

## Sanitary Ultrafiltration Spiral-Wound Element: **VT (PES 3kDa)**

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

| 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.

### 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



### COMMON APPLICATIONS

- Antibiotic concentration
- Protein & polypeptide concentration

### CONTACT US



**LENNTECH**

info@lenntech.com

www.lenntech.com

Tel.+31-152-610-900

Fax+31-152-616-289



## ELEMENT DIMENSIONS

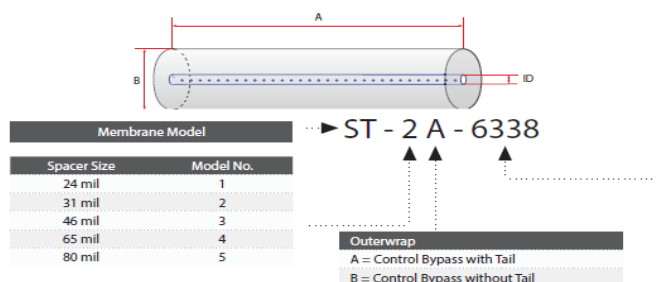
| Element | Model No. | Diameter (B) in | Length (A) in | P.W.T. ID |
|---------|-----------|-----------------|---------------|-----------|
| 1.8"    | 1812F     | 1.8             | 12            | 0.63      |
|         | 2519      | 2.5             | 19.25         | 0.63      |
| 2.5"    | 2540F     | 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      |
|         | 6338      | 6.3             | 38            | 1.14      |
| 6.3"    | 6324      | 6.3             | 24            | 1.14      |
|         | 6438      | 6.4             | 38            | 1.14      |
| 6.4"    | 6424      | 6.4             | 24            | 1.14      |
|         | 7838      | 7.8             | 38            | 1.14      |
| 7.8"    | 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 |                    | 24  | 31  | 46  | 65  | 80  |
|---------|--------------------|-----|-----|-----|-----|-----|
| 1.8"    | m <sup>3</sup> /hr | 1   | 1   | 1   | 2   | 2   |
|         | gpm                | 4   | 5   | 6   | 7   | 7   |
| 2.5"    | m <sup>3</sup> /hr | 2   | 2   | 3   | 3   | 3   |
|         | gpm                | 9   | 10  | 11  | 12  | 13  |
| 3.8"    | m <sup>3</sup> /hr | 5   | 6   | 7   | 8   | 8   |
|         | gpm                | 22  | 25  | 29  | 33  | 35  |
| 4.3"    | m <sup>3</sup> /hr | 6   | 7   | 9   | 10  | 10  |
|         | gpm                | 29  | 32  | 38  | 44  | 46  |
| 5.8"    | m <sup>3</sup> /hr | 12  | 13  | 16  | 18  | 19  |
|         | gpm                | 51  | 59  | 69  | 78  | 83  |
| 6.3"    | m <sup>3</sup> /hr | 15  | 17  | 20  | 22  | 24  |
|         | gpm                | 65  | 74  | 88  | 99  | 105 |
| 8"      | m <sup>3</sup> /hr | 21  | 24  | 29  | 33  | 35  |
|         | gpm                | 94  | 107 | 128 | 143 | 154 |
| 10"     | m <sup>3</sup> /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. | 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 |
|         | 3838      | 85  | 72  | 58  | 46  | 38  |
| 3.8"    | 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  |
|         | 4335      | 105 | 91  | 71  | 56  | 47  |
| 4.3"    | 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 | 96  |
|         | 6324      | 150 | 134 | 107 | 83  | 70  |
| 6.3"    | 6338      | 246 | 220 | 176 | 136 | 115 |
|         | 6424      | 157 | 140 | 112 | 83  | 74  |
| 6.4"    | 6438      | 258 | 230 | 184 | 136 | 122 |
|         | 7824      | 242 | 210 | 166 | 132 | 110 |
| 7.8"    | 7838      | 396 | 344 | 273 | 216 | 180 |
|         | 8038      | 414 | 368 | 287 | 225 | 189 |
|         | 8040      | 414 | 368 | 287 | 225 | 189 |
| 8"      | 8238      | 441 | 384 | 302 | 238 | 201 |
|         | 8240      | 441 | 384 | 302 | 238 | 201 |
|         | 8338      | 450 | 400 | 311 | 245 | 207 |
|         | 8340      | 450 | 400 | 311 | 245 | 207 |
| 9.8"    | 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.

# LENNTECH

info@lennotech.com Tel. +31-152-610-900

www.lennotech.com Fax. +31-152-616-289

