

...anytime, anywhere



Alfa Laval Service offers a broad range of parts, components and services, covering the whole product lifecycle from startup, support and maintenance, to improvements and monitoring.

*Alfa Laval has an extensive service network. For more information about our services, visit [www.alfalaval.com/service-and-support](http://www.alfalaval.com/service-and-support)*

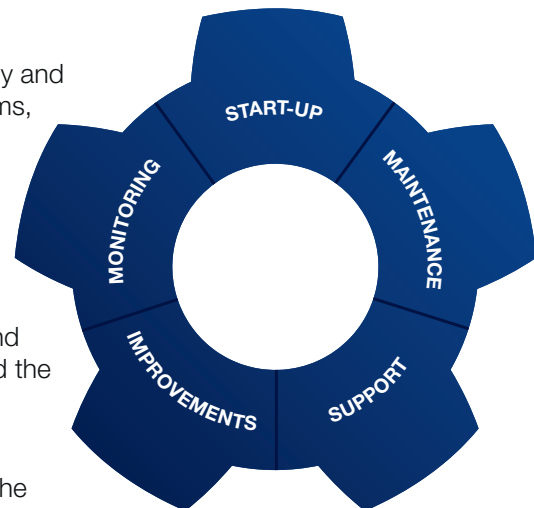
Whatever the challenge, whenever needed, we are there. To ensure 24/7 availability and support, Alfa Laval Service operates service centres across the globe combined with a vast network of offshore certified oil & gas service engineers.

With access to the most up-to-date technology and extensive technical training for our service teams, we enable you to prolong the lifetime of your equipment.

**Innovation beyond R&D**

Our research and development aims at fulfilling customers' future needs in terms of innovative technical solutions, high reliability and availability, minimum environmental impact and the lowest possible product lifecycle costs.

But at Alfa Laval, innovation goes beyond the research and development function including the entire value chain: from R&D to engineering, manufacturing, distribution, and aftersales services. For us, innovation is all about creating customer value.



**Alfa Laval in brief**

Alfa Laval is a leading global provider of specialized products and engineered solutions.

Our equipment, systems and services are dedicated to helping customers to optimize the performance of their processes. Time and time again.

We help our customers to heat, cool, separate and transport products such as oil, water, chemicals, beverages, foodstuffs, starch and pharmaceuticals.

Our worldwide organization works closely with customers in almost 100 countries to help them stay ahead.

**How to contact Alfa Laval**

Up-to-date Alfa Laval contact details for all countries are always available on our website at [www.alfalaval.com](http://www.alfalaval.com)



# First to last

Alfa Laval DuroCore high-pressure offshore compression cooler



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# Simplified gas compression...

Imagine a heat exchanger that is extremely robust and resistant to scaling, fouling and clogging, yet compact. Add easy access for cleaning, maintenance and, should it be needed, repair. Allow for both indirect and direct cooling. Impossible? Not anymore. Meet Alfa Laval DuroCore high-pressure offshore compression cooler, designed for the toughest jobs.

## Maximum uptime in minimum space

Offshore, more than anywhere, uptime is critical. Equipment fouling, failing or scaling can cause loss of production, expensive downtime or even safety- and environmental hazards. Truly robust heat exchangers that can fit a large thermal duty into a small footprint but still are readily accessible for all kinds of maintenance have not been available. Until now.

Alfa Laval DuroCore high-pressure compression cooler combines the thermal efficiency of our plate heat exchangers with the robustness and reliability of conventional shell-and-tube heat exchangers. In a much smaller footprint than a corresponding shell-and-tube, it can handle pressures up to 250 bar (3626 psi) and temperatures from -46°C (-50°F) to 200°C (392°F), making it perfect for demanding offshore compression cooling installations where space saving always is a premium.

## In short

- Large channels:  
Robust against fouling/scaling
- Removable core:  
Easy to clean, inspect and repair
- Vertical position:  
Small footprint
- Fatigue resistant
- Available in both stainless steel and titanium



# How it works

## Welds that meet your challenges

When it comes to high thermal performance under difficult process conditions, Alfa Laval DuroCore high-pressure compression cooler has distinctive advantages over alternate exchangers including shell-and-tube.

The heart of the cooler is a cylindrical core of corrugated, laser-welded heat-transfer plates in stainless steel or titanium. With laser technology we can achieve the most accurate weld with less heat impact on the surrounding material. This results in a weld with less stress and significantly improved fatigue properties. Our fully welded heat exchangers use established laser welding that has been proved through thousands of installations around the world.

## Efficient flow minimizes fouling

The gas enters the plate pack through the side connection, while cooling medium flows in from the bottom via the central connection. The design allows for co-current or counter-current flow arrangements.

The patented roller coaster pattern of the plates creates a highly turbulent flow that minimizes fouling and clogging. Also, the large fluid channels ensure long trouble-free operations without losing efficiency due to scaling on the cooling medium side or fouling on the gas side.

## Easy to maintain

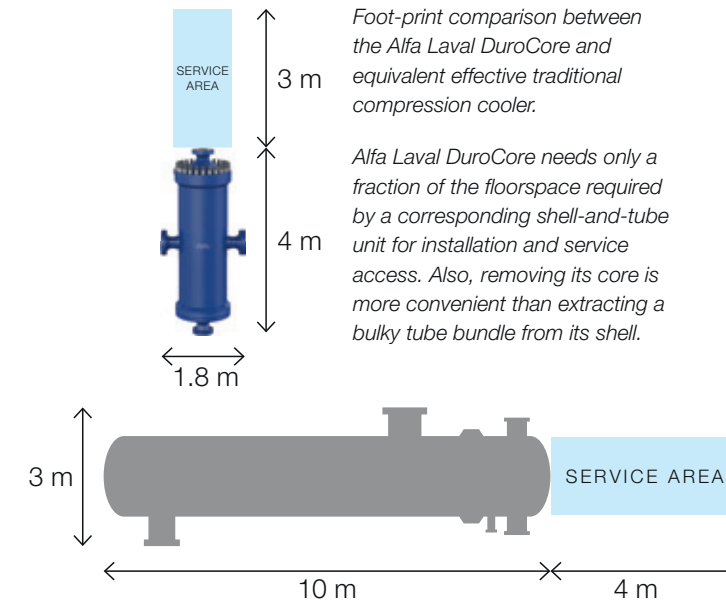
The plate pack is removable which makes Alfa Laval DuroCore high-pressure compression cooler easy to maintain, still in a small footprint.

By removing the bolted cover you get easy access to the core and can easily lift it out for full inspection, cleaning and repair. The shell with the high-pressure gas connection doesn't need to be removed.

## Robust design

Alfa Laval DuroCore is specifically designed to withstand variations in temperature and pressure. To accomplish that we had to move away from the traditional plate-and-shell design with its weak, peak-stressed spots.

Traditionally corrugated plate-and-shell pattern promotes expansion and contraction in one dimension only. This makes the plates sensitive to fatigue failures. DuroCore's unique and patented roller coaster plate pattern is equally strong in all directions. The result is a plate pack that is robust against both thermal- and pressure fatigue.



Accessing the core of the Alfa Laval DuroCore for maintenance and inspection is easy.



## Technical specifications

Design temperature	
Min. temperature, °C (°F)	-46 °C (-50 °F)
Max. temperature, °C (°F)	200 °C (392 °F)

Design pressure	
Min. pressure	vacuum
Max. pressure	250 bar (3,626 psi)

Dimension	Min.	Max.
Height mm (in)	1,000 (40")	3,870 (152")
Diameter mm (in)	1,740 (68")	1,800 (70")

Weight	Min.	Max.
Dry kg (lbs)	11,170 (24,625)	31,100 (68,564)
Flooded kg (lbs)	11,400 (25,132)	33,500 (73,855)

Materials	
Plates	316L SST or Titanium
Shell	Carbon steel grade SA516 gr. 70
	Weld overlay on demand

Connection sizes and ratings are tailored to the specific design requirements.

## Benefits

- Large fluid channels and the patented roller coaster pattern of the plates ensure high reliability in operation and maximum uptime
- Removable core makes it easy to reach all inner parts and allows for quick inspection and maintenance with small maintenance area
- Substantial savings in footprint compared to traditional shell-and-tube exchangers
- Available in both stainless steel and titanium