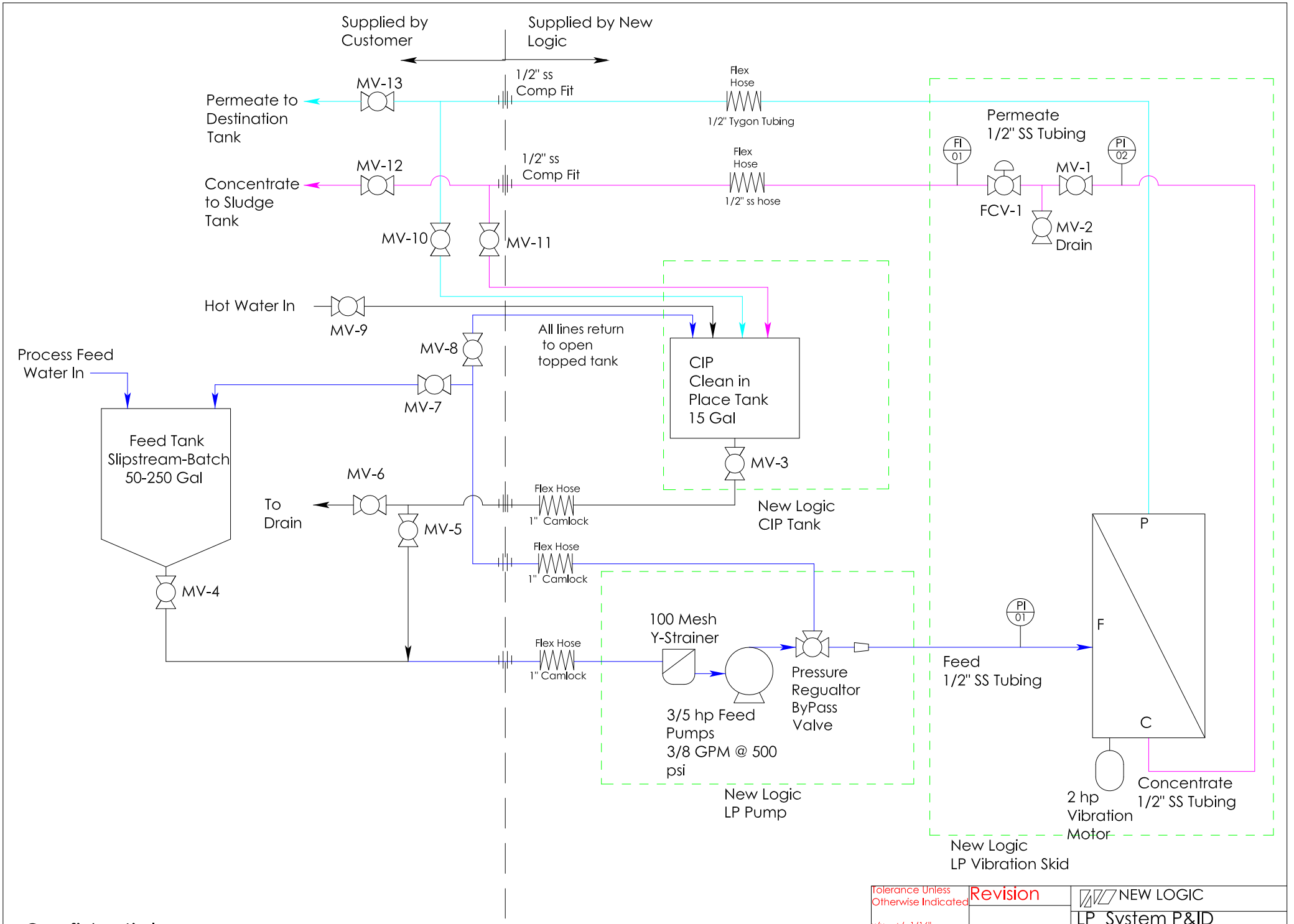
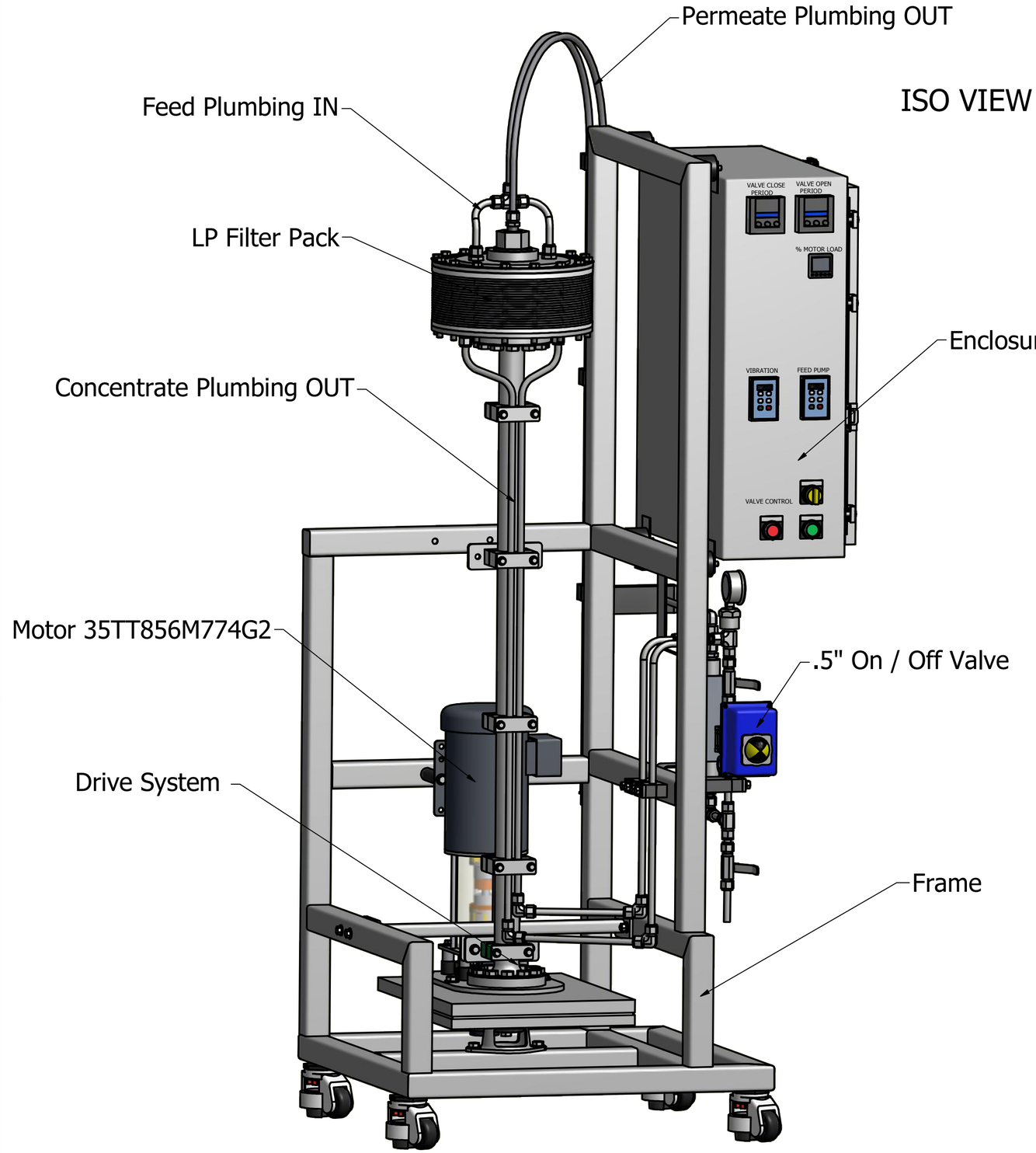


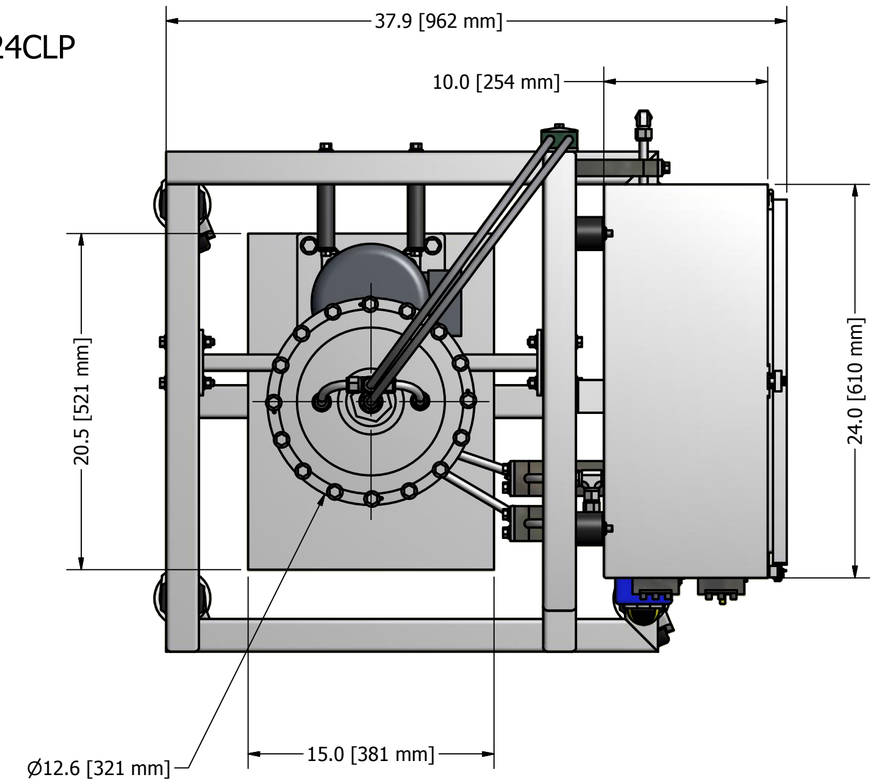
Confidential Material

Tolerance Unless Otherwise Indicated x/x = +/- 1/16" .x = +/- .100 .xx = +/- .030 .xxx = +/- .005 x¼ = +/- 30'	Revision	NEW LOGIC LP System P&ID Sheet One Scale: 1:1 LP-010 A 9/10/13 M Ayers

ISO VIEW



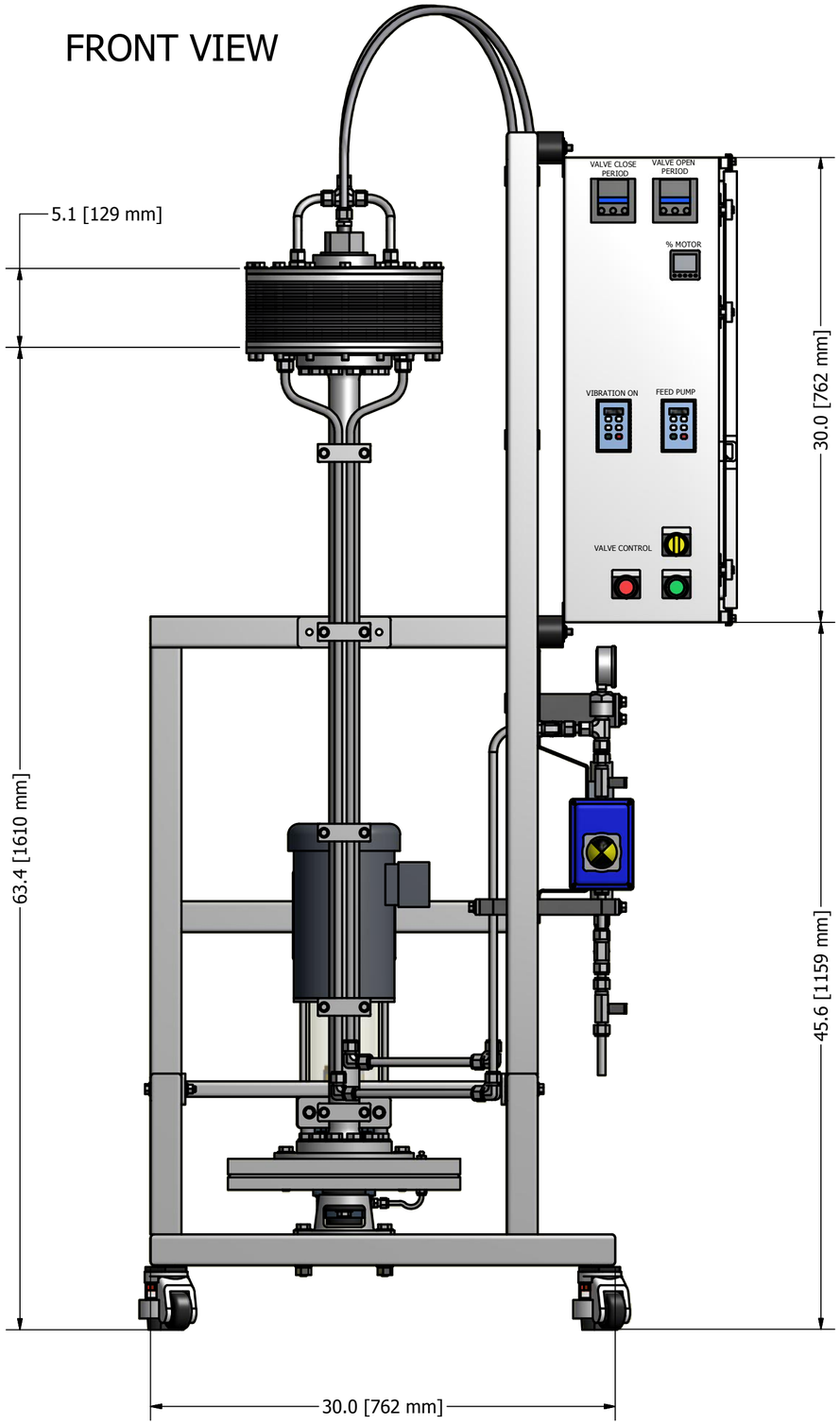
TOP VIEW



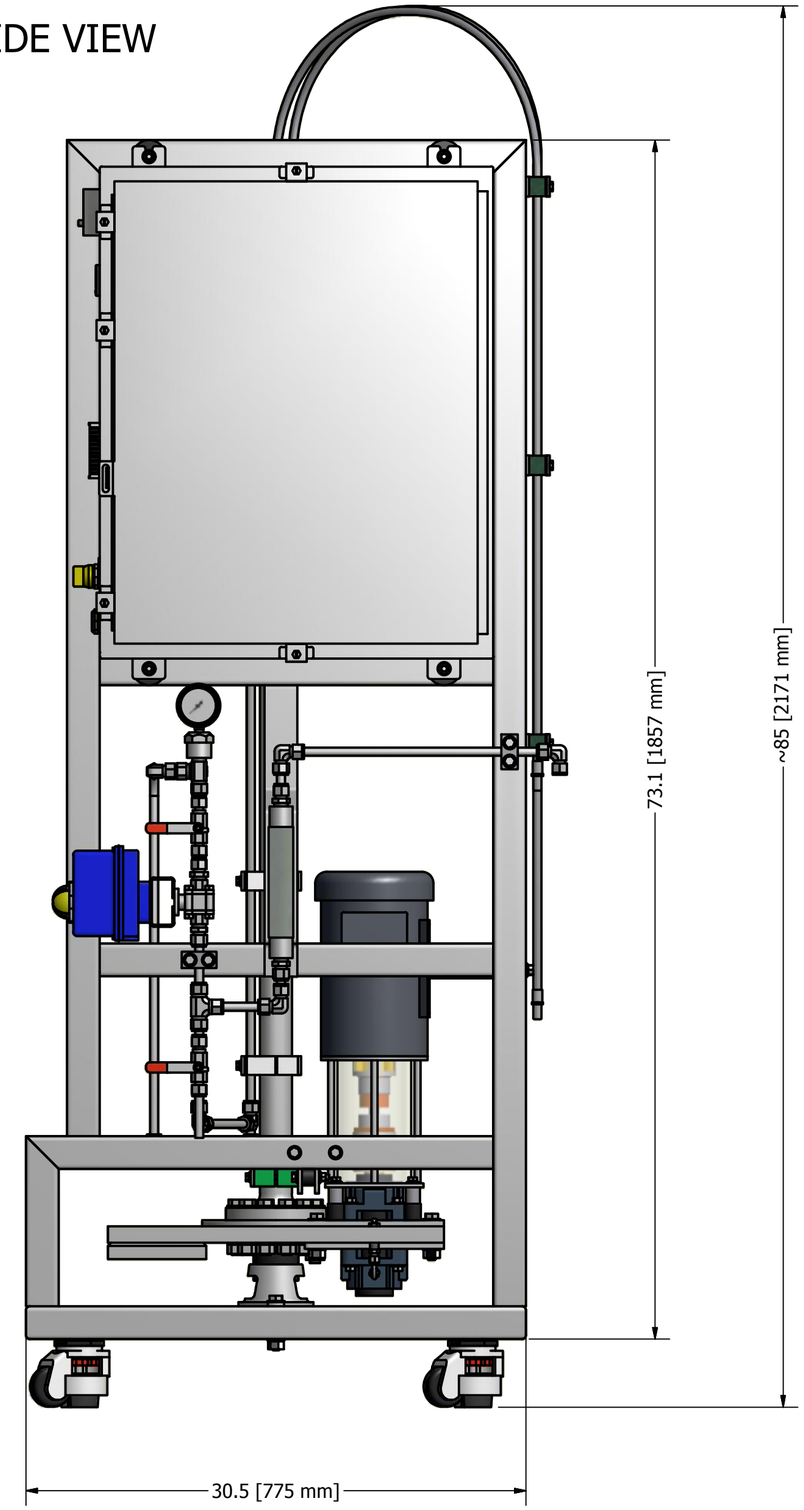
NOTES:
1. New Logic Research confidential material.
2. All dimensions are shown in inches [mm]& for references only.
3. Slight differences between drawings and actual system might be attributed to New Logic Research continuously evolving and improving its technology.

Series LP VSEP System (60 Hz)

FRONT VIEW



SIDE VIEW



Series LP VSEP System (60 Hz)

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NEW LOGIC RESEARCH
2527 Aviation Way, Minden NV 89423 USA • 775.783.7600 • www.vsep.com

Pilot Testing
VSEP L/P Machine Specifications 10/10/2023

Current operating Manual: L/P Version 7.0

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

Filter Pack:
Membrane Area: L Mode: 0.48 sq. ft. P Mode with 38 membranes: 16.9 sq. ft.
Hold Up Volume: P Mode: Approx. 0.8 Gallons (3.0 liters)
Maximum Operating pressure: 600 psi (1000psi option available with system modifications)
Maximum Shear Rate: 150,000 Inverse Seconds
Wetted Materials: 316 Stainless Steel, Polypropylene, EPDM or Viton

Vibration System:
Drive Bearings: MORSE SEALMASTER RFB2102
Vibration Motor: BALDOR 3HP 3450RPM, 480 VAC 3 phase
Vibration Motor Control: Danfoss FC202 Nema 1

Feed System:
Pump: HYDRA-CELL (M3/D10) 3.0/10 GPM @ 1725 RPM
Motor: BALDOR M3615T 266784Y696H1, 3/5HP 1725 RPM, 480 VAC 3 phase
Pump Bypass Valve: WANNER C22AABBSSEF (Custom material available upon request)

Instruments:
Pressure Gauges: 1 on Process Outlet and 1 on Process Inlet WIKA 233.54
Flow Meter (Acrylic Tube Indicator): COLE-PARMER Model 32445-58
Timers: ATC Long Range Model 365 Timer
Control Valve at Process Outlet: FloTite 320SSFFFL13-1/4"
Actuator: Indelac R Series Nema 4 Model R4BF03-2

Electrical Power Requirements: Standard Unit (With a 3HP Feed Pump Motor)
(Note: A 5HP Pump can be used but generally does not operate at more than 3 HP in this System)
Standard Voltage: 380-480 VAC 3 phase 'wye' Power
Transformer Options Upon Request: 220-240 VAC, or 580-615 VAC
Normal Full Load Operating Current: 9 - 12 amps (9 - 20 amps for a 5HP Feed Pump Motor)
Power Cord: 8 Ft long with a NEMA L16-30P plug
Required Receptacle: NEMA L16-30R, 30 amp circuit recommended

System Size and Weight:
Overall Dimensions: 38" w x 32" d x 81" h
System Weight: 750lbs. (341 kg) approximate
***Custom systems (CSA, CE, Class I Div II, AS3000, etc…) are available on request**
VSEP... the leader in membrane separation technology Copyright New Logic Research, All Rights Reserved

Utility Summary									New Logic Research
VSEP System									
AIR COMPRESSOR SIZING INFORMATION									
	# of Valves		In^3 Air/stroke		Strokes/day		CFM		M3/hr
VSEP									
No Pneumatic Actuators									
System Air Totals					**System Totals**		**0.00**		**0**
Supply instument grade dry air at 80-90 psi (560-630kPa)									
Supply air to enclosure mounted regulator/filter 3/8" NPT connection									
Totals do not include air for tools or other sources.									
HOT WATER SIZING INFORMATION									
	# /Day		Temp degC		Gallons/Day		GPM		M3/hr
VSEP									
Cleanings	1		50-60		75		0.05		0.0118
Rinse filter pack at 5gpm for 5mins	1		50-60		15		0.01		0.0024
Intermittent need of additional cleaning or flush of filter pack	0.14		50-60		2.1		0.00		0.0003
System Water Totals					**System Totals**		**0.06**		**0.0145**
Supply chlorine free water at >300 uS/cm									
Supply water at 50-60degC and 3gpm (0.68m3/hr)									
Supply water to CIP tank via hose or bucket									
ELECTRICAL LOAD PANEL SIZING INFORMATION									
Circuit Breaker Sizing 1.25-2x Nameplate Current									
3-Phase Power Voltage VAC	380-480	50/60 Hz							
1-Phase Power Voltage VAC	230-110	50/60 Hz							
	# Motors	Rated Motor HP		Nameplate Current		Nameplate Current		Recommended CB Sizing	
				400V		460V			
VSEP Drive Motor	1	3		4.8		4.0		10	
VSEP Feed Pump	1	5		8.1		7.0		15	
Totals	**2**								

Supply 3-Phase 30A power to outlet that LP cord can plug into.

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.