Flat Sheet Ceramic Membrane

Model Code: NPC-F-120

Introduction

Plate-like ceramic sheets in frame modules; filtrate drawn perpendicularly. Flat sheet ceramic membranes are typically outside-in flow.

General Specification	
Model Code	NPC-F-120
Membrane Type	Flat Sheet Ceramic
Total Width	120 *mm*
Channel Width	3 *mm*
Thickness	8 *mm*
Length	600 *mm*
Filtration Surface Area	~0.153 m^2
Filtration Mode	Dead-end , typically vacuum-driven
Operating Pressure	0.1 – 0.8 bar (typical for submerged MBR or vacuum-driven configurations)
Operating Temperature	5 – 80°C
pH Range	0–14 (material/module-dependent)
Porosity	45 ± 5%

Material & Coating Combinations

Support Material	Available Coatings	Characteristics
Alumina (Al_2O_3)	Zirconia (ZrO_2)	Chemically and thermally stable, high mechanical strength
Silicon Carbide (SiC)	SiC	Superior corrosion and temperature resistance

Separation Layer Options

Membrane Type	Pore Size	Typical Applications
Microfiltration (MF)	200 *nm*	Clarification, bacteria/ colloid removal
Ultrafiltration (UF)	50, 100 *nm*	Virus removal, protein/enzyme separation

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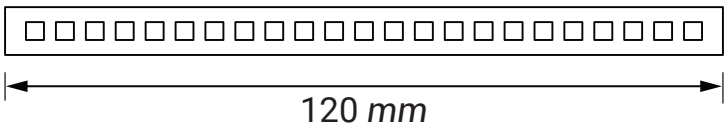
Application

- **Food & Beverage:** Clarification, microbial control, protein recovery
- **Pharma & Biotech:** Cell broth filtration, enzyme separation
- **Petrochemical:** Oil-water separation, catalyst recovery
- **Water Treatment:** MBR polishing, RO pretreatment

Advantages

- Easy maintenance
- Designed for vacuum or low-pressure operation
- Compatible with dead-end and submerged filtration setups
- High chemical and thermal resistance (e.g., operational up to 80°C in high-temp modules, pH 0–14 typical)
- Smooth ceramic surfaces ensure low fouling and easy CIP
- Modular and compact for scalable system integration

Imp: Typical Pure Water Permeability: ~5,000 LMH/bar for 100 nm and ~6,000–7,000 LMH/bar for 200 nm (based on SiC flat sheet membranes under standard conditions: 25°C, vacuum operation)



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