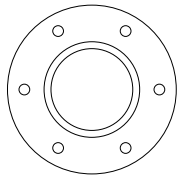
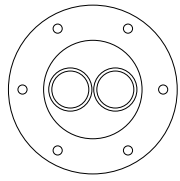
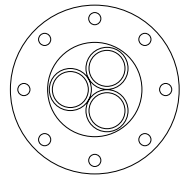
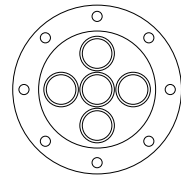
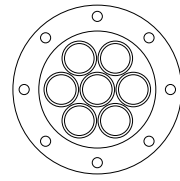


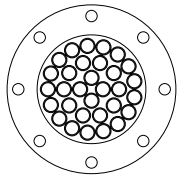
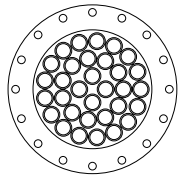
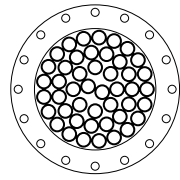
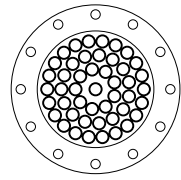
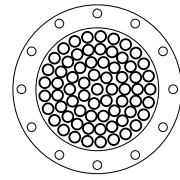
STAINLESS STEEL HOUSINGS WITH CERAMIC MEMBRANES



STAINLESS STEEL HOUSINGS WITH CERAMIC MEMBRANES

modules in industrial design

Membrane diameter	Membrane design	Membrane length (mm)	M1	M2	M3	M5	M7				
											
filter surface in m ² per module											
25.4 mm	7/6	1000	NW 25	0.13	NW 25	0.26	NW 50	0.66	NW 50	0.92	
		1200		0.16		0.32		0.79		1.11	
	19/3.3	1000		0.20		0.40		0.60		1.00	1.40
		1200		0.24		0.48		0.72		1.20	1.68
	37/2	1000		0.23		0.46		0.70		1.16	1.62
		1200		0.28		0.56		0.84		1.39	1.95
41 mm	19/6	1200	NW 32	0.43	NW 125	1.29	NW 150	-	NW 150	3.01	
		1500		0.54		-		-		3.76	
	37/3.8	1200		0.53		-		1.59		-	3.71
		1500		0.67		-		2.01		-	4.69
	61/2.5	1200		0.58		-		1.74		-	4.06
		1500		0.72		-		2.16		-	5.04
52 mm	19/8	1200	NW 40	0.57	NW 125	1.71	-	-	-	-	
		1500		0.72		-		-		-	
	85/3.3	1200		1.06		-		3.18		-	-
		1500		1.32		-		3.97		-	-
	211/2	1200		1.59		-		4.77		-	-
		1500		1.99		-		5.97		-	-

Membrane diameter	Membrane design	Membrane length (mm)	M31	M32	M46	M47	M68					
												
filter surface in m ² per module												
25.4 mm	7/6	1000	NW 200	4.09	-	-	NW 250	6.20	NW 300	8.98		
		1200		4.91				-		-	10.77	
	19/3.3	1000		6.20				-		-	9.40	13.60
		1200		7.44				-		-	11.28	16.32
	37/2	1000		7.19				-		-	10.90	15.78
		1200		8.63				-		-	13.08	18.93
41 mm	19/6	1200	NW 350	-	NW 400	13.76	-	-	-	-		
		1500		-		17.28		24.84		-		
	37/3.8	1200		-		16.96		24.38		-	-	
		1500		-		21.44		30.82		-	-	
	61/2.5	1200		-		18.56		26.68		-	-	
		1500		-		23.04		33.12		-	-	
52 mm	19/8	1200	-	-	-	-	-	-	-	-		
		1500		-		-		-		-		
	85/3.3	1200		-		-		-		-	-	
		1500		-		-		-		-	-	
	211/2	1200		-		-		-		-	-	
		1500		-		-		-		-	-	

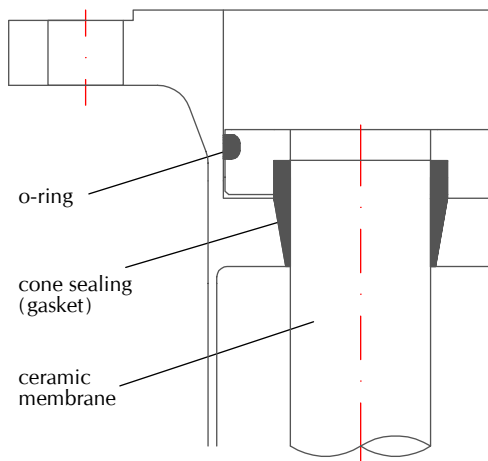
STAINLESS STEEL HOUSINGS WITH CERAMIC MEMBRANES

modules according to 3-A Sanitary-Standards Inc.

Membrane diameter	Membrane design	Membrane length (mm)	M1 LM	M3 LM	M7 LM	M8 LM	M12 LM				
			filter surface in m ² per module								
25.4 mm	7/6	1000	NW 25	0.13	NW 80	0.40	NW 100	-	NW 200	-	
		1200		0.16		0.48		-		-	
	19/3.3	1000		0.20		0.60		-		-	
		1200		0.24		0.72		-		-	
	37/2	1000		0.23		0.70		-		-	
		1200		0.28		0.84		-		-	
41 mm	19/6	1200	NW 32	0.43	NW 125	1.29	NW 150	-	NW 200	5.16	
		1500		0.54		1.62		-		6.45	
	37/3.8	1200		0.53		1.59		-		6.36	
		1500		0.67		2.01		-		8.04	
	61/2.5	1200		0.58		1.74		-		6.96	
		1500		0.72		2.16		-		8.64	
52 mm	19/8	1200	NW 40	0.57	NW 125 / NW 150	-	NW 200	4.56	NW 250	6.84	
		1500		0.72		2.15		-		5.80	8.70
	85/3.3	1200		1.06		3.18		-		8.48	12.72
		1500		1.32		3.97		-		10.57	15.86
	211/2	1200		1.59		4.77		-		12.72	19.08
		1500		1.99		5.97		-		15.92	23.88

- > Further membrane lengths (up to 1.5 m)
- > other types of modules and technical drawings on request
- > drawings of housings are not to scale and are for informational purposes only

SEALING



sanitary design
atech LM-modules designed to 3-A-Sanitary- Standard cover all sanitary aspects for their application in micro- and ultrafiltration processes in Milk and Dairy Industry, Pharmaceutical, Chemical and Food Industry.



M19 LM	M23 LM	M26 LM	M29 LM	M39 LM	M57 LM	M92 LM	
filter surface in m ² per module							
NW 200	-	3.03	-	-	5.14	7.52	12.13
	-	3.64	-	-	6.17	9.02	14.57
	-	4.60	-	-	7.80	11.40	18.12
	-	5.52	-	-	9.36	13.47	21.75
	-	5.35	-	-	9.07	13.25	21.39
	-	6.42	-	-	10.89	15.90	25.67
NW 250	8.17	-	11.18	-	-	-	-
	10.21	-	14.04	-	-	-	-
	10.07	-	13.78	-	-	-	-
	12.73	-	17.42	-	-	-	-
	11.02	-	15.08	-	-	-	-
	13.68	-	18.72	-	-	-	-
NW 300	10.83	-	-	16.53	-	-	-
	13.68	-	-	20.88	-	-	-
	20.14	-	-	30.74	-	-	-
	25.08	-	-	38.28	-	-	-
	30.21	-	-	46.11	-	-	-
	37.81	-	-	57.71	-	-	-

■ PLASTIC HOUSINGS WITH CERAMIC MEMBRANES

technical data

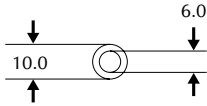

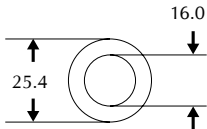

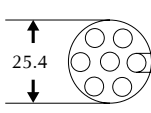

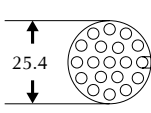

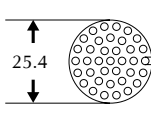

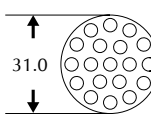
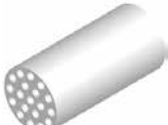
Type of Module	Technical Data	Membrane Design	Available Membranes filter surface (m ²)	Illustration
M1-PVC-C 19/3.3-1200	Material: PVC-C Max. Pressure: PN 10 Max. Temperature: 80°C		1/16 (0.06) 7/6 (0.16) 19/3.3 (0.24) 37/2 (0.28)	
M1-PVC-C 37/3.8-1200	Material: PVC-C Max. Pressure: PN 10 Max. Temperature: 80°C		19/6 (0.43) 37/3.8 (0.53) 61/2.5 (0.58)	
M1-PVC-C 85/3.3-1200	Material: PVC-C Max. Pressure: PN 10 Max. Temperature: 80°C		19/8 (0.58) 85/3.3 (1.06) 211/2 (1.59)	

membrane lengths available up to 1.500mm

SURVEY

Technical data of atech Al_2O_3 -membranes

Support material	$\alpha-Al_2O_3$	
Membrane material	MF: $\alpha-Al_2O_3$; ZrO_2 ; TiO_2	UF: TiO_2 ; ZrO_2 ; Al_2O_3
Pore diameter / Molecular Weight Cut Off	1.2; 0.8; 0.4; 0.2; 0.1 μm	0.05 μm ; 150kD; 100kD; 25kD; 15kD; 5kD; 1kD
Overall length	up to 1500 mm	
pH- stability	0 to 14	
All membrane designs are suitable for steam sterilisation $\geq 121^\circ C$ / approx $250^\circ F$.		

Type	Design (mm)	Amount of channels	Length (mm)	Filter surface per element (m ²)	Illustration
1/6		1	1000	approx. 0.019	
			1200	approx. 0.023	
1/16		1	1000	approx. 0.05	
			1200	approx. 0.06	
7/6		7	1000	approx. 0.13	
			1200	approx. 0.16	
19/3.3		19	1000	approx. 0.20	
			1200	approx. 0.24	
37/2		37	1000	approx. 0.23	
			1200	approx. 0.28	
19/4		19	1000	approx. 0.24	
			1200	approx. 0.29	



GENERAL INFORMATION

atech tubular ceramic membranes meet regulatory requirements for food contact according European Regulation no. 1935/2004 and FDA requirements 21 CFR, 170-199. atech crossflow membranes modules are authorized to bear the 3-A symbol for complying fully with the 3-A Sanitary Standard (certificate no. 1680)



Type	Design (mm)	Amount of channels	Standard length (mm)*	Filter surface per element (m ²)	Illustration
19/6		19	1200	approx. 0.43	
			1500	approx. 0.54	
37/3.8		37	1200	approx. 0.53	
			1500	approx. 0.67	
61/2.5		61	1200	approx. 0.58	
			1500	approx. 0.72	
19/8		19	1200	approx. 0.57	
			1500	approx. 0.72	
85/3.3		85	1200	approx. 1.06	
			1500	approx. 1.32	
211/2		211	1200	approx. 1.59	
			1500	approx. 1.99	

* other lengths on request



■ **OVERALL VIEW**

Technical data of atech standard pressure vessels

Material	Stainless steel of diverse ranges, 316 Ti/AISI (1.4571) and 316 L/AISI (1.4404)
Filter surfaces	From 0.05 m ² to approx. 60 m ² per vessel
Pressure rating	PN 10 @ 110°C
Overall length	Up to 1500 mm
Fittings	Dairy coupling /threaded fittings/flanges
Sealings	Sanitary design (conical sealing), industrial design (o-ring)
We will also manufacture customized vessels for your particular needs (like high pressure design).	

■ **ENGINEERING**

The scope of our activities includes planning, design, calculation and manufacturing according to different regulations and directives, such as:

AD 2000-HP 0

German regulations concerning the principles for design, manufacture and the related inspections of pressure vessels.

2014/68/EU

European Pressure Equipment Directive concerning the principles for design, manufacture and the related inspections of pressure vessels.

ASME BPVC, Section VIII

Boiler and Pressure Vessel Code according to the American Society of Mechanical Engineers concerning the principles for design, manufacture and the related inspections of pressure vessels.

DIN EN ISO 3834-3

German quality requirements for fusion welding for metallic material

■ **RETROFIT**

Upgrading existing membranes for more competitiveness

Problem-free replacement/smooth substitution of competitors' membranes – irrespective of which manufacturer they are from. Due to a huge variety of adapters/gaskets we will enable you to continue with your existing pressure vessel equipped with new membranes.

A fundamental refurbishment with a low cost basis! We ensure that our membranes again deliver best possible filtration results.

■ **SERVICE**

please contact us for further information

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