

STAINLESS MULTI-VSEP SYSTEM COMPONENT SPECIFICATIONS

Updated: 12/29/08

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 Derekane 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:	Neoprene Lined Reinforced Flex Hose
Pipe Clamps:	Victaulic Zero-Flex Style 07 EPDM
On/Off Control Valves:	FloTite Series-300 316SS 3-Piece Ball Valves w/Teflon seats
Flow Control Valves:	FloTite Series-300 316SS 60 degree V-Ball BLX V100E positioner
Check Valves:	JFW Valve Series-200 CF8M Swing Check Valve
Pneumatic Actuators:	Habonim Compact2 Pneumatic Rack and Pinion Spring Return
Skid Piping Terminations:	150lb 316SS 1.5"/2"/3" Flange with EPDM Gaskets
Pneumatic Air Supply:	90lb Instrument Grade Air (3/8" connection)

3] Clean In Place "CIP" System

CIP Pump Type:	Grundfos 316SS 66 gpm Centrifugal
CIP Pump Motor:	Baldor 20 HP 3500 rpm TEFC 460VAC, 3phase, 30A
Motor Speed Controller:	AC Tech 20HP NEMA 4 (or Equal)
Enclosures:	Hoffman NEMA 4 Powdercoat Finish 24x30x8
Level Sensor:	Efector PN-2228
Temperature Sensor:	Efector TN-2530/ E-40107
pH Meter	GF Signet 3-2774-1/ 3-2750-2
Solenoid Valve:	SMC VV5Q21-20/VQ2101N Gang Mounted 20 Port 24 volt
Clean in Place Tank:	260 Gallon Cross Linked Polypropylene w/ Lid (36" ø x 74")

4] Vibration System

Motor:	Baldor CM4106T 460VAC, 3phase, 20HP, 3525 RPM
Motor Speed Controller:	AC Tech 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:	Sullube ~750 ml Compressor Oil
Bearing O-rings:	2-263 & 2-270 Buna

5] Electrical Specifications:

Controls Voltage:	220/120VAC, 1phase, 15A, 50/60Hz
Programmable Controller Type:	Allen Bradley ControlLogix 1756

MULTI-VSEP SYSTEM COMPONENT SPECIFICATIONS

5] Electrical Specifications: (continue)

Touch Screen Display Type:	<i>Allen Bradley</i> Industrial Computer with Microsoft XP
CIP Communication:	<i>Allen Bradley</i> Flex I/O with DeviceNET
DCS Communication:	<i>Allen Bradley</i> Ethernet Board and switch
Enclosures:	<i>Hoffman</i> NEMA 4 Powdercoat Finish 60x36x10
Switches, Relays, & Contactors:	<i>Allen Bradley</i> 220/110 VAC
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
Solenoid Valve:	<i>SMC</i> VV5Q21-20/VQ2101N Gang Mounted 20 Port 24 volt

6] Pump Specifications:

Feed Pump Type:	<i>Grundfos</i> 316SS 140gpm Vertical Multi-stage Centrifugal
Feed Pump Motor:	<i>Grundfos</i> ML 30 HP 3500 rpm TEFC 460VAC, 3phase, 30A
Motor Speed Controller:	<i>AC Tech</i> 30HP NEMA 4 (or Equal)
Chemical Metering Pump:	<i>Bran+Luebbe</i> MD 200S 19111 007
Metering Pump Motor:	<i>Baldor</i> 3/4HP 3500rpm TEFC 120/220V, 1phase, 15A, 60/50Hz

7] Pre-Screen Basket Strainer:

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

8] Operating Site Conditions:

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