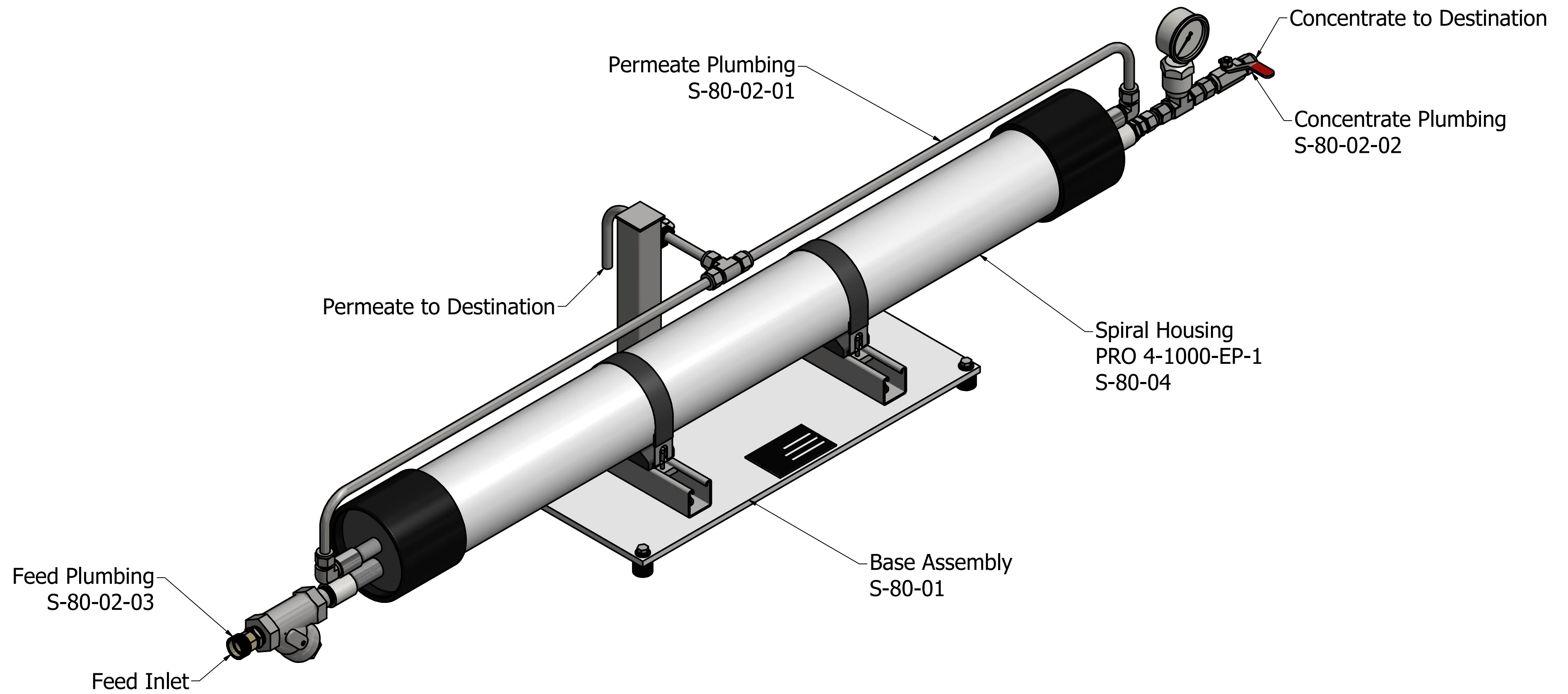


New Logic S-80 Skid

Confidential Material
Preliminary Only

Revision		NEW LOGIC RESEARCH	
S-80 Spiral System			
		P&ID	
Sept 2018			M. Ayers

ISO VIEW



S-80 Spiral System

NOTES:

1. New Logic Research confidential material.
2. All dimensions are shown in inches and millimeters.
3. Preliminary, for references only.

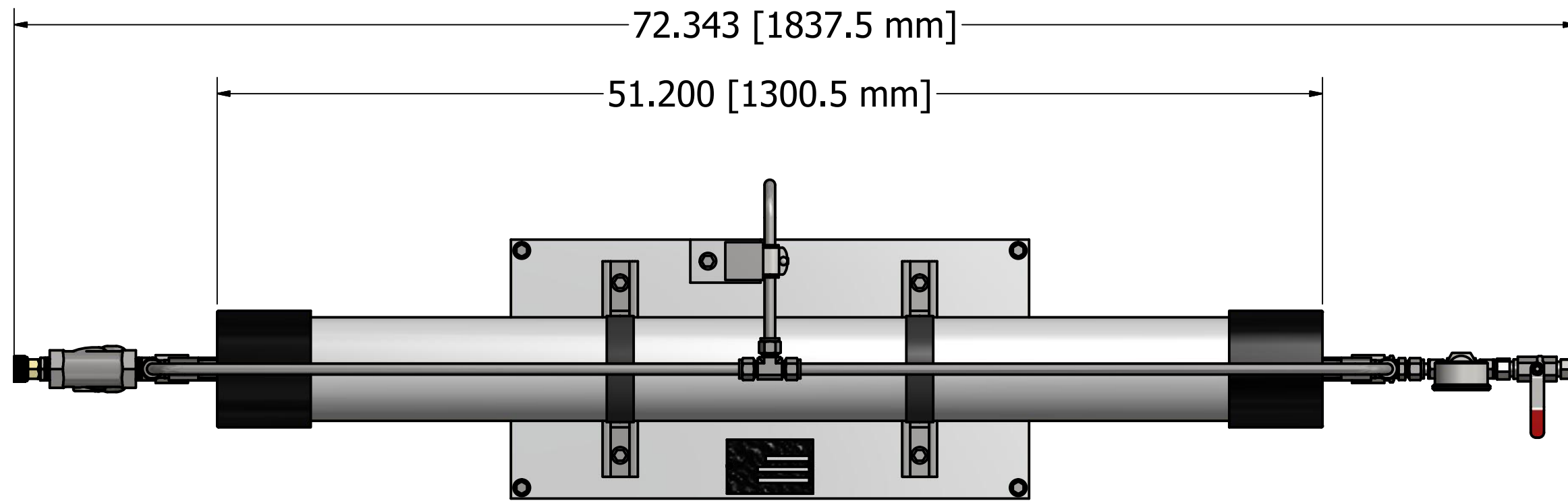
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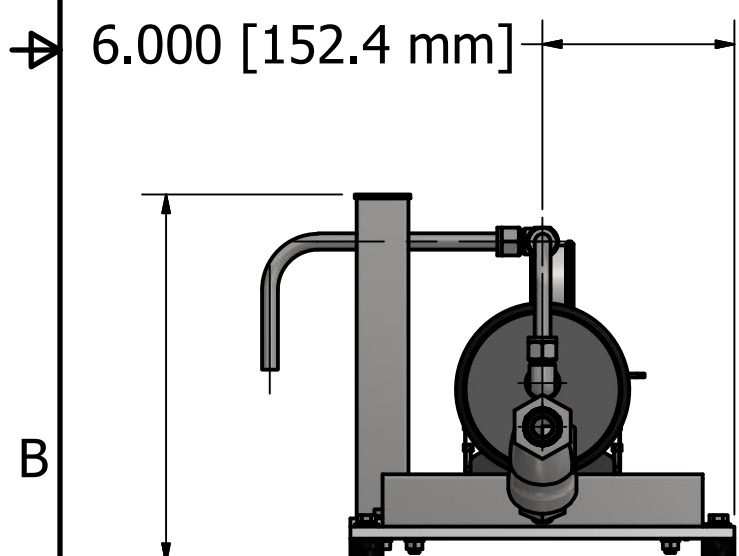
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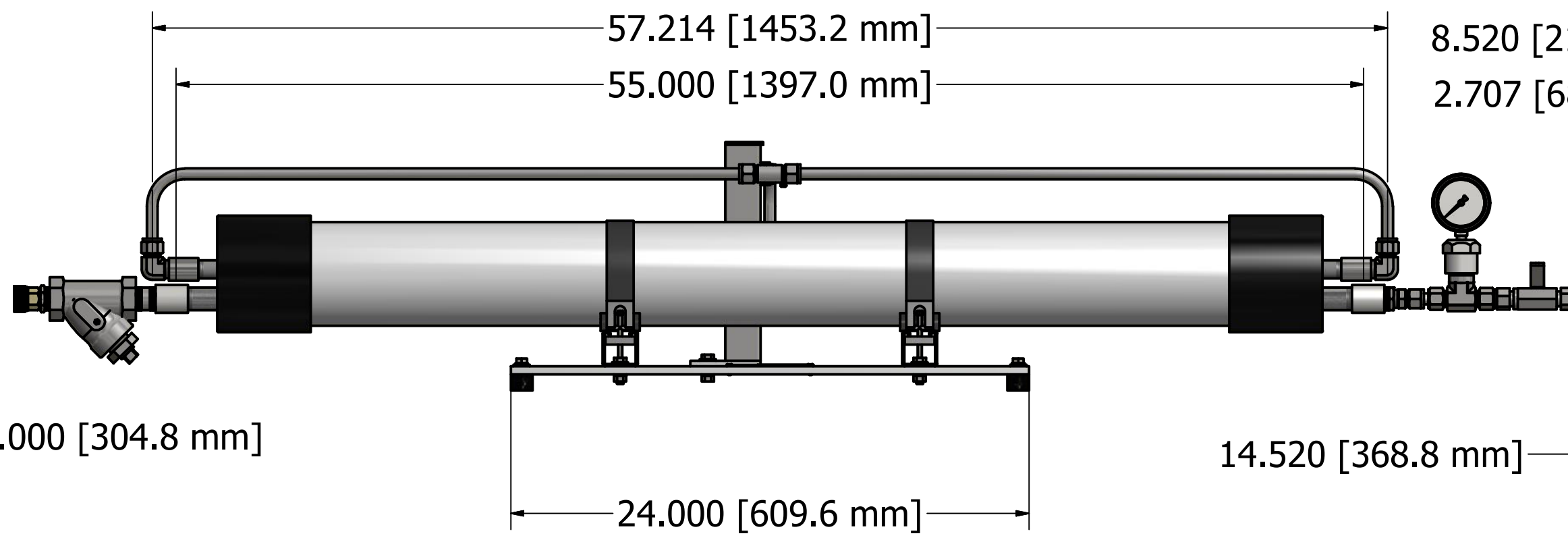
TOP VIEW



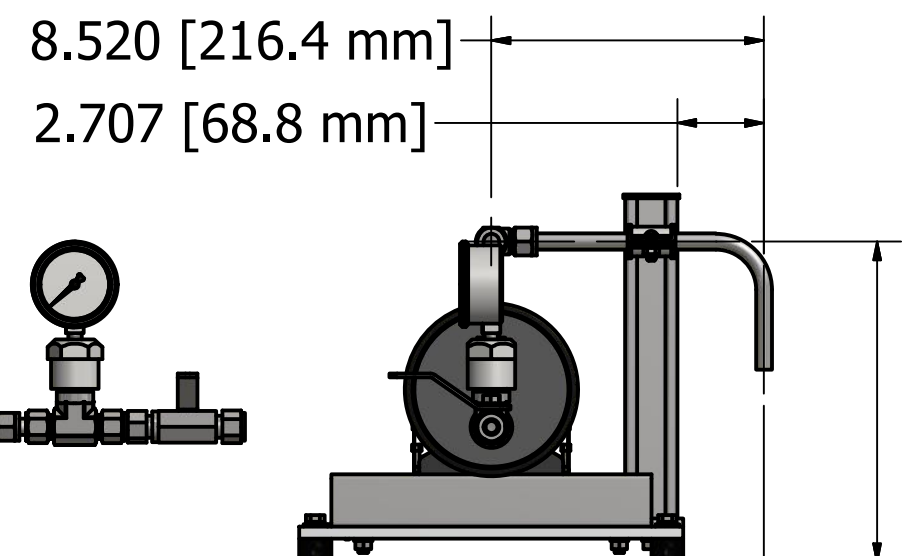
LEFT SIDE VIEW



FRONT VIEW



RIGHT SIDE VIEW



S-80 Spiral System

NOTES:

1. New Logic Research confidential material.
2. All dimensions are shown in inches and millimeters.
3. Preliminary, for references only.

4

3

4

2

1

A

A

B

B

C

C

D

D

SPIRAL SYSTEM COMPONENT SPECIFICATIONS
S-80 Spiral System

1] Filter Pack

Membrane:	ESPA 4040, SWC 4040
Membrane Surface Area:	80sf (7.4m ²) (1ea 4" Dia x 40"L)
Estimated Production:	0.27-0.55gpm (at 5-10GFD)
Maximum Operating Temperature:	120 °F (49°C) (Options for up to 80°C)
Allowable Feed Slurry pH Range:	2-11 (Options for 1-14)
O-ring Material:	Ethylene Propylene
Filter Pack Housing:	Polyurethane Coated, Filament Wound, Epoxy FRP
Wetted Ports:	316L Stainless Steel
Wetted Plastic End Plates:	PVC Thermoplastic

2] Piping

Maximum Pressure:	550 psi (Options for up to 1200 psi)
Pressure Piping:	316L Stainless Steel Tubing
Atmospheric Piping:	316L Stainless Steel Tubing
Pipe Clamps:	None
On/Off Valves:	316L SS Tubing ball valve
Flow Control Valves:	None
Check Valves:	None
Pneumatic Actuators:	None
Positioners:	None
Skid Pipe Terminations:	½" Compression Fittings
Flange Gaskets:	None
Clean in Place Tank:	None

3] Pump Specifications:

Feed Pump Type:	None
Feed Pump Motor:	None
Motor Speed Controller:	None

5] 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

SPIRAL SYSTEM COMPONENT SPECIFICATIONS (continued)**6] Electrical Specifications:**

Controls Voltage:	None
Programmable Controller Type:	None
Touch Screen Display Type:	None
Enclosures:	None
Switches, Relays, & Contactors:	None
Pressure Sensors:	Wika Gauges
Mag Flow Tube and Transmitter:	None
Bag Filter DP Sensors:	None
Temperature Sensor:	None
Conductivity Meter:	None
pH Meter:	None
Level Sensors:	None
Solenoid Valves	None
VFD Communication:	None

Utility Summary					New Logic Research	
VSEP System						
AIR COMPRESSOR SIZING INFORMATION						
	# of Valves	In ³ Air/stroke	Strokes/day	CFM	M3/hr	
Spiral RO						
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	
Spiral RO						
Cleanings	0.14	45-50	14	0.01	0.0022	
Rinse filter pack at 2gpm for 5mins	0.14	45-50	1.4	0.00	0.0002	
Intermittent need of additional cleaning or flush of filter pack	0.033	45-50	0.33	0.00	5E-05	
System Water Totals			System Totals	0.01	0.0025	
Supply chlorine free water at >300 uS/cm						
Supply water at 45degC and 5gpm (1.2m3/hr)						
Supply water at 15 psi to 2" Hot Water flange connection on Combo Skid						
ELECTRICAL LOAD PANEL SIZING INFORMATION						
Circuit Breaker Sizing 1.25-2x Nameplate Current						
3-Phase Power Voltage VAC	400-460	50/60 Hz				
1-Phase Power Voltage VAC	220-120	50/60 Hz				
	# Motors	Rated Motor HP	Nameplate Current	Nameplate Current	Recommended CB Sizing	
			400V	460V		
No Motors Supplied	0					
Totals	0					
Supply 3-Phase power from customer supplied load panel (with circuit breakers, disconnects, line filters, etc.) to the inlet of each VFD provided by New Logic.						
	# Connections	Rated Motor HP	Nameplate Current	Nameplate Current	Recommended CB Sizing	
			220V	120V		
No Main Control Enclosures	0					
New Logic provided transformer inside the control enclosure will provide 1 phase power for switches.						
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.						