

Dead End Filter - Filter Media

No.	By	Chk	App	Date	Description	Doc. No:	DS-1813-04	Rev.:	0
0	DL	N/A	TB	3/27/2019	Initial Release	Project Name:	TSCR		
						Location:	Richland, WA		

GENERAL	1	Tag Number	P&ID Number	N/A	H-14-024857
	2	Service		Waste Processing	
	3	Area Classification		Class 1, Div. 1, Group B	
	4	Ambient Temp Range	Seismic Requirement	68 to 105 °F	N/A
	5	Quality Level	Safety Class	QL-3	GS
PROCESS CONDITIONS	6	Process Description:		Removal of Solids from Tank Waste Supernatant	
	7	Fluid:		Salt Waste Supernatant with Solids (Process) Dilute Sodium Hydroxide and Deionized or Softened Water (Reagent)	
	8	Design Flow:		3 to 7 gpm; 5 gpm (nominal design)	
	9	Density:		1.00 to 1.35 g/mL; 1.27 g/mL (nominal design)	
	10	Viscosity:		1.0 to 8.0 cP; 3.7 cP (nominal design)	
	11	Operating Temp.:		20° to 35°C; 25°C (nominal design)	
	12	Operating Pressure:		Approx. 100 psig (nominal)	
	13	Solids:		Metal oxides and hydroxides	
	14	Solids Concentration:		0 to 15,000 ppm; 200 ppm (nominal design)	
	15	Particle Size Distr:		< 1 - 550 µm; (< 1 µm nominal)	
	16	DP Increase:		2 psid increase over loading cycle (max.)	
FILTER DESIGN	17	Filter Description:		Mott 18" HyPulse LSP	
	18	Rev. A: 60% Review		98 (per filter)	
	19	Configuration:		Dead End Filter - Backwashable	
	20	Element Item Desc.:		Mott Seamless Porous Tube No.: 2316 - G16 - 36 - A00 - 5 - AA, S=0.062"WL, G=2"LG×0.065"WL	
	21	Element Dimensions:		1" OD × 0.875" ID (1/16" Wall) × 35-7/8" Porous Length	
	22	Media Grade:		Mott Grade 5 (seamless)	
	23	Efficiency Rating:		Media Grade 5: 90%> 5 µm, 99%> 8 µm, 99.9%> 13 µm (1/16" thick wall)	
	24	End Connectors:		Open End: 1"OD Tube Connector × 2"LG & Closed end: Blind Solid End Cap (Plain End)	
	25	Interconnectors:		None; butt welded tubes	
	26	Tubesheet DP:		50 psi(d)	
	27	Tubesheet Thickness:		1"	
	28	Design Flux:		93.5 gal/ft2/day (0.065 gal/ft2/min)	
	29	Porous Area:		112.7 in2/tube & 11,084 in2/filter (98 tubes)	
INSPECTION AND TESTING	30	Each Completed tube assembly shall be inspected to verify no weld defects			
	31	Each completed tube assembly shall be 100% leak tested in accordance with Mott procedures			
MATERIALS OF CONSTRUCTION	32	Porous Tubes:		316L SS sintered powdered metal (seamless)	
	33	Tube Connectors:		SA279 or SA 479 316L SS	
NOTES:	1) Tubes are backwashed with both filtrate and dilute NaOH.				
	2) Motive force for backwashing is compressed air at 60 to 80 psig. Both liquid and air are transferred through the tubes.				
	3) Porous tube assembly is constructed of two (2) porous sections.				
	4) Tubes are welded to the tubesheet.				
	5) The tubesheet is welded to the housing (the tubesheet/ filter assembly is not replaceable)				