ORTHOS Liquid Systems

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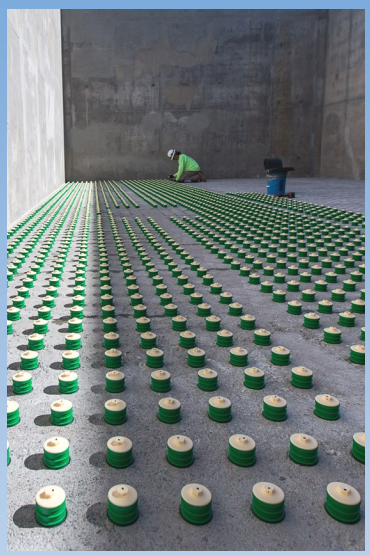
Who Filters the Western Hemisphere's Largest Desalination Plant Flow? ORTHOS!

105 MGD of Membrane Pretreatment in Carlsbad, California

Success Highlights:

- **Structurally-superior underdrain continues to provide repeatable results**
- **(18) nozzle-based monolithic underdrain filters**
- **105 MGD feed to RO process**
- **22,113 square feet total**
- **Public/Private Partnership**
- **Award-Winning Facility**



Carlsbad Monolithic Underdrain Nozzles

Poseidon Filtration Systems® deliver to municipal clientele comprehensive process technology that includes Ortho-Wash™ controls, Centurion™ nozzle-based monolithic floor underdrains, air manifolds, backwash troughs, filtra□on media, pumps, blowers, valves, and instrumentation.

August 9, 2016 - Orthos Liquid Systems, Inc., (Orthos) the leading manufacturer of nozzle-based filter systems in water/wastewater treatment, celebrates another extraordinary installation—this time at the largest desalination plant in the Western Hemisphere.

The Claude "Bud" Lewis Carlsbad Desalination Plant, located adjacent to the Encina Power Station in Carlsbad, California, provides highly-treated water to businesses and residents in San Diego County since 2015. To meet the needs of this resource-challenged area, Poseidon Water (owner) and IDE Technologies (designer/operator) created this economic and drought-proof water supply alternative by tapping the largest reservoir in the world -- the Pacific Ocean.

For 30 years, this international award-winning facility will provide 50 million gallons per day (MGD) of reverse osmosis (RO) filtered water to the San Diego County Water Authority. Eighteen (18) 52'-0" x 23'-7.5" sand/anthracite conventional downflow filters with Orthos suspended monolithic filter underdrains provide the required 105 MGD feed to the RO process.

Carlsbad Filter Air Distribution Test

Suspended monolithic filter underdrains by Orthos were chosen by IDE Technologies over block and triangular lateral types because of the following compelling benefits:

⇒ Longevity is ensured by structurally-superior concrete construction

⇒ Construction is less dependent on hard-to-control installation practices

⇒ Excellent filter and backwash distribution characteristics

Because of Poseidon Water's 30-year facility operation contract, life cycle costs are paramount. In contrast to a required and costly lateral underdrain demolition and replacement before the contract term end, nozzles are economically and easily unscrewed and exchanged—the monolithic floor remains part of the civil structure. Facility life cycle cost analyses with appropriate 30+ year terms will routinely identify monolithic underdrains as the prudent choice over block or triangular lateral systems.

"Desalination and membrane pre-treatment are key growth application areas for our filtration technology," states Stuart Humphries, Director of Municipal Sales and Marketing for Orthos. *"Any owner or long-term financier of facilities with conventional filtration must prudently recognize the resiliency and ongoing value of the Orthos monolithic filter underdrain."*

POSEIDON

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ORTHOS Liquid Systems, Inc. | P.O. Box 1970 | Bluffton, SC 29910
info@orthosfilters.com | www.orthosfilters.com | P 843.987.7200

#503 1608

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