



# Powering Performance

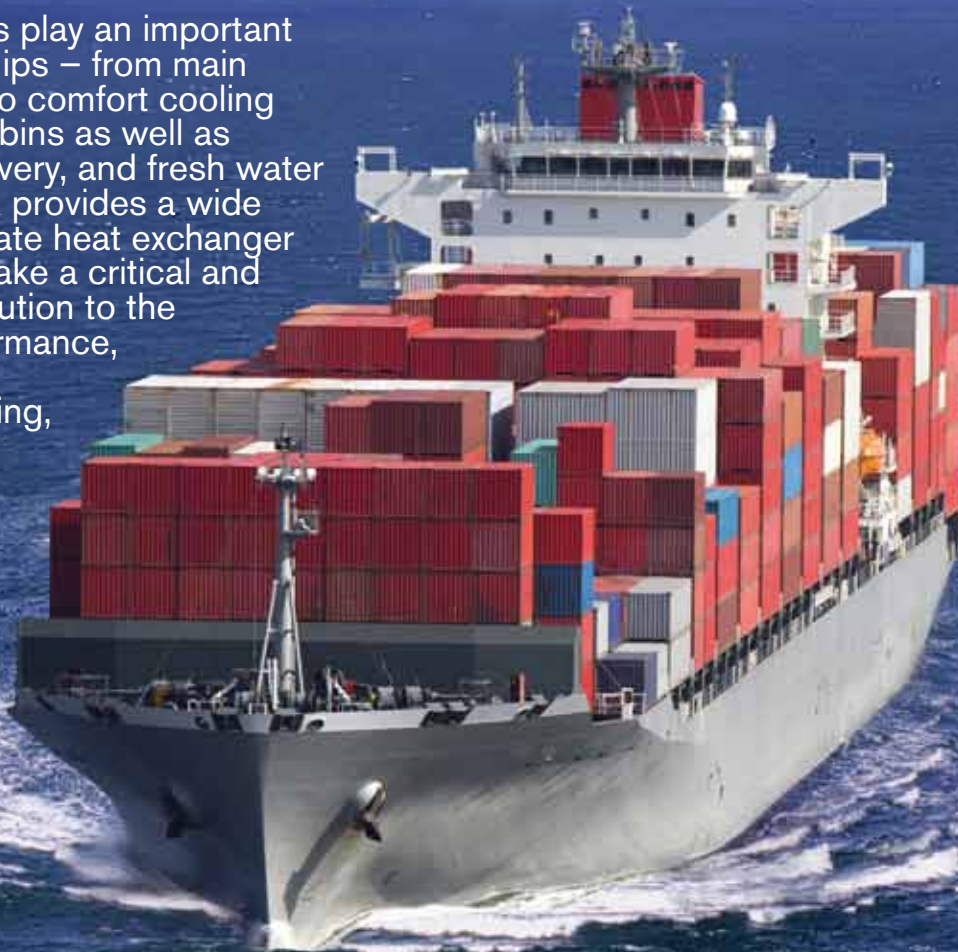
- in the Marine Industry



# Knowledge

is key

Heat exchangers play an important role on board ships – from main engine cooling to comfort cooling of passenger cabins as well as waste heat recovery, and fresh water generation. SPX provides a wide range of APV plate heat exchanger solutions that make a critical and effective contribution to the efficiency, performance, and reliability of customers' cooling, heating, and desalination processes in almost any conditions.



# Competence

is our trademark

## Applications

APV plate heat exchanger solutions are proven at sea. Typical applications include:

- Main and auxiliary engine coolers
- Lubricating oil coolers
- Tank heaters
- Pre-heaters
- Fuel oil coolers (MDO/MGO)
- Heat recovery units
- Water desalination units

Designed for maximum thermal efficiency, reliable operation and minimum space requirements our plate heat exchanger solutions will help you optimize energy consumption, minimize service downtime, and reduce your capital cost investment.

## Technology

The APV product portfolio consists of a comprehensive range of plate heat exchanger technologies and solutions including gasketed, semi-welded and fully welded plate heat exchangers - ranging from standard heat exchangers to specially designed units, from high-capacity, heavy-duty heat exchangers to small, and compact heat exchanger designs. APV plate heat exchangers can be constructed from a wide variety of standard and special materials that can endure most media and are able meet nearly every heat transfer challenge in several applications.



# High Performance cooling



APV gasketed plate heat exchanger solutions offer cooling for engine capacities varying from 200 kW to more than 100.000 kW. Specialized plate designs deliver maximum thermal efficiency with a minimum cleaning and maintenance requirement.

## You get all the benefits

- Improved performance
- Longer life time of plate pack
- Service easily done by crew on site saving both time and money

### Graduated distribution area

- Optimal distribution of media across plates maximize thermal performance and minimize required m<sup>2</sup> area



### CornerLock®

- Perfect plate alignment providing superior plate pack stability
- Thinner and more efficient plates without compromising mechanical strength



### EasyClip®

- Improved stability of gasket means fast assembly and longer life time.



## APV Gasketed Plate Heat Exchangers

A wide range of gasketed plate heat exchangers suited for general heating and cooling duties. The optimized plate design maximizes energy use and cost effectiveness thanks to maximum heat recovery effect.

### Features:

- Design pressure: 0-25 bar
- Operating temperature: -35°C - 250°C
- Heat transfer area: Up to 3.200 m<sup>2</sup>
- Optimized plate designs for maximum heat recovery rates
- Compact designs for space and weight savings
- Easy maintenance reducing service downtime and spare parts costs



## In-Line Filters

APV gasketed plate heat exchangers can be equipped with an in-line filter protecting the system from contamination contained in the seawater, such as seashells, seaweed, and sludge. The strainer is placed inside the plate pack in the seawater inlet port and can easily be removed for cleaning through a flanged connection on the follower. The length of the filter is adapted to the actual number of plates.

### Features:

- Port sizes: From Ø 80 mm
- Filter material: AISI 316L
- Holes size: Ø2,5 mm

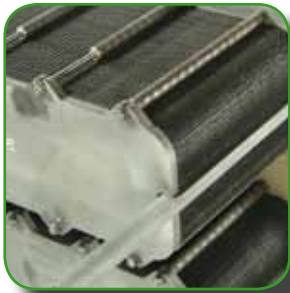


# Efficient Freshwater Generation

APV Water Desalination Units (WDU) are a range of fresh water generators for production of potable and fresh utility water used for installation on board ships and rigs. Combining heat transfer knowledge with corrosion-free materials and complete process monitoring instrumentation we provide efficient fresh water generation.

Available in several sizes the APV water desalination units are characterized by:

- Reduced heat consumption due to preheating of feed-water
- Reduced service intervals when using chemical dosing unit
- Fully equipped control box and complete piping
  
- Titanium plates in evaporator and condenser with solid stainless steel end plates is standard
- Full temperature and pressure monitoring package is standard
- Adjustable pump for chemtank is standard



## APV H-CE Water Desalination Unit

A single stage, plate type evaporator and condenser separated by stainless steel demister. Includes ejector, freshwater pump, freshwater meter, control panel with motor starters, salinometer, and dosing unit for anti-scaling.

### Features:

- Capacity freshwater: Up to 35m<sup>3</sup>/24h
- Seawater temperature: 0°C - 32°C
- Titanium plates in both evaporator and condenser
- All external s.w. pipes in CuNiFer
- 2 ppm fresh water output



## Optional equipment for WDU:

- Seawater pump
- Complete steam injection system
- UV sterilizing equipment
- Re-hardening filter for pH adjustment



# Global Coverage

## Service readiness

We support our customers during the entire lifetime of their APV equipment through a global team of highly qualified and experienced specialists with special knowledge of the needs of the marine industry.

We provide worldwide service readiness via a global network of service partners supported by our marine service centers in Houston, TX, Kolding (DK), Singapore, and Shanghai – all providing APV genuine spare parts. Critical spare parts are distributed overnight.

For 24 hours service call:  
+45 70 278 278

Our three main APV heat exchanger production sites in China, Denmark and the USA are all ISO 9001 certified.



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SPX is a technology partner of "Green Ship of the Future". Green Ship of the Future is a cooperation in which companies across the Danish maritime industry join forces in order to develop strategies to reduce CO<sub>2</sub>, SO<sub>x</sub> and NO<sub>x</sub> emissions from new-builds and retrofits. See: [www.greenship.org](http://www.greenship.org)



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