

# Lagoa Series

Diaphragm dosing pumps

Simple, reliable, deliverable within 2 to 6 days



*improving your process*

**PCM Pumps**  
**Lagoa series:**  
**Simplicity, reliability**  
**and availability**



**Advantages**

**Of electro-mechanical drive**

- Reduced mechanical and hydraulic shocks
- Silent
- Does not cause and is not affected by interference

**Of the design**

- Simple and robust construction
- Reliability of metering
- Adaptable: meters a wide range of fluids
- Simplified maintenance
- Dry running

**Technical data**

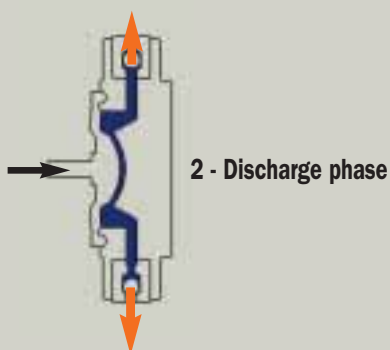
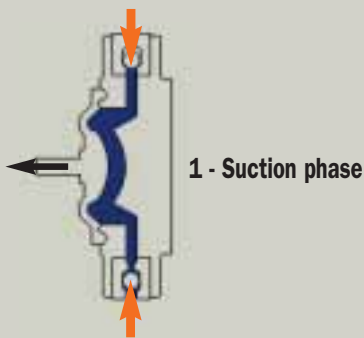
- Maximum flow: 350l/hr per pumphead
- Adjustable from 10 to 100%
- Maximum pressure: 12 bar
- Maximum temperature: 100°C
- Speed: 48 and 120 strokes/min
- Precision:  $\pm 1\%$
- Linearity:  $\pm 3\%$

**Deliverable within 2 to 6 days.**

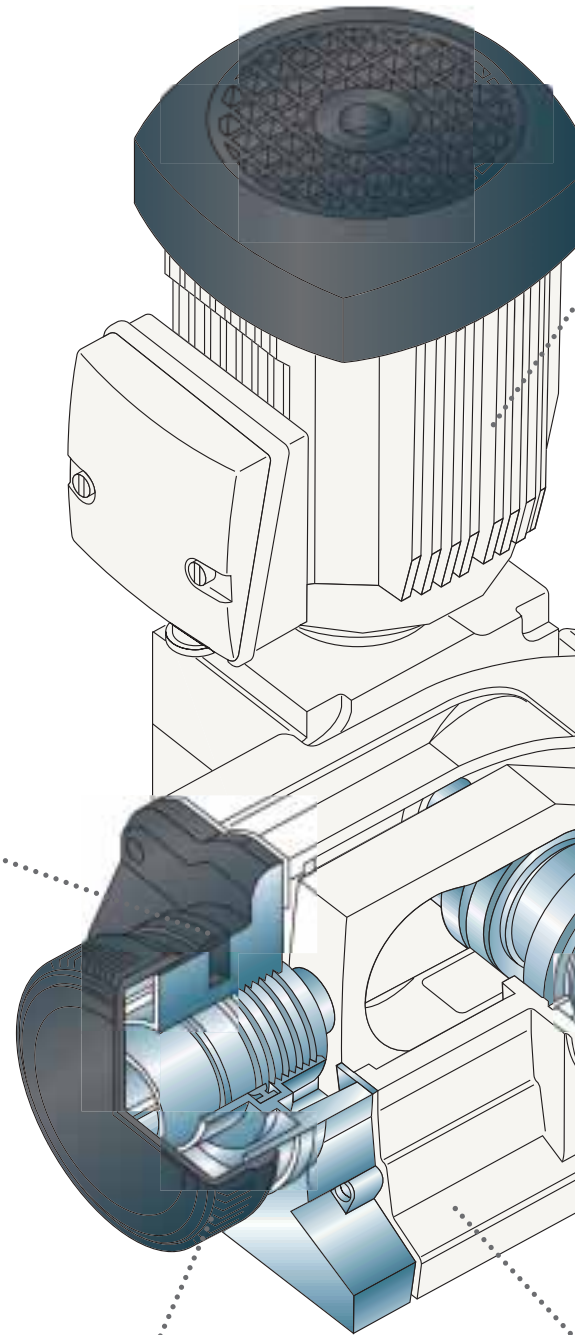
**Operation**

The Lagoa pump is composed of a membrane connected to a piston of which the alternating movement successively fills and empties the pumphead.

- 1** The backward movement of the membrane opens the bottom check valve and allows the entry of fluid, which fills the pumphead.
- 2** The forward movement of the membrane closes the bottom check valve, opens the top check valve and expels the dose.



The Lagoa series is designed for metering a wide variety of products in chemical engineering, environmental applications as well as the food and personal care industries



**Locking device**

The stroke adjustment mechanism can be locked in position to ensure that stroke length remains at its set point.

**Stroke adjustment**

The capacity is set by turning the micrometer dial which is fitted with vernier scale graduated in percentage stroke length. Electric servo control can be fitted <sup>(1)</sup>.

## Drive

- ▶ The pump is driven by a direct mounted light alloy motor with IP55 protection. The bearings are greased for life, making the motors maintenance-free.

## Pumphead

- ▶ The pumphead is easy to remove and change. It consists of:

- 1 suction check valve
- 1 discharge check valve
- 1 liquid end body

Pumpheads are available in many material combinations as shown in the table on the next page.

Note: other versions are available on request.

## Diaphragm

- ▶ Preformed type, made of PTFE reinforced with elastomer. The liquid contact part is in chemically inert PTFE.

## Casing

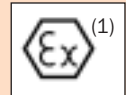
- ▶ Robust cast aluminium alloy construction.



## Possibility of multiplexing for:

- performing proportional metering with different fluids (a resin and a hardener, for example)
- obtaining a greater flow than with one single pumphead
- phasing the pump stroke to prevent pulsations and thereby achieving linear flow.

## Applicable directives and standards



The pumps in the Lagoa series meet the machine directive requirements and its harmonized standards.

## Accessories

PCM offers you a comprehensive range of solutions to enable you to achieve high-performance metering regardless of the working conditions of your installation.



### Foot valves

Filter undesirable particles and keep the pump primed when stopped.



### Injection rod

Enables your product to be injected in a vein without polluting the injection pipework (non-return function).



### Safety and retention valves

Prevent excess flow and pressures, siphoning and underloading.



### Pulsation dampers

To render your flow linear and lessen fluid hammer effects.



### "Ready-to-meter" assemblies

You connect the assembly to the pump and you are ready to start !

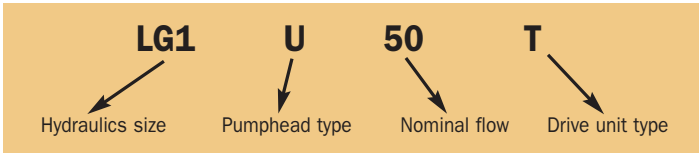


### Dosunits <sup>(1)</sup>

Complete metering units on a 120 to 1000 l capacity HDPE tank.

(1) Please contact us

# Understanding model designation

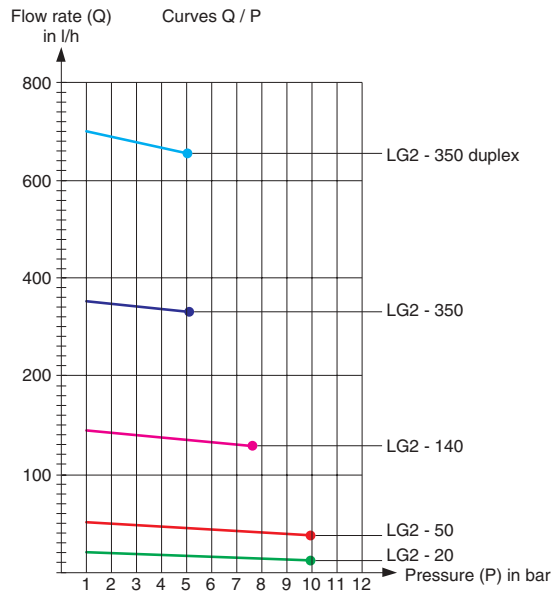
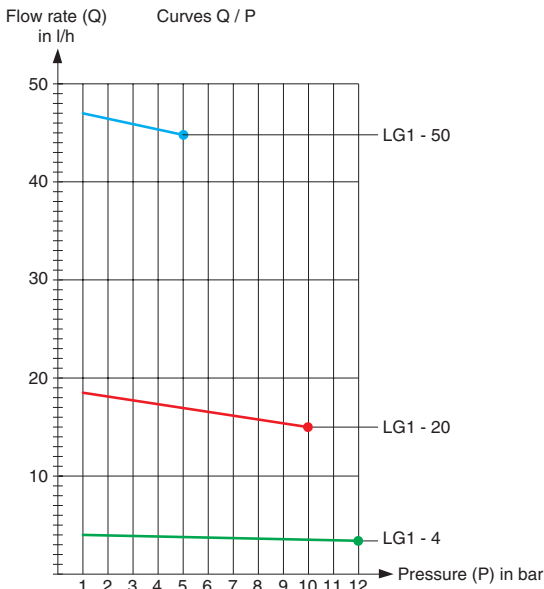


Pumphead type	
U	Polypro
H	PVC
S	Stainless steel
SA	Stainless steel with food connections

# Performances

Model	Pumpheads	Flow at 1 bar - 50Hz		Flow at Pmax - 50Hz		Pressure	Rate	Power	
		10 % l/h	100 % l/h	10 % l/h	100 % l/h	max** bar	50Hz strokes/min	Mono (M) W	Three (T) W
LG1 - 4	U, H, S, SA	1	4	0	3,3	12	48	60***	60
LG1 - 20		3	18,5	1	15	10	48	60***	60
LG1 - 50		10	47	2	42	5	120	60***	60
LG2 - 20		6	20	0,5	16	10	48	-	120
LG2 - 50		12	51	2	45	10	120	-	250
LG2 - 140		25	145	10	127	7,5	48	-	120
LG2 - 350	U, H, S	70	350	40	330	5	120	-	250
LG2 - 350 duplex *		140	700	80	660	5	120	-	250

\* asynchronous pumpheads - \*\* maximum pressures are stated at 20°C - \*\*\* available with the U pumphead only.

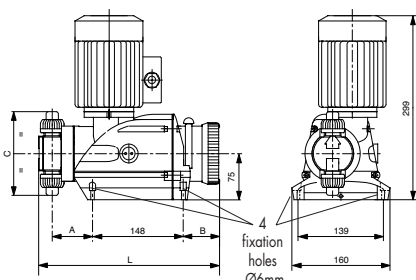


# Overall Dimensions

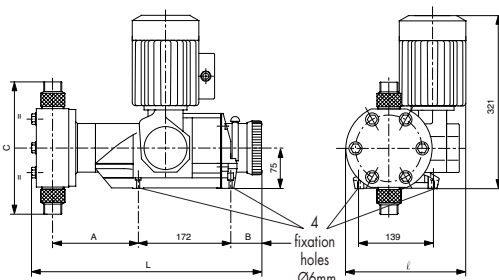
Model	L mm	I mm	A mm	B mm	C mm
LG1 - 4	294	160	65.5	58.5	136
LG1 - 20	302	160	65.5	58.5	168
LG1 - 50	302	160	65.5	58.5	168
LG2 - 20	375	210	114.5	58.5	168
LG2 - 50	375	210	114.5	58.5	168
LG2 - 140	429	223	159	59	246
LG2 - 350	429	223	159	59	246
LG2 - 350 duplex	429	389	159	59	246

# Connections

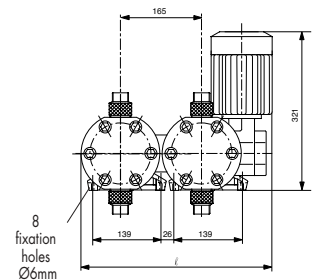
Pumphead size	Pumphead type			
	U	H	S	SA
4	4x8 flexible hose or 10-16 PVC pipe	1" G male	1/2" G male	DIN DN10 male
20				
50				
140	1" G male	3/4" G female	SMS 25 male	-
350				
350 duplex				



Lagoa LG1



Lagoa LG2



Lagoa LG2 Duplex



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# Applications

## Food

- Metering of alkaline and/or acid products and disinfecting solutions into installed cleaning systems (CIP)
- Metering of fermentation products and rennet in the dairy industry
- Metering of anti-foaming products
- Metering of flavoring, coloring agents and yeasts
- Metering of citric acid and ascorbic acid
- Metering of sugar syrup
- Metering of arabic gum, sulfur anhydride, casein and gelatine as additives in wine-production
- Metering of diatomaceous earth (filtration of brine baths)
- Metering of liquid fertilizer



Pump on filtering pallet (wine production)

## Industry

- Surface treatment:
  - Metering of degreasing agents and surfagents for surface preparation
  - Metering of hydrochloric acid and inhibitor
  - Additions of chromic acid for electrophoresis
  - Additions of sulfuric acid or phosphoric acid to top-up bath levels
  - Metering of wetting agent for coil coating
- Foundries: proportional metering of resin and catalyzer in the production of sand moulds
- Paper-making: metering of coloring agents and anti-foaming agents
- Textiles: metering of coloring agents
- Cement: metering of wetting agent, waterproofing agent and water-reducing plasticizer in the production of plasterboard
- Tile production: metering of coloring paste
- Timber: metering of fungicide



Metering of soda and acid

## Environment

- Metering of coagulants: polymer of viscosity lower than 1500cP (polyacrylamides). Injection of diluted polymer into concentrated luges can decrease pressure losses and thereby contribute to reducing operating costs
- Metering of coagulants such as ferric chloride, ferric sulfate, ferrous sulfate, alumina sulfate, aluminum chloride (WAC, PAC)
- Metering of anti-foaming products
- Metering of alkaline and acidic products: hydrochloric acid, phosphoric acid, nitric acid and soda
- Metering of biocides and disinfectants for preventing the development of bacteria (sodium or calcium hypochlorite, or chlorine dioxide)
- Metering of hydrazine (elimination of oxygen dissolved in boiler water)
- Metering of sodium carbonate for re-establishing the calcium/carbon balance in water
- Metering of methanol (atex), phosphoric acid and urea as nutrients.



Ferric chloride pumping in purification station



*improving your process*

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