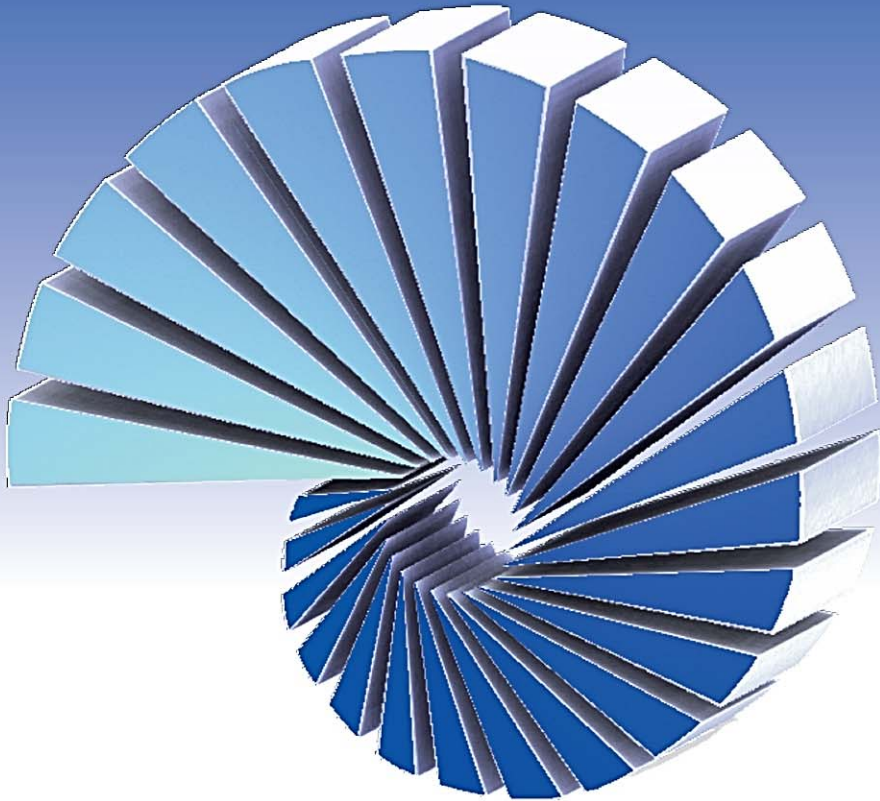


PUMPS FOR NAVY VESSELS



FAPMO



<http://fapmo.com>



A Global Navy Promise

/ Quality and reliability through Experience

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

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

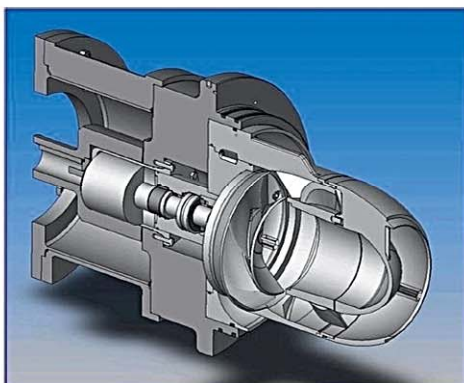
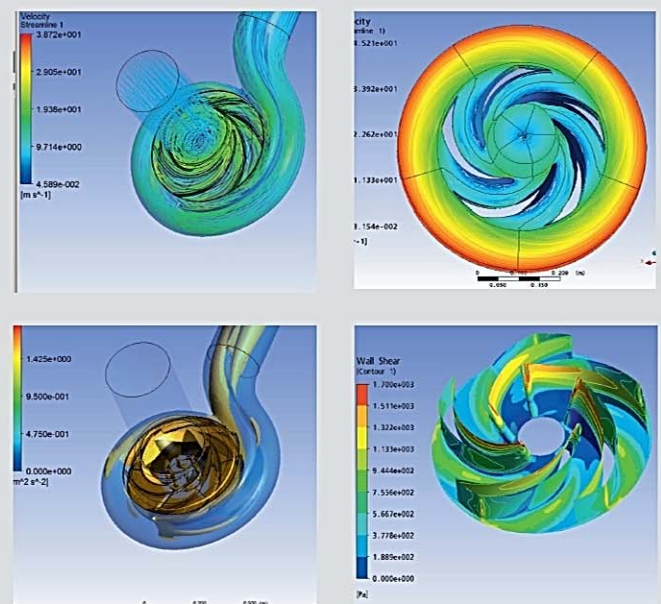
The force of experience enables us to meet all requirements under any circumstances, in order to give our customers the most appropriate solutions.

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.

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.

/ Fapmo continuously invests in R&D tools:

Experienced engineers utilize the latest softwares to optimize pump and system design with computational fluid dynamics simulations (backed by empirical tests), static and dynamic stress and thermal analyses.





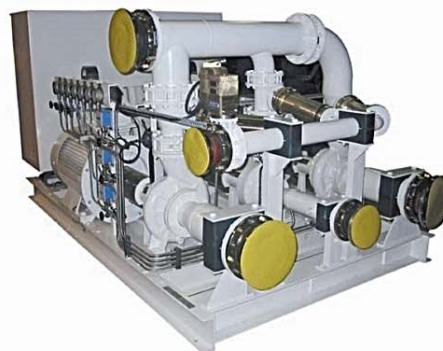
■ A complete package solution

Fapmo offers pumps and fluid handling for all clear and slurry liquids on board Navy ships

/ 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 m³/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 m³/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.





■ Minimum Maintenance

/ Maximum Serviceability

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 the 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 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 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 pumps.



Fapmo facility is fully dedicated to the manufacture and provision of pump systems for Naval application

/ Standards

Design :	NF EN ISO 5199
Test :	MIL STD 740-1/2/3 MIL STD 167-1 NF EN ISO 9906
Material :	
Titanium :	ASTM B367/ B348
Copper alloy :	BS EN 1982 DEF STAN 02 747
Copper Nickel chrome :	DEF STAN 02 824
Stainless steel :	EN 10213 BS EN 10088-1

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

FAPMO

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Email: fapmo@fapmo.com

/ Main references:

DCNS

BAE SYSTEMS



SAAB

TA
TechnicAtome



Mazagon Dock Limited



Lloyd's Register
LRQA

Johnson Controls

HYUNDAI
HEAVY INDUSTRIES

DSME



FINCANTIERI



LARSEN & TOUBRO

<http://fapmo.com>





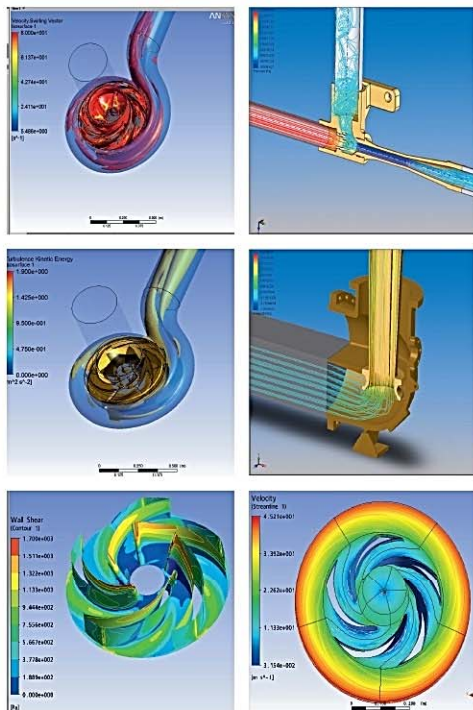
Criteria and specifications

/ Fapmo: A partner on your projects

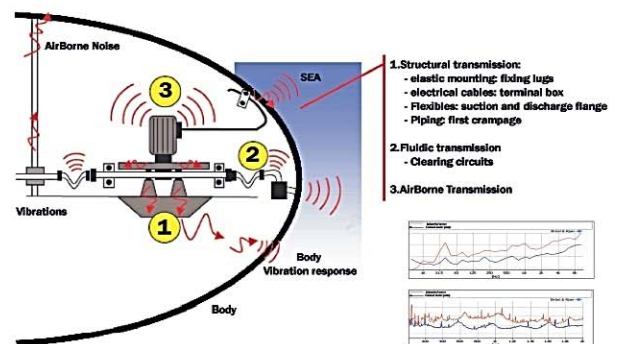
Thanks to constant collaboration with famous shipyards such as DCNS, NAVANTIA, KOCKUMS AB, BAE SYSTEMS, we have been providing standard navy pumps, but moreover we are specialized in providing tailor made pumps for specific projects. We have developed our own performance prediction acoustic tools in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

