Aalborg AV-6N is a robust, highly efficient water tube boiler, designed to improve the plant’s total efficiency. With Aalborg 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 Aalborg AV-6N exhaust gas boiler for steam application has a natural circulation design offering several operational advantages compared to traditional forced circulation.

**Aalborg AV-6N heat recovery boiler improves overall efficiency**

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

Designed with extended heating surface, Aalborg 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, Aalborg Industries 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 minimised 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 Aalborg 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

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.

Alfa Laval Aalborg’s heat recovery boiler utilise 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.

Hot-water heating for free

The Aalborg 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 maximised 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
- Minimised gas pockets

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

Basic principle of heat recovery steam system

1. Exhaust gas inlet
2. Demineralized make-up water
3. Feed water pumps
4. Feed water
5. Blow out
6. Saturated steam to consumers
7. Steam to heat feed water
8. Feed water with desalinator
9. Condensate return
10. Condensate return