

机械隔膜式计量泵

MECHANICAL DIAPHRAGM METERING PUMPS



[BLACK]
LINE



[BLACK]
PLUS

METERING PUMPS

弹簧复位 Spring Return



↓ 机械隔膜式计量泵 MECHANICAL DIAPHRAGM METERING PUMPS

OBL MB/MC系列为机械隔膜式计量泵，带有弹簧复位机制、曲轴和压缩弹簧。此系列计量泵结合了活塞泵的工作特性和隔膜泵的密封特质。

高质量的隔膜加上简单的设计，使得泵的操作简单易行。

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 pumps are easy-handling.

↓ 特点概述

- 隔膜式，经济型，耐用且结构紧凑的计量泵。
- 机械隔膜工作时，既具有活塞泵一样的冲程排量，同时又将流程端液体与机械传动系统隔离。
- 泵的构件数量少，便于维修和保养。
- 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独特的抗压隔膜使泵具有无泄漏的特点。
- 高度的工作安全性：
 - 无外部活动件
 - 无泄漏操作

↓ 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 mechanism 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.

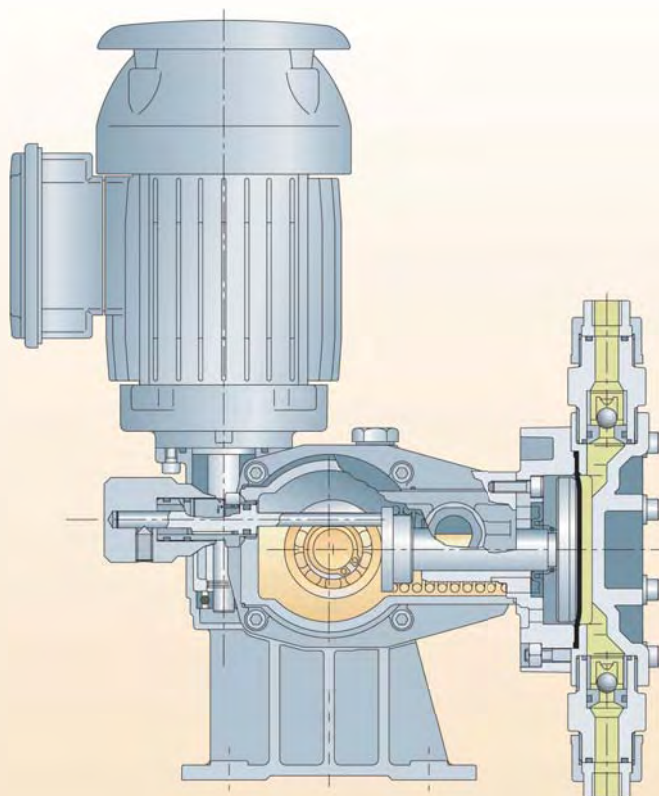
MB



Flow rate / 最大流量：● 155 L/h

Stroke / 冲程长度：● 2 mm. 4 mm.

↓ 切面图 SECTIONAL VIEW





MC

↓ 控制系统 CONTROL SYSTEMS

- 手动调节：可使用刻度为0 - 10的微调旋钮实现调节。
- 电子调节：可通过使用OBL设计的Z型电子调节器实现。
- 气动调节：可使用一个3 ÷ 15 PSI的W型气动调节器实现。
- 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.

↓ 标准手动调节 STANDARD MANUAL ADJUSTMENT

- 可使用刻度为0 - 10的微调旋钮实现调节。
- Adjustment via 0-10 scale micrometer knob.



电子调节器 ELECTRIC ACTUATOR

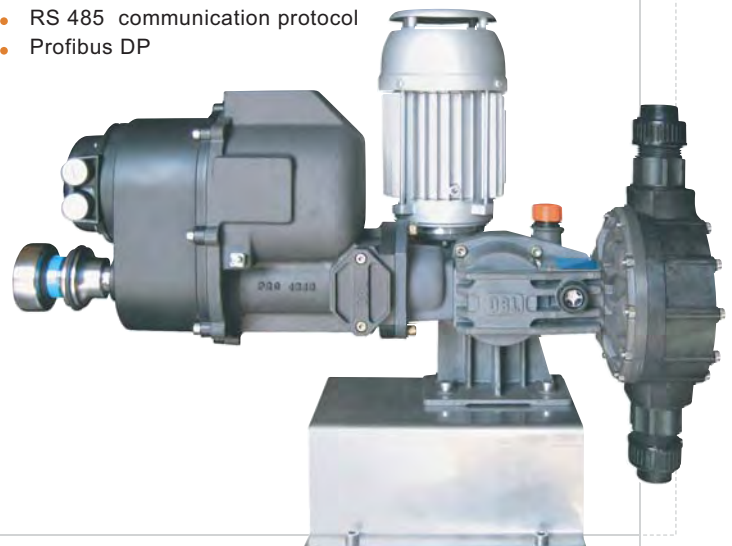
Z

可根据以下标准进行自动调节：

- 4÷20 mA
- 0÷20 mA
- 20÷4 mA
- 0÷10 V
- 脉冲信号：0,2÷2 Hz / 1,5÷30 Hz
- 通信协议：RS 485
- Profibus DP

Capacity automatic adjustment according to:

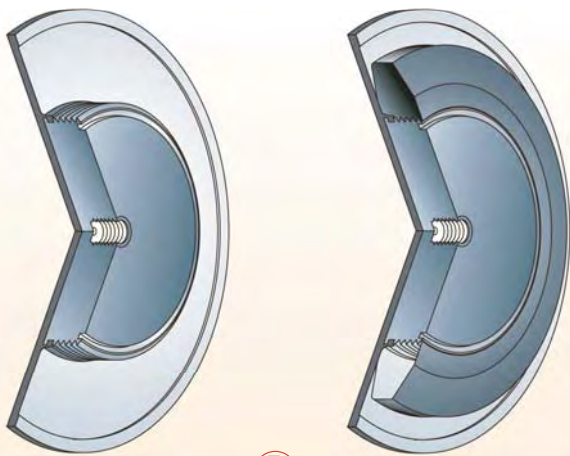
- 4÷20 mA
- 0÷20 mA
- 20÷4 mA
- 0÷10 V
- Pulses: 0,2÷2 Hz / 1,5÷30 Hz
- RS 485 communication protocol
- Profibus DP



Flow rate / 最大流量: • 420 L/h

Stroke / 冲程长度: • 6 mm.

↓ 隔膜切面图 DIAPHRAGM SECTIONAL VIEW



金属支撑
METALLIC
SUPPORT

橡胶
RUBBER

特氟龙
PTFE
橡胶
RUBBER
特氟龙
PTFE
尼龙
NYLON NET

 技术资料 TECHNICAL DATA

	型 号 TYPE	冲 程 次 数 STROKES/1	最 大 流 量 FLOW RATE l/h	最大压力 MAX PRESS.BAR		连接方式 CONNECTIONS				
						螺纹连接 THREADED		法兰连接 FLANGED		
				3PH	1PH	PP	A	PP	A	
50 Hz										
	MB11	36	11	12	12	3/8" BSPF		DN15 - 1/2"ANSI		
	MB16	50	16	12	12	3/8" BSPF		DN15 - 1/2"ANSI		
	MB23	70	23	12	12	3/8" BSPF		DN15 - 1/2"ANSI		
	MB31	95	31	8	8	3/8" BSPF		DN15 - 1/2"ANSI		
	MB37	115	37	8	8	3/8" BSPF		DN15 - 1/2"ANSI		
	MB50	155	50	8	8	3/8" BSPF		DN15 - 1/2"ANSI		
	MB35	36	35	6	6	3/8" BSPF		DN15 - 1/2"ANSI		
	MB49	50	49	6	6	3/8" BSPF		DN15 - 1/2"ANSI		
	MB75	70	75	6	6	3/8" BSPF		DN15 - 1/2"ANSI		
	MB101	95	101	6	6	3/8" BSPF		DN15 - 1/2"ANSI		
	MB120	115	120	6	6	3/8" BSPF	1/2" BSPF	DN15 - 1/2"ANSI		
	MB155	155	155	6	6	3/8" BSPF	1/2" BSPF	DN15 - 1/2"ANSI		
	60 Hz									
		MB9	30	9	12	12	3/8" BSPF		DN15 - 1/2"ANSI	
		MB14	43	14	12	12	3/8" BSPF		DN15 - 1/2"ANSI	
MB28		84	28	12	12	3/8" BSPF		DN15 - 1/2"ANSI		
MB36		114	36	8	8	3/8" BSPF		DN15 - 1/2"ANSI		
MB45		138	45	8	8	3/8" BSPF		DN15 - 1/2"ANSI		
MB42		43	42	6	6	3/8" BSPF		DN15 - 1/2"ANSI		
MB58		60	58	6	6	3/8" BSPF		DN15 - 1/2"ANSI		
MB90		84	90	6	6	3/8" BSPF		DN15 - 1/2"ANSI		
MB121		115	121	6	6	3/8" BSPF	1/2" BSPF	DN15 - 1/2"ANSI		
MB145		138	145	6	6	3/8" BSPF	1/2" BSPF	DN15 - 1/2"ANSI		

 型号详解 MODEL NUMBER

编码详解	KEY TO SYMBOL
泵的类型 / PUMP MODEL	
流量 l/h / FLOW RATE l/h	
PP PP聚丙烯材质 / PP CONSTRUCTION	
A AISI-316L 不锈钢材质 / AISI-316L CONSTRUCTION	
PP11 PP聚丙烯材质+AISI-316L不锈钢阀和阀座 / PP CONSTRUCTION+AISI-316L VALVE AND SEAT	
PP32 PP聚丙烯材质+哈氏合金阀和INCOLOY 825阀座 / PP CONSTRUCTION + HASTELLOY C VALVE - INCOLOY 825 SEAT	
Z OBL 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法兰连接 / UNI-DIN FLANGED CONNECTIONS	
FA ANSI法兰连接 / ANSI FLANGED CONNECTIONS	

MB系列双泵头泵，第一个泵头接液部材质为PP聚丙烯，第二个泵头接液部材质为AISI 316L 不锈钢。

Two-headed MB pump, first head PP wetted parts, second head AISI 316L.



- MB系列隔膜式计量泵，配PP聚丙烯材质泵头。
- MB series diaphragm metering pump with PP pump head.

流量 / Flow rates • 11+50 L/h (冲程长度 / Stroke 2mm.)
35+155 L/h (冲程长度 / Stroke 4mm.)

马达 / Motors • 三相 0,20/0,30 kW
Threephase special 0,20/0,30 kW
4 极 / Poles - IP55 - I.CL.F - S1 - 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

• 单相 0,24/0,37 kW
Singlephase special 0,24/0,37 kW
4 极 / Poles - IP55 - I.CL.F - S1 - IEC 34-1

220+240 V -	50 Hz
110+115 V -	50 Hz
220+230 V -	60 Hz
110+115 V -	60 Hz

泵头 / Pump • 单泵头及多泵头 / Single and multiple unit

MB系列泵有多泵头可供选择，且每个泵头有不同的最大流量和不同的接液部材质可选。

MB pumps can be supplied with multiheaded arrangement; heads can have different max flow rates and different wetted materials.

调节/Adjustm. • 刻度为0-10的微调旋钮
0-10 scale micrometer knob

材质/Materials • 铝合金底座
Aluminium casing
• 泵头: 玻璃强化的PP聚丙烯泵头
AISI 316L 不锈钢泵头
Glass reinforced PP pump head
or AISI 316L

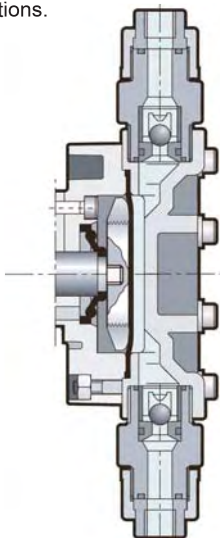
重量/Weight • 10+25 Kg

泵头 PUMP HEADS

PP

PP泵头，螺纹连接。

PP heads, " PP " execution. Threaded connections.



- 单向阀球。
- 进出口连接可选螺纹或法兰形式(根据要求)。
- 输送介质的最高温度可达 45 °C。
- Single valve ball.
- Suction and discharge connections both threaded and flanged (on demand).
- Max. temperature of dosed chemical: 45 °C.

结构材质 MATERIALS OF CONSTRUCTION

部件 / PARTS	PP	PP11	PP32	A
泵头 / LIQUID END	PP	PP	PP	AISI 316L
阀导 / VALVE GUIDE	PP	PP	PP	PP
阀座 / VALVE SEAT	PVC	AISI 316L	INCOLOY 825	AISI 316L
阀球 / VALVE	PYREX	AISI 316L	HASTELLOY C-276	AISI 316L
阀密封 / VALVE SEAL	(FPM)VITON	(FPM)VITON	(FPM)VITON	(FPM)VITON
阀腔 / VALVE HOUSING	PP	PP	PP	AISI 316L
隔膜 / DIAPHRAGM	(PTFE)TEFLON	(PTFE)TEFLON	(PTFE)TEFLON	(PTFE)TEFLON

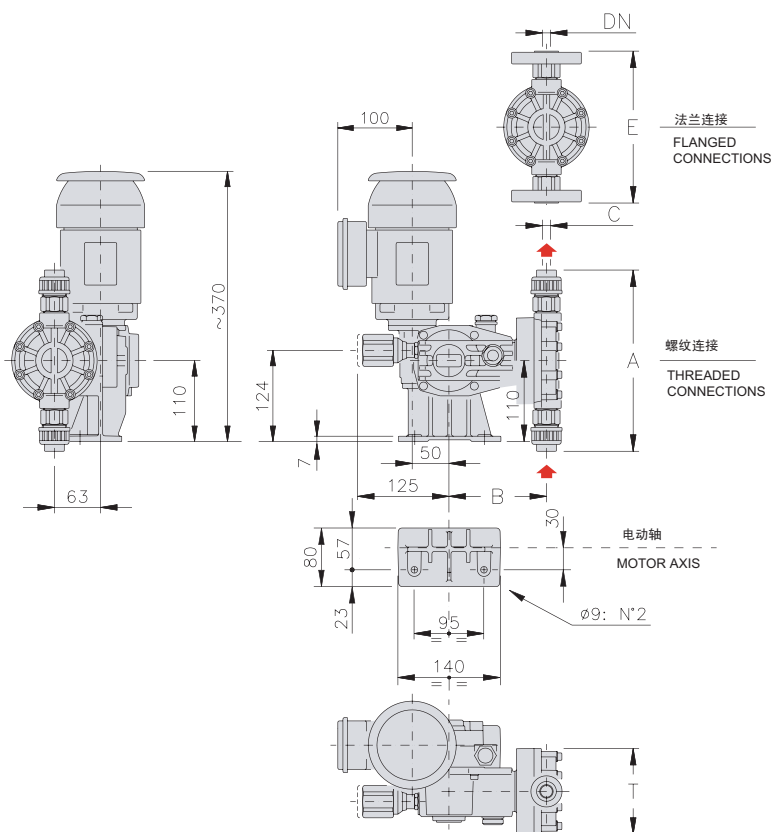
外形尺寸 OVERALL DIMENSIONS

结构特征

- 玻璃强化的PP聚丙烯泵头，以确保与计量液体的化学相容性。
- 无泄漏隔膜泵头。
- 无论泵处于静止或运行状态，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 $\pm 2\%$ 。

CONSTRUCTION CHARACTERISTICS

- Glass reinforced PP 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.
- $\pm 2\%$ accuracy rating from 10 to 100% of the nominal flow rate.



型号 / TYPE		AISI 316						PP						DN	
50Hz	60Hz	A	B	C g.f.	E	T Ø		A	B	C g.f.	E	T Ø		UNI	ANSI
MB11	MB9	166	132,5	3/8" g.f. BSPF	180	114		237	133	3/8" g.f. BSPF	201	117		15	1/2"
MB16	MB14	166	132,5	3/8" g.f. BSPF	180	114		237	133	3/8" g.f. BSPF	201	117		15	1/2"
MB23		166	132,5	3/8" g.f. BSPF	180	114		237	133	3/8" g.f. BSPF	201	117		15	1/2"
MB31	MB28	166	132,5	3/8" g.f. BSPF	180	114		237	133	3/8" g.f. BSPF	201	117		15	1/2"
MB37	MB36	166	132,5	3/8" g.f. BSPF	180	114		237	133	3/8" g.f. BSPF	201	117		15	1/2"
MB50	MB45	166	132,5	3/8" g.f. BSPF	180	114		237	133	3/8" g.f. BSPF	201	117		15	1/2"
MB35	MB42	181	132	3/8" g.f. BSPF	195	129		251	133	3/8" g.f. BSPF	215	133		15	1/2"
MB49	MB58	181	132	3/8" g.f. BSPF	195	129		251	133	3/8" g.f. BSPF	215	133		15	1/2"
MB75	MB90	181	132	3/8" g.f. BSPF	195	129		251	133	3/8" g.f. BSPF	215	133		15	1/2"
MB101		181	132	3/8" g.f. BSPF	195	129		251	133	3/8" g.f. BSPF	215	133		15	1/2"
MB120	MB121	200	133,5	1/2" g.f. BSPF	200	129		251	133	3/8" g.f. BSPF	215	133		15	1/2"
MB155	MB145	166	132,5	3/8" g.f. BSPF	180	114		237	133	3/8" g.f. BSPF	201	117		15	1/2"



50 Hz	TYPE 型号	STROKES/l 冲程次数	FLOW RATE l/h 最大流量	MAX PRESS.BAR 最大压力		CONNECTIONS 连接方式			
				3PH	1PH	THREADED 螺纹连接		FLANGED 法兰连接	
						PP	A	PP	A
50 Hz	MC101	36	100	7	6	3/4" BSPF		DN20-3/4"ANSI	
	MC131	50	132	7	6	3/4" BSPF		DN20-3/4"ANSI	
	MC201	70	197	7	6	3/4" BSPF		DN20-3/4"ANSI	
	MC261	95	260	7	6	3/4" BSPF		DN20-3/4"ANSI	
	MC321	115	320	5	4	1" BSPF		DN25-3/4"ANSI	
	MC421	155	420	5	4	1" BSPF		DN25-3/4"ANSI	
60 Hz	MC120	43	120	7	6	3/4" BSPF		DN20-3/4"ANSI	
	MC158	60	158	7	6	3/4" BSPF		DN22-3/4"ANSI	
	MC236	84	236	7	6	3/4" BSPF		DN20-3/4"ANSI	
	MC312	114	312	5	4	1" BSPF		DN25-3/4"ANSI	
	MC384	138	384	5	4	1" BSPF		DN25-3/4"ANSI	

↓ 型号详解 MODEL NUMBER

编码详解	KEY TO SYMBOL
泵的型号 / PUMP MODEL	
流量 l/h / FLOW RATE l/h	
PP PP聚丙烯材质 / PP CONSTRUCTION	
A AISI-316L 不锈钢材质 / AISI-316L CONSTRUCTION	
PP11 PP聚丙烯材质+AISI-316L不锈钢阀和阀座 / PP CONSTRUCTION+AISI-316L VALVE AND SEAT	
PP32 PP聚丙烯材质+哈氏合金阀和INCOLOY 825阀座 / PP CONSTRUCTION + HASTELLOY C VALVE - INCOLOY 825 SEAT	
Z OBL 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法兰连接 / UNI-DIN FLANGED CONNECTIONS	
FA ANSI法兰连接 / ANSI FLANGED CONNECTIONS	

MC/421/PP/F/Z



MC系列PP聚丙烯材质双泵头泵, 带有PVC管接头(1" BSP螺纹接口连接)
最大流量 840 l/h, 最大压力5 bar g。

Two-headed MC PP pump head with PVC manifold (1" BSP f threaded connections). Max flow rate 840 l/h, max pressure 5 bar g.



- MC系列隔膜式计量泵
PP聚丙烯材质泵头。
- MC series diaphragm metering pump with PP pump head.

流量 / Flow rates • 100+420 L/h (冲程长度 / Strok 6 mm.)

马达 / Motors • 三相 0.30 KW
Threephase special 0,30 kW
4 极 / Poles - IP55 - I.CL.F - S1 - 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

• 单相 0,24/0,37 kW
Singlephase special 0,24/0,37 kW
4 极 / Poles - IP55 - I.CL.F - S1 - IEC 34-1

220+240 V - 50 Hz
110+115 V - 50 Hz
220+230 V - 60 Hz
110+115 V - 60 Hz

泵 / Pump • 单泵头及多泵头 / Single and multiple unit

MC系列泵有多泵头可供选择, 且每个泵头有不同的最大流量和不同的接液部材质可选。

MC系列泵有PVC管接口可供选择, 最大流量1200 l/h, 最大压力4bar g。

MC pumps can be supplied with multiheaded arrangements heads can have different max flow rates and different wetted materials.

MC pumps can be supplied with PVC suction and discharge manifold reaching max flow rates of 1200 litres per hour at max pressure of 4 bar g.

调节 / Adjustm. • 刻度为0-10 的微调旋钮
0-10 scale micrometer knob

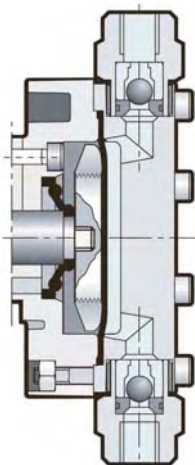
材质 / Materials • 铝合金底座
Aluminium casing
• 玻璃强化的PP聚丙烯泵头
AISI 316L不锈钢泵头
Glass reinforced PP pump head or AISI 316L

重量 / Weight • 12+25 Kg

泵头 PUMP HEADS

↓ AISI 316L

AISI 316L 不锈钢泵头，螺纹连接。
AISI 316L heads. "A" execution.
Threaded connections.



- 单向阀球。
- 进出口连接可选螺纹或法兰形式(根据要求)。
- 输送介质的最高温度可达 45 °C。
- Single valve ball.
- Suction and discharge connections both threaded and flanged (on demand).
- Max. temperature of dosed chemical: 45 °C.

↓ 结构材质 MATERIALS OF CONSTRUCTION

部件 / PARTS	PP	PP11	PP32	A
泵头 / LIQUID END	PP	PP	PP	AISI 316L
阀导 / VALVE GUIDE	PP	PP	PP	PP
阀座 / VALVE SEAT	PVC	AISI 316L	INCOLOY 825	AISI 316L
阀球 / VALVE	PYREX	AISI 316L	HASTELLOY C-276	AISI 316L
阀密封 / VALVE SEAL	(FPM)VITON	(FPM)VITON	(FPM)VITON	(FPM)VITON
阀腔 / VALVE HOUSING	PP	PP	PP	AISI 316L
隔膜 / DIAPHRAGM	(PTFE)TEFLON	(PTFE)TEFLON	(PTFE)TEFLON	(PTFE)TEFLON

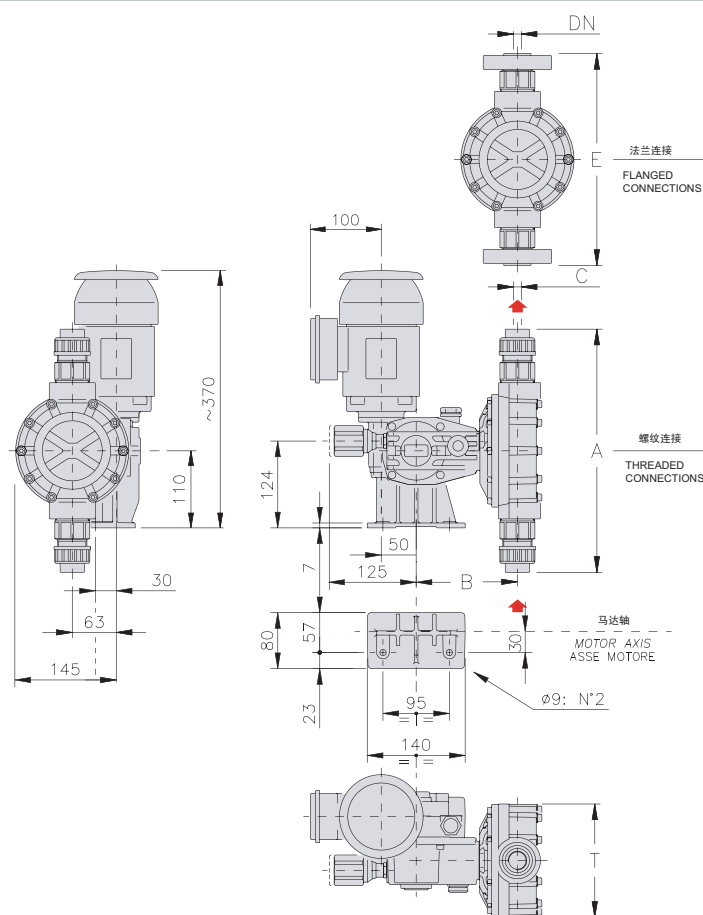
↓ 外形尺寸 OVERALL DIMENSIONS

结构特征

- 电镀铝合金泵支架。
- 无泄漏隔膜泵头。
- 无论泵处于静止或运行状态，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 $\pm 2\%$ 。

CONSTRUCTION CHARACTERISTICS

- Anodised aluminium pump head support.
- Leak-free diaphragm pump head.
- Smooth and linear adjustment, either stationary or running, by means of micrometer knob.
- $\pm 2\%$ accuracy rating from 10 to 100% of the nominal flow rate.



型号 / 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"		

↓ 机械隔膜式计量泵 MECHANICAL DIAPHRAGM METERING PUMPS

OBL MD系列为带弹簧回复的机械隔膜式计量泵。此系列泵结合了活塞泵的工作特性和隔膜泵的密封特质。

高质量的隔膜以及简单的设计，使得泵的操作简单易行。

The OBL MD series are mechanical diaphragm spring return mechanism metering pumps. They combine the working characteristics of a plunger with the sealing advantages of a diaphragm pump.

Thanks to the quality and simple design of the diaphragm, these pumps are easy-hand-ling.

↓ 结构材质 MATERIALS OF CONSTRUCTION

部件 / PARTS	PP	PP11	PP32	A
泵头 / LIQUID END	PP	PP	PP	AISI 316L
阀导 / VALVE GUIDE	PP	PP	PP	PP
阀座 / VALVE SEAT	PVC	AISI 316L	INCOLOY 825	AISI 316L
阀球 / VALVE	PYREX	AISI 316L	HASTELLOY C-276	AISI 316L
阀密封 / VALVE SEAL	(FPM)VITON	(FPM)VITON	(FPM)VITON	(FPM)VITON
阀腔 / VALVE HOUSING	PP	PP	PP	AISI 316L
隔膜 / DIAPHRAGM	(PTFE)TEFLON	(PTFE)TEFLON	(PTFE)TEFLON	(PTFE)TEFLON



三相马达 / Threephase motor
0,37 kW - 230/400 V - 50/60 Hz
4 极 / poles - IP55 - CL F - IEC38-1
马达标准 71-B14
Standard motor 71-B14

玻璃材质填充的PP
聚丙烯泵头
Glass filled
PP pump head

标准的手动调节
Standard manual
adjustment

黑色电镀铝合金底座
Black anodizing Aluminium casing

镀特氟龙PTFE材质的
铸铁隔膜腔
PTFE coated cast iron
diaphragm chamber

特点概述

- 隔膜式，经济型，耐用且结构紧凑的计量泵。
- 机械隔膜工作时，既具有活塞泵一样的冲程排量，同时又将流程端液体与机械传动系统隔离。
- 泵的构件数量少，便于维修和保养。
- 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独特的抗压隔膜使泵具有无泄漏的特点。
- 高度的工作安全性：
 - 无外部活动件
 - 无泄漏操作
- 最大自吸高度：1.5 m.w.c.（参见操作手册）

GENERAL FEATURES

- Diaphragm, economical, robust, compact metering pump.
- The mechanical diaphragm works both giving the swept volume, acting basically as plunger, and as separator between casing and the pumped 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).

调节系统 ADJUSTMENT SYSTEMS

- 手动调节：可通过旋转刻度为0-10的微调旋钮实现调节。
- 电子调节：可通过使用OBL设计的Z型电子调节器实现调节。
- 气动调节：可通过使用3-15 PSI的W型气动调节器实现调节。
- Manual: With 0-10 scale micrometer knob.
- Electric: Via of OBL designed type Z electrical actuator.
- Pneumatic: Via of a 3-15 PSI, type W, pneumatic actuator.

标准手动调节 STANDARD MANUAL ADJUSTMENT

- 通过旋转刻度为0-10的微调旋钮实现调节。
- Adjustment via 0-10 scale micrometer knob.



可选手动调节 ON DEMAND MANUAL ADJUSTMENT

- 可通过旋转盘面刻度为0-100%的手动轮实现调节。
- 0-100% scale dial handwheel.



电子调节器 ELECTRIC ACTUATORS

Z

- 根据以下标准进行自动调节：
 - 4÷20 mA
 - 0÷20 mA
 - 20÷4 mA
 - 0÷10 V
- 脉冲信号：0,2÷2 Hz, 1,5÷30 Hz
- 通信协议：RS 485
- 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



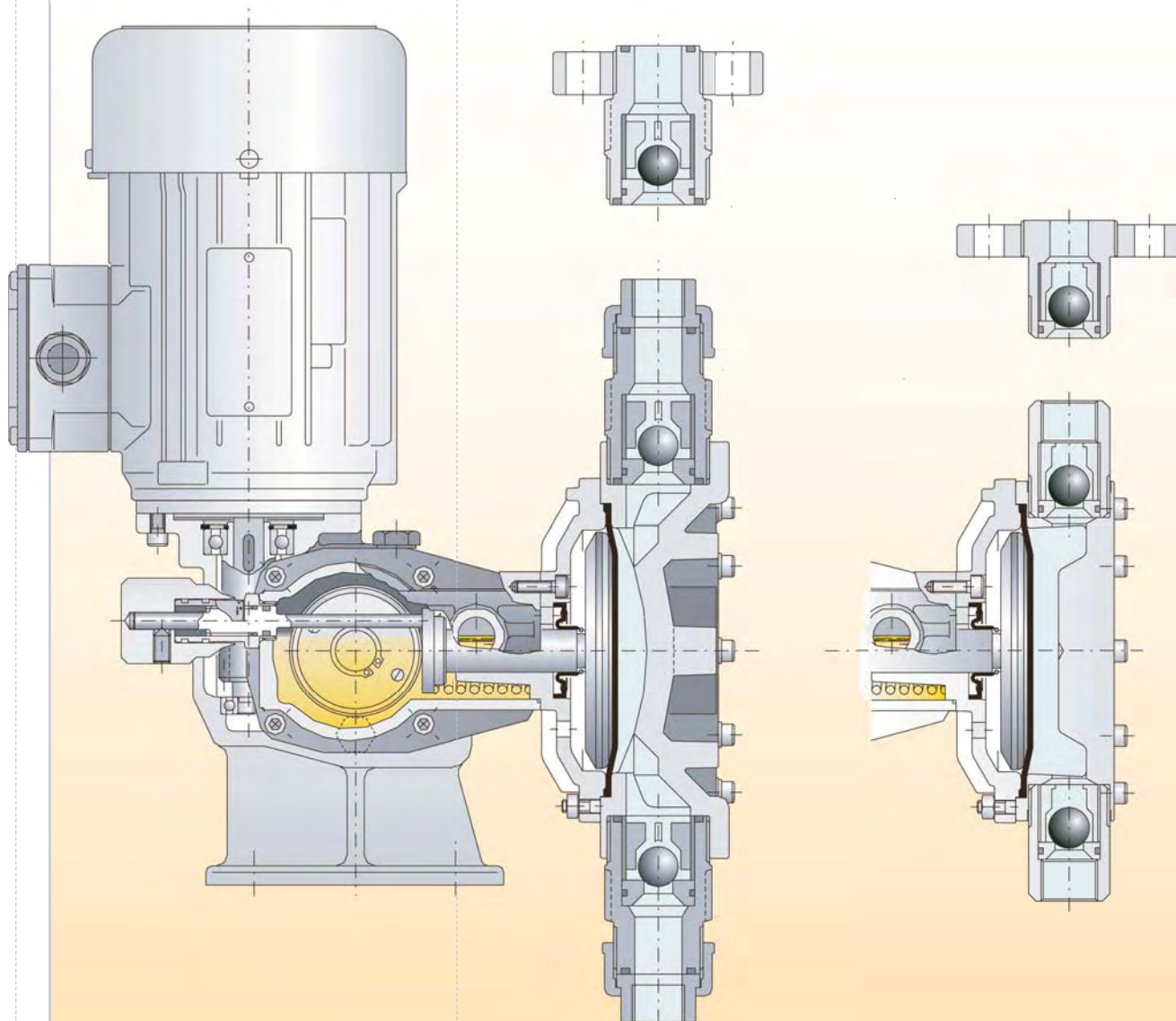
 切面图 SECTIONAL VIEW

 泵头

- 单阀球和双阀球。
- 进出口连接可选螺纹或法兰形式(根据要求)。
- 最大吸程: 1.5 m.w.c. (参见操作手册)。
- 输送介质的最高温度可达45 °C。

PUMP HEADS

- Double and 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.



PP聚丙烯材质泵头的运行图
PP head. "PP"execution

AISI 316L不锈钢材质泵头的运行图
AISI 316Lhead. "A"execution

隔膜特征

OBL独特的机械隔膜设计(已获专利),确保了流量对容积空间的控制,具有类似活塞的工作性能。

流量实际上并不受工作压力变化的影响。

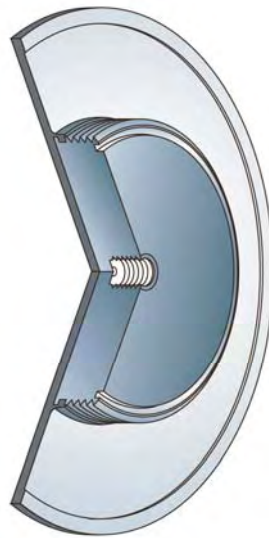
DIAPHRAGM STRUCTURE

The OBL's unique (patented) mechanical diaphragm design ensures controlled volumetric displacement, giving plunger-like performances.

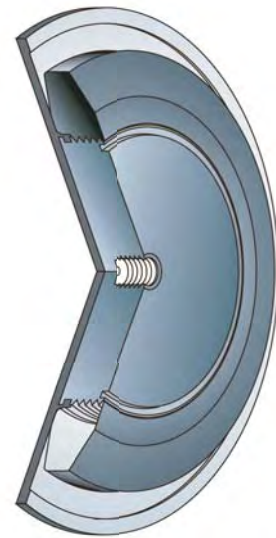
Thus the flow rate is virtually unaffected by the working pressure variations.

隔膜切面图 DIAPHRAGM SECTIONAL VIEW

无PVC支撑环的横切面图。
Sectional view without PVC support ring



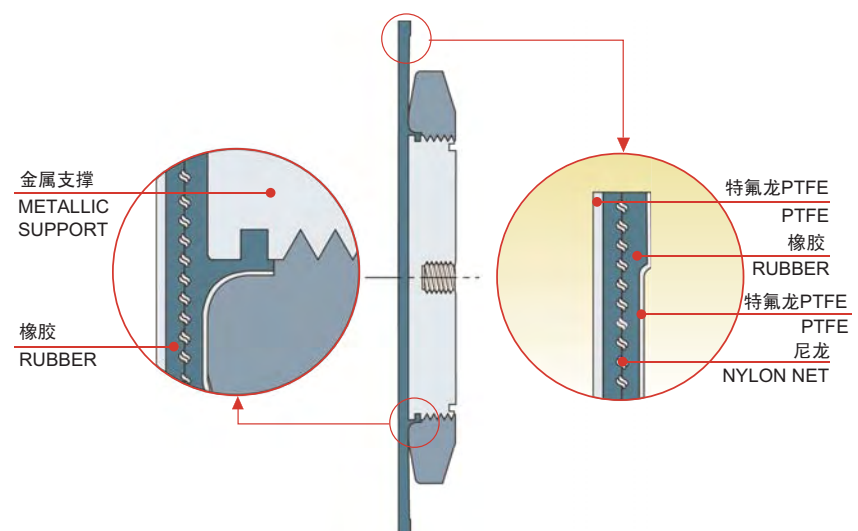
完整的带PVC支撑环的横切面图。
Complete sectional view with PVC support ring



隔膜与金属支撑之间的连接详图

DETAIL OF THE BONDING BETWEEN DIAPHRAGM AND METALLIC SUPPORT

代表性隔膜
Cross-section of the diaphragm.





技术数据 TECHNICAL DATA

50 Hz

冲程长度 STROKE LENGTH	隔膜直径 DIAPHRAGM 直径	型号 TYPE	冲程次数 STROKES / 1'	最大流量 MAX FLOW RATE l/h	最大压力 MAX PRESSURE bar	连接方式 / CONNECTIONS			
						螺纹连接 THREADED		法兰连接 FLANGED	
						PP	A	PP	A
1	65	MD1	36	1	10	1/4" g.f.- BSPF		DN154/2" ANSI 150#RF	
1	65	MD1,6	50	1,5	10	1/4" g.f.- BSPF		DN154/2" ANSI 150#RF	
1	65	MD2,4	70	2,4	10	1/4" g.f.- BSPF		DN154/2" ANSI 150#RF	
1	65	MD3,5	95	3,5	10	1/4" g.f.- BSPF		DN154/2" ANSI 150#RF	
1	65	MD4	115	4	10	1/4" g.f.- BSPF		DN154/2" ANSI 150#RF	
1	65	MD5,5	155	5,5	10	1/4" g.f.- BSPF		DN154/2" ANSI 150#RF	
2	65	MD3,1	36	3	10	1/4" g.f.- BSPF		DN154/2" ANSI 150#RF	
2	65	MD4,5	50	4,5	10	1/4" g.f.- BSPF		DN154/2" ANSI 150#RF	
2	65	MD7,1	70	7	10	1/4" g.f.- BSPF		DN154/2" ANSI 150#RF	
2	65	MD8,5	95	8,5	10	1/4" g.f.- BSPF		DN154/2" ANSI 150#RF	
2	65	MD10,5	115	10	10	1/4" g.f.- BSPF		DN154/2" ANSI 150#RF	
2	65	MD13	155	13	10	1/4" g.f.- BSPF		DN154/2" ANSI 150#RF	
2	94	MD11	36	11	10	1/4" g.f.- BSPF		DN154/2" ANSI 150#RF	
2	94	MD16	50	16	10	1/4" g.f.- BSPF		DN154/2" ANSI 150#RF	
2	94	MD23	70	23	10	3/8" g.f.- BSPF		DN154/2" ANSI 150#RF	
2	94	MD31	95	31	10	3/8" g.f.- BSPF		DN154/2" ANSI 150#RF	
2	94	MD37	115	37	10	3/8" g.f.- BSPF		DN154/2" ANSI 150#RF	
2	94	MD50	155	50	10	3/8" g.f.- BSPF		DN154/2" ANSI 150#RF	
4	108	MD35	36	35	10	3/8" g.f.- BSPF		DN154/2" ANSI 150#RF	
4	108	MD49	50	49	10	3/8" g.f.- BSPF		DN154/2" ANSI 150#RF	
4	108	MD75	70	75	10	3/8" g.f.- BSPF		DN154/2" ANSI 150#RF	
4	108	MD101	95	101	10	3/8" g.f.- BSPF		DN154/2" ANSI 150#RF	
4	108	MD120	115	120	10	3/8" g.f.- BSPF	1/2" g.f.- BSPF	DN154/2" ANSI 150#RF	
4	108	MD155	155	155	10	3/8" g.f.- BSPF	1/2" g.f.- BSPF	DN154/2" ANSI 150#RF	
6	138	MD102	36	100	7	3/4" g.f.- BSPF		DN20-3/4" ANSI 150#RF	
6	138	MD131	50	132	7	3/4" g.f.- BSPF		DN20-3/4" ANSI 150#RF	
6	138	MD201	70	197	6	3/4" g.f.- BSPF		DN20-3/4" ANSI 150#RF	
6	138	MD261	95	260	6	3/4" g.f.- BSPF		DN20-3/4" ANSI 150#RF	
6	138	MD321	115	320	5	1" g.f.- BSPF		DN25-1" ANSI 150#RF	
6	138	MD421	155	420	5	1" g.f.- BSPF		DN25-1" ANSI 150#RF	
6	165	MD150	36	150	5	1" g.f.- BSPF		DN25-1" ANSI 150#RF	
6	165	MD190	50	200	5	1" g.f.- BSPF		DN25-1" ANSI 150#RF	
6	165	MD301	70	300	5	1" g.f.- BSPF		DN25-1" ANSI 150#RF	
6	165	MD431	95	435	5	1" g.f.- BSPF		DN25-1" ANSI 150#RF	
6	165	MD521	115	520	5	1" g.f.- BSPF		DN25-1" ANSI 150#RF	

60 Hz

1	65	MD0,8	30	0,8	10	1/4" g.f.- BSPF		DN154/2" ANSI 150#RF	
1	65	MD1,2	43	1,2	10	1/4" g.f.- BSPF		DN1 1/2" ANSI 150#RF	
1	65	MD2,9	84	2,9	10	1/4" g.f.- BSPF		DN154/2" ANSI 150#RF	
1	65	MD4,2	118	4,2	10	1/4" g.f.- BSPF		DN154/2" ANSI 150#RF	
1	65	MD4,8	138	4,8	10	1/4" g.f.- BSPF		DN154/2" ANSI 150#RF	
2	65	MD2,6	30	2,6	10	1/4" g.f.- BSPF		DN154/2" ANSI 150#RF	
2	65	MD3,9	43	3,9	10	1/4" g.f.- BSPF		DN154/2" ANSI 150#RF	
2	65	MD8,4	84	8,4	10	1/4" g.f.- BSPF		DN154/2" ANSI 150#RF	
2	65	MD10,2	118	10,2	10	1/4" g.f.- BSPF		DN154/2" ANSI 150#RF	
2	65	MD12	138	12	10	1/4" g.f.- BSPF		DN154/2" ANSI 150#RF	
2	94	MD9	30	9	10	1/4" g.f.- BSPF		DN154/2" ANSI 150#RF	
2	94	MD14	43	14	10	1/4" g.f.- BSPF		DN1 1/2" ANSI 150#RF	
2	94	MD28	84	28	10	3/8" g.f.- BSPF		DN154/2" ANSI 150#RF	
2	94	MD36	118	36	10	3/8" g.f.- BSPF		DN154/2" ANSI 150#RF	
2	94	MD45	138	45	10	3/8" g.f.- BSPF		DN154/2" ANSI 150#RF	
4	108	MD42	43	42	10	3/8" g.f.- BSPF		DN154/2" ANSI 150#RF	
4	108	MD58	60	58	10	3/8" g.f.- BSPF		DN154/2" ANSI 150#RF	
4	108	MD90	84	90	10	3/8" g.f.- BSPF		DN154/2" ANSI 150#RF	
4	108	MD121	118	121	10	3/8" g.f.- BSPF	1/2" g.f.- BSPF	DN154/2" ANSI 150#RF	
4	108	MD145	138	145	10	3/8" g.f.- BSPF	1/2" g.f.- BSPF	DN154/2" ANSI 150#RF	
6	138	MD119	43	120	7	3/4" g.f.- BSPF		DN20-3/4" ANSI 150#RF	
6	138	MD158	60	158	6	3/4" g.f.- BSPF		DN20-3/4" ANSI 150#RF	
6	138	MD236	84	236	6	3/4" g.f.- BSPF		DN20-3/4" ANSI 150#RF	
6	138	MD312	118	312	5	1" g.f.- BSPF		DN25-1" ANSI 150#RF	
6	138	MD384	138	384	5	1" g.f.- BSPF		DN25-1" ANSI 150#RF	
6	165	MD180	43	165	5	1" g.f.- BSPF		DN25-1" ANSI 150#RF	
6	165	MD228	60	228	5	1" g.f.- BSPF		DN25-1" ANSI 150#RF	
6	165	MD360	84	350	5	1" g.f.- BSPF		DN25-1" ANSI 150#RF	
6	165	MD519	118	515	5	1" g.f.- BSPF		DN25-1" ANSI 150#RF	



- 流量 / Flow rates
- 1-13 L/h (冲程长度 / stroke lenght 1-2mm.)
 - 11-50 L/h (冲程长度 / stroke lenght 2mm.)
 - 35-155 L/h (冲程长度 / stroke lenght 4mm.)
 - 102-521 L/h (冲程长度 / stroke lenght 6mm.)

- 马达 / Motors
- 三相 / Threephase 0,37 kW
 - 4 极 / poles - IP55 - CL F - IEC 34-1
 - 马达标准 71-B14
 - Standard motor 71-B14

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

- 单相 / Singlephase
- 4 极 / poles - IP55 - CL F - IEC 38-1
- 马达标准 71-B14
- Standard motor 71-B14

220+240 V - 50Hz - 0,37 kW
 110+115 V - 50Hz - 0,25 kW
 220+230 V - 60Hz - 0,37 kW
 110+115 V - 60Hz - 0,25 kW

- 泵 / Pump
- 可预设多重泵头
 - Preset for multiple heads
- 材质 / Materials
- 镀特氟龙PTFE铸铁隔膜腔
 - PTFE coated cast iron diaphragm chamber
 - 铝合金底座
 - Aluminium casing

- 重量 / Weight
- 17 Kg

型号详解 MODEL NUMBER

编码详解	KEY TO SYMBOL
泵的类型 / PUMP MODEL	
流量 l/h / FLOW RATE l/h	
PP	PP 聚丙烯材质 / PP CONSTRUCTION
A	AlSi-316L 不锈钢材质 / AISI-316L CONSTRUCTION
PP11	PP 聚丙烯材质+AlSi-316L 不锈钢阀和阀座 / PP CONSTRUCTION+AlSi-316L VALVE AND SEAT
PP32	PP 聚丙烯材质+哈氏合金阀和Incoloy 825 阀座 / PP CONSTRUCTION + HASTELLOY C VALVE - INCOLOY 825 SEAT
Z	OBL 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 法兰连接 / UNI-DIN FLANGED CONNECTIONS
FA	ANSI 法兰连接 / ANSI FLANGED CONNECTIONS

MD 521 PP F Z

结构特征

- 镀特氟龙PTFE的铸铁隔膜腔，确保与计量液体的化学相容性。
- 无泄漏隔膜泵头。
- 无论泵处于静止或运行状态，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 $\pm 2\%$ 。

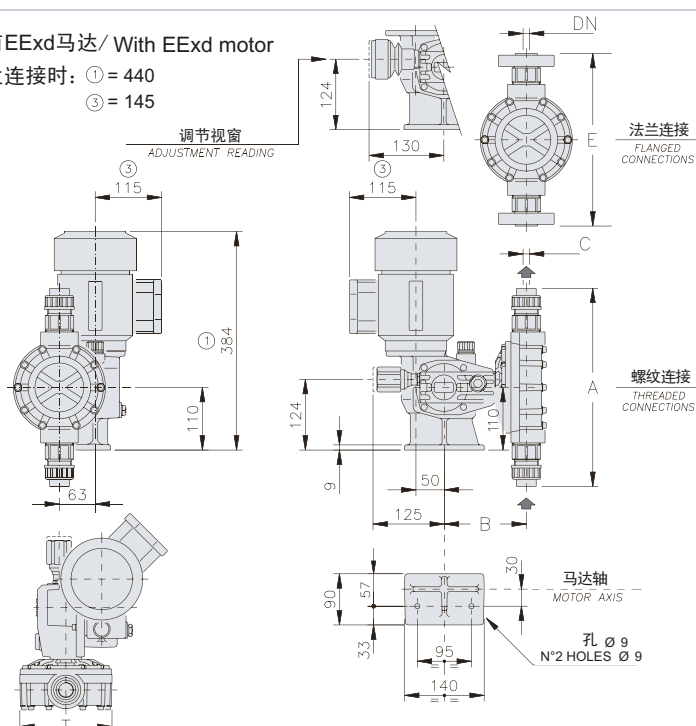
CONSTRUCTION CHARACTERISTICS

- PTFE coated cast iron diaphragm chamber ensures chemical compatibility with any dosed liquid.
- Leak-free diaphragm pump head.
- Smooth and linear adjustment, either stationary or running, via micrometer knob.
- $\pm 2\%$ accuracy within 10 to 100% of the nominal flow rate.

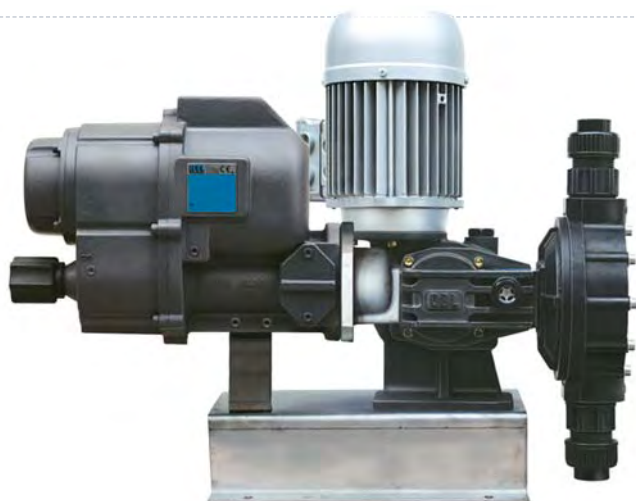
外形尺寸 OVERALL DIMENSIONS

带有EExd马达/ With FExd motor

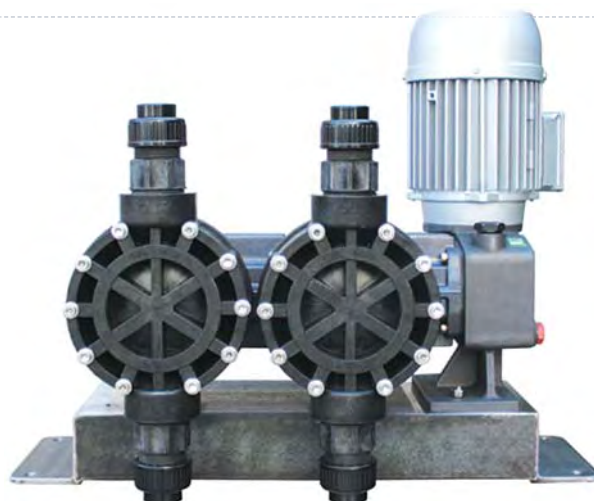
法兰连接时: ① = 440

$$\textcircled{3} = 145$$


MD 系列		AISI 316 L								PP								DN	
50Hz	60Hz	A	ADV	B	C	g.f.	E	EDV	TØ	A	ADV	B	C	g.f.	E	EDV	TØ	UNI	ANSI
1+13	0,8+12	-	179	135	1/4" g.f.	BSPF	-	155	90	-	222	141	1/4" g.f.	BSPF	-	170	98	15	1/2"
11	9	-	204	132,5	1/4" g.f.	BSPF	-	180	114	237	275	133	1/4" g.f.	BSPF	201	215	117	15	1/2"
16	14	-	204	132,5	1/4" g.f.	BSPF	-	180	114	237	275	133	1/4" g.f.	BSPF	201	215	117	15	1/2"
23	28	166	204	132,5	3/8" g.f.	BSPF	180	180	114	237	275	133	3/8" g.f.	BSPF	201	215	117	15	1/2"
31	36	166	204	132,5	3/8" g.f.	BSPF	180	180	114	237	275	133	3/8" g.f.	BSPF	201	215	117	15	1/2"
37	45	166	204	132,5	3/8" g.f.	BSPF	180	180	114	237	275	133	3/8" g.f.	BSPF	201	215	117	15	1/2"
50	-	166	204	132,5	3/8" g.f.	BSPF	180	180	114	237	275	133	3/8" g.f.	BSPF	201	215	117	15	1/2"
35	-	181	219	132	3/8" g.f.	BSPF	195	195	129	251	289	133	3/8" g.f.	BSPF	215	229	133	15	1/2"
49	42	181	219	132	3/8" g.f.	BSPF	195	195	129	251	289	133	3/8" g.f.	BSPF	215	229	133	15	1/2"
75	58	181	219	132	3/8" g.f.	BSPF	195	195	129	251	289	133	3/8" g.f.	BSPF	215	229	133	15	1/2"
101	90	181	219	132	3/8" g.f.	BSPF	195	195	129	251	289	133	3/8" g.f.	BSPF	215	229	133	15	1/2"
120	121	200	252	133,5	1/2" g.f.	BSPF	200	220	129	251	289	133	3/8" g.f.	BSPF	215	229	133	15	1/2"
155	145	200	252	133,5	1/2" g.f.	BSPF	200	220	129	251	289	133	3/8" g.f.	BSPF	215	229	133	15	1/2"
102	-	235	-	142	3/4" g.f.	BSPF	235	-	159	347	-	145	3/4" g.f.	BSPF	303	-	162	20	3/4"
131	119	235	-	142	3/4" g.f.	BSPF	235	-	159	347	-	145	3/4" g.f.	BSPF	303	-	162	20	3/4"
201	158	235	-	142	3/4" g.f.	BSPF	235	-	159	347	-	145	3/4" g.f.	BSPF	303	-	162	20	3/4"
261	236	235	-	142	3/4" g.f.	BSPF	235	-	159	347	-	145	3/4" g.f.	BSPF	303	-	162	20	3/4"
321	312	276	-	140	1" g.f.	BSPF	261	-	159	355	-	145	1" g.f.	BSPF	303	-	162	25	1"
421	384	276	-	140	1" g.f.	BSPF	261	-	159	355	-	145	1" g.f.	BSPF	303	-	162	25	1"
150	-	307	-	149	1" g.f.	BSPF	293	-	189	386	-	148	1" g.f.	BSPF	336	-	194	25	1"
190	180	307	-	149	1" g.f.	BSPF	293	-	189	386	-	148	1" g.f.	BSPF	336	-	194	25	1"
301	228	307	-	149	1" g.f.	BSPF	293	-	189	386	-	148	1" g.f.	BSPF	336	-	194	25	1"
431	360	307	-	149	1" g.f.	BSPF	293	-	189	386	-	148	1" g.f.	BSPF	336	-	194	25	1"
521	519	307	-	149	1" g.f.	BSPF	293	-	189	386	-	148	1" g.f.	BSPF	336	-	194	25	1"



MD系列PP聚丙烯泵头计量泵，带有Z型电子调节器。
PP head MD metering pump, with electric actuator Z.



MD系列双泵头计量泵, PP聚丙烯泵头, 螺纹连接
Doubleheaded MD metering pump with PP heads. Threaded connections.

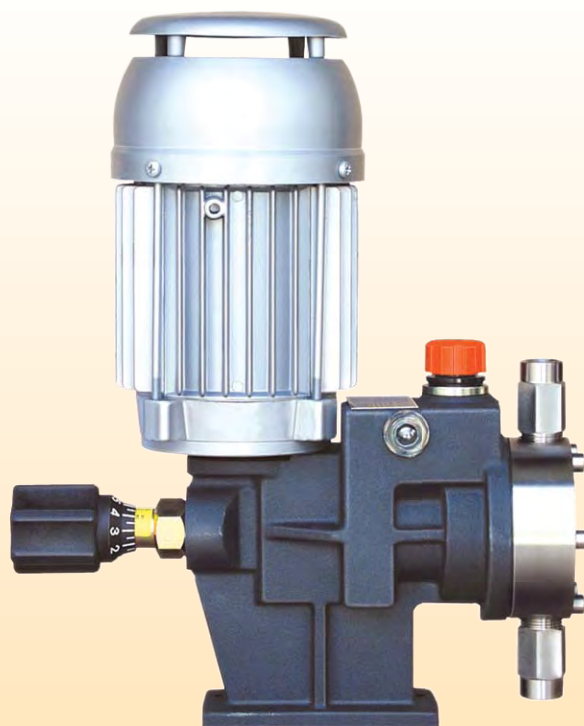


液压隔膜式计量泵 HYDRAULIC DIAPHRAGM METERING PUMPS

特点概述 GENERAL FEATURES

- XRN系列计量泵为往复式容积泵。
 - 隔膜的运动由恒速马达来推动，带弹簧复位机构。液体排出冲程由活塞的凸轮执行，液体吸入冲程则由弹簧复位来完成。
 - 0-100的流量调节由活塞的冲程长度来控制，通过调节带螺纹的旋钮即可。
 - 铝合金整体构造，液压系统部件少，结构设计紧凑且经济。
-
- OBL "XRN" series metering pumps are controlled-volume reciprocating pumps.
 - The diaphragm operating mechanism, driven by a constant speed motor, is a spring-return cam. The stroke rate of the plunger is determined by the oil-bathed worm reduction gear. The discharge stroke is given by direct contact of the cam with the plunger, while the suction stroke is effected by the return spring.
 - 0-100 flow rate adjustment is achieved by limiting the return stroke of the plunger by means of threaded stop with micrometer adjustment.
 - The aluminium monobloc construction offers the advantage of a hydraulic system in a compact and economical design with few components.

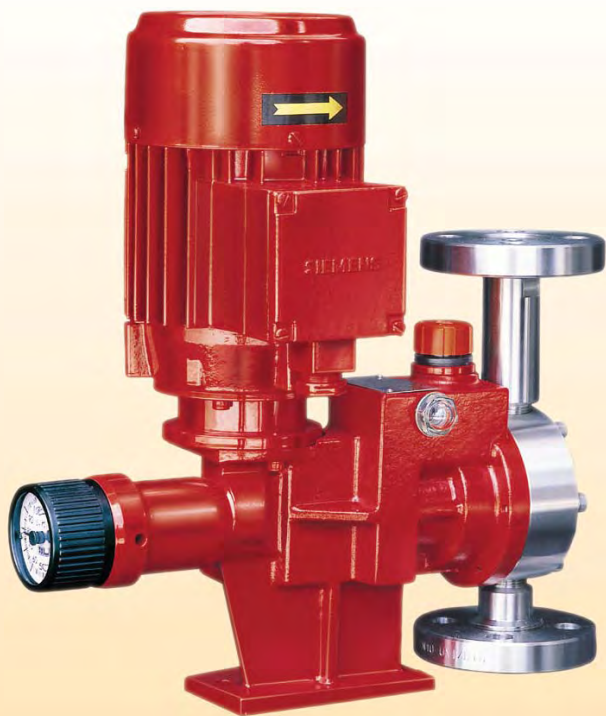
XRN



特点概述 GENERAL FEATURES

- XR系列计量泵为往复式容积泵。
 - 铝合金整体构造，液压系统部件少，结构设计紧凑且经济。
 - 液压系统带有自动补油装置，运行安全可靠。
 - 符合ATEX/94/9/CE标准，内置安全阀，可适用于1级或2级危险区域。
-
- OBL "XR" series metering pumps are controlled-volume reciprocating pumps.
 - The aluminium monobloc construction offers the advantage of a hydraulic system in a compact and economical design with few components.
 - The hydraulic system with its mechanically actuated replenishing (smart diaphragm) system overcomes many common suction and discharge problems.
 - Compliance with ATEX normative 94/9/CE, with possible installation in both zone (of danger) 1 and 2, thanks to the built-in relief valve.

XR





XL XLB

特点概述 GENERAL FEATURES

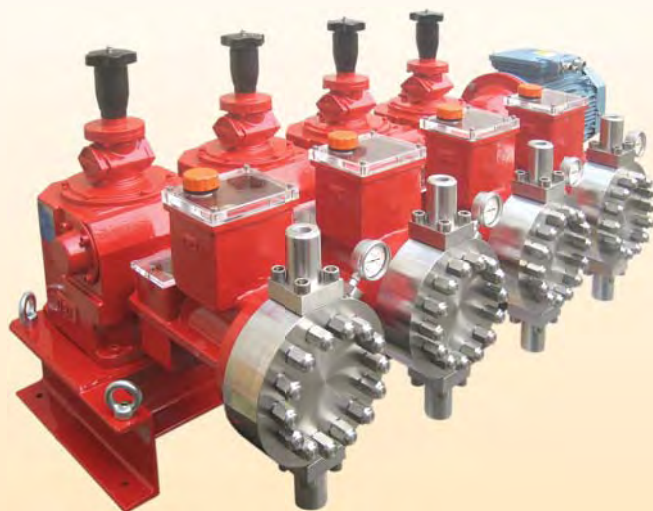
- 保养成本降至最低，活塞在一个充满液压油的腔体内运行，无包装，保养周期为在其运行50,000小时后。内置安全阀及机械自动补油系统使其工作寿命超过50000小时。
- 隔膜与泵头分开，即使拆卸泵头，隔膜仍会保持在泵体上而没有油泄漏。此设计简化了保养程序。
- 内置安全阀至少节省了50%的安装成本。
- 机械部件少，性价比高。
- Maintenance is reduced to a minimum .The plunger operates in an oil bath, without packing, and maintains as-new volumetric efficiency even after 50,000 working hours, The diaphragm protected by the built-in relief valve and mechanically actuated oil-replenishing system, has a working life in excess of 50.000 hours.
- The diaphragm is held independently of the pump head , so that when the head dismantled, the diaphragm is retained in the body and no oil is lost. This significantly improves the ease of maintenance .
- The inclusion of an integral safety valve results in some 50% cost saving on the installation.
- Excellent value for the money is achieved thanks to the few components mechanism .



X9

特点概述 GENERAL FEATURES

- 具有多种规格的水平卧式泵，多种冲程次数（每台泵都有独立的内置减速齿轮），以减少脉冲和不同工艺流程的技术要求。
- X9 STD泵头材质包括：316L SS,PVC, PVDF,PTFE（特殊的结构及材质可根据要求定制）。
- X9系列符合API 675标准，达到了此标准在构造、设计及性能表现方面的要求。
- X9系列符合ATEX 94/9/CE标准，适用于Group II, category 2 (zone 1/21)和Group II, category 3 (zone 2/22)的工矿环境。
- Modular horizontal pumps combination with different sizes and strokes per minute (each pump has its own independent internal reduction gear),for pulse-less or different injection points technical requirements.
- X9 STD pump head material include SS316L, PVC, PVDF and PTFE .Special construction with exotic materials on demand.
- X9 series conform to API 675 standard, meeting its constructional, design and performances requirements.
- X9 series compliance (94/9/CE) ,suitable for installation in group II, category 2 (zone 1/21) and group II category 3 (zone 2/22) .





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