



**NIKKISO EIKO
PUMPIA-LAND**

Catalog No. CBP-89015R3



BELLOPON[®] BELLOWS type
METERING PUMP

Compact and Lightweight
Complete leakproof
Accurate metering

MODEL ● **GS**
● **GX·GY**
● **GD**



NIKKISO EIKO



BELLOWS type METERING PUMP

BELLOPON[®]

Model **GS·GX·GY·GD**

Nikkiso Eiko Bellows type metering pump, BELLOPON, whose flow rate is adjustable and quantitative, is a new product improved both price and production wise by the adoption of plastic bracket, making the manufacture of multiplex construction of the pump easier.

In order to recommend to users a most appropriate model, as in case of our conventional pumps, many kinds of models from GS series of small capacity using synchronous motor to GX series of big capacity using shaded pole motors and GY series using induction motors are available.

provides continuous accurate injection for

- Auto photo processing machine
- Auto beverage vending machine
- Laboratory equipment
- Metering a variety of Chemicals, Detergents, Food additives etc.

- **Complete leak proof:**

No leakage due to no stuffing box.

- **Long service life:**

Superior flexing capabilities of polypropylene, which has excellent corrosion resistance, provides millions of cycle under normal operating conditions. Also plastics made pump frame is provided.

- **Dry running possible:**

Dry running possible due to no friction parts.

- **Self priming:**

This pump may prime about 1 m at full stroke even pump is not full of liquid, contrarily positive suction is restricted to maintain accurate pumping.

- **Accuracy:**

Greatest accuracy is $\pm 1.5\%$ at maximum stroke length and high accuracy is attained at 50% or more of maximum stroke length.

- **Variety of configuration:**

They are available as single or multiple in line and any combination of 5 sizes bellows can be used.

- **Liquid temperature:**

Pumps are designed for use with liquid up to 50°C at catalog rated pressure, but not applicable in liquids over 60°C.

Reduce the maximum operating pressure by 50% for temperature 50°C, or more.



Model GS, Simplex



Model GX, Duplex



Model GY, Triplex

MODEL CODE



① Pump Model

Code	Motor
GS	Synchronous Motor
GX	Shaded Pole Motor
GY	Induction Motor
GD	DC Motor

② Number of pumps

Code	1	2	3
Number of pumps	Simplex	Duplex	Triplex

③ Size of Bellows

Code	1	2	3	4	5	X
Size of Bellows	15	25	40	45	65	Mix Size

④ Frame Material

Code	Material
P	Plastics
N	Ni-Plating

⑤ Motor Power

Code	Motor	Power Supply					
		100V	110V	115V	200V	220V	240V
3	Synchronous Motor 3.5W	50/60Hz	60Hz	60Hz	50/60Hz	50/60Hz	—
6	Synchronous Motor 6.0W	50/60Hz	50/60Hz	60Hz	50/60Hz	50/60Hz	50/60Hz
5	Shaded Pole Motor 5.5W	50/60Hz	50/60Hz	60Hz	50/60Hz	50/60Hz	50/60Hz
Y	Induction Motor 15W	50/60Hz	—	60Hz	50/60Hz	—	50/60Hz
Z	Induction Motor 25W	50/60Hz	—	60Hz	50/60Hz	—	50/60Hz
1	DC Motor 1W	DC12V					
9	DC Motor 9W	DC24V					

⑥ Valve Type

Code	T	D
Type	Poppet Valve	Duckbill Valve

⑦ Valve Material

Code	E	H	V
Material	EPDM	CSM	FPM

⑧ Number of Strokes

Stroke per minute (Only for 12.5spm, indicate as 13).

⑨ Special Function

Sp: Special requirement.

BELLOPON[®] Model GS <Size 15·25·40·45>

Small capacity·Synchronous motor When the power supply to motor is cut, it stops instantaneously so there over-shoot.

Pump Model	Motor	No. of Strokes spm (50/60Hz)	Discharge Capacity mL/min Max. Dis. Pressure MPa	Bellows size											
				15			25			40			45		
				Simplex	Simplex	Duplex	Triplex	Simplex	Duplex	Triplex	Simplex	Duplex	Triplex		
GS (50/60Hz)	3.5W 1φ 100V	10/12	Max. discharge Capacity mL/min	4/4.8	44/52	44/52	44/52	100/120	100/120	100/120	138/166	138/166	138/166		
			Max. discharge Pressure MPa	0.2	0.1	0.08	0.06	0.05	0.04	0.02	0.035	0.03	0.015		
		12.5/15	Max. discharge Capacity mL/min	5/6	55/66	55/66	55/66	125/150	125/150	125/150	172/206	172/206			
			Max. discharge Pressure MPa	0.2	0.07	0.06	0.04	0.03	0.02	0.015	0.02	0.015			
		20/24	Max. discharge Capacity mL/min	8/9.6	88/105	88/105									
			Max. discharge Pressure MPa	0.2	0.02	0.015									
	6W 1φ 100V	20/24	Max. discharge Capacity mL/min	8/9.6	88/105	88/105	88/105	200/240	200/240	200/240	276/330	276/330	276/330		
			Max. discharge Pressure MPa	0.2	0.18	0.14	0.12	0.09	0.07	0.05	0.06	0.05	0.03		
		30/36	Max. discharge Capacity mL/min	12/14.4	132/156	132/156	132/156	300/360	300/360	300/360	414/497	414/497	414/497		
			Max. discharge Pressure MPa	0.2	0.12	0.1	0.08	0.04	0.03	0.02	0.03	0.025	0.015		
50/60	Max. discharge Capacity mL/min	20/24	220/264	220/264		500/600	500/600		690/827						
	Max. discharge Pressure MPa	0.2	0.06	0.04		0.015	0.01		0.01						
Weight			kg	0.4	0.2	0.7	1.0	0.4	0.7	1.0	0.4	0.7	1.0		
Standard Hose Size, ID				mm	φ6			φ9							

BELLOPON[®] Model GX·GY <Size 15·25·40·45·65>

High head·Large capacity

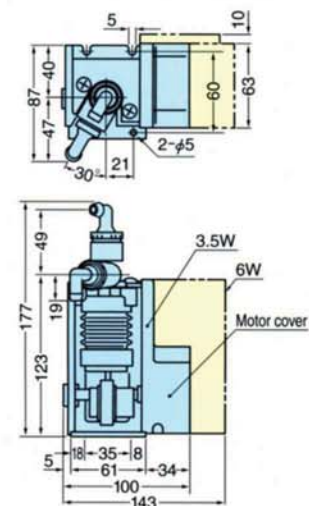
Pump Model	Motor	No. of Strokes spm (50/60Hz)	Discharge Capacity mL/min Max. Dis. Pressure MPa	Bellows size																	
				15				25				40				45				65	
				Simplex	Simplex	Duplex	Triplex	Simplex	Duplex	Triplex	Simplex	Duplex	Triplex	Simplex	Duplex	Triplex	Simplex	Duplex			
GX (50/60Hz)	5.5W 1φ 100V	27/32	Max. discharge Capacity mL/min	11/13	119/141	113/133	107/126	270/320	256/304	243/288	372/447	353/424	335/402								
			Max. discharge Pressure MPa	0.35	0.28	0.28	0.28	0.14	0.14	0.14	0.14	0.14	0.14	0.1							
		54/64	Max. discharge Capacity mL/min	22/26	238/282	226/267	214/253	540/640	513/608	486/576	745/894	708/849	670/804								
			Max. discharge Pressure MPa	0.35	0.28	0.28	0.16	0.14	0.14	0.08	0.14	0.14	0.1	0.06							
		108/128	Max. discharge Capacity mL/min	44/52	475/563	451/534	428/507	1080/1280	1026/1216	972/1152	1490/1788	1415/1698	1341/1609								
Weight			kg	1.7	1.7	2.0	2.3	1.7	2.0	2.3	1.7	2.0	2.3								
GY (50/60Hz)	15W 1φ 100V	23/27	Max. discharge Capacity mL/min	9.4/11	101/119	95/113	89/107	230/270	218/256	207/243	317/372	302/353	285/335	1265/1485	1200/1410						
			Max. discharge Pressure MPa	0.35	0.28	0.28	0.28	0.14	0.14	0.14	0.14	0.14	0.14	0.05	0.035						
		45/54	Max. discharge Capacity mL/min	18/22	198/238	188/226	178/213	450/540	427/513	405/486	621/745	590/708	559/670	2475/2970							
			Max. discharge Pressure MPa	0.35	0.28	0.28	0.28	0.14	0.14	0.14	0.14	0.14	0.14	0.14	0.02						
		90/108	Max. discharge Capacity mL/min	37/44	396/475	376/451	356/427	900/1080	855/1026	810/972	1242/1490	1180/1415	1117/1341								
			Max. discharge Pressure MPa	0.35	0.28	0.28	0.28	0.14	0.14	0.14	0.14	0.14	0.14								
	Weight			kg	1.9	1.9	2.2	2.5	1.9	2.2	2.5	1.9	2.2	2.5	3.2	4.4					
	25W 1φ 100V	23/27	Max. discharge Capacity mL/min												1265/1485	1200/1410					
			Max. discharge Pressure MPa												0.1	0.1					
		45/54	Max. discharge Capacity mL/min												2475/2970	2351/2822					
Max. discharge Pressure MPa														0.1	0.05						
Weight			kg										3.9	5.1							
Standard Hose Size, ID				mm	φ6				φ9				φ12								

Note: ① This table is based on the following conditions.
 Liquid: Water at 20°C
 Power Supply: 1φ, 100V, 50/60Hz
 Valve Type: Poppet Valve
 Suction Head: Max. 0.7m
 Hose Size: ID φ9

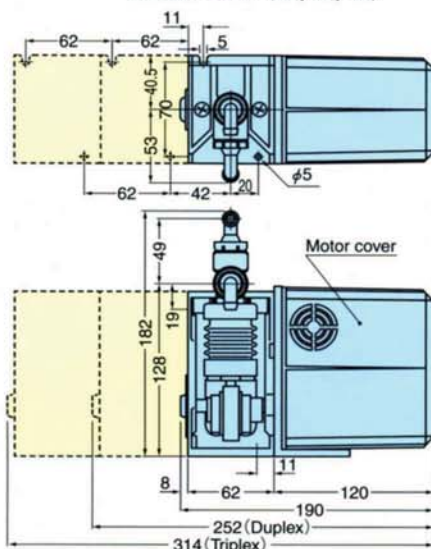
② Capacity will decrease under the following conditions.
 ● In case temperature of liquid or power supply is lower.
 ● In case power supply is 200V or so.
 ● In case Duckbill Valve is used.
 ③ As the special feature of Reciprocating Pump, Acceleration Head may be considered according to length and / or size of piping.

OUTLINE DRAWING

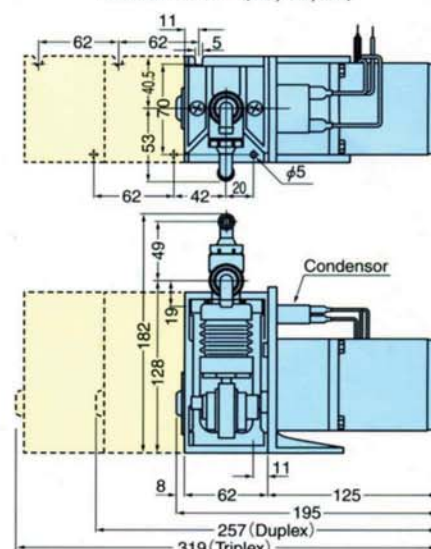
Model **GS** (25, 40, 45)



Model **GX** (25, 40, 45)



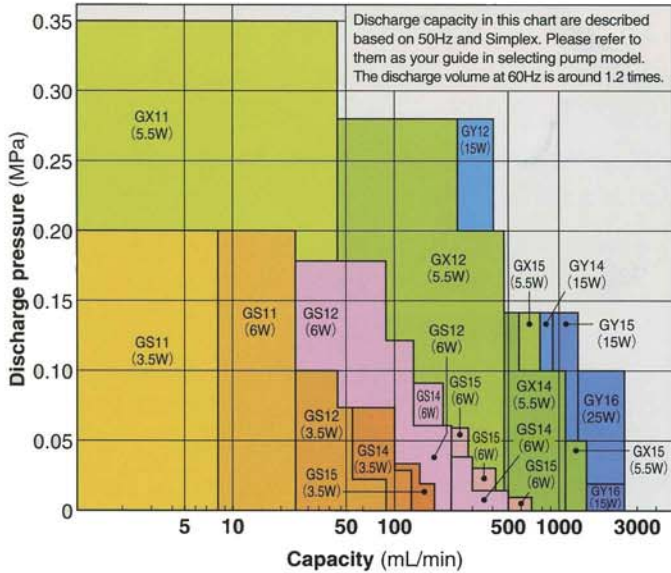
Model **GY** (25, 40, 45)



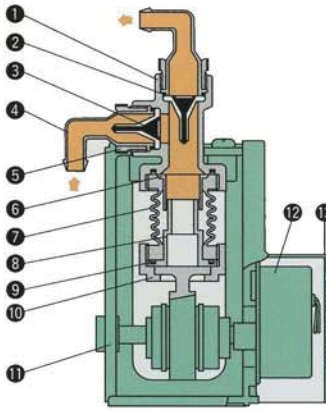
● Please inquire us for Bellows size 15 & 65

BELLOPON[®] Capacity-Pressure Chart · Constructions

CAPACITY-PRESSURE CHART



CONSTRUCTIONS



No.	Part Name	Material	Qty
1	Body	PP	1
2	O Ring	EPDM, CSM, FPM	2
3	Poppet Valve	EPDM, CSM, FPM	2
4	Hose Joint	PP	2
5	Nut	PP	2
6	Guide	PP	1
7	Bellows	PP	1
8	Displacement Cup	PP	1
9	O Ring	EPDM, CSM, FPM	2
10	Union Nut	PP	1
11	Bracket	PP	1
12	Motor	—	1
13	Motor Cover	PP	1

Poppet valve:

The conical poppets are self-flushing and permit no "flow-back" of liquid through the pump.

Duckbill valve:

Unique shaped duckbill valves are designed to handle fibrous materials and heavy slurries.

• In case of Bellows sizes are 15 and 65, the constructions and materials are different from this drawing.



BELLOPON[®] Spare parts · Accessories

SPARE PARTS

1 BELLOWS SET



O Ring Material	Bellows size				
	15	25	40	45	65
EPDM	AC9-FRE	AC1-GRE	AC2-GRE	ACN-JRE	AC9-NRE
CSM	AC9-FRH	AC1-GRH	AC2-GRH	ACN-JRH	AC9-NRH
FPM	AC9-FRV	AC1-GRV	AC2-GRV	ACN-JRV	AC9-NRV
Applicable model	GS,GX,GY				GY

4 HOSE JOINT SET



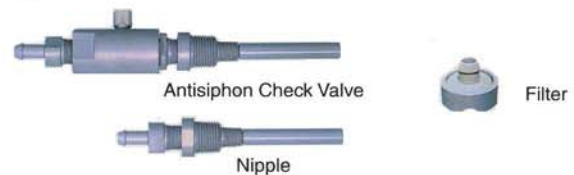
Material	Bellows size		
	15	25,40,45	65
PP	—	AC4-GPP	AC8-NPP
PVC	JC1-APV	—	—
Bellows size			
	15	25,40,45	65
Hose Size (ID)			
	6	9	12

2 POPPET VALVE SET



O Ring Material	Bellows size	
	15	25,40,45,65
EPDM	AC7-FRE	AC8-FRE
CSM	AC7-FRH	AC8-FRH
FPM	AC7-FRV	AC8-FRV

ACCESSORY



Name	Size			Notice
	Hose size	15	25,40,45	
Antisiphon Check Valve	ID φ 6	ID φ 9	ID φ 12	Mounting thread PT1/4, 3/8, 1/2
Nipple	NA2-APV	NA3-APV	NA4-APV	
Fiter	011-310	011-311	011-312	

3 DUCKBILL VALVE SET



O Ring Material	Bellows size	
	25,40,45,65	
EPDM	AC9-VRE	
CSM	AC9-VRH	
FPM	AC9-VRV	

We reserve the right to change the contents of this catalogue, without prior notice

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