MEISEI CORPORATION
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JAPAN

IN LINE

Automatic Viscosity Control
And Measurement System

VG Series

2016 Models
The best selling viscosity control and measurement system for the past 30 years. Meisei has more than 80% of the Japanese market share. More than 17,000 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.

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

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

【VG-10 Type】

THE MARKET LEADER!

Automatic Automatic Viscosity Control For Inks, Coatings and Adhesives

What’s NEW

① Stainless steal box ・・・・・・・ Easy care
② Sealed electric room ・・・・・ Safe maintenance
③ Unique top board ・・・・・・・・ No solvent invasion
④ Exhaust cleaner ・・・・・ Clean exhaust air and less noise
⑤ Digital pressure switch ・・・ More accurate and less noise
⑥ Interlock system ・・・ Pump works only while main switch is ON
⑦ Compact box • • • • • • • • Approximately 15% less volume compared with GP-15
⑧ Detachable backboard ・・・ Easy maintenance
⑨ Detachable pump ・・・ Easy maintenance
**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 to thicken.
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.)

**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.

1. **Direct circulation**
   - The system detects the diaphragm pump pulse times that the liquid is circulating through.
   - Viscosity Present Value is displayed.
   - The solenoid valve will open and feed the solvent after it catches the electric signal from the sensor.

2. **Circulation through ink-tank**
   - The liquid viscosity thickens and the load on the diaphragm pump is increased.
   - Then Viscosity Present Value becomes higher.

3. **Circulation through ink-tank with using circulating pump**
   - The sensor detects that Viscosity Present Value is getting small by pump air exhaust.

4. **Circulation through ink-tank with circulating pump for Roll coater**

5. **Circulation through ink-tank for Ink chamber**
◆ SPEC.

<table>
<thead>
<tr>
<th>Model No.</th>
<th>VG-10-S11</th>
<th>VG-15-S11</th>
</tr>
</thead>
<tbody>
<tr>
<td>Appearance</td>
<td>box type of stainless steel mono-block</td>
<td>box type of stainless steel mono-block</td>
</tr>
<tr>
<td>Dimension</td>
<td>260mm x 230mm x 670mmH</td>
<td>260mm x 230mm x 720mmH</td>
</tr>
<tr>
<td>Net weight</td>
<td>15 kg</td>
<td>16 kg</td>
</tr>
<tr>
<td>Control range</td>
<td>13<del>30 sec (Rigosha Zahn Cup No.3) 30</del>100 cps</td>
<td>13<del>30 sec (Rigosha Zahn Cup No.3) 30</del>100 cps.</td>
</tr>
<tr>
<td>Solvent tank</td>
<td>11 liters made of Stainless Steel</td>
<td>11 liters made of Stainless Steel</td>
</tr>
<tr>
<td>Suction hose</td>
<td>O/D 12mm x I/D 8mm x 2,500mmL</td>
<td>O/D 16mm x I/D 11mm x 2,500mmL</td>
</tr>
<tr>
<td>Delivery hose</td>
<td>O/D 10mm x I/D 6.5mm x 2,500mmL</td>
<td>O/D 12mm x I/D 8mm x 2,500mmL</td>
</tr>
<tr>
<td>Circulation volume</td>
<td>1.8~3.9 liters/min</td>
<td>3.2~8.8 liters/min</td>
</tr>
<tr>
<td>Air consumption</td>
<td>40 liters/min</td>
<td>90 liters/min</td>
</tr>
<tr>
<td>Working pressure</td>
<td>0.3MPa</td>
<td>0.3MPa</td>
</tr>
<tr>
<td>Working voltage</td>
<td>AC100<del>120V/40W (Option 200</del>240V)</td>
<td>AC100<del>120V/40W (Option 200</del>240V)</td>
</tr>
<tr>
<td>Max. volume of Sub-tank</td>
<td>10~20 liters</td>
<td>21~50 liters</td>
</tr>
</tbody>
</table>

【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

Select the viscosity range for the inks, paints or adhesives, etc. that you are using: within 13~30 sec (Rigosha Zahn Cup No.3) 30~100 cps?

Select the capacity of the sub tank (overflow tank): within 10~20 liters?

Contact to us. Fill out the form at final page, and fax to 81-574-65-1666.
***OTHERS***

①VA−10−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: 8 liters.

②VS−15 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.

③VG−10−A Type
The equalizer can defuse the exhaust pulsation.

④VG−10−FH Type
The dusts and dregs in the ink are filtered and eliminated by the cartridge filter.

⑤VTD−10 Type
The ink temperature is displayed.

⑥VG−10−W Type
Hybird Automatic Washing Sytem
RELATED EQUIPMENTS

① Moisture eliminator in the compressed air.
M-Drain
99.5% of the moisture in the compressed air can be eliminated.

② 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

③ Special lubricating oil for Viscosity controller
MEISEI Super 1000
The durability of the diaphragm pump is improved.
Capacity: 4 liters

④ Pneumatic driving agitator.
VF-03 type
Ink in the tank is agitated. Available for drum tank.

⑤ Circulating pump.
SP-Dtype
The liquid is suctioned, delivered and circulated by this pump.

⑥ Zahn cup (measuring cup of viscosity).
ZC-2・3・4・5・6・7 type
Easy to measure the viscosity.

⑦ 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**

**Features**
1. Solvent-proof net is processed like a bag.
2. Filter mesh has the mesh count No. 45, 70, 85, 100 and 140.
3. 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.
4. 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.
5. 1 set: 500 pcs. (per a unit)

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

<table>
<thead>
<tr>
<th>Filter No.</th>
<th>Mesh count</th>
<th>Aperture size (㎜)</th>
<th>Width (㎜)</th>
<th>Height (㎜)</th>
</tr>
</thead>
<tbody>
<tr>
<td>MPE45-1</td>
<td>45</td>
<td>0.34</td>
<td>100</td>
<td>145</td>
</tr>
<tr>
<td>MPE70-1</td>
<td>70</td>
<td>0.21</td>
<td></td>
<td></td>
</tr>
<tr>
<td>MPE85-1</td>
<td>85</td>
<td>0.18</td>
<td></td>
<td></td>
</tr>
<tr>
<td>MPE100-1</td>
<td>100</td>
<td>0.15</td>
<td></td>
<td></td>
</tr>
<tr>
<td>MPE140-1</td>
<td>140</td>
<td>0.11</td>
<td></td>
<td></td>
</tr>
<tr>
<td>MPE45-2</td>
<td>45</td>
<td>0.34</td>
<td></td>
<td></td>
</tr>
<tr>
<td>MPE70-2</td>
<td>70</td>
<td>0.21</td>
<td></td>
<td></td>
</tr>
<tr>
<td>MPE85-2</td>
<td>85</td>
<td>0.18</td>
<td></td>
<td></td>
</tr>
<tr>
<td>MPE100-2</td>
<td>100</td>
<td>0.15</td>
<td></td>
<td></td>
</tr>
<tr>
<td>MPE140-2</td>
<td>140</td>
<td>0.11</td>
<td></td>
<td></td>
</tr>
<tr>
<td>MPE-kaku45</td>
<td>45</td>
<td>0.34</td>
<td></td>
<td></td>
</tr>
<tr>
<td>MPE-kaku70</td>
<td>70</td>
<td>0.21</td>
<td></td>
<td></td>
</tr>
<tr>
<td>MPE-kaku85</td>
<td>85</td>
<td>0.18</td>
<td></td>
<td></td>
</tr>
<tr>
<td>MPE-kaku100</td>
<td>100</td>
<td>0.15</td>
<td></td>
<td></td>
</tr>
<tr>
<td>MPE-kaku140</td>
<td>140</td>
<td>0.11</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Agitating roller for Gravure printing**

**S type**
1. As the external diameter is 36mm, it can be used in the even shallow ink-vat.
2. Light weight type: the weight is reduced about 45% than P-Roll.
3. High speed revolving: the revolving speed is 2.5 times of P-Roll.
4. 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.
5. 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.

**Reference**
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**
1. 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.
2. Possible to produce by 10mm of pitch from 300mm to 1,700mm of total length.
3. 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.
4. 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.
<table>
<thead>
<tr>
<th>Company name:</th>
<th>Name &amp; title</th>
</tr>
</thead>
<tbody>
<tr>
<td>Address:</td>
<td>Phone:</td>
</tr>
<tr>
<td>City, State:</td>
<td>Fax:</td>
</tr>
<tr>
<td>Zip:</td>
<td>E-mail:</td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
</tbody>
</table>

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:  
☐ Paper ☐ Film ☐ Metal ☐ Wood ☐ Others ( )

Your products:

Number of lines and colors:  
( ) colors x ( ) lines, ( ) colors x ( ) lines, ( ) colors x ( ) lines

Ink consumption: liters/hour liters/day gal/hour gal/day

Voltage: system voltage is ☐ 100v ☐ 120v ☐ 220v ☐ 240v ☐ Others ( )

Select suitable installation style from the examples on page 3:  
☐ No. 1 ☐ No. 2 ☐ No. 3 ☐ No. 4 ☐ No. 5 ☐ Others ( )

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):