



Høj Temperatur & Lavt Tryk High Temperature & Low Pressure

TT BOILERS



STEAM GENERATOR BOILERS
THERMAL OIL HEATERS
PRESSURISED HOT WATER HEATERS

Geminivej 33, DK-2670 Greve, Copenhagen, Denmark Tel. +45 4817 7599, Fax +45 4817 7699, ttboilers@abco.dk, abco-ttboilers.com

BaCo





High Temperatures Low Pressure

AB&CO · TT BOILERS

The boiler maker AB&CO · TT BOILERS LTD. have since the middle sixties produced industrial boilers and heaters for thermal fluid (hot thermal oil), steam, water and recuperative type (heat recovery).

The boilers are famous for their high reliability and efficiencies, but also for the customised design when required by the special circumstances.

TT BOILERS have a service organisation dealing with service and delivery spare parts throughout the world. A staff of field engineers offers start-up, commissioning, repair, scheduled overhauls etc.

TT BOILERS joined the AB&CO company group in 2000 and in this set-up the Danish owned company group AB&CO · TT BOILERS today design, manufacture and deliver a wide range of customised thermal solution within process heating and heat recovery – the key products being small and medium sized industrial boilers and special heat exchanger for process air, exhaust gas and other special fluids.

Oil replaces Steam and Water

Water and steam are typically used as heat carriers in heating systems. But at high temperatures, water and steam requires a corresponding high operating pressure. In industrial heating systems a high temperature level is often a great advantage, and establishing this with water and steam can be very controversial and expensive.

In thermal fluid heaters a special oil are instead as heat carrier, operating at atmospheric pressure up to 300°C. For comparison water and steam would require a pressure of 85 bar to obtain this temperature. There are several advantages by using thermal fluid compare to e.g. steam systems. The most obvious are:

- High temperatures up to 300°C at atmospheric pressure
- Optional temperature level set-points
- No supply and treatment of boiler feed water
- No heat loss due to hot condensate and flash steam
- No risk of corrosion and no risk of freezing damages.
- Low maintenance costs
- Quiet in operation (no steam stroke and flash steam noise)
- Easy to operate (does not require a steam boiler certified staff)

A correct and safe system design is very important for high temperature systems. This can be ensured by using TT boilers as the contractor for building up the whole system. The engineers of TT Boilers and ABCO have designed and been in charge of several total solutions world-wide.

Design

VTO thermal fluid heaters can be delivered in horizontal execution (with low height), or in vertical execution (occupying limited floor space). They are delivered insulated with stainless steel cover sheets and complete with burner, armatures, instrumentation, safeties and a control panel - and with full documentation including necessary certificates.

The heaters are made with coils made of seamless tubes. The thermal fluid is heated during the flow through the tubes. The heat is transferred to the fluid as radiant heat in the combustion chamber. where the inner cylindrical tube coil and a flat tube coil forms the chamber wall and the bottom respectively. Consequently refractory concrete is avoided. The combustion gasses are hereafter cooled in the outer convection part, as the gasses pass the space between the two tube coils. The thermal design ensures a modest volume of the thermal fluid relative to the size of the heater, and allows unlimited thermal expansion due to the high fluid temperature. The heater and the thermal fluid system in whole are constructed and equipped according DIN 4754. Pressure vessels according AD-Merkblätter (and corresponding ratified EN norms).

As standard the heaters are provided by international recognized and only high quality burner brands - for natural gas, light fuel oil, heavy fuel oil and combinations (dual fuel). Demands for special burner designs can be meet and adapted in the heater design.

All VTO thermal fluid heaters are carefully checked, controlled and function tested prior to dispatch from the workshop.

Beside the standard execution the VTO heaters can be delivered in e.g. following variations:

- Electrical heated, including EX-design if required
- Material in stainless steel
- Smaller complete systems as skid-mounted unit
- Build in a container.



Contact us at : ttboilers@abco.dk

More information at : <u>www.abco-ttboilers.com</u>

DIMENSIONS

TT BOILERS Thermal Oil Heaters, Type VTO





All below values are preliminary only. Each heater is customised to the actual capacity, flow and temperatures. For determine actual dimensions and weight, use the nearest upper capacity compare to your actual demand. Example : 500 kW heater – use the values for heat capacity 600 kW.

Type VTO Capacity [kW]	Max. Heat Capacity [Mcal/h]	A [mm]	B [mm]	C [mm]	D [mm]	E [mm]	F [mm]	Weight Empty [kg]	Weight Service [kg]
70	60	1800	1400	1300	1100	1700	ø150	400	450
140	120	2100	<u>1700</u>	<u>1400</u>	1200	2100	<u>ø150</u>	500	_600
235	200	2500	2000	1600	1300	2100	ø210	650	800
350	300	2800	2300	1700	1400	2200	ø210	1000	1200
600	520	3100	2500	1900	1600	2400	ø355	1700	2200
1,000	860	3900	3300	2200	1800	2600	ø400	2400	3200
1,500	1,300	4300	3700	2500	2000	2800	ø500	3600	4800
2,000	1,720	4800	<u>4100</u>	2600	2100	2900	<u>ø560</u>	4000	_5500_
2,350	2,000	5300	4600	2800	2200	3100	ø560	4300	5800
2,750	2,365	5400	4700	2900	2300	3300	ø630	4500	6600
3,000	2,580	5500	4800	3000	2400	3400	ø630	4800	6900
Up to 10,000	Up to 8,600	On request							



