Metering Pump Series GM/GB

Main Technical Characteristics

- Flowrate up to 1800L/H
- Pressure up to 12 bar
- Suction lift: up to 3 m water
- Maximum suction pressure: 2 bar
- Accuracy: ± 2% of rated flow from 10% to 100% stroke
- Maximum temperature of pumped liquid: 40°C

Features & Benefits

Liquid End

- Mechanical actuated diaphragm design
- Eliminate contour plates,easy for material pass
- PVC, PVDF & 316SS liquid end material
- High viscolity,slurry application
- Self-cleaning suction/discharge check valve

Drive End

- Variable eccentric drive mechanism for smooth sinusoidal flow
- Rugged construction designed to withstand tough environments
- Hard-wearing ball bearings to make pump work more stably
- Oil bath lubrication for all of drive components
- Lockable micrometer stroke, adjustment can be adjusted while pump is running or stopped

Automatic Capacity Control Options

Electrical capacity controller: Accept external control signal to adjust the stroke length

- Power supply: 220V-50Hz, single phase
- Input signal: 4-20mA analog signal
- Output signal: 4-20mA/1-5V analog signal for record display and control system

Varipulse® controller: ON/OFF control the three phase motor to adjust the flowrate

- Power supply: 200-240V/50/60Hz, single phase
- Input signal: 4-20mA analog signal / pulse signal / manual

Variable frequency controller: Accept external control signal to adjust the stroke speed

- Power supply: 220V-50Hz, single phase / 380V-50Hz, three phase
- Input signal: 4-20mA analog signal

Applications

Municipal, industrial water and wastewater, swimming pools and other water treatment process

MILTON ROY

World's Leading Metering Pump Manufacturer

Options

- Double diaphragm
  Double diaphragm with pressure gauge & switch
- Stroke counter transducer
  PNP output / NPN output / relay output

GM with E-STROKE electrical capacity controller

Material of liquid end

GM0002~GM0050

Liquid end	Head	Valve body	Valve seat	Ball	Diaphragm	Seal	Connectors
PVC	PVC	PVDF	PVDF	Ceramis	PTFE	Viton	PVC
PVDF	PVDF	PVDF	PVDF	Ceramis	PTFE	PTFE	PVDF
316SS	316SS	316SS	316SS	316SS	PTFE	Viton	316SS

GM0090~GM0500

Liquid end	Head	Valve body	Valve seat	Ball	Diaphragm	Seal	Connectors
PVC	PVC	PVC	PVC	Glass	PTFE	Viton	PVC
PVDF	PVDF	PVDF	PVDF	Ceramis	PTFE	PTFE	PVDF
316SS	316SS	316SS	316SS	316SS	PTFE	Viton	316SS

GB0080~GB1500

Liquid end	Head	Valve body	Valve seat	Ball	Diaphragm	Seal	Connectors
PVC	PVC	PVC	PVC	Ceramis	PTFE	Viton	PVC
PVDF	PVDF	PVDF	PVDF	Ceramis	PTFE	PTFE	PVDF
316SS	316SS	316SS	316SS	316SS	PTFE	Viton	316SS

GB1800

Liquid end	Head	Valve body	Valve plate	Spring	Diaphragm	Seal	Connectors
PVC	PVC	PVC	PVC	NS333; Hastelloy C	PTFE	Viton	PVC
PVDF	PVDF	PVDF	PVDF	NS333; Hastelloy C	PTFE	PTFE	PVDF
316SS	316SS	316SS	316SS	NS333; Hastelloy C	PTFE	Viton	316SS

Accessories

- System accessories: filter, calibration column, pulsation dampener, safety valve and back pressure valve
- Safety valve is the necessary option.
- GM002~GM0050 PVC/PVDF liquid end,pumps supplied with injection nozzle, foot valve, 6m hose, except for viscolity liquid end)

Standard motor characteristics

- Power supply: 380V-50Hz, three phase/220V-50Hz, single phase
- Enclosure of protection: IP55
- Insulation: class F
- Other motor options: Explosion proof motor, 60Hz motor
- All motors comply with the International Electrotechnical Association IEC standard or the National Electrical Commission NEC standards

G SERIES PRODUCT CODE SELECTION

Code

Series	Capacity	Liquid End	Connection	Motor	Capacity Control	Base Plate	Option

Series

Code	Description
GM	GM Series MAD Metering Pump

Code	Description
GB	GB Series MAD Metering Pump

Capacity

Code	LE Type	LPH@Pmax	SPM	Pmax (bar)	Motor Power
GM0002	1#	2.25	36	12	0.25kW(1)
GM0005		4.5	72		
GM0010		9	144		
GM0025	2#	25	72		
GM0050		50	144	10	
GM0090	3#	85	72	7	
GM0120		115	72		
GM0170		170	144		
GM0240		235	144		
GM0330	4#	315	144	5	0.25kW 0.37kW(1)
GM0400		400	144		
GM0500(2)		500	180		

Code	LE Type	LPH @Pmax	SPM	Pmax (bar)	Motor Power
GB0080	40#	82	36	10	0.55kW 0.75kW(1)
GB0180		167	72		
GB0250		237	102		
GB0350		334	144		
GB0450(2)		416	180		
GB0500	60#	464	144	7	
GB0600(2)		583	180		
GB0700		656	102	3.5	
GB1000		946	144		
GB1200(2)	80#	1200	180		0.75kW
GB1500(2)		1500	180	3	
GB1800(2)		1800	206		

(1) The power could match both constant & variable speed application, but varible speed motor is not included as default configuration.
(2) Do not use with 60Hz motors.

Liquid End

Code	Description
P	PVC Liquid End
S	316 Liquid End
T	PVDF Liquid End
B	Black PP liquid end.Use for GM with sunproof outdoors.
V	High Viscidity (PVC LE with spring loaded in check valves,ball/seat in 316SS)
K	Slurry(GM2#/3#/4#: 316SS LE; GB: PVC LE)

Code	Description
M	Mix(GM:PVC LE)
F	PVC Liquid End, used for Sodium Hypochlorite,acid, alkali (Only available for GB series)
Z	Special material liquid end.(Consult with factory, and describe the requirements in purchase order.)

Connection

Code	Description	GM0002~0050				GM0090~0500				GB0080~0450		
		PVC	PVDF	PP	316	PVC	PVDF	PP	316	PVC	PVDF	316
	Suction(S)/Discharge(D)	S/D	S/D	S/D	S/D	S/D	S/D	S/D	S/D	S/D	S/D	S/D
P	NPT	1/4"M	1/4"M	1/4"M	1/2"F	1/2"F	1/2"F	1/2"F	1/2"F	1/2"F	1/2"F	1/2"F
Q	Pipe	DN15	-----	-----	-----	DN15	-----	-----	-----	-----	-----	-----
R	Hose Pipe 6X12	6X12	6X12(*)	-----	-----	-----	-----	-----	-----	-----	-----	-----
L(1)	PE Pipe	3/8"X1/2"(2)		-----	-----	-----	-----	-----	-----	-----	-----	-----
H	GM High Viscosity Application	15X23 9X12	-----	-----	-----	DN15	-----	-----	-----	-----	-----	-----
X	Others, Consult with Factory, and describe the requirements in purchase order.											

Code	Description	GB0500~0600			GB0700~1200						GB1500~1800		
		PVC	PVDF	316	PVC		PVDF		316		PVC	PVDF	316
	Suction(S)/Discharge(D)	S/D	S/D	S/D	S	D	S	D	S	D	S/D	S/D	S/D
P	NPT	1"F	1"F	1"M	1-1/2"F	1"F	1-1/2"F	1"F	1-1/2"M	1"M	1-1/2"F	1-1/2"F	1-1/2"M
X	Others, Consult with Factory, and describe the requirements in purchase order.												

Note:Standard configuration is bold letter marked in shadom. For V/ K/ M/ F liquid end, connection depend on material LE.
(*) The standard material of hose pipe is PVC for code R, consult factory for PVDF pipe if required.
(1) The Max.work pressure for PE pipe is 10 bar.
(2) The standard material of pipe is PE for code L, consult factory for PVDF pipe if required.

G SERIES PRODUCT CODE SELECTION

Motor

Code	Description (GM) Nameplate in Chinese	Code	Nameplate in English
1	250W,IEC71,4P,3-50-220/380V,IP55/F/TEFC	A	250W,IEC71,4P,3-50-220/380V,IP55/F/TEFC
2	Without motor, but NEMA56C connection and standard test.	2	Without motor, but NEMA56C connection and standard test.
3	250W,IEC71,4P,3-50-380V,IP55/F/TEFC/ExdIIBT4	C	250W,IEC71,4P,3-50-380V,IP55/F/TEFC/ExdIIBT4
4	370W,IEC71,4P,3-50-220/380V,IP55/F/TEFC	D	370W,IEC71,4P,3-50-220/380V,IP55/F/TEFC
5	250W, IEC71,4P,1-50-220V,IP55/F/TEFC	E	250W, IEC71,4P,1-50-220V,IP55/F/TEFC
6	250W,IEC71,4P,3-50-200/400,3-60-230/460,IP55/F/TEFC	F	250W,IEC71,4P,3-50-200/400,3-60-230/460,IP55/F/TEFC
7	370W,IEC71,4P,3-50-200/400,3-60-230/460,IP55/F/TEFC	G	370W,IEC71,4P,3-50-200/400,3-60-230/460,IP55/F/TEFC
8	-----	8	-----
9(1)	370W,IEC71,4P,3-50-220/380V,IP55/F/TEFC/ExdIIBT4	H	370W,IEC71,4P,3-50-220/380V,IP55/F/TEFC/ExdIIBT4
9(5)	Without motor,but with IEC71 connection and standard test.	9(5)	Without motor,but with IEC71 connection and standard test.
9(7)	370W,IEC71,4P,1-60-230V,IP55/F/TEFC	I	370W,IEC71,4P,1-60-230V,IP55/F/TEFC
9(8)	-----	9(8)	-----
9	Others, Consult with Factory	9	Others, Consult with Factory
Code	**Description (GB)Nameplate in Chinese**	**Code**	**Nameplate in English**
1	550W,IEC71,4P,3-50-220/380V,IP55/F/TEFC	A	550W,IEC71,4P,3-50-220/380V,IP55/F/TEFC
2	Without motor, but NEMA56C connection and standard test.	2	Without motor, but NEMA56C connection and standard test.
3	550W,IEC80,4P,3-50-220/380V,IP55/F/TEFC/ExdIIBT4	C	550W,IEC80,4P,3-50-220/380V,IP55/F/TEFC/ExdIIBT4
4	750W,IEC80,4P,3-50-220/380V,IP55/F/TEFC	D	750W,IEC80,4P,3-50-220/380V,IP55/F/TEFC
5	750W,IEC80,4P,3-50-220/380,IP55/F/TEFC/ExdIIBT4	E	750W,IEC80,4P,3-50-220/380,IP55/F/TEFC/ExdIIBT4
6	550W,IEC80,4P,3-50-200/400V,3-60-230/460,IP55/F/TEFC	F	550W,IEC80,4P,3-50-200/400V,3-60-230/460,IP55/F/TEFC
7	750W,IEC80,4P,3-50-200/400V,3-60-230/460,IP55/F/TEFC	G	750W,IEC80,4P,3-50-200/400V,3-60-230/460,IP55/F/TEFC
8	550W,IEC80,4P,3-50-220/380V,IP55/F/TEFC	H	550W,IEC80,4P,3-50-220/380V,IP55/F/TEFC
0	Without motor,but with IEC71 connection and standard test	0	Without motor,but with IEC71 connection and standard test.
9(8)	Without motor,but with IEC80 connection and standard test	9(8)	Without motor,but with IEC80 connection and standard test.
9	Others, Consult with Factory	9	Others, Consult with Factory

Note: Single phase motor can't be used with Varipulse® controller.

Capacity Control

Code	Description (GM)	Description (GB)		Remark
M	Manual Adjustment	M	Manual Adjustment	Standard Configuration
N	MRIS E-STROKE, 4-20mA, 220VAC-1Ph	N	MRIS E-STROKE, 4-20mA, 220VAC-1Ph	
C	MRIS E-STROKE, 4-20mA, 220VAC-1Ph(customized color)	C	MRIS E-STROKE, 4-20mA, 220VAC-1Ph(customized color)	
A	MRIS E-STROKE, 4-20mA, 115VAC-1Ph	A	MRIS E-STROKE, 4-20mA, 115VAC-1Ph	
D	MRIS E-STROKE, 4-20mA, 115VAC-1Ph(customized color)	D	MRIS E-STROKE, 4-20mA, 115VAC-1Ph(customized color)	
U	MRE STEGMANN, 4-20mA, 220VAC-1Ph	W	ACC,Waterproof ; 24VDC ; 110V - 230V 1 phase 50/60Hz	
G	MRE STEGMANN, 4-20mA, 115VAC-1Ph	X	ACC Ex - proof ; 24VDC ; 110V - 230V 1 phase 50/60Hz	
F*	Frequency Inverter, 3PH,AC,0.75KW/380V-480V	I	ACC,Waterproof ; 24VDC ; 110V - 230V 1 phase 50/60Hz(customized color)	
T*	Varipulse® Controller and E-STROKE ECC(1)	J	ACC Ex - proof ; 24VDC ; 110V - 230V 1 phase 50/60Hz(customized color)	
P*	Varipulse® Controller（220VAC-1Ph-50Hz）(1)	F*	Frequency Inverter,3PH,AC,0.75KW/380V-480V	
Note:	** Varipulse controller and Frequency Inverter are not assembled on the pump*			

Base Plate

Code	Description	Remark
N	N/A (Select N when double diaphragm with pressure switch option has been ordered)	Standard Configuration
1	N/A (Select N when double diaphragm with pressure switch option has been ordered)-Pump with customized color	
Y	YES	
9	Base plate-Pump with customized color	

Option

Code	Description	Remark
N	N/A	Standard Configuration
A	Stroke Counter transducer	
B	Double Diaphragm With Pressure Gauge(1)	
C	Double Diaphragm With Pressure Switch(With Baseplate)(*)	
D	Double Diaphragm With Pressure Gauge & Switch(With baseplate)(*)(1)	
E	Double Diaphragm With Pressure Gauge	
F	Double Diaphragm With Pressure Gauge & Switch(With baseplate)(*)	
X	Others,Consult with factory.	Describe Special Config in Order

(*) Code C,D ,F has included base plate in the structure, please choose code "N" for the Base Plate in such an application.

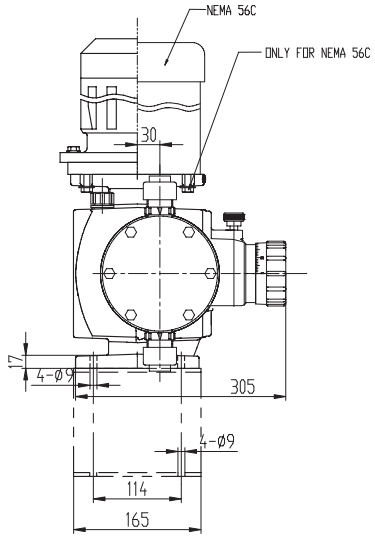
(1) Code B or D Pressure Gauge has CMC (China Metrology Certification) Logo With Chinese Characters.

MILTON ROY

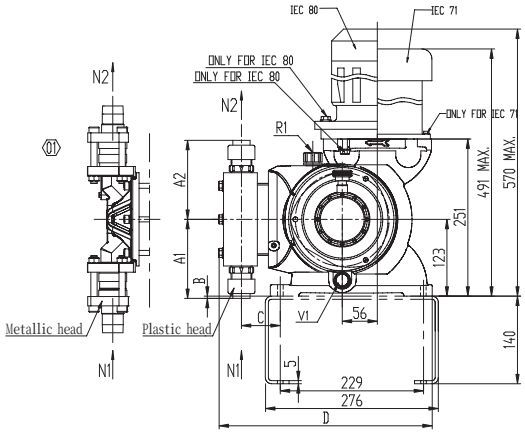
World's Leading Metering Pump Manufacturer

GA Drawing

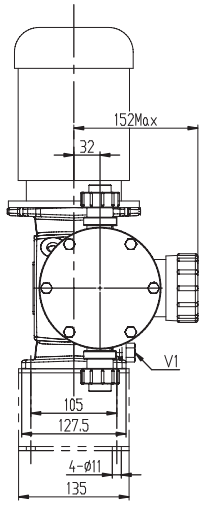
GB

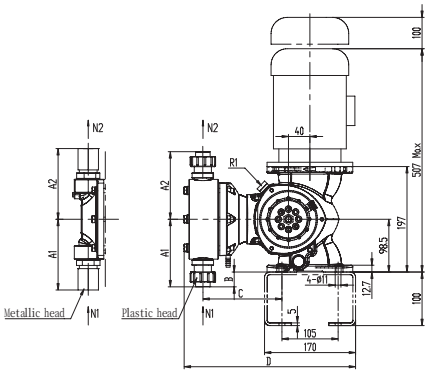


Dimension	LE Material	Connection				B	C	D
		N1	A1	N2	A2			
GB0080~GB0450	Plastic	1/2" NPTF	125	1/2" NPTF	125	2	63	333
	Metallic	1/2" NPTF	130	1/2" NPTF	130	8	63	333
GB0500~GB0600	Plastic	1" NPTF	144	1" NPTF	144	21	72	351
	Metallic	1" NPTM	181	1" NPTM	181	58	76	360
GB0700~GB1200	Plastic	1"-1/2 NPTF	188	1" NPTF	182	65	94	370
	Metallic	1"-1/2 NPTM	200	1" NPTM	188	77	98	383
GB1500	Plastic	1"-1/2 NPTF	188	1"-1/2 NPTF	188	65	94	370
	Metallic	1"-1/2 NPTM	200	1"-1/2 NPTM	200	77	98	383
GB1800	Plastic	1"-1/2 NPTF	211	1"-1/2 NPTF	211	88	94	370
	Metallic	1"-1/2 NPTM	205	1"-1/2 NPTM	205	82	98	383



GM





Dimension	LE Material	Connection				B	C	D
		N1	A1	N2	A2			
GM0002~GM0010	Plastic	6x12	108	6x12	108	9.5	104	250
		DN15	90	DN15	90	-8.5	104	250
		1/4" NPTM	72	1/4" NPTM	72	-26.5	104	250
	Metallic	1/2" NPTF	102	1/2" NPTF	102	3.5	104	250
GM0025~GM0050	Plastic	6x12	108	6x12	108	9.5	104	250
		DN15	90	DN15	90	-8.5	104	250
		1/4" NPTM	72	1/4" NPTM	72	-26.5	104	250
	Metallic	1/2" NPTF	102	1/2" NPTF	102	3.5	104	250
GM0090~GM0500	Plastic	1/2" NPTF	127	1/2" NPTF	127	28.5	148	320
		DN15	127	DN15	127	28.5	148	320
	Metallic	1/2" NPTF	131	1/2" NPTF	131	32.5	148	315

Contact Us

Shanghai: 86 21 61211600 Singapore: 65 6568 2800 Seoul: 82 2 557 1110 Thailand: 66 898 976 195

Ref：G.DS.ENG.MRIS.02/2017.Rev.A