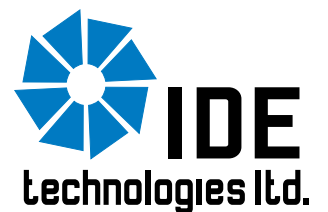




# Industrial Evaporation Solutions

Technology • Experience • Leadership



# Cost-Effective, Standalone Industrial Evaporation Solutions

For four decades, IDE has been bringing groundbreaking thermal distillation technologies to a world in need of desalination solutions. With hundreds of deployments, IDE has become recognized as the world's most experienced desalination company and the provider of its most advanced desalination technologies.

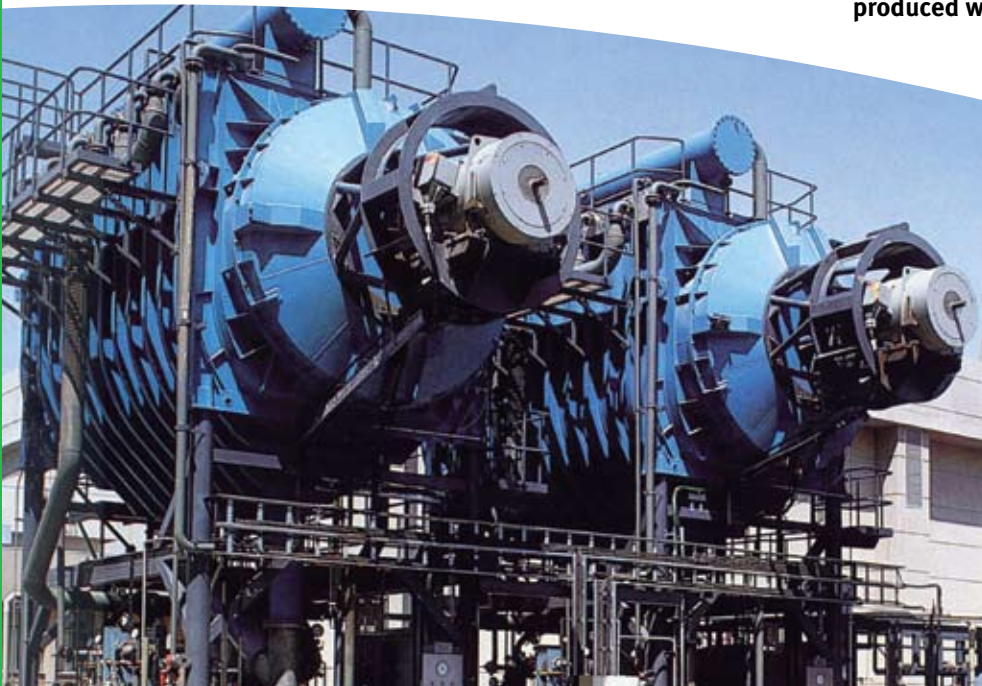
- **IDE's MED uses low-grade waste steam as its motive energy,** making it a cost-effective, environmentally-friendly solution for deployment near power generation/manufacturing plants.
- **IDE's MVC is ideal for sites in which electricity is the only source of power.**

IDE's industrial evaporation units are robust, cost-efficient and modular, and offer capacities ranging from 250 to 25,000 m<sup>3</sup>/day per unit. As flexible, customizable solutions, IDE's **Mechanical Vapor Compression (MVC)** and **Multi-Effect Distillation (MED)** solutions have been deployed by a broad range of industries, including refineries, process industries, power stations, remote development sites and more. In all cases, IDE's solutions are tailored to site-specific conditions in order to minimize operational and maintenance costs while maximizing functionality and water quality. To minimize power consumption, IDE's thermal distillation solutions employ a proprietary single-or-multi-effect process in which feed water is sprayed over horizontal tube bundles and repeatedly evaporated and condensed under vacuum, each time at a lower temperature and pressure.

## Benefits

- **High energy efficiency,** resulting in reduced electricity requirements (10-12 kW-Hr/m<sup>3</sup>).
- **Low operating temperatures,** resulting in further energy cost reductions (80°C maximum).
- **Minimal scaling/fouling.**
- **High quality Materials of Construction (MoC).**
- **Optimized processes and MoC,** further enhancing system's cost-benefit profile.
- **Low O&M costs.**
- **Flexible:**
  - **Suitable for a wide variety of applications** including utilities, oil and bitumen fields, natural gas fields, mines, chemical process industries and more.
  - **Suitable for the desalination of both saline or produced water.**

*2 x VCC 720 Units,  
Eskom, Tutuka, South Africa*



## Key Features

- **Horizontal tube falling film evaporator:** results in superior thermodynamic efficiency (latent heat transfer).
- **Skid-mounted modular design:** minimizes infrastructure needs and on-site assembly efforts.
- **Feed water flow on outside of tubes:** minimizes the potential for scaling and fouling.
- **Produces a continuous flow of high-quality (1-5 ppm) boiler feed water.**
- **Easy to clean:** inexpensive and rapid de-scaling through the recirculation of mild acid, or other chemicals, rather than through a mechanical cleaning process.
- **Easy-to-operate:** operation is automatic with minimal on-site supervision needed.
- **Economical and durable design:** minimal use of moving parts increases system reliability; innovative design prevents galvanic and pitting corrosion.



*2 x MVC 600 Units,  
Oil Field Produced Water  
Wintershall, Emlichheim, Germany*

## Technical Information

### Specific Energy Consumption

600 m <sup>3</sup> /day	12-15 kWh/m <sup>3</sup>
1,200 m <sup>3</sup> /day	10-12 kWh/m <sup>3</sup>
7,200 m <sup>3</sup> /day	10 kWh/m <sup>3</sup>
12,500 m <sup>3</sup> /day	10 kWh/m <sup>3</sup>
25,000 m <sup>3</sup> /day	10 kWh/m <sup>3</sup>

### Materials of Construction (MoC)

Vessel Shells	Stainless Steel
Heat Transfer Tubes	Titanium, Ferritic or equivalent
Heat Exchangers	Titanium
Piping	Stainless Steel

## Why IDE

- **Leadership in the field:** IDE has deployed hundreds of evaporation units for diverse customers throughout the world, including some of the world's largest desalination operations.
- **Technology leadership:** IDE is internationally recognized for breakthrough desalination technologies that maximize performance while minimizing energy consumption and operating costs.
- **Global support:** IDE's global engineering and support staff work closely with customers to make each solution work optimally for specific local conditions and to assure reliable, trouble-free operation.

## About IDE

IDE Technologies is a world leading desalination company. Since 1965, we have built 400 desalination plants throughout the world, with a cumulative installed capacity of over 2,000,000 m<sup>3</sup>/day - projects that have honed our technologies, our engineering know-how, our project management/operation skills and our financial expertise.

Our technologies for optimized, high-end thermal and membrane (Reverse Osmosis) desalination are recognized as the most advanced in the world, and we have designed, built and currently operate most of the world's mega-sized SWRO desalination plants. In addition, we are leading providers of advanced thermal distillation solutions used for industrial applications.

Our customized desalination plants and self-contained desalination units provide high-quality water for use in industries, mines, refineries, and power stations, as well as for potable water applications and agriculture. IDE is jointly owned by two of Israel's largest industrial enterprises: ICL Group (50%), one of the world's leading fertilizer and specialty chemicals companies, and Delek Group (50%), the leading energy & infrastructure group based out of Israel.

*4 x MED 25,000 Units,  
Tianjin, China*



*6 x MVC 2,880 Units,  
Sarlux, Sardinia, Italy*