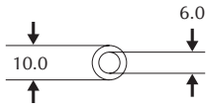
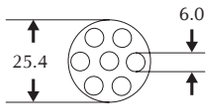
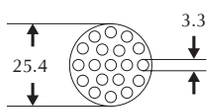
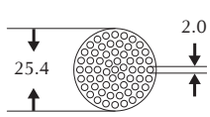
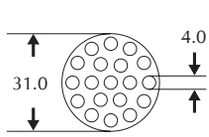
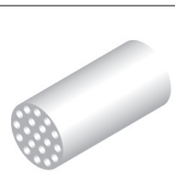
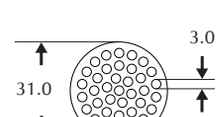
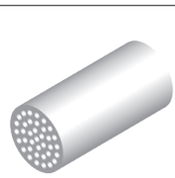
SURVEY

Technical data of atech Al_2O_3- membranes

atech innovations gmbh

Support material	α-Al_2O_3	
Membrane material	MF: α-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; 150 kD; 100 kD; 25 kD; 15 kD; 5 kD; 1 kD
Overall length	up to 1500 mm	
pH- stability	0 to 14	
All membrane designs are suitable for steam sterilisation ≥ 121°C / approx 250° F.		

Type	Design (mm)**	Amount of channels	Standard length (mm)*	Filter surface per element (m²)	Illustration	Module size
1/6		1	1000	approx. 0.019		M1
			1200	approx. 0.023		
7/6		7	1000	approx. 0.13		M1/ M1 LM/ M3/ M3 LM/ M7/ M7 LM/ M19/ M19 LM/ M23 LM/ M31/ M47/ M114
			1200	approx. 0.16		
19/3.3		19	1000	approx. 0.20		M1/ M1 LM/ M3/ M3 LM/ M7/ M7 LM/ M19/ M19 LM/ M23 LM/ M31/ M47/ M114
			1200	approx. 0.24		
61/2		61	1000	approx. 0.38		M1/ M1 LM/ M3/ M3 LM/ M7/ M7 LM/ M19/ M19 LM/ M23 LM/ M31/ M47/ M114
			1200	approx. 0.46		
19/4		19	1000	approx. 0.24		on request
			1200	approx. 0.29		
37/3		37	1000	approx. 0.35		on request
			1200	approx. 0.42		

** Tolerances diameter: 25,4 mm OD = +- 0.5 mm ; 31 mm OD = +- 0.6 mm; 41 mm/52 mm OD = +- 1 mm

* other lengths on request

Filter area module
Example calculation:

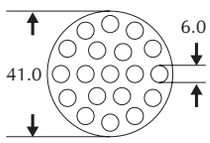
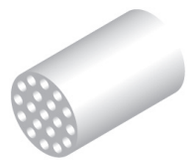
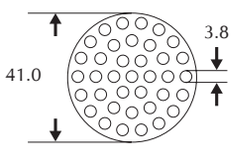
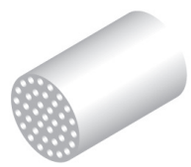
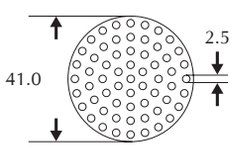
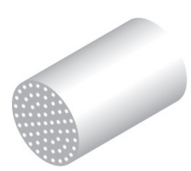
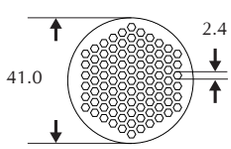
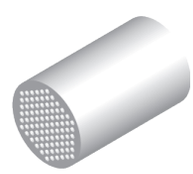
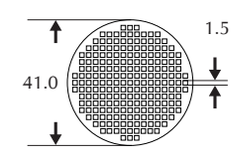
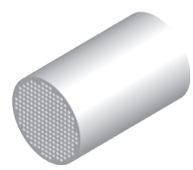
Design 19/3.3 in 1200 mm has 0.24 m² filter area
Module M7 (7 membranes in one housing): 7 x 0.24 m² = 1.68 m² filter area

SURVEY

Technical data of atech Al_2O_3- membranes

atech innovations gmbh

Support material	α-Al_2O_3	
Membrane material	MF: α-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; 150 kD; 100 kD; 25 kD; 15 kD; 5 kD; 1 kD
Overall length	up to 1500 mm	
pH- stability	0 to 14	
All membrane designs are suitable for steam sterilisation ≥ 121°C / approx 250° F.		

Type	Design (mm)**	Amount of channels	Standard length (mm)*	Filter surface per element (m²)	Illustrationv	Module size
19/6		19	1200	approx. 0.43		M1/ M1 LM/ M3/ M3 LM/ M7/ M7 LM/ M12/ M12 LM/ M19/ M19 LM/ M26 LM/ M27/ M32/ M42 LM/ M46
			1500	approx. 0.54		
37/3.8		37	1200	approx. 0.53		M1/ M1 LM/ M3/ M3 LM/ M7/ M7 LM/ M12/ M12 LM/ M19/ M19 LM/ M26 LM/ M27/ M32/ M42 LM/ M46
			1500	approx. 0.67		
61/2.5		61	1200	approx. 0.58		M1/ M1 LM/ M3/ M3 LM/ M7/ M7 LM/ M12/ M12 LM/ M19/ M19 LM/ M26 LM/ M27/ M32/ M42 LM/ M46
			1500	approx. 0.72		
91/2.4		91	1200	approx. 0.90		M1/ M1 LM/ M3/ M3 LM/ M7/ M7 LM/ M12/ M12 LM/ M19/ M19 LM/ M26 LM/ M27/ M32/ M42 LM/ M46
			1500	approx. 1.13		
208/1.5		208	1200	approx. 1.03		M1/ M3/ M7/ M12/ M19/ M27/ M32/ M46
			1500	approx. 1.29		

** Tolerances diameter: 25,4 mm OD = +- 0.5 mm ; 31 mm OD = +- 0.6 mm; 41 mm/52 mm OD = +- 1 mm

* other lengths on request

GENERAL INFORMATION

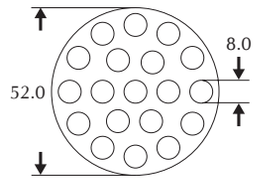
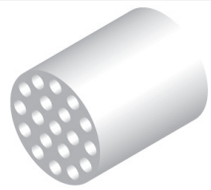
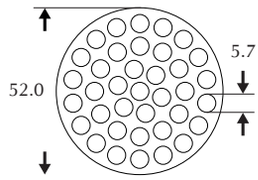
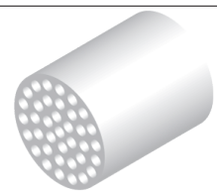
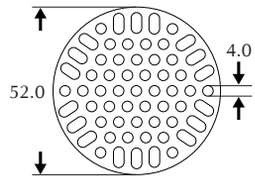
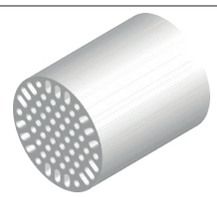
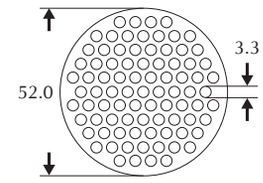
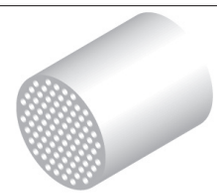
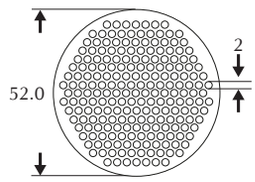
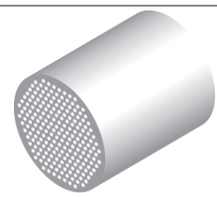
atech tubular ceramic membranes meet regulatory requirements for food contact according European Regulation no. 1935/2004 and FDA requirements 21 CFR, 170-199. atech crossflow membranes modules are authorized to bear the 3-A symbol for complying fully with the 3-A Sanitary Standard (certificate no. 3674)

SURVEY

Technical data of atech Al_2O_3- membranes

atech innovations gmbh

Support material	α-Al_2O_3	
Membrane material	MF: α-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; 150 kD; 100 kD; 25 kD; 15 kD; 5 kD; 1 kD
Overall length	up to 1500 mm	
pH- stability	0 to 14	
All membrane designs are suitable for steam sterilisation ≥ 121°C / approx 250° F.		

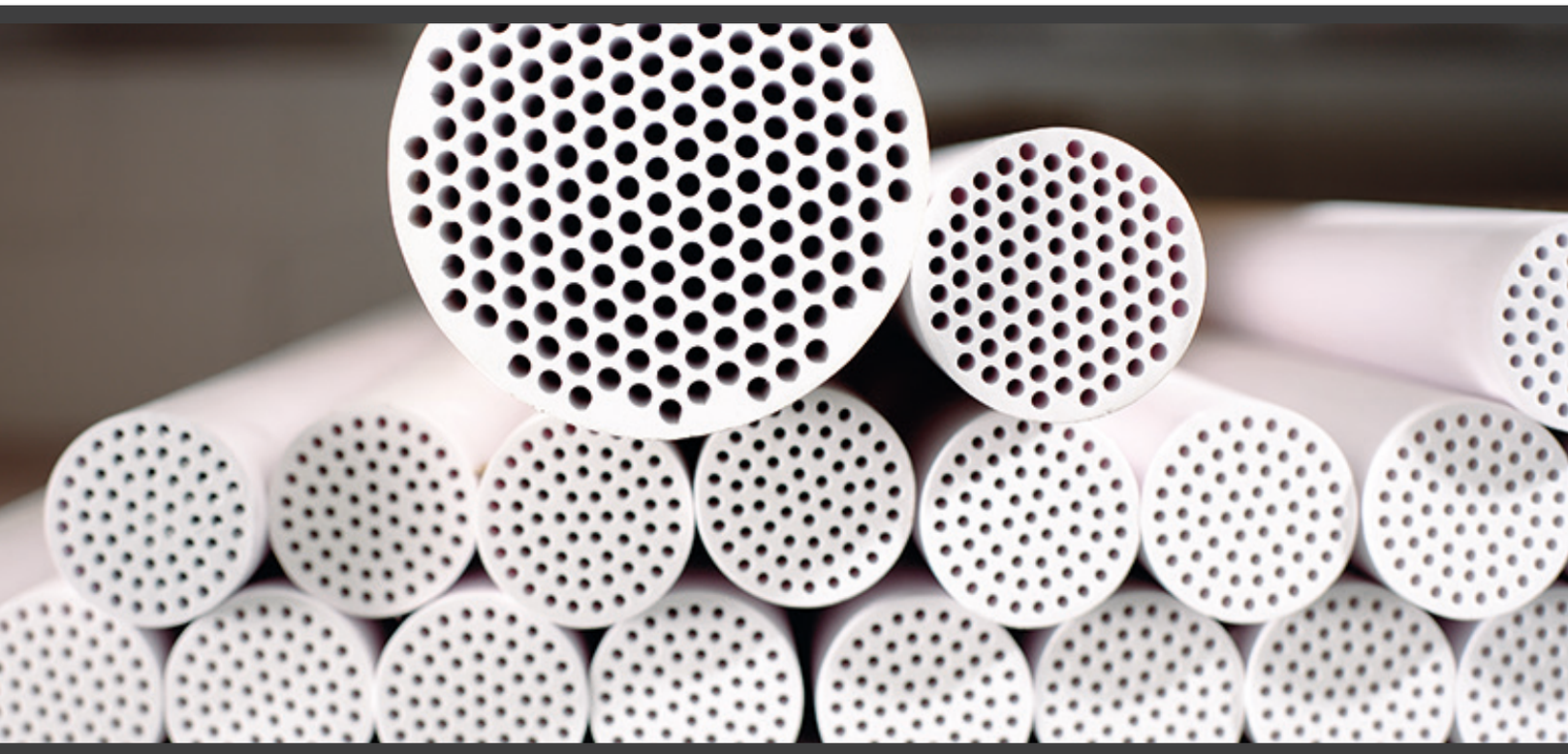
Type	Design (mm)**	Amount of channels	Standard length (mm)*	Filter surface per element (m²)	Illustration	Module size
19/8		19	1200	approx. 0.57		M1/ M1 LM/ M3/ M3 LM/ M8/ M8 LM/ M12/ M12 LM/ M19/ M19 LM/ M29 LM/ M30
			1500	approx. 0.72		
37/5.7		37	1200	approx. 0.80		M1/ M1 LM/ M3/ M3 LM/ M8/ M8 LM/ M12/ M12 LM/ M19/ M19 LM/ M29 LM/ M30
			1500	approx. 1.00		
61/4		61	1200	approx. 1.03		M1/ M1 LM/ M3/ M3 LM/ M8/ M8 LM/ M12/ M12 LM/ M19/ M19 LM/ M29 LM/ M30
			1500	approx. 1.29		
85/3.3		85	1200	approx. 1.06		M1/ M1 LM/ M3/ M3 LM/ M8/ M8 LM/ M12/ M12 LM/ M19/ M19 LM/ M29 LM/ M30
			1500	approx. 1.32		
211/2		211	1200	approx. 1.59		M1/ M3/ M8/ M12/ M19/ M30
			1500	approx. 1.99		

** Tolerances diameter: 25,4 mm OD = +- 0.5 mm ; 31 mm OD = +- 0.6 mm; 41 mm/52 mm OD = +- 1 mm

* other lengths on request

Filter area module
Example calculation:

Design 19/3.3 in 1200 mm has 0.24 m² filter area
Module M7 (7 membranes in one housing): 7 x 0.24 m² = 1.68 m² filter area



SERVICE
please contact us for further information

atech innovations gmbh
Am Wiesenbusch 26
45966 Gladbeck · Germany

Telephone: +49 (0) 20 43 / 94 34 - 0
Fax: +49 (0) 20 43 / 94 34 - 34
email: info@atech-innovations.com
www.atech-innovations.com

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