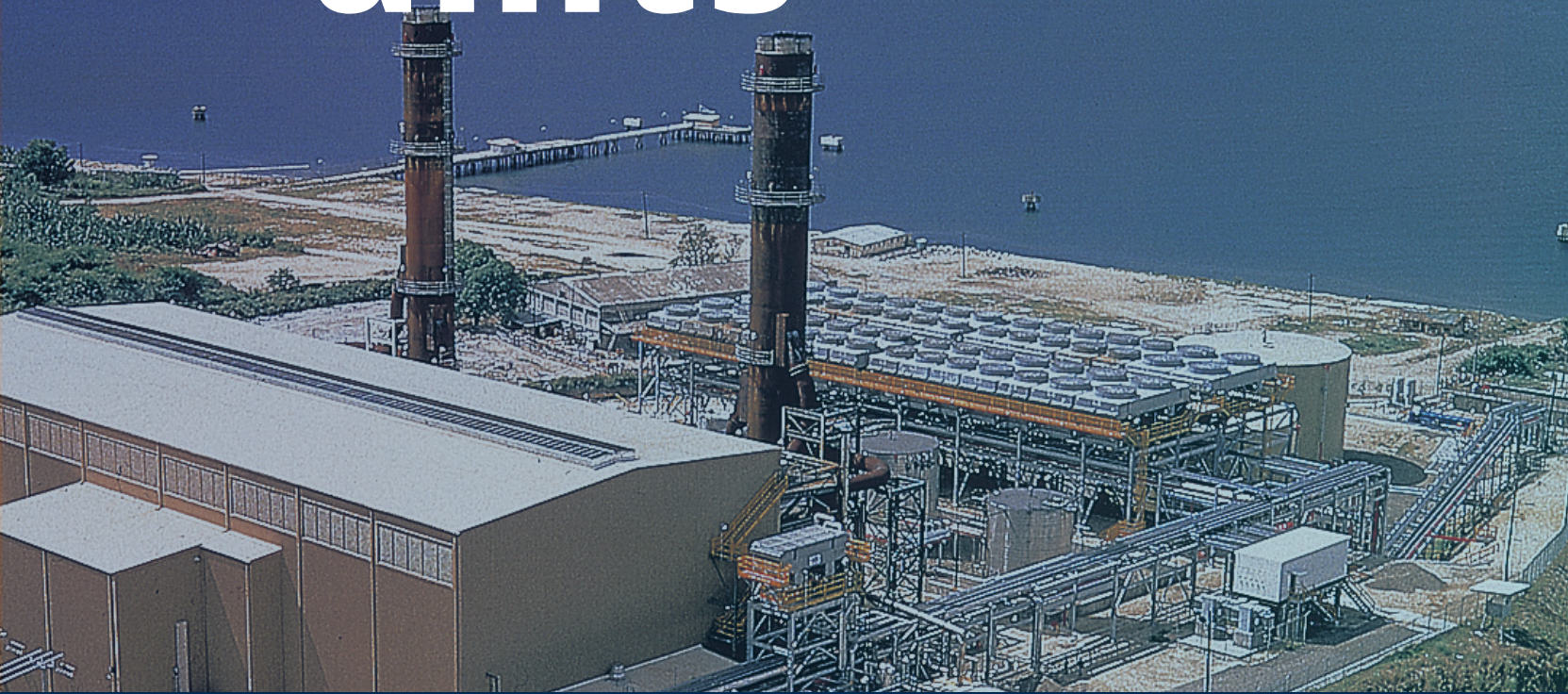


Auramarine fuel supply units



**PIONEERING FUEL SUPPLY
SOLUTIONS FOR POWER
INDUSTRY**

 **AURA
MARINE**

Critical roles in power plant performance

Power plants are an essential asset of today's global infrastructures, generating electricity for the populations they serve. Performing critical fuel supply roles within these plants are Auramarine products.

Solutions to suit every station

Whether the land-based plant or station runs on heavy fuel oil (HFO), light fuel oil (LFO), crude oil, biofuels or gas, Auramarine units are used for pumping, filtering impurities, heating and cooling, viscosity control and many other functions to ensure that fuel reaches the engine correctly pressurised, clean and at the right temperature.

At Auramarine, we are always prepared to go the extra mile to find the best solution for every project. The number and type of functions in a system can be configured to meet each customer's requirements for any engine type or output.

If our standard products do not meet your needs, we are able to draw upon our proven expertise to develop a new reliable solution that exactly meets your fuel supply, fuel-conditioning and lubrication requirements. This extends to elements such as water pumps, and heating or cooling units

Configurations can comprise separate feeder and booster units, a combined feeder-booster unit, a steam-based, thermal oil or electric heating system, LFO cooling unit, gas valve units, flowmeters, filtering or viscosity control and automated heating.

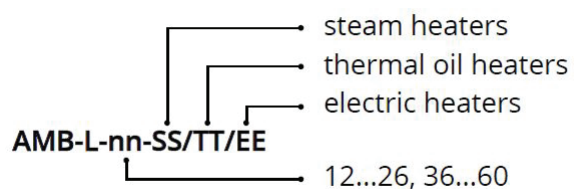
- **Applications: power plants and gensets**
- **Operation: local or remote control from the engine control room (ECR)**
- **Customised, fully adaptable systems for each power plant configuration**

Customer-specific solutions with AMB-L -series



Main features

- Can be extensively customised to meet all fuel system-specific requirements
- Proven reliability and safety from shell- or plate type heaters and separate viscosity and temperature controls
- Fast, easy installation delivered through a compact design and versatile connections
- Easy operation: all important displays and instruments are visible at a glance
- Long and extremely reliable service life from quality components, carefully chosen materials and advanced manufacturing



Sizes:

The L-series is available in eight different size classes, according to the total engine power to be served. The number refers to the engine power in MW and the letters that follow represent the heater type. Several units can be combined to reach the specified power output.

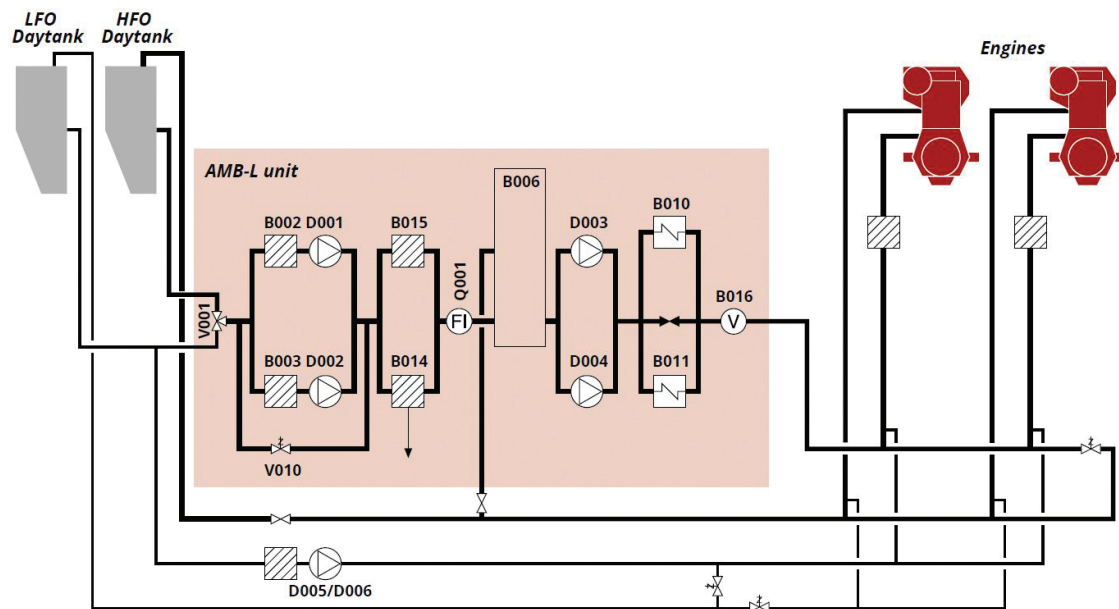
AMB-L 02...26

- Maximum power serviceable: 25MW
- Dimensions, including service space: minimum 3.60m x 2.20m
- This frame size can expand depending on optional additional features

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AMB-L 36...60

- Maximum power serviceable: up to 60MW
- Dimensions, including service space: minimum 5.00m x 2.60m.
- This frame size can expand depending on optional additional features



Typical AMB-L components and options

HFO/LFO 3-way changeover valve, V001 for selecting fuel and flushing the system. The changeover valves and feeder pumps can be ordered as separate units. Manual or remote controlled.

Suction strainers B002, B003 for protecting the pumps.

Feeder pumps, D001, D002 for pressurising the system with fresh fuel according to the consumption of the engines, equipped with an automatic stand-by function. Magnetic or mechanical couplings. If a separate feeder unit is ordered then the booster unit does not include feeder pumps.

Pressure control valve V010 for maintaining constant system pressure at different loads. With or without bypass.

Automatic filter with bypass filter, B014, B015 for removing impurities from fuel oil and indication of failures in purification system, equipped with automatic cleaning and pressure difference indication. Filtration degree according to engine maker's recommendation or customer's requirement.

Flow meter Q001 for indicating fuel consumption. With local totalizer and output signal. Available as mass or volumetric type.

Mixing tank B006 for mixing the return fuel from the engines with fresh fuel and for compensating for temperature and pressure changes. Manual or automatic deaeration.

Booster pumps D003, D004 for further pressurising and circulating fuel to the engines, equipped with an automatic stand-by function. If needed, an own circulating pump can be delivered for each engine. Magnetic or mechanical couplings.

Fuel heaters B010, B011 for heating the fuel oil to injection viscosity, controlled via viscometer. Steam heating (SS), Thermal oil heating (TT) or Electric heating (EE).

Viscosity control system B016 for measuring the fuel viscosity and controlling the power of the heaters to maintain constant injection viscosity, secured by a temperature controller.

One or two LFO pumps D005, D006 for a separate LFO supply.

Feeder unit (AMF)

The Auramarine feeder unit (AMF) is designed to supply fuel oil to engines or HFO booster units. The unit has two main pumps, an operating pump and a standby pump. The standby pump is the reserve pump for service periods. If needed, it can be delivered as a separate module.



Lubrication unit

Auramarine's Lubrication Oil Units are used for pumping, filtering, and when necessary for cooling of the lubrication oil. The units are easy to use and can be tailored to meet the lubrication oil handling needs of each customer's system configuration.



HT-water preheating unit (APU)

APUs are typically used to keep the engine block warm for easy start-ups and to avoid heat tension in the engine.

Auramarine preheating units (APUs) heat the water used in an engine's high temperature (HT)-water system. The heat is generated via steam or burning thermal oil. APUs are equipped with an associated HT-water circulation pump, which provides a continuous flow of heated water.

The water temperature is kept constant by a built-in self-actuating thermostatic controller located in the unit. APUs can be remotely-controlled or operated from a control cabinet mounted on the unit.

Additional pressure gauges and a thermometer are available as optional extras.





Lifecycle services

Auramarine's mission is to ensure the operational efficiency of your fuel system throughout its lifetime. We are by your side from design and delivery to regular maintenance and the latest retrofits and modernisation solutions once in service.

Every aspect of a power plant's fuel supply system is crucial for maximising its operational efficiency and combustion system health. The technical integrity of this system, achieved through diligent planning and preparation, helps keep your operational risks and costs at the lowest possible levels. It also ensures that your fuel system meets its intended requirements under pre-defined operating conditions.

From design to optimisation

- essential installation support for fuel supply unit
- commissioning fuel supply system
- inspections and preventative maintenance
- on demand maintenance and repairs
- rapid, worldwide delivery of high-quality spare parts
- spare parts kits for planned maintenance
- fuel supply performance optimisation
- upgrades, modernisations and retrofits
- training

Spares availability

The rapid, global availability of fuel system spares for the right price is essential. Auramarine offers a range of flexible options for simple and efficient spare parts administration:

On demand spare parts delivery

Original spare parts are guaranteed to perfectly fit your equipment and ensure peak performance. Scheduling can be critical; therefore we only use long-term trusted logistics partners.

Modernisation packages

Auramarine's fuel supply units are renowned for their durability and long service life. Later on in their lifecycle, you can upgrade your equipment to maintain its peak performance. This could typically include cooler/heater installations, automation advances or fuel change-over solutions. Upgrade packages improve system longevity, reliability, fuel efficiency, engine performance and environmental protection. They can be delivered in parts or as modular solutions, with or without installation services.



Global spares and maintenance support

Auramarine spare parts, aftersales services and technical support are globally available through our main hubs in Finland, Shanghai and Hong Kong. **A global representative network is at your service in over 25 countries.**

Service and maintenance calls

Auramarine service engineers are experienced and service-minded, and available globally at short notice. If necessary, they can also recommend any further steps that could be taken to improve your fuel system's operational efficiency.

Trainings

Auramarine service training ensures that engine-room personnel are familiar with equipment features and their proper use, and that proactive maintenance is correctly carried out at the right time.



A whole company at your service

Auramarine is known for its expertise and response to customer needs. We believe in collaboration with customers, with suppliers and authorities, and within our company. This enables high-quality, technically-precise pre-investigations for dockings, accurate component identification, rapid production of technical drawings, 3D-design to define elements such as space requirements for retrofits, well-proven system testing, adjusting and programming procedures and seamless logistics. Our work specifications are clear, which means a smooth and cost-efficient process for all parties.

Auramarine is your trusted fuel systems expert for the marine and power industries. Our proud heritage stems from the company's foundation in Finland in the early 1970s. Since then we have delivered over 14,500 robust and reliable auxiliary systems to our customers all over the world, continuously aiming for superior service and customer value.

WE ARE THE PIONEERS IN FUEL SYSTEMS.

(ID 587113)

AURAMARINE LTD

P.O. Box 849 FI-20101 Turku FINLAND

+358 20 486 5030

+358 20 486 6003 (24/7 Service)

sales@auramarine.com

after.sales@auramarine.com

www.auramarine.com

