

**MEISEIVC**™

**IN LINE**

# Automatic Viscosity Control And Measurement System

**2008 Models**



**MEISEI CORPORATION**

Phone: + 81 - 574 - 65 - 1666

Fax: + 81 - 574 - 65 - 1667

E - mail [info@meiseivc.co.jp](mailto:info@meiseivc.co.jp)

URL <http://www.meiseivc.co.jp/>  
JAPAN

**IN LINE**

# Automatic Viscosity Control For Inks, Coatings and Adhesives

*The best selling viscosity control and measurement system for the past 22 years. Meisei has more than 80% of the Japanese market share. More than 12,000 systems have been sold to coating, gravure and flexo companies in Japan, and 19 countries.*

**Meisei's excellent customer support provides impeccable service after the sale !**  
**Demo-device available on request.**

**THE MARKET  
LEADER!**



**[GP - 10 Type]**

## Functions and Features

Single unit performs four functions: ink circulation, ink agitating, viscosity measurement and viscosity control.  
Improves product quality and color consistency. Decreases losses and customer claims. -Guaranteed !  
By providing uniform viscosity, waste is minimized and ink consumption is reduced by 15 ~ 20%  
Non leak and safety by pneumatic diaphragm.  
Easy to wash by only half a gal of solvent, takes 3 minutes.  
Automatic oil lubrication and recycling system extends pump life by 3 times longer.  
Kink-free, solvent resistant hoses are soft and easy to handle.  
Compact and lightweight, the system is easy to move, setup and operate.  
Make operators free to adjust viscosity level, Operator can now devote their attention to other matters.

## Viscosity display



The controller LED display is large, bright and easy to read. Viscosity is displayed in cup-seconds.

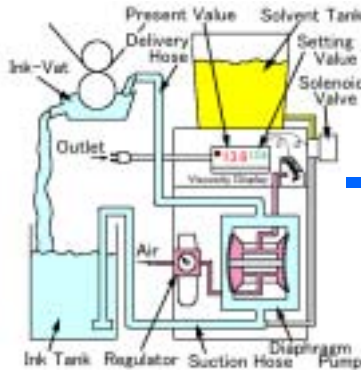
## PRINCIPLE

These viscosity controller systems are controlled by sensing viscosity through the loads placed on the diaphragm pump.

(The evaporation of solvent in the tank causes the liquid viscosity is thickening.

As the liquid viscosity thickens, the load on the pump is also increased. Then the pump cycle is getting slow.

As the liquid viscosity thins, the load on the pump is also decreased. Then the pump cycle is getting fast.)

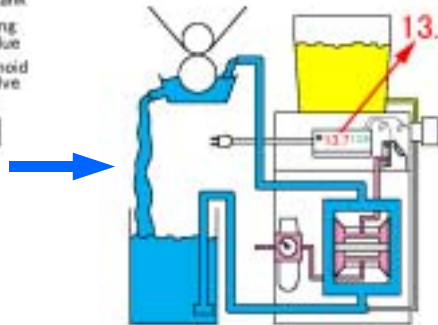


The system detects the diaphragm pump pulse times that the liquid is circulating through.

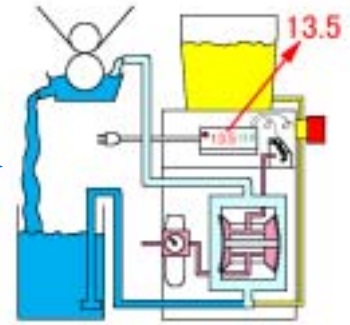
Viscosity Present Value is displayed.

Set up this value as the upper limit.

The Viscosity Present Value returns the beginning value.



The liquid viscosity thickens and the load on the diaphragm pump is increased. Then Viscosity Present Value becomes higher.



The solenoid valve will open and feed the solvent after it catches the electric signal from the sensor.

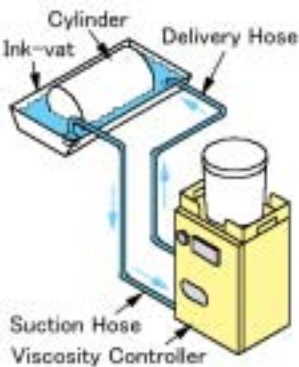
The sensor detects that Viscosity Present Value is getting small by pump air exhaust.



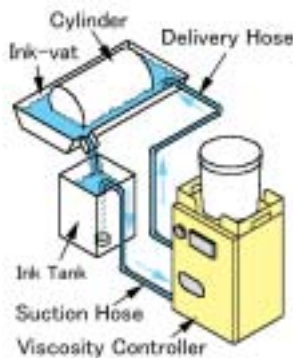
## EXAMPLES OF INSTALLATION

We are explaining how to install in case of using Inks by the following illustrations. But if you would like to use Adhesives, Coatings or Varnish, you can install in the same condition as inks.

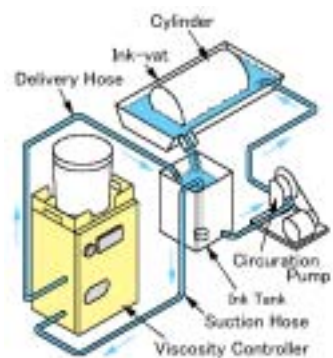
Direct circulation



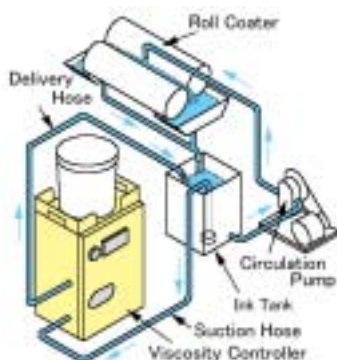
Circulation through ink-tank



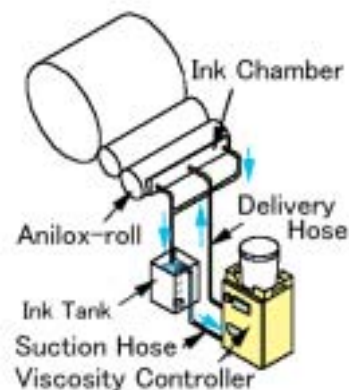
Circulation through ink-tank with using circulating pump



Circulation through ink-tank with circulating pump for Roll coater



Circulation through ink-tank for Ink chamber

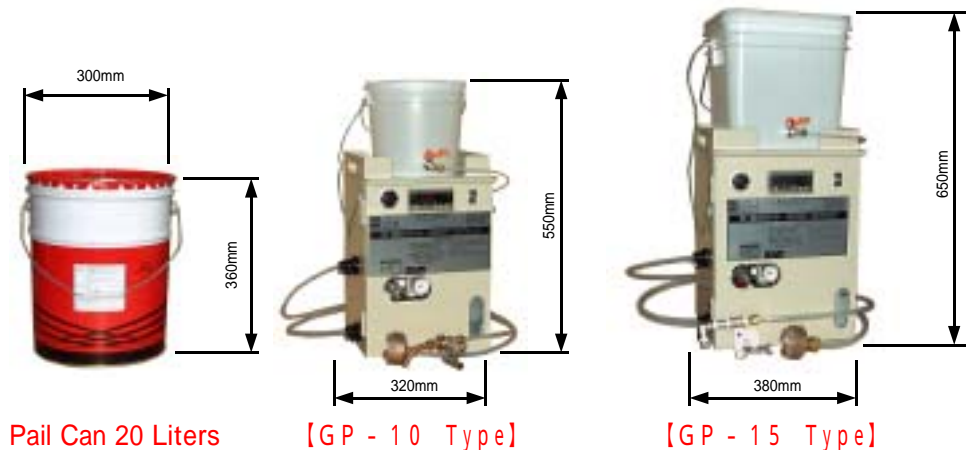


## SPEC.

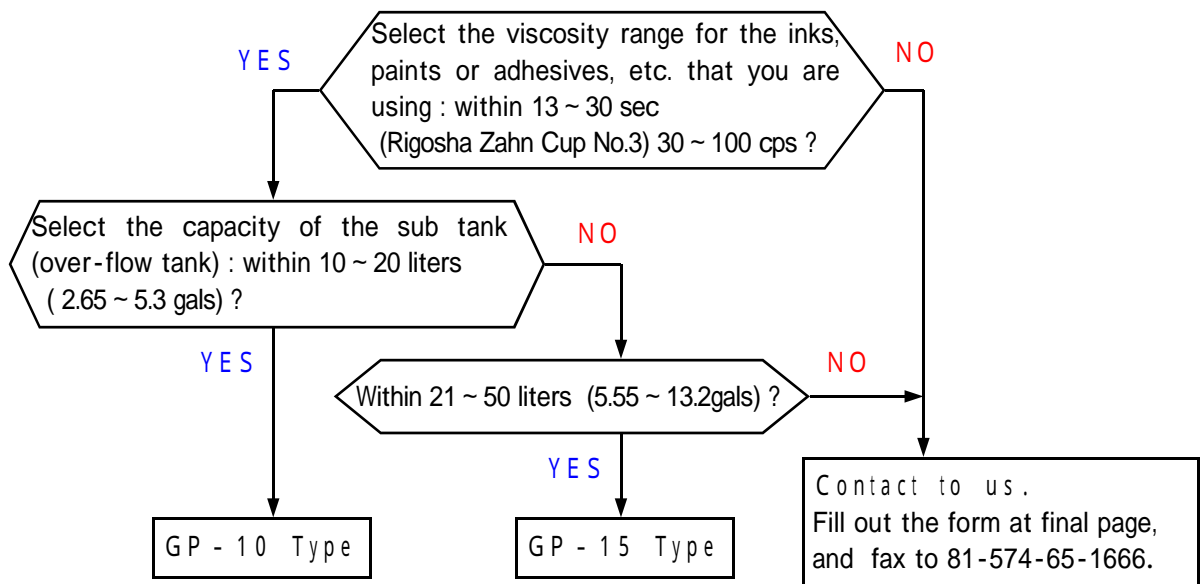
Model No.	GP-10	GP-15
Appearance	box type of steel mono-block	box type of steel mono-block
Dimension	320mm x 295mm x 550mmH (12.6" x 11.6" x 21.7" H.)	380mm x 380mm x 650mmH (14.8" x 15" x 25.6" H.)
Net weight	16 kg (35 lbs)	22 kg (48.5 lbs)
Control range	13 ~ 30 sec ( Rigosha Zahn Cup No.3) 30 ~ 100 cps	13 ~ 30 sec ( Rigosha Zahn Cup No.3) 30 ~ 100 cps.
Solvent tank	4 liters (1 gal) made of PE	10 liters (2.7 gal) made of PE
Suction hose	I/D 8mm x 2,300mmL ( I/D 0.3" x 90.55" L.)	I/D 11mm x 2,300mmL. ( I/D 0.43" x 90.55" L.)
Delivery hose	I/D 6.5mm x 2,300mmL. ( I/D 0.25" x 90.55" L.)	I/D 8mm x 2,300mmL. ( I/D 0.3" x 90.55" L.)
Circulation volume	1.8 ~ 3.9 liters/min. ( 0.48 ~ 1 gal/min.)	3.2 ~ 8.8 liters/min. ( 0.85 ~ 2.3 gal/min.)
Air consumption	40 liters/min. ( 1.41 scfm or 10.5 gals/min.)	90 liters/min. ( 3.18 scfm or 23.8 gals/min.)
Working pressure	4 ~ 8kgf/cm <sup>2</sup> ( 60 ~ 120 psi)	4 ~ 8kgf/cm <sup>2</sup> ( 60 ~ 120 psi)
Working voltage	AC100-120V/40W ( Option 200-240V)	AC100-120V/40W ( Option 200-240V)
Max. volume of Sub-tank	10 ~ 20 liters ( 2.65 ~ 5.3 gals)	21 ~ 50 liters ( 5.55 ~ 13.2gals)

### [Notice]

The liquid circulating quantity and air consumption stand for the maximum quantities while Viscosity controller is operating. Supply the compressed air more than 1.5 times as quantity as air consumption.



## MODEL SELECTION



## OTHERS

### AP - 1000E - M Type

Controlled viscosity range: 100 ~ 300 CPS  
Solenoid valve for solvent supply is made use of flameproof type of explosion-protected construction.

Solvent tank is made of stainless steel, capacity :



### AP - 1501E Type

Separated steel boxes, controller and pump unit.  
Steel box for pump unit can be set up at even dangerous area, but steel box for controller cannot be set up dangerous area.



### AP - 1000E - A Type

The equalizer can defuse the exhaust pulsation.



### AP - 1000E - FH Type

The dusts and dregs in the ink are filtered and eliminated by the cartridge filter.



### AP - 1000E - TD Type

The ink temperature is displayed.



## RELATED EQUIPMENTS

Moisture eliminator in the compressed air.

**M-Drain**

99.5% of the moisture in the compressed air can be eliminated.



Double structure hose.

Super flexible, kink-free and solvent-proof

Size: External diameter X Internal diameter

10mm X 6.5mm , 12mm X 8mm

16mm X 11mm , 21mm X 15mm

25mm X 19mm

【 Bending 】 【 Return to former state 】



Special lubricating oil for Viscosity controller

**MEISEI Super 1000**

The durability of the diaphragm pump is improved.

Capacity: 4 liters



Pneumatic driving agitator.

**VF-03 type**

Ink in the tank is agitated. Available for drum



Circulating pump.

**SP - D type**

The liquid is suctioned, delivered and circulated by this pump.



Zahn cup (measuring cup of viscosity).

**ZC-2·3·4·5·6·7 type**

Easy to measure the viscosity.



Pouring nozzle.

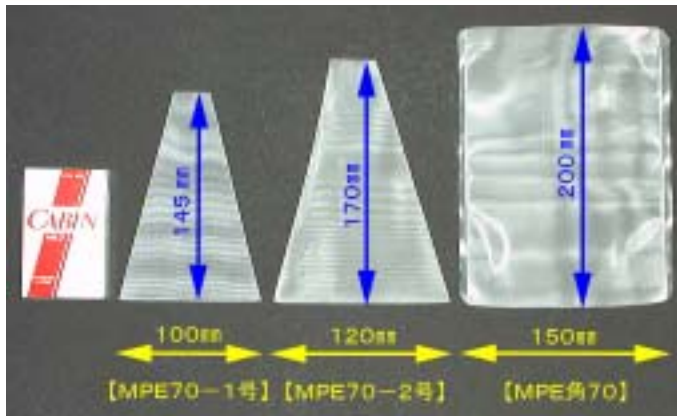
**SN-40 / SN-50 type**

These pouring nozzles are used to fix at the mouth of pail can.

40mm dia. and 50mm dia. for the pouring mouth are available.



## MS Filter



Filter	Mesh count	Aperture size (mm)	Width (mm)	Height (mm)
MPE45 - 1	45	0.34	100	145
MPE70 - 1	70	0.21		
MPE85 - 1	85	0.18		
MPE100 - 1	100	0.15		
MPE140 - 1	140	0.11		
MPE45 - 2	45	0.34	120	170
MPE70 - 2	70	0.21		
MPE85 - 2	85	0.18		
MPE100 - 2	100	0.15		
MPE140 - 2	140	0.11		
MPE - kaku45	45	0.34	150	200
MPE - kaku70	70	0.21		
MPE - kaku85	85	0.18		
MPE - kaku100	100	0.15		
MPE - kaku140	140	0.11		

### [Features]

Solvent-proof net is processed like a bag.

Filter mesh has the mesh count No. 45, 70, 85, 100 and 140.

Filter mesh has trapezoid shape No. 1 and No. 2, also rectangular shape. In case of used at the pump has big exhausting ink quantity and many dusts are contained, No.2 or rectangular shape is used.

In case of Gravure printing, No. MPE70-1 is usually used.

The magnet in the filter eliminates iron powder and prevents to produce the printing defective.

1 set: 500 pcs. (per a unit)

[Reference] The aperture size of nylon stockings is between 0.5mm and 0.8mm. Sample is MPE70.

## Agitating roller for Gravure printing



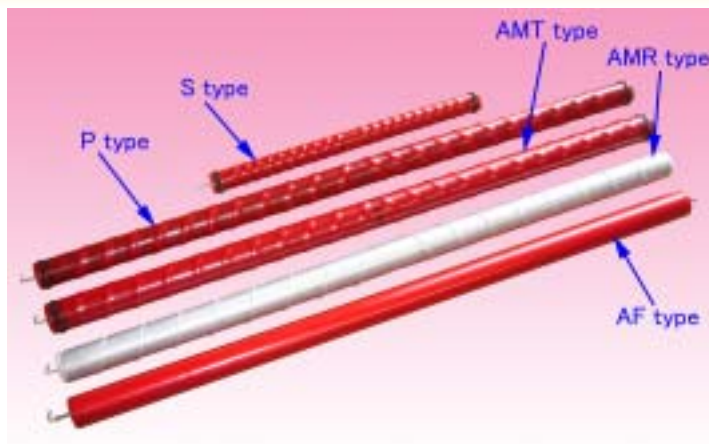
### S type

As the external diameter is 36mm, it can be used in the even shallow ink-vat.

Light weight type: the weight is reduced about 45% than P-Roll.

High speed revolving: the revolving speed is 2.5 times of P-Roll.

The magnet is fixed at the center, lets the iron powder adhere at the space among the spiral tape and prevents to make the flaw at the cylinder plate. Possible to produce by 10mm of pitch from 200mm to 800mm of total length. Keeping to hang down by the hook in order to prevent to be bent.



[In order from top in the above photograph:

S-Roll, P-Roll, AMT-Roll, AMR-Roll and AF-Roll]

### P type, AMT type, AMR type, AF type

P-Roll is the type of lightweight plastic pipe that has the external diameter 48mm. AMR-Roll, AMT-Roll and AF-Roll are the type of Aluminum pipe that have the external diameters 54mm, 52mm and 51mm.

Possible to produce by 10mm of pitch from 300mm to 1,700mm of total length.

P-Roll is kept to hang down by the hook in order to prevent to be bent. Not to be bent so that AMR-Roll, AMT-Roll and AF-Roll are made of Aluminum.

P-Roll, AMR-Roll and AMT-Roll touch the revolving cylinder by magnet. AF-Roll is fixed with the cylinder by metal fitting, and touched together.

**SPEC. CHECKING LIST**

*Demo-device available on request.*

DATE: \_\_\_\_\_.

Company		Name	
Address: City, State: Zip:		Phone:	
		Fax:	
		E-mail:	
Type of process at this location (Check all that apply): Flexography    Gravure    Coating    Laminating    Marking    Other(            )			
The name of liquid which is used:    Ink    Paint    Adhesive			
Base:    Solvent or    Water			
The name of material (Printed matter) which is used printing or coating:			
Your products:			
Number of lines and colors:			
Ink consumption:            liters/hour            liters/day            gal/hour            gal/day			
Voltage: system voltage is    100v    120v    220v    240v    Others(            v)			
Select suitable installation style from the examples on page 3:			
Ink vat capacity:            liters (            gal)			
Ink tank capacity (if applicable):            liters (            gal)			
Range of ink viscosity cup: from            Sec to            Sec.			
Manufacturer's name of measurement cup & Number:			
Cup/Sec of solvent:            Sec. (measured by the above cup)			
Circulation pump:    Equipped    Not equipped			
Pump circulation volume:            liters/min.            gal/min			
Mixer:    Equipped    Not equipped			
Adaptable Model (This space is used by Meisei):			

**MEISEI CORPORATION**

762-8, Ima Aza Tatsuno, Kani City, Gifu Pref.,  
Japan 509-0246

Phone: +81-574-65-1666 Fax:+81-574-65-1667

E-Mail: info@meiseivc.co.jp

http://www.meiseivc.co.jp/