

ASHKELON DESALINATION PLANT

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Ashkelon is a coastal city in the South District of Israel Mediterranean coast, about 50 km south of Tel Aviv.

It has been favored by a particularly pleasant, both fresh and dry climate. Rainy days are rare and it has one of the country's finest beaches, as well as countless entertainment venues



The Ashkelon seawater reverse osmosis (SWRO) plant – one of the largest in the world – achieved two notable successes in 2006. In March it was voted 'Desalination Plant of the Year in the Global Water Awards, subsequently passing a major project milestone in October 2006, when, little more than a year after it commenced initial production, it successfully delivered its first 100 Mm³/year of water.

With a capacity of 330,000m³ per day, the plant produces around 13% of the country's domestic consumer demand – equivalent to 5–6% of Israel's total water needs – at one of the world's lowest ever prices for desalinated water.

The project included membrane desalination units and facilities for seawater pumping, brine removal, raw water pre-treatment and product water treatment. In addition, the scheme also required the construction of workshop and laboratory buildings, access roads and a dedicated gas turbine power station.

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Built by VID, a special purpose joint-venture company of IDE Technologies, Veolia and Dankner-Ellern Infrastructure, the total project cost was \$212.

In common with other countries in this water-scarce region, Israel has chronic problems over water resources – which the Desalination Master Plan, launched in 2000, set out to address.

This called for the construction of a series of plants along the Mediterranean coast, to enable an annual total of 400 million m³ of desalinated water to be produced by 2005, chiefly for urban consumption. According to the plan, production is intended to rise to 750 million m³ by 2020.

The contract for the Ashkelon facility – the first in the series of large-scale seawater desalination units – was awarded in September 2001, after an extensive tendering process beginning in July of the previous year. The concession was granted on a Build-Operate-Transfer (BOT) basis and at the end of the 25-year period, the plant transfers to the Government of Israel.

Originally intended to produce only 50 Mm³/year, after the formal signatures were completed in November 2001, further negotiations were entered into between February and April 2002 to double the output. This second agreement was signed in April 2002 and work on the two-phase construction program began a year later.

On August/September 2005, 50 Mm³/year were ready to be supplied and on November/December 2005 the complete installation was running with its 100 Mm³/year.

The project is composed by above 40.000 FILMTEC membrane elements with an optimized design for a drastic reduction of Boron.

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Project name: Ashkelon
Plant Location: Ashkelon, ISRAEL
Capacity: 330,000 m³/day
Source of Water: Sea Water
Operation Date: December 2005
Technology: Reverse Osmosis
Contractor: J.V. of IDE Technologies, Veolia and Dankner-Ellern Infrastructure

BEL, world specialist manufacturer and vendor of composite made Pressure Vessels and other equipment for the water industry.

With more than 40 years of experience in the world of composite materials and winding driven products, BEL is serving the process and water industries holding unique wealth of expertise and skilled resources necessary for design, development and manufacturing of advanced composite products from cutting-edge technologies for the chemical and food industries, waste water treatment and water supply was the selected supplier for the Pressure vessels of this plants with:

- 3,840 Units of High Pressure Vessels model BEL8-S(2x1.5")-1200-8M
- 320 Units of High Pressure Vessels model BEL8-S(2x1.5")-1000-8M
- 1,504 Units of High Pressure Vessels model BEL8-S-2x1.5")-450-8M

Skid Configuration: Standard Side Ports

Membranes: FILMTEC

For more information,
contact BEL by e-mail: composite@bel-g.com
www.belvessels.com