

Met Pro Supply

**Solids/Liquids
Separation**

**Hydrocyclones
and
Maximum Density Separators**



Advantages

Practical Experience in Development

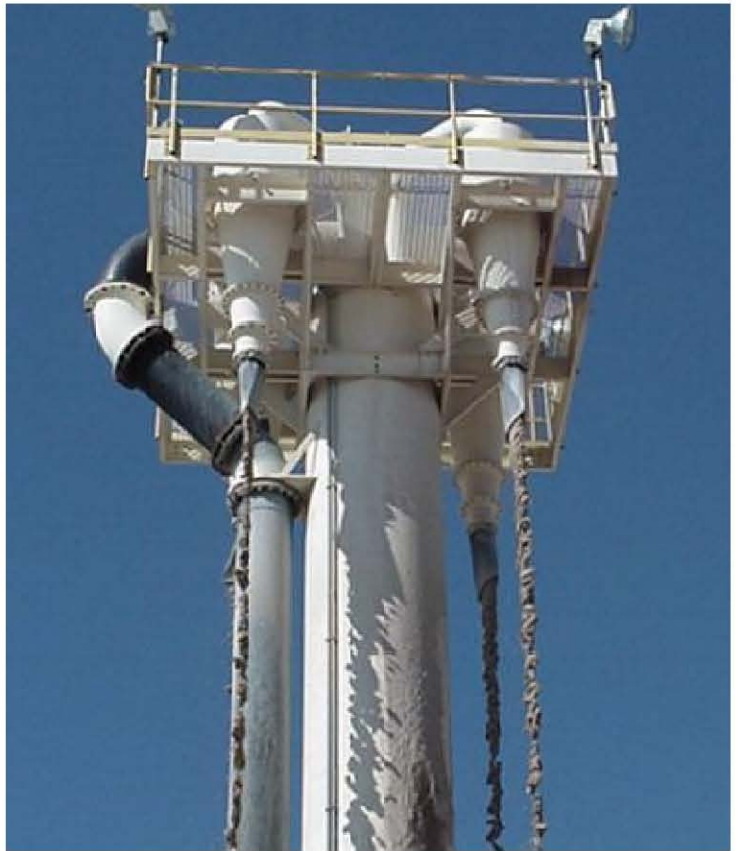
Met Pro continues to refine the development of the Hydrocyclone and Maximum Density Separator which allows us to offer you superior performance, versatility, and a high quality product. At our Bartow manufacturing facility, we are able to take a customer's sample of material, process it through our pilot equipment, and design the most effective system for each application.

Minimal Investment with Low Operating Expense

Met Pro Hydrocyclones and Maximum Density Separators are typically used for desliming, dewatering, scrubbing, and grinding mill circuits. They handle large volumes of slurry at a low initial cost; and with no moving parts, the operating costs are significantly lower than other process equipment. They are used to replace or to enhance the operation of dewatering screws, hydrosizers, dewatering screens, scalping tanks, etc.

Versatility

Met Pro manufactures cyclones and separators in sizes ranging from 6" to 48". Lining materials include rubber, urethane, ceramic, or a combination of each, depending upon the required application.



Four 36" urethane lined Maximum Density Separators stacking construction sand.

Maximum Density Separator vs. Hydrocyclone

With its vacuum control assembly, the Met Pro Maximum Density Separator produces a consistent high solids underflow that can be stacked or conveyed. However, the hydrocyclone produces a volumetric split between the

overflow and underflow, which results in varying amounts of solids as tonnage rates fluctuate.



Thirty urethane lined 6" stainless steel hydrocyclones, used in an industrial sand plant separating sand from clay.

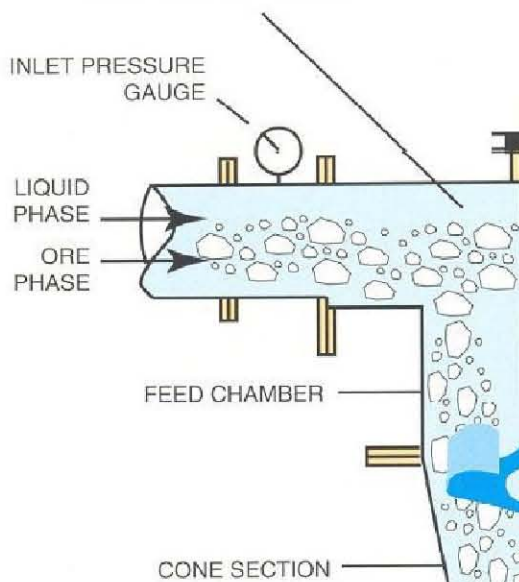


ADVANTAGE: EASILY MODIFIED

The MET-PRO Maximum Density Separator is a versatile piece of equipment that can be easily modified in the field to meet changing conditions in the process stream. The three critical variables of any MDS can be modified as follows:

MAXIMUM DENSITY SEPARATOR

- ① • **INLET AREA:** Cross sectional areas can be changed to modify the velocity and capacity requirements by adding or subtracting inlet inserts, made of the same material as the separator lining, at the bottom of the inlet section.

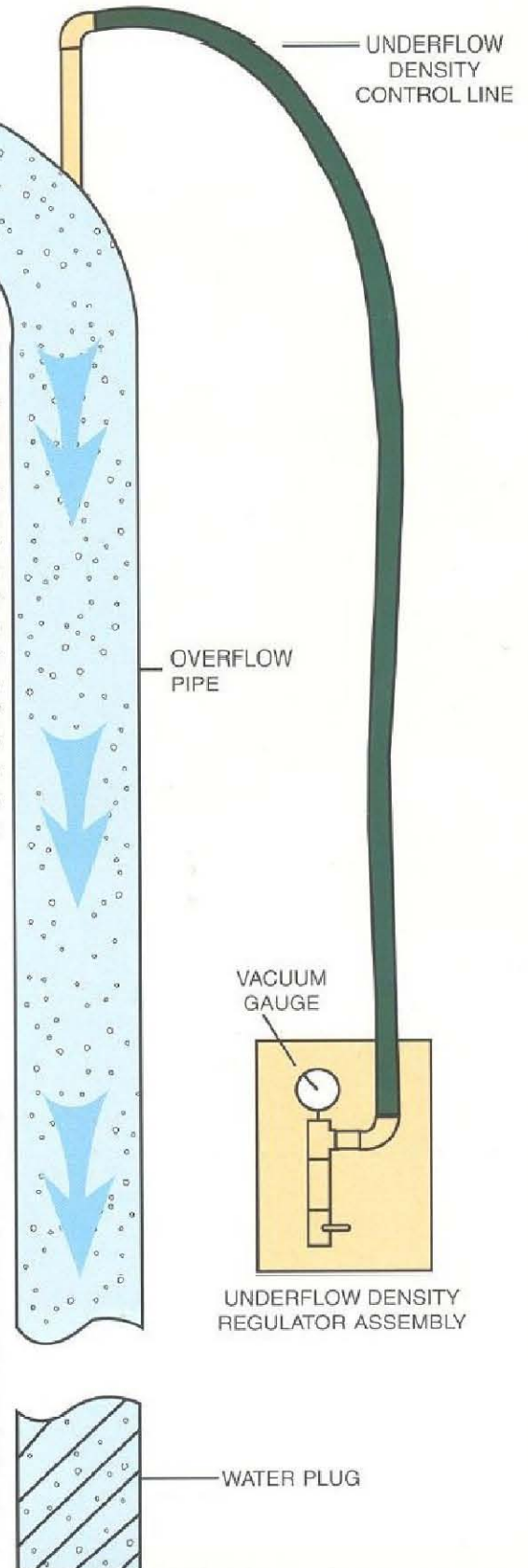


- ② • **VORTEX FINDER:** Each MET-PRO unit can be modified to meet changing needs by varying the diameter of the vortex finder to modify the size of particle separation as well as capacity.

- ③ • **APEX OPENING (UNDERFLOW):** Apexes can be constructed of either urethane or refrax material depending on the application. The apex can be changed to meet underflow tonnage capacity.



- **UNDERFLOW REGULATOR:** The MET-PRO Maximum Density Separator has an underflow regulator in conjunction with the vacuum control system established by the overflow leg which can be set to produce a percent solids underflow that is most desirable for a particular need or application.





Six 24" cyclones with extended feed chambers for phosphate beneficiation.

Met Pro Hydrocyclone and Maximum Density Separator Capacity Chart

<i>Size Dia. (inches)</i>	<i>Inlet Pressure Range (PSI)</i>	<i>GPM Range (PSI Low to High)</i>	<i>Size Separation (Mesh)</i>
6	10 - 30	40 - 50	consult factory
8	10 - 30	90 - 300	consult factory
12	8 - 20	220 - 650	270 - 325
18	8 - 20	650 - 1,600	200 - 270
24	8 - 20	800 - 2,200	150 - 200
26	8 - 20	1,100 - 2,600	150 - 200
30	8 - 20	1,600 - 3,500	100 - 150
36	8 - 20	2,200 - 4,000	100 - 150
48	8 - 20	3,500 - 7,000	consult factory

All the above are approximate rates: Solids specific gravity, percent solids of feed, and size distribution of feed will all produce variations within the above ranges. Met Pro can alter the inlet cross sectional area, vortex finder diameter and length, cone angle degree, and apex size for its cyclones and separators to meet system requirements.

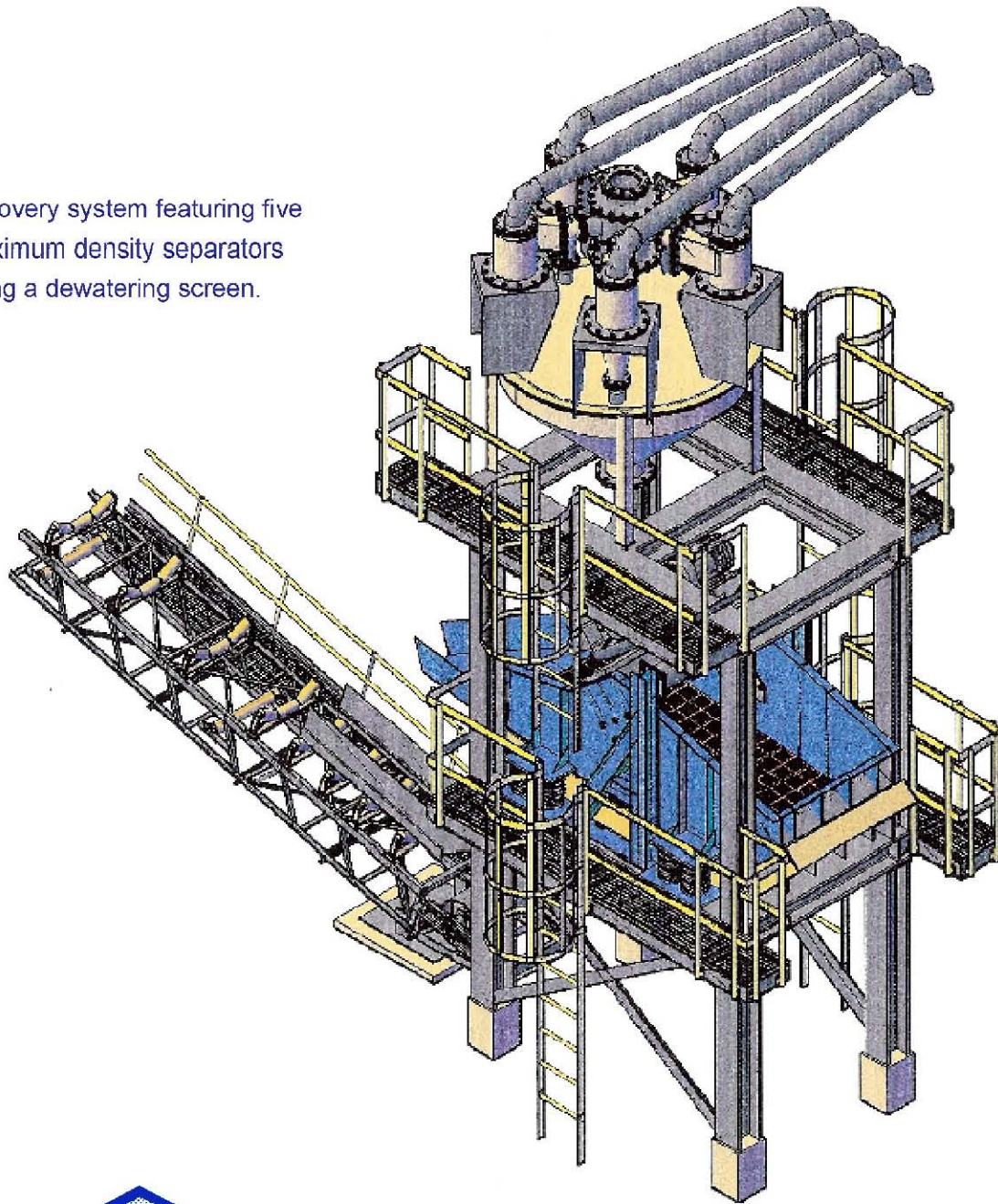


Turnkey System Design and Construction

Met Pro can design and install complete cyclone/separator systems. This is achieved by consulting with our customer to determine objectives; analyzing samples to see if these objectives can be met; and finally, designing a system based upon the results.

Met Pro offers "Modern Solutions and Products with Old Fashioned Service and Integrity"

Fines recovery system featuring five 12" maximum density separators feeding a dewatering screen.



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