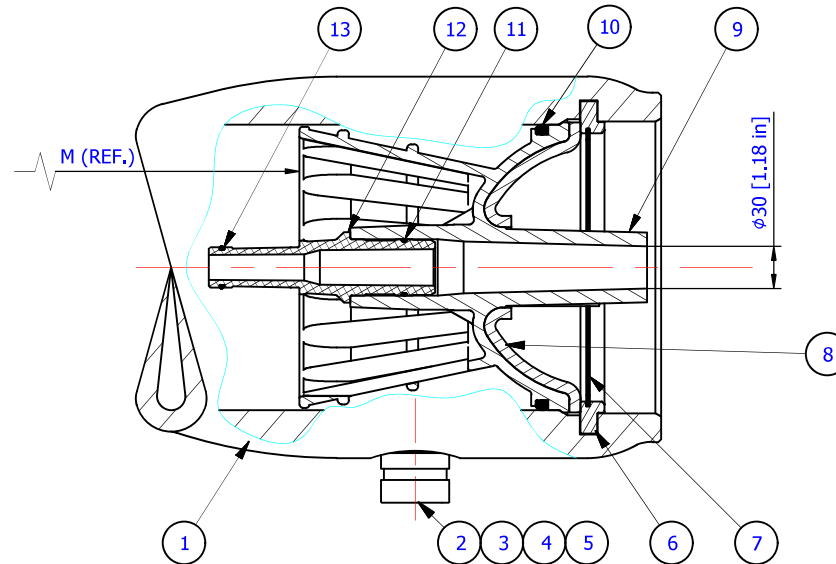


Notes:

1. All dimensions are for reference only, not for construction unless certified.
2. Item 14 & 15 should be located on feed side.
3. Drawing unit: mm. (inches)
4. Saddles can be shimmed if required.
5. Do not scale drawing, may be reprinted on any paper size or copied.
6. Length between ports (P) can be changed to adapt old dimension - with customer's special request.
7. The vessel is supplied with two strap assembly.
8. For tolerances & sizes, please check the drawing in page 2.

This drawing is an integral part of the general statement of use and Technical Manual



Warning.

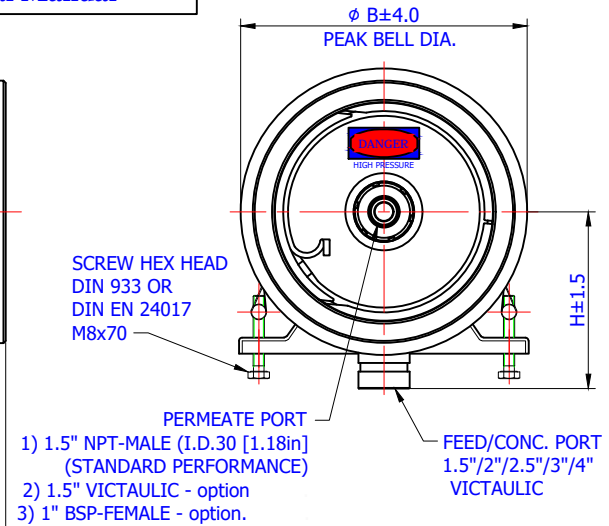
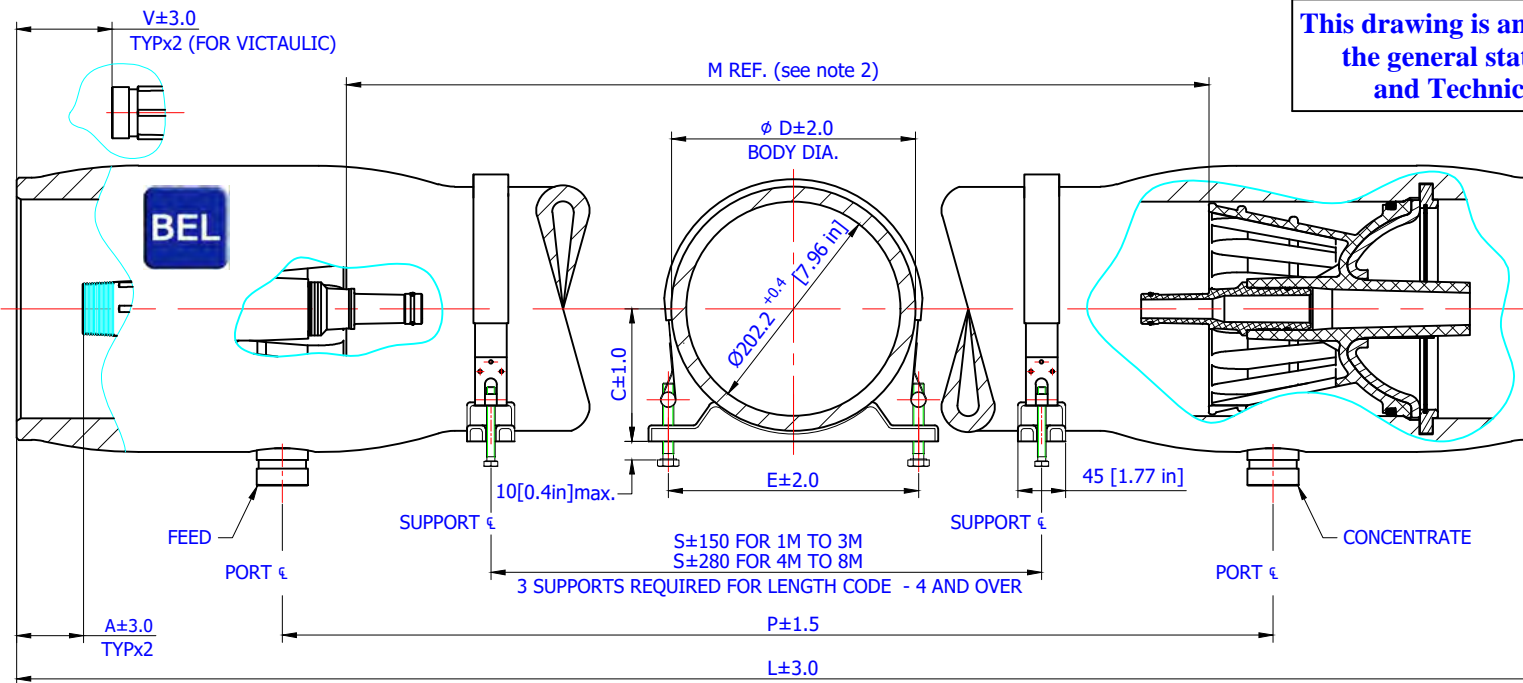
1. Never pressurize a pressure vessel that was not loaded with membrane elements.
2. Wrong manifolding may cause an excessive load on port what can lead to leaks.
3. Max. allowable working pressure not to exceed 450 psi. (31 bar).
4. Permeate internal pressure not to exceed 125 psi. (8.6 bar).
5. Operating temperature not to exceed 49°C (120°F).

Shell length: code	L (l.o.a) mm. inch	P, port to port mm. inch	S# (span) mm. inch	M, mm/in length for membranes elements	W weight kg. lb.	Article number
1	1542	1194	500	1032	39.8	81450-1
	60.7	47	20	40.6	87.7	
2	2558	2210	1500	2048	50.9	81450-2
	100.7	87	59	80.6	112.3	
3	3574	3226	2500	3064	62	81450-3
	140.7	127	98	120.6	136.8	
4	4590	4242	3250	4080	73.2	81450-4
	180.7	167	128	160.6	161.3	
5	5606	5258	4250	5096	84.3	81450-5
	220.7	207	167	200.6	185.9	
6	6622	6274	5250	6112	95.4	81450-6
	260.7	247	207	240.6	210.4	
7	7638	7290	6250	7128	106.5	81450-7
	300.7	287	245	280.6	234.9	
8	8654	8306	7250	8144	117.7	81450-8
	340.7	327	285	320.6	259.5	

Item	Q-ty	Part Number	Description	Material
1	1	81450-0	Body of Pressure Vessel	Glass/Epoxy
2	2	040-156-0458	F/C port 1.5"	Stainless steel
3	2	006-156-0452	Disk for sideport	Stainless steel
4	2	014-150-3506	Seal for sideport	EPDM
5	4	011-150-1202	Retaining ring for SP	Stainless steel
6	2	55410289	Support ring	Aluminum
7	2	011-801-1202	Retaining ring (finger hook)	Stainless steel
8	2	285453003	Metal cap 3mm	Stainless steel
9	2	285779010/vg	End cap	Engineering plastic
10	2	007-080-3092	Seal for End cap	EPDM
11	2	285773918	Seal for Adapter	EPDM
12	2	As required	Adapter	Engineering plastic
13	2-4	As required	Membrane seal	EPDM
14	0-3	285779231	Disk spacer - 1mm	Engineering plastic
15	0-7	285779233	Disk spacer - 3mm	Engineering plastic
16	2	55410310	Strap Assy.	Stainless steel
17	2-3	55410351	Saddle	Engineering plastic
18				

	TITLE: BEL8-S-450 psi. RO PRESSURE VESSEL		DESIGN	DMG	20/06/2017
			CHECK	JMEP	20/06/2017
DRAWING NO: BEL8-S(1.5")-450			APPR.	MAF	20/06/2017
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This drawing is an integral part of the general statement of use and Technical Manual



Membranes quantity	Length between ports, supports & internal space for membranes elements, mm./inch							
	1	2	3	4	5	6	7	8
P, port to port	1194	2210	3226	4242	5258	6274	7290	8306
S, supports span	47	87	127	167	207	247	287	327
M, space of membranes	500	1500	2500	3250	4250	5250	6250	7250
	19.7	59.1	98.4	128	167.3	206.7	246.1	285.4
M, space of membranes	1032	2048	3064	4080	5096	6112	7128	8144
	40.6	80.6	120.6	160.6	200.6	240.6	280.6	320.6

Notes:

1. All dimensions are for reference only, not for construction unless certified.
2. For membranes shimming (if needed) use disks spacers on feed side of the vessels.
3. Drawing unit: mm. (inches)
4. Saddles can be shimmed if required.
5. Do not scale drawing, may be reprinted on any paper size or copied.
6. The vessel is supplied with two strap assembly.
7. For 1500 PSI vessels see the General Drawing for BEL8-S-1500-PV / R13.
8. Storage & installation: Indoor.

Membranes quantity	L (Length of pressure vessels), mm./inch							
	1	2	3	4	5	6	7	8
300 NC** (20.7)	1526	2542	3558	4574	5590	6606	7622	8638
300 code (20.7)	60.08	100.08	140.08	180.08	220.08	260.08	300.08	340.08
450 (31)	1542	2558	3574	4590	5606	6622	7638	8654
	60.71	100.71	140.71	180.71	220.71	260.71	300.71	340.71
600 (41.4)	1566	2582	3598	4614	5630	6646	7662	8678
	61.65	101.65	141.65	181.65	221.65	261.65	301.65	341.65
1000 (69)	1612	2628	3644	4660	5676	6692	7708	8724
	63.46	103.46	143.46	183.46	223.46	263.46	303.46	343.46
1200 (82.7)	1652	2668	3684	4700	5716	6732	7748	8764
	65.04	105.04	145.04	185.04	225.04	265.04	305.04	345.04

Working pressure, psi (bar)	B (Peak bell diameter), mm./inch			
	1.5"	2"	2.5"	3"
300 (20.7)	249	257	265	282
	9.80	10.12	10.43	11.10
450 (31)	249	257	266	282
	9.80	10.12	10.47	11.10
600 (41.4)	254	268	278	290
	10.00	10.55	10.94	11.42
1000 (69)	276	286	291	301
	10.87	11.26	11.46	11.85
1200 (82.7)	278	288	292	303
	10.94	11.34	11.50	11.93

Working pressure, psi (bar)	H (Height of side port), mm./inch			
	1.5"	2"	2.5"	3"
300 (20.7)	166	166	166	166
	6.54	6.54	6.54	6.54
450 (31)	166	166	166	166
	6.54	6.54	6.54	6.54
600 (41.4)	171	171	171	171
	6.73	6.73	6.73	6.73
1000 (69)	175	175	175	175
	6.89	6.89	6.89	6.89
1200 (82.7)	175	175	175	175
	6.89	6.89	6.89	6.89

Warning.

1. Never pressurize a pressure vessel that was not loaded with membrane elements.
2. Wrong manifolding may effect an excessive load on port what can lead to leaks.
3. Max. allowable pressure not to exceed the indicated working pressure.
4. Permeate internal pressure not to exceed 125 psi. (8.6 bar).
5. Operating temperature not to exceed 49°C (120°F).

	TITLE:	BEL 8" Side Port RO PRESSURE VESSEL	DESIGN	DMG	18/01/2019
	DRAWING NO:	BEL8-S-PV	CHECK	JMEP	18/01/2019
			APPR.	MAF	18/01/2019
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\* Ports with special height (H) in vessel and Length between ports (P) can be changed to adapt old dimension - with customer's special request.  
 \*\* NC (Non Code)

Working pressure psi (bar)	A, mm./in. from permeate to edge	V, mm./in. from permeate to edge	C, mm./in. from support to center line	D, mm./in. vessel's outer diameter	E, mm./inch distance between fasten bolts
300 NC** (20.7)	2	29	117	214	229
300 Code (20.7)	0.08	1.14	4.61	8.43	9.02
	9	36	117	214	229
450 (31)	0.35	1.42	4.61	8.43	9.02
	9	36	118	216	229
600 (41.4)	0.35	1.42	4.65	8.50	9.02
	21	48	120	220	229
1000 (69)	0.83	1.89	4.72	8.66	9.02
	45	72	122.5	225	236
1200 (82.7)	1.77	2.83	4.82	8.86	9.29
	65	92	124.5	229	236
	2.56	3.62	4.90	9.02	9.29



**ORDER / R.F.Q. FORM - 8" SIDE PORT PRESSURE VESSELS**

*Please fill and send it to your contact at BEL*

**P.O. / R.F.Q. Number:**

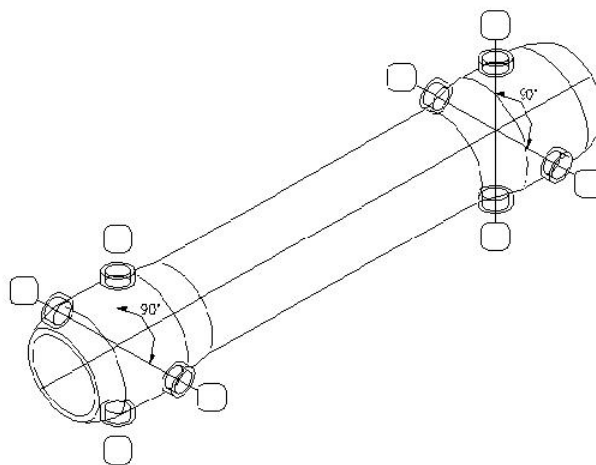
**Customer name:**

**1. NEW SYSTEM / EXISTING SYSTEM or Replacement , please provide details:**

**2. F/C PORTS CONFIGURATION:** Please indicate side port requirement on each side of the vessel  
*(Mark the letter indicating port diameter in the box at each required port location)*

**A – 1.5"      B – 2"      C – 2.5"      D – 3"      E – 4"**

*(Ports with a diameter of 2.5" & 3" & 4" cannot be mounted in 90° from with any other port)*



**3. NUMBER OF VESSELS:      Units**

*(Please use separate forms for each type in case of multi-type orders)*

**4. WORKING PRESSURE RATE (PSI):** 300    450    600    1,000    1,200

**5. NUMBER OF MEMBRANE ELEMENTS IN EACH VESSEL:**    (1,,,,,,8)

**6. MEMBRANE BRAND AND TYPE:**

**7. CONFIRM TYPE:** BEL8-S - (    x    ) -    - M  
# of ports dia. of port pressure # of membranes - *(Example: BEL8 - S(4 x 2.5") – 1,000 - 7M)*

**8. PERMEATE PORTS OUTLET:** 1.5" NPT male    1.5" Victaulic grooved    1" BSP female

**9. ASME code SEC. X, RP stamped vessel:** NO    YES    *(please contact for pricing)*

**10. ADAPTERS OPTIONS:** Two Standard adapters    Standard & Solid (blind) adapter

**11. COLOR:** Standard (white, RAL 9010)    Other    RAL number:    *(contact for pricing)*

Customer signature:

Date:

**FOR DETAILS PLEASE VISIT OUR WEBSITE: [www.belvessels.com](http://www.belvessels.com)**