# **engie**

## ENGIE Axima's expertise for surface navy vessels



#### AC Room / NBC Systems:

Design fully integrated to ship general arrangement (G.A.) thanks to compact coordination of ducting, piping and electrical networks, providing easy/smart maintenance areas, All equipment provided is low-noise. shock and vibration proof AC rooms incorporate NBC air filtration units and the NBC pressurization system in a compact module accessible from outside the vessel



#### Electrical switch board and control panel:

**ENGIE** Axima manufactures custom tailor made switchboard and control panel with which you will be able to gain a quick and comprehensive overview of different system on board. Equipments are designed under ships constraints conditions (shock resistant. low vibrations and noise signature, compact volume, power supply AC/DC, EMC...). Equipments ensure safe operation.



#### Air Inlets / Outlets:

Integration of low noise, high efficiency sea-mist eliminators and louvers to preserve the downstream HVAC installation. Outdoor inlet and outlet louvers are designed with low Radar Cross Section (RCS).



#### Radar room:

Supply of dedicated air conditioners to ensure room pressurization and highly accurate air temperature and humidity control with a high level of



#### Superstructure CBRN pre-wetting system:

Supply of superstructure NRBC pre-wetting system for bulkhead and deck and area not belonging to citadel protection.



#### **Helicopter landing Area:**

Supply of dedicated firefighting system for helicopter landing area and bunker stations through high pressure monitor unit and foam tank unit.



#### Helicopter or vehicle Hangar:

Supply of dedicated ventilation and AC Systems in explosion proof environments in accordance with specific naval health and safety regulations. Supply of Hydro fire extinguishing system (HiFex) dedicated for Hangar compartments HiFex system is a low-pressure water mist system with foam liquid addition.



#### Operational rooms:

HVAC design and equipment adapted to the special requirements of ships (specific internal heat loads, redundancy. etc.) with dedicated shock and vibration proof air conditioners in compact design. Firefighting system is designed and adapted to the special requirements of the compartments (CO2, NOVEC, HP or LP water mist system).



Supply of dedicated ventilation and AC System designed for all galley equipment type, for all configuration and arrangement of Galley. The system is also designed in accordance with international naval health. and safety regulations. Supply of dedicated firefighting system (HiFex) based on CO2 and chemical fire extinguishing agent for galley typical area (Deep fat Fryers, Cooking range, Galley hoods, Exhaust ducts...) supply of dedicated refrigerating units for galley equipment.



### Refrigerating rooms:

Supply of dedicated refrigerating plants and evaporators specially designed for optimized performance and hygiene. The refrigerating plant secures an adequate supply of provisions for crew on short and long terms operations. Refrigerating plants and evaporators are designed under ship constraints conditions (shock resistant, low vibrations and noise signature, compact volume, power supply AC/DC, redundancy...). The system feeds the standard refrigerating room as well as refrigerators in the galley area. Use of environmental friendly refrigerant.



#### Chiller water plant room:

Supply of optimized chiller water units adapted for necessary performance on board. The chilled water is used of cooling HVAC systems and electronic/weapon system. Use of environmental friendly refrigerant. Exclusive and special design for condensers/receivers and evaporators. Chilled water as well as seawater pumps are integrated on the unit. Chilled water plants are designed under ships constraints requirements (compact volume, power supply, redundancuy, EMC, vibrations resistant...).



Individual or collective low noise AC systems for crew comfort in accordance with international naval health and safety regulations. Firefighting systems design is done with international safety regulations.

**Accommodations compartments:** 



#### Control system:

Dedicated or integrated HVAC AS (Automation System) to run the installations, optimize their energy efficiency and contribute to safety and maintenance management.



#### Machinery compartments:

AC/Ventilation and firefighting systems are designed and fully adapted to all machinery equipment and arrangements. Supply of dedicated chilled water or sea water coolers for NRBC requirements. Design is done in accordance with international design and safety regulations. Supply of dedicated firefighting system for sound enclosures of diesel engines and gas turbine.



#### Ammunitions rooms:

Supply of dedicated ventilation and AC systems to ensure highly accurate air temperature and humidity control in explosion proof environment in accordance with specific naval regulations. Supply of dedicated ammunition spray system for cooling off bulkhead and ceiling in case of fire in adjacent compartments.