico Littleton Colorado Company Minera Lluvia de Oro 80125 Sonora, Mexico USA Geomacque de Mexico Sonora, Mexico Phone 303 932-6280 Commerce Group Corp. San Cristabol Project Fax San Cristabol, El Salvador 303 932-6205 Canyon Resources Corp. Kendall Mine Hilger, Montana American Pacific Minerals Goldfield, Nevada Minex / Pincock Allen & Holt Kilometer 88, Venezuela **Technical International** Nicaragua Minera Aurifera Retamas Lima, Peru Minera Aurifera Retamas Lima, Peru Echo Bay Mines Battle Mountain, Nevada Invesoria Carmen Rosa Caracas, Venezuela Amax Guanaco **Guanaco** Expansion Antofagasta, Chile Mineral Ridge Project Silver Peak, Nevada Tres Amigos Costa Rica **Camelot Technologies** Russia

1000 GPM Adsorption – 1 Ton Pressure Strip, Acid Wash, Carbon Conditioning, Etc.

1000 GPM Adsorption – 1 Ton Pressure Strip, Wash, Carbon Conditioning, Etc.

700 GPM Adsorption – 1 Ton Pressure Strip, Acid Wash Carbon Conditioning, Etc.

400 TPD Carbon In Leach Plant, 0.5 Ton Atmospheric Strip Acid Wash, Etc.

1000 GPM Carbon Columns – 1 Ton Pressure Strip Acid Wash Carbon Conditioning

1.5 Ton Pressure Strip, Cold Strip, Acid Wash

0.5 Ton Carbon Stripping, Acid Wash, Thermal Regeneration Plant

70 GPM Merrill-Crowe Recovery Plant

125 TPD Merrill-Crowe Plant

400 TPD Merrill-Crowe Plant

70 GPM Zinc Precipitation Unit

1000 GPM Adsorption – .5 Ton Pressure Strip, Acid Wash, Carbon Conditioning, Etc.

1700 GPM Adsorption – 1 Ton Pressure Strip, Acid Wash, Carbon Conditioning, Etc.

1700 GPM Adsorption – 2 Ton Pressure Strip, Acid Wash, Carbon Conditioning, Etc.

100 GPM Adsorption – .5 Ton Pressure Strip, Acid Wash, Carbon Conditioning, Etc.

220 GPM Adsorption – .5 Ton Pressure Strip, Acid Wash, Carbon Conditioning, Etc.



10001 S. Highway 121 RR1	W	ATER TREATMENT FACILITIES		
Littleton Colorado 80125	The following is a partial list of modular or fixed water treatment facilities that have been designed and/or fabricated by DME:			
USA	Client/Project	Treatment Methodology	Flow Rate	
Phone 303 932-6280	LTV Steel Mining Co. Hoyt Lakes, MN	Heavy metal precipitation of acidic mine drainage	350 GPM	
Fax 303 932-6205	Westmont Mining Inc. Brewer Project	Heavy metal precipitation and cyanide destruction	600 GPM	
E-mail staff@ denvermineral.com	Newmont Mining Co. Carlin, NV	Selenium precipitation via pH adjustment, flocculation, precipitation filtration, thickening, and sludge dewatering		
	Battle Mountain Gold Battle Mountain, NV	Pilot plant for water treatment of ground water remediation	50 GPM	
	Hardage Site Remedy Corp. Kriner, OK	Oil/water inclined plate separator	50 GPM	
	Parametrix – Asarco Leadville, CO	Pilot plant for water treatment of plant water	10 GPM	
	Weitz-Cohen Southern Pacific Railroad	Dissolved air flotation for oils removal	200 GPM	
	USMX, Inc. Illinois Creek	Green sand filtration iron removal	150 GPM	
	Independence Mining Co. Elko, NV	Water softening via lime/soda iron, arsenic, and manganese removal	250 GPM	
	Minera Ares Southern, Peru	Peroxide kill of Cn	175 GPM	
	R&K Enterprises, Inc. Taiwan	Electrochemical removal of heavy metals from waste water	25 GPM	