

# Applications

Markets	Products handled by PCM Compact pumps
Food	Beverages: wines, beers, juices, syrups, flavorings & colorings Fruit and vegetables: vegetal oils and greases Meat, fish, animal food: animal oils and greases, acids Baked goods: pastries, dough, stuffing, flavorings, coatings, yeast, ferments Dairy: cheeses, creams, rennet, lactic acid, milk Other: liquid sugars, honey, liquor, pulp, glucose, seasonings (sauces, ketchup, mustard), oils, brine...
Personal Care	Oils, creams (face creams, ointments), lotions... Liquid soaps, shampoos... Cosmetic bases...
Chemicals	Acidic surface treatment and water treatment effluents Detergent products (detergents, surfactants, sodium hydroxide...) Foaming agents, flocculants, water based paint, plasticizers, urea/formol resins, silicone, brine, polymers, soap, emulsifier, fluxant, water, additives for paper pulp and coating

## Transfer of soap base in the cosmetic industry.



## Polymer injection for sludge dewatering



## Wine filtration skid



Functions : Unloading, Transfer and Loading / Dosing / Feeding and filling

## Understanding model designation

<b>M</b>	<b>2</b>	<b>C</b>	<b>6</b>	<b>F</b>
↓	↓	↓	↓	↓
Motor (M) or Variable speed motor (MV)	Approximate flow rate in m <sup>3</sup> /h at 0 bar & 1450 rpm	Compact Series	Max. pressure in bar	Floating

PCM proposes a wide range of stainless steel progressing cavity pumps.

Series	Applications	Cleaning	Max flow rate	Max pressure
H	Hygienic	CIP	40 m <sup>3</sup> /h	24 bars
Impact	Food and personal care	COP*	23,5 m <sup>3</sup> /h	12 bars
Compact	Food, personal care and chemical	COP*	16 m <sup>3</sup> /h	6 bars **
I	Food, personal care and chemical	COP*	240 m <sup>3</sup> /h	48 bars
Troika™	Oil & gas		157 m <sup>3</sup> /h	260 bars

\*Cleaning possible by rinsing and draining - \*\*Depends on stator material  
Higher performances available on request

**PCM Headquarters**

17, rue Ernest Laval 92173 VANVES Cedex FRANCE

[www.pcm.eu](http://www.pcm.eu)





Progressing  
Cavity Pumps



# Compact

The compact stainless steel  
progressing cavity pump

- > Handles Fragile and Viscous products
- > Versatile, easy integration
- > Low Life Cycle Cost (LCC)



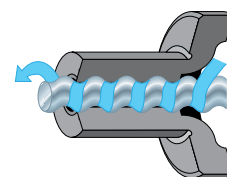
Keep it  
moving

# Compact Series: Created for food, personal care and chemical applications

As one of most compact progressing cavity pumps available today, the PCM Compact pump can handle a wide range of fluids with varying viscosities and solids. It provides good suction lift and can tolerate run dry. It offers low Life Cycle Cost, thanks to simple design, cost-efficient maintenance and reduced weight. The pump can be rapidly dismantled for Cleaning Out of Place (COP) in food applications.

## OPERATION:

The Compact pump is based on the “Moineau” progressing cavity pump principle. An eccentric helical rotor turns inside a double-threaded helical stator, moving the fluid in series of sealed cavities along the pump’s axis. The size and shape of the cavities never change, which makes it ideal for pumping fragile fluids or fluids with solids. The Compact pump is ideal for use in small spaces. Instead of using a long connecting rod, like those found in conventional PC pumps, the Compact pump uses a floating stator without a steel casing and elastomer coupling. The elasticity of the stator and coupling allows the rotor to turn eccentrically, while linking the rotor directly to the motor. The result is a shorter body.



## CHARACTERISTICS:

- 7 models
- Maximum flow rate: 16 000 l/h
- Maximum pressure: 6 bar\*

\* Depends on stator material

- Maximum continuous operating temperature: 80°C
- Stopped pump sterilization temperature: 140°C
- Cubic capacity: 1,26 to 170 cm<sup>3</sup>
- Operating speed: 250 to 1600 r.p.m.

## BENEFITS

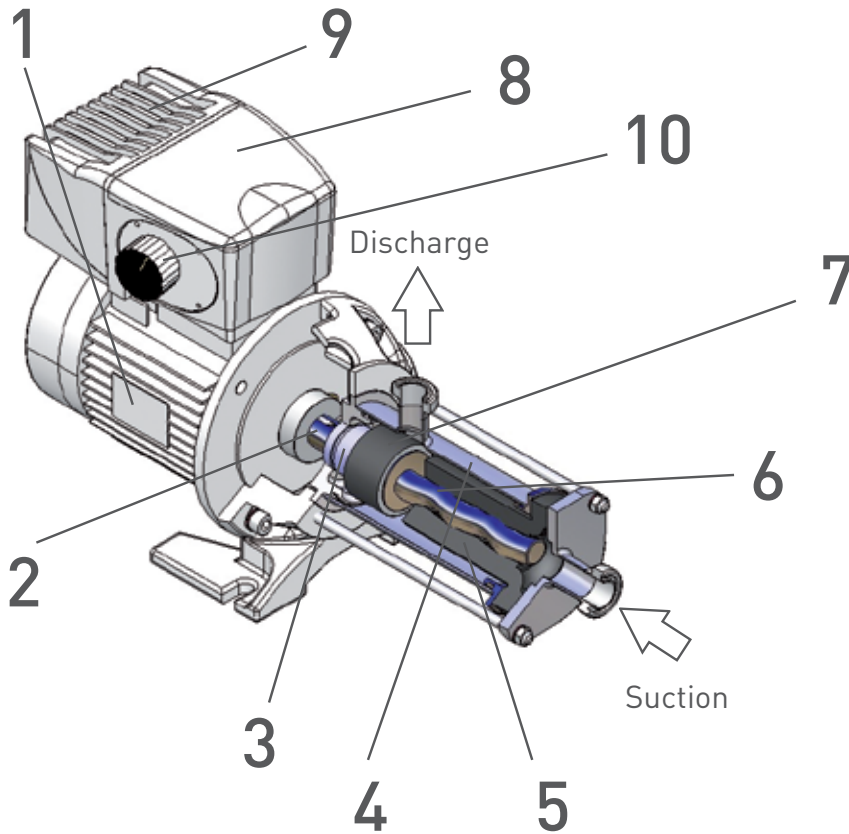
### Of the Moineau technology:

- Accepts fragile and viscous products
- High suction and self-priming capabilities
- Constant non-pulsating flow
- Flow rate proportional to operating speed
- No valves

### Of the Compact Series Moineau Pump:

- Compact size, reduced weight
- Versatile, easy integration
- Excellent Performance/Price ratio
- Conception dedicated to food industry with COP
- Dosing pump without pulsations
- Simple and rugged construction in stainless steel
- Easy maintenance
- Tolerates dry-running
- Very quiet operation
- Low LCC (Life Cycle Costs)

# The Compact Series Highlights



- 1 Drive**
  - Standard flange-mounted motor or flange-mounted variable speed motor with integral or external frequency inverter
  - IP55 Protection
  - Tropicalized to 90%, class F
- 2 Drive Shaft**
  - In Stainless steel 316L
- 3 Shaft Sealing**
  - By mechanical seal
- 4 Body**
  - In stainless steel 316 L glass blasted inside and out
  - Welded Connections, SMS, DIN, CLAMP.
  - Plain tube and other connections (IDF, RJT, NP10 ISO Flange, 150lbs ANSI Flange) are available on request
- 5 Free Stator**
  - In nitrile (NBR) or in chloro sulphonated polyethylene (CSM).
  - Other materials available
- 6 Rotor**
  - In Stainless steel 316L
- 7 Elastomer Coupling**
  - In nitrile (NBR)
  - Ensures the connection between the drive shaft and the rotor in their rotation
  - Its flexibility allows the eccentric movement between the rotor and the stator

## OPTIONAL EQUIPMENT

- 8 Terminal Box**
  - In aluminum, with electronic circuit encapsulated in resin and brass stuffing box. An over-load indicator, in case of incorrect operation such as over-current. Optional: Stop/Start control, Display.
- 9 Integrated frequency inverter**
  - integrated into the terminal box
  - controlled manually or remotely
  - avoids the need for a panel-mounted inverter or an electric cabinet and the necessary cabling and protection.
- 10 Adjustment Handle**
  - Pump speed adjustable by an ergonomic and graduated potentiometer. Optional: handle replaced by speed regulator.

## OPTIONAL EQUIPMENT

In many cases the Compact Series equipped with a frequency inverter can be used as a **dosing pump**. It is an advantageous replacement for traditional dosing units for viscous, articulate and abrasive products. It's compactness and robustness makes it particularly suitable for integration in machines and systems.

### Trolley

Mobile and versatile use of pump. Stainless steel 304. Easy fixing, stability, ergonomic.

### By-pass and /or safety valve

Avoids the risk of pump damage in the event of overpressure. Controls flow rate.

### Automatic level, flow rate and pressure controls

Control systems for pump and process implemented by PCM.

**Contact us for more information**

## ACCESSORIES

### Pressure Sensor

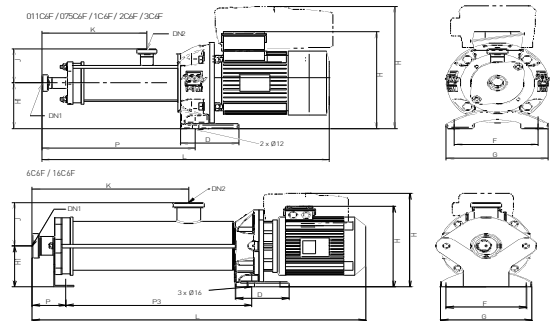
Improves control of your process: Manometer, pressure switch, pressure transmitter, combined pressure sensor.

### Dry Running Protection

The free stator principle is more tolerant of running dry. For complete protection, the dry running system controls product movement and protects the pump against stoppages or dry running, which may damage the stator.

# Compact Series Sizes

COMMON DATA																								
Model	Motor	D (mm)	F (mm)	G (mm)	H1 (mm)	Hmax. (mm)	J (mm)	K (mm)	L max. (mm)	P (mm)	P3 (mm)	M maxi. (kg)												
M011C6F	71	116	164	200	117	203	72	212	531	334		24												
	LS80PR					227																		
M075C6F	71					203																		
	LS80PR					227																		
M1C6F	71					203																		
	LS80PR					227																		
M2C6F	71					203																		
	LS80PR					227																		
M3C6F	80					116							164	200	120	243	100	268	623	147	238	36		
	LS80PR					253																		
M6C6F	90L					84							160	200	135	268	115	295	710	155	290	56		
M16C6F	112M					104							216	250	180	318	150	425	907	182	431	99		
M011C6F	80	154	125	150	117	227	72	212	531	334	80	23												
M075C6F																								
M1C6F																								
M2C6F																								
M3C6F	90S	64	125	180	120	253	100	268	623	147	238	32												
M6C6F	100L	84	160	200	135	273	115	295	735	155	290	52												
M16C6F	132M	104	216	250	180	355	150	425	1004	182	431	93												
MV011C6F	LS80L	154	125	150	117	309	72	212	545	334	80	29												
MV075C6F																								
MV1C6F																								
MV2C6F																								
MV3C6F													LS90S	64	125	180	120	325	100	268	634	147	238	40
MV6C6F													LS100L	84	160	200	135	355	115	295	735	155	290	57
MV16C6F	LS132M	104	216	250	180	444	150	425	1004	182	431	129												

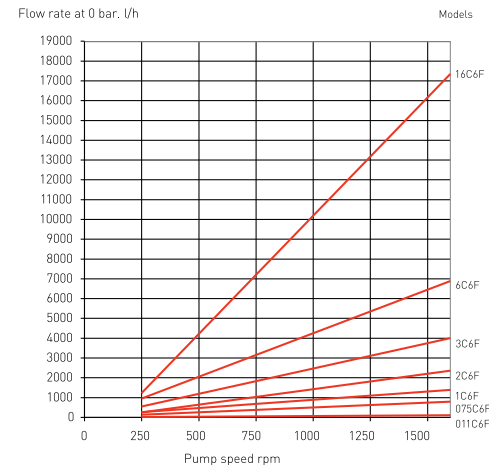


## Connections

CONNECTIONS									
Model	Plain tube	SMS	DIN	MACON	CLAMP	IDF	RJT	ISO PN10	ANSI 150lbs
	DN1/DN2	DN1/DN2	DN1/DN2	DN1/DN2	DN1/DN2	DN1/DN2	DN1/DN2	DN1/DN2	DN1/DN2
011C6F	Ø28x1.5	DN25	DN25	DN40	DN25	DN25	DN25	DN25	1"
075C6F									
1C6F									
2C6F									
3C6F	Ø53x1.5	DN51	DN50	DN50	DN51	DN50	DN51	DN50	2"
6C6F									
16C6F									
16C6F	Ø64x2	DN63.5	DN63.5	DN60	DN63.5	DN63.5	DN63.5	DN65	2 1/2"

## Performances

Model	Flow rate at 0 bar p (l/h)	Flow rate at 4 bar max p (l/h)	Max. pressure bar	Speed (rpm)	3-PHASE		1-PHASE	
					Motor power (kW)	Voltage (V)	Motor power (kW)	Voltage (V)
M011C6F	110	90	6*	1500	0,55	230/400	0,55	230
M075C6F	745	660			0,55	230/400	0,55	230
M1C6F	1305	1020			0,55	230/400	0,55	230
M2C6F	2100	1730			0,55	230/400	0,55	230
M3C6F	3600	2750			0,75	230/400	0,75	230
M6C6F	6500	5000			2,2	230/400		
M16C6F	16400	12800		4	230/400			
M011C6F	72	56		1000	1500	0,55	230/400	230/400
M075C6F	500	420						
M1C6F	870	670						
M2C6F	1360	1100						
M3C6F	2400	1800						
M6C6F	4400	3000						
M16C6F	11000	8800	2,2					
			2,2					



Model	Flow rate at 0 bar p (l/h)	Flow rate at max p (l/h)	Max. pressure bar	Speed (rpm)	INTEGRATED FREQUENCY INVERTER		EXTERNAL FREQUENCY INVERTER	
					Motor power (kW)	Voltage (V)	Motor power (kW)	Voltage (V)
MV011C6F	18/120	95	6*	250/1600	0,37	400	0,55	230/400
MV075C6F	130/810	710						
MV1C6F	210/1380	1080						
MV2C6F	340/2250	1800			0,55	400	0,75	230/400
MV3C6F	600/3850	3000						
MV6C6F	1100/6880	5500						
MV16C6F	3000/18000	13800	1,5	2,2	2,2	230/400		
			4	4	4	230/400		

General performances obtained with water at 20°C and a discharge pressure of 0 bar.

Drive available at fixed speed (M) 1500 or 1000 r.p.m.

\* Depends on stator mechanical properties