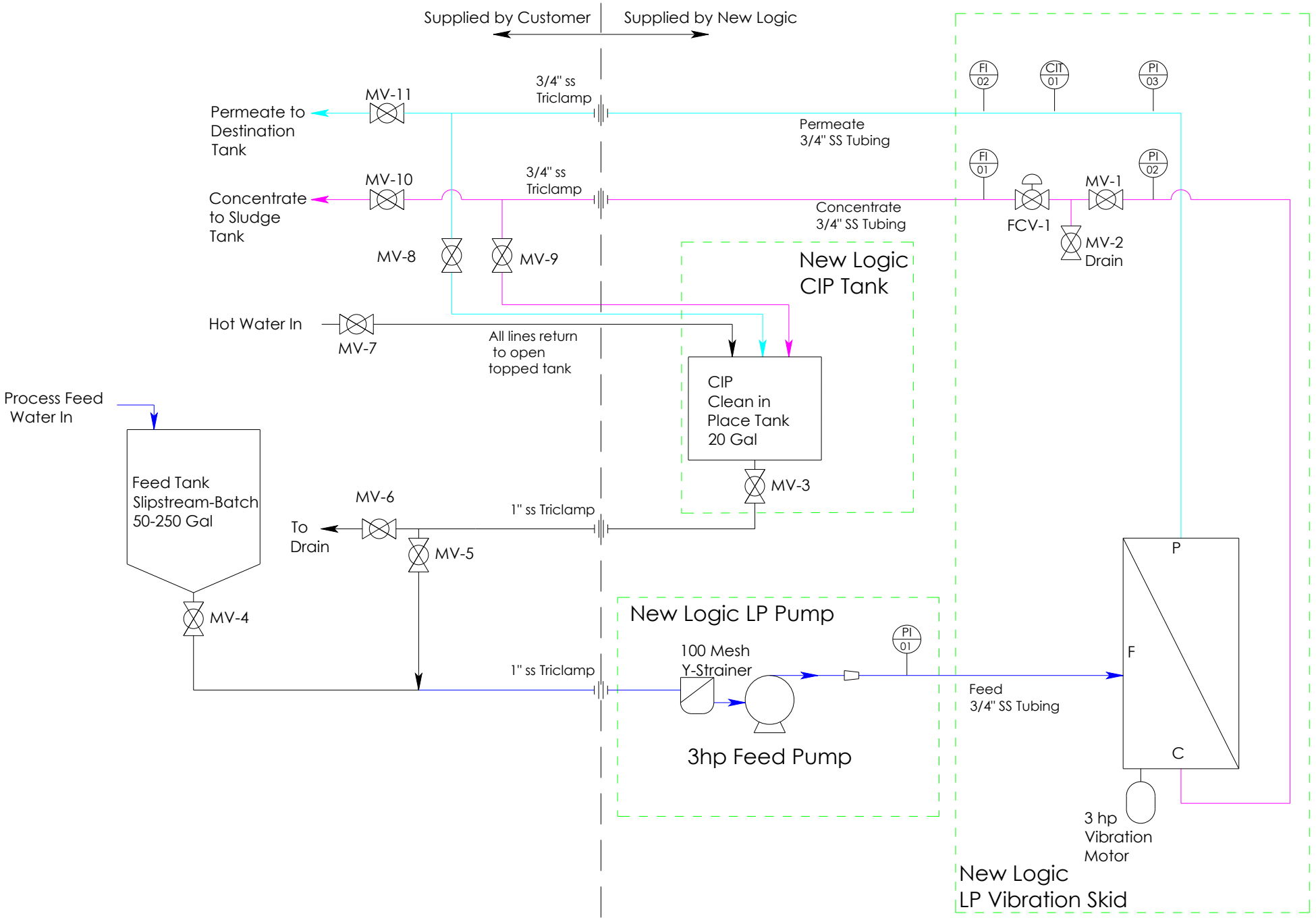
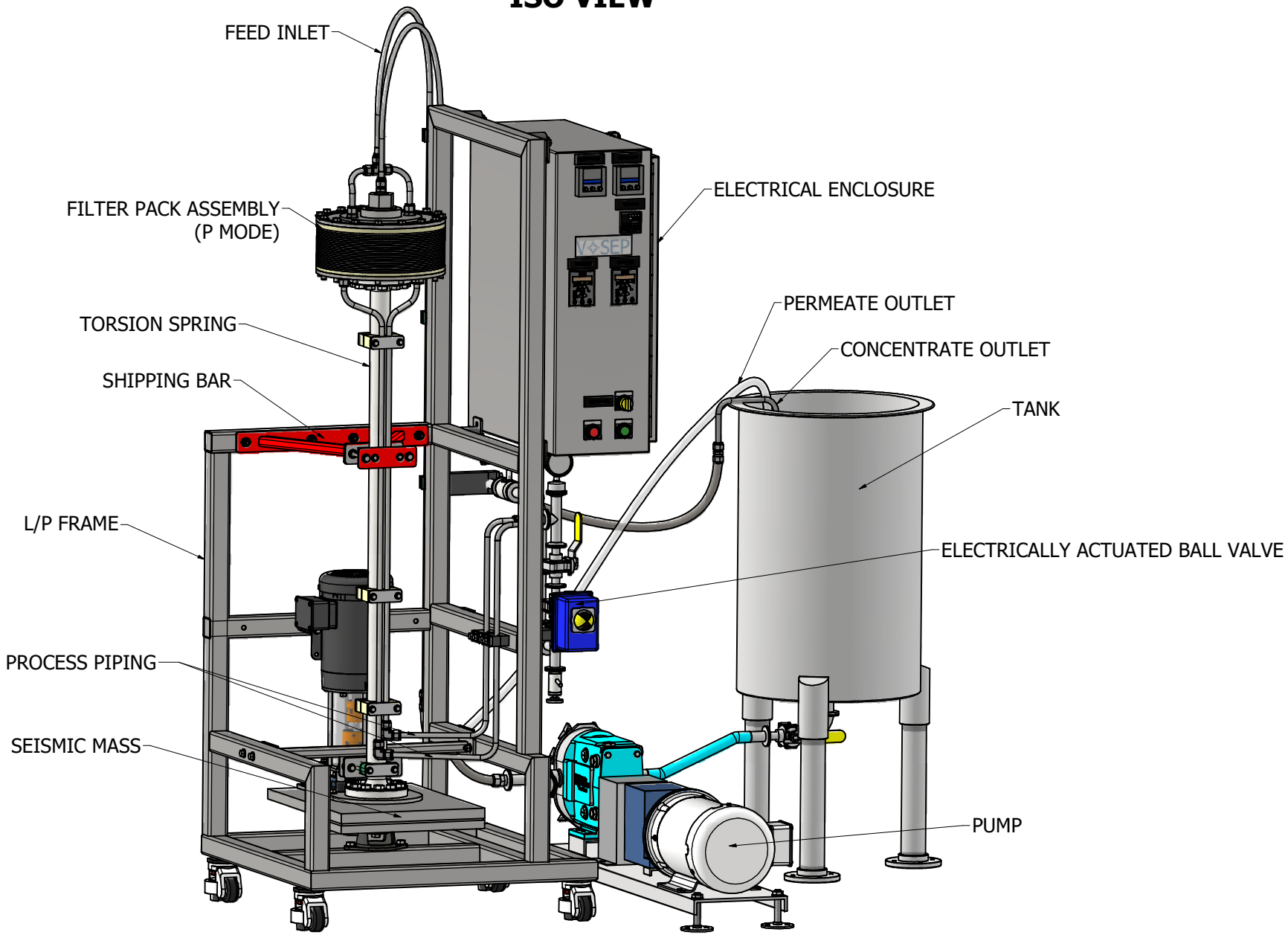


Notes:
NLR Confidential Material
Preliminary - For Reference Only.

Revision	NEW LOGIC RESEARCH	
	Sanitary LP VSEP System	
	P&ID	
	Sept 2026	M. Ayers

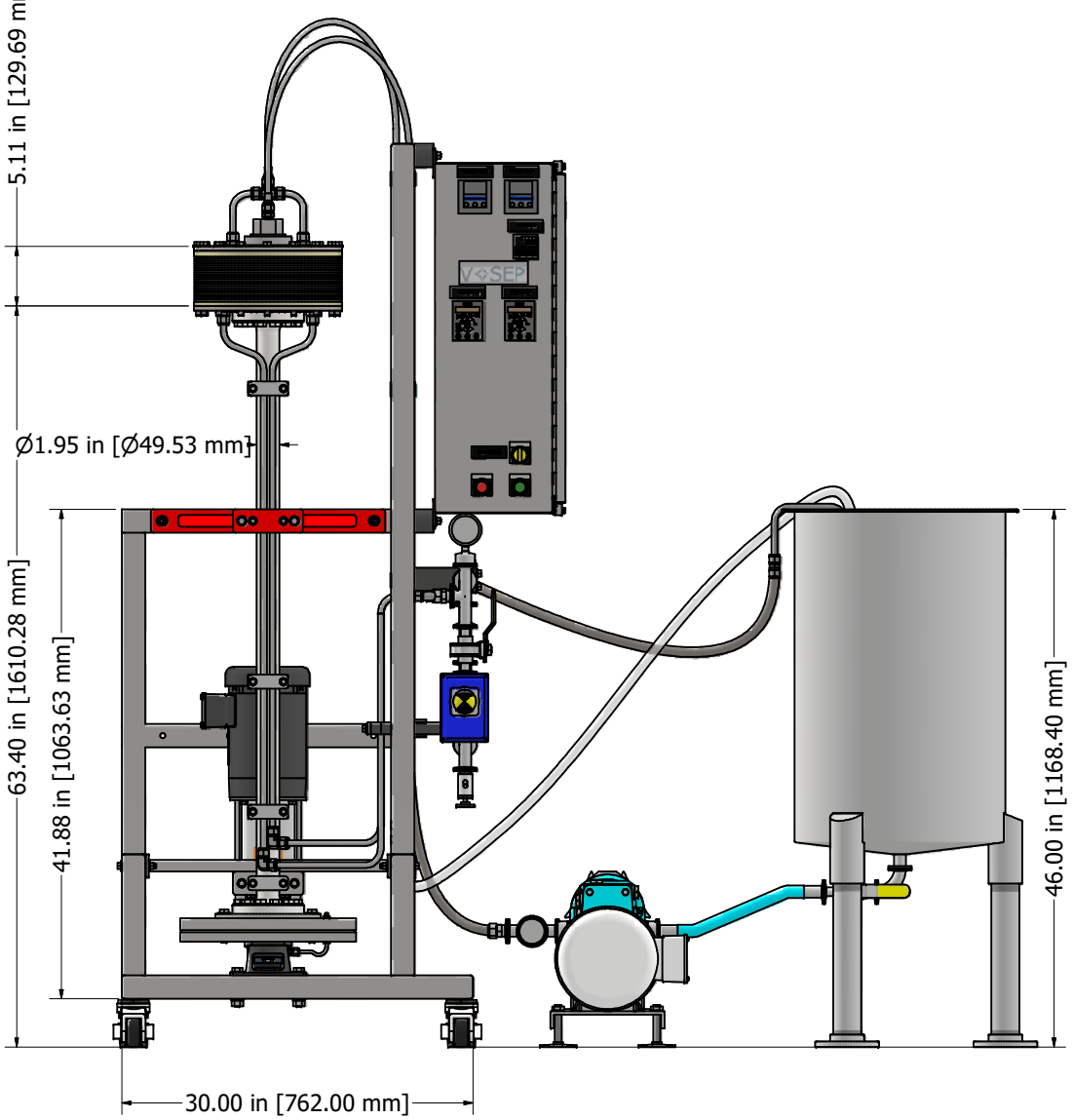
SANITARY - SERIES L/P VSEP SYSTEM
ISO VIEW



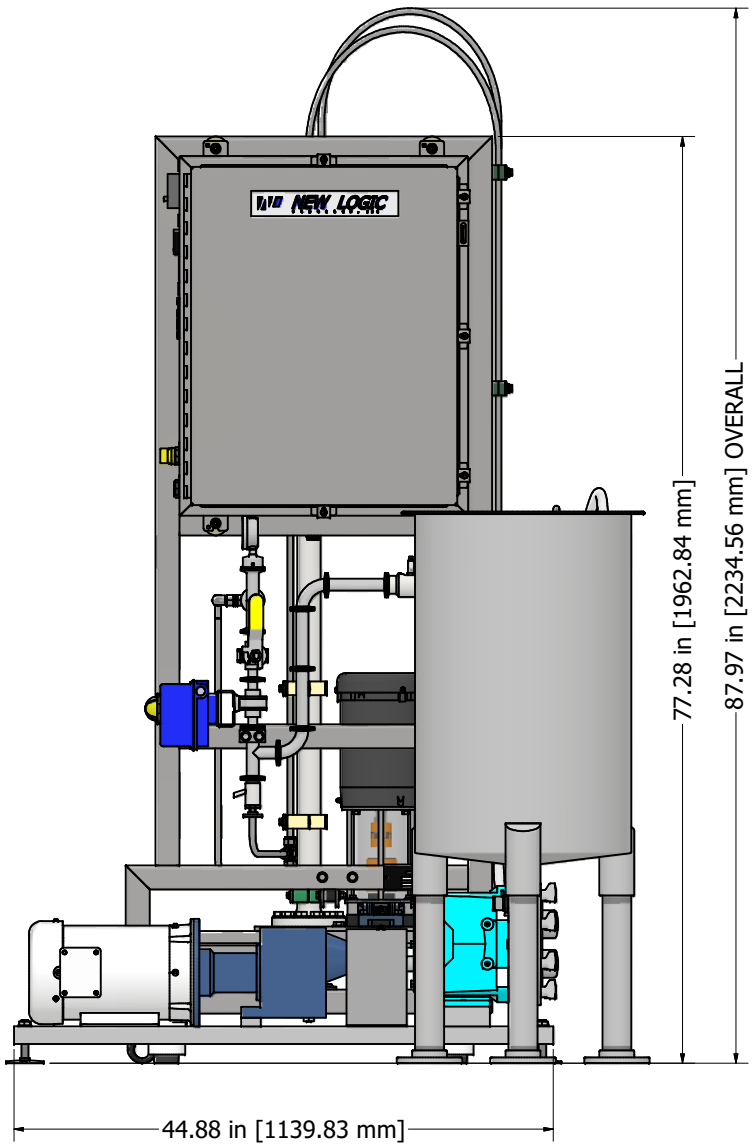
NOTES:
1. NEW LOGIC RESEARCH CONFIDENTIAL MATERIAL
2. ALL DIMENSIONS ARE SHOWN IN INCHES [MM] AND ARE FOR REFERENCE ONLY
3. SLIGHT DIFFERENCES BETWEEN DRAWINGS AND ACTUAL SYSTEM MIGHT BE ATTRIBUTED TO NEW LOGIC RESEARCH CONTINUOUSLY EVOLVING AND IMPROVING ITS TECHNOLOGY

SANITARY - SERIES L/P VSEP SYSTEM

FRONT VIEW



RIGHT SIDE VIEW



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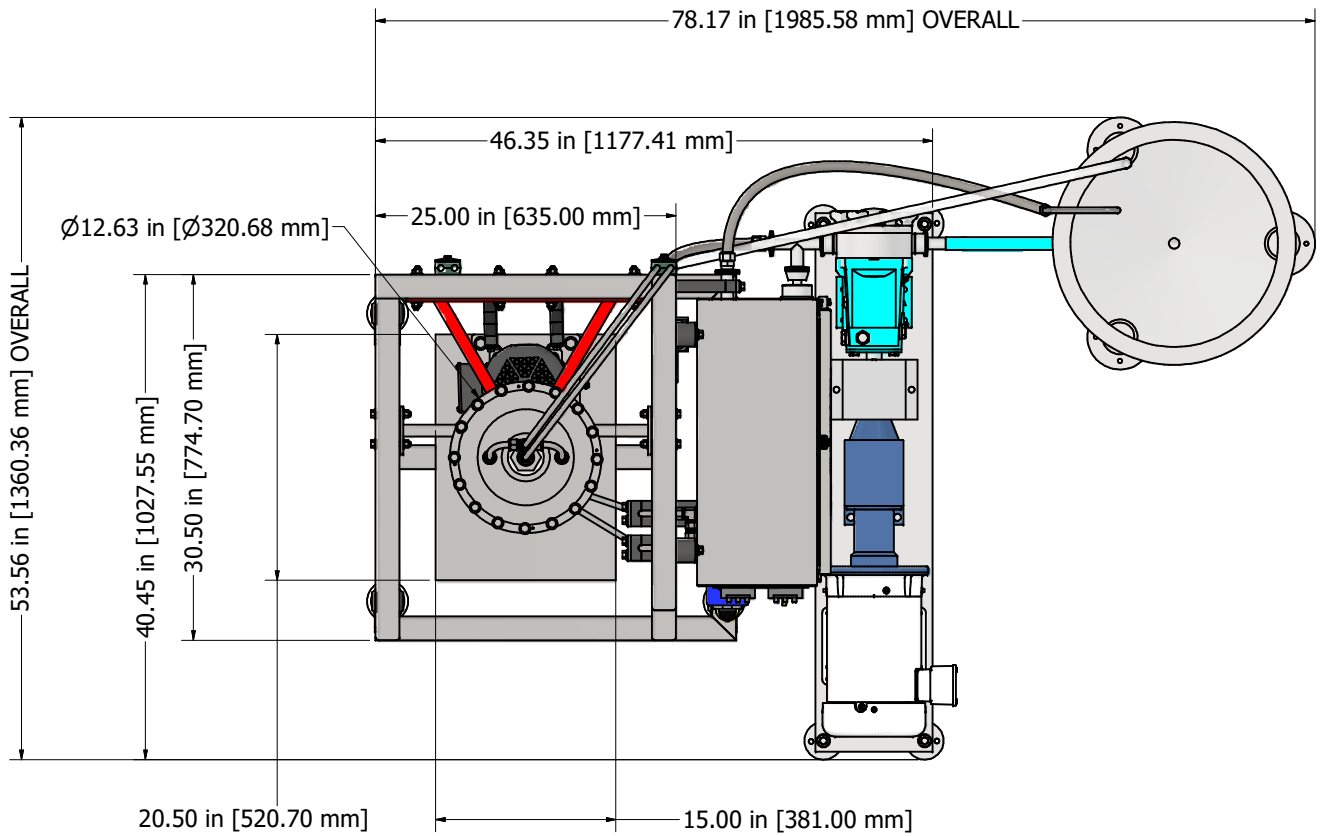
SANITARY - SERIES L/P VSEP SYSTEM
TOP VIEW



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Sanitary LP V SEP Machine Specifications 09/18/26

Operating Conditions:

Equipment Rating: Nema 4, Indoor-Outdoor protected from sunlight and rain.
Operating Ambient Temperature Limits: 0-40C
Storage Temperature: 0-40C
Relative Humidity: 90% or less, non-condensing
Elevation: 3300 ft. (1006 M), without derating.

Filter Pack:

Membrane Area: 16 sq. ft. (1.5 sq. m.)
Hold Up Volume: P Mode: Approx. 1 Gallons (3.785 liters)
Filtrate Removal Capacity: Approx. 2.2 GPM (8 l/min)
Maximum Operating pressure: 600 psi (41bar)
Maximum Shear Rate: 150,000 Inverse Seconds
Wetted Materials: 316 Stainless Steel, FDA EPDM

Vibration System:

Drive Bearings: MORSE SEALMASTER RFB-108TF
Vibration Motor: Wash down BALDOR 3HP 3450RPM, 208-240 VAC 3 phase
Vibration Motor Control: Danfoss FC202

Feed System:

Pump: SPX Waukesha Cherry-Burrell 030-U1 36 GPM @ 200psi
Motor: 3HP 1760 RPM, 208-230/460 VAC 3 phase 4.85:1 ratio gearbox
Feed Pump Motor Control: Danfoss FC202

Instruments:

Pressure Sensors: IFM PI2303
Flow Meter: IFM SUH101
Control Valve at Process Outlet: Steel&O'Brien ¾" valve/Tri-clamp/Viton
Actuator: Indelac R Series Nema 4 Model R4BF03-2
Conductivity Sensor: IFM LDL100

Electrical Power Requirements:

Voltage: 380-480 VAC 3 phase 50/60 Hz
Normal Full Load Operating Current: 15-20 amps
Power Cord: 8 Ft long with a NEMA L15-30P plug
Required Receptacle: NEMA L15-30, 30 amp circuit recommended

System Size and Weight:

Overall Dimensions: 48" w x 36" d x 81" h
System Weight: 900lbs. (336 kg) approximate

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HOT WATER SIZING INFORMATION

	# /Day	Temp degC	Gallons/Day	GPM	M3/hr
VSEP					
Cleanings	1	50-60	80	0.06	0.0126
Intermittent need of additional cleaning or flush of filter pack	1	50-60	20	0.01	0.003
System Water Totals			**System Totals**	**0**.07	**0.0**17

Supply chlorine free water at >300 uS/cm, recommended to use VSEP RO Permeate
Supply water at 50-60degC and 4 gpm 0.9m3/hr)

ELECTRICAL LOAD PANEL SIZING INFORMATION

Circuit Breaker Sizing 1.25-2x Nameplate Current
3-Phase Power Voltage VAC 400 50/60 Hz

	# Motors	Rated Motor HP	Nameplate Current 400V	Nameplate Current 460V	Recommended CB Sizing
VSEP Drive Motors	1	3	4.8	4.2	10
VSEP Feed Pumps	1	3	4.8	4.2	10
Totals	**2**				

Supply 3-Phase power from customer supplied load panel (with circuit breakers, disconnects, line filters, etc.) to the inlet of each VFD provided by others, and then from outlet of VFD to motor junction boxes.

Note: These are estimates only based on very preliminary data. These calculations are subject to change and do not include equipment offskid of VSEP system (ie: Transfer Pumps, Generators, Heaters, Lighting, Cranes, etc). For power consumption estimates refer to the operating cost spreadsheet.