

MECHANICAL DIAPHRAGM METERING PUMPS

The OBL MC series are mechanical diaphragm pumps with spring return mechanism, eccentric shaft and thrust ring. They combine the working characteristics of a plunger pump with the sealing advantages of a diaphragm pump. Thanks to the quality and simple-design of the diaphragm, these pumps are easy-handling.

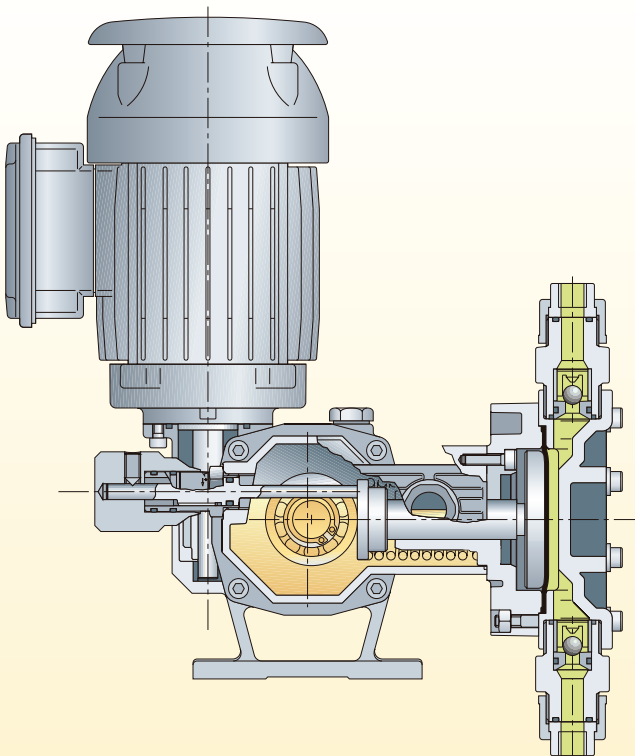
GENERAL FEATURES

- Diaphragm, economic, robust, compact metering pump.
- The mechanical diaphragm works, both giving the swept volume, acting basically as plunger, and as separator between crank gear and the handled fluid.
- Easy and minimum maintenance required, thanks to the reduced number of components.
- The OBL's unique (patented) mechanical diaphragm design ensures linearity between flow rate and percentage of stroke. The flow rate is virtually unaffected by the working pressure variations.
- Leak-free pump, due to OBL's stress-proof diaphragm.
- High working safety:
 - No external moving parts.
 - Leak-free operations.
- Max suction lift **1,5 m.w.c.** (see operating manual).

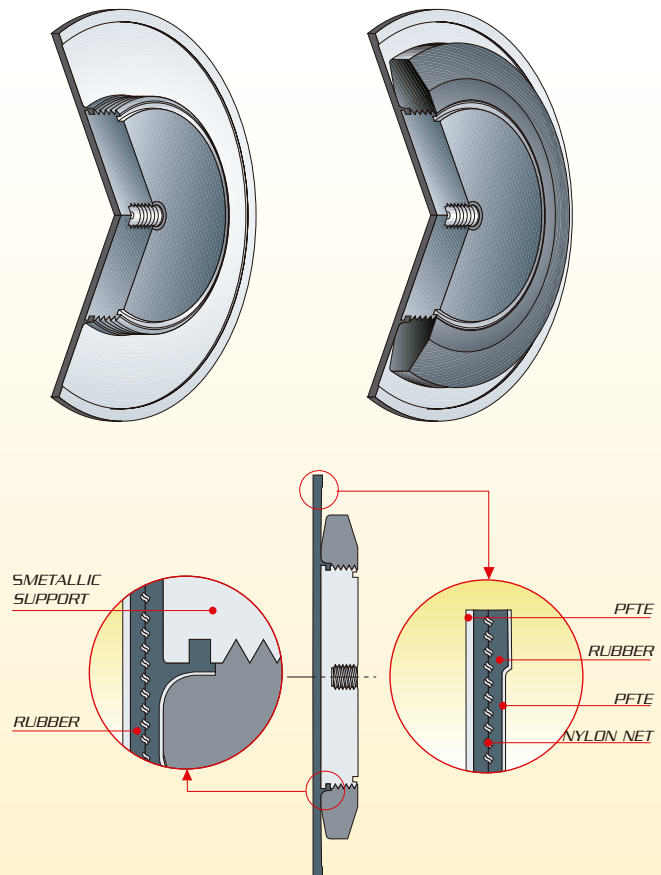


Flow rates: • **420 L/h**
Strokes: • **6 mm.**

SECTIONAL VIEW



DIAPHRAGM SECTIONAL VIEW



TECHNICAL DATA

50 Hz

TYPE	STROKES / 1'	MAX FLOW RATE l/h	MAX PRESS. BAR		CONNECTIONS			
					THREADED		FLANGED	
			3PH	1PH	PP	A	PP	A
MC101	36	100	7	6	3/4" g.f.- B5PF		DN20	
MC131	50	132	7	6	3/4" g.f.- B5PF		DN20	
MC201	70	197	7	6	3/4" g.f.- B5PF		DN20	
MC261	95	260	7	6	3/4" g.f.- B5PF		DN20	
MC321	115	320	5	4	1" g.f.- B5PF		DN25	
MC421	155	420	5	4	1" g.f.- B5PF		DN25	

60 Hz

MC120	43	120	7	6	3/4" g.f.- B5PF		DN20	
MC158	60	158	7	6	3/4" g.f.- B5PF		DN20	
MC236	84	236	7	6	3/4" g.f.- B5PF		DN20	
MC312	114	312	5	4	1" g.f.- B5PF		DN25	
MC384	138	384	5	4	1" g.f.- B5PF		DN25	

MODEL NUMBER

KEY TO SYMBOLS

PP	PP CONSTRUCTION
A	AISI-316L CONSTRUCTION
PP11	PP CONSTRUCTION+AISI-316L VALVE AND SEAT
PP32	PP CONSTRUCTION + HASTELLOY C VALVE - INCOLOY 825 SEAT
Z	OBL 4÷20 mA ELECTRIC ACTUATOR
W	3÷15 PSI PNEUMATIC ACTUATOR
F	UNI-DIN FLANGED CONNECTIONS
FA	ANSI FLANGED CONNECTIONS

MB | 37 | PP | F | Z

AISI 316L MC metering pumps with electric actuators Z.



Flow Rate:

- 100÷420 L/h (Stroke 6mm.)

Motors:

- Threephase special **0,30** kW 4 Poles - IP55 - I.C.L.F - 5I - IEC 34-1

Δ	- 230 V - 50 Hz
λ	- 400 V - 50 Hz
Δ	- 220÷290 V - 60 Hz
λ	- 380÷500 V - 60 Hz

- Singlephase special **0,24** kW 4 Poles - IP55 - I.C.L.F - 5I - IEC 34-1

220÷240 V - 50 Hz

110÷115 V - 50 Hz

220÷230 V - 60 Hz

110÷115 V - 60 Hz

Pump:

- Single unit only

Adjustment:

- 0-10 scale micrometer knob.

Materials:

- Aluminium casing
- Glass reinforced **PP** pump head **AISI 316L**

Weight:

- 12÷25 Kgs

CONTROL SYSTEM

- **Manual:** With 0-10 scale micrometer knob.
- **Electric:** Via **OBL** designed **Z** type electrical actuator.
- **Pneumatic:** By means of a **3÷15** PSI, type **W**, pneumatic actuator

STANDARD MANUAL ADJUSTMENT

- Adjustment via 0-10 scale micrometer knob.



ELECTRIC ACTUATOR

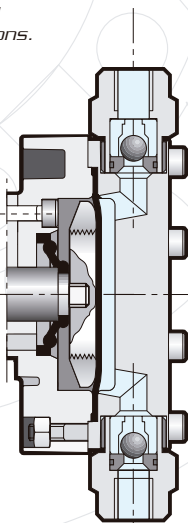
- Capacity automatic adjustment according to:
 - 4÷20 mA
 - 0÷20 mA
 - 20÷4 mA
 - 0÷10 V.
- Pulses:
 - 0,2÷2 Hz
 - 1,5÷30 Hz
- RS 485 communication protocol



↓ PUMP HEADS

↓ AISI 316L

AISI 316L heads.
"A" execution.
Threaded connections.

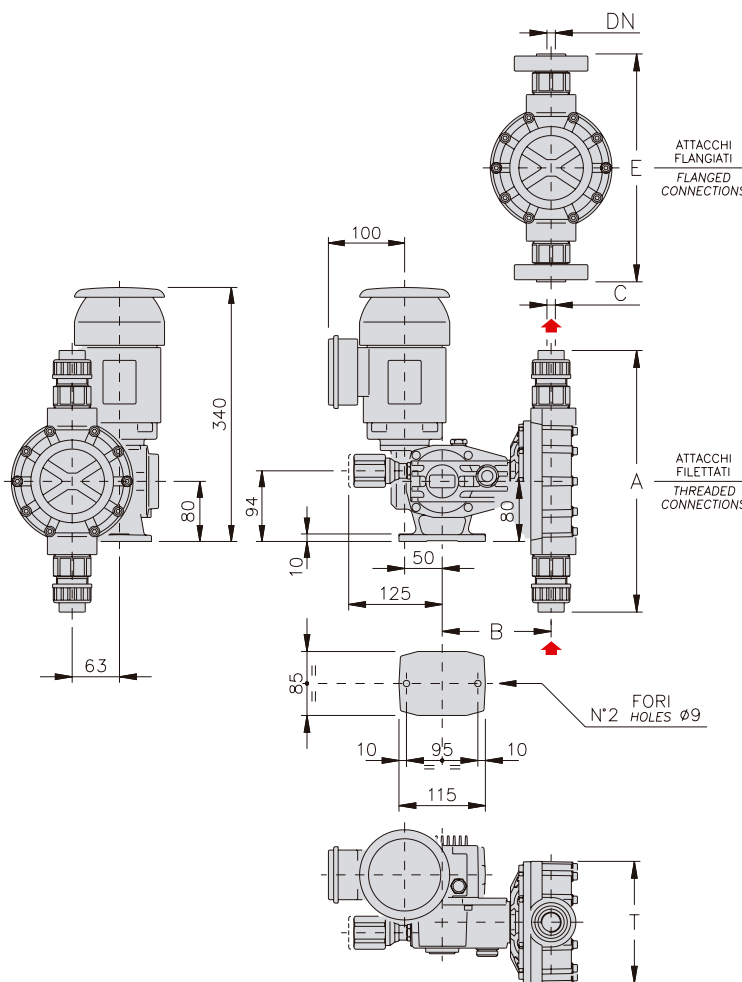


- Single valve ball.
- Suction and discharge connections both threaded and flanged (on demand).
- Max. suction lift 1.5 m.w.c. (see operating manual).
- Max. temperature of dosed chemical: 45 °C.

↓ MATERIALS OF CONSTRUCTION

PARTS	PP	PP11	PP32	A
LIQUID END	PP	PP	PP	AISI 316L
VALVE GUIDE	PP	PP	PP	PP
VALVE SEAT	PVC	AISI 316L	INCOLOY 825	AISI 316L
VALVE	PYREX	AISI 316L	HASTELLOY C-276	AISI 316L
VALVE SEAL	VITON (FPM)	VITON (FPM)	VITON (FPM)	VITON (FPM)
VALVE HOUSING	PP	PP	PP	AISI 316L
DIAPHRAGM	TEFLON (PTFE)	TEFLON (PTFE)	TEFLON (PTFE)	TEFLON (PTFE)

↓ OVERALL DIMENSIONS



CONSTRUCTION CHARACTERISTICS

- PTFE coated aluminium pump head support ensures chemical compatibility with any dosed liquid.
- Leak-free diaphragm pump head.
- Smooth and linear adjustment, either stationary or running, by means of micrometer knob.
- ± 2% accuracy within 10 to 100% of the nominal flow rate.



• MC series diaphragm metering pump with PP pump head.

TYPE		AISI 316 L					PP					DN	
50Hz	60Hz	A	B	C g.f.	E	T Ø	A	B	C g.f.	E	T Ø	UNI	ANSI
MC101	MC120	235	142	3/4" g.f. BSPF	235	159	347	145	3/4" g.f. BSPF	303	162	20	3/4"
MC131	MC158	235	142	3/4" g.f. BSPF	235	159	347	145	3/4" g.f. BSPF	303	162	20	3/4"
MC201	MC236	235	142	3/4" g.f. BSPF	235	159	347	145	3/4" g.f. BSPF	303	162	20	3/4"
MC261		235	142	3/4" g.f. BSPF	235	159	347	145	3/4" g.f. BSPF	303	162	20	3/4"
MC321	MC312	276	140	1" g.f. BSPF	261	159	355	145	1" g.f. BSPF	303	162	25	1"
MC421	MC384	276	140	1" g.f. BSPF	261	159	355	145	1" g.f. BSPF	303	162	25	1"