



# TRISEP® DS Food & Dairy

## 4.3" Diameter UP005 Series

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

<b>Membrane</b>	NADIR® UP005
<b>Membrane Type</b>	Polyethersulfone (PES)
<b>Nominal M.W.C.O. (Da)</b>	5,000

### DESIGN INFORMATION

Model	Membrane Area m <sup>2</sup> (ft <sup>2</sup> )	Feed Spacer Thickness (mil) <sup>a</sup>
TRISEP® DS UP005 4333-31	7.6 (82)	31
TRISEP® DS UP005 4333-46	6.3 (68)	46
TRISEP® DS UP005 4333-80	4.3 (46)	80
TRISEP® DS UP005 4336-31	8.2 (88)	31
TRISEP® DS UP005 4336-46	6.8 (73)	46
TRISEP® DS UP005 4336-80	4.6 (50)	80

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

### OPERATING PARAMETERS

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

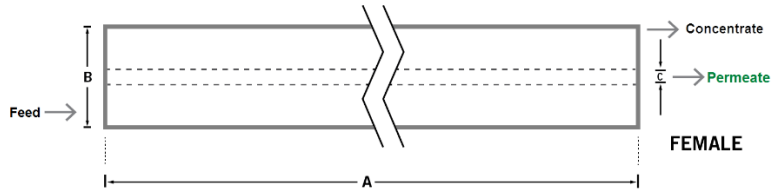
<sup>1</sup> Refer to temperature and pH limits in Membrane Cleaning Guide – Food & Dairy: UF & MF Elements (TSG-C-004).

**PHYSICAL DIMENSIONS**

Model	Element Weight kg (lb) <sup>b</sup>	Dim. A mm (inches)	Dim. B mm (inches)	Dim. C <sup>c</sup> mm (inches)	Permeate Tube
TRISEP® DS UP005 4333-31	4 (9)	838 (33.0)	109.5 (4.3)	21.1 (0.83)	Female
TRISEP® DS UP005 4333-46	4 (9)	838 (33.0)	109.5 (4.3)	21.1 (0.83)	Female
TRISEP® DS UP005 4333-80	4 (9)	838 (33.0)	109.5 (4.3)	21.1 (0.83)	Female
TRISEP® DS UP005 4336-31	4 (9)	902 (35.5)	109.5 (4.3)	21.1 (0.83)	Female
TRISEP® DS UP005 4336-46	4 (9)	902 (35.5)	109.5 (4.3)	21.1 (0.83)	Female
TRISEP® DS UP005 4336-80	4 (9)	902 (35.5)	109.5 (4.3)	21.1 (0.83)	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.

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