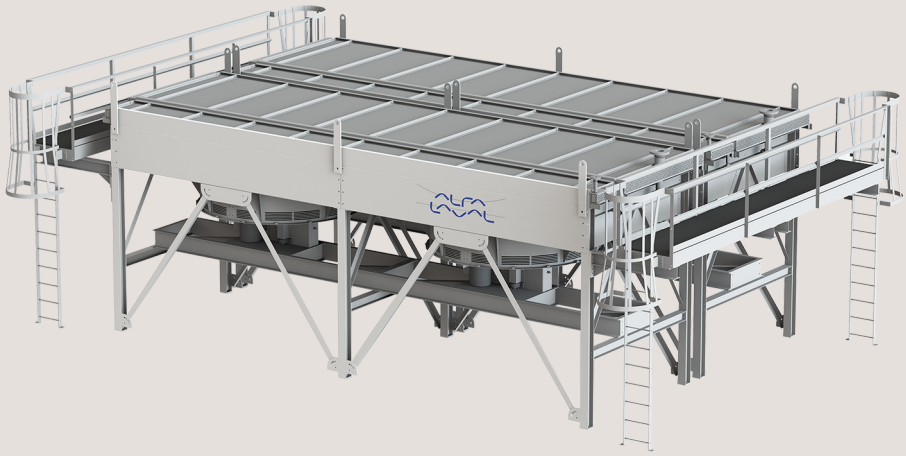
Alfa Laval ACE Model E

A highly versatile air cooled heat exchanger for all applications



Introduction

The Alfa Laval ACE Model E is one of the most versatile, engineered-to-order air cooled heat exchanger designs within the oil, gas and power industries. The pressure vessels (bundles) are installed in a horizontal pattern which provides the most flexibility for cooling liquids, gases or two-phase fluids. This configuration allows multiple Model E's to be positioned next to each other for simultaneous, parallel cooling of extremely large process flows.

Applications

The Alfa Laval ACE Model E, given the horizontal orientation of pressure vessels, is perfectly suited for cooling nearly all single and two phase fluids throughout the upstream and midstream oil and gas industries as well as downstream power applications.

Benefits

- Engineered-to-order design flexibility allows configurations to meet the customer's exact process fluid cooling requirements.
- Scalable to cool any amount of process fluid flow.
- High reliability due to robust, ASME coded pressure vessels and structures built to withstand the harsh conditions of remote operations.
- Available ACE Vspeed substantially reduces parasitic motor horsepower and liquid fallout from overcooled process fluids.

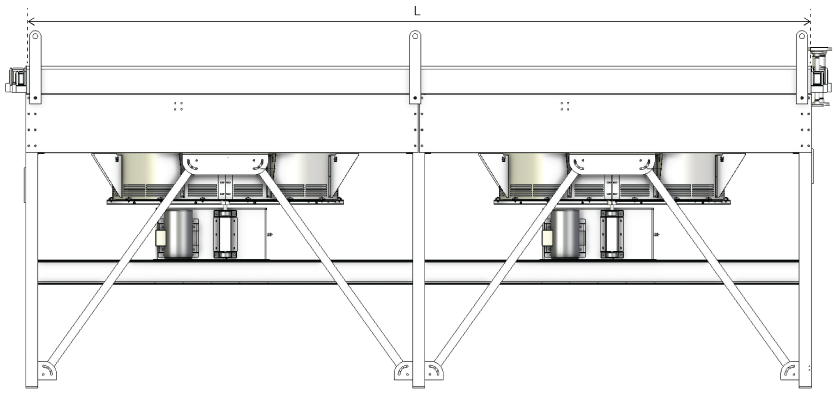
Working principle

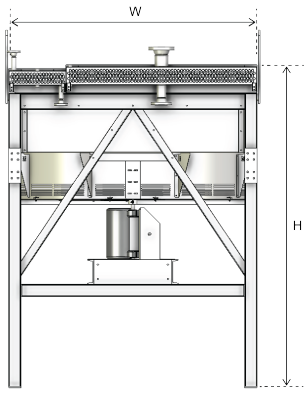
The three primary components of the Alfa Laval ACE Model E are the bundles, fan/mechanical sections and the structure. The horizontal bundles, which are the pressure vessels, direct the process liquid or vapor to flow through the inside the finned tubes. The finned tubes transfer heat from the process fluid to the air passing through and around the tube's fins. The fans used to move the air sit underneath the heat exchanger bundles and force, or push, the air across the bundles. The structure directs the airflow between the bundles and fans and supports the weight of the entire, self-contained unit.

Design configuration

- Bundles are horizontal with horizontal fans and forced draft, vertical air ejection.
- Available in single to five fan configurations.
- Fans are powered by electrical motors only.
- Structure available in bolted galvanized or welded painted construction.
- Optional ACE Vspeed explosion proof variable fan speed control to reduce parasitic horsepower consumption and liquid fallout from overcooled process fluids.
- Additional structure available, such as warm air recirculation, manual or automatic louvers, hail/bug screens, service platforms, walkways and ladders.
- Additional accessories available, such as surge tanks and low noise fans.
- Multiple or single process cooling.

Dimensional drawing





No. of Fans	Dimensions, feet (m)		
	Tube Length (L)	Width (W)	Height (H)
1 - 5*	4' – 70' (1.2 – 21.3)	4' – 16' (1.2 – 4.9)	As required

* 2 fan unit shown in dimensional drawing

Technical data

Pressure vessel (bundle) options	
Tube bundles	Straight tube, crossflow or counterflow design
Code designs	Non-code, ASME VIII Div 1, NACE and PED available
Header options	Tubing headers
	Plug box ASME code headers optional
Header material options	Carbon steel
	300 series stainless steel optional
Tube options	0.625" to 1.5" tube OD available
Tube material options	Carbon steel
	Stainless steel and high alloy optional
Fin options	HyperFin L-footed
	Smooth L-footed, embedded or extruded fins optional
Bundle accessories	Surge tanks per bundle optional

Fan/mechanical options	
Fans	Diameters available from 3' to 15'
Motors	Totally enclosed fan cooled (TEFC)
	Explosion proof or IEC motors optional
Speed control	Alfa Laval ACE Vspeed optional

Structure options	
Metal	Bolted steel with hot-dipped galvanized construction
	Welded and painted construction optional
Air recirculation	Optional recirculation over end, side, or internal.
Perimeter bug screens	Metal or fabric screens optional
Louvers	Automatic or manual louvers optional
Access package	Ladders, walkways, platforms and piperacks optional

Unique features

Vspeed
Automatic fan speed adjustment for minimal power consumption.

HybridCool
Combined wet and dry bulb cooling for minimized water consumption.

HyperFin
Slitted fin design maximizes heat transfer.

ALOnsite
Global, onsite service by skilled engineers.

Learn more at **www.alfalaval.com/ace**