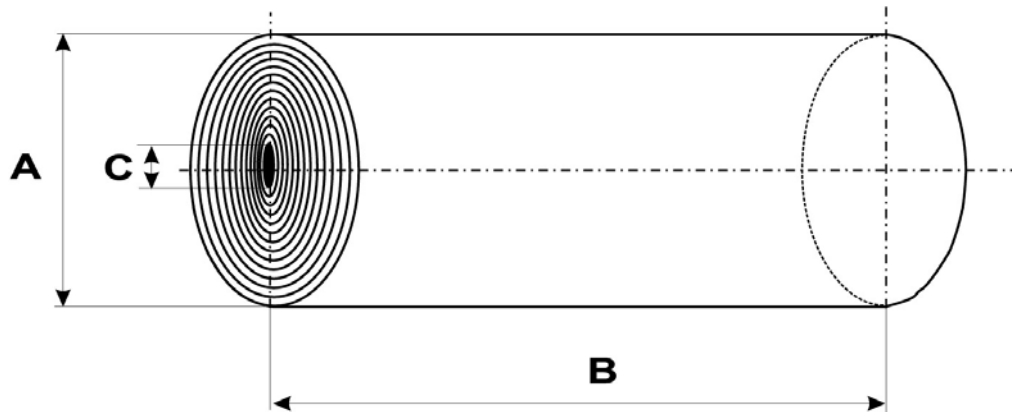


# SPIRA-CEL<sup>®</sup> Data Sheet

## - Sanitary Modules for Ultrafiltration -

### DS-UP150-4333 Series



Module				Membrane		
		A	B	C		
		Ø Outside Module	Length Module	Ø Inside Permeate tube	NADIR <sup>®</sup> membranes	UP150
Dimension	mm	109.5	838	21.1	Membrane material	PES
Tolerance	mm	+0 / -3	+1 / -2	± 0.1	Nom. MWCO (kDa)	150

Module specs & data						
Spacer thickness, diamond type			mil / mm	30 / 0.8	44 / 1.1	80 / 2.0
Membrane area			m <sup>2</sup>	7.6	6.3	4.3
Outer wrap						Spacer wrap

Recommended operating conditions						
Prefiltration		µm		≤ 50	≤ 75	≤ 150
Crossflow <sup>(1)</sup>		m <sup>3</sup> /h		5	6	8
Permeate pressure		bar		0	0	0
Pressure loss per module (Δp)		bar		1.0 - 1.3	1.0 - 1.3	1.0 - 1.3
Pressure loss per housing (Δp)		bar		Please contact MICRODYN-NADIR		

Allowable operating conditions						
Feed pressure, max.		bar		10	10	10
Retentate pressure, min.		bar		0.7	0.7	0.7
Permeate pressure, max.		bar		0.35	0.35	0.35
Transmembrane pressure, max.		bar		10	10	10
Pressure loss per module, max. (Δp <sub>max</sub> )		bar		Please contact MICRODYN-NADIR		
Processing temperature		°C		5 - 75	5 - 75	5 - 75
pH range during filtration				2 - 10	2 - 10	2 - 10
pH range during CIP				1.5 - 12.5	1.5 - 12.5	1.5 - 12.5
Disinfection with chlorine <sup>(2)</sup>		ppm		200	200	200

<sup>(1)</sup> for water at 25 °C / <sup>(2)</sup> at 30 - 50 °C and pH > 11 for max. 30 min/day

**Note:** Not all combinations are available. Please do not hesitate to contact MICRODYN-NADIR for any further information.

MICRODYN-NADIR behält sich das Recht vor, Angaben ohne vorherige Ankündigung anzupassen.  
We reserve the right to change specifications without prior notification.

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# SPIRA-CEL<sup>®</sup> Data Sheet

- Sanitary Modules for Ultrafiltration -

## DS-UP150-4333 Series

### Changes:

The here printed values may be subject to changes. Presently valid are the values on the data sheet shown on web site [www.microdyn-nadir.com](http://www.microdyn-nadir.com).

### Tolerances:

The tolerances indicated on our data sheets are composed to the best of our knowledge.

### Warranty:

Stated warranties are valid if values on this data sheet are followed during use of the module(s) only. Also rules for installation, cleaning, water and preservation have to be adhered to and log registered made available for MICRODYN-NADIR on request. MICRODYN-NADIR approved cleaning detergent, anti-foam, polymers, other chemicals and filter-aids lubricants can be applied only.

### First Cleaning:

MICRODYN-NADIR modules may be put into production after having gone through the first cleaning prescribed by MICRODYN-NADIR on product packing notes or given differently by MICRODYN-NADIR.

### Conformity:

All materials of the above mentioned SPIRA-CEL<sup>®</sup> spiral wound modules are suitable under applicable FDA regulations; certificates are on file and will be furnished upon request. Please inquire for availability of further certificates.

The above mentioned SPIRA-CEL<sup>®</sup> spiral wound modules are evaluated by the USDA to be in compliance with 3-A Sanitary Standard, Number 45-02.

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