

Sanitary Ultrafiltration Spiral-Wound Element: **MK (PES 30kDa)**

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.

STANDARD SERIES BENEFITS

- Conforms to 3-A, FDA, and USDA sanitary standards
- Widest range of UF MWCO's available
- Good resistance to pH and temperature
- High resistance to fouling
- Customizable dimensions for unique housings

RECOMMENDED OPERATING PARAMETERS

| Operating Parameters | |
|--------------------------------|--------------|
| Maximum Temperature | 55°C (131°F) |
| pH Range @ Max Temperature | 3-9 |
| pH Range @ Ambient Temperature | 2-10 |

| Pressure | PSI | Bar |
|---------------------------------------|-----|-----|
| Max Inlet Pressure | 120 | 8.3 |
| 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.

| Cleaning Parameters | |
|---|--------------|
| Maximum Temperature (Short term <30min) | 50°C (122°F) |
| pH Range @ Max Temperature | 2-11 |
| pH Range @ Ambient Temperature | 1.8-11 |

| 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.

| Dairy Product Total Solids Limits | Feed Spacer (in mils) | | | |
|-----------------------------------|-----------------------|----|----|----|
| | 31 | 46 | 65 | 80 |
| 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.



COMMON APPLICATIONS

- Skim milk protein concentrate & isolate production
- Beverage clarification

CONTACT US



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ELEMENT DIMENSIONS

| Element | Model No. | Diameter (B) in | Length (A) in | P.W.T. ID |
|---------|-----------|-----------------|---------------|-----------|
| 1.8" | 1812F | 1.8 | 12 | 0.63 |
| | 2519 | 2.5 | 19.25 | 0.63 |
| 2.5" | 2540F | 2.5 | 40 | 0.63 |
| | 2540M* | 2.5 | 38 | 0.75 |
| | 3838 | 3.8 | 38 | 0.83 |
| 3.8" | 3838.75 | 3.8 | 38.75 | 0.83 |
| | 3850 | 3.8 | 50 | 0.83 |
| | 3938.75 | 4.0 | 38.75 | 0.63 |
| | 4333 | 4.3 | 33 | 0.83 |
| | 4335 | 4.3 | 35 | 0.83 |
| 4.3" | 4335.5 | 4.3 | 35.5 | 0.83 |
| | 4336 | 4.3 | 36 | 0.83 |
| | 4338 | 4.3 | 38 | 0.83 |
| 5.8" | 5838 | 5.8 | 38 | 1.14 |
| 6.3" | 6338 | 6.3 | 38 | 1.14 |
| | 6324 | 6.3 | 24 | 1.14 |
| | 6438 | 6.4 | 38 | 1.14 |
| 6.4" | 6424 | 6.4 | 24 | 1.14 |
| 7.8" | 7838 | 7.8 | 38 | 1.14 |
| | 7824 | 7.8 | 24 | 1.14 |
| | 8038 | 8.0 | 38 | 1.14 |
| | 8040 | 8.0 | 40 | 1.14 |
| 8" | 8238 | 8.2 | 38 | 1.14 |
| | 8240 | 8.2 | 40 | 1.14 |
| | 8338 | 8.3 | 38 | 1.14 |
| | 8340 | 8.3 | 40 | 1.14 |
| 9.8" | 9838 | 9.8 | 38 | 1.14 |
| 10" | 10338 | 10.3 | 38 | 1.14 |

*1" permeate tube extensions (0.75" OD)

RECOMMENDED ELEMENT CROSS FLOW RATE

| Element | | Feed Spacer (in mils) | | | | |
|---------|--------------------|-----------------------|-----|-----|-----|-----|
| | | 24 | 31 | 46 | 65 | 80 |
| 1.8" | m ³ /hr | 1 | 1 | 1 | 2 | 2 |
| | gpm | 4 | 5 | 6 | 7 | 7 |
| 2.5" | m ³ /hr | 2 | 2 | 3 | 3 | 3 |
| | gpm | 9 | 10 | 11 | 12 | 13 |
| 3.8" | m ³ /hr | 5 | 6 | 7 | 8 | 8 |
| | gpm | 22 | 25 | 29 | 33 | 35 |
| 4.3" | m ³ /hr | 6 | 7 | 9 | 10 | 10 |
| | gpm | 29 | 32 | 38 | 44 | 46 |
| 5.8" | m ³ /hr | 12 | 13 | 16 | 18 | 19 |
| | gpm | 51 | 59 | 69 | 78 | 83 |
| 6.3" | m ³ /hr | 15 | 17 | 20 | 22 | 24 |
| | gpm | 65 | 74 | 88 | 99 | 105 |
| 8" | m ³ /hr | 21 | 24 | 29 | 33 | 35 |
| | gpm | 94 | 107 | 128 | 143 | 154 |
| 10" | m ³ /hr | 42 | 48 | 57 | 64 | 68 |
| | gpm | 184 | 213 | 250 | 283 | 299 |

The recommended cross flow rate will be subject to differential pressure limitations and specific applications. Please consult Synder Filtration if additional information is needed.



MEMBRANE AREA (SQ. FT.)

| Element | Model No. | Feed Spacer (in mils) | | | | |
|---------|-----------|-----------------------|-----|-----|-----|-----|
| | | 24 | 31 | 46 | 65 | 80 |
| 1.8" | 1812F | N/A | 3.6 | N/A | N/A | N/A |
| | 2519 | 15 | 13 | 10 | N/A | N/A |
| 2.5" | 2540F | 34 | 29 | 22 | N/A | N/A |
| | 2540M | 35 | 30 | 23 | N/A | N/A |
| 3.8" | 3838 | 85 | 72 | 58 | 46 | 38 |
| | 3838.75 | 86 | 74 | 59 | 47 | 39 |
| | 3850 | 100 | 84 | 70 | 52 | 46 |
| | 3938.75 | 102 | 89 | 69 | 53 | 47 |
| | 4333 | 99 | 86 | 66 | 53 | 44 |
| 4.3" | 4335 | 105 | 91 | 71 | 56 | 47 |
| | 4335.5 | 107 | 93 | 72 | 57 | 48 |
| | 4336 | 108 | 94 | 73 | 58 | 49 |
| | 4338 | 115 | 100 | 77 | 62 | 52 |
| | 5.8" | 5838 | 210 | 184 | 147 | 114 |
| 6.3" | 6324 | 150 | 134 | 107 | 83 | 70 |
| | 6338 | 246 | 220 | 176 | 136 | 115 |
| 6.4" | 6424 | 157 | 140 | 112 | 83 | 74 |
| | 6438 | 258 | 230 | 184 | 136 | 122 |
| 7.8" | 7824 | 242 | 210 | 166 | 132 | 110 |
| | 7838 | 396 | 344 | 273 | 216 | 180 |
| 8" | 8038 | 414 | 368 | 287 | 225 | 189 |
| | 8040 | 414 | 368 | 287 | 225 | 189 |
| | 8238 | 441 | 384 | 302 | 238 | 201 |
| | 8240 | 441 | 384 | 302 | 238 | 201 |
| | 8338 | 450 | 400 | 311 | 245 | 207 |
| 9.8" | 8340 | 450 | 400 | 311 | 245 | 207 |
| | 9838 | N/A | 564 | 440 | 351 | 296 |
| 10" | 10338 | N/A | 620 | 492 | 386 | 326 |

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.

ELEMENT DESCRIPTIONS

| Model No. | OD (in.) | L (in.) | ID* (in.) | Weight (lb) | Weight (kg) |
|-----------|----------|---------|-----------|-------------|-------------|
| 1812F | 1.8 | 12 | 0.63 | 1.0 | 0.5 |
| 2519 | 2.5 | 19.25 | 0.63 | 2 | 0.9 |
| 2540F | 2.5 | 40 | 0.63 | 4 | 1.8 |
| 2540M* | 2.5 | 38 | 0.75 | 4 | 1.8 |
| 3838 | 3.8 | 38 | 0.83 | 10 | 4.5 |
| 3838.75 | 3.8 | 38.75 | 0.83 | 10 | 4.5 |
| 3850 | 3.8 | 50 | 0.83 | 13 | 5.9 |
| 3938.75 | 4.0 | 38.75 | 0.63 | 10 | 4.5 |
| 4333 | 4.3 | 33 | 0.83 | 11 | 5.0 |
| 4335 | 4.3 | 35 | 0.83 | 11 | 5.2 |
| 4335.5 | 4.3 | 35.5 | 0.83 | 11 | 5.2 |
| 4336 | 4.3 | 36 | 0.83 | 11 | 5.2 |
| 4338 | 4.3 | 38 | 0.83 | 12 | 5.4 |
| 5838 | 5.8 | 38 | 1.14 | 15 | 7 |
| 6338 | 6.3 | 38 | 1.14 | 16 | 7 |
| 6324 | 6.3 | 24 | 1.14 | 17 | 7.7 |
| 6438 | 6.4 | 38 | 1.14 | 29 | 13.2 |
| 6424 | 6.4 | 24 | 1.14 | 18 | 8.2 |
| 7838 | 7.8 | 38 | 1.14 | 40 | 18.2 |
| 7824 | 7.8 | 24 | 1.14 | 26 | 11.8 |
| 8038 | 8.0 | 38 | 1.14 | 38 | 17.2 |
| 8040 | 8.0 | 40 | 1.14 | 39 | 17.7 |
| 8238 | 8.2 | 38 | 1.14 | 38 | 17.2 |
| 8240 | 8.2 | 40 | 1.14 | 40 | 18 |
| 8338 | 8.3 | 38 | 1.14 | 40 | 18 |
| 8340 | 8.3 | 40 | 1.14 | 40 | 18 |
| 9838 | 9.8 | 38 | 1.14 | 42 | 19.1 |
| 10338 | 10.3 | 38 | 1.14 | 50 | 22.7 |

*1" permeate tube extensions (0.75" OD)

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

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