

Filtration Equipment Selection Matrix	Vacuum Dewatering		Pressure Dewatering
	Ceramic Filter	Belt Filter	Horizontal (P&F) Filter Press
<b>Physical Characteristics</b>			
Footprint	Filtration surface area oriented on vertical, segmented filter discs; ensures high production (tph) / filter footprint (m <sup>2</sup> )	Filtration surface area oriented on horizontal cloth surface area. Very large equipment footprint / filtration surface area (m <sup>2</sup> )	Filtration surface area oriented on vertical plate membrane inserts. Large infrastructure for auxiliary components and equipment weight
Mechanical Components	Filter frame and slurry basin, drum and filter segments, filtrate receivers, ancillary washing tanks	Filter frame, rollers, guides, drives, vacuum systems and filtrate receivers	Filter frame, recessed filter plates, hydraulic assembly, cloth membrane inserts, auxiliaries and supports
Complexity - Fabrication	Unibody construction, single drive drum, simplistic.	Cloth tracking (rollers, guides) requires high tolerances; medium complexity for fabrication	Numerous moving parts with wear components, pressurized hydraulic system, very complex fabrication and assembly
Filtration Media	Microporous ceramic membrane filters	Unibody cloth media	Cloth membrane inserts
Required Ancillary Equipment	Concentrated, diluted acid tanks; ultrasonic generators, transducers	Cloth washing system	Compressed air blow discharge, cloth washing system, hydraulic system
<b>Processing Characteristics</b>			
Residual Filter-Cake Moisture Content	Concentrate, 8% w/w; Tailings, 12 - 20% w/w	Tailings, 15 - 25% w/w	Concentrate 8% w/w; Tailings 10 - 25% w/w
Material Applications	Bulk, Base Metal Concentrate, Leach, Gravity, Flotation Tailings	Coarse tailings dewatering	Most versatile system, applies to most materials
Batch vs. Continuous	Continuous	Continuous	Batched
Site Suitability	Vacuum efficiency losses occur at >3,000 mASL.	Vacuum efficiency losses occur at >3,000 mASL.	No considerations.
Particle Size Distribution	Super-fine particles can cause blinding; coarse particles can adhere slowly	Generally more suitable for coarse particle dewatering	Wide application of particle sizes
<b>Economic Characteristics</b>			
Operating Cost	Lowest operating cost of filtration alternatives	Medium average operating cost	High average operating cost
Energy Consumption	Very low energy intensity; up to 85% less consumption than alternatives	Medium average energy consumption	High energy consumption
Filter Media Replacements	8,000 - 12,000 hours	2,500 - 4,000 hours	2,500 - 4,000 hours
Maintenance Regularity / Costs	Irregular; low	Regular; average	Often; intensive
Consumables	Power, air, water, acid (nitric).	Power, air, water.	Power, compressed air, water, hydraulic fluid.
Labour Requirements	Highly automated, low labour inputs	Medium	High