



Exhaust gas heat recovery boiler

AV-6N

EMD00280EN 1107

AV-6N is a robust, highly efficient water tube boiler, designed to improve the plant's total efficiency. With AV-6N, exhaust waste heat can be recovered from various sources such as diesel or gas engines to generate steam and/or heat water. It is flexible and easy to install - even in existing facilities.

The standard AV-6N exhaust gas boiler for steam application has a natural circulation design offering several operational advantages compared to traditional forced circulation.

AV-6N heat recovery boiler improves overall efficiency

AV-6N is the optimum solution for high-performance heat recovery systems.

Designed with extended heating surface, AV-6N is compact and cost-effective. The possibility of cleaning during operation minimises the need for engine shutdowns and increases the overall plant availability.

Unique boiler construction

A unique supporting arrangement without endplates - enhanced by computerised analyses - ensures a vibration and thermal stress-free boiler structure sustaining even the most demanding operational conditions of engine-based heat recovery applications.

Reliable natural circulation

As a standard for steam applications, Alfa Laval Aalborg offers reliable natural circulation solutions without the need of circulation pumps providing the following advantages:

- Reliability
- Minimised risk of sootfires
- Less power consumption
- Cost effectiveness
- Fast site installation
- Reduced foundation work and minimized piping and cabling
- Small footprint

Traditional forced circulation boilers are also available.

Easy to clean

The tube arrangement of the AV-6N heating surface ensures easy maintenance and service. AV-6N boilers can be cleaned during operation reducing the need for engine shut-down. In addition to standard high-efficient steam soot blowers, an air-type can also be applied.



Customer benefits with AV-6N

- Proven design based on hundreds of operating references
- High efficiency; less CO₂ emission
- Natural circulation; high availability, low operational and maintenance costs
- Vibration resistant
- Easy to clean on flue gas side due to in-line configuration and parallel fins
- Compact heating surface, optimisable for different applications
- Small footprint and lightweight
- Small water volume inside the boiler allows it to respond quickly to load changes
- Freedom of scope; shop-assembled, or with maximised scope for local outsourcing (e.g., insulations, platforms, inter-connecting pipes, pre-installation of components etc.)
- Standardised cost-effective supply concept with short delivery time
- Tailor-made for specific requirements

Technical data

Exhaust gas amount:

No limits

Exhaust gas temperature:

Typical < 530°C in standard execution

Pinch point:

Typical 15-20 °C. (min. 5°C, limited by feasibility only)

Design pressure:

Typical < 40 bar(g) in standard execution

Steam temperature:

Up to 400°C in standard execution

Circulation:

Natural (or forced on request)

Optimized boiler type suitable for all applications

Alfa Laval Aalborg has extensive experience with waste heat recovery. A continuous focus on development and innovation leads to new solutions. We supply complete solutions including heat recovery boilers, all main accessory items and control systems as ready-made modules for easy and fast site installation.

Wide range of applications

There are no restrictions neither on pressure nor on capacity in practical diesel and gas power plant applications.

AV-6N is applicable in all types of heat sources:

- Diesel engine (LBF, HFO and LFO)
- Gas engine (natural gas)
- Dual or tri-fuel engine
- Gas turbine
- Process flue gas

EMD00280EN 1107

How to contact Alfa Laval

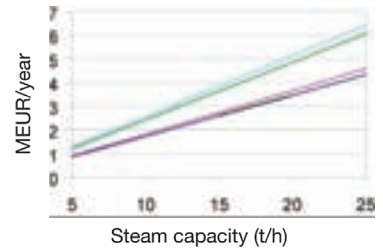
Up-to-date Alfa Laval contact details for all countries are always available on our website at www.alfalaval.com or www.aalborg-industries.com

Product centre

Alfa Laval Aalborg Oy
P.O. Box 9, Kaivopuistontie 33,
FIN/26101 Rauma, Finland
Tel. +358 10 8383800

Cost savings

The figure to the right showing cost savings at different oil prices and boiler efficiencies (presuming that HFO-fired boiler operates 8,000 hours a year), proves that free energy otherwise wasted in flue gas offers considerable savings compared to the use of an oil-fired boiler.



Oil price 700 USD/t, boiler efficiency 85%
Oil price 700 USD/t, boiler efficiency 90%
Oil price 500 USD/t, boiler efficiency 85%
Oil price 500 USD/t, boiler efficiency 90%

Alfa Laval Aalborg's heat recovery boiler utilize the energy otherwise wasted in the exhaust gas to generate steam or heat water, which e.g. can be used for district heating/cooling networks, the food processing industry and laundry, refinery or textile factories or other types of industrial processes. This way the plant's total efficiency is enhanced and the payback time is shortened.

The AV-6H exhaust gas boiler is a water tube boiler for heat recovery, typically after gas engine.

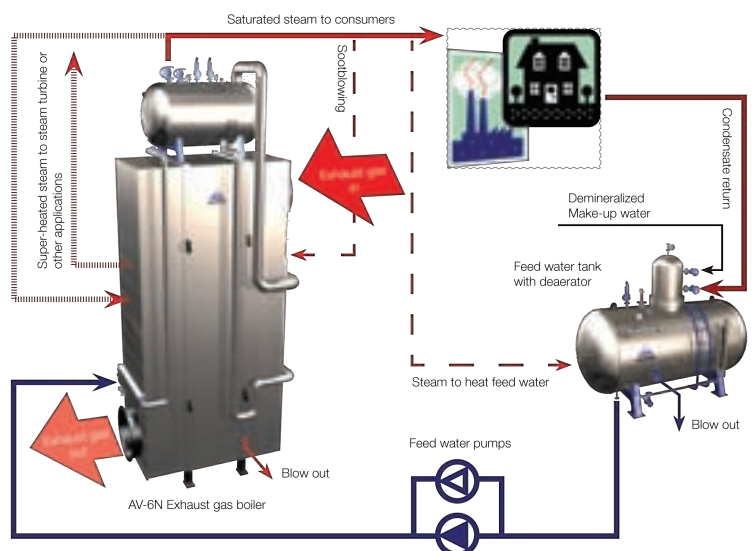
Hot-water heating for free

The AV-6H exhaust gas boiler is a water tube boiler for heat recovery, typically after gas engine.

The boiler comes in a horizontal layout and compact workshop assembled module. It is easy and fast to install while allowing maximized access for convenient maintenance and service.

- High-efficient counterflow design for heating of hot water
- Proven design to ensure effective and fast cleaning of condensed lube oil residuals (in gas engine application)
- Compact and flexible layout with integrated walkable service area
- Low operational weight
- Minimized gas pockets

Basic principle of heat recovery steam system



The information contained herein is correct at the time of issue, but may be subject to change without prior notice