

# TRISEP® DS Food & Dairy

## UP005 Series



**LENNTECH**  
WATER TREATMENT SOLUTIONS

TRISEP® sanitary membrane elements for food & dairy applications have a long history of outstanding, stable field performance. NADIR® UP005 polyethersulfone (PES) membrane with a nominal 5,000 Da molecular weight cut-off offers the highest protein rejection in the industry for membranes with this cut-off. In field studies UP005 membrane had as much as 75% less protein passage than competitive membranes. TRISEP elements are available with a number of different feed spacers and in all sizes common in the industry. TRISEP DS elements are built with FDA compliant materials, are compliant with European food regulations (EU 10/2011 and EC 1935/2004) and comply with USDA standards.

### MEMBRANE CHARACTERISTICS

|                       |                        |
|-----------------------|------------------------|
| Membrane              | NADIR® UP005           |
| Membrane Type         | Polyethersulfone (PES) |
| Nominal M.W.C.O. (Da) | 5,000                  |

### DESIGN INFORMATION

| Model                    | Membrane Area<br>m <sup>2</sup> (ft <sup>2</sup> ) | Feed Spacer<br>Thickness (mil) <sup>a</sup> |
|--------------------------|----------------------------------------------------|---------------------------------------------|
| TRISEP® DS UP005 3838-31 | 7.0 (75)                                           | 31                                          |
| TRISEP® DS UP005 3838-46 | 5.7 (61)                                           | 46                                          |
| TRISEP® DS UP005 3838-65 | 4.5 (48)                                           | 65                                          |
| TRISEP® DS UP005 3838-80 | 4.0 (43)                                           | 80                                          |
| TRISEP® DS UP005 6338-31 | 20.5 (221)                                         | 31                                          |
| TRISEP® DS UP005 6338-46 | 17.1 (184)                                         | 46                                          |
| TRISEP® DS UP005 6338-65 | 12.9 (139)                                         | 65                                          |
| TRISEP® DS UP005 6338-80 | 11.5 (124)                                         | 80                                          |
| TRISEP® DS UP005 8038-31 | 32.0 (344)                                         | 31                                          |
| TRISEP® DS UP005 8038-46 | 25.0 (269)                                         | 46                                          |
| TRISEP® DS UP005 8038-65 | 21.0 (226)                                         | 65                                          |
| TRISEP® DS UP005 8038-80 | 18.0 (194)                                         | 80                                          |
| TRISEP® DS UP005 8338-31 | 34.0 (366)                                         | 31                                          |
| TRISEP® DS UP005 8338-46 | 27.5 (296)                                         | 46                                          |
| TRISEP® DS UP005 8338-65 | 23.5 (253)                                         | 65                                          |
| TRISEP® DS UP005 8338-80 | 21.2 (228)                                         | 80                                          |

<sup>a</sup> All models on this sheet have a netting outer wrap and diamond shaped feed spacers.

### OPERATING PARAMETERS

|                                            |                                                        |
|--------------------------------------------|--------------------------------------------------------|
| Maximum Operating Pressure                 | 10 bar (145 psi)                                       |
| Maximum Operating Temperature              | 50°C (122°F)                                           |
| Cleaning pH/Temperature Range <sup>1</sup> | 1.5 – 11.5 at 50°C (122°F)                             |
| Cleaning Chlorine Tolerance                | 200 ppm for sanitization at pH ≥ 10.5                  |
| Maximum Pressure Drop                      | 1 bar (15 psi) per element; 4 bar (60 psi) per housing |

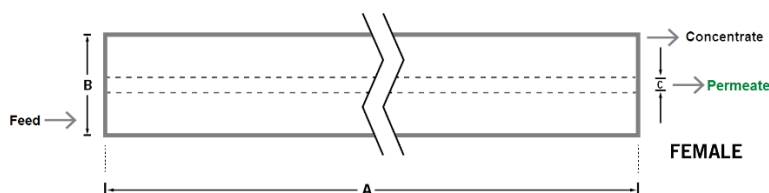
<sup>1</sup> Refer to temperature and pH limits in Membrane Cleaning Guide – Food & Dairy: UF & MF Elements (TSG-C-004).

## PHYSICAL DIMENSIONS

| Model                    | Element Weight<br>kg (lb) <sup>b</sup> | Dim. A<br>mm (inches) | Dim. B<br>mm (inches) | Dim. C <sup>c</sup><br>mm (inches) | Permeate Tube |
|--------------------------|----------------------------------------|-----------------------|-----------------------|------------------------------------|---------------|
| TRISEP® DS UP005 3838-31 | 4 (9)                                  | 965 (38.0)            | 96 (3.8)              | 21.1 (0.83)                        | Female        |
| TRISEP® DS UP005 3838-46 | 4 (9)                                  | 965 (38.0)            | 96 (3.8)              | 21.1 (0.83)                        | Female        |
| TRISEP® DS UP005 3838-65 | 4 (9)                                  | 965 (38.0)            | 96 (3.8)              | 21.1 (0.83)                        | Female        |
| TRISEP® DS UP005 3838-80 | 4 (9)                                  | 965 (38.0)            | 96 (3.8)              | 21.1 (0.83)                        | Female        |
| TRISEP® DS UP005 6338-31 | 11 (24)                                | 965 (38.0)            | 162 (6.3)             | 28.9 (1.138)                       | Female        |
| TRISEP® DS UP005 6338-46 | 11 (24)                                | 965 (38.0)            | 162 (6.3)             | 28.9 (1.138)                       | Female        |
| TRISEP® DS UP005 6338-65 | 11 (24)                                | 965 (38.0)            | 162 (6.3)             | 28.9 (1.138)                       | Female        |
| TRISEP® DS UP005 6338-80 | 11 (24)                                | 965 (38.0)            | 162 (6.3)             | 28.9 (1.138)                       | Female        |
| TRISEP® DS UP005 8038-31 | 16 (36)                                | 965 (38.0)            | 201 (7.9)             | 28.9 (1.138)                       | Female        |
| TRISEP® DS UP005 8038-46 | 16 (36)                                | 965 (38.0)            | 201 (7.9)             | 28.9 (1.138)                       | Female        |
| TRISEP® DS UP005 8038-65 | 16 (36)                                | 965 (38.0)            | 201 (7.9)             | 28.9 (1.138)                       | Female        |
| TRISEP® DS UP005 8038-80 | 16 (36)                                | 965 (38.0)            | 201 (7.9)             | 28.9 (1.138)                       | Female        |
| TRISEP® DS UP005 8338-31 | 18 (40)                                | 965 (38.0)            | 211 (8.3)             | 28.9 (1.138)                       | Female        |
| TRISEP® DS UP005 8338-46 | 18 (40)                                | 965 (38.0)            | 211 (8.3)             | 28.9 (1.138)                       | Female        |
| TRISEP® DS UP005 8338-65 | 18 (40)                                | 965 (38.0)            | 211 (8.3)             | 28.9 (1.138)                       | Female        |
| TRISEP® DS UP005 8338-80 | 18 (40)                                | 965 (38.0)            | 211 (8.3)             | 28.9 (1.138)                       | Female        |

<sup>b</sup> Shipping weight is dependent on packaging material and quantity shipped.

<sup>c</sup> Dimension "C" is the Inner Diameter.



## IMPORTANT INFORMATION

- Start-up:** MANN+HUMMEL Water & Fluid Solutions recommends flushing elements for 30 minutes at low pressure and discarding permeate during the flush prior to operation. For a more detailed start-up procedure, please see Element Start-Up Guide – System Start-Up (TSG-O-005).
- Cleaning:** TRISEP® membrane elements must be cleaned periodically to ensure proper operation and to prevent membrane damage. Please see Membrane Cleaning Guide – Food & Dairy: UF & MF Elements (TSG-C-004).
- Storage:** TRISEP membrane elements must be stored appropriately to ensure proper operation and to prevent membrane damage. Please see Element Storage Guides (TSG-O-009 & TSG-O-010).
- Regulatory:** All models on this sheet conform to USDA 3A sanitary standard 45-03, use FDA (CFR Title 21) compliant materials, comply with EU regulation (EC) No. 1935/2004 and No. 10/2011, and have Halal and Kosher certifications.

## CUSTOMIZABLE SPECIALTY ELEMENTS

MANN+HUMMEL Water & Fluid Solutions offers a full range of membranes and element designs for challenging water and process applications. Technologies include low-fouling RO, submerged UF, continuous high temperature, ultra-high pressure, unique sanitary designs and more. Contact us to customize a product that satisfies your specific requirements.

## Contact



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