

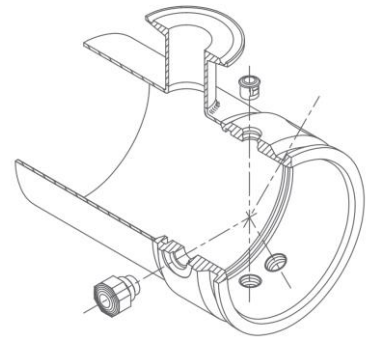
A5 Series

The A5 Series module is characterized by its removable core design (RCM), which permits simple, rapid, and inexpensive membrane replacement, minimizing the system downtime. The open channel design enables the processing of liquids with high levels of suspended solids without plugging and facilitates highly effective cleaning-in-place interventions.

In each membrane core, 69 membrane tubes are potted with epoxy resin. The core is then fitted in the stainless-steel housing with fixing pins, O-rings and end seals.

Thanks to the availability of different membrane selectivities, this product is suitable for juice clarification, F&B, chemical, pharmaceutical and wastewater treatment applications.

| | |
|-----------------------------------|--------------------------------------|
| Membrane material: | PVDF/polyester |
| MWCO options: | 450 kDa, 200 kDa, 100 kDa and 20 kDa |
| Membrane configuration: | Tubular |
| Tube diameter: | 6 mm (0.24", internal) |
| Filtration mode: | In-to-out |
| Potting material: | Polysulphone/epoxy resin |
| Housing material: | SS AISI316L (DIN 1.4404) |
| Core fixing pins material: | SS AISI303 (DIN 1.4305) |
| Seals material: | Nitrile rubber, 70 Shore A hardness |
| Compliance: | FDA, CFR21 and EU regulations |



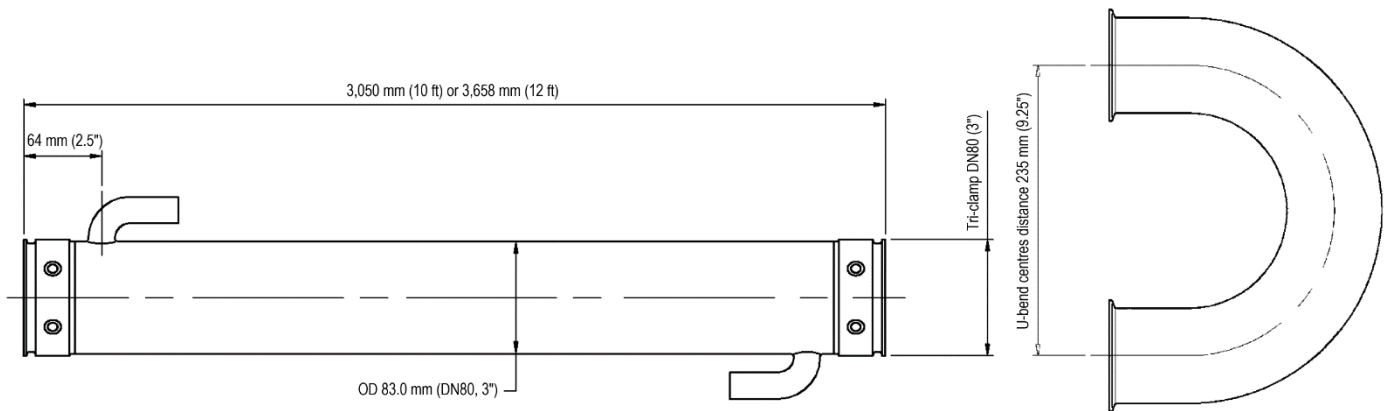
Membrane Module Specifications

| Model | MWCO [kDa] | Length (L) [mm (ft)] | Feed/ concentrate connections | Permeate connections | Membrane area [m ² (ft ²)] | Weight (empty/full) [kg (lb)] | Hold-up volume (tube-/shroud-side) [L (gal)] | |
|-------------|------------|----------------------|-----------------------------------|---|---|----------------------------------|--|--|
| FPT020/10/2 | 20 | 3,050 (10) | 3" (Tri-clamp, DN80 DIN 32676) | 2 x 3/4" (90° plain spigot, 3/4" OD x 18SWG) | 4.0 (42.7) | 13.5 (29.8) / 27.0 (59.5) | 5.9 (1.6) / 5.9 (1.6) | |
| FPT10/10/2 | 100 | | | | | | | |
| FPT20/10/2 | 200 | | | | | | | |
| LPT450/10/2 | 450 | | | | | | | |
| FPT020/10/4 | 20 | | | | | | | |
| FPT10/10/4 | 100 | | | | | | | |
| FPT20/10/4 | 200 | | 3" (Tri-clamp, DN80 DIN 32676) | 2 x 1" (Tri-clamp, DN25 DIN 32676) | | | | |
| LPT450/10/4 | 450 | | | | | | | |
| FPT020/10/S | 20 | | | | | Not applicable (spare core only) | | |
| FPT10/10/S | 100 | | | | | | | |
| FPT20/10/S | 200 | | | | | | | |
| LPT450/10/S | 450 | | | | | | | |
| | | | | | | 2.8 (6.2) / - | | |

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|-------------|------------|----------------------|--------------------------------|--|---|----------------------------------|--|
| FPT020/12/2 | 20 | 3,658 (12) | 3" (Tri-clamp, DN80 DIN 32676) | 2 x ¾" (90° plain spigot, ¾" OD x 18SWG) | 4.8 (51.2) | 16.0 (35.3) / 32.0 (70.5) | 7.1 (1.9) / 7.1 (1.9) |
| FPT10/12/2 | 100 | | | | | | |
| FPT20/12/2 | 200 | | | | | | |
| LPT450/12/2 | 450 | | | | | | |
| FPT020/12/4 | 20 | | | | | | |
| FPT10/12/4 | 100 | | | | | | |
| FPT20/12/4 | 200 | | 3" (Tri-clamp, DN80 DIN 32676) | 2 x 1" (Tri-clamp, DN25 DIN 32676) | | | |
| LPT450/12/4 | 450 | | | | | | |
| FPT020/12/S | 20 | | | | | Not applicable (spare core only) | |
| FPT10/12/S | 100 | | | | | | |
| FPT20/12/S | 200 | | | | | | |
| LPT450/12/S | 450 | | | | | | |



Note: U-bends are not included with the modules and are to be ordered separately.

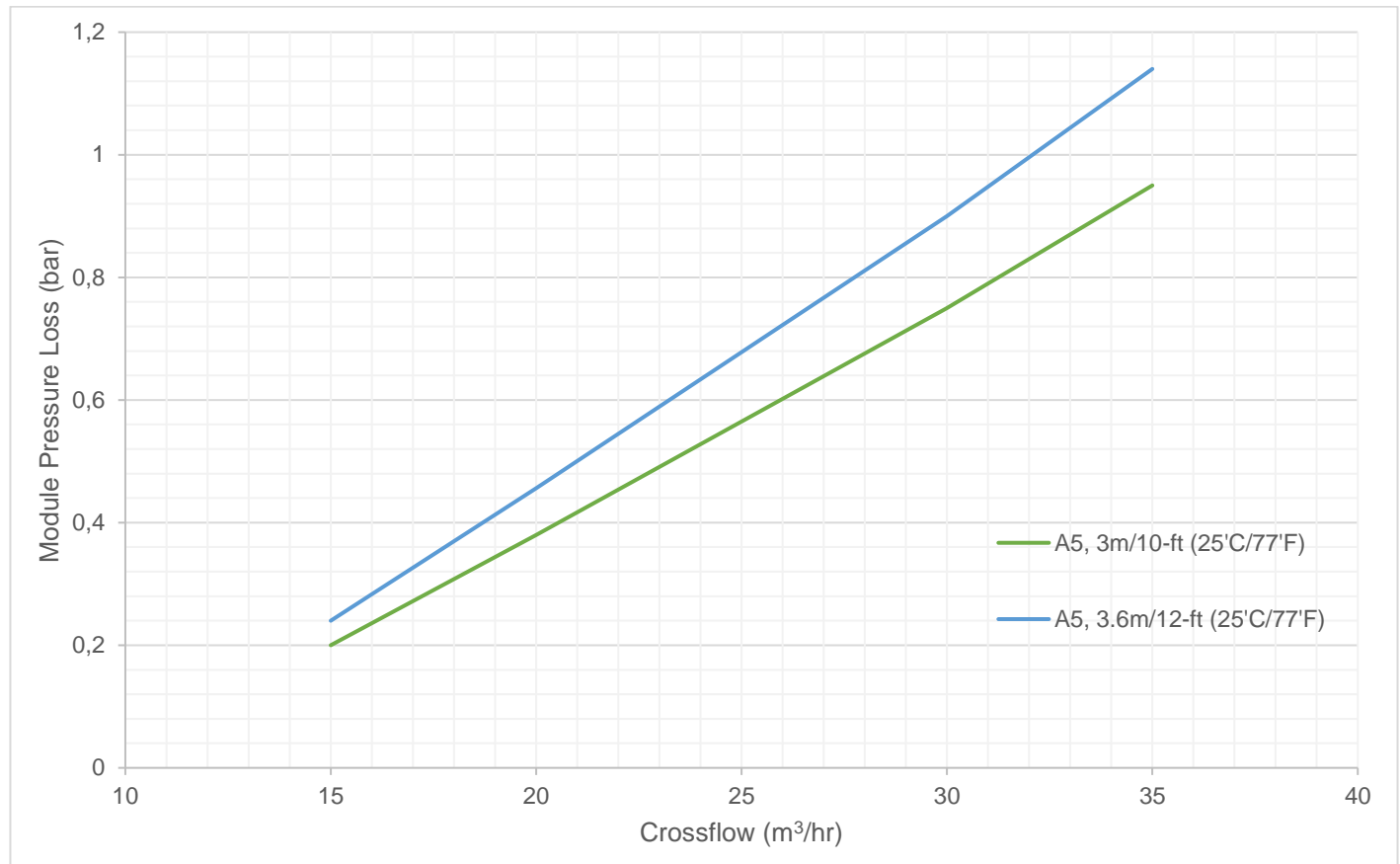
Recommended Operating Conditions

| Parameter | Value |
|--------------------------------|-------------------|
| Maximum operating pressure | 7.0 bar (102 psi) |
| Temperature range | 5-60°C (41-140°F) |
| pH range | 1.5-10.5 |
| Maximum chlorine concentration | 250 ppm at pH > 9 |

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Module Pressure Loss Curve



* The module pressure loss value includes the pressure loss of the corresponding U-bend. The data is representative for single strength apple juice at 50°C or similar viscosity liquids.

Storage Guidelines

During storage, membrane modules must always be fully protected and be stored in a dry, clean, non-corrosive, non-polluted, and far from sources of cold or heat environment. The environmental temperature range shall be between -4 and 30°C. Cores are to be stored preserved and sealed.

Installation Guidelines

For the recoring procedure, please refer to the "[A Series Modules Recoring Instructions](#)". Note:

- New cores contain a preservative and must be given a standard clean before commencing the process.
- Use hand protection when handling new membrane cores.
- Record the reference number, fitting date and position in the plant for all cores fitted.

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Cleaning Guidelines

The following reference CIP guidelines are referred to depectinized apple juice processing and are to be adapted based on the specific application, feed fluid and operating parameters:

- Displace the process fluid with water at 50-55°C;
- Recirculate a solution of sodium hydroxide at a pH of 10.0-10.5 and at a temperature of 50-55°C for 20 minutes;
- Displace the caustic solution from the system with water at 50-55°C;
- Recirculate a solution of sodium hydroxide around the system at a pH of 10.0-10.5 and at a temperature of 50-55°C until the system is full of the caustic solution;
- Add sodium hypochlorite to have a concentration of chlorine equal to 200 ppm;
- Recirculate for a minimum of 30 minutes, periodically check the chlorine concentration, and top it up to maintain 200 ppm (if necessary);
- Displace and rinse the spent cleaning solution to drain with clean water. During the final stages of the rinse, the bulk permeate flux should be measured. If this is carried out at the same conditions each day (i.e., at the same temperature, pressure, and flow), the effectiveness of the clean can be monitored.

Note: It is essential that the pH of 10.5 is achieved before addition of sodium hypochlorite in order to prevent attack of the membrane by the hypochlorite.

Accessories

| Description | Part Number |
|---|----------------|
| 10-ft shroud with spigot off-takes (including pins & seals) | MODULEA19/10/2 |
| 10-ft shroud with clamp off-takes (including pins & seals) | MODULEA19/10/4 |
| 12-ft shroud with spigot off-takes (including pins & seals) | MODULEA19/12/2 |
| 12-ft shroud with clamp off-takes (including pins & seals) | MODULEA19/12/4 |
| End seal (2 pcs. per module) | 22011091/E |
| Permeate O-ring seal (2 pcs. per module) | 22011089 |
| Core fixing pin (6 pcs. per module) | 22011088/A |
| Recoring tool | 22030074 |

Disclaimer: The information and data contained in this datasheet are based on our general experience and are believed to be correct. They are given in good faith and are intended to provide guidelines for the selection and use of our products. Since the conditions under which our products may be used are beyond our control, this information does not imply any guarantee of final product performance and we cannot accept any liability with respect to the use of our products. The quality of our products is guaranteed under our conditions of sale. Existing industrial property rights must be observed.

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