

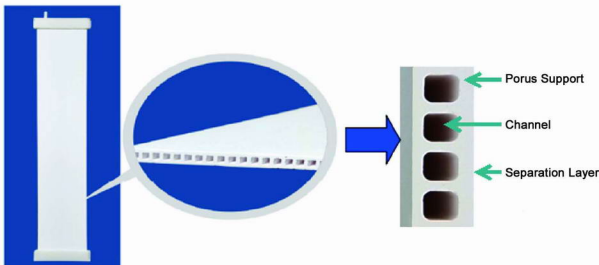
## Flat Ceramic Membranes



At present MBR membranes in water treatment market are almost made from polymeric materials. Polymeric hollow fiber and flat membranes have the disadvantages of poor tolerance, high risk of breakage, low running TMP, low flux, poor cleaning effect, short life time and so on, which make application limited.

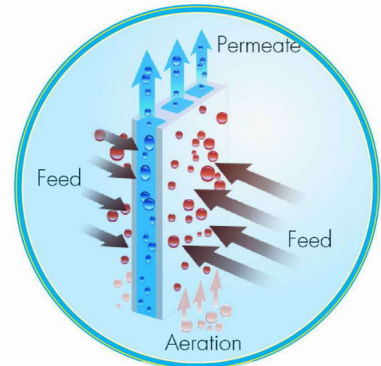
FCM flat ceramic membrane product which is developed and produced by TFT, has support of  $Al_2O_3$  and separation layer of  $Al_2O_3$  or  $ZrO_2$ , is sintered repeatedly in high temperature, to make its pore size  $0.1\mu m$ . Compared with polymeric organic flat membrane, FCM flat ceramic membranes have huge potential market because of its unique advantages.

Geometry	Hollow Flat
Filtration Mode	From Outside to Inside
Material	$Al_2O_3/ZrO_2$
Pore size	0.1um
Pure Water Test	800LMH @25°C.1Bar
Operating pH	1-13
Operating Temperature	130°C Max
Operating Pressure	0.8Bar Max
Bursting Pressure	40Bar
Width	110/150/250mm
Thickness	3.0/6.0mm
Length	250/500/1000mm



Model	FCM-02	FCM-25S	FCM-25D	FCM-50S	FCM-50D	FCM-50T
Area (m <sup>2</sup> )	2	25	50	50	100	200
Membrane (pcs)	30	50	100	100	200	400
Aeration (m <sup>3</sup> /h)	1.20	2.08	4.17	4.17	8.33	16.67
M.O.C	Membrane $Al_2O_3$ / Frame SUS304 / Pipe ABS / PPR / PP					

FCM™ Membrane,  
Strong and Reliable  
for MBR process



### Advantages of FCM™ Membranes

- Made of ceramic, FCM series can be reliable for daily operation with error.
- Because of high chemical stability of acid, alkali, oxygenant etc, FCM flat ceramic membrane can tolerate extreme chemical cleaning, thus membrane cleaning & regeneration is more easily.
- Because of high mechanical strength, FCM flat ceramic membrane could run in higher TMP, to obtain higher flux.
- Because of better tolerance of oil, organic solvent, corrosive components, FCM flat ceramic membrane can be more suitable for challenging fluid.
- Less investment and less membrane area are required because of high flux and high efficiency.
- Running cost is lower, because of less pressure loss.
- Inorganic membrane material is not affected by microorganism, flat ceramic membrane has better anti-fouling performance and stable flux.
- Because the separation principle and process parameter are similar with polymeric hollow fiber and flat membranes, FCM flat ceramic membranes can be an easy replacement in existing UF or MBR systems.

