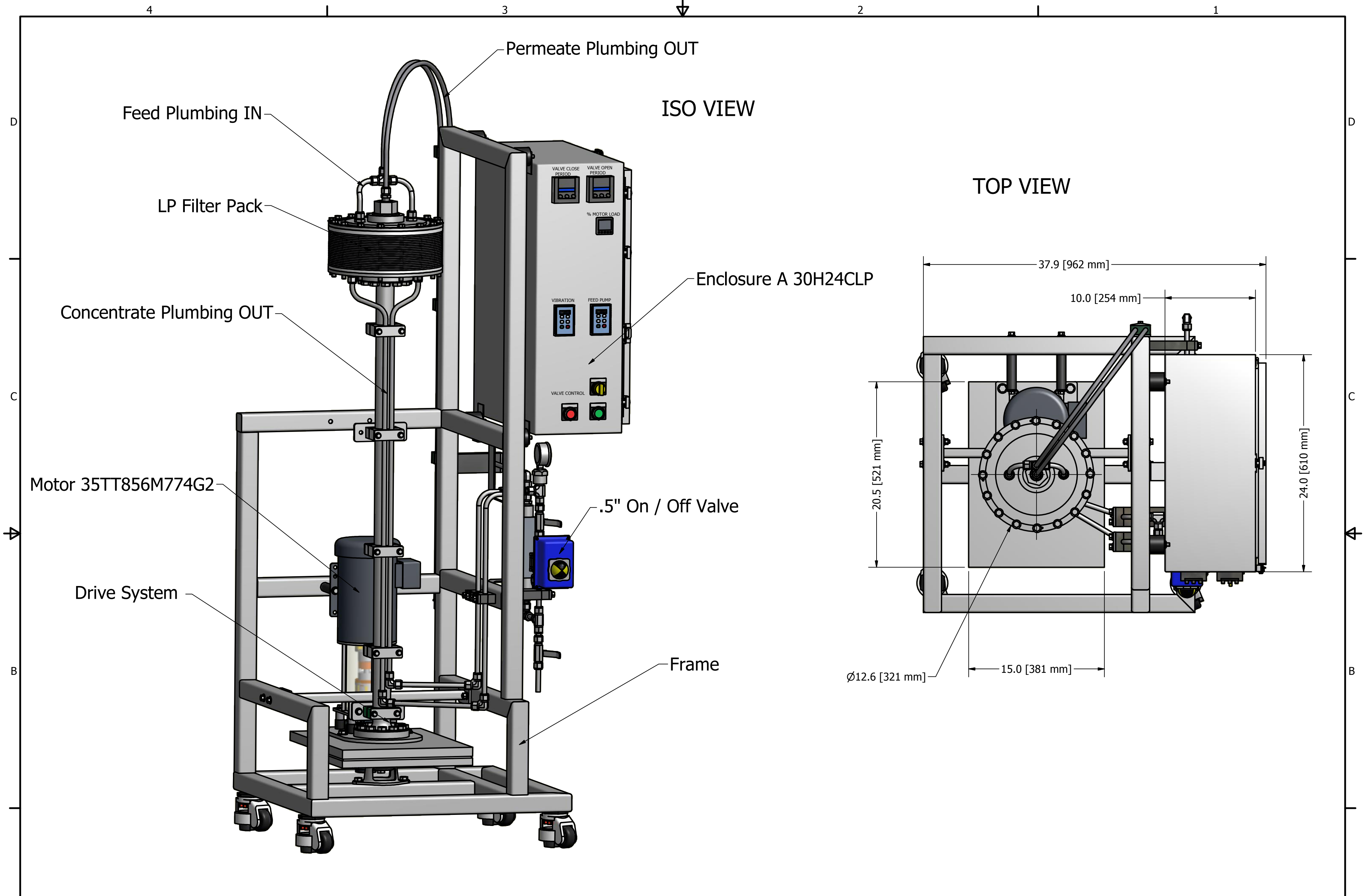


Confidential  
Material

Tolerance Unless Otherwise Indicated  x/x = +/- 1/16" .x = +/- .100 .xx = +/- .030 .xxx = +/- .005 x/4 = +/- .30"	<b>Revision</b>  	<b>NEW LOGIC</b> <b>LP System P&amp;ID</b> Sheet One
	Scale: 1:18 9/10/13	<b>LP-010</b> M Ayers

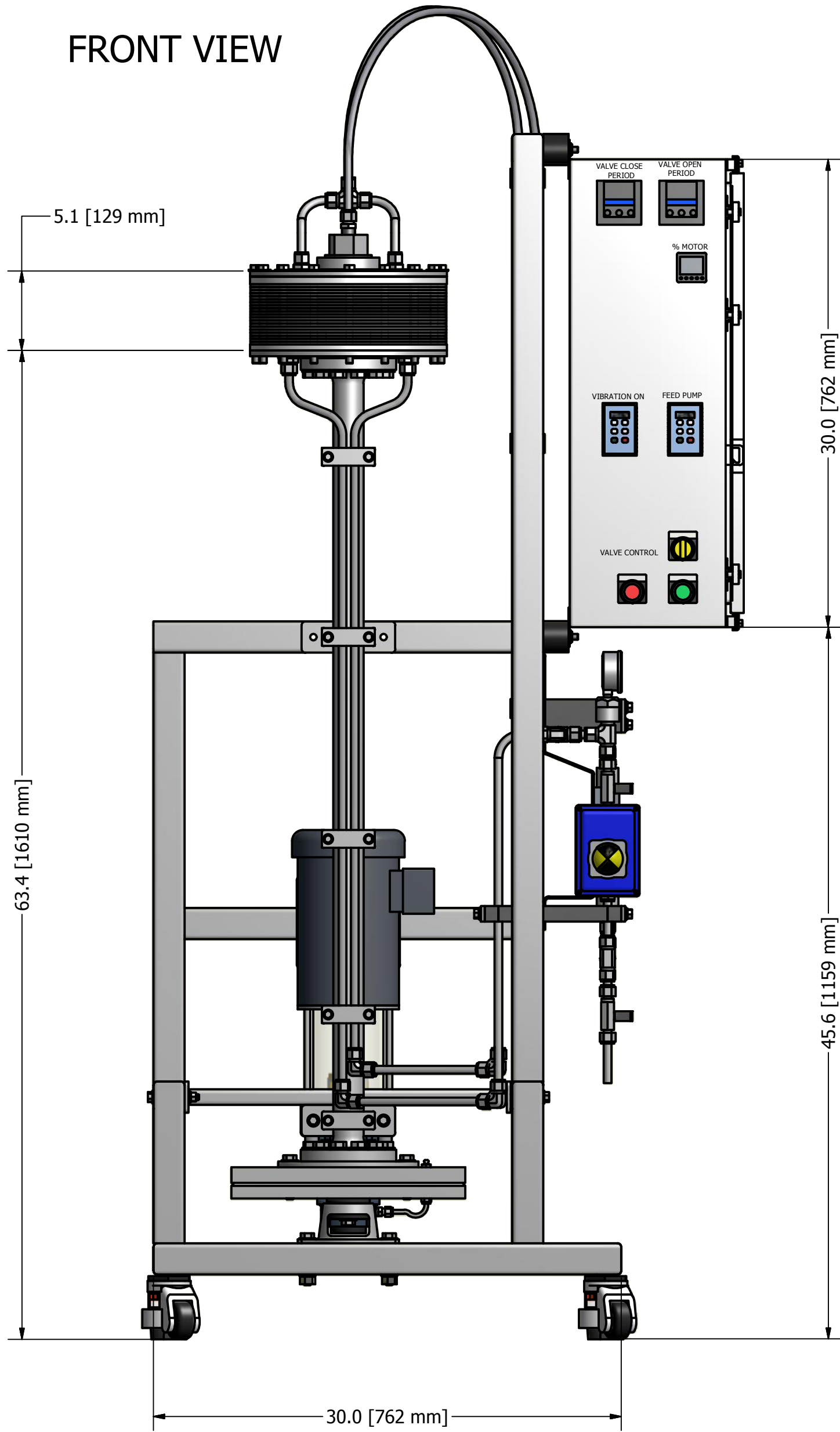


**NOTES:**

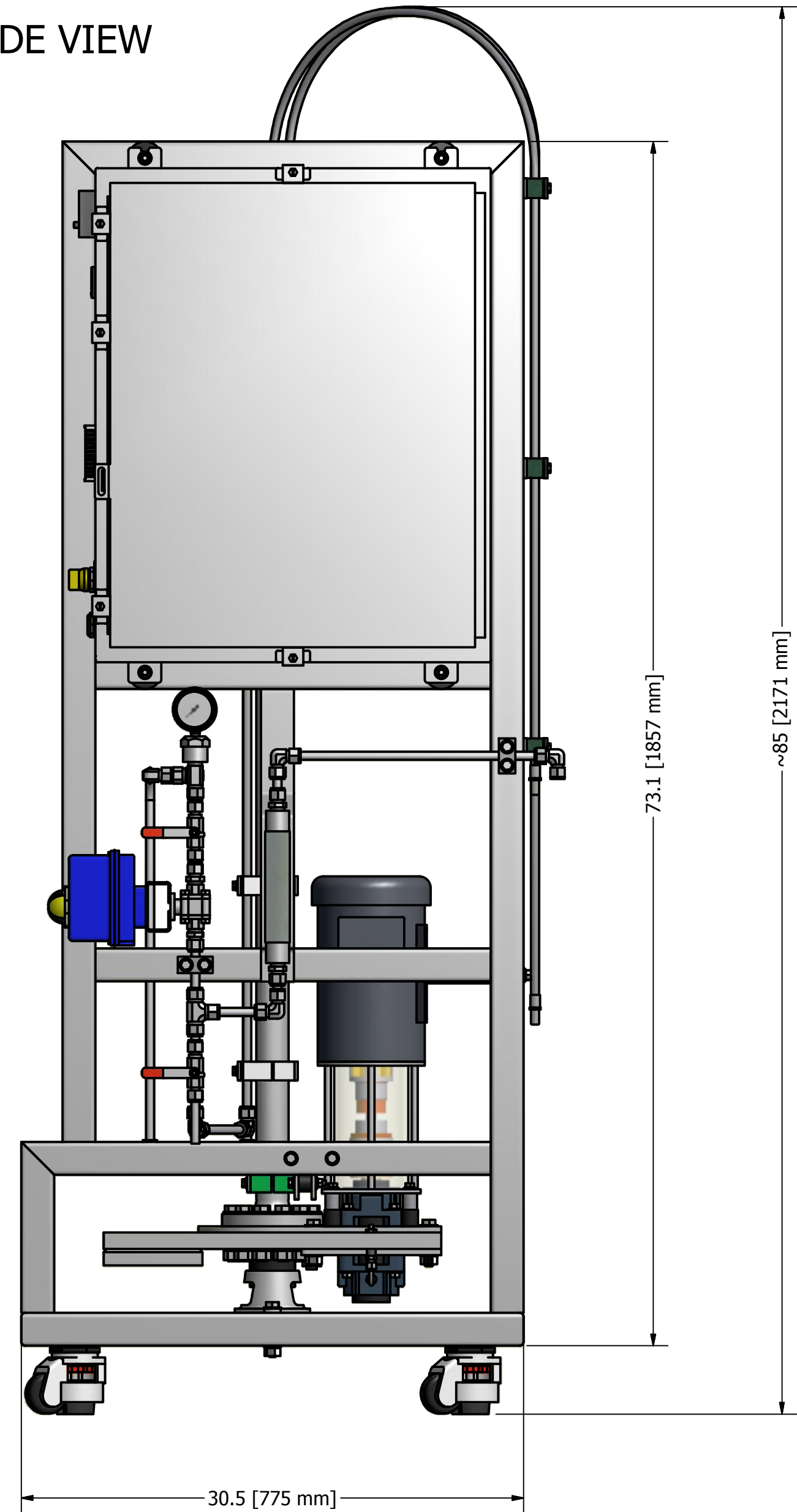
1. New Logic Research confidential material.
2. All dimensions are shown in inches [mm]& for references only.
3. Slight differences between drawings and actual system might be attributed to New Logic Research continuously evolving and improving its technology.

**Series LP VSEP System (60 Hz)**

FRONT VIEW



SIDE VIEW



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)



*Pilot Testing*  
VSEP L/P Machine Specifications 10/10/2013

**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: 0-40°C  
Storage Temperature: 0-40°C  
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 VM3555, 2HP 3450RPM, 208-240 VAC 3 phase  
Vibration Motor Control: AC Tech (ESV402N02TXB)

**Feed System:**

Pump: HYDRA-CELL (M3/D10) 3.0/10 GPM @ 1725 RPM  
Motor: BALDOR M3615T 266784Y696H1, 3/5HP 1725 RPM, 208-240 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: 208 - 240 VAC 3 phase 'wye' Power  
Transformer Options Upon Request: 380 - 480 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 L15-30P plug  
Required Receptacle: NEMA L15-30, 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										
<b>CLEANING WATER CONSUMPTION</b>										
<b>(Use Hot Water for cleaning water &gt;300 uS/cm)</b>										
	# /Day		Temp degC		Gallons/Day		GPM		M3/hr	
<b>VSEP</b>										
Cleanings	1		50-60		80		0.06		0.0126	
Intermittent need of additional cleaning or flush of filter pack	0.25		50-60		100		0.07		0.0158	
<b>System Water Totals</b>							<b>System Totals</b>		<b>0.13</b>	<b>0.0284</b>
VSEP Supply Water at 50-60degC and ~7gpm										
VSEP Supply water at 20 psi to open CIP tank										
<b>ELECTRICAL CONSUMPTION</b>										
Based on 240VAC, 3 phase, 60hz Input										
FLA = Full Load Amps = Full Load Drive Output x 1.15x										
RLA = Running Load Amps = FLA x .65x										
<b>VSEP 240 VAC Motors</b>										
	# Motors	HP /ea	kW /ea	Amps /ea	FLA /ea	RLA /ea	Total kW	Total FLA	Total RLA	
VSEP Drive Motor	1	2	1.5	5.3	6.1	4.0	1.5	6.1	4.0	
VSEP Feed Pump	1	5	3.8	15.0	17.3	11.2	3.8	17.3	11.2	
<b>Totals</b>	<b>2</b>						<b>5.3</b>	<b>23.3</b>	<b>15.2</b>	
<p>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</p>										