

### 76mm Disc Membrane Screening System

#### SPECIFICATIONS

- **Effective Membrane Area**  
30cm<sup>2</sup> (4.6in<sup>2</sup>)
- **Recommended Crossflow Rate**  
50-200 mL/min
- **Maximum Operating Pressure**  
2.8 bar (40 psi)

#### CHEMICAL RESTRICTIONS

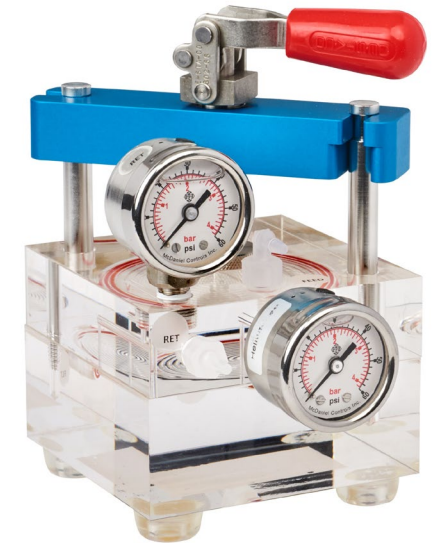
Do not use the X-Flo76™ device with the following materials:

- DMF
- M-PYROL
- 10% phosphoric acid
- Pure aromatic and chlorinated hydrocarbons
- Ketones
- DMSO
- Polar aromatics
- Aliphatic esters

#### REPLIGEN TANGENX™ STANDARD WARRANTY

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## PRODUCT CONTENTS

Package includes the following:

- Membrane holder (cell)
  - Polished Acrylic (Cat # TX001)
  - Polished Polysulfone (Cat # TX 068)
- Tie Rods: 316L stainless steel
- Integrated top clamp: 316L stainless steel
- Membrane support: polypropylene screen

## HOLDER SPECIFICATIONS

### Holder Dimensions:

Width: 4.1" (10.4 cm)

Depth: 6" (15.2 cm)

Height:

- With handle lowered: 5.4" (13.7 cm)
- With handle raised: 8" (20.3 cm)
- Shipping Weight: 5 lbs. ( kg)

Membrane Diameter: 76mm

Effective Membrane Area: 30cm<sup>2</sup>

### Pump Requirements:

Variable speed tubing pump

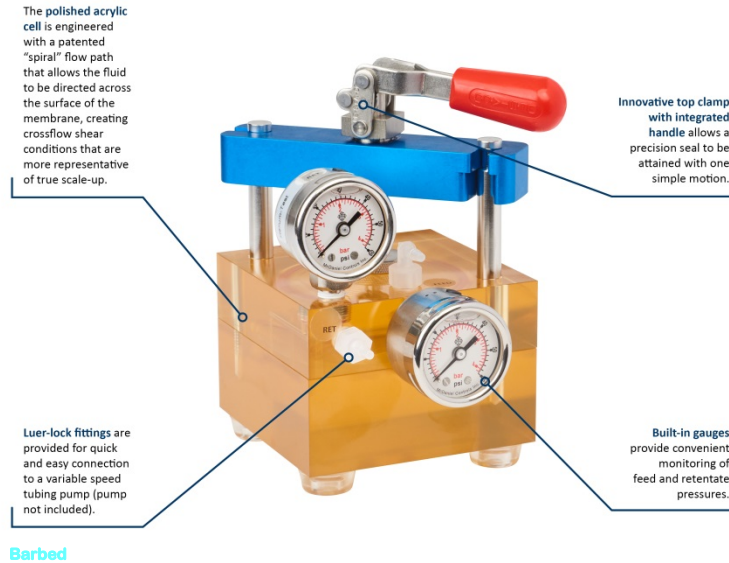
RPM: 10-600

Flow rate: 50-200 mL/min

## MEMBRANE INSTALLATION

1. Open the integrated stainless steel clamp by lifting the colored handle. Remove the clamp yoke by twisting it counter-clockwise and sliding it off the guide-pins.
2. Lift the upper manifold off the base by sliding it up and over the guide-pins.
3. Rinse the polypropylene membrane support screen with deionized (DI) water or water for injection (WFI). Place it flat against the bottom manifold; ensure that the screen is sitting flat in the manifold.
4. Obtain a 76mm membrane disc. Rinse the membrane disc with DI water or WFI. Place it flat against the bottom manifold; ensure that the membrane is flat on the membrane support screen and manifold.
5. Replace the upper manifold on the base by sliding it down over the guide-pins.
6. Replace the clamp yoke by twisting it clockwise and sliding it onto the guide-pins. Close the integrated stainless steel clamp by depressing the colored handle.
7. Attach a piece of #16 tubing, approximately 18' in length, to the feed barb located in the center of the top manifold.
8. Attach a piece of #16 tubing, approximately 10' in length, to the retentate barb located on the left front of the top manifold. Also place a small tubing clamp in the middle of the tubing attached to the retentate.
9. Attach a piece of #16 tubing, approximately 10' in length, to the filtrate barb located in the center of the lower manifold.
10. Thread the tubing attached to the feed through the head of a peristaltic pump.

## DEVICE DIAGRAM



## FIRST TIME USE OF DEVICE

Once the membrane is installed, the device should be flushed with DI water or WFI to ensure removal of the storage and preservative agents from the membrane and to minimize any possible interaction with your particular application. It is critical to use the highest quality water possible to avoid fouling the membrane or introducing contaminants into the system that could affect membrane performance and product recovery. For some applications, further sanitization is required.

## CLEANING OF DEVICE

The X-Flo76 device must be cleaned properly prior to reuse. To clean, flush the device with a recommended cleaning solution from Table 2. Use a minimum of 0.2 liters of cleaning solution. Upon completion of the cleaning cycle, flush the device with buffer, WFI, or DI water prior to storing.

### Recommended Cleaning Solutions

Cleaning Agent	Cleaning Conditions
0.1N to 0.5N Sodium Hydroxide	Contact Time = 30 – 60 minutes Temperature = 35°C (95°F)
1.5% Alconox® Detergent	Contact Time = 30 – 60 minutes Temperature = 40°C (104°F)

## MEMBRANE DISC STORAGE

A membrane disc must be stored wet to maintain its performance characteristics and integrity and prevent microbial growth. Below are critical factors to remember when storing a membrane disc in the X-Flo76™ device:

- To store a membrane disc greater than 2-4 weeks, remove disc from the device and store separately in an appropriate storage agent.
- A membrane disc stored in the device should be flushed with fresh storage agent approximately every 2 weeks. Contact the membrane manufacturer for a list of appropriate storage agents.
- Recommended PH ranges:
  - 2 - 13, long-term (storage)
  - 1 - 14, short-term (cleaning)
- Recommended storage temperature:
  - 4°C - 15°C (optimal)
  - 25°C (maximum)
  - Do not freeze device

## MEMBRANE OPERATING CHARACTERISTICS

Take care to use the membrane at the lowest pressure possible while still producing consistent permeate flow. Although higher operating pressures initially improve flow rate, it also promotes increased concentration polarization and membrane compaction, which ultimately limit flow. With very low nominal molecular weight limit (NMWL) membranes, lower operating pressure may also reduce the retention of salts and very low molecular weight species.

- **Recommended cross flow rates for processing are given below for the device.**

Flow rate: 50-200 mL/min

- **Typical recommended operating pressures are given below for normal use and cleaning conditions.**

### NORMAL USE

NMWL < 100 kDa **1.7 – 2.8 bar (25 – 40 psi)**

NMWL ≥ 100 kDa - 0.6um 1.4 bar (20 psi)

### CLEANING

NMWL < 100 kDa **< 0.5 bar (7 psi)**

NMWL ≥ 100 kDa - 0.6um < 0.5 bar (7 psi)

- Operating Temperature Limit  
50°C