

## Spiral-Wound Ultrafiltration - PHT Sanitary Series

### Standard Series Benefits

- Conforms to 3-A, FDA, and USDA sanitary standards
- Hot sanitation eliminates chlorine during CIP
- High resistance to pH and temperature
- High resistance to fouling
- Customizable dimensions for unique housings



### Applications

Food: Protein removal from fruit juices / Starch concentration / Egg white concentration / Gelatin concentration

Dairy: Whey Protein Concentrate / Whey Protein Isolate / Microbial & Fat removal

Biopharmaceutical: Concentration of Enzymes, Proteins, Peptides / Polysaccharide gums / Microbial removal, Endotoxin, Pyrogen removal

General: Protein concentration / Protein fractionation

### Membrane Types

Model	MWCO	Membrane Type
XT	1,000	PES
VT	3,000	PES
MT	5,000	PES
ST	10,000	PES
SM	20,000	PES
MK	30,000	PES
LY	100,000	PES
LX	300,000	PES
BN	50,000	PVDF
BY	100,000	PVDF
BX	250,000	PVDF
A6	500,000	PVDF
FR	800,000	PVDF
V0.1	0.1 µm	PVDF
V0.2	0.2 µm	PVDF

### Sanitary Element Operating Specifications

Pressure	PSI	Bar
Max. Inlet Pressure	140	9.7
Min. Outlet Pressure	10	0.7
Max. Differential Pressure per Element	18	1.2
Max. Permeate Backpressure	5	0.3

NOTE: Soft start on boost pumps required to minimize pressure/flow shocks to elements

Temperature	Fahrenheit	Celsius
Max. Operating	149°	65°
Max. CIP Temperature	185°	85°

pH Parameters	pH
pH Range during Operation @ 55°C Max.	1 - 11
pH Range during CIP Operation @ 50°C Max.	1 - 13

Chlorine	Norm. ppm	Max. ppm
Free Chlorine in DF Water or Product	0	<0.1
Chlorine during CIP @ pH 10.8-11.0 and 50°C	150	180

NOTE: Maximum chlorine exposure for all elements is 30 minutes per day at pH and temperature conditions listed above

Peroxide	Max. ppm
Free Peroxide in Product during Operation	<3 ppm
Peroxide as a sanitizer @ 25°C Max, pH 6-7, 10 minutes recirculation	0.1%

Dairy Product Total Solids Limits	Spacer			
	31	46	65	80
Products				
Sweet Whey Max. T.S.	15	25	28	30
Acid Whey Max. T.S.	15	24	26	28
Skim Milk Max. T.S.	14	24	26	28
Whole Milk Max. T.S.	15	30	33	35

NOTE: Trials should be made to determine temperature and viscosity effects.

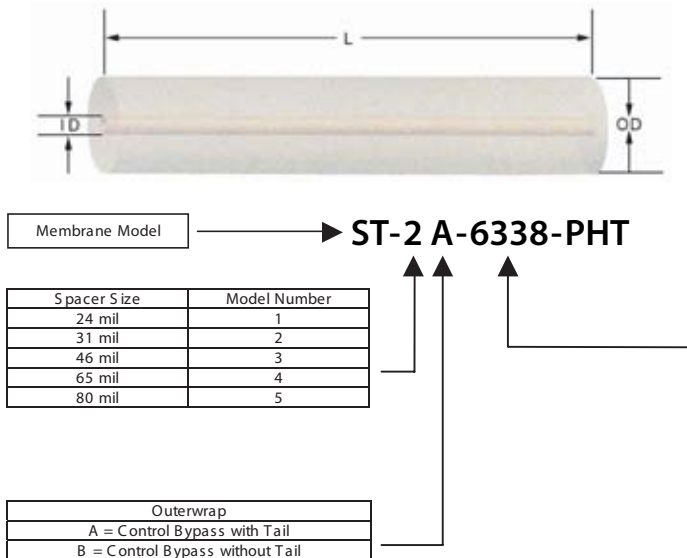
### ELEMENT DIMENSIONS

Element	Model Number	Diameter (inches)	Length (inches)	P.W.T. ID
1.8"	1812	1.8	12	0.625
2.5"	2519	2.5	19.25	0.625
	2540	2.5	40	0.625
3.8"	3838	3.8	38	0.831
	3838.75	3.8	38.75	0.831
	3850	3.8	50	0.831
	3851	3.8	51	0.831
4.3"	4333	4.3	33	0.831
	4335	4.3	35	0.831
	4335.5	4.3	35.5	0.831
	4336	4.3	36	0.831
	4338	4.3	38	0.831
5.8"	5838	5.8	38	1.138
6.3"	6338	6.3	38	1.138
	6324	6.3	24	1.138
6.4"	6438	6.4	38	1.138
	6424	6.4	24	1.138
7.8"	7838	7.8	38	1.138
	7824	7.8	24	1.138
8"	8038	8.0	38	1.138
	8238	8.2	38	1.138
	8338	8.3	38	1.138
10"	10338	10.3	38	1.138

### RECOMMENDED ELEMENT CROSS FLOW RATE

Element		Feed Spacer (in mils)				
		24	31	46	65	80
1.8"	m3 / hr	N/A	1.1	N/A	N/A	N/A
	gpm	N/A	5	N/A	N/A	N/A
2.5"	m3 / hr	2.3	2.3	3.0	N/A	N/A
	gpm	10	10	13	N/A	N/A
3.8"	m3 / hr	5.9	5.9	7.3	8.7	10.0
	gpm	26	26	32	38	44
4.3"	m3 / hr	5.3	7.8	9.6	11.2	13.5
	gpm	32	34	42	49	59
5.8"	m3 / hr	13.5	14.2	16.9	19.9	23.3
	gpm	59	62	74	87	102
6.3"	m3 / hr	17.1	17.8	21.2	24.2	28.1
	gpm	75	78	93	106	123
6.4"	m3 / hr	17.1	17.8	21.2	24.2	28.1
	gpm	75	78	93	106	123
7.8"	m3 / hr	22.1	24.2	29.7	34.7	40.6
	gpm	97	106	130	152	178
8"	m3 / hr	24.2	25.8	31.9	37.4	43.4
	gpm	106	113	140	164	190
10"	m3 / hr	N/A	51.1	59.3	70.1	83.6
	gpm	N/A	224	260	307	366

### ORDERING INFORMATION



### MEMBRANE AREA (SQ.FT)

Element	Model Number	Feed Spacer (in mils)				
		24	31	46	65	80
1.8"	1812	N/A	4	N/A	N/A	N/A
	2519	17	15	11	N/A	N/A
2.5"	2540	37	34	23	N/A	N/A
	3838	88	77	60	46	39
3.8"	3838.75	89	77	60	46	39
	3850	125	118	102	75	52
	3851	128	121	104	77	53
	4333	96	87	74	58	50
4.3"	4335	100	95	79	61	53
	4335.5	104	97	82	63	54
	4336	108	100	83	63	55
	4338	112	105	88	66	58
	5.8"	5838	186	180	136	109
6.3"	6338	236	228	171	133	109
	6324	161	141	112	88	77
6.4"	6438	239	230	174	135	110
	6424	164	143	115	90	79
7.8"	7838	405	360	288	230	198
	7824	248	220	176	141	121
8"	8038	432	384	306	240	207
	8238	450	396	322	252	220
8338	470	414	329	258	225	
10"	10338	N/A	655	493	384	324

### TECHNICAL NOTES

For element sizes not listed, please call or email Synder Filtration for details. We can design an element to fit your exact needs – just specify the element outer diameter (OD) or vessel/housing inner diameter (ID), element inner diameter (ID), and length. Elements are available with or without a controlled bypass tail. Additional feed spacers are also available.

Maximum allowed differential pressure per element is 1.2 bar.

The recommended cross flow rate will be subject to differential pressure limitations and specific applications.

Trials should be conducted to determine optimal application conditions.

Element Descriptions						
Model	OD (in.)	L (in.)	ID* (in.)	Weight (lb)	Weight (kg)	
1812	1.8	12	0.625	1	0.5	
2519	2.5	19.25	0.625	3	1.4	
2540	2.5	40	0.625	4	1.8	
3838	3.8	38	0.831	10	4.5	
3838.75	3.8	38.75	0.831	10	4.5	
3850	3.8	50	0.831	13	5.9	
3851	3.8	51	0.831	14	6.3	
4333	4.3	33	0.831	11	5.0	
4335	4.3	35	0.831	11	5.2	
4335.5	4.3	35.5	0.831	11	5.2	
4336	4.3	36	0.831	11	5.2	
4338	4.3	38	0.831	12	5.4	
5838	5.8	38	1.138	25	11.4	
6338	6.3	38	1.138	26	11.8	
6324	6.3	24	1.138	17	7.7	
6438	6.4	38	1.138	29	13.2	
6424	6.4	38	1.138	18	8.2	
7838	7.8	38	1.138	40	18.2	
7824	7.8	24	1.138	26	11.8	
8038	8.0	38	1.138	43	19.5	
8238	8.2	38	1.138	44	20.0	
8338	8.3	38	1.138	45	20.4	
10338	10.3	38	1.138	55	25.0	

### Notes:

\* Different diameters are available. Please specify your requirements when ordering. Specifications are subject to change without notice.