

# PUMPS FOR NAVY VESSELS



**Making Progress Together**

 **Ensival Moret**  
A Moret Industries Company



[www.ensival-moret.com](http://www.ensival-moret.com)



# A GLOBAL NAVY PROMISE

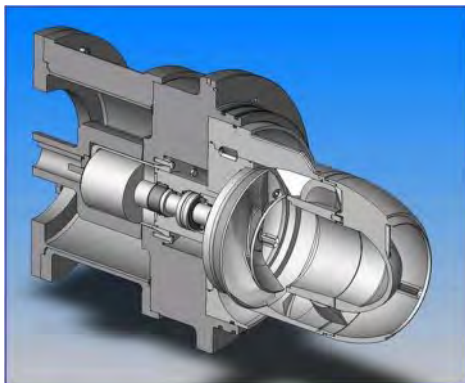
With over 70 years of pump design and manufacturing experience, Ensival Moret Fapmo has become a global supplier of choice in the Navy.

Today, thanks to constant collaboration with its customers, Ensival Moret Fapmo is able to guarantee a high level of innovation and prototype creation for all the projects submitted to them.

The force of experience enables us to meet all requirements under any circumstances, in order to give our customers the most appropriate solutions.

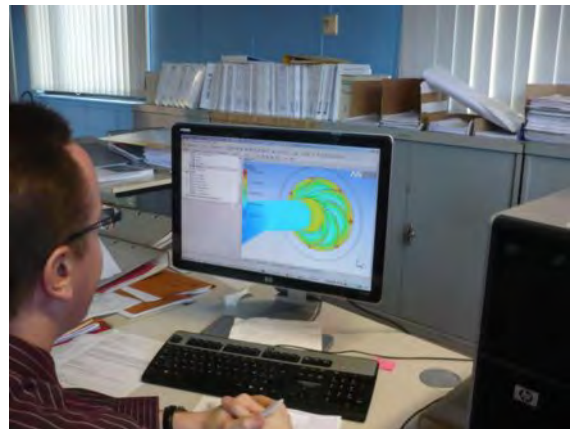
With pumps flawlessly operating, we have proven our superior technical solutions, pump reliability and high efficiency. We supply one of the most critical components in navy vessels.

Ensival Moret Fapmo takes responsibility for the complete pump system. Its highly engineered design, quality manufacturing and focused customer support lead to minimum pump system life cycle cost.



## **/ Continuous investment in R&D tools**

Experienced engineers utilize the latest software (CFX, Solid Works, Solid Works Simulation, Flow simulation, Pro engineer, AutoCAD) to optimize pump and system design with computational fluid dynamics simulations (backed by empirical tests), static and dynamic stress and thermal analyses.





# A COMPLETE PACKAGE SOLUTION

**ENSIVAL MORET FAPMO offers pumps and fluid handling for all clear and slurry liquids on board Navy ships**

## **/ Sub-surface ships:**



### Main characteristics:

- Impact resistance up to 120G.
- Casting are made of materials such as bronze, aluminium bronze, stainless steel, Duplex and Super Duplex, Nickel alloys and Titanium
- Flows up to: 10 000 m<sup>3</sup>/h; Head up to: 120 m.
- Pump Applications: Fresh water main feed, Desalination unit, Drying, Fresh/Sea water Cooling, Condenser cooling, Bilge, Draining, Heeling, Extraction/Circulation, Hydro ejector, Diesel fuel, Ballast Refrigerator, Tap water supply, Condenser cooling, Ship fuel.
- Liquid service: Sea water, Fresh water, Waste water, Grey water, Gas oil, Demineralised water, Kerosene.
- Construction: Pumps with mechanical seal, magnetic coupling or canned motor.

## **/ Sub-surface ships:**



### Main characteristics:

- Impact resistance up to 120G.
- Casting are made of materials such as bronze, aluminium bronze, stainless steel, Duplex and Super Duplex, Nickel alloys and Titanium
- Flow up to 800 m<sup>3</sup>/h
- Pump Applications: Condenser cooling, Water transfer, Desalination unit extraction, Shaft lubrication, Bilge, Sewage, Stripping, Cooling, Circulation, Torpedo Tubes.
- Liquid service : Sea water, Fresh water, Grey water, Distilled water, Oil, Bilge water
- High level of discretion: low noise, vibration and pressure fluctuation level
- Construction: Pumps with mechanical seal, magnetic coupling or canned motor.



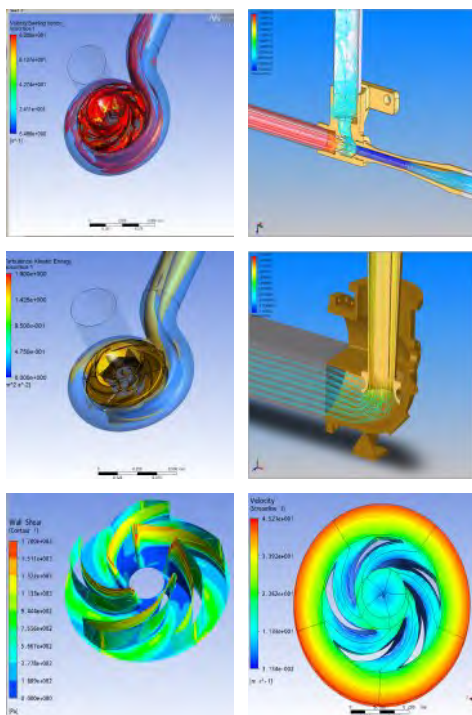
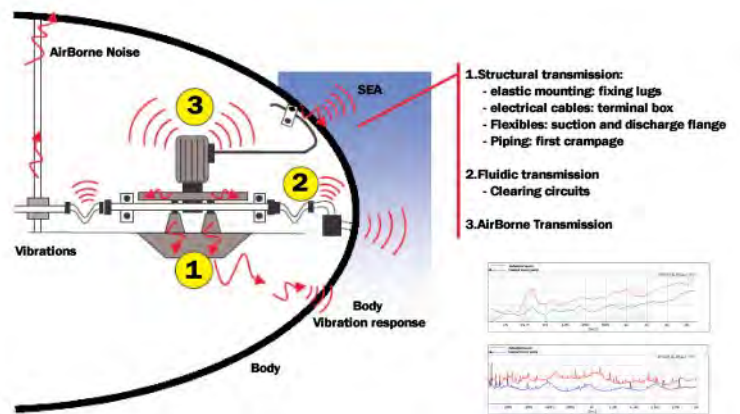
# CRITERIA AND SPECIFICATIONS

Thanks to constant collaboration with famous shipyards such as DCNS, NAVANTIA, KOCKUMS AB, BAE SYSTEMS, we have been providing standard navy pumps, but moreover we are specialized in providing tailor made pumps for specific projects. We have developed our own performance prediction acoustic tools in collaboration with French Universities laboratories.

CAD software enable us to meet criteria and specifications to elaborate the most reliable prototypes prior production.

We perform all requirement needed under any specific navy Standards.

## Vibration, Airborne Noise and Pressure Fluctuation tests:



- We have a fully equipped test bench unit adaptable to all pump in an acoustic isolated bunker.

- Acoustic measurements according to specific navy Standards are performed

- Pressure fluctuations measurements are available using liquid anechoic termination (TAL)

- Endurance test loops are available

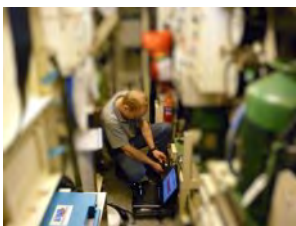
- Shock tests can be performed according to MILS901D if required.



# MINIMUM MAINTENANCE



## **/ Maximum Serviceability**



Ensival Moret Fapmo knows your vessels need to be in a constant state of readiness wherever you are and while our pumps

are designed and built for long service life, we recognize that emergencies do occur— usually at the most inconvenient times. That’s why we strive to provide rapid and reliable support: so that you can avoid the headaches and hassles that come with costly downtime.

That support begins with Ensival Moret Fapmo working with you to make sure that you’re up-to-date on technical data and documentation. Indeed can provide diagnosis on board in order to define accurately the maintenance operations needed.

We offers a full-line of after market services that include:

- on board diagnosis
- repairs & Rebuilds
- complete Refurbishment



Our internal and field staff has the training and experience to help you determine the best solution depending on your specific pump application needs.

Our goal is to balance the cost impact of each repair without compromising the operational objectives of the pump.

# Making Progress Together



**ENSIVAL MORET FAPMO's facility is fully dedicated to providing pump systems for your navy.**

## **/ Ensival Moret in the world:**



**Our dedicated commercial team will be pleased to answer your information requests and inquiries:**

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## **/ Main references:**

**DCNS**



**ST Marine**  
A company of ST Engineering



**BAE SYSTEMS**

**FINCANTIERI**



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