

## Microza<sup>1</sup> Ultrafiltration Modules OLT Series

### Description

The Microza OLT ultrafiltration (UF) modules feature hollow fiber membranes having a uniformly smooth, tight skin on both the inside and outside of the fiber.

- Designed specifically for ultra high purity water
- Polysulfone membranes and housings
- 6,000 and 10,000 molecular weight cut off ratings
- External feed:  
Feed water flows from the outside to the inside of the hollow fiber. This flow path produces exceptionally clean water and eliminates stagnant areas on the permeate side.
- Large membrane area results in high flow rates per module
- High temperature and pressure modules available

### Application

The OLT modules are recommended for high purity water systems where the TOC is less than 20 ppb and the particle counts in the feed are as shown in the table below.

#### Feed Conditions

Particle Size	Maximum number of particles/ml
≥ 0.1 μm	100
≥ 0.2 μm	20



### Connections

- Feed/Reject:  
PVDF union sockets for these ports are available for thermal fusion to PVDF piping.
- Permeate:  
Connections are 2 in or 2 ½ in Tri-Clamp<sup>2</sup>

<sup>1</sup> Microza is a trademark of Asahi Kasai Chemical Corporation

<sup>2</sup> Tri-Clamp is a trademark of Ladish Co., Inc.

## Operating Parameters

			OLT-6036H	OLT-6036V	OLT-6036S
Performance	Molecular weight cut-off (nominal)	daltons	6,000	6,000	6,000
	Initial clean permeate flow <sup>1,2</sup>	m <sup>3</sup> /h	16	16	16
		gpm	70	70	70
Dimensions	Fiber inner/outer diameter	mm	0.6 / 1.0	0.6 / 1.0	0.6 / 1.0
		m <sup>2</sup>	34	34	34
	Membrane area	ft <sup>2</sup>	366	366	366
		Module length	mm	1,177	1,177
	Module diameter <sup>3</sup>	in	46.3	46.3	46.3
		mm	172	181	172
	Weight	in	6.8	7.1	6.8
		kg	32	36	35
		lb	71	79	77
Operating Conditions <sup>4</sup>	Maximum inlet pressure (40°C / 104°F)	MPa	0.9	0.9	1.2
		psi	130	130	174
	Maximum transmembrane pressure (40°C / 104°F)	MPa	0.3	0.3	0.3
		psi	45	45	45
	Maximum operating temperature	°C	40	80	40
		°F	104	176	104
	Maximum sanitizing temperature	°C	90	90	90
		°F	194	194	194
pH range		1 – 14	1 – 14	1 – 14	
Materials	Membrane		Polysulfone		
	Housing		Polysulfone; V and S grades have outer fiberglass reinforcement		
	End caps		Polyphenylsulfone		
	Collar nuts <sup>5</sup>		Fiberglass reinforced polyphenylene ether; S grade – aluminum		
	Cap nuts <sup>5</sup>		Fiberglass reinforced polyphenylene ether		
	Potting material		Epoxy resin		
	Gasket		Fluoropolymer elastomer		
	Antifreeze / bacteriostat		Glycerin-ethanol-water		

<sup>1</sup> Initial clean water permeate flow at 25°C / 77°F and 0.1 MPa / 14.5 psi average transmembrane pressure.  
Please consult manual for general operating guidelines.

<sup>2</sup> **DESIGN FLUX IS 80% OF THIS VALUE (12.5 m<sup>3</sup>/h or 55 GPM)**

<sup>3</sup> Nominal shell diameter excluding headers and permeate ports. Note the diameter of the dummy module used for fit-up is 165 mm / 6.5 in.

<sup>4</sup> Pressure must be reduced at higher temperatures. See tables on following pages.

<sup>5</sup> Non-wetted parts

## Operating Parameters

			OLT-5026AP Replacement for OLT-5026G	OLT-3026	OLT-3026H
<b>Performance</b>	Molecular weight cut-off (nominal)	daltons	10,000	10,000	10,000
	Initial clean permeate flow <sup>6,7</sup>	m <sup>3</sup> /h	7.5	3.5	3.5
		gpm	33	15.4	15.4
<b>Dimensions</b>	Fiber inner/outer diameter	mm	0.6 / 1.1	0.6 / 1.1	0.6 / 1.1
	Membrane area	m <sup>2</sup>	23	10.7	10.7
		ft <sup>2</sup>	248	115	115
	Module length	mm	1,147	1,129	1,129
		in	45.1	44.4	44.4
	Module diameter	mm	149	89	89
		in	5.81	3.5	3.5
	Weight	kg	21.5	8	11.5
		lb	47.4	17.6	25.4
<b>Operating Conditions<sup>8</sup></b>	Maximum inlet pressure (40°C / 104°F)	MPa	0.9	0.6	0.9
		psi	130	87	130
	Maximum transmembrane pressure (40°C / 104°F)	MPa	0.3	0.3	0.3
		psi	45	45	45
	Maximum operating temperature	°C	80	80	80
		°F	176	176	176
	Maximum sanitizing temperature	°C	90	90	90
		°F	194	194	194
	pH range		1 – 14	1 – 14	1 – 14
<b>Materials</b>	Membrane		Polysulfone		
	Housing		Polysulfone; AP version has outer fiberglass reinforcement		
	End caps		OLT-3026, OLT-5026AP – polyphenylsulfone; OLT-3026H – PFA coated stainless steel		
	Cap nuts <sup>9</sup>		OLT-5026AP, OLT-3026H are stainless steel; OLT-3026 is PVDF		
	Potting material		Epoxy resin		
	Gasket		Fluoropolymer elastomer		
Antifreeze / bacteriostat		Glycerin- ethanol-water			

<sup>6</sup> Initial clean water permeate flow at 25°C / 77°F and 0.1 MPa / 14.5 psi average transmembrane pressure.  
Please consult manual for general operating guidelines.

<sup>7</sup> **DESIGN FLUX IS 80% OF THIS VALUE**

<sup>8</sup> Pressure must be reduced at higher temperatures. See tables on following pages.

<sup>9</sup> Non-wetted parts

## Operating Pressure vs Water Temperature

The allowable operating pressure will vary with water temperature. See tables below.

### Part Number: OLT-6036H

UF Feed Temperature °C / °F	Maximum Transmembrane Pressure	Maximum Feed Pressure	Maximum Permeate Pressure
0-30 / 32-86	0.3 MPa / 45 psi	0.9 MPa / 130 psi	0.9 MPa / 130 psi
30-50 / 86-122	0.3 MPa / 45 psi	0.6 MPa / 87 psi	0.6 MPa / 87 psi
50-70 / 122-158	0.2 MPa / 30 psi	0.5 MPa / 75 psi	0.5 MPa / 75 psi
70-80 / 158-176	0.15 MPa / 22 psi	0.4 MPa / 58 psi	0.4 MPa / 58 psi
80-90 / 176-194 <sup>10</sup>	0.1 MPa / 15 psi	0.35 MPa / 50 psi	0.35 MPa / 50 psi

<sup>10</sup> High temperature only for short term sanitization

### Part Number: OLT-6036V

UF Feed Temperature °C / °F	Maximum Transmembrane Pressure	Maximum Feed Pressure	Maximum Permeate Pressure
0-70 / 32-158	0.2 MPa / 30 psi	0.9 MPa / 130 psi	0.9 MPa / 130 psi
70-80 / 158-176	0.1 MPa / 15 psi	0.8 MPa / 116 psi	0.8 MPa / 116 psi
80-90 / 176-194 <sup>10</sup>	0.1 MPa / 15 psi	0.5 MPa / 73 psi	0.5 MPa / 73 psi

<sup>10</sup> High temperature only for short term sanitization

### Part Number: OLT-6036S

UF Feed Temperature °C / °F	Maximum Transmembrane Pressure	Maximum Feed Pressure	Maximum Permeate Pressure
0-40 / 32-104	0.3 MPa / 45 psi	1.2 MPa / 174 psi	1.2 MPa / 174 psi
80-90 / 176-194 <sup>10</sup>	0.1 MPa / 15 psi	0.5 MPa / 73 psi	0.5 MPa / 73 psi

<sup>10</sup> High temperature only for short term sanitization

### Part Number: OLT-5026AP

UF Feed Temperature °C / °F	Maximum Transmembrane Pressure	Maximum Feed Pressure	Maximum Permeate Pressure
0-30 / 32-86	0.3 MPa / 45 psi	0.9 MPa / 130 psi	0.9 MPa / 130 psi
30-50 / 86-122	0.3 MPa / 45 psi	0.75 MPa / 109 psi	0.75 MPa / 109 psi
50-70 / 122-158	0.2 MPa / 30 psi	0.65 MPa / 94 psi	0.65 MPa / 94 psi
70-80 / 158-176	0.15 MPa / 22 psi	0.6 MPa / 87 psi	0.6 MPa / 87 psi
80-90 / 176-194 <sup>10</sup>	0.1 MPa / 15 psi	0.55 MPa / 80 psi	0.55 MPa / 80 psi

<sup>10</sup> High temperature only for short term sanitization

### Part Number: OLT-3026

UF Feed Temperature °C / °F	Maximum Transmembrane Pressure	Maximum Feed Pressure	Maximum Permeate Pressure
0-50 / 32-122	0.3 MPa / 45 psi	0.6 MPa / 87 psi	0.6 MPa / 87 psi
50-70 / 122-158	0.2 MPa / 30 psi	0.3 MPa / 45 psi	0.3 MPa / 45 psi
70-90 / 158-194 <sup>10</sup>	0.1 MPa / 15 psi	0.2 MPa / 30 psi	0.2 MPa / 30 psi

<sup>10</sup> High temperature only for short term sanitization

## Operating Pressure vs Water Temperature

The allowable operating pressure will vary with water temperature. See tables below.

### Part Number: OLT-3026H

UF Feed Temperature °C / °F	Maximum Transmembrane Pressure	Maximum Feed Pressure	Maximum Permeate Pressure
0-50 / 32-122	0.3 MPa / 45 psi	0.9 MPa / 130 psi	0.9 MPa / 130 psi
50-70 / 122-158	0.2 MPa / 30 psi	0.6 MPa / 87 psi	0.6 MPa / 87 psi
70-80 / 158-176	0.1 MPa / 15 psi	0.4 MPa / 58 psi	0.4 MPa / 58 psi
80-90 / 176-194 <sup>10</sup>	0.1 MPa / 15 psi	0.4 MPa / 58 psi	0.4 MPa / 58 psi

<sup>10</sup> High temperature only for short term sanitization

## Part Numbers / Ordering Information

### Module

Part Number	Permeate Connection Size	Feed and Reject Connection Size
OLT-6036H	2 ½" Tri-Clamp	63 mm O.D.
OLT-6036V	2 ½" Tri-Clamp	63 mm O.D.
OLT-6026S	2 ½" Tri-Clamp	63 mm O.D.
OLT-5026AP	2" Tri-Clamp	40 mm O.D.
OLT-3026	2" Tri-Clamp	32 mm O.D.
OLT-3026H	2" Tri-Clamp	32 mm O.D.

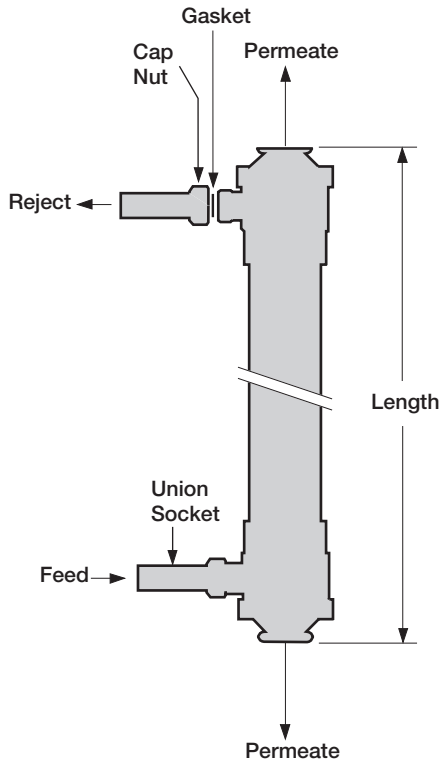
### Spare Parts

Description	Material	Module Spare Part Numbers <sup>11</sup>		
		OLT-6036H	OLT-6036V	OLT-6036S
Union Socket	PVDF	AUME-OT60H-31 0450602	AUME-OT60H-31 0450602	AUME-OT60H-31 0450602
Cap Nut	GF reinforced PPE	AUME-OT60H-13b 0450600	AUME-OT60H-13b 0450600	AUME-OT60H-13b 0450600
Cap Nut Retainer Ring	GF reinforced PPE	AUME-OT60H-13a 0450601	AUME-OT60H-13a 0450601	AUME-OT60H-13a 0450601
Permeate Gasket	Fluoropolymer elastomer	AUME-OT60H-17 0150612	AUME-OT60H-17 0150612	AUME-OT60H-17 0150612
Feed/Reject O-Ring	Fluoropolymer elastomer	AUME-OT60H-14 0150611	AUME-OT60H-14 0150611	AUME-OT60H-14 0150611
Dummy	Polysulfone	AUME-OT60H-30 0450608	AUME-OT60H-30 0450608	AUME-OT60H-30 0450608

Description	Material	Module Spare Part Numbers <sup>11</sup>		
		OLT-5026AP	OLT-3026	OLT-3026H
Union Socket	PVDF	AUME-OT50G-20 0450504	AUME-OT30-20 0450321	AUME-OT30H-20 0450321
Cap Nut	Stainless steel or PVDF	AUME-OT50G-13 0450558 (Stainless steel / PFA coating)	AUME-OT30-13 0150379 (PVDF)	AUME-OT30H-13 0150379 (PVDF)
Permeate Gasket	Fluoropolymer elastomer	AUME-OT50G-17 0150328	AUME-OT30-17 0150328	AUME-OT30H-17 0150328
Feed/Reject O-Ring	Fluoropolymer elastomer	AUME-OT50G-14 0150550	AUME-OT30-14 0150801	AUME-OT30H-14 0150801
Dummy	Polysulfone	AUME-OT50G-30 0450544	AUME-OT30-30 0450349	AUME-OT30H-30 0450349

<sup>11</sup> Spare parts can be ordered by either part number

## Dimensions



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