

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: $\pm 2\%$ 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 viscosity, 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

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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

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G Series Product Code Selection

Code Series Capacity Liquid end Connection Motor Control Base plate Option

Series

| Code | Description |
|------|-----------------------------|
| GM | GM Series MAD Metering Pump |

| Code | Description |
|------|-----------------------------|
| GB | GB Series MAD Metering Pump |

Capacity

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

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

1. The power could match both constant & variable speed application, but 5-50Hz variable 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 |
| F | PVC Liquid End(Used for sodium hypochlorite) |
| B | Black PP liquid end(Used for GM only) |

| Code | Description |
|------|--|
| V | High Viscosity (Used for PVC LE) |
| K | Slurry(GM2#3#4#: 316SS LE; GB: PVC LE)End) |
| M | Mix(GM:PVC LE) |
| Z | Special material liquid end.(Consult with factory) |

Connection

| Code | Description | GM0002-0050 | | | | GM0090-0500 | | | | GB0080-0450 | | | GB0500-0600 | | | GB0700-1200 | | | | GB1500-1800 | | | | |
|------------------|------------------------------------|---|--------------------------|-------|-------|-------------|-------|-------|-------|-------------|-------|-------|-------------|-------|-------|-------------|---------|-------|---------|-------------|---------|-------|---------|---------|
| | | PVC | PVDF | PP | 316 | PVC | PVDF | PP | 316 | PVC | PVDF | 316 | PVC | PVDF | 316 | PVC | PVDF | 316 | D | S | D | 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 | S/D | S/D | S | D | S | D | S | D | S/D | S/D | S/D | |
| P | NPT | ----- | ----- | 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 | 1/2"F | 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"M |
| Q | Pipe | DN15 | ----- | ----- | ----- | DN15 | ----- | ----- | ----- | ----- | ----- | ----- | ----- | ----- | ----- | ----- | ----- | ----- | ----- | ----- | ----- | ----- | ----- | ----- |
| R | Hose pipe 6X12 | 6x12 | 6x12 ⁽²⁾ | ----- | ----- | ----- | ----- | ----- | ----- | ----- | ----- | ----- | ----- | ----- | ----- | ----- | ----- | ----- | ----- | ----- | ----- | ----- | ----- | ----- |
| L ⁽¹⁾ | PE pipe | 3/8"x1/2" | 3/8"x1/2" ⁽²⁾ | ----- | ----- | ----- | ----- | ----- | ----- | ----- | ----- | ----- | ----- | ----- | ----- | ----- | ----- | ----- | ----- | ----- | ----- | ----- | ----- | ----- |
| H | GM pipe High viscosity application | 15x23 9x12 | ----- | ----- | ----- | DN15 | ----- | ----- | ----- | ----- | ----- | ----- | ----- | ----- | ----- | ----- | ----- | ----- | ----- | ----- | ----- | ----- | ----- | ----- |
| X | Others | Consult with factory, and describe the requirements in purchase order | | | | | | | | | | | | | | | | | | | | | | |

Note:Standard configuration is bold letter marked in shadow. 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.

Motor

| Code | Description(GM) | Description(GB) |
|------|--|--|
| 1 | 250W, IEC71,4P,3-50-220/380V,IP55/F/TEFC | 550W, IEC71,4P,3-50-220/380V,IP55/F/TEFC |
| 2 | Without motor, but NEMA56C connection and standard test | Without motor, but NEMA56C connection and standard test |
| 3 | 250W, IEC71,4P,3-50-380V,IP55/F/TEFC,ExdIIIBT4 | 550W, IEC80,4P,3-50-220/380V,IP55/F/TEFC,ExdIIIBT4 |
| 4 | 370W, IEC71,4P,3-50-220/380V,IP55/F/TEFC | 750W, IEC80,4P,3-50-220/380V,IP55/F/TEFC |
| 5 | 250W, IEC71,4P,1-50-220V,IP55/F/TEFC | 750W, IEC80,4P,3-50-220/380V,IP55/F/TEFC,ExdIIIBT4 |
| 6 | 250W, IEC71,4P,3-50-200/400V,3-60-230/460V,IP55/F/TEFC | 550W, IEC71,4P,3-50-200/400V,3-60-230/460V,IP55/F/TEFC |
| 7 | 370W, IEC71,4P,3-50-200/400V,3-60-230/460V,IP55/F/TEFC | 750W, IEC80,4P,3-50-200/400V,3-60-230/460V,IP55/F/TEFC |
| 8 | ----- | 550W, IEC80,4P,3-50-220/380V,IP55/F/TEFC |
| 9(5) | Without motor, but with IEC71 connection and standard test | Without motor, but with IEC71 connection and standard test |
| 9(8) | ----- | Without motor, but with IEC80 connection and standard test |
| 9 | Others, Consult with Factory | Others, Consult with Factory |

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

Base Plate

| Code | Description | Remark |
|------|--------------------|------------------------|
| N | N/A | Standard Configuration |
| Y | YES ⁽²⁾ | ----- |

Capacity Control

| Code | Description(GM) | Description(GB) | Remark |
|------|---|---|------------------------|
| M | Manual Adjustment | Manual Adjustment | Standard Configuration |
| N | MRIS E-STROKE, E-STROKE, 4-20mA, 220VAC-1Ph | MRIS E-STROKE, E-STROKE, 4-20mA, 220VAC-1Ph | ----- |
| A | MRIS E-STROKE, E-STROKE, 4-20mA, 115VAC-1Ph | MRIS E-STROKE, E-STROKE, 4-20mA, 115VAC-1Ph | ----- |
| U | MRE STEGMANN, 4-20mA, 220VAC-1Ph | MRA ECC, 4~20mA, 220VAC-1Ph | ----- |
| G | MRE STEGMANN, 4-20mA, 115VAC-1Ph | MRA ECC, 4~20mA, 115VAC-1Ph | ----- |
| E | ----- | MRA ECC, 4-20mA, 220VAC-1Ph, Ex. Proof | Used for GB |
| K | ----- | MRA ECC, 4-20mA, 115VAC-2Ph, Ex. Proof | Used for GB |
| F | Frequency Inverter, 3PH, AC, 0.75KW/380V-480V | Frequency Inverter, 3PH, AC, 0.75KW/380V-480V | ----- |
| T | Varipulse® Controller and E-STROKE ECC | ----- | Used for GM |
| P | Varipulse® Controller (220VAC-1Ph-50Hz) | ----- | Used for GM |

Option

| Code | Description | Remark |
|------|--|---|
| N | N/A | ----- |
| A | Stroke Counter transducer | ----- |
| B | Double Diaphragm With Pressure Gauge | ----- |
| C | Double Diaphragm With Pressure Switch (With Baseplate)(*) | With base plate |
| D | Double Diaphragm With Pressure Gauge & Switch(With baseplate)(*) | With base plate |
| X | Others, Consult with factory. | Describe the requirements in purchase order |

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

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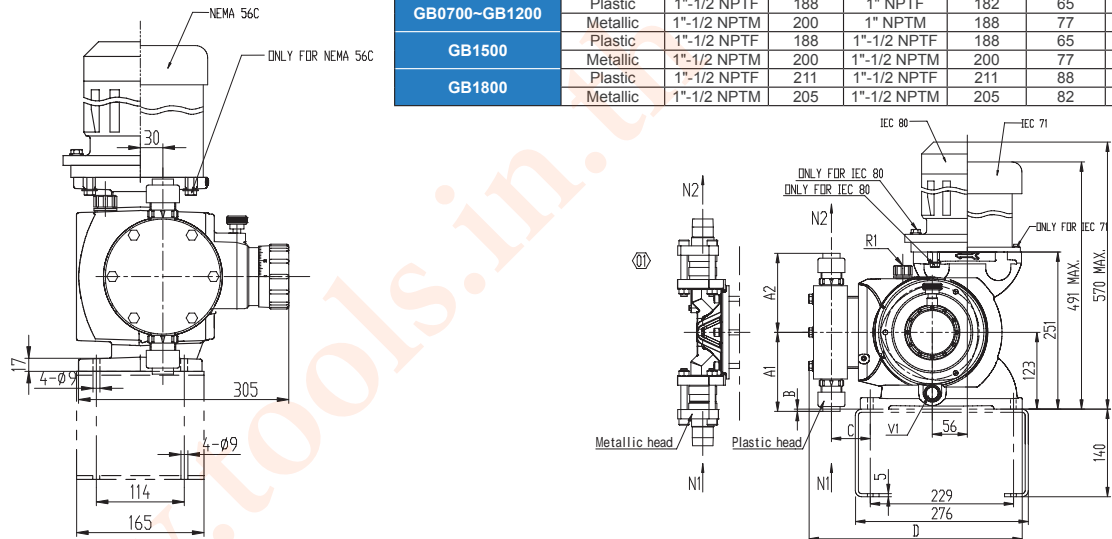
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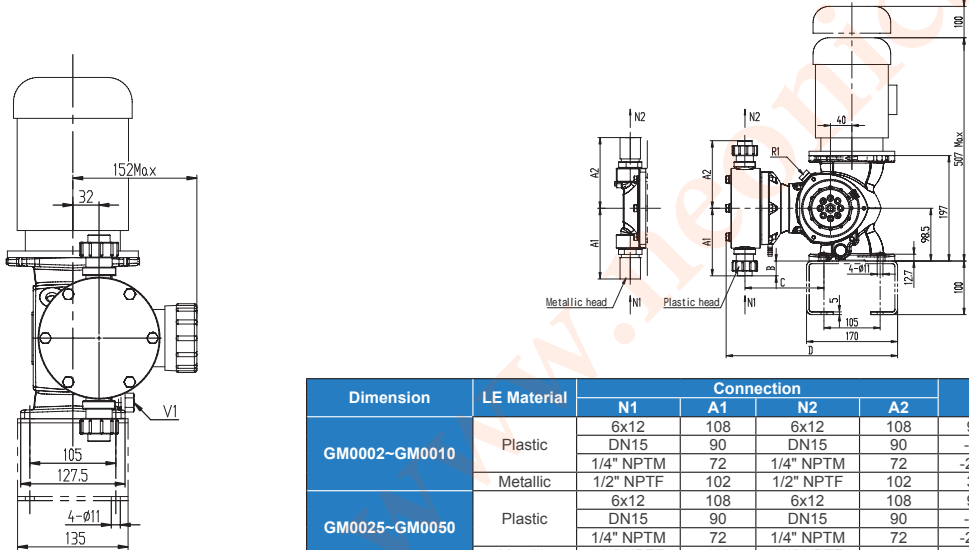
GA Drawing

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 |
| GM0025~GM0050 | Plastic | 1/2" NPTF | 102 | 1/2" NPTF | 102 | 3.5 | 104 | 250 |
| | | 6x12 | 108 | 6x12 | 108 | 9.5 | 104 | 250 |
| | | DN15 | 90 | DN15 | 90 | -8.5 | 104 | 250 |
| GM0090~GM0500 | Metallic | 1/4" NPTM | 72 | 1/4" NPTM | 72 | -26.5 | 104 | 250 |
| | | 1/2" NPTF | 102 | 1/2" NPTF | 102 | 3.5 | 104 | 250 |
| | | 1/2" NPTF | 127 | 1/2" NPTF | 127 | 28.5 | 148 | 320 |
| GM0090~GM0500 | Plastic | DN15 | 127 | DN15 | 127 | 28.5 | 148 | 320 |
| | | 1/2" NPTF | 131 | 1/2" NPTF | 131 | 32.5 | 148 | 315 |

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