

A CATALOGUE FOR MPP PISTON/PLUNGER METERING PUMP

-  Food & Beverage
-  Mining
-  Paints & Dyes
-  Petrochemical
-  Pharmaceutical
-  Pulp & Paper
-  Power & Energy
-  Water Treatment

**1 Full Year
Factory
Warranty**



SIKO PUMP, specialized chemical handing pump manufacturer (www.sikopump.com)
metering pump, magnetic driving pump, diaphragm pump, bellows pump, rotary pump... ..

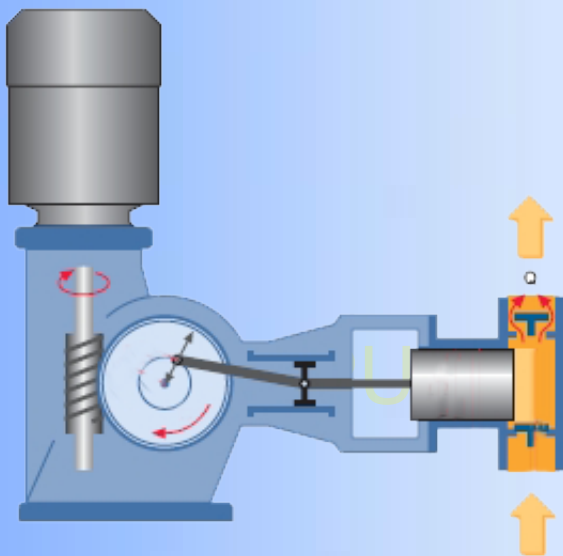
Introduction of Metering Pump

The **metering pump** is a positive displacement chemical dosing device with the ability to vary capacity manually or automatically as process conditions require. It features a high level of repetitive accuracy and is capable of pumping a wide range of chemicals including acids, bases, corrosives or viscous liquids and slurries.

The pumping action is developed by a reciprocating piston which is either in direct contact, with the process fluid, or is shielded from the fluid by a diaphragm. Diaphragms are actuated by hydraulic fluid between the piston and the diaphragm.

Metering pumps are generally used in applications where one or more of the following conditions exist:

- Low flow rates in l/hr or GPH are required
- High system pressure exists
- High accuracy feed rate is demanded
- Corrosive, hazardous, or high temperature fluids are handled
- Viscous fluids or slurries need to be pumped



Working Principle of the Metering Pump

Metering pumps normally comprise of a motor, gearbox and pump head. The gear reduces the motor speed and converts the rotary motion into a reciprocating movement of a plunger in the pump head.

The plunger movement generates a stream of liquid utilizing a suction and discharge valve that are opened and closed alternately. Suction and discharge valves are self-acting.

Flow rate of a metering pump is basically defined by the **plunger diameter, stroke length and stroking speed**.



Type of Metering Pump(Liquid end)

Usually the metering pumps are divided into three types, according to the metering pump **Liquid End Structure**:

Piston/plunder Metering Pump--In this type metering pump, the liquid end is just the piston, so the piston will contact the liquid directly. The pump structure is simple, but need packing seal for the piston, and also the piston type pump can reach a high pressure

Mechanical Actuated Diaphragm Metering Pump---In this type pump, the liquid end is changed into a diaphragm. So the liquid is complete separated. It is widely used for Corrosive, hazardous liquid. But this pump pressure can be no very high

Hydraulic Actuated Diaphragm Metering Pump---Similar as the mechanical diaphragm type, the liquid is completely separated, and by apply the hydraulic power, it can get much higher pressure than the mechanical type.

In this catalogue, we will discuss

Piston/plunger Metering Pump

Common Drive Mechanism(Drive mechanism end)

As for the metering pump drive mechanism end, usually they have a similar structure. The worm wheel and worm transfer the motor's rotating movement into piston/plunger's reciprocating movement

MPP piston/plunger metering pump features

High pressure

Piston/plunger type metering pump has the highest pressures among all the metering pumps, it can reach 50MPa pressure. So it can be high pressure pump as well.

Self-priming

It has simple structure, so easy maintenance need. Because of its special structure, it has a very strong self priming ability; it can be installed above the liquid level.

Washing seal

Piston/plunger metering pump has a seal, so it is not suitable for the dangerous chemical liquid delivery. With washing seal, a long service time can be achieved.

Heating jacket

The pump head can be insulated a heating or cooling jacket, so this pump is very suitable for the high temp. liquid delivery. Heating model can be hot water and so on.

- ◆ Pump has a seal, it needs to be adjusted and replaced periodically. Pump is not suitable for the dangerous liquid
- ◆ Pump head material(liquid end): SS304,SS316, and SS304 lined PTFE (body is SS304, but all wet part lined PTFE)
- ◆ No safety drain device insides pump, so it is suggested to install an safety valve on the outlet pipe
- ◆ Media Temperature: -30 to 120 degree(can be with heating/cooling jacket)

- ◆ Capacity range: 2.5 L/H to 9000 L/H
- ◆ Pressure range: 0.6 Mpa to 50 Mpa
- ◆ Connection size: 6 mm to 40 mm
- ◆ Power range: 0.37 kw to 4 kw
- ◆ Plunger diameter size: 6 mm to 110 mm
- ◆ Viscosity range: 0 to 1000mm²/s
- ◆ Steady state accuracy: +/- 1%
- ◆ Suggested adjustment range: 30% to 100%

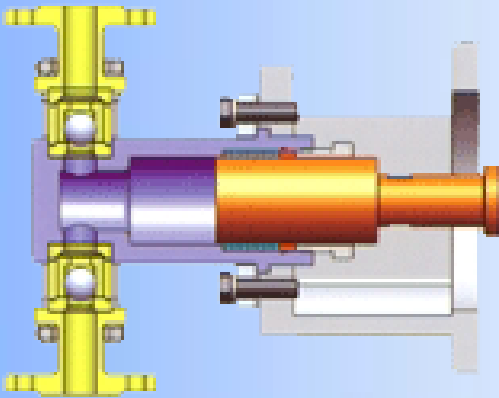
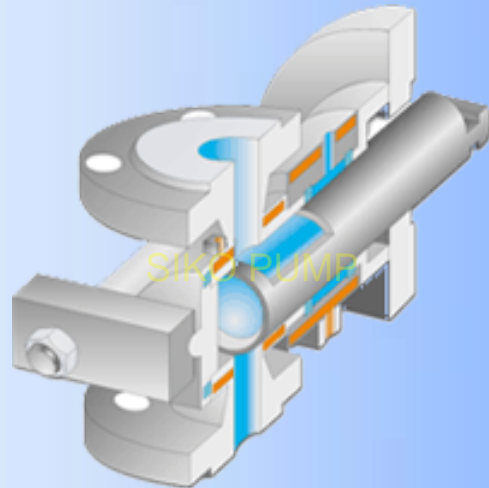


Pump head of plunger is easy, economic with metering accuracy; seal method should be carefully chosen and maintained. The MPP plunger/piston metering pump is suitable for the high pressure situation during the technique progress of oil, petrolization and chemical industry as well as other key process in environment protection, medication, paper making and food industry.

Piston/plunger metering pump working principles

The packed plunger style liquid end is the only liquid end in which the piston is in direct contact with the process fluid. This direct contact offers a number of advantages, including: high suction and discharge pressure capabilities; high temperature resistance, and lowest NPSH requirements.

The reciprocating piston requires packing to seal the wetted parts from the atmosphere. This simple design is effective, but places limitations on the use of packed plunger pumps in certain applications.



- ◆ Remote control

Pump can be also controlled by a remote signal, input/out put signal 4 to 20 mA.

- ◆ Double pump head type pump

With double pump head, pump can reach twice capacity as the single pump head type.



Optional device/accessories

- ◆ PTFE lined pump head material

If the handling liquid has strong corrosion against stainless steel, a PTFE lined pump is a good replacement. All the pump wet part will be lined with the PTFE material.

- ◆ Heating(or cooling) jacket

To heat or cool the handling liquid, MPP pump can be added the heating/cooling device and their connection valve and flange. Heating media can be hot water, air, steam and so on



MPPS Piston Metering Pump

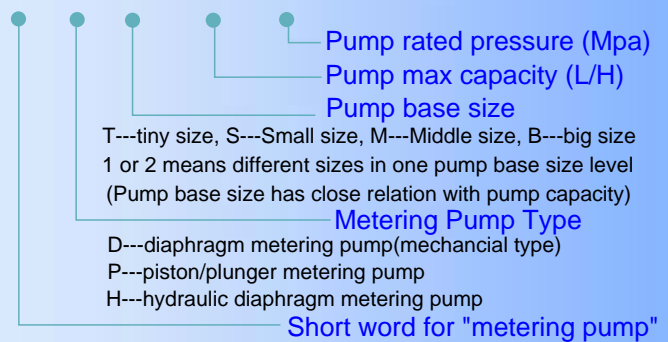
Capacity range: 2.5 L/H to 150 L/H, Pressure range: 0.6 Mpa to 50 Mpa

NO.	Model	Capacity	Pressure	Size of piston	stroke	Speed	Power	Inlet/outlet size	Net weight
		L/H	Mpa	Mm	mm	rpm	kw	mm	kg
1	MPPS-2.5/50	2.5	50	DN6	20	96	0.55	DN 6mm	25
2	MPPS-2.5/38	2.5	38		20	96	0.37	DN 6mm	25
3	MPPS-4.2/32	4.2	32	DN8	20	96	0.55	DN 6mm	25
4	MPPS-4.2/21	4.2	21		20	96	0.37	DN 6mm	25
5	MPPS-8/20	8	20	DN10	20	96	0.55	DN 6mm	25
6	MPPS-8/13	8	13		20	96	0.37	DN 6mm	25
7	MPPS-12/14	12	14	DN12	20	96	0.55	DN 6mm	25
8	MPPS-12/9	12	9		20	96	0.37	DN 6mm	25
9	MPPS-20/7.6	20	7.6	DN16	20	96	0.55	DN 6mm	25
10	MPPS-20/5.4	20	5.4		20	96	0.37	DN 6mm	25
11	MPPS-32/5.0	32	5.0	DN20	20	96	0.55	DN 6mm	25
12	MPPS-32/3.5	32	3.5		20	96	0.37	DN 6mm	25
13	MPPS-50/3.2	50	3.2	DN25	20	96	0.55	DN 10mm	28
14	MPPS-50/2.2	50	2.2		20	96	0.37	DN 10mm	28
15	MPPS-65/2.5	65	2.5	DN28	20	96	0.55	DN 10mm	28
16	MPPS-65/1.7	65	1.7		20	96	0.37	DN 10mm	28
17	MPPS-80/2.0	80	2.0	DN32	20	96	0.55	DN 10mm	28
18	MPPS-80/1.3	80	1.3		20	96	0.37	DN 10mm	28
19	MPPS-100/1.6	100	1.6	DN35	20	96	0.55	DN 15mm	30
20	MPPS-100/1.0	100	1.0		20	96	0.37	DN 15mm	30
21	MPPS-125/1.3	125	1.3	DN38	20	96	0.55	DN 15mm	30
22	MPPS-125/0.8	125	0.8		20	96	0.37	DN 15mm	30
23	MPPS-150/1.0	150	1.0	DN42	20	96	0.55	DN 15mm	30
24	MPPS-150/0.6	150	0.6		20	96	0.37	DN 15mm	30



Pump Identification

MP P S - 2.5/ 50



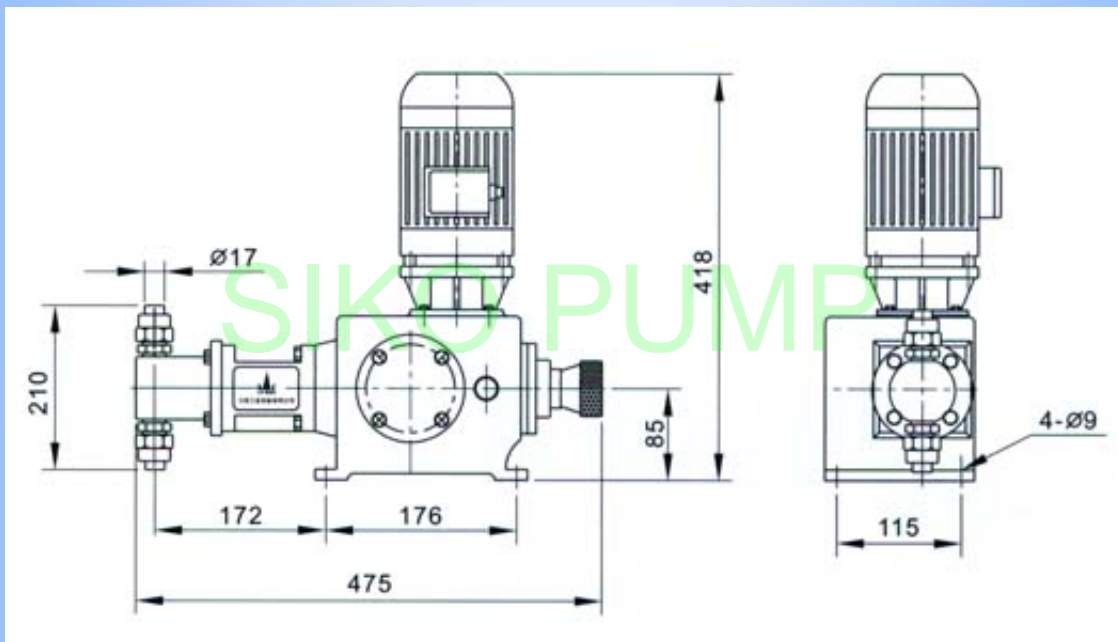
Material

Spare part	Material
Pump Head	SS304,SS316,PTFE lined SS304
Metering Valve	SS304,SS316
Ball valve	Silicon dioxide,SS304,SS316,Ceramic
Seal	PTFE

Working condition

- Envir. temperature: -30 to 60 degree
- Liquid temperature: 0 to 120 degree
- Liquid viscosity: 0.3 to 800mm/s
- Electrical source: 1or 3 phase, 50Hz/60Hz, 220V/380V/440V
- Motor type: IEC, IP45 or IP55(explosion-proof type)
- Adjustment range and accuracy: 10% to 100% at +/- 1%
- Adjust model: by hand.
- Self-priming ability: good.

Dimension (mm)



MPPM1 Piston Metering Pump

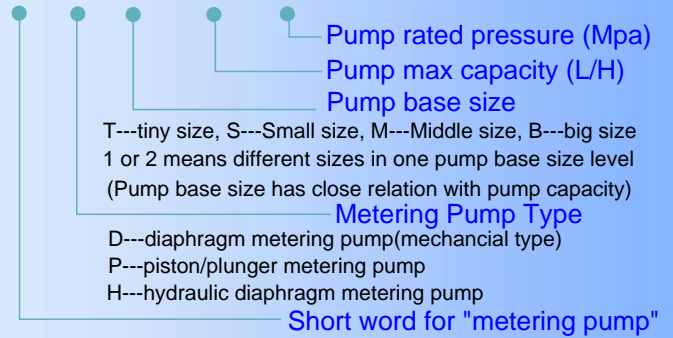
Capacity range: 6 L/H to 470 L/H, Pressure range: 0.4 Mpa to 40 Mpa

NO.	Model	Capacity	Pressure	Size of piston	stroke	Speed	Power	Inlet/outlet size	Net weight
		L/H	Mpa	Mm	mm	rpm	kw	mm	kg
1	MPPM1-6/40	6	40	DN8	25	96	0.75	DN 6mm	42
2	MPPM1-6/32	6	32		25	96	0.55	DN 6mm	42
3	MPPM1-10/25	10	25	DN10	25	96	0.75	DN 6mm	42
4	MPPM1-10/20	10	20		25	96	0.55	DN 6mm	42
5	MPPM1-15/20	15	20	DN12	25	96	0.75	DN 6mm	42
6	MPPM1-15/15	15	15		25	96	0.55	DN 6mm	42
7	MPPM1-25/10	25	10	DN16	25	96	0.75	DN 6mm	42
8	MPPM1-25/8	25	8		25	96	0.55	DN 6mm	42
9	MPPM1-40/6.3	40	6.3	DN20	25	96	0.75	DN 6mm	42
10	MPPM1-40/5.4	40	5.4		25	96	0.55	DN 6mm	42
11	MPPM1-65/4.5	65	4.5	DN25	25	96	0.75	DN 10mm	45
12	MPPM1-65/3.5	65	3.5		25	96	0.55	DN 10mm	45
13	MPPM1-80/3.6	80	3.6	DN28	25	96	0.75	DN 10mm	45
14	MPPM1-80/2.8	80	2.8		25	96	0.55	DN 10mm	45
15	MPPM1-110/2.8	110	2.8	DN32	25	96	0.75	DN 10mm	45
16	MPPM1-110/2.0	110	2.0		25	96	0.55	DN 10mm	45
17	MPPM1-130/2.3	130	2.3	DN35	25	96	0.75	DN 10mm	45
18	MPPM1-130/1.7	130	1.7		25	96	0.55	DN 10mm	45
19	MPPM1-160/2	160	2	DN38	25	96	0.75	DN 15mm	50
20	MPPM1-160/1.5	160	1.5		25	96	0.55	DN 15mm	50
21	MPPM1-190/1.6	190	1.6	DN42	25	96	0.75	DN 15mm	50
22	MPPM1-190/1.2	190	1.2		25	96	0.55	DN 15mm	50
23	MPPM1-270/1.1	270	1.1	DN50	25	96	0.75	DN 15mm	50
24	MPPM1-270/0.8	270	0.8		25	96	0.55	DN 15mm	50
25	MPPM1-330/0.9	330	0.9	DN55	25	96	0.75	DN 15mm	50
26	MPPM1-330/0.6	330	0.6		25	96	0.55	DN 15mm	50
27	MPPM1-400/0.8	400	0.8	DN60	25	96	0.75	DN 15mm	50
28	MPPM1-400/0.5	400	0.5		25	96	0.55	DN 15mm	50
29	MPPM1-470/0.6	470	0.6	DN65	25	96	0.75	DN 15mm	50
30	MPPM1-470/0.4	470	0.4		25	96	0.55	DN 15mm	50

Pump Identification



MP P M1 - 6/ 40



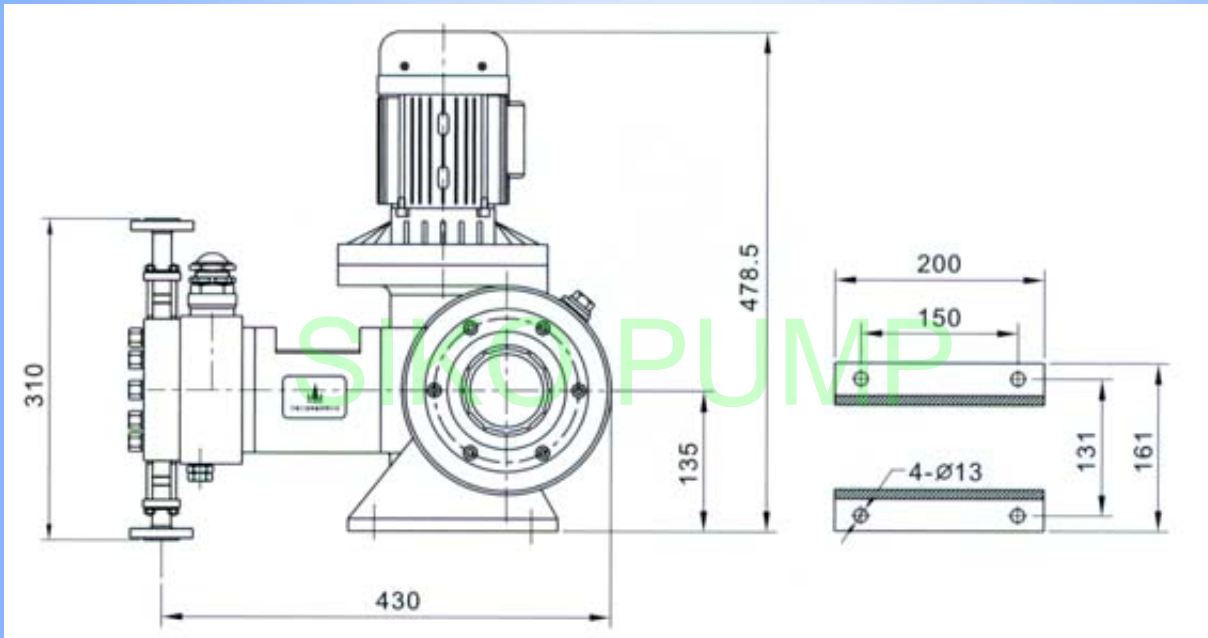
Material

Spare part	Material
Pump Head	SS304,SS316,PTFE lined SS304
Metering Valve	SS304,SS316
Ball valve	Silicon dioxide,SS304,SS316,Ceramic
Seal	PTFE

Working condition

- Envir. temperature: -30 to 60 degree
- Liquid temperature: 0 to 120 degree
- Liquid viscosity: 0.3 to 800mm/s
- Electrical source: 1or 3 phase, 50Hz/60Hz, 220V/380V/440V
- Motor type: IEC, IP45 or IP55(explosion-proof type)
- Adjustment range and accuracy: 10% to 100% at +/- 1%
- Adjust model: by hand.
- Self-priming ability: good.

Dimension (mm)



MPPM2 Piston Metering Pump

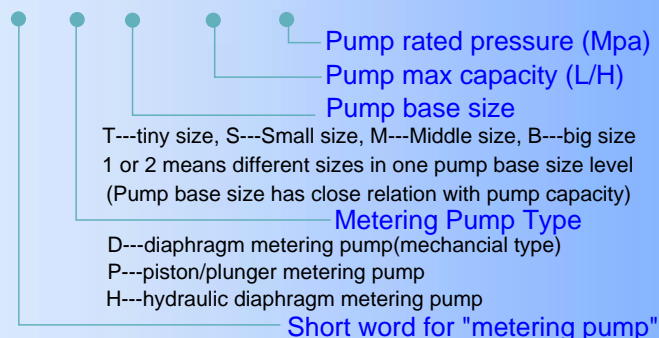
Capacity range: 6.5 L/H to 1000 L/H, Pressure range: 0.5 Mpa to 50 Mpa

NO.	Model	Capacity	Pressure	Size of piston	stroke	Speed	Power	Inlet/outlet size	Net weight
		L/H	Mpa	Mm	mm	rpm	kw	mm	kg
1	MPPM2-6.5/50	6.5	50	DN8	30	96	1.5	DN6	80
2	MPPM2-6.5/40	6.5	40		30	96	1.1	DN6	80
3	MPPM2-16/40	16	40	DN12	30	96	1.5	DN6	80
4	MPPM2-16/30	16	30		30	96	1.1	DN6	80
5	MPPM2-32/22	32	22	DN16	30	96	1.5	DN6	80
6	MPPM2-32/16	32	16		30	96	1.1	DN6	80
7	MPPM2-50/14	50	14	DN20	30	96	1.5	DN10	86
8	MPPM2-50/10	50	10		30	96	1.1	DN10	86
9	MPPM2-80/9.0	80	9.0	DN25	30	96	1.5	DN10	86
10	MPPM2-80/6.3	80	6.3		30	96	1.1	DN10	86
11	MPPM2-100/7.5	100	7.5	DN28	30	96	1.5	DN10	86
12	MPPM2-100/5.0	100	5.0		30	96	1.1	DN10	86
13	MPPM2-130/5.6	130	5.6	DN32	30	96	1.5	DN10	86
14	MPPM2-130/4	130	4		30	96	1.1	DN10	86
15	MPPM2-160/4.8	160	4.8	DN35	30	96	1.5	DN15	90
16	MPPM2-160/3.5	160	3.5		30	96	1.1	DN15	90
17	MPPM2-190/4.0	190	4.0	DN38	30	96	1.5	DN15	90
18	MPPM2-190/2.8	190	2.8		30	96	1.1	DN15	90
19	MPPM2-225/3.2	225	3.2	DN42	30	96	1.5	DN15	90
20	MPPM2-225/2.4	225	2.4		30	96	1.1	DN15	90
21	MPPM2-330/2.3	330	2.3	DN50	30	96	1.5	DN15	90
22	MPPM2-330/1.6	330	1.6		30	96	1.1	DN15	90
23	MPPM2-400/1.8	400	1.8	DN55	30	96	1.5	DN15	90
24	MPPM2-400/1.4	400	1.4		30	96	1.1	DN15	90
25	MPPM2-480/1.6	480	1.6	DN60	30	96	1.5	DN20	95
26	MPPM2-480/1.2	480	1.2		30	96	1.1	DN20	95
27	MPPM2-550/1.3	550	1.3	DN65	30	96	1.5	DN20	95
28	MPPM2-550/1.0	550	1.0		30	96	1.1	DN20	95
29	MPPM2-650/1.2	650	1.2	DN70	30	96	1.5	DN20	95
30	MPPM2-650/0.8	650	0.8		30	96	1.1	DN20	95
31	MPPM2-750/1.0	750	1.0	DN75	30	96	1.5	DN20	95
32	MPPM2-750/0.6	750	0.6		30	96	1.1	DN20	95



Pump Identification

MP D T1 - 6.5/ 50



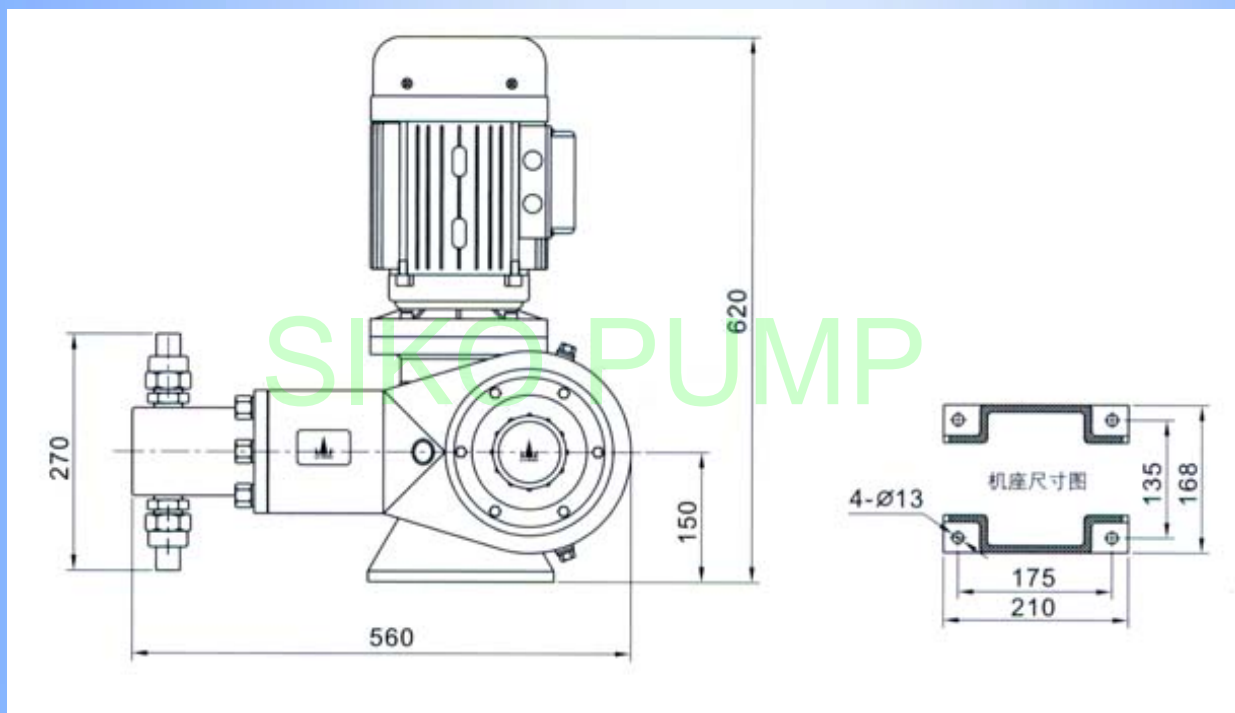
Material

Spare part	Material
Pump Head	SS304,SS316,PTFE lined SS304
Metering Valve	SS304,SS316
Ball valve	Silicon dioxide,SS304,SS316,Ceramic
Seal	PTFE

Working condition

- Envir. temperature: -30 to 60 degree
- Liquid temperature: 0 to 120 degree
- Liquid viscosity: 0.3 to 800mm/s
- Electrical source: 1or 3 phase, 50Hz/60Hz, 220V/380V/440V
- Motor type: IEC, IP45 or IP55(expllosion-proof type)
- Adjustment range and accuracy: 10% to 100% at +/- 1%
- Adjust model: by hand.
- Self-priming ability: good.

Dimension (mm)



MPPB Piston Metering Pump

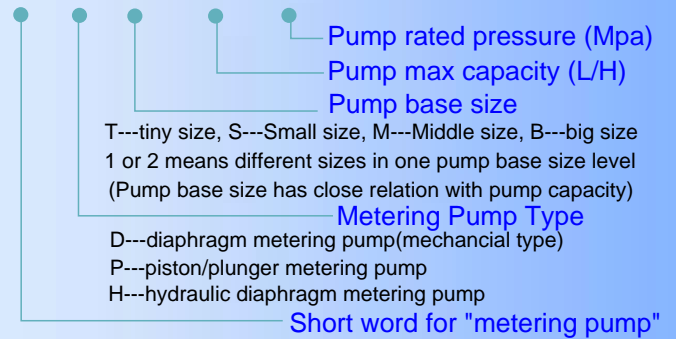
Capacity range: 23 L/H to 3000 L/H, Pressure range: 0.6 Mpa to 50 Mpa

NO.	Model	Capacity	Pressure	Size of piston	stroke	Speed	Power	Inlet/outlet size	Net weight
		L/H	Mpa	Mm	mm	rpm	kw	mm	kg
1	MPPB-23/50	23	50	DN12	40	100	4	DN10	145
2	MPPB-23/40	23	40		40	100	3	DN10	145
3	MPPB-40/40	40	40	DN16	40	100	4	DN10	145
4	MPPB-40/30	40	30		40	100	3	DN10	145
5	MPPB-63/28	63	28	DN20	40	100	4	DN10	145
6	MPPB-63/20	63	20		40	100	3	DN10	145
7	MPPB-105/18	105	18	DN25	40	100	4	DN15	148
8	MPPB-105/13	105	13		40	100	3	DN15	148
9	MPPB-175/11	175	11	DN32	40	100	4	DN15	148
10	MPPB-175/8	175	8		40	100	3	DN15	148
11	MPPB-300/6.3	300	6.3	DN42	40	100	4	DN15	148
12	MPPB-300/4.8	300	4.8		40	100	3	DN15	148
13	MPPB-450/4.5	450	4.5	DN50	40	100	4	DN20	150
14	MPPB-450/3.5	450	3.5		40	100	3	DN20	150
15	MPPB-540/3.8	540	3.8	DN55	40	100	4	DN20	150
16	MPPB-540/2.5	540	2.5		40	100	3	DN20	150
17	MPPB-650/3.2	650	3.2	DN60	40	100	4	DN20	150
18	MPPB-650/2.4	650	2.4		40	100	3	DN20	150
19	MPPB-760/2.6	760	2.6	DN65	40	100	4	DN20	150
20	MPPB-760/2.0	760	2.0		40	100	3	DN20	150
21	MPPB-900/2.3	900	2.3	DN70	40	100	4	DN25	153
22	MPPB-900/1.6	900	1.6		40	100	3	DN25	153
23	MPPB-1050/2.0	1050	2.0	DN75	40	100	4	DN25	153
24	MPPB-1050/1.4	1050	1.4		40	100	3	DN25	153
25	MPPB-1200/1.8	1200	1.8	DN80	40	100	4	DN25	153
26	MPPB-1200/1.2	1200	1.2		40	100	3	DN25	153
27	MPPB-1350/1.6	1350	1.6	DN85	40	100	4	DN25	153
28	MPPB-1350/1.1	1350	1.1		40	100	3	DN25	153
29	MPPB-1500/1.4	1500	1.4	DN90	40	100	4	DN32	160
30	MPPB-1500/1.0	1500	1.0		40	100	3	DN32	160
31	MPPB-1680/1.2	1680	1.2	DN95	40	100	4	DN32	160
32	MPPB-1680/0.8	1680	0.8		40	100	3	DN32	160
33	MPPB-1850/1.0	1850	1.0	DN100	40	100	4	DN40	175
34	MPPB-2050/0.8	2050	0.8	DN105	40	100	4	DN40	175
35	MPPB-2250/0.6	2250	0.6	DN110	40	100	4	DN40	175



Pump Identification

MP P B - 23/ 50



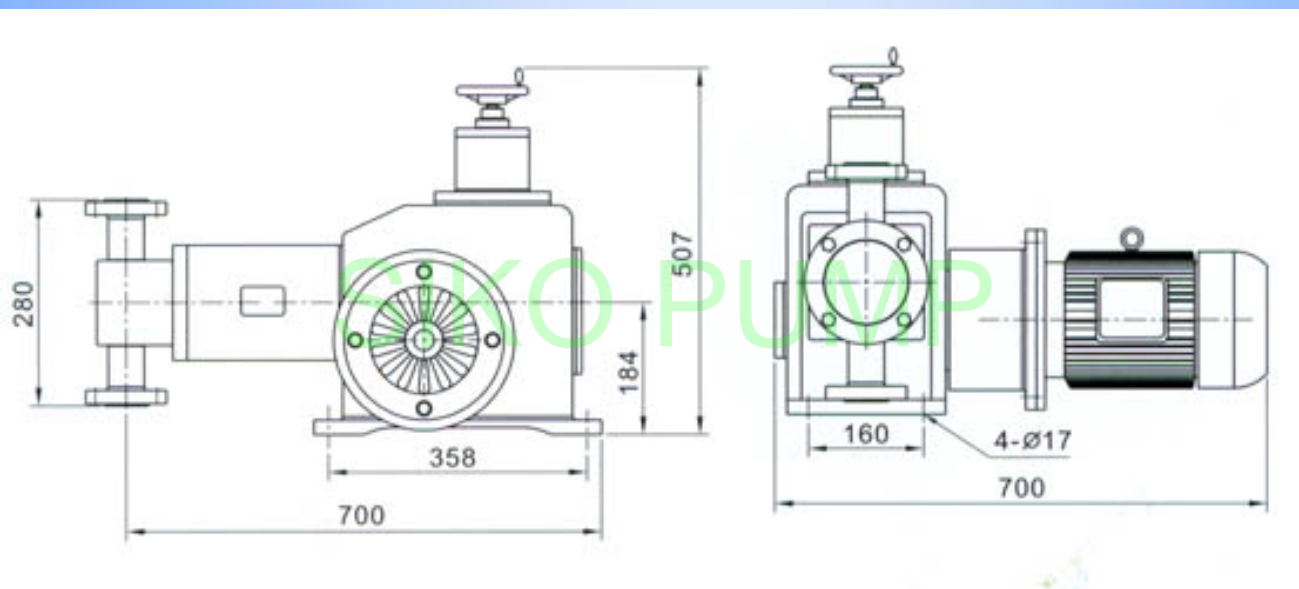
Material

Spare part	Material
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Metering Valve	SS304,SS316
Ball valve	Silicon dioxide,SS304,SS316,Ceramic
Seal	PTFE

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- Adjustment range and accuracy: 10% to 100% at +/- 1%
- Adjust model: by hand.
- Self-priming ability: good.

Dimension (mm)





SIKO PUMP, specialized chemical handing pump manufacturer.

Metering pump, magnetic driving pump, diaphragm pump, bellows pump, rotary pump and so on

Address: No.518 Jinyuan Road(Jinyuan Industry Park), Shanghai, China

Tel: 0086-21-39109967(direct), Fax: 0086-21-39109968

Website: www.sikopump.com e-mail: sales@sikopump.com

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The company reserves the right to make alteration from time to time and equipment will maybe differ from that detailed in this brochure.