

## Membrane Plant Toolkit Details

Ensure the safe removal of membranes and anti-telescopic devices from your plant.

Keep staff safe with the use of tools designed for purpose. Reduce damages to your plant, your staff, membranes and ATD's.

- ✦ Housing End Cap Removal Tools
- ✦ Removal of Membranes from the Housing
- ✦ Membrane Push Rod Tool
- ✦ Membrane Ejector Block Piging Tools
- ✦ Removal of ATD's and Blank End Plugs from the Membranes

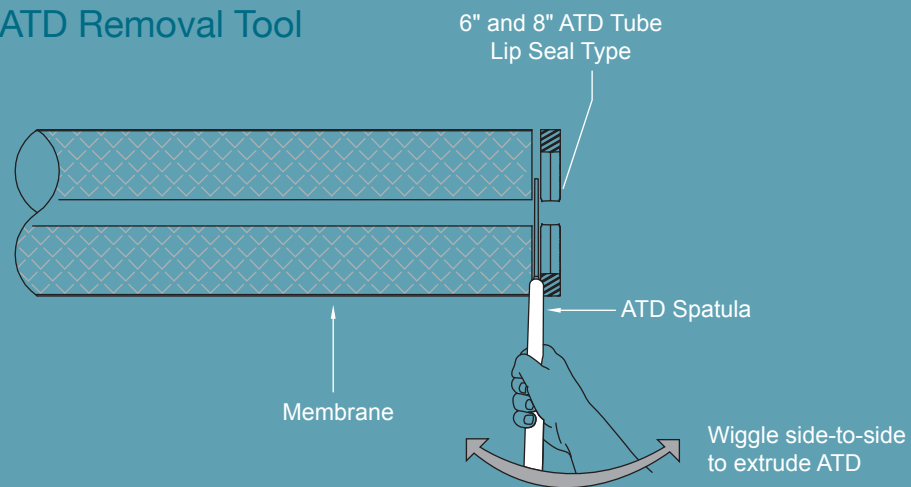
All tools are stored in a tough waterproof case to ensure that the tools are available when required. The case has wheels for safe transport around the factory.

(L x W x H) 1.34m x 0.43m x 0.17m

Weight is maximum 30kg.

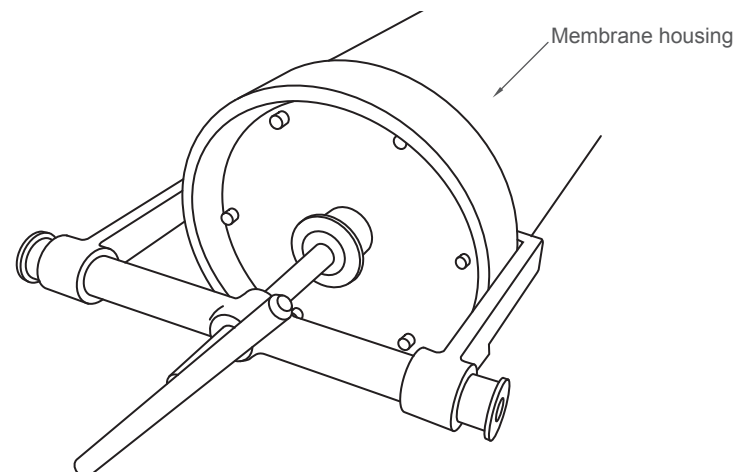
To view the video on how to use the products please go to [www.smartmembranesolutions.co.nz](http://www.smartmembranesolutions.co.nz) and select Removal Tools from the Products Menu.

### ATD Removal Tool



- ✦ Use of the ATD Removal Tool eliminates the risk of damage to membranes.
- ✦ Makes the removal of ATDs much safer than using screw drivers.
- ✦ ATD Removal Tool suitable for 6.3" and 8.0" Polysulfone and Stainless Steel ATDs.
- ✦ Type 304L Stainless Steel.
- ✦ Easy to use.

### Housing End Cap Compressing Tool



- ✦ Specifically for 8.0" RO.
- ✦ Use of compressor tool eliminates the risk of damage to Membrane Housing.
- ✦ Makes the removal of Caps much safer for staff.
- ✦ Type 304L Stainless Steel.
- ✦ Easy to use.

## Spiral Wound Membrane Removal Toolkit

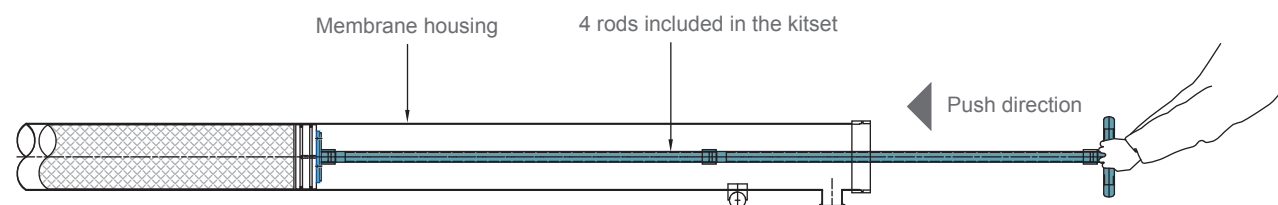


### Contact Smart Membrane Solutions:

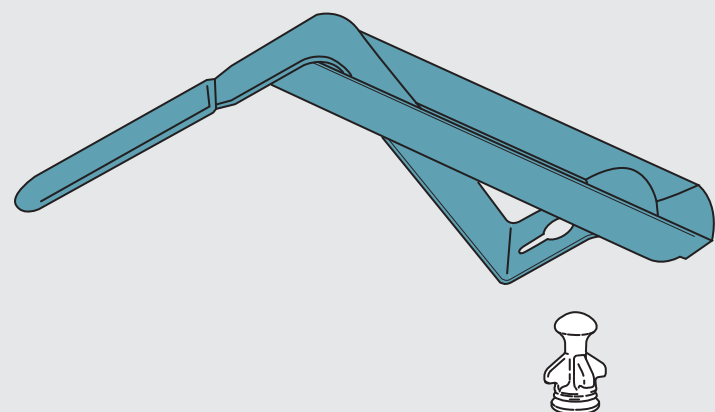
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## Membrane Push Rod Tool

- Multi-module push rod assembly.
- Four 1.2m rods, handle and UHMPE lined end cap included.
- Won't scratch membrane housing internals.
- Type 304L Stainless Steel.
- Makes for easy removal of membranes.

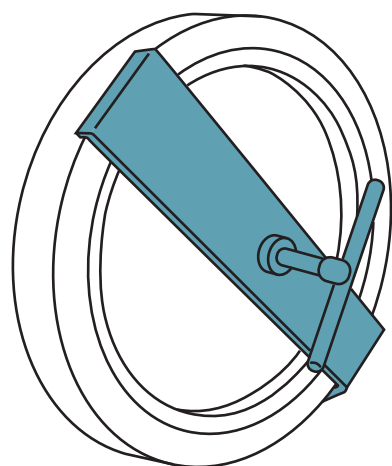


## Blank End Plug Removal Tool



- Use of the BEP Removal tool eliminates the risk of damage that screwdrivers can cause to the plugs and user.
- Suitable for small and large Blank End Plugs.
- Type 304L Stainless Steel.
- Easy to use.

## Housing End Cap Removal Tools



- Once compressed, use of this tool eliminates the risk of damage to Membrane Housing.
- Makes the removal of End Caps much safer for staff.
- Type 304L Stainless Steel.
- Easy to use.

## Membrane Ejector Block Use (Pigging)

The hydraulic ejector blocks with hydraulic seals are designed to be used for either 6.3" or 8.0" spiral wound membranes that are too tight for physical removal with the sectional push rod tool.

The customer must ensure they have the necessary procedures in place to allow for safe removal of membranes with water.

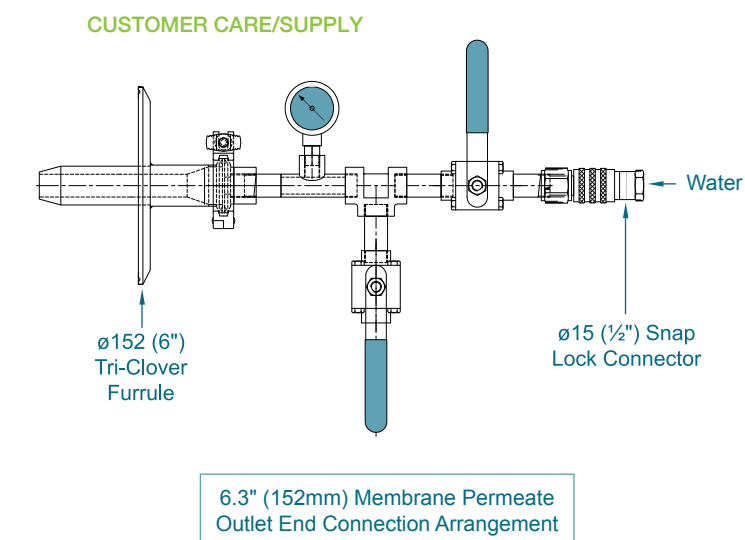
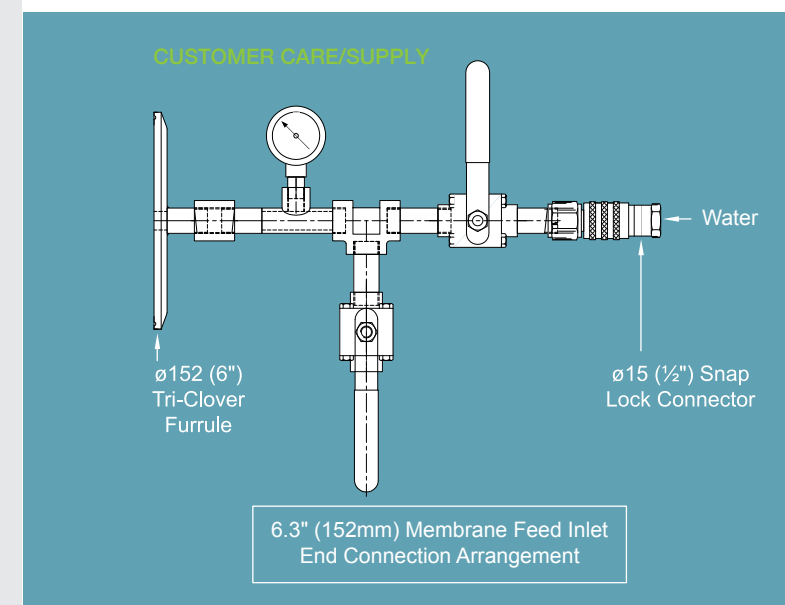
SMS Tool Kit contains:

- A 8.0" membrane ejector block with hydraulic seals
- A 6.3" membrane ejector block with hydraulic seals
- A rubber wedge plug for plugging the feed inlet or retentate outlet port

SMS do not supply the vessel feed or permeate end cap/spigot, or water blaster fittings, as we find a lot of customers vessels and water supply equipment are different.

Shown below are the recommended equipment customers must supply to safely supply water to either a 6.3" or 8.0" membrane pressure vessel. This includes:

- A small water blaster delivering 7-10 litres per minute.
- A pressure gauge
- Water supply valve, drain valve and suitable connection fittings (generally a combination of tri-clover and quick connect hydraulic couplings)
- Pressure relief if required.



## Typical water feed arrangement for all options

