

DESSALEMENT



Making Progress Together



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Ensival Moret Fapmo Pumps

/ With over 85 years of pump design and manufacturing experience, Ensival Moret Fapmo has become a global supplier of choice in the navy and desalination.

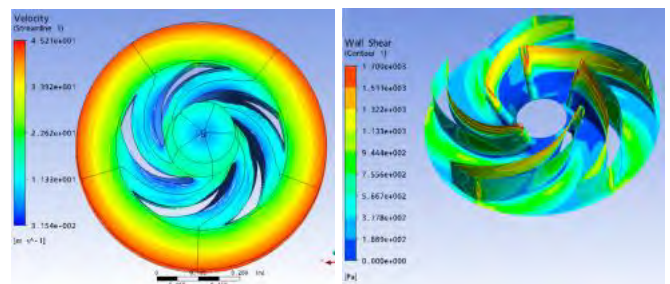
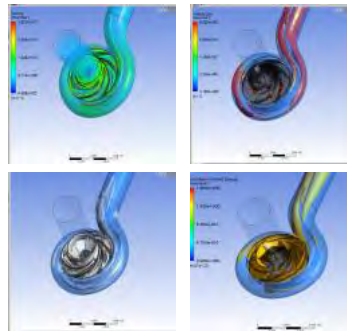
/ Today, thanks to constant collaboration with its customers, Ensival Moret Fapmo is able to guarantee a high level of technical assistance for all the projects submitted to them. The force of experience enables Ensival Moret Fapmo to meet all requirements under any circumstances, in order to give its customers the most appropriate solutions.

/ With pumps flawlessly operating, Ensival Moret Fapmo has proven its superior technical solutions, pump reliability and high efficiency. Ensival Moret Fapmo supplies one of the most critical components in desalination plants.

/ 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.

/ Ensival Moret 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.





Reverse Osmosis Desalination

/ With its inherently simple operation and design, the reverse osmosis (RO) process is often the choice for clean municipal and commercial water supply. The comprehensive line of Ensival Moret Fapmo pump products featuring high efficiency and advanced material technology can be a major factor in achieving success in pure water creation. Detailed systems knowledge along with a full menu of technical support and services is available wherever and whenever needed.

/ Water Source Intake Pumps:

/ One of the toughest applications in desalination, these pumps require to be corrosion resistant. They must also have the versatility to fit various intake methods.

/ High Pressure Membrane Feed Pumps

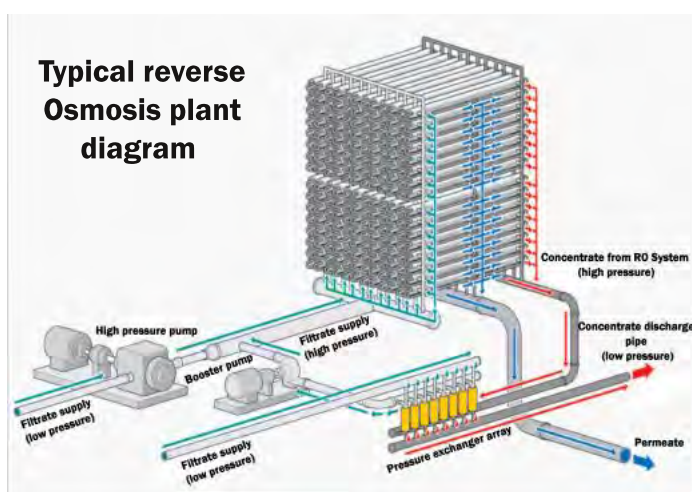
/ The heart of the RO system is the high pressure membrane feed pump. Ensival Moret Fapmo offers high efficiency membrane feed pumps, all utilizing the latest technology, including Computation Fluid Dynamics, to provide best system performance. These critical pumps are manufactured in corrosion resistant materials to ensure long performance life without degradation. Whether the design is horizontal split case or ring section type, Ensival Moret Fapmo has the pump for this service.

/ Auxiliary Services:

- Chemical dosing
- Brine Disposal
- Brine transfer
- Product transfer
- Booster pumps
- Filter feed
- Filter backwash

/ Operating capabilities:

- Flow: up to 6000 m³/h
- Head: up to 1100 m
- Pressure: around 100 bar





Multi-Effect-Distillation Desalination

With the promises of low primary energy consumption, low heat transfer area and high gain ratio, multi effect distillation (MED) is experiencing renewed interest and growth.

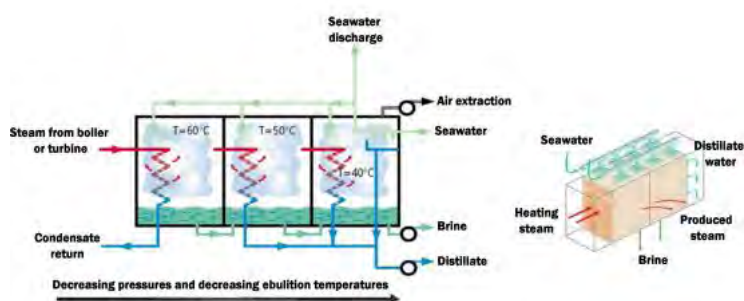
Often coupled with a vapor compression cycle, MED boasts higher heat efficiency and more economical operation. MED significantly reduces two of the thermal desalination's most perplexing and costly issues: calcium carbonate scaling and corrosion.

/ Applications:

- Sea water intake,
- Process water pretreatment,
- Filter back wash,
- Feed,
- Brine transfer and disposal,
- Product transfer,
- Chemical transfer,
- Power generation and co-generation.



/ Typical Multi-Effect-Distillation Plant Diagram



/ Operating capabilities:

- Flow: up to 12 000 m³/h
- Head: up to 150 m





Materials

Ensival Moret Fapmo pumps are used in many services that require both corrosion and abrasion resistance. This is why we have chosen Duplex Stainless Steel as a reliable material for our pumps.

Our standards are ASTM A 351 CD4MCu, ASTM A 890 Gr-1A and DIN 1.4517. This range of materials covers the whole range of services in desalination applications. This range of material is completed by stronger Duplex (ASTM A 890 Gr-3A), Super Duplex (ASTM A 890 Gr-5A, ASTM A 890 Gr-6A), as well as typical Stainless Steel (AISI 316L) for non-critical applications in terms of corrosion (brackish water, product water)

/ European foundry:

All Ensival Moret Fapmo pumps' casting parts are produced in Europe. Our main foundries are located in France (INOXYDA, BOUTTE, HAUTE-SAMBRE).

/ Famous suppliers:

Ensival Moret Fapmo supplies its critical components from famous and serious companies: SIEMENS, ABB, HYOSUNG (Electrical motors), JOHN CRANE, BURGMANN (Mechanical seals, Couplings).



/ Chemical Analysis:

Name	C	Cr	Ni	Mo	Mn	Cu	Si	N	PREN (%Cr + 3,3x%Mo + 16x%N)
316L (AISI)	≤ 0,03	16 -18	10 - 14	2 - 3	≤ 2,00	-	≤ 1,50	-	22,6 -27,9
ASTM A890 Gr-1A	≤ 0,04	24,5 - 26,5	4,75 - 6,00	1,75 - 2,25	≤ 1,00	2,75 - 3,25	≤ 1,50	-	30,725 - 34,725
ASTM A890 Gr-3A	≤ 0,06	24 - 27	4 - 6,00	1,75 - 2,5	≤ 1,00	-	≤ 0,04	0,15 - 0,25	39,6 - 50,8
ASTM A890 Gr-5A	≤ 0,03	24 -26	6,00 - 8,00	4 ,00 - 5,00	≤ 1,50	-	≤ 1,00	0,10 - 0,30	38,8 - 47,3
ASTM A890 Gr-6A	≤ 0,03	24 - 26	6,5 - 8,5	3,00 - 4,00	≤ 1,00	0,5 -1,00	≤	0,20 - 0,30	37,1 - 44

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Ensival Moret Fapmo's facility is fully dedicated to providing pump systems for your desalination plants

/ Ensival Moret in the world:



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

**ENSIVAL MORET FAPMO
35, 37 rue Roger Salengro
BP 59 - 62230 OUTREAU - FRANCE**

**Phone: +33 (0) 321 100 121
Fax: +33 (0) 321 804 688**

fapmo@em-pumps.com

/ Main references:



www.ensival-moret.com

Ensival Moret
A Moret Industries Company