

TYPE APPROVAL CERTIFICATE

This is to certify:**That the Two drum oil fired shell boiler**with type designation(s)
Aalborg-OL

Issued to

Alfa Laval Aalborg A/S
Aalborg, Denmarkis found to comply with
DNV GL rules for classification – Ships Pt.4 Ch.7 Pressure equipment**Application :****Product(s) approved by this certificate is/are accepted for installation on vessels classed by DNV GL.****Max. design temp.:** 250 deg C / 260 deg C**Design pressure:** 9 bar and 18 bar**Design evaporation:** 12500 Kg/h - 45000 Kg/hIssued at **Høvik** on **2019-02-19**This Certificate is valid until **2024-02-18**.for **DNV GL**DNV GL local station: **Aalborg**Approval Engineer: **Mohsen Mohebbi**

Marianne Spæren Marveng
Head of Section

This Certificate is subject to terms and conditions overleaf. Any significant change in design or construction may render this Certificate invalid. The validity date relates to the Type Approval Certificate and not to the approval of equipment/systems installed.



Job Id: **262.1-010396-3**
Certificate No: **TAP00001RN**

Product description

Vertical shell type boiler with following main data:

Boiler type	Design pressure	Design temperature	Heating surface	Steam output
AOL 12.5 t/h	9 bar	250° C	78 m2	12500 kg/h
AOL 16 t/h	9 bar	250° C	95 m2	16000 kg/h
AOL 20 t/h	9 bar	250° C	110 m2	20000 kg/h
AOL 25 t/h	9 bar	250° C	143 m2	25000 kg/h
AOL 20 t/h	18 bar	250° C / 260° C	110 m2	20000 kg/h
AOL 25 t/h	18 bar	250° C / 260° C	143 m2	25000 kg/h
AOL 30 t/h	18 bar	250° C / 260° C	174 m2	30000 kg/h
AOL 35 t/h	18 bar	250° C / 260° C	190 m2	35000 kg/h
AOL 40 t/h	18 bar	250° C / 260° C	217 m2	40000 kg/h
AOL 45 t/h	18 bar	250° C / 260° C	247 m2	45000 kg/h

Manufacturer address: Alfa Laval Qingdao Ltd.
No.86 Guangzhou Road North
Jiaozhou, Shangdong Prov.266300
Shangdong Province
Peoples Republic of China

Application/Limitation

This Type Approval does not include accessories, instrumentation, control, electrical parts, burner or burner installation.

Foundation evaluation, P&I diagram are not part of this evaluation. The mentioned information should be submitted to DNV GL for review and approval for each delivery.

Each boiler shall be manufactured and tested according to DNV GL Rules Pt.4 Ch.7 and certified by a DNV GL Surveyor.

This type approval is valid for the mentioned boiler types, manufactured in Alfa Laval Qingdao Ltd. Any deviation in design criteria, material specifications or manufacturing location, make this type approval invalid and full documentation of the boiler shall be submitted to DNV GL for case by case approval.

Type Approval documentation

Marking of product

The marking is to show the following particulars:

- the name and domicile of the manufacturer
- the manufacturer's type designation and serial number
- the year of manufacture
- the design pressure
- the working pressure
- Steam capacity
- the design temperature in °C
- the hydraulic test pressure

Periodical assessment

For retention of the Type Approval, a DNV GL Surveyor shall perform periodical assessment after two years (+/- 90 days) and after 3.5 years (+/- 90 days) to verify that the conditions for the approval are complied with. Reference is made to DNVGL-CP-0338.