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机械隔膜式计量泵

MECHANICAL DIAPHRAGM METERING PUMPS

Blackline

MB/MC
系列



弹簧复位
Spring RETURN



edizione - OTTOBRE '01

REV. 0
10/01

机械隔膜式计量泵

OBL MB/MC 系列计量泵为机械隔膜式计量泵，带弹簧复位机制、曲轴和压缩弹簧。此系列计量泵具有活塞泵工作性能和隔膜泵的密封特性。隔膜质量好，设计简单，整泵的操作简单易行。

The **OBL MB/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 pump are easy-handling.



特点:

- 隔膜式、经济型、结构紧凑的计量泵。
- 机械隔膜工作时，既像柱塞一样的冲程排量和运作，又在曲轴系与输送液体间形成一隔离膜。
- 泵构件数量少，从而维修简单而且容易。
- OBL 独特的机械隔膜设计（已获专利），确保了输送流量与冲程比例间的线性关系。流量实际上并不受工作压力变化的影响。
- OBL 的抗压隔膜使泵具有了无泄漏的特点。
- 高度的安全工作性：
 - 没有外部活动件；
 - 无泄漏操作。
- 最大自吸高度：1.5m（参看操作手册）

GENERAL FEATURES

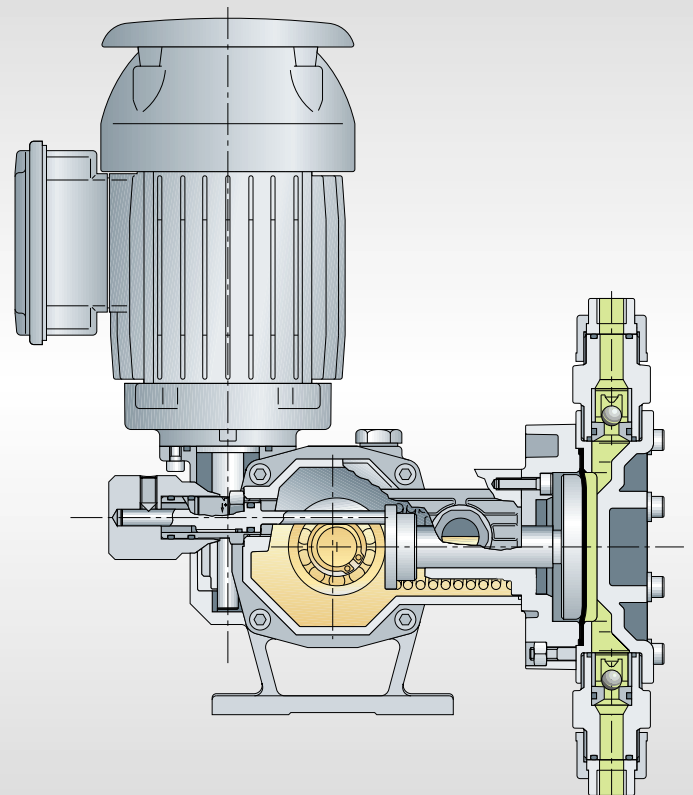
- Diaphragm, economic, robust, compact metering pump.
- The mechanical diaphragm works, both giving the swept volume, acting basically as plunger, and as separator between crank gear and the handled fluid.
- Easy and minimum maintenance required, thanks to the reduced number of components.
- The OBL's 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).

MB

最大流量 Max. flow rate: **155** L/h
冲程 Stroke : **2/4** mm

解剖图

SECTIONAL VIEW





MC 最大流量 Max. flow rate: **420** L/h
冲程 Stroke : **6** mm

控制系统

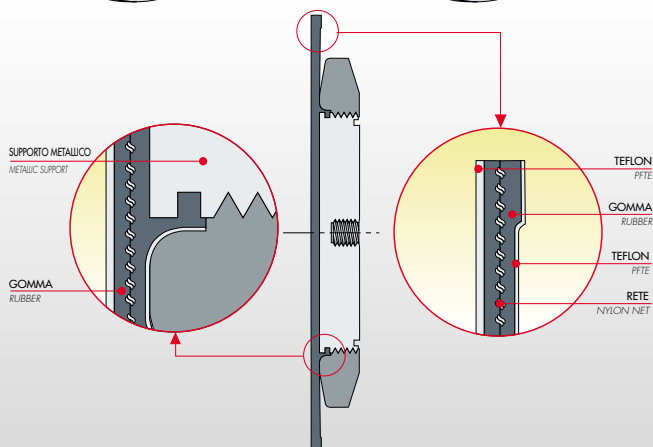
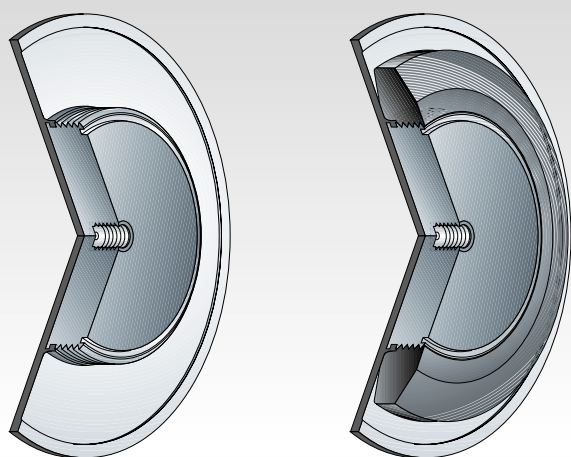
- 手动:
可用 0-10 微调旋钮调节
- 电子调节:
使用 OBL 设计的 Z 型
电子调节器
- 气动:
使用一个 3 ÷ 15 PSI
W 型气动 调节器

CONTROL SYSTEMS

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

隔膜解剖图

DIAPHRAGM SECTIONAL VIEW



手动调节

MANUAL ADJUSTMENT



- 使用调节范围为 0-10
的微调旋钮实现调节
- Adjustment via 0 -10 scale micrometer knob;

"Z" 电子调节器

ELECTRIC ACTUATORS



- 按 4 ÷ 20mA 的信号/一个来自 PLC
(脉冲) /一个来自远程控制 实现
自动调节;
- 带内置平衡继电器的电子调节器
- 可安装于任何型号和尺寸的泵上。
- Automatic adjustment of the flow rate
according to : 4 ÷ 20 mA signal / from PLC
(pulses) / from remote control;
- Electric actuator with integral balancing relay;
- Can be installed to any pump type and size.



构造特点

- PP 的泵头材质，确保了与计量液体的化学相容性。
- 无泄漏隔膜泵头
- 无论泵处于静止或动作状态，通过微调旋钮，均可实现平滑且线性的调节。
- 在额定流量的 10-100% 的范围内，计量精度为 ±2%。

CONSTRUCTION CHARACTERISTICS

- PP made 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.

流量 / Flow rates: ● 11±50 L/h (冲程 / stroke 2mm.)
● 35±155 L/h (冲 / stroke 4mm.)

电机 / Motors: ● 三相 / Threephase 0,20 kW - 230/400 V - 50/60 Hz - 4 极 / poles - IP55 - CL F - IEC38-1
特殊法兰电机
Special flange motor

● 单相 / Singlephase 0,24 kW - 230 V - 50/60 Hz - 4 极 / poles - IP55 - CL F - IEC38-1
特殊法兰电机
Special flange motor

泵头 / Pump: ● 仅单泵头
Single unit only

材质 / Material: ● 铝合金机壳
Aluminium casing

● 聚丙烯泵头
PP pump head

重量 / Weight: ● 10 Kg

技术数据表

TECHNICAL DATA

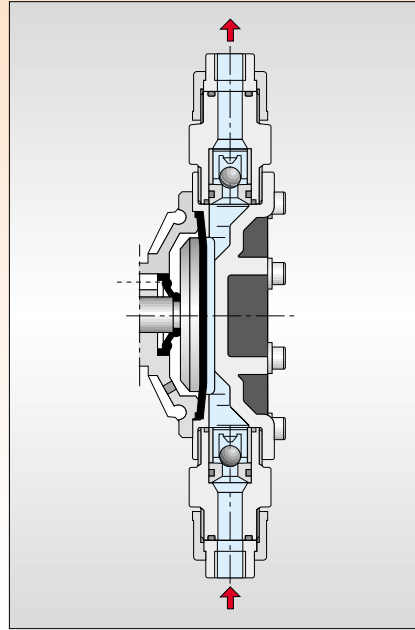
50 Hz					
型号 TYPE	每分钟冲程数 STROKES/1'	流量 FLOW RATE l/h	最大工作压力 MAX PRESSURE bar	接口尺寸/CONNECTIONS	
				螺纹 THREADED	法兰 FLANGED
MB11	36	11	10	3/8" g.f. BSPF	DN15
MB16	50	16			
MB23	70	23			
MB31	95	31	8		
MB37	115	37			
MB50	155	50			
MB35	36	35	6		
MB49	50	49			
MB75	70	75			
MB101	95	101			
MB120	115	120			
MB155	155	155			

60 Hz					
型号 TYPE	每分钟冲程数 STROKES/1'	流量 FLOW RATE l/h	最大工作压力 MAX PRESSURE bar	接口尺寸/CONNECTIONS	
				螺纹 THREADED	法兰 FLANGED
MB9	30	9	10	3/8" g.f. BSPF	DN15
MB14	43	14			
MB28	84	28			
MB36	114	36	8		
MB45	138	45			
MB42	43	42			
MB58	60	58			
MB90	84	90			
MB121	114	121			
MB145	138	145			

泵头

PUMP HEADS

- 单阀球
 - 进出口联接可以是螺纹或法兰
 - 最大吸程: 1.5m (参见操作手册)
 - 输送介质温度可达: 45°C.
- Single valve ball only.
 - Suction and discharge connections can be threaded or flanged.
 - Max suction lift 1,5 m.w.c. (see operating manual).
 - Max. temperature of the metered liquid: 45 °C.

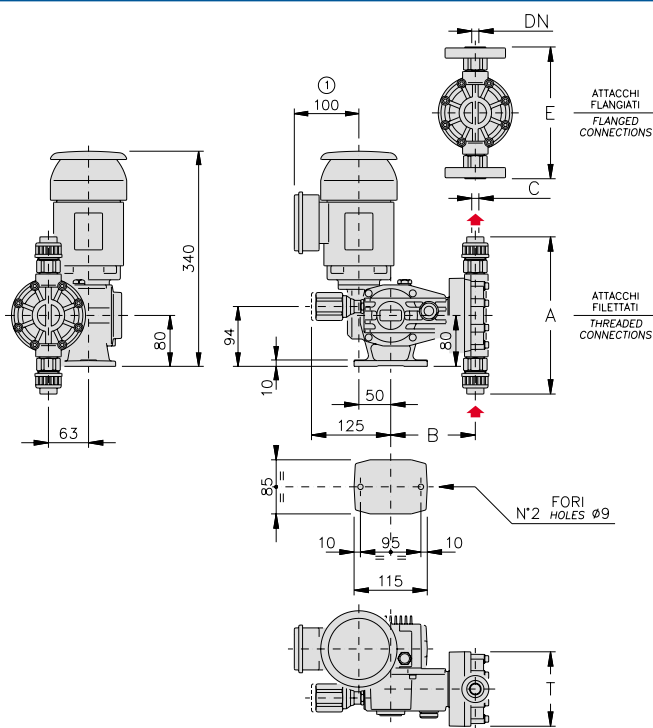


PP 泵头
螺纹联接

PP head.
"PP" execution.
Threaded connections.

外形尺寸

OVERALL DIMENSIONS



TIPO MB / TYPE		AISI 316 L					PP					DN	
50Hz	60Hz	A	B	C	E	TØ	A	B	C	E	TØ	UNI	ANSI
11	9												
16	14												
23	28	166	132,5	3/8"	180	114	237	133	3/8"	201	117	15	1/2"
31	36			g.f. BSPF					g.f. BSPF				
37	45												
50													
35	42												
49	58	181	132	3/8"	195	129	251	133	3/8"	215	133	15	1/2"
75	90			g.f. BSPF					g.f. BSPF				
101													
120	121	200	133,5	1/2" g.f.	200	129	251	133	3/8" g.f.	215	133	15	1/2"
155	145			BSPF					BSPF				

结构材质

MATERIALS OF CONSTRUCTION

零件 PARTS	PP	PP11	PP32	A
泵头 LIQUID END	聚丙烯/PP	聚丙烯/PP	聚丙烯/PP	不锈钢/AISI 316L
阀导 VALVE GUIDE	聚乙烯/POLYTH.	聚乙烯/POLYTH.	聚乙烯/POLYTH.	不锈钢/AISI 316L
阀座 VALVE SEAT	聚氯乙烯/PVC	不锈钢/AISI 316L	耐热合金 825/INCOLOY	不锈钢/AISI 316L
阀球 VALVE	PIREX	不锈钢/AISI 316L	哈氏合金/HASTELLOY C	不锈钢/AISI 316L
阀封 VALVE SEAL	氟橡胶/VITON (FPM)	氟橡胶/VITON (FPM)	氟橡胶/VITON (FPM)	氟橡胶/VITON (FPM)
阀腔 VALVE HOUSING	聚丙烯/PP	聚丙烯/PP	聚丙烯/PP	不锈钢/AISI 316L
隔膜 DIAPHRAGM	特氟隆/TEFLON (PTFE)	特氟隆/TEFLON (PTFE)	特氟隆/TEFLON (PTFE)	特氟隆/TEFLON (PTFE)

型号编写

MODEL NUMBER

LEGENDA		KEY TO SYMBOLS
/泵型号 / PUMP MODEL		
流量(升/小时) / FLOW RATE l/h		
PP	泵头材质为 PP / PP CONSTRUCTION	
A	泵头材质为不锈钢 / AISI-316L CONSTRUCTION	
PP11	泵头材质为 PP, 阀球、阀座为不锈钢 / PP CONSTRUCTION + AISI-316L VALVE AND SEAT	
PP32	泵头材质为 PP, 阀座为哈氏合金, 阀座为耐热合金 825 / PP CONSTRUCTION + HASTELLOY C - VALVE - INCOLOY 825 SEAT	
Z	4-20 mA 电子调节器 / OBL 4-20 mA ELECTRIC ACTUATOR	
W	3-15 PSI 气动调节器 / 3-15 PSI PNEUMATIC ACTUATOR	
F	UNI-DIN 法兰接口 / UNI-DIN FLANGED CONNECTIONS	
FA	ANSI 法兰接口 / ANSI FLANGED CONNECTIONS	



AISI 316L 泵头材质的 MB 计量泵, 带 Z 型电子调节器
AISI 316L head MB metering pump, with electric actuator Z.



构造特点

- 镀特氟隆的泵头材质，确保与计量液体的化学相容性。
- 无泄漏隔膜泵头
- 无论泵处于静止或动作状态，通过微调旋钮，均可实现平滑且线性的调节。
- 在额定流量的 10-100% 的范围内，计量精度为±2%。

CONSTRUCTION CHARACTERISTICS

- PTFE coated 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.

流量 / Flow rates: ● 100-420 L/h (冲程 / stroke 6mm.)

- 电机 / Motors :
- 三相 / Threephase 0,30 kW - 230/400 V - 50/60 Hz - 4 极 / poles - IP55 - CL F - IEC38-1
特殊法兰电机
Special flange motor
 - 单相 / Singlephase 0,24 kW - 230 V - 50/60 Hz - 4 极 / poles - IP55 - CL F - IEC38-1
特殊法兰电机
Special flange motor

泵头 / Pump: ● 仅单泵头
Single unit only

- 材质 / Material:
- 铝合金机壳
Aluminium casing
 - 聚丙烯泵头
PP pump head

重量 / Weight: ● 12 Kg

技术数据表

TECHNICAL DATA

50 Hz					
型号 TYPE	每分钟冲程数 STROKES/1'	流量 FLOW RATE l/h	最大工作压力 MAX PRESSURE bar	接口尺寸 / CONNECTIONS	
				螺纹 / THREADED	法兰 / FLANGED
MC101	36	100	6	3/4" g.f. BSPF	DN20
MC131	50	132			
MC201	70	197			
MC261	95	260			
MC321	115	320	5	1" g.f. BSPF	DN25
MC421	155	420			

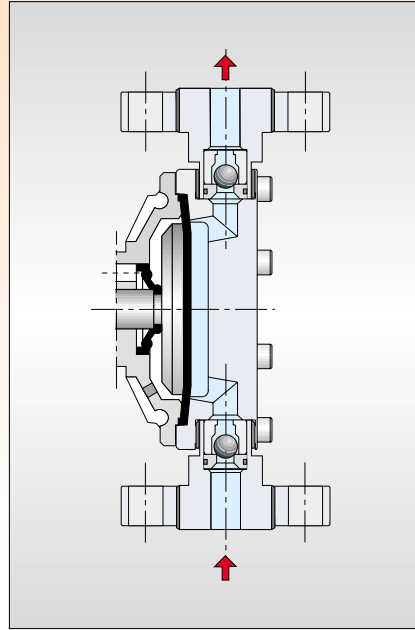
60 Hz					
型号 TYPE	每分钟冲程数 STROKES/1'	流量 FLOW RATE l/h	最大工作压力 MAX PRESSURE bar	接口尺寸 / CONNECTIONS	
				螺纹 / THREADED	法兰 / FLANGED
MC120	43	120	6	3/4" g.f. BSPF	DN20
MC158	60	158			
MC236	84	236			
MC312	114	312	5	1" g.f. BSPF	DN25
MC384	138	384			

泵头

PUMP HEADS

- 单阀球
- 进出口联接可以是螺纹或法兰
- 最大吸程: 1.5m (参见操作手册)
- 输送介质温度可达: 45°C.

- Single valve ball only.
- Suction and discharge connections can be threaded or flanged.
- Max suction lift 1,5 m.w.c. (see operating manual).
- Max. temperature of the metered liquid: 45 °C.

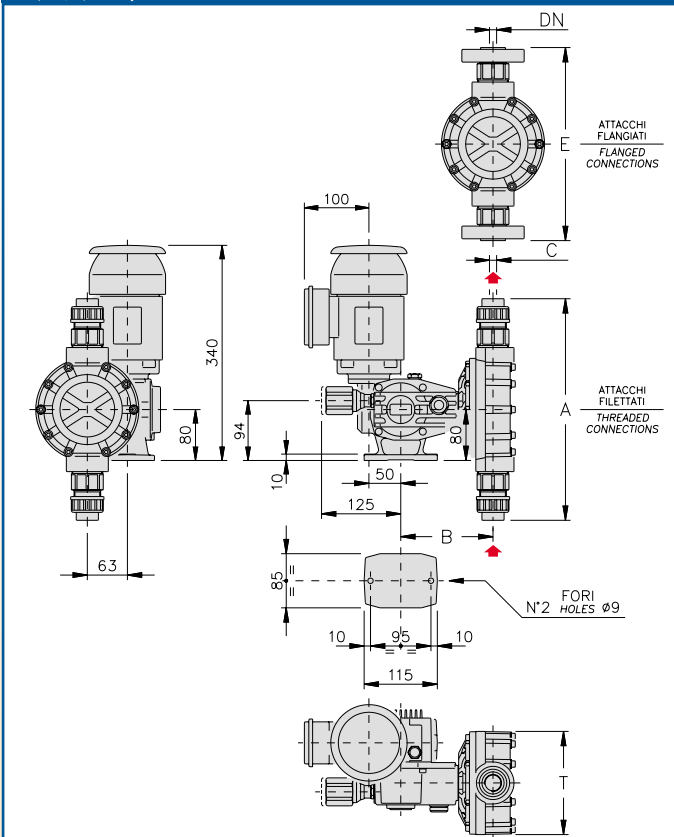


316L 泵头
法兰联接

Inox steel head.
"A" execution.
Flanged connections.

外形尺寸

OVERALL DIMENSIONS



TIPO MC / TYPE	AISI 316 L					PP					DN			
	50Hz	60Hz	A	B	C	E	TØ	A	B	C	E	TØ	UNI	ANSI
101	120													
131	158	235	142	3/4"	235	159	347	145	3/4"	303	162	20	3/4"	
201	236			g.f. BSPF					g.f. BSPF					
261														
321	312	276	140	1" g.f. BSPF	261	159	355	145	1" g.f. BSPF	303	162	25	1"	
421	384													

结构材质

MATERIALS OF CONSTRUCTION

零件 PARTS	PP	PP11	PP32	A
泵头 LIQUID END	聚丙烯/PP	聚丙烯/PP	聚丙烯/PP	不锈钢/AISI 316L
阀导 VALVE GUIDE	聚乙烯/POLYTH.	聚乙烯/POLYTH.	聚乙烯/POLYTH.	不锈钢/AISI 316L
阀座 VALVE SEAT	聚氯乙烯/PVC	不锈钢/AISI 316L	耐热合金 825/INCOLOY	不锈钢/AISI 316L
阀球 VALVE	PIREX	不锈钢/AISI 316L	哈氏合金/HASTELLOY C	不锈钢/AISI 316L
阀封 VALVE SEAL	氟橡胶/VITON (FPM)	氟橡胶/VITON (FPM)	氟橡胶/VITON (FPM)	氟橡胶/VITON (FPM)
阀腔 VALVE HOUSING	聚丙烯/PP	聚丙烯/PP	聚丙烯/PP	不锈钢/AISI 316L
隔膜 DIAPHRAGM	特氟隆/TEFLON (PTFE)	特氟隆/TEFLON (PTFE)	特氟隆/TEFLON (PTFE)	特氟隆/TEFLON (PTFE)

型号编写

MODEL NUMBER

LEGENDA		KEY TO SYMBOLS
/ 泵型号 / PUMP MODEL		
流量(升/小时) / FLOW RATE l/h		
PP	泵头材质为 PP / PP CONSTRUCTION	
A	泵头材质为不锈钢 / AISI-316L CONSTRUCTION	
PP11	泵头材质为 PP, 阀球、阀座为不锈钢 / PP CONSTRUCTION + AISI-316L VALVE AND SEAT	
PP32	泵头材质为 PP, 阀座为哈氏合金, 阀座为耐热合金 825 / PP CONSTRUCTION + HASTELLOY C - VALVE - INCOLOY 825 SEAT	
Z	4-20 mA 电子调节器 / OBL 4+20 mA ELECTRIC ACTUATOR	
W	3-15 PSI 气动调节器 / 3-15 PSI PNEUMATIC ACTUATOR	
F	UNI-DIN 法兰接口 / UNI-DIN FLANGED CONNECTIONS	
FA	ANSI 法兰接口 / ANSI FLANGED CONNECTIONS	



PP 泵头材质的 MC 计量泵, 带 Z 型电子调节器
PP head MC metering pump, with electric actuator Z.