

Modules

Ceramic cross-flow filtration:


Ceramic cross-flow **elements** are tube shaped filters. One or multiple of these elements are assembled into a stainless-steel housing (**module**) and mounted into a filtration plant. Ceramic membranes are used in a growing range of applications due to their high reliability and high chemical resistance against concentrated caustics and acids.

Modules with assembled membranes are the main functional component of a filtration system. The process medium is pumped through the channels of the element in the module. The operating pressure results in the process stream being filtered by the active layer (**membrane**) into the **concentrate** and **permeate**.

Modules consist of a pressure vessel (housing) that contains the ceramic elements, plates (**sealing** and/or **face plate**) on both ends, sealing rings (**O-rings**) and, for some sizes, cone-shaped reductions to the connections.

Nomenclature of module specification:

M	7-	25x	0500-	PN16-	TC	
						Connection type
						Nominal pressure
						Membrane length
						Membrane diameter
						Number of membranes per module
Module						



Please contact us for further support.



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Modules





Available connections:


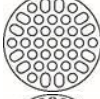
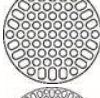

M1 are offered with reducers as standard. For all other modules reductions can be offered optionally. Inopor's standard modules are detailed below. Please contact our technical support for customized solutions. We have produced a wide range of customized modules, including those with ASME flanges or different connections on the permeate and feed side.

Type	Description	According to
TC	Clamp ferrule	DIN 32676-B
FL	Flange	DIN 1092-1 type 11
AV	Clamp ferrule	DIN 11864-3 Form A
Additional connections for M1-module		
SV	Cutting ring screw	
IG	Inner thread	DIN EN 10226-1
AG	Outer thread	DIN EN 10226-1



Standard modules

Module for elements OD 25 mm			Test or pilot scale				Industrial scale						
Ceramic Membrane	Membrane Area [m ² /Stk. @ 1.2 m length]	M1	M3	M5	M8	M12	M21	M37	M55	M65	M85	M111	M145
	BA 0,158 m ²	0,16 m ²	0,48 m ²	0,79 m ²	1,26 m ²	1,90 m ²	3,32 m ²	5,85 m ²	8,69 m ²	10,27 m ²	13,43 m ²	17,54 m ²	22,91 m ²
	CA 0,251 m ²	0,25 m ²	0,75 m ²	1,26 m ²	2,01 m ²	3,01 m ²	5,27 m ²	9,29 m ²	13,81 m ²	16,32 m ²	21,34 m ²	27,86 m ²	36,40 m ²
	GA 0,378 m ²	0,38 m ²	1,13 m ²	1,89 m ²	3,02 m ²	4,54 m ²	7,94 m ²	13,99 m ²	20,79 m ²	24,57 m ²	32,13 m ²	41,96 m ²	54,81 m ²
	EC 0,460 m ²	0,46 m ²	1,38 m ²	2,30 m ²	3,68 m ²	5,52 m ²	9,66 m ²	17,02 m ²	25,30 m ²	29,90 m ²	39,10 m ²	51,06 m ²	66,70 m ²

Module for elements OD 41 mm			Test or pilot scale				Industrial scale					
Ceramic Membrane	Membrane Area [m ² /pcs. @ 1.2 m length]	M1	M3	M5	M9	M16	M24	M30	M40	M55	M65	
	CC 0,429 m ²	0,43 m ²	1,29 m ²	2,15 m ²	3,86 m ²	6,86 m ²	10,30 m ²	12,87 m ²	17,16 m ²	23,60 m ²	27,89 m ²	
	MD 0,588 m ²	0,59 m ²	1,76 m ²	2,94 m ²	5,29 m ²	9,41 m ²	14,11 m ²	17,64 m ²	23,52 m ²	32,34 m ²	38,22 m ²	
	EE 0,868 m ²	0,87 m ²	2,60 m ²	4,34 m ²	7,81 m ²	13,89 m ²	20,83 m ²	26,04 m ²	34,72 m ²	47,74 m ²	56,42 m ²	
	HA 1,313 m ²	1,31 m ²	3,94 m ²	6,57 m ²	11,82 m ²	21,01 m ²	31,51 m ²	39,39 m ²	52,52 m ²	72,22 m ²	85,35 m ²	

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