FLUGO

GMS SERIES
METERING PUMP
SELECTION BROCHURE

GMS series mechanical diaphragm metering pump

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Main performance parameters

Maximum flow rate: 2040L/h
Maximum discharge pressure: 12bar
Adjustment range: 30%-100%, steady-state accuracy ±1%
The suction lifting height can reach up to 3m water column
Maximum ambient temperature: +40℃
Maximum inlet: pressure: 2bar

Main features

Driver end.
Variable eccentric mechanism is adjusted to ensure a gentle change in flow pulsation.
The enhanced structure design is suitable for the operating environment of the division.
Wear-resistant ball bearings make the work more stable.
Oil bath lubrication, long working life of drive components.
The suction lifting height can reach up to 3m water column
The flow rate can be adjusted during shutdown or operation, and the adjustment method can be manual, electric or frequency conversion.
Hydraulic end.
The diaphragm is mechanically driven, and there is no diaphragm guard plate on the material side to facilitate the passage of the material.
PVC, PVDF, 316SS, high viscosity, slurry and other pump head materials are suitable for conveying various materials.
Self-cleaning check valve structure, easy to maintain.

Control mode

Electric stroke controller, accepts external control signals and adjusts the stroke length
Power supply: 220V/single phase, 50Hz
Input signal: 4-20mA analog signal
Output signal: 4-20mA/1-5V analog signal, for recording display and control system use
External control signals can be received by installing a frequency conversion controller to adjust the stroke speed
Power supply: 380V/three-phase, 220V/single-phase, 50Hz
Input signal: 4-20mA analog signal
Switch controller, control the three-phase motor in the "on/off" mode, "adjust the output flow

Main application

Environmental protection, petrochemical industry, chemical industry, petroleum refining, electric power, metallurgy, medicine, food, water treatment and other fields.

Attachment Annex

Optional accessories such as: filter, correction column, pulsation damper, safety valve and back pressure valve, etc., including safety valve Is required.
GMS0002-GMS0050 series PVC hydraulic end metering pump, in addition to the high viscosity pump head, with the metering pump Provide injection valve, bottom valve, counterweight and 6m hose.

Motor performance parameters

Power supply: 380V/three-phase, 220V/single-phase, 50Hz
Insulation grade: F grade
Protection class: IP55
All motors comply with the IEC standard of the International Electrotechnical Association or the NEC standard of the National Electrical Commission of the United States.

Options available

Double diaphragm pump head
Stroke count sensor
Double diaphragm rupture pressure gauge detection and pressure switch detection
PNP output/NPN output/relay output

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Material of main components of liquids end

GMS0002-GMS0500						
Hydraulic end	Valve body	Valve seat	Valve ball	Diaphragm	Seal diagram	Connect
PVC	PVC	PVDF	Oxidation error	PTFE	FPM/EPDM*/Oxygen-coat*	PVC
PVDF	PVDF	PVDF	Oxidation error	PTFE	FPM/EPDM*/Oxygen-coat*	PVDF
316SS	316SS	316SS	316SS	PTFE	FPM/EPDM*/Oxygen-coat*	316SS

*Optional Item

GMS Series mechanical diaphragm metering pumps

series ☐ flow rate ☐ hydraulic end ☐ interface ☐ motor ☐ adjust ☐ base ☐ option ☐

Series

Encoding	Desc
GMS	GMS series mechanical diaphragm metering pump

Flow

Encoding	Maximum flow rate (L/h)	Maximum pressure (bar)	Number of strokes (min3)	Motor power (kW)
GMS0002	2.25	12	36	0.25 ■ 0.37 ■
GMS0005	4.5		36	
GMS0010	9		36	
GMS0025	25		72	
GMS0050	50	10	144	
GMS0090	85	7	72	
GMS0120	115		72	
GMS0170	170		144	
GMS0240	235		144	
GMS0330	315	5	144	
GMS0400	400		144	0.37
GMS0500	500		180	

■ this power is used for three-phase constant speed motors ■ power is used for single-phase, explosion proof, frequency-convesion motors ● this power is used for three-phase constant-speed, explosion-proof motor

● this power is used for single-phase, frequency-conversion motors

Liquid end

Encoding	Description	Encoding	Description
P	PVC hydraulic end	V	High viscosity application: PVC hydraulic end
S	316 hydraulic end	K	Rong material application: GMS0025-0500 316 hydraulic end; GBS PVC hydraulic end
T	PVDF hydraulic end	M	Mixture application, GMS: PVDF hydraulic terminal
F	Sodium hypoxite application: PVC hydraulic end ■	Z	For special material hydraulic ends, please consult the factory and specify when ordering

■ GMS series: EPDM material O-shaped garden

Connector

Encoding	Description	GMS0002-0050			GMS0090-0500		
		PVC	PVDF	316	PVC	PVDF	316
P	NPT threaded interface	1/2"F	1/2"F	1/2"F	1/2"F	1/2"F	1/2"F
Q	Inner nozzle hard tube intubation interface	DN15	------	------	DN15	------	------
R	Hose interface	6x12 ■ 6.35x9.52 ■		----	------	------	------
H	GMS hose 12x18 for high viscosity applications	12x18	------	------	20x28	------	------
X	Special interface						

Note: The parameter part of the red text is the standard configuration, high viscosity pump head V, complex material head K, mixture pump head M, if there is no special option, the interface will be selected according to the material of the hydraulic end.

■ PVC hose us 6 meters long/root; 1 hose is configured by default at the factory injection

■ Bottom valves, counterweight and tetraoxygen hose are not configured at the factory. Please order additional and inquire with the factory.

Motor

	GMS
1	0.25kW, IEC71, three-phase 380V, 50Hz, 1440rpm, IP55/F
2	----------
3	0.37kW,IEC71, three-phase explosion-proof 380V, 50Hz, 1440rpm, IP55/F
4	0.37kW, IEC71, three-phase 380V, 50Hz, 1440rpm, IP55/F
5	0.25kW, IEC71, single-phase 220V, 50Hz, 1440rpm, IP55/F
6	0.25kW, IEC71, three-phase frequency conversion 380V, 50Hz, 1440rpm, IP55/F, IC416
7	0.37kW, IEC71, three-phase frequency conversion 380V, 50Hz, 1440rpm, IP55/F, IC416
8	----------
9(5)	The pump not equipped with a motor at the factory, and the IEC71 interface is retained.
9(6)	0.37kW, IEC71, single-phase 220V, 50Hz, 1440rpm, IP55/F
9(8)	----------
9	For other motors, please consult the factory

Note: Single-phase motor cannot be used at the same time as switch controllers.

Regulate

Encoding	Describe GMS	Remarks
M	Manual stroke adjustment	Standard configuration
N	Electric stroke adjustment, 4-20mA, 1PH-50Hz-220V	----------
E	----------	----------
F	Frequency conversion control	----------

Pedestal

Encoding	Describe GMS	Remarks
N	No base	Standard configuration
Y	Has a base	----------

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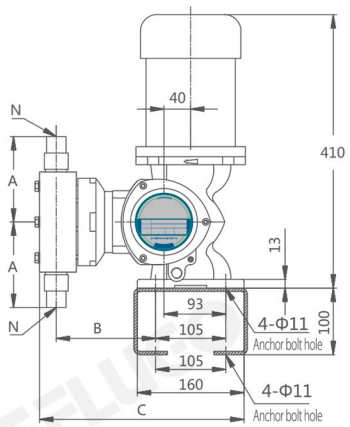
Option

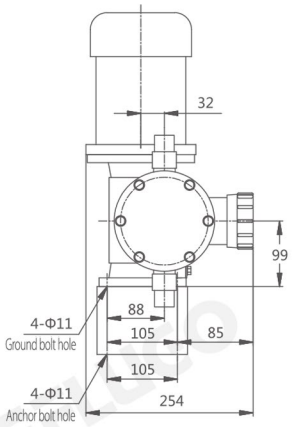
Encoding	Describe GMS	Remarks
N	No option	----------
B	Diaphragm rupture detection and pressure gauge	----------
C	Diaphragm rupture detection and pressure gauge, pressure switch ■	With non-explosion-proof pressure switch and pressure gauge, including base
D	Diaphragm rupture detection and pressure gauge, explosion-proof pressure switch ■	Explosion-proof pressure switch and pressure gauge, including base
X	For others, please consult the factory	Please specify the special configuration in the contract

■ When the GMS and GBS series choose a double diaphragm with pressure switch, the default is to have a base, and the option for the base part should be "Y"

GMS Series Dimensions



GMS series size chart (including base)



GMS series size chart (including base)

GMS series installation dimensions

GMS0002-GMS0050					GMS0090-GMS0500				
Pump head material	Interface code	A(mm)	B(mm)	C(mm)	Pump head material	Interface code	A(mm)	B(mm)	C(mm)
PVC	R	100	102	250	PVC	P	127	150	307
PVDF	P	100			PVDF	P	131		
316	P	101			316	P	131		

Typical Installation Diagram of Metering Pump

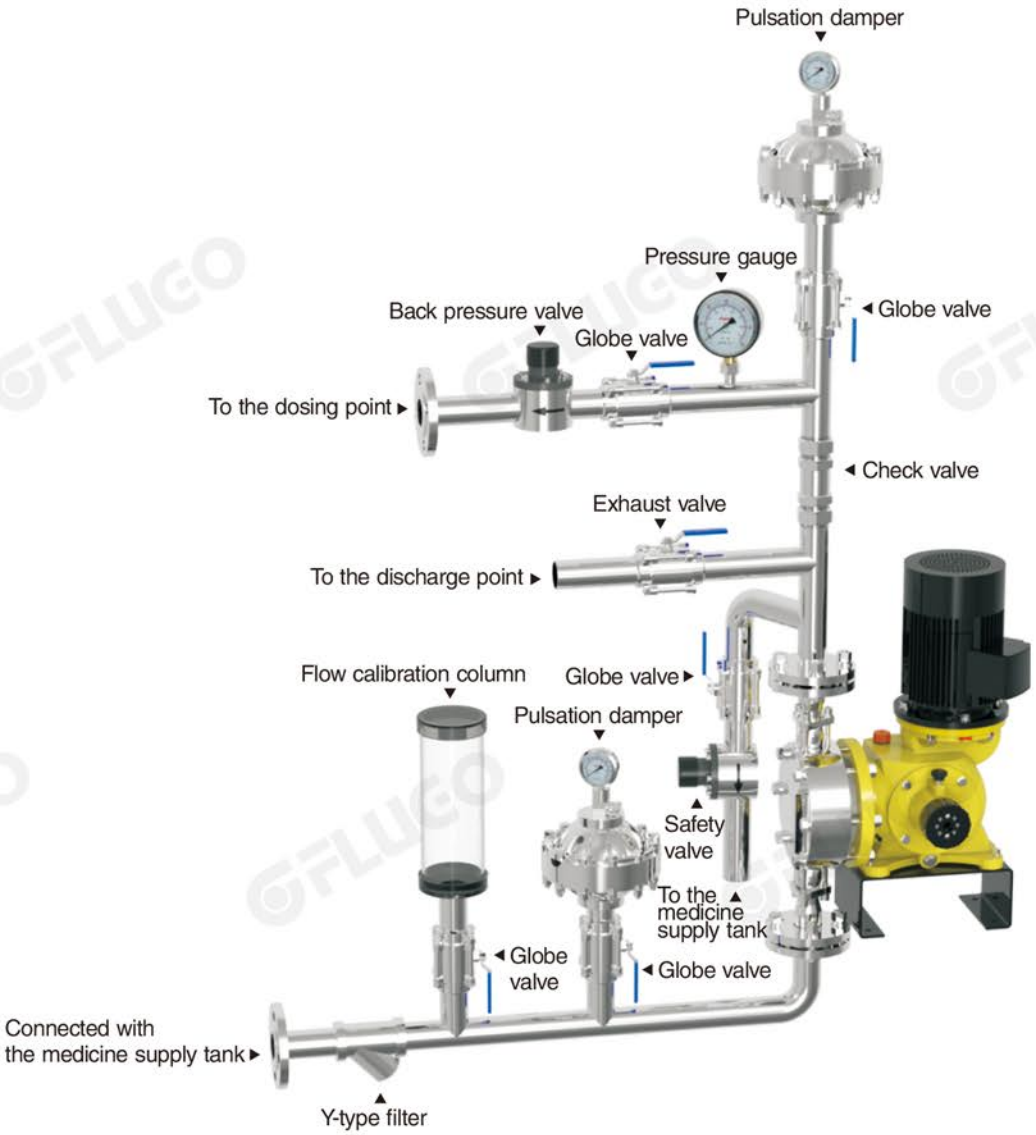


Diagram of Metering Pump Spare Parts

·PTFE diaphragm

• PTFE composite diaphragm

• Check valve

Diagram of Metering Pump Spare Parts

Y-type filter

Function: filtering the impurities in the pump inlet pipeline

Pulsation damper

Function: The pressure gauge provided with the damper can display the pipeline pressure, and this component can slow down the pulse impact on the pipeline and system, as well as the pulse vibration generated when the pump discharges the medium,commonly known as buffer.

Flow calibration column

Function: Calibrate the output flow and improve the measurement accuracy.

Float calibration column

Function: Display the output flow.

Back pressure valve

Function:Stabilize the flow rate of the pump, keep a certain constant pressure in the pump outlet during working,as to prevent the liquid from flowing or siphoning under the action of gravity. When used in conjunction with the buffer, it can reduce the pressure fluctuation in the system pipeline.

Safety valve

Function: o prevent the pump and system pipeline from being damaged by overpressure.

Anticorrosion Performance Table

Conveying liquid	Concentration	Fluoroplastic			PVC		FPM			EPDM			304SS/316SS		
		25°C	50°C	100°C	25°C	60°C	25°C	50°C	100°C	25°C	50°C	100°C	25°C	50°C	100°C
Ammonia	s	A	A	A	A	A	B	B	X	A	A	A	S	S	S
Ammonia+sulfuric acid	10%	A	A	A	A	A	X	X	X	A	A	A	A	B	X
Aniline	100%	A	A	A	X	X	A	B	X	B	B	X	S	S	S
Phenylhydrazine (hydrazine)	100%	A	A	A	X	X	A	A	B	X	B	X	S	S	S
Propionic acid	25%	A	A	A	A	A	B	B	X	A	A	A	A	A	A
Propionic acid	80%	A	A	A	B	B	B	B	X	A	A	B	A	A	A
Acetone	s	A	A	A	X	X	X	X	X	B	B	X	S	S	S
Oxalate	s	A	A	A	A	A	A	A	B	A	A	A	A	B	X
Acetic acid	s	A	A	A	A	A	B	X	X	B	X	X	A	A	A
Ammonium acetate	s	A	A	A	A	A	B	B	X	A	A	A	S	S	S
Xylene	100%	A	A	A	X	X	B	B	X	X	X	X	S	S	S
Toluene	100%	A	A	A	X	X	B	B	X	X	X	X	S	S	S
Glycerin	100%	A	A	A	A	B	A	A	A	A	B	B	S	S	S
Methanol	100%	A	A	A	A	B	X	X	X	B	B	B	S	S	S
Formaldehyde (ant aldehyde)	s	A	A	A	A	C	C	C	X	A	A	A	S	S	S
Ureophil	s	A	A	A	A	A	A	A	C	A	A	A	A	X	X
Citric acid	50%	A	A	A	A	A	A	A	A	A	A	A	S	S	S
Citric acid	100%	A	A	A	A	A	A	A	A	A	A	B	A	X	X
Gasoline	100%	A	A	A	A	X	A	A	A	X	X	X	S	S	S
Ethanol (ethyl alcohol)	100%	A	A	A	A	A	A	A	A	B	B	B	S	S	S
Ethylene glycol	100%	A	A	A	A	A	A	A	A	A	A	A	S	S	S
Hypochlorous acid	s	A	A	A	A	A	A	A	A	A	A	A	X	X	X
Calcium hypochlorite	10%	A	A	A	A	A	B	B	B	A	A	A	S	S	S
Calcium hypochlorite	20%	A	A	A	A	A	B	B	B	A	A	A	A	X	X
Sodium hypochlorite+sodium chloride	10%	A	A	A	A	A	B	B	B	A	A	A	X	X	X
Potassium permanganate	10%	A	A	A	A	A	B	B	C	A	A	A	A	A	A
Orthosilicic acid	s	A	A	A	A	A	A	A	B	B	B	B	A	A	A
Sodium peroxide	10%	A	A	A	A	B	A	A	B	A	A	A	S	S	S
Hydrogen peroxide	90%	A	A	A	A	A	A	A	A	A	A	A	A	A	A
Phosphoric acid	85%	A	A	A	A	A	A	A	A	A	A	A	S	A	A
Aluminium phosphate	s	A	A	A	A	A	A	A	A	A	A	A	S	S	S
Sodium phosphate	s	A	A	A	A	A	A	A	A	A	A	A	S	S	S
Iron phosphate	s	A	A	A	A	A	A	A	A	A	A	A	S	A	A
Sulfuric acid	50%	A	A	A	A	A	A	A	A	B	X	X	B	X	X
Sulfuric acid	98%	A	A	A	C	X	A	A	B	X	X	X	A	B	B
Ammonium sulfate	s	A	A	A	A	A	A	A	A	A	A	A	A	A	A
Aluminum sulfate	s	A	A	A	A	A	A	A	A	A	A	A	X	X	X
Sodium hydrogen sulfate	s	A	A	A	A	A	A	A	A	A	A	A	S	X	X
Ferric sulfate	s	A	A	A	A	A	A	A	A	A	A	A	S	X	X
Copper sulfate	s	A	A	A	A	A	A	A	A	A	A	A	S	S	S
Ferrous sulfate	s	A	A	A	A	A	A	A	A	A	A	A	B	X	X
Chloroform	100%	A	A	A	X	X	B	B	B	X	X	X	A	A	B
Aluminium chloride	s	A	A	A	A	A	A	A	A	A	A	A	X	X	X
Ferric chloride	s	A	A	A	A	A	A	A	A	A	A	A	X	X	X
Ferrous chloride	s	A	A	A	A	A	A	A	A	A	A	A	X	X	X
Chlorine water	s	A	A	A	B	C	A	A	A	A	A	A	X	X	X
Chloric acid	10%	A	A	A	A	A	A	A	A	A	A	A	X	X	X
Chloric acid	20%	A	A	A	A	B	A	A	A	A	A	A	X	X	X
Sodium chlorate	s	A	A	A	A	A	A	A	A	A	A	A	X	X	X
Boric acid	s	A	A	A	A	A	A	A	A	A	A	A	A	A	A
Sodium hydroxide	s	A	A	A	A	A	B	X	X	A	A	A	S	S	S
Carbonic acid	s	A	A	A	A	A	A	A	A	A	A	A	S	S	S
Ammonium carbonate	40%	A	A	A	A	A	A	A	A	A	A	A	S	A	A
Sodium carbonate	s	A	A	A	A	A	A	A	A	A	A	A	S	A	A
Ammonium bicarbonate	s	A	A	A	A	A	A	A	A	A	A	A	A	A	A
Sodium bicarbonate	s	A	A	A	A	A	A	A	A	A	A	A	S	S	S
Aqua regia	100%	A	A	A	X	X	B	B	C	X	X	X	X	X	X
Nitric acid	50%	A	A	A	A	C	A	A	A	B	B	C	S	A	A
Nitric acid	95%	A	A	A	X	X	X	X	X	X	X	X	S	X	X
Sulphurous acid	s	A	A	A	A	A	A	A	B	X	X	X	S	A	A
Sodium sulfite	s	A	A	A	A	A	A	A	B	A	A	A	S	A	A
Sodium hydrogen sulfite	s	A	A	A	A	A	A	A	B	A	A	A	S	B	B
Sodium nitrite	s	A	A	A	A	A	A	A	B	A	A	A	S	S	S
Saline water	s	A	A	A	A	A	A	A	A	A	A	A	X	X	X
Muriatic acid	30%	A	A	A	A	A	A	A	B	B	C	C	X	X	X
Muriatic acid	38%	A	A	A	A	A	B	B	B	C	C	C	X	X	X

Remarks: S": Excellent antiseptic effect A": Light corrosion and good anti-corrosion effect. B": Available, but obviously corroded. X": Seriously corroded and unusable. C": The same kind of materials may be different in formula and corrosion resistance. Please make careful selections.
The only purpose of information in the table is for reference. Please consult before placing an order in case of other special circumstances and questions about the selection of materials.

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