FILTER DATA SHEET

No.	By	Chk	App	Date	Description	Doc. No.: DS-1813-01	Rev.: 1
1	CH	CS	TB	6/13/19	Incorporated Design Changes for 100%	**Project Name:** TSCR	
						Project Number: 18-13	
						Location: Richland, WA	
						Tag: POR655-WP-FLT-325A/B	

AVANTech INCORPORATED

DESIGN / OPERATING REQUIREMENTS

1	Service :	Pressure Vessel, Code Stamped				Process Contents:	Dilute Caustic and Water, Filtered Solids, Treated Process Water, Waste Feed
2	Design Press. @ Temp. - Internal (at top):	400 psig	@	180 °F		Δ P Across Internals:	Note 1 psi
3	Design Press. @ Temp. - External:	Full Vacuum psig	@	180 °F		S. G of Process Fluid:	1.27
4	Min. Design Metal Temperature (MDMT):	-20 °F	@	448 psig		Design Liquid Level:	100%
5	Operating Pressure - Internal:	120 psig	@	77 °F		Head Joint Efficiency:	0.7
6	Min. Operating Temperature:	60 °F	@	108 psig		Shell Joint Efficiency:	0.7
7	MAWP Basis:	448 psi in RPP-CALC-62472					
8	Corrosion Allowance: Yes (0.2 MILS per Year), See Note 3	*Shell and Heads:*	0.001 In.	*Nozzles:*	0.001 In.	*Internals:*	0.001 In.
9	Cyclic Service:	Yes, See Note 2		Lethal Service:	N/A	Code Case(s):	2732-1
10	Construction Code:	ASME B&PV Section VIII, Div. 1, 2017 Edition		Design Life:	5 years	Stamping:	Yes
11	National Board Registration :	Yes		Lethal Stamp:	N/A		
12	Capacity (Cavity Volume):	*Full:*	49.5 Gal.	*Operating:*	49.5 Gal.		
13	Wind: N/A	Exposure: N/A		Basic Wind Speed: N/A		Importance Factor: N/A	
14	Seismic:	SDC-2, LS-C		Importance Factor: 1.5		Soil Profile Type:	Site Class D

INSPECTION AND TESTING

15	Radiography:	RPP-SPEC-61910	Ultrasonic:	RPP-SPEC-61910
16	Magnetic Particle:	N/A	Charpy Impact:	Per ASME Code at -20 °F
17	Liquid Penetrant:	RPP-SPEC-61910	Hardness:	RPP-SPEC-61910
18	Hyrdrotest:	Hydro 585 psi @ 1 Hour	Future Field Test:	RPP-SPEC-61910 (Corroded)
19	Min. Hydrotest Temperature:	32 °F		

APPLICABLE SPECIFICATIONS AND STANDARDS

20	Specifications:	RPP-SPEC-61910
21	Safety Class:	General Service
22	Standards:	ASME B&PV Section VIII, Div. 1, 2017 Edition & ASTM B29 for Lead Shielding Acceptance Testing
23	Drawings:	H-14-111251, H-14-111256

MATERIALS

		Pressure Parts	Non-Pressure Parts *External*	Non-Pressure Parts *Internal*
24	Plate:	N/A	SA240 304/304L	SA240 316/316L
25	Forgings:	SA182 F316/316L, SA403 WP316/316L	SA182 F316/316L, SA403 WP316/316L	N/A
26	Pipe & Tube:	SA312 TP316/316L	SA312 TP316/316L	N/A
27	Bolts & Studs:	N/A	N/A	N/A
28	Nuts:	N/A	N/A	N/A
29	Rod & Bar:	N/A	SA276 304/304L	N/A
30	Weld Fittings:	SA182 F316/316L, SA403 WP316/316L	SA182 F316/316L, SA403 WP316/316L	N/A
31	Structural Shapes:	N/A	SA240 304/304L, SA276 304/304L	N/A
32	Shielding:	N/A	Cast Lead for Side and Top Shielding, ASTM B29	N/A

FABRICATION

33	Weld Pressure Joint Requirements:	RPP-SPEC-61910	Seal Weld Internal Parts to Pressure Boundary:	Yes
34	Post Weld Heat Treatment:	RPP-SPEC-61910	PWHT Basis:	Per ASME Code
35	Internal Coating:	N/A		
36	Surface Preparation:	RPP-SPEC-61910		
37	External Coating:	RPP-SPEC-61910		

APPURTENANCES

38	Lifting Lugs:	See H-14-111251, H-14-111256		Tailing Lug: N/A		Vessel Davit: N/A	
39	Ladder and Platforms:	N/A		Pipe Supports / Guides: N/A		Grounding Lugs: N/A	
40	Insulation:	N/A	Thk:	N/A	Density: N/A	Supports:	N/A
41	Fireproofing:	N/A	Thk:	N/A	Density: N/A	Supports:	N/A

PRELIMINARY LOADS (TO BE CONFIRMED BY SELLER)

42	Weights (lbs):	*Shipping:* 7,900	*Erection:* 7,832	*Empty:* 7,832	*Operating:* 8,388	*Field Test:* 7,832
43	Wind:	*Shear at Base =*	N/A	*Moment at Base =*	N/A	
44	Seismic:	*Shear at Base =*	4,440 lbs	*Moment at Base =*	27,770 ft-lbs	

Notes:

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						Project Number:	**18-13**	
						Location:	**Richland, WA**	
						Tag: POR655-WP-FLT-325A/B		

Filter Design Parameters:

Flowrate: 5 GPM

Particle Size Removal: 99.9%, > 13 micron , 99% > 8 micron

Pressure Drop (Clean) = < 1 psi

Pressure Drop (Dirty) = 2 psi

1. Design Pressure Drop = 5 psi

2. **Cyclic Loading of Filter**

	Min	Max	Frequency / Design Life
Design Pressure	0 psig	400 psig	5
Operating Pressure	0 psig	120 psig	1800
Operating Temperature	60 F	95 F	1800
Contents Specific Gravity	1.0	1.35	-

3. Pressure Vessel is designated as Non-Corrosive Service. A corrosion allowance of 0.001" is maintained for the vessel and nozzle walls.