

Avista™ | OSCAR

Maximize the productive life of membranes

Avista™ OSCAR off-site cleaning and restoration uses equipment specifically designed to provide ideal flow rates, water temperature, and cleaning pressures.



OFF-SITE CLEANING AND RESTORATION SERVICES

Avista™ OSCAR for off-site cleaning and restoration is available when cleaning on-site is not practical or possible. Reverse osmosis (RO) membranes are pre-tested, cleaned, and post-tested with the goal of restoring performance to original factory specifications.

- Avista OSCAR pressure vessels accommodate a maximum of three standard 40-inch membranes. This means that the applied pressure necessary for optimum flow rates is significantly lower than that required to clean the six or seven membranes typically housed in on-site vessels.
- Avista RoClean™ cleaning chemistry is used to dissolve scale and disperse particles off the surface of the membrane. RoClean cleaners are compatible with all membranes supplied by major manufacturers.
- Cleaning of both 4-inch and 8-inch elements is available.

AVISTA OSCAR PROCESS

- Cleaned elements are heat sealed in a poly bag and packaged in a new box for transport.
- Pre- and post-test data is returned with every order so that operators can see not only the results of the clean, but also select specific membranes for re-installment based on specific performance parameters.
- Physical Inspection of Elements
- Initial Element Wet Test Results
- Element Cleaning
- Element Post-Test
- Element Preservation

Avista OSCAR		Customer Information		Chemicals Used		
Name: 400 Water Technologies		Order Date: 07/15/2016		Chemical Type: RoClean 1015		
End User: XTC Company		Date: 02/10/16				
Customer PO: 401188556		Work Order No: 03020-7				
Product		Manufacturing Conditions		Manufacturing Specifications		
PORTLEIFE CR100		Feed Pressure: 200 Recovery: 95%		Flow Rate: 0.79 to 0.87 % Rejection: 98.4% to 98.7%		
Serial Number	Type	Date	Pressure (psi)	Flow Rate (GPM)	% Rejection	Notes
10223800	Pre Clean	7/15	0.39	86.2		
	Post Clean	7/15	0.43	86.4		
	Pre Clean	7/15	0.40	86.2		
	Post Clean	7/15	0.43	86.2		
10781004	Pre Clean	7/15	0.36	86.4		
	Post Clean	7/15	0.38	86.4		
10781005	Pre Clean	7/15	0.38	86.4		
	Post Clean	7/15	0.40	86.4		
10782046	Pre Clean	7/15	0.39	87.2		
	Post Clean	7/15	0.40	86.4		
10782051	Pre Clean	7/15	0.31	86.1		
	Post Clean	7/15	0.30	86.2		
10782056	Pre Clean	7/15	0.32	87.4		
	Post Clean	7/15	0.42	86.2		
10782058	Pre Clean	7/15	0.36	87.1		
	Post Clean	7/15	0.40	86.4		
10782057	Pre Clean	7/15	0.29	87.2		
	Post Clean	7/15	0.30	86.4		
10782058	Pre Clean	7/15	0.32	87.0		
	Post Clean	7/15	0.34	86.4		
10782059	Pre Clean	7/15	0.27	86.5		
	Post Clean	7/15	0.28	86.4		

AVISTA OSCAR: UNIQUE ADVANTAGES

- **Provides Flexibility:** Solution for sites with inadequate clean-in-place (CIP) systems.
- **Operator Friendly:** Decrease plant labor requirements.
- **Environmentally Friendly:** Eliminate discharge restrictions related to cleaning solutions.

OSCAR CASE STUDY

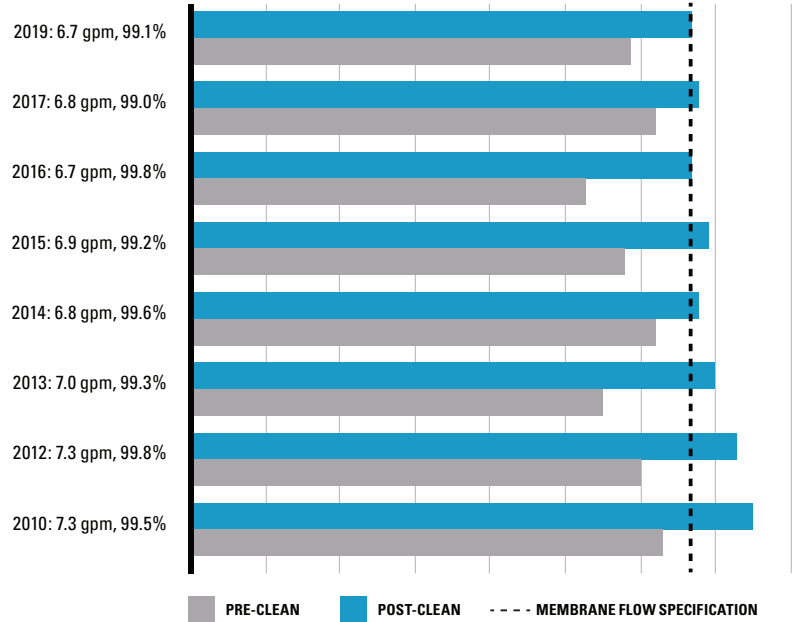
SITUATION

A large US computer manufacturer in the Northwest has been cleaning membranes for their UPW RO process using OSCAR services at Avista Technologies since 2010. The membranes have traveled to and from New York 8 times in the past 10 years, covering 43,200 miles via inland freight. These membranes have not been replaced since 2010, and they continue to perform to the manufacturer's specs.

SOLUTION

This confirms that membranes can be cleaned and transported for detailed pre- and post-cleaning analysis and successfully exceed the average membrane life of 3 to 5 years.

10-YEAR MEMBRANE LIFE CYCLE CASE STUDY



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