DE NORA
our research - your future

You'll Know Us by Our Brands:

De Nora Products Have Been Water Market Leaders for Decades

Although you may be seeing and hearing more about De Nora recently, you've probably been familiar with our award-winning brands for decades: names like **Capital Controls**® chlorine gas feed equipment, **TETRA**™ filters, and **ClorTec**® on-site sodium hypochlorite generators.

De Nora, the long-time global manufacturer and supplier of electrochemical solutions, acquired the manufacturing division of Severn Trent Services in 2015. It's been a couple of years, but you may still have some lingering questions. Let's clear the air.

De Nora Headquarters – Milan, Italy

What, exactly, did De Nora acquire?

Until July 2015, Severn Trent Services consisted of two major divisions: an operating division, primarily involved in the operation of water and wastewater treatment plants; and a manufacturing division for water and wastewater treatment technologies. The manufacturing division included a filtration and disinfection solutions organization and a joint venture with De Nora that focused on electrochlorination-based technologies for marine, municipal and offshore markets.

De Nora bought out the joint venture in 2015, acquiring the entire manufacturing division from Severn Trent Services. This manufacturing division is now called De Nora Water Technologies, and is part of the much larger De Nora organization, headquartered in Milan. The operating division of Severn Trent continues to operate in the U.S. and is in the process of being sold to a group led by the current U.S. management team and backed by U.S. investors.

Why did De Nora acquire the business?

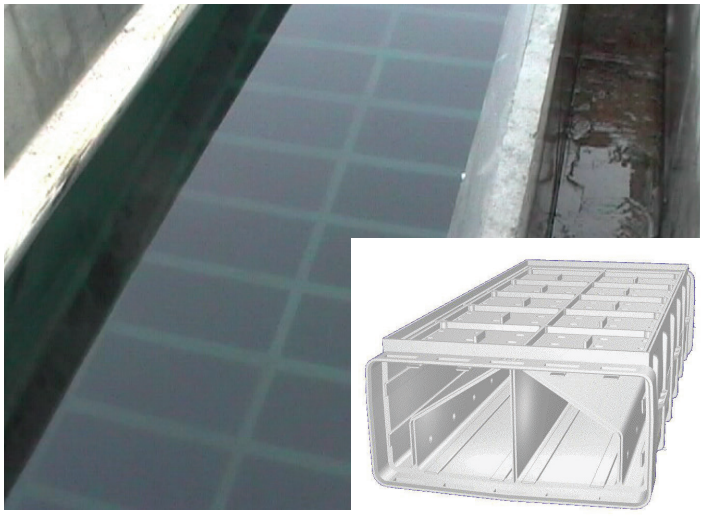
De Nora aspired to grow into other markets, including those where we had been involved only in the periphery. The acquisition gave De Nora a solid foothold not only in the municipal market but also in marine and energy applications, and the geographic footprints of both organizations were complementary.

De Nora's focus on innovation, our expertise, and our existing facilities created an exciting opportunity to improve the product lines. These product lines were, as they say, right in our "wheelhouse".

Which products or brands are we talking about?

De Nora purchased three main water technology business lines: Filtration, Electrochlorination and Disinfection.

- Filtration systems include products for both potable water and wastewater. De Nora TETRA™ filters are used in both applications, for water or wastewater underdrain filters. TETRA™ DeepBed™ filters are used for tertiary gravity filtration. Biological wastewater treatment may also incorporate TETRA™ filters for advanced wastewater treatment. De Nora's UAT™ reverse osmosis membrane filtration systems provide potable water from brackish or seawater. And the SORB™ products remove trace inorganic contaminants, including arsenic, from water and wastewater.
- Electrochlorination encompasses the on-site generation of sodium hypochlorite using salt, water, and electricity, either through brine water solution or seawater. ClorTec® units have provided safe and reliable disinfection at water and wastewater facilities since 1995, and now include recent improvements based on De Nora's innovation. De Nora also provides the SANILEC® and SEACLOR® seawater hypochlorite generators, BALPURE® ballast water treatment systems and the OMNIPURE™ brands for marine, power and offshore applications.
- Disinfection includes gas-feed for chlorination and dechlorination such as Capital Controls® all-vacuum systems; UltraDynamics® ultraviolet disinfection systems for drinking water applications; EST™ scrubbers and process equipment for emergency gas abatement, and odor and particulate removal.



TETRA™ LP Block™
Dual Parallel Lateral Underdrain

BALPURE® Ballast Water Treatment System
Hybrid Configuration

These brands are well known in the municipal water treatment market. So what did De Nora bring to the table?

In short, market expansion and innovation.

With more than 90 years of electrochlorination experience, De Nora is firmly established in various markets, including energy, electronics, food and beverage, agriculture, and livestock. We have been leaders in disinfection equipment for swimming pools and veterinary practices, and are also active in the surface finishing industry. This market expansion creates new opportunities for brands already well known in the municipal water and wastewater sector. In the mining industry, for example, De Nora provides electrode designs to reduce energy costs, as well as industrial process water treatments.

Market expansion may also come through additional acquisitions or partnerships. De Nora acquired Ozono Elettronica Internazionale (OEI) at the same time as the Severn Trent Services acquisition and rebranded it to De Nora Ozone (DNO). DNO has a long-established history and expertise in ozone disinfection for a range of markets and applications. In fact, our team is working on new developments for specific markets right now. The introduction of this technology to our water treatment portfolio represents a comprehensive range of disinfection solutions from gas feed, to on-site generation of sodium hypochlorite, ultraviolet, chlorine dioxide, tablets, and ozone solutions.

De Nora is passionately committed to research and development of innovative technologies, reinvesting 3% of revenue into new product development each year. Our R&D team scouts for new innovations and creates new and improved products for the industries above, including municipal water and wastewater.

UAT™ Reverse Osmosis Membrane Filtration System

What's been happening since the acquisition in 2015?

De Nora got right to work focusing on continuous innovation and development across product lines. The new Capital Controls® MicroChem®3 analyzer and controller was unveiled at ACE2017 in Philadelphia. The multi-parameter water analysis system offers both measurement and control of chlorine-based compounds and other critical elements in one versatile instrument that can be specifically tailored to individual applications.

Capital Controls® MicroChem®3
Modular Water Analysis System

Early in the year, we released the latest generation of on-site hypochlorite generation, the ClorTec® DN systems, offering simple operation and maintenance as well as unrivaled performance and safety advantages.

The new OMNIPURE™ Series 64 marine sewage treatment system, launched at the 2017 Offshore Technology Conference, addresses more stringent regulation for maritime uses. The only marine sewage treatment system to oxidize sewage through an electrolytic process and generate sodium hypochlorite for the disinfection of sewage streams, the new OMNIPURE™ Series 64 is even smaller and has received IMO Type Certification.

The Capital Controls® line of gas feed equipment, the gold standard for chlorine management since 1960, has been consolidated and is currently being improved and enhanced.

Other new products and enhancements are in the pipeline for the short-, medium- and long-term across markets and product lines, so watch for new product announcements.

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What about customer service?

Service and support have been seamless and remain a top priority for De Nora. We continue to provide clients with field support and technicians to help with operations and maintenance. The service center is staffed 24 hours per day, 7 days a week and can be reached at 1-800-524-6542 or info.dnwt@denora.com. We provide service agreements, warranty support and extensions, and maintain all spare parts available for purchase. Additionally, De Nora's qualified trainers can provide classroom/field training for operators and online training modules are available as well, for refresher training and reinforcement.

Tell me about De Nora today.

With 2016 turnover of €431 million, De Nora is an Italian multinational leader in sustainable technologies that offers energy-saving products and water treatment solutions. Globally, De Nora is the largest provider of insoluble electrodes for electrochemical processes and is now among the leaders in technologies and processes for filtration and disinfection of water - drinking water, industrial and municipal water treatment, ballast water, and marine wastewater.

De Nora has grown internally through continuous innovation and externally with acquisitions in the U.S., Japan, England, and Italy. We have a presence in 12 countries with 23 offices, 12 manufacturing facilities and R&D centers in Italy, USA and Japan. De Nora owns 355 patent families with more than 2,700 territorial extensions.

What does the future look like for De Nora in the water industry?

De Nora intends to improve the reach and the depth of our business with an organized and intentional program of R&D and restructuring. We believe that innovation is essential to pursue new business opportunities and we are well positioned for success with an international team of scientists, chemists, and engineers focusing on R&D. Since the company's founding in 1923, De Nora has adapted to meet the needs of their customers – improving existing products and developing new technologies. De Nora will continue to remain at the forefront of expanding markets, exceeding customers' expectations for quality and on-time delivery.

WATER MADE EASY

MARINE | ENERGY | MUNICIPAL | INDUSTRIAL

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