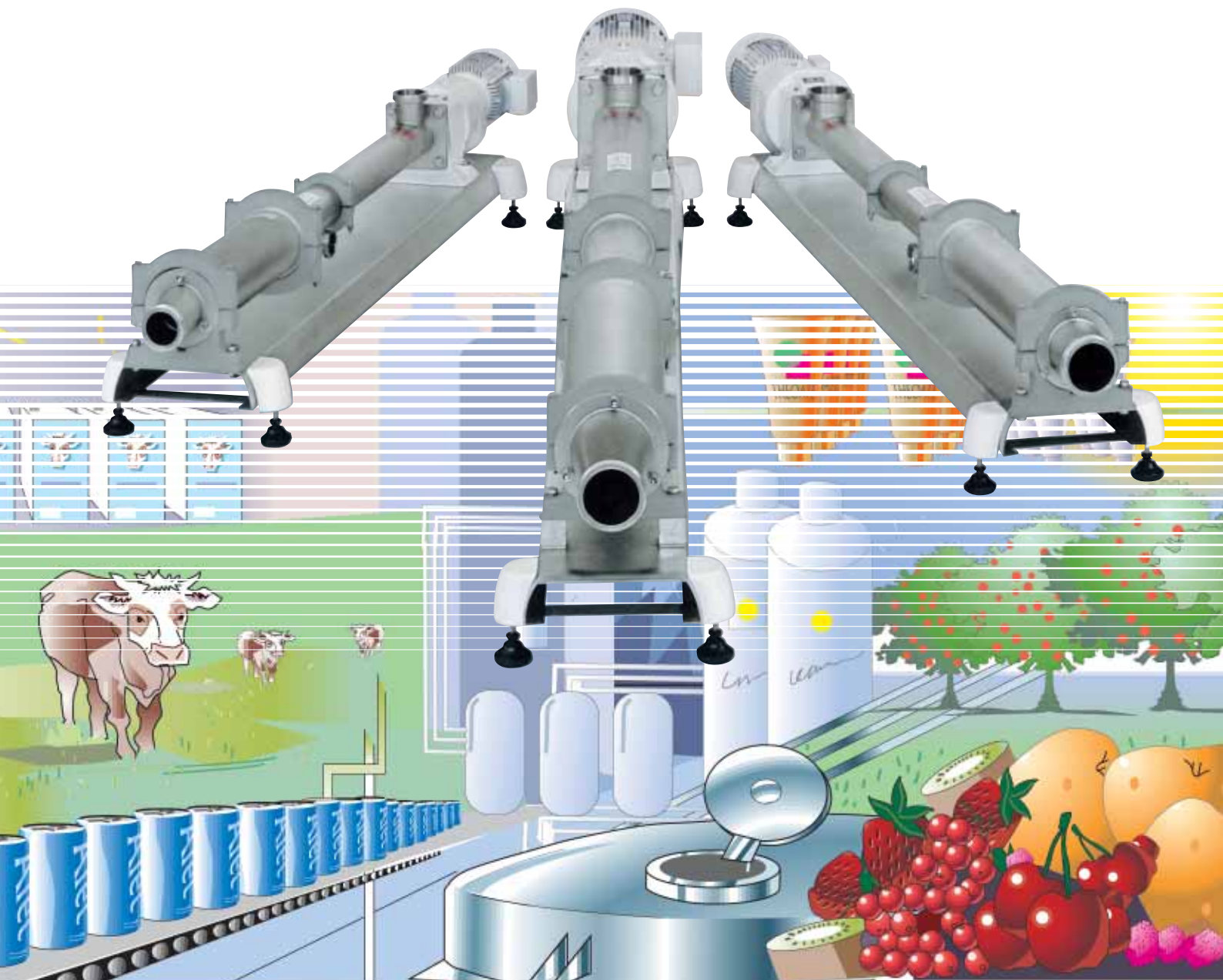


Hygienic Progressive-Cavity Pumps H Series



▶ Benefits

Of Moineau technology

- Accepts fragile, viscous and abrasive products
- Does not alter pumped product
- High suction power and self priming capabilities
- Constant pulse-free flow
- Ease of maintenance
- Reversibility



Of Moineau Series H Pumps

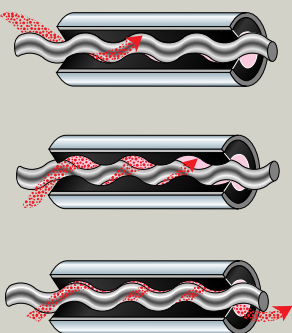
- Cleanable (no retention areas, simplified shaft line, CIP piping, eccentric pipe)
- Versatile (variety of products and applications)
- Productive (limited, rapid maintenance operations)
- Respects the texture and viscosity of the pumped product

Characteristics

- Maximum flow: 40 m³/h
- Maximum pressure: 24 bar
- Maximum temperature in continuous operation: 90°C
- Sterilisation temperature when idle: 140°C
- Capacity: 0.005 litre to 2.73 litres
- Size of acceptable particles: up to 40 mm.

Operation

A Moineau pump is made up of a helical rotor turning inside a helical stator. The stainless-steel rotor is machined to a high degree of precision, and the stator is moulded in a resilient elastomer. The geometry and the dimensions of these parts are such that when the rotor is inserted into the stator, a double chain of watertight (honeycomb-shaped) cavities is created. When the rotor turns inside the stator, the honeycomb progresses spirally along the axis of the pump, without changing either shape or volume. This action transfers the product from the pump inlet to the pump discharge.



PCM H Series Pumps: The pumping solution for your ultra-clean applications.

Custom designed for applications requiring stringent hygiene, the H series pumps incorporate numerous original technical features:

- **Designed to eliminate potential product-retaining**
- **A simplified shaft line without joint**
- **Mechanical seal positioning optimized to facilitate cleaning**
- **CIP piping, allowing the pump casing to be cleaned at a high flow-rate**
- **Designed to allow pump sterilisation when not running using steam or superheated water**
- **Low LCC (Life Cycle Costs) from all points of view: quick dismantling, spare parts life expectancy, energy consumption.**

▶ Flexible shaft -

stainless steel without external coating

Design of the shaft line reduces the number of moving parts – thus the number of wear and tear parts, simplifies maintenance, and improves the cleanability of the pump. Option: flexible shaft for extremely corrosive applications.

▶ Casing – AISI 316L Stainless steel

Glass blasted exterior
Internally polished along 220 grain SMS, DIN and CLAMP connections.

▶ Stator – White or black food quality elastomer

Available in 1, 2 or 4-pitch length

Complete process control has allowed our research engineers to develop elastomers perfectly compatible with the food and cosmetic products.

Available formulas: CSM (black/white) or NBR (black/white)

Wide temperature compatibilities with processes (minimum 0°C) and cleaning in place (maximum 95°C)

▶ Rotor - AISI 316L stainless steel

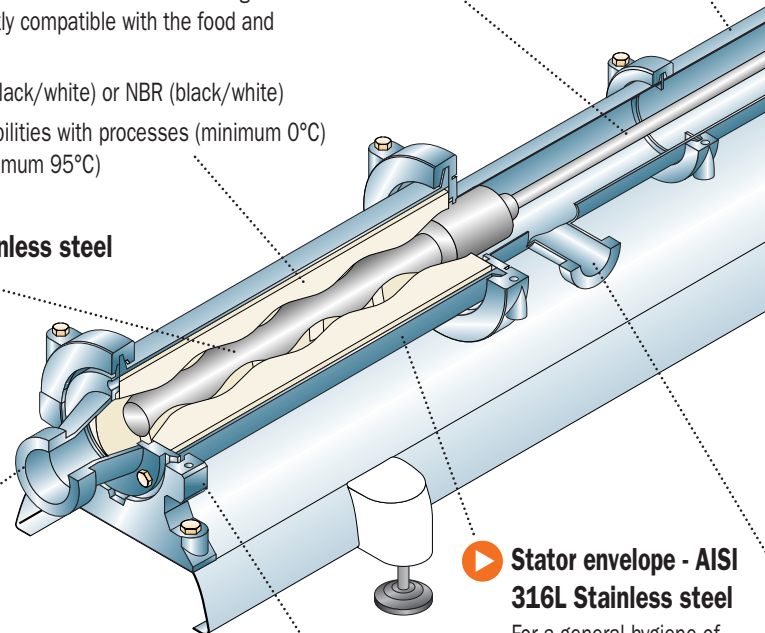
Can be chrome-plated.

▶ Eccentric pipe - AISI 316L stainless steel

Avoids product retention. SMS, DIN and CLAMP connections.

▶ Feet - Plastic with stainless steel or stainless steel coated cast-iron inserts

Using a clamping system to secure the pump casing and stator facilitates disassembly for maintenance and allows to orientate suction port and CIP pipe in 3 positions (vertical, left or right horizontal).



▶ Stator envelope - AISI 316L Stainless steel

For a general hygiene of your workshop.

Construction of H Series

▶ Mechanical seal cartridge assembly Carbon/Ceramic or Carbide/Carbide

Specially designed for hygienic applications

The cartridge mounting (compression factory adjusted) and accessibility via the back (on the drive side) facilitates the mechanical seal's replacement.

Depending on products and applications, mechanical seal can be single or single with quench.

▶ Cover - Stainless-steel

Covering for the drive protects against splashes during workshop cleaning.

▶ Spacer - Cast Iron FGL 250

This is a connecting piece between the pump casing and the drive, and supports the sealing system. The strut may be directly flanged or connected to a bearing which is hooked-up to the drive through an elastic coupling.

Sealing of drive shaft on motor shaft assured by a joint system.

▶ Base plate - Stainless steel

All the H Series pumps may be mounted onto a stainless-steel base plate with or without adjustable feet for leveling the pump if your workshop floor is uneven or sloping.

▶ Option : CIP piping - AISI 316L Stainless steel

Allows for cleaning in place the pump casing at a large-outflow
Orientable vertical positioning, left or right tangential
SMS, DIN and CLAMP connections.

Applicable directives and standards



H series pumps meet the machine directive and its harmonised standards. They also comply with the ATEX directive.

To ensure the optimum operation of its pumps, PCM proposes the following:

Accessories

Pressure sensors

To better control your process :
Manometer, pressure switch, pressure transmitter, combined pressure sensor.

Dry run protection device

Detects product circulation to protect against stoppages or dry running that could damage the stator

Optional equipment

Stainless-steel trolley

The versatility of the capital equipment is facilitated by transporting pumps between factory-floor applications with a self-locking wheels trolley and optionally equipped with adjustable feet.

Double enveloped pump casing and stator

For applications requiring products to be kept at a constant temperature, the use of a double envelope for the pump casing and the stator is used to allow the circulation of heat-exchanging fluid.

By-Pass and/or pressure relief valve

Avoids the risk of pump damage in the event of overpressure. Adaptation for cleaning in place systems.

Automatic level, flow-rate and pressure controls

Control systems for pump and process implemented by PCM.

Contact us for more information.

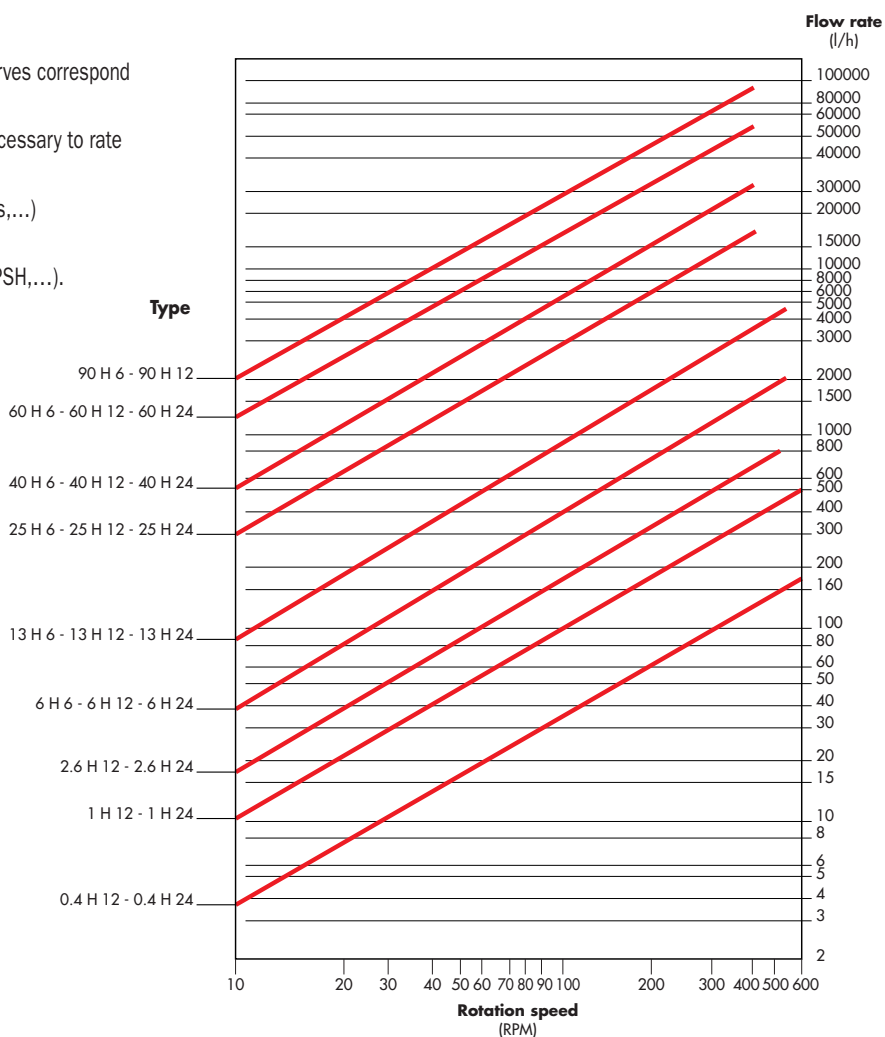
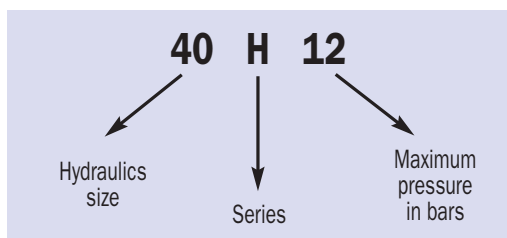
Performances

The rotation speeds and pressures indicated on these curves correspond to ordinary performances achieved with 43°F.

If the working conditions differ from this standard, it is necessary to rate performance according to:

- products characteristics (viscosity, fragility, abrasiveness,...)
- application characteristics of the application (operating parameters, discharge pressure, available NPSH,...).

Understanding model designation

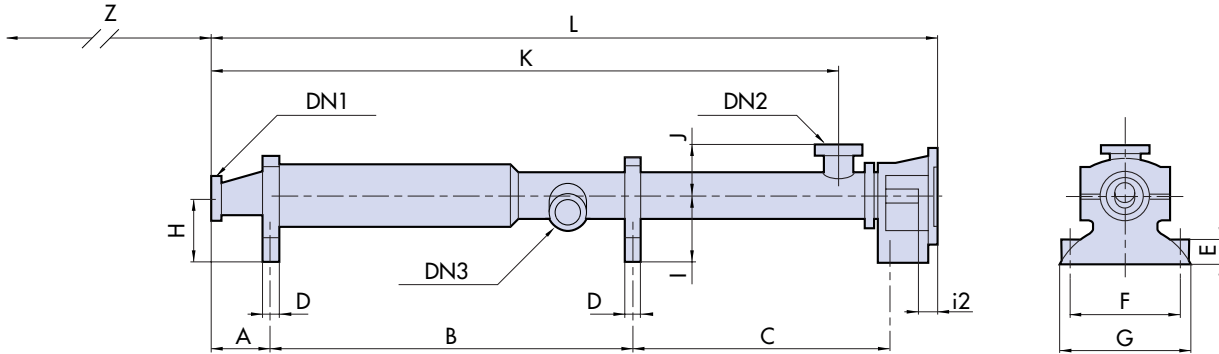


DIN/SMS/CLAMP connections

	PUMP	0.4 H 12	0.4 H 24	1 H 12	1 H 24	2.6 H 12	2.6 H 24	6 H 6	6 H 12	6 H 24	8 H 12	13 H 6	13 H 12	13 H 24	25 H 6	25 H 12	25 H 24	40 H 6	40 H 12	40 H 24	60 H 6	60 H 12	60 H 24	90 H 6	90 H 12
SMS	DN1/DN2	25	25	25	25	38	38	38	38	38	63,5	63,5	63,5	76	76	76	104	104	104	104	104	104	104	104	104
	DN3	25	25	25	25	38	38	38	38	38	51	51	51	63,5	63,5	63,5	76	76	76	76	76	76	76	76	76
DIN	DN1/DN2	25	25	25	25	40	40	40	40	40	65	65	65	80	80	80	100	100	100	100	100	100	100	100	100
	DN3	25	25	25	25	40	40	40	40	40	50	50	50	65	65	65	80	80	80	80	80	80	80	80	80
CLAMP	DN1/DN2	25	25	25	25	38	38	38	38	38	63	63	63	76	76	76	104	104	104	104	104	104	104	104	104
	DN3	25	25	25	25	38	38	38	38	38	51	51	51	63	63	63	76	76	76	76	76	76	76	76	76

Dimensions in millimeters

Size of H series pump Bare shaft pump



PUMP	A	B	C	D	E	F	G	H	I	J	K	L	Weight kg	Z
0.4 H 12	67	235	250	30	40	180	220	108	112	80	485	630	13	70
0.4 H 24	67	335	250	30	40	180	220	108	112	80	585	730	14	175
1 H 12	67	290	400	30	40	180	220	108	112	80	690	830	15	120
1 H 24	67	525	400	30	40	180	220	108	112	80	930	1070	16,5	255
2.6 H 12	100	350	400	30	40	180	220	112	112	85	760	930	17,5	145
2.6 H 24	100	650	400	30	40	180	220	112	112	85	1060	1230	19,5	290
6 H 6	75	383	400	30	40	180	220	112	112	85	768	933	19	90
6 H 12	75	490	400	30	40	180	220	112	112	85	875	1040	20,5	196
6 H 24	75	740	400	30	40	180	220	112	112	85	1130	1300	23	450
8 H 12	80	425	425	30	40	180	220	105	112	85	820	965	23	235
13 H 6	100	496	435	30	40	180	220	112	112	85	946	1111	24	130
13 H 12	100	705	435	30	40	180	220	112	112	85	1156	1320	27	340

PUMP	A	B	C	D	E	F	G	H	I	J	K	L	Weight kg	Z
13 H 24	122	770	1020	35	40	220	270	118	130	125	1775	1990	65	800
25 H 6	122	263	1020	35	40	220	270	118	130	125	1265	1485	58	200
25 H 12	122	545	1170	35	40	220	270	118	130	125	1695	1915	64	550
40 H 6	122	312	1170	35	40	220	270	118	130	125	1470	1690	100	400
40 H 12	122	740	1420	35	40	220	270	118	130	125	2140	2360	125	800
60 H 6	122	490	1420	35	40	220	270	118	130	125	1895	2110	91	550

PUMP	A	B	C	D	E	F	G	H	I	J	K	L	Weight kg	Z
25 H 24	122	1228	1302	30	45	220	250	130	130	156	2509	2750	125	990
40 H 24	130	1210	1595	30	45	220	270	220	225	160	2765	3065	165	1200
60 H 12	130	980	1870	30	45	220	270	225	227	156	2805	3105	135	1000
60 H 24	130	1710	2170	30	45	220	270	225	227	156	3835	4135	210	1700
90 H 6	130	700	1870	30	45	220	270	225	227	156	2530	2830	145	705
90 H 12	130	1357	2170	30	45	220	270	225	227	156	3485	3785	195	1350

H Series applications

Functions

Container emptying
Transfer – Feeding

Proportional dosing
and mixing

Equipment feeding
and container filling



40H24: transformation of fruits and vegetables sector - transfer of fruit purée to an exchanger/cooler.



13H6: dairy industry - transfer of condensed milk to an evaporator.



13H12: equipped with by-pass for cleaning in place in the fresh dairy product sector - dosing of cream.



25H12: egg products sector - transfer of liquid eggs.



25H6: milk industry - unloading of edible oil to a storage tank.

H Series Applications (continued)

FOOD SECTOR	PRODUCTS
Dairy Products	Milk, cream, condensed milk Yogurt, cream cheese, ferments, fruit on sugar Flavourings, gelled milk, desserts cream, liquid sugar Melted cheese
Meat, Fish, Pet Food	Fat products, meat emulsion, ingredients
Bread, Cakes Pastry	Yeast milk Transferring dough, stuffing, chocolate, ingredients
Drinks	Fruit juice, fruit concentrate, liquid sugar Rhum, flavourings, colourings Must, wine, dregs, beer
Fruit, Vegetables, Salads	Oil, margarine, butter, fat Fruit on sugar, liquid sugar, fruit purée, stewed fruit Whole-fruit jams,
Sugar, Starch, Egg products, Readymade meals, Sauces	Mayonnaise, tomato concentrate, ketchup, mustard Sauce with or without pieces, vinegar Water, molasses, vinasse, pulp, scum, liquid sugar Liquid eggs, Egg white/yolk, whole eggs Starch milk
Personal Care	Creams, Oils, Ointments Lotions, Sterile solutions Gels (Hair), Toothpaste

This table is not exhaustive: it highlights the most common applications. There are, of course, many others in a variety of fields.

Food and personal care applications:

The PCM Moineau range proposes the following products for food and personal care industries.

Serie	Hygiene	Cleaning	Max flow rate	Max pressure
H	Ultra-clean applications	CIP	40 m ³ /h	24 bars
Impact	Food and personal care applications	COP*	23,5 m ³ /h	12 bars**
Compact	Food and personal care applications	COP	16 m ³ /h	4 bars

*cleaning possible by rinsing and draining - **stainless steel construction up to 45 bars and 240 m³/h (I-ID series)

Services

PCM is constantly striving to work closer with its partners by responding to its customers' needs and offering quality service. All the aspects of LCC are taken into account to provide a better quality product and improve performance.

Training & Maintenance:

PCM offers maintenance contracts drawn up to suit the requirements and operating conditions of each production unit as well as training courses designed to give maintenance personnel a thorough understanding of how to use and maintain positive displacement pumps.

Technical assistance:

Training and maintenance are reinforced by the PCM Hotline who in turn send out technical staff to perform preventive or corrective maintenance of installations.

Space parts:

PCM holds a permanent stock of spare parts and accessories in order to respond to all urgent enquires.



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