

## IMSDesign 2018

### Hydranautics RO/NF Desktop Projection Program

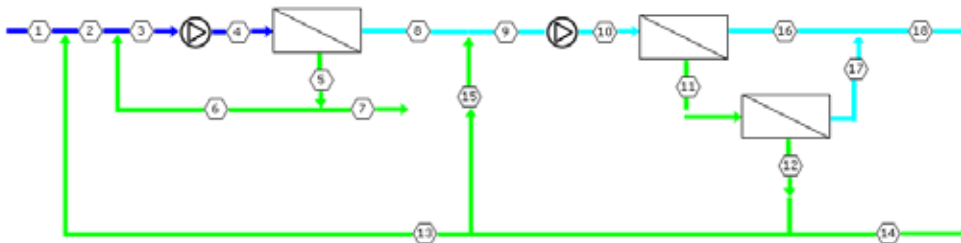
The IMSDesign-2018 Version 1.221.79 RO/NF Projection Program is the latest update to the IMSDesign program and includes all minor bug fixes through February 2018.

This 2<sup>nd</sup> generation IMSDesign program was developed in 2015 using Microsoft's .NET Technology which offers enhanced program features and greatly improved graphics to aid the RO/NF designer. IMSDesign 2012 and earlier versions were the 1<sup>st</sup> generation and dated back to 1998 and was developed using a VB6 technology.

This version of IMSD-2018 will run all prior DESX design files dating back to 2010. DESX files created by this version will not run on earlier versions of IMSD-2017, and will require the user to update the program on their desktop to this current version. The update can be found on the Hydranautics website at [www.membranes.com](http://www.membranes.com) where you go to Solutions, then Software and then IMSDesign Download tabs.

#### New Features in IMSDesign-2018

- ▶ We now have an option for a 2<sup>nd</sup> pass concentrate recirculation. The user can recirculate a portion of the 2<sup>nd</sup> pass concentrate back to the 2<sup>nd</sup> pass feed inlet for those designs which want higher cross-flow velocities for enhanced biological and/or scaling control. The 1<sup>st</sup> pass concentrate recirculation option still exists with a portion of the 1<sup>st</sup> pass concentrate recycled back to the 1<sup>st</sup> pass feed.



- ▶ Default combined power efficiency value is decreased from 0.73 to 0.70. The user still has the option to change any of the pump or motor efficiencies to match their particular system.
- ▶ You can now add a forced draft decarbonator/aerator on the permeate. The carbon dioxide level will be reduced to 5 ppm CO<sub>2</sub> and a special column will appear on the 1<sup>st</sup> page of the printout. To include this option in your design you go to Post Treatment and select the Degassed Permeate button.
- ▶ The new low-pressure 8" **ESPA2-LD MAX** RO element is now available. It has the advantage of 10% higher membrane area at 440 ft<sup>2</sup> for smaller skid design and/or lower feed pressure while using the thicker, 34 mil LD feed spacer which reduces fouling rate and cleaning frequencies and improves cleaning efficiencies.
- ▶ This version includes new **CPA7 MAX** and **CPA7-LD-4040** RO elements. The CPA7 MAX is the 8" high area 440 ft<sup>2</sup> version that increases the membrane area by 10% for lower feed pressure and/or skid size. The CPA7-LD-4040 is the 4-inch version of the highest rejecting brackish water RO element available.
- ▶ The low-pressure 8" **ESPA4-LD**, the RO element with the permeate quality of an RO and the low feed pressure of a NF, has improved and has more accurate mixed-ion feed rejection projection accuracy based on recent field studies.