



H-CE Water Desalination Unit

- for fresh water generation

Application

The APV Water Desalination Unit type H-CE is a fresh water generator for desalination of seawater for production of potable and fresh utility water; used for installation on board ships and rigs.

The water desalination unit is a single stage, plate type evaporator and condenser, separated by stainless steel demister. The H-CE unit is available in four sizes with capacities ranging from 20m³/24h to 33m³/24h.

Products features

- Heat exchangers with specially designed Titanium plates for effective steam passage and high efficiency
- Condenser cooling combined with ejector water and feed water system and complete piping
- Compact and space saving design

Benefits

- High fresh water quality: Automatic feed-water dosing valve secures optimised freshwater production and low salinity
- Low operation costs: Reduced heat consumption due to pre-heating of feed-water and full access for cleaning and inspection reduce operation and maintenance costs
- Reduced service intervals: Use of corrosive resistant Titanium plates. Pre-installed adjustable chemical dosing unit reduces fouling
- Reduced installation costs. Fully equipped control box for easy installation and operation and complete piping. Compact and space saving design will fit into most engine rooms

Working principle

The vessel with evaporator and condenser is evacuated to -0,93 bar by the seawater-driven ejector. At this pressure, the seawater to be distilled enters the evaporator where it evaporates at approx. 44°C - 49°C when passing the plates heated by the heating medium - typically hot water (engine jacket water) at 75°C - 90°C.

The steam leaves the evaporator through the open side of the plate pack and passes through a demister, where any carry-over drops are separated for re-circulation, and then enters the condenser positioned above. The clean vacuum steam is condensed into freshwater by circulating cold water on the other side.

The freshwater is pumped to the freshwater tank, passing a sensor connected to the salinometer. If the salinity is higher than the pre-set reference value the solenoid valve is activated and the flow is directed back for re-production.

Standard equipment

The APV H-CE Water Desalination Unit includes Titanium plate heat exchangers for evaporator and condenser, vessel, seawater ejector, freshwater pump, freshwater meter, frame, control panel with motor starters and salinometer, and dosing unit for anti-scaling.

Additional equipment required

- Seawater pump

Optional equipment

- Ejector for alternative heating by steam
- UV sterilizing equipment
- Re-hardening filter for pH adjustment

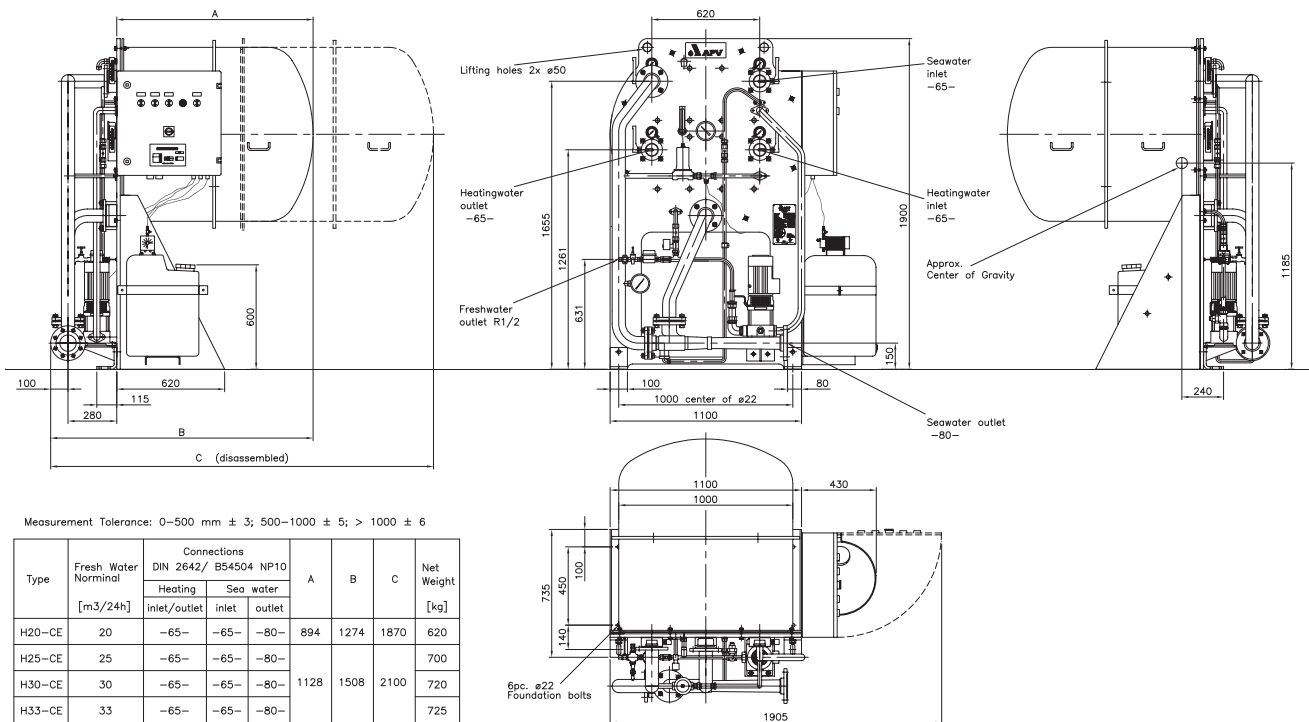
Product specifications:

APV H-CE Water Desalination Unit

Materials:	
Plates	Titanium
Gaskets	Nitrile (NBR)
Vessel	AISI 316L(Stainless Steel)
Frame and fresh water pipes	AISI 316L(Stainless Steel)
Seawater pipes	CuNi (Copper-Nickel)
Capacity:	
Fresh water:	20 - 33 m ³ /24h
Seawater temp.:	0°C - 32°C
Jacket water temp.:	75°C - 90°C
Design pressure:	
Vacuum	-0,93 bar
Plate pack, inlet pressure	Max. 5 bar
Fresh water quality:	
Salinity	Max. 5 ppm
Finish:	
Frame painting	Blue/RAL 5010 Other colours available on request
Electric table painting	Grey/RAL 7035
Technical documentation: Complete technical documentation, installation drawings and instruction manual are enclosed with each APV Water Desalination unit.	



APV H33-CE Water Desalination Unit



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For more information about our worldwide locations, approvals, certifications, and local representatives, please visit www.apv.com.

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