

Stainless 1-Module VSEP System Component Specifications

1] Filter Pack

Membrane:	MF, UF, NF, or RO
Maximum Operating Temperature:	160 °F (70°C) (Options for up to 130°C)
Allowable Feed Slurry pH Range:	2-11 (Options for 1-14)
O-ring Material:	EPDM (Options for Viton)
Filter Pack Housing:	Vinyl Ester 8084 Derekanne Fiberglass
Wetted Steel Trays:	304 Stainless Steel .018 Gauge (Option for 316SS)
Wetted Plastic End Plates:	Polypropylene (Options for Teflon, Aluminum)

2] Piping

Maximum Pressure:	550 psi (Options for up to 1200 psi)
Pressure Piping:	316L Stainless Steel Schedule 80
Atmospheric Piping:	316L Stainless Steel Schedule 40
Special VSEP Concentrate Pipe:	1-1/4" Alloy 20 Stainless Steel .065 wall
Flexible Hoses:	<i>Weatherhead</i> Neoprene Lined Reinforced Flex Hose
Pipe Clamps:	<i>Victaulic</i> Zero-Flex Style 07 EPDM
On/Off Control Valves:	<i>FloTite</i> Series-300 316SS 3-Piece Ball Valves w/ Teflon seats
Flow Control Valves:	<i>FloTite</i> Series-300 316SS 60 degree V-Ball <i>BLX</i> V100E positioner
Check Valves:	<i>JFW Valve</i> Series-200 CF8M Swing Check Valve
Pneumatic Actuators:	<i>Habonim</i> Compact2 Pneumatic Rack and Pinion Spring Return
Skid Piping Terminations:	150lb 316SS 1.5"/2" Flange with EPDM Gaskets
Pneumatic Air Supply:	90lb Instrument Grade Air (3/8" connection)
Clean in Place Tank:	260 Gallon Cross Linked Polypropylene w/ Lid (36" ø x 74")

3] Vibration System

Motor:	<i>Baldor</i> CM4106T 460VAC, 3phase, 20HP, 3525 RPM
Motor Speed Controller:	<i>AC Tech</i> 20HP NEMA 4 (or Equal)
Vibration Amplitude:	3/4 inch (peak to peak measured at the Filter Pack)
Frequency Range:	49.0 hz to 55.0 hz (Approximate)
Maximum Decibels:	<85
Bearing RPM:	2800 to 3100
Bearing Oil:	<i>Sullube</i> ~750 ml Compressor Oil
Bearing O-rings:	2-263 & 2-270 Buna

4] Electrical Specifications:

Controls Voltage:	220/120VAC, 1phase, 15A, 50/60Hz
Programmable Controller Type:	<i>Allen-Bradley</i> CompactLogix 1769
Touch Screen Display Type:	<i>Allen-Bradley</i> PanelView+ 1000
Enclosures:	<i>Hoffman</i> NEMA 4 Powdercoat Finish 48x30x10, 24x30x8
Switches, Relays, & Contactors:	<i>Allen Bradley</i> 220/110 Volt
Pressure Sensors:	<i>Efector</i> PN-2222
Flow Tube:	<i>Yamatake</i> MGG18D-050P21CS5ACA-XX
Flow Transmitter:	<i>Yamatake</i> MGG14C-MH4G-1A1N-YAH
Temperature Sensor:	<i>Efector</i> TN-2530/ E-40107
Conductivity Meter	<i>GF Signet</i> 3-2850-52-41
Level Sensor:	<i>Efector</i> PN-2228
pH Meter	<i>GF Signet</i> 3-2774-1/ 3-2750-2
Solenoid Valve:	<i>SMC</i> VV5Q21-20/VQ2101N Gang Mounted 20 Port 24 volt

5] Pump Specifications:

Feed Pump Type:	<i>Grundfos 316SS 66gpm Vertical Multi-stage Centrifugal</i>
Feed Pump Motor:	<i>Grundfos ML 20 HP 3500 rpm TEFC 460VAC, 3phase, 30A</i>
Motor Speed Controller:	<i>AC Tech 25 HP NEMA 4 (or Equal)</i>
Chemical Metering Pump:	<i>Bran+Luebbe MD 200S 19111 007</i>
Metering Pump Motor:	<i>Baldor 3/4HP 3500rpm TEFC 120/220V, 1phase, 15A, 60/50Hz</i>

6] Pre-Screen Basket Strainer:

Filter Housing Type (or equal):	<i>NLR Custom Made</i>
Basket Strainer:	<i>60 Mesh 316 SS</i>
Capacity:	<i>220 GPM</i>
Filter Housing Material:	<i>316L Stainless Steel</i>
Elastomers (Seals):	<i>EPDM, (Options for Buna, Viton - Depending on Process)</i>

7] Operating Site Conditions:

Equipment Rating:	<i>NEMA 4, Indoor/Outdoor protect from sunlight & rain.</i>
Ambient Temperature:	<i>5 - 37°C</i>
Storage Temperature:	<i>2 - 70°C (Protect Filter Pack from Freezing)</i>
Max Relative Humidity:	<i><95%, non-condensing</i>
Elevation:	<i>3300 ft maximum without derating</i>