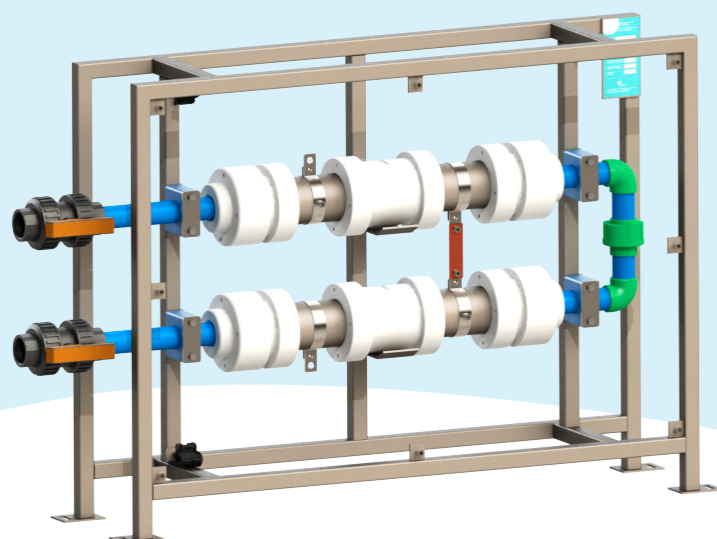


Chloromar[®]

Sodium hypochlorite generators by electrolysis

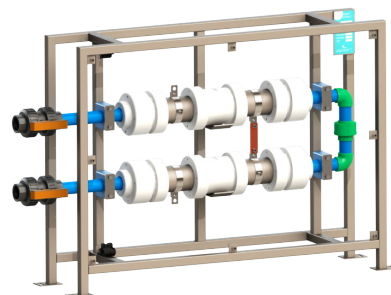
C A T A L O G U E



Product introduction

In **Naval Torreiro** we have developed the Chloromar® equipment, a highly effective solution to prevent algae, mollusks and crustaceans fouling in salt water circuits for application in the marine, industrial or terrestrial sector. We are endorsed by the satisfaction of all our customers throughout the years we have been producing this equipment.

Chloromar® is a safe and easy to maintain disinfection system that works by producing sodium hypochlorite using seawater as raw material. It avoids the use of chlorine gas and the inconvenience of its storage and handling. The operation of the equipment is simple and economical, in addition to being healthier and more environmentally friendly than other systems.



Economical

80% savings in maintenance

Reduces corrosion in heat exchangers and pipelines



Convenient

Scalable system

Simple operation, just turn on the equipment and adjust the output



Safer

The risk of chemicals and chlorine gas is avoided.



Healthier

Uses seawater as a raw material, instead of harmful products



Eco

Environmentally friendly, totally free of pollutants

There are currently **3 different lines** of Chloromar®, which **differ in their level of automation and control**. Within these lines are all the different models that we have available. Their main characteristics are, among others, the following:

Standard

- They are the simplest models, the absence of automation system facilitates its operability and requires less knowledge for its control.
- The most economical equipment.
- Generally smaller electrical panels.

AFS-BASIC

- Range with incorporation of PLC in the electrical panel.
- Possibility to automate production cycles under programming.
- More accurate measuring equipment.
- Possibility of incorporating voltage monitoring of each cell.
- Remote connections

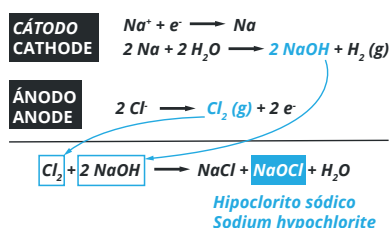
AFS-SMART

- Including all the features of the AFS-BASIC range.
- A specific touch screen display for industrial applications is incorporated.
- On-screen display of the current production and cell status.
- Recording and visual control of the different warnings and alarms that may occur during operation.

General information

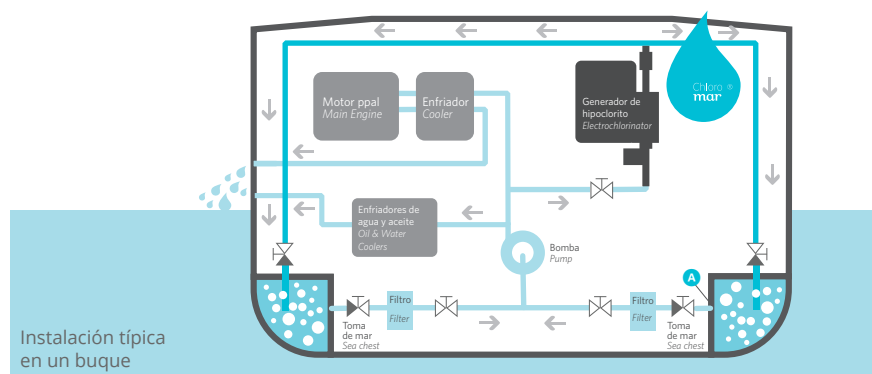
How it works

Chloromar® is a sodium hypochlorite generator based on seawater electrolysis. The generator cell operates by a simple by-pass system, feeding from the main circuit of the installation. The hypochlorite generation is constant once the start-up procedure has been completed.

REACCIONES DE LA ELECTRÓLISIS
ELECTROLYSIS REACTIONS

Maintenance

By following a few simple inspection and cleaning steps, the equipment will operate for several years without any costs other than electricity consumption. In our experience, it takes an average of five years for a well-maintained unit to need an electrode replacement. So much so that they are guaranteed for three years.



The perfect solution

The **Chloromar®** system adapts to the needs of each installation. A wide variety of models are available to meet different production needs.

Moreover, as it is a modular and scalable system, the perfect solution can be designed for each case. It is only necessary to know the type of installation and its characteristics.

Applications

Chloromar® adapts to different types of installations:

- Vessels and oil platforms.
- Refrigeration and fish processing plants.
- Swimming pools and sports facilities.
- Wastewater treatment plants.
- Industrial plants and all types of seawater installations.

Models

All models available in the different lines

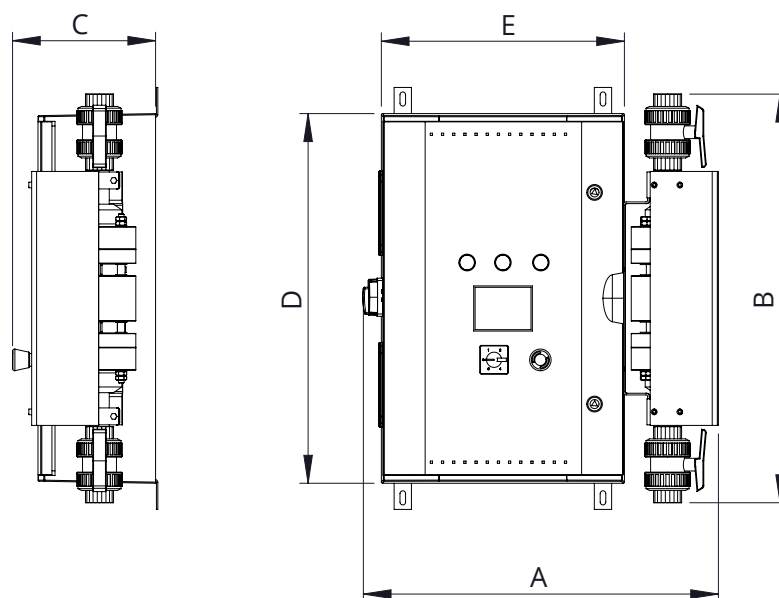
		Cells	Treated water 0,5 ppm (m³/h)	Treated water 0,3 ppm (m³/h)	Production ClONa (g/h)	Concentration * (ppm)	Flow ** (m³/h)	Power (kW)
Chloromar®	125	1x CNB-28	125	210	62,5	12,5	5	0,42
	175	1x CNB-39	175	290	87,5	17,5	5	0,59
	250	1x CNR-55	250	420	125	25	5	0,83
	350	1x CNR-77	350	580	175	35	5	1,12
	500	2x CNR-55	500	830	250	50	5	1,65
	700	2x CNR-77	700	1160	350	70	5	2,31
	1000	3x CNR-77	1000	1670	500	100	5	3,47
	1500	4x CNR-77	1500	2500	750	150	5	4,62
	2000	6x CNR-77	2000	3300	1000	200	5	6,93

* Concentration of discharge of generator

** Water flow across the generator

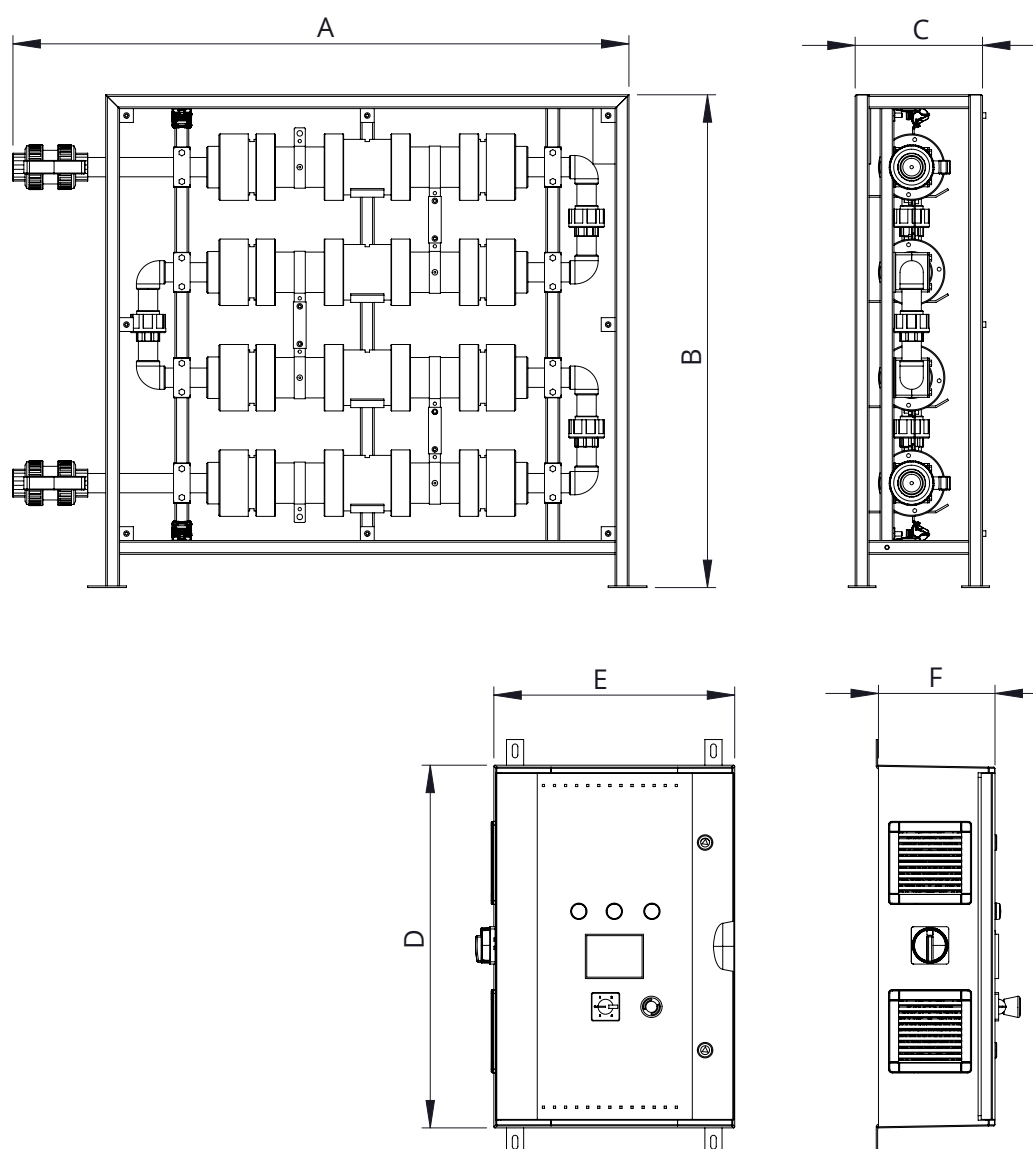
Dimensions

Single-cell equipment



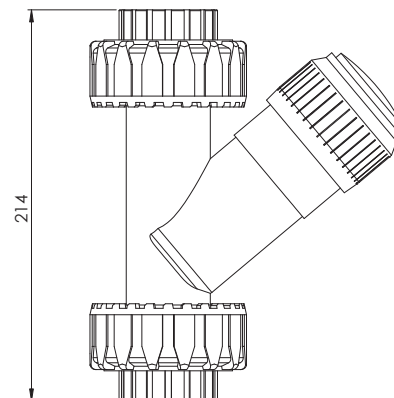
		Ref.	Cells	A (mm)	B (mm)	C (mm)	D (mm)	E (mm)
125	Chloromar 125	PT110801EQP0005	1x CNB-28	595	700	245	504	434
	AFS-125 BASIC	PCAFS125B					654	434
	AFS-125 SMART	PCAFS125S		776		354	806	616
175	Chloromar 175	PT110801EQP0014	1x CNB-39	595	780	245	654	543
	AFS-175 BASIC	PCAFS175B					806	616
	AFS-175 SMART	PCAFS175S		776		354	806	616
250	Chloromar 250	PT110801EQP0013	1x CNR-55	595	864	245	654	543
	AFS-250 BASIC	PCAFS250B					806	616
	AFS-250 SMART	PCAFS250S		776		354	806	616
350	Chloromar 350	PT110801EQP011	1x CNR-77	595	960	245	654	543
	AFS-350 BASIC	PCAFS350B					806	616
	AFS-350 SMART	PCAFS350S		776		354	806	616

Multi-cell equipment

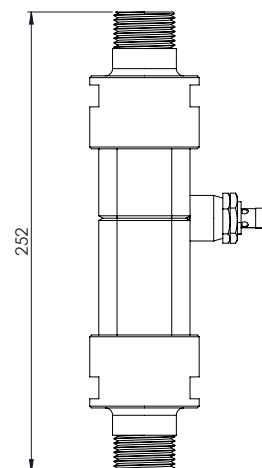
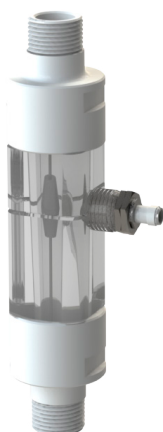


		Ref.	Cells	A (mm)	B (mm)	C (mm)	D (mm)	E (mm)	F (mm)
500	Chloromar 500	PT885CNR55	2x CNR-55	970	700	230	806	616	354
	AFS-500 BASIC	PCAFS500B					1056	810	390
	AFS-500 SMART	PCAFS500S							
700	Chloromar 700	PT887CNR77	2x CNR-77	1220	890		806	616	354
	AFS-700 BASIC	PCAFS700B					1056	810	390
	AFS-700 SMART	PCAFS700S							
1000	Chloromar 1000	PT8810CNR77	3x CNR-77	1115	700		806	616	354
	AFS-1000 BASIC	PCAFS1000B					1056	810	390
	AFS-1000 SMART	PCAFS1000S							
1500	Chloromar 1500	PT8815CNR77	4x CNR-77	1980	700		806	616	354
	AFS-1500 BASIC	PCAFS1500B					1056	810	390
	AFS-1500 SMART	PCAFS1500S							
2000	Chloromar 2000	PT8820CNR77	6x CNR-77				806	616	354
	AFS-2000 BASIC	PCAFS2000B					1056	810	390
	AFS-2000 SMART	PCAFS2000S							

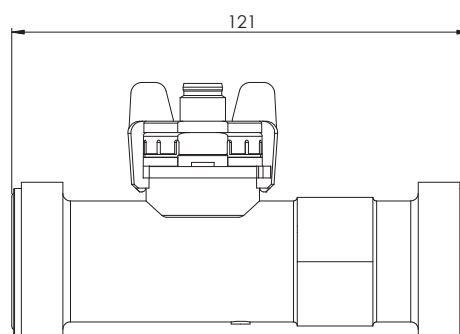
Other components



Descripción	Ref.
Filter Y PVC 1 G1/4"	PCF1PRVUFT114E



Description	Ref.
(Standard models) Flowmeter Chloromar 500 l/h	PT110802PIE0061



Descripción	Ref.
(AFS models) Vortex flowmeter SV8050	PC121523215