

LMI range

# Maximum adaptability



Electromagnetic  
dosing pumps

Compact and innovative,  
accurate and versatile

# LMI pumps

Well-measured solutions

Proven precision, compactness, strength and adaptability

For over a quarter of a century, LMI dosing pumps have been providing precise feed control in water treatment applications all over the world.

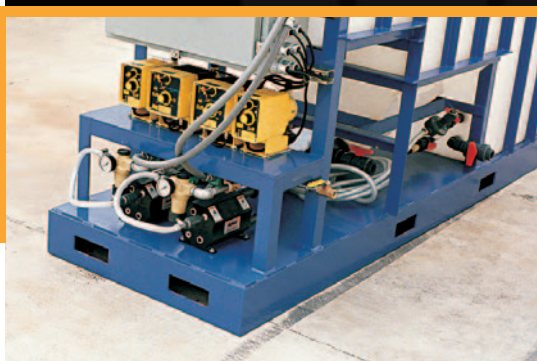
Their outstanding flexibility has also proven itself in many other industries. Their reputation for reliability has steadily opened up new fields of application, including some unexpected ones!

Thanks to our use of ever more technical and versatile materials, the list of aggressive substances these pumps are capable of handling keeps growing.

The functional evolution of the LMI range of pumps, from manual mode to proportional or programmable mode, has resulted in solutions that have been proven not only for water treatment, but also in industry, where applications are most complex.

## Open solutions

APPLICATIONS



Water treatment at all stages of the supply and sewage cycle, agricultural fertiliser injection systems, industrial production lines for paper mills and food processing plants for example, swimming pool treatment and conditioning... LMI dosing pumps are used in so many applications it would be impossible to list them all: every day brings new proof of their much-appreciated versatility.



Series P



Series A



Series B  
Series C



Series J



Series H

# Efficiency

7 key factors

## Guided tour of LMI benefits

*LMI pumps are used to inject precise quantities of a chemical product in a treatment process. A single moving part displaces the diaphragm. This mechanical design draws very little power and enables the pump to be hermetically sealed, making it suitable for use in extremely aggressive environments.*

### Strength of the Fluorofilm® diaphragms (PTFE/PFA)

Excellent resistance to wear and highly aggressive products.

### Flexible multipurpose valves

Adaptable bleed valves and safety valves on most feed pumps

- back pressure valve
- anti-siphon valve
- bleed valve
- depressurisation valve

### Protected electronics

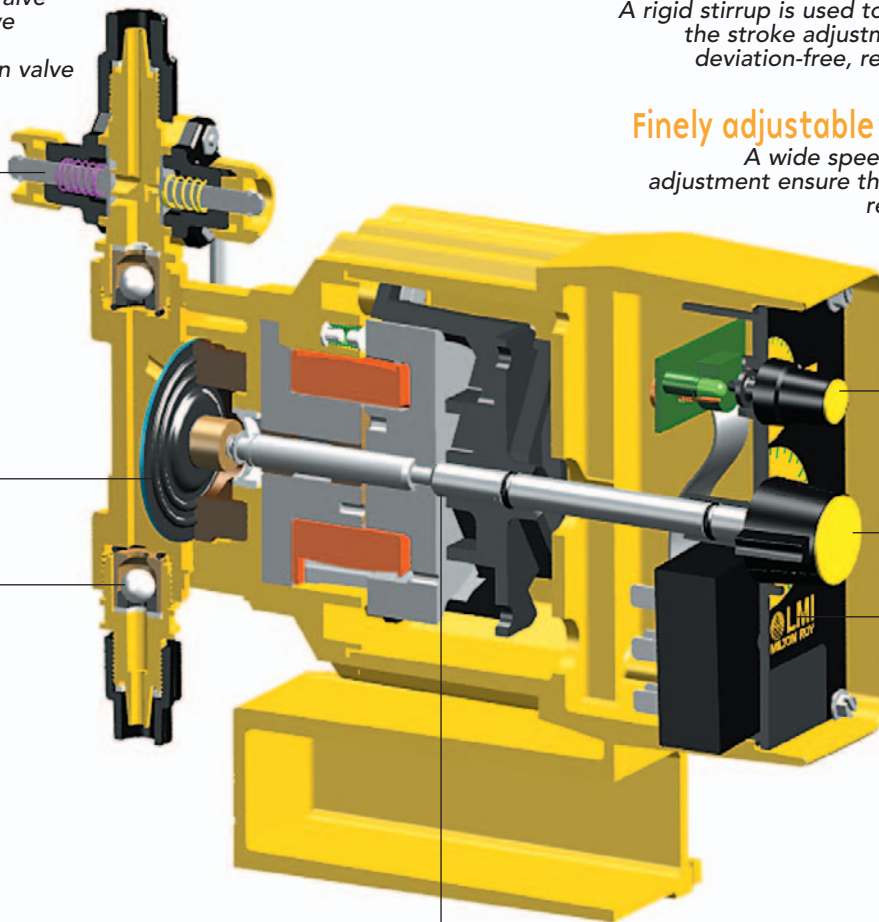
The electronic circuitry is totally protected by resin potting, making it highly resistant to vibrations and corrosive atmospheres. A wide range of external controls is available.

### High-precision stroke adjustment

A rigid stirrup is used to accurately position the stroke adjustment stop, to ensure deviation-free, repeatable operation.

### Finely adjustable operating rate

A wide speed range and precise adjustment ensure that the exact dosage required is delivered.



### Safe cartridge valves

Accurate guiding and three-stage seat (three separate seals) for enhanced precision.

### Efficient, long-lasting electromagnetic power unit (EPU)

The drive system is designed around a dynamically spring-balanced electromagnet. This improves efficiency and service life while minimising power consumption.



# Dosing pumps

5 control modes, 5 options

LMI range

Corrosion-resistant plastic casings



Mode 0

## Economic dosing

Output variable  
from 20 to 100%

Fixed speed and manually adjustable stroke.  
The simplest electromagnetic pump in the LMI range.



Mode 1

## Adjustable dosing

Output variable  
from 1 to 100%

Manually adjustable speed and stroke.  
This operating mode allows a wider output range.



Mode 5

## Proportional dosing

This version can be used in two different ways:  
- Manually adjustable speed and stroke.  
- Stroke speed controlled by a dry contact from a water meter or pulse-generating device.  
The pump speed varies automatically according to the signal transmitted.  
Optional 'low level' safety device to prevent depriming.

## Automatic dosing

Two options:  
- Manually adjustable speed and stroke.  
- Pump speed changes automatically to match the primary flow.  
Controlled by a dry contact or open collector from a water meter or pulse-generating device.  
The pump can be adapted for several control modes using the optional MICROPACE® adapters - multipliers, dividers and 4-20 mA converters.  
Optional 'low level' safety device to prevent depriming.  
Electronically adjustable power control on series B and C models.



Mode 7

## Microprocessor-programmed dosing

Manually adjustable speed and stroke from 1 to 6,000 strokes/hour.  
All of the dosing pump's controls are accessed via a flexible keypad and an LCD display.  
Controls include: remote start/stop, pulse-controlled proportional operation, internal multiplier and divider, control by configurable 4-20 mA signal, pulse copying and alarm relays.  
'Low level' alarm  
Optional flow self-monitoring feature.  
Electronically adjustable power control.



Mode 9



# Standard or special

LMI pumps adapt

## Electronics protected by resin casting

**LMI pumps are suitable for use with most fluids, including acids, alkalis and chlorinated products.**

### Technical characteristics

- Dry diaphragm or piston-based electromagnetic pumps
- Maximum temperature of pumped fluids: 50°C
- Prime height: 1.5 m
- Flow setting precision: approx.  $\pm 2\%$

### Series P diaphragm pumps

Maximum pressure and output  
12 l/h and 17.3 bar

### Series A diaphragm pumps

Maximum pressure and output  
7.6 l/h and 17.3 bar

### Series B diaphragm pumps

Maximum pressure and output  
26 l/h and 10.3 bar

### Series C diaphragm pumps

Maximum pressure and output  
76 l/h and 20.7 bar

### Series J - Low voltage

Maximum pressure and output  
7.6 l/h and 9.7 bar

### Series H piston pumps

Maximum pressure and output  
0.65 l/h and 80 bar

## Standard pumps

### A wide range of applications

- The materials used for the liquid ends - PVC, PVDF, PGC, acrylic, stainless steel – and for the valves – ceramic balls with PTFE or Polyprel® seats(1) – ensure total compatibility with most chemical products. Special designs are also available, for example to handle viscous products.
- The diaphragms are made of Fluorofilm®(2) composite.
- The stainless steel piston-based version is specially designed for injecting particle-free liquids under high pressure.

### Hermetically-sealed, totally rugged design

- The thick, glass fibre reinforced casing walls and the use of rugged materials combine to make these dosing pumps extremely rigid.
- The energised parts and moving parts are totally protected.
- IP 65 rated seal provided by stainless steel fastenings and O-rings on all removable parts.

### Accessories and replacement parts

- A complete range of accessories is available, from storage containers to current-frequency converters, plus everything you need for a complete installation.
- We supply servicing kits for preventive replacement of the main wearing parts.

### Conductivity, pH and Redox Controllers

Flexible, versatile Redox, pH and Conductivity (Liquitron®) controllers are also manufactured by LMI for automated pump control in water treatment processes, environmental monitoring and electroplating applications, among others.

### 'Ready-to-pump' packs

Most pumps are supplied complete with:

- An injection nozzle
- A foot valve
- Ceramic ballast
- 6 metres of flexible hose

Connection cables to suit the power supply and control mode

## Custom versions

**Dosapro Milton Roy develops custom versions to fit in perfectly with your own equipment or comply with special specifications.**



The control circuit is embedded in epoxy resin and plug-in insulated connectors are used for all internal connections.

This technique ensures excellent resistance to corrosive vapours and vibrations.

(1) Polyprel® is a copolymer of tetrafluoroethylene and propylene.

(2) Fluorofilm® is a copolymer of tetrafluoroethylene and perfluoroalkoxy. Registered trademarks of LMI.

# LMI pump selection guide

Model	Possible control modes					Output	Pressure	Capacity	Capacity	Power	Consumption
	0	1	5	7	9	max	max	min	max	instantaneous	max
						l/h	bar	cm <sup>3</sup>	cm <sup>3</sup>	W	Wh
Diaphragm version											
Px2*	x	x				0.75	10.3	0.07	0.22	75	11
Px3*	x	x				1.6	7.6	0.13	0.44	75	11
Px7*			x			1.6	9.7	0.08	0.27	75	11
Px4*	x	x	x			2.2	17.3	0.07	0.37	150	22
Px5*	x	x	x			3.8	7.6	0.13	0.63	150	22
Px6*	x	x	x			7.6	3.5	0.25	1.26	150	22
Px8*	x	x	x			12	1.5	0.4	2.00	150	22
Ax7*				x	x	1.6	9.7	0.08	0.27	75	11
Ax4*				x	x	2.2	17.3	0.07	0.37	150	22
Ax5*				x	x	3.8	7.6	0.13	0.63	150	22
Ax6*				x	x	7.6	3.5	0.25	1.26	150	22
Bx1*		x		x	x	6	10.3	0.1	1.00	248	29
Bx2*		x		x	x	9.5	6.9	0.16	1.58	248	29
Bx3*		x		x	x	17	3.4	0.28	2.83	248	29
Bx4*		x		x	x	26	2	0.44	4.42	248	29
Cx0*		x		x	x	4.9	20.7	0.08	0.81	420	56
Cx1*		x		x	x	9.5	10.3	0.16	1.58	420	56
Cx2*		x		x	x	15	6.9	0.25	2.52	420	56
Cx3*		x		x	x	30.4	4.1	0.51	5.05	420	56
Cx4*		x		x	x	76	1.7	1.26	12.60	420	56
Jx4L			x			1.6	9.7	0.08	0.27	110	19
Jx5L			x			3.8	4.1	0.13	0.63	110	19
Jx6L			x			7.6	1.4	0.25	1.26	110	19
Piston version											
Hx4*-N8P					x	0.28	80	0.01	0.05	150	18
Hx4*-N10P					x	0.45	50	0.02	0.075	150	18
Hx4*-N12P					x	0.65	35	0.03	0.11	150	18
x The second character defines the possible control mode * The fourth character defines the power supply voltage and plug type 1=115 V - US plug 2=230 V - US plug 3=230 V - DIN plug 5=230 V - UK plug 7=230 V - Swiss plug L=12 V						The liquid end's type and the materials used are defined according to the product being pumped Example : A953 - 392SM pump - liquid end					



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