

## Industrial Ultrafiltration Spiral-Wound Element: **SM (PES 20kDa)**

Synder Filtration's Ultrafiltration Elements offer an optimal combination of both flux and rejection in a comprehensive range of MWCO's. Contact us today to learn more about our complete line of membrane products and services.

### RECOMMENDED OPERATING PARAMETERS

Membrane Type	
Proprietary PVDF or PES	Spiral-Wound with netted outerwrap or fiber glass hardshell (FRP)

Pressure	PSI	Bar
Max Inlet Pressure	116	8.0
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	122°	50°
Max. CIP Temperature	122°	50°

pH Parameters	pH
pH Range during Operation at 25°C Max.	1.0-11.0
pH Range during CIP Operation at 50°C Max.	2.0-11.0

Peroxide	Max ppm.
Free Peroxide in Product During Operation	<3 ppm
Peroxide as a sanitizer at 25°C Max, pH6-7, 10minutes recirculation	0.1%

Chlorine	Norm ppm	Max ppm
Free Chlorine During Operation	0	<0.1
Chlorine During CIP at pH10.8-11.0 and 50°C	150	180

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

### INDUSTRIAL SERIES BENEFITS

- Widest range of UF MWCO's available
- Good resistance to pH and temperature
- High resistance to fouling
- Customizable dimensions for unique housings



### COMMON APPLICATIONS

- Specialty protein separation
- Skim milk protein concentrate & isolate production
- Beverage clarification

### CONTACT US



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*All inquiries will be responded to by a Synder employee personally within 24 hours.*



## DIMENSIONS & WEIGHT

Element	Model No.	Diameter (B) in (cm)	Length (A) in (cm)	PWT ID/OD in (cm)	Tube Extension (C) in (cm)	Dry Weight lb (kg)
1.8"	1812TM	1.8" (4.6)	11.75" (29.8)	0.665" (1.71)	0.75" (perm) 1.00" (plug)	1.0 (.45)
	2540TM	2.4" (6.1)	40.0" (101.6)	0.75" (1.90)	1.00" (2.54)	4.0 (1.8)
2.5"	2540HF	2.4" (6.1)	40.0" (101.6)	0.625" (1.59)	-	4.0 (1.8)
	2540HM	2.4" (6.1)	40.0" (101.6)	0.75" (1.90)	1.00" (2.54)	4.0 (1.8)
4"	4040TM	3.9" (9.9)	40.0" (101.6)	0.75" (1.90)	1.00" (2.54)	12.0 (5.5)
	4040HM	3.9" (9.9)	40.0" (101.6)	0.75" (1.90)	1.00" (2.54)	12.0 (5.5)
	4040HF	3.9" (9.9)	40.0" (101.6)	0.625" (1.59)	-	12.0 (5.5)
8"	7940HF	7.9" (20.1)	40.0" (101.6)	1.138" (2.89)	-	35.0 (15.9)
	8040HF	7.9" (20.1)	40.0" (101.6)	1.125" (2.86)	-	35.0 (15.9)

## 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 also available with or without a controlled bypass tail. Additional feed spacers are also available. Trials should be conducted to determine optimal application conditions.

Spacer Size	Model No.	Industrial Designations
24 mil	1	T = Tape Wrapped
31 mil	2	HM = Male
46 mil	3	HF = Female
65 mil	4	
80 mil	5	



Membrane Model → V6 - 2 - 8040HF

## RECOMMENDED ELEMENT CROSS FLOW RATE

Element		Feed Spacer (in mils)				
		24	31	46	65	80
1.8"	m <sup>3</sup> /hr	0.7	0.8	0.9	1.0	1.1
	gpm	3	3	4	4	5
2.5"	m <sup>3</sup> /hr	1.3	1.5	1.8	2.0	2.1
	gpm	6	7	8	9	9
4.0"	m <sup>3</sup> /hr	3	4	5	5	5
	gpm	15	17	20	23	24
8"	m <sup>3</sup> /hr	15	17	20	23	24
	gpm	66	75	89	99	105

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

## MEMBRANE AREA (SQ. FT)

Element	Feed Spacer (in mils)				
	24	31	46	65	80
1812TM	3.1	2.7	2.1	1.6	1.3
2540M	28	24	20	16	13
2540F	30	26	22	17	14
4040M	81	72	58	46	39
4040F	86	75	61	49	41
7940F	379	335	268	210	178
8040F	379	335	268	210	178