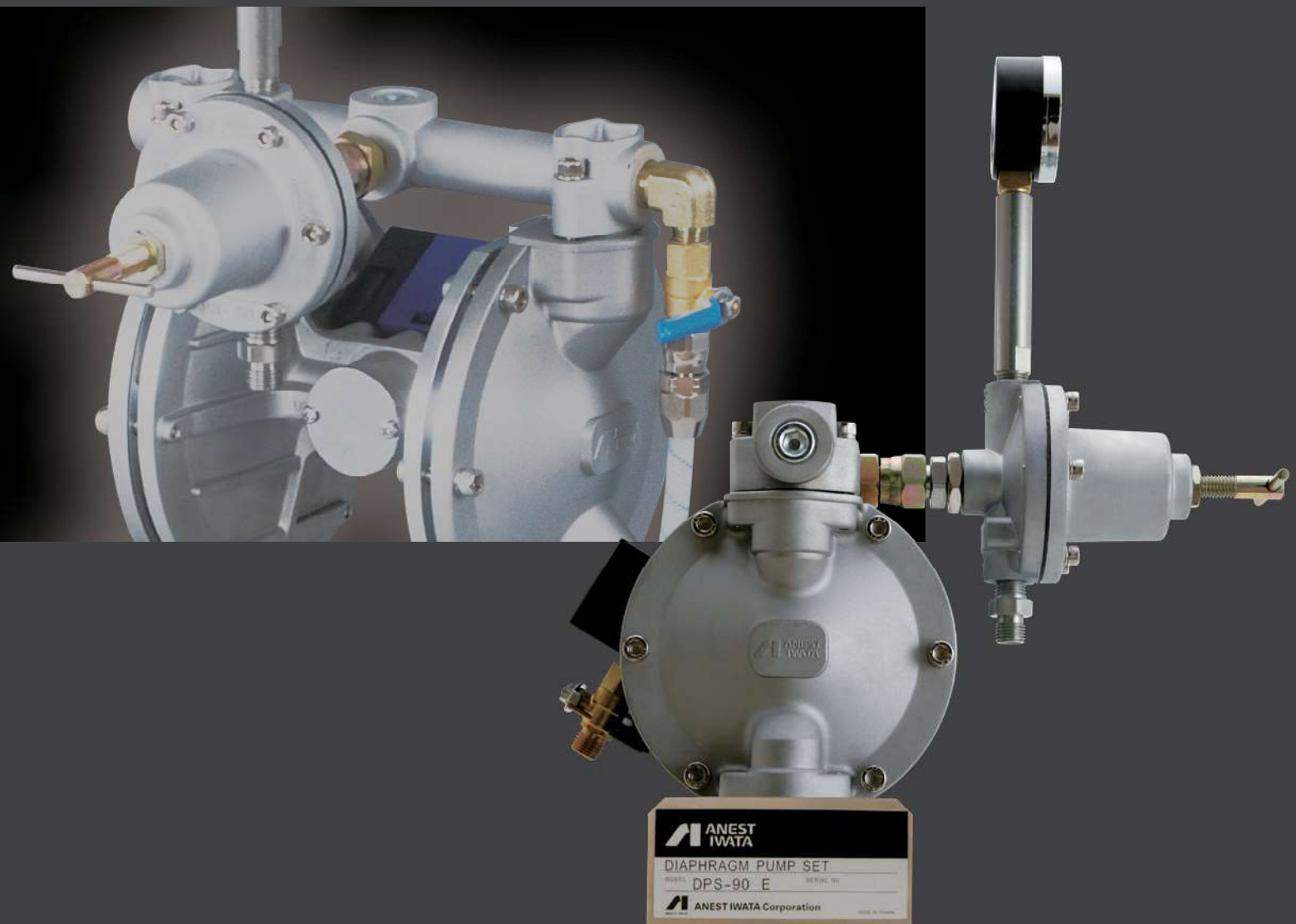


# Paint Supply and Coating System Equipment



Product Guide

## PAINT SUPPLY & COATING SYSTEM EQUIPMENT



INDUSTRIAL EQUIPMENT SPECIALIST & COATING SOLUTION PROVIDER

# Paint Supply Pump Selection Guide

## Points to note and comparisons of recommended paint pump products

- Select models from the chart below based on parameters such as **Fluid output** and **Applications**.
- Select the pump fluid output based on **Fluid output at 30 cycles/min**. (See explanation below for more information.)
- ★ indicates the **most recommended model** for a particular paint pump type. (★ indicates the second most recommended model. These products offer the greatest versatility and are likely the right choice for those in doubt.)

### Diaphragm pumps

These are air-driven double bellows seal pumps with a pump design with a wide range of capacities, including a small fluid output sprayer, use with multiple spray guns, and paint transfer.

- ★ Recommendation No. 1
- ★ Recommendation No. 2

Typical applications are listed here. Applications are also provided in the specifications tables for individual products. Refer to both when selecting products.

### Plunger pumps

Plunger pumps are air-driven double-action piston pumps that use a recirculation system.

## Major applications

- Resin coating Examples: automotive components, mobile phones, household appliances
- Vehicle coating Examples: automobiles, trucks, rail vehicles
- Metal coating Examples: construction machinery, machine tools, steel furniture, electrical distribution boards

- Woodwork coating Examples: furniture, musical instruments
- Liquid application Examples: adhesive, mold release agent, lubricant
- Liquid feeding Examples: paint, thinner

### Reasons for selecting fluid output for 30 cycles/min

Select a paint pump to suit the required fluid output. Supplying paint pumps with greater capacity than required is wasteful. While the maximum fluid output (at zero load) is one indicator for determining paint pump performance, it is important to compare this to the fluid output per paint pump cycle based on the fluid output required for actual painting work. **Fewer operating cycles will increase pump durability and help prevent pulsation. Typically, the ideal setting will not exceed 30 cycles/min.** Start with this figure when selecting a paint pump.

| Pump type and size                                   | Compact sized      | Medium sized               | Large sized         | Diaphragm pump<br>Large sized | Bellows seal pump<br>Large sized | Plunger pump<br>Medium sized | Pump type and size                                   |
|--|--------------------|----------------------------|---------------------|-------------------------------|----------------------------------|------------------------------|--|
| Pump model   | DDP-70B            | DDP-70BN                   | DDP-90E             | DDP-90EN                      | DDP-120B                         | DDP-120BN                    | Pump model   |
|  | Aluminum           | Stainless steel            | Aluminum            | Stainless steel               | Aluminum                         | Stainless steel              |  |
| Wetted parts material (pump body)*                   | Aluminum           | Stainless steel            | Aluminum            | Stainless steel               | Aluminum                         | Stainless steel              | Wetted parts material (pump body)**                  |
| At 30 cycles/min                                     | 0.6 L/min          | 0.7 MPa                    | 1.5 L/min           | 10 L/min                      | 2.7 L/min                        | 17.1 L/min                   | Fluid output   |
| Fluid output   | Approx. 25 L/min   | 0.15 to 0.7 MPa            | Approx. 55 L/min    | Approx. 250 L/min             | Approx. 80 L/min                 | Approx. 130 L/min            | Air consumption (0.7 MPa)                            |
| Air consumption (0.7 MPa)                            | Max. 60 sec / NK-2 | Max. 190 mPa·s             | Max. 300 mPa·s      | Max. 3,000 mPa·s              | Max. 10,000 mPa·s                | Max. 300 mPa·s               | Allowable viscosity (guideline values) <sup>3)</sup> |
| Allowable viscosity (guideline values) <sup>3)</sup> | 1:1                | 1:1                        | 1:1                 | 1:1                           | 1:1                              | 2.3:1                        | Pressure ratio (paint:air)                           |
| Operating air pressure range                         | 0.15 to 0.7 MPa    | 0.15 to 0.7 MPa            | 0.15 to 0.7 MPa     | 0.15 to 0.83 MPa              | 0.15 to 0.7 MPa                  | 0 to 0.7 MPa                 | Operating air pressure range                         |
| Maximum paint pressure (theoretical values)          | 0.7 MPa            | 0.7 MPa                    | 0.7 MPa             | 0.83 MPa                      | 0.7 MPa                          | 1.7 MPa                      | Maximum paint pressure (theoretical values)          |
| Air inlet  | G1/4 male          | G1/4 male                  | G1/4 male           | G3/4 male                     | G1/4 male                        | G1/4 male (PPS-102C)         | Air inlet  |
| Paint inlet  | Rc1/4 female       | Rc1/4 female               | Rc1/2 female        | Rc3/8 female                  | Rc1/2 female                     | G1/4 male (PPS-102C)         | Paint inlet  |
| Paint outlet   | Rc1/4 female       | Rc1/4 female               | Rc3/8 female        | Rc3/8 female                  | Rc1/2 female                     | G1/4 male (PPS-102C)         | Paint outlet   |
| Fluid output per cycle                               | 20 mL/cycle        | 200 mL/cycle               | 150 mL/cycle        | 330 mL/cycle                  | 570 mL/cycle                     | 90 mL/cycle                  | Fluid output per cycle                               |
| Maximum cycles                                       | 300 cycles/min     | 200 cycles/min             | 200 cycles/min      | 200 cycles/min                | 200 cycles/min                   | 50 cycles/min                | Maximum cycles                                       |
| Maximum fluid output <sup>1)</sup>                   | 6 L/min            | 10 L/min                   | 30 L/min            | 66 L/min                      | 40 L/min                         | 4.5 L/min                    | Maximum fluid output <sup>1)</sup>                   |
| Pump unit  | DDP-70B            | DDP-70BN                   | DDP-90E             | DDP-90EN                      | DDP-120B                         | DDP-120BN                    | Pump unit  |
| Stand type   | Customizable       | Customizable               | ★DPS-90E            | DPS-90EN                      | ★DPS-120B                        | DPS-120BN                    | Stand type   |
| Wall-mounted type                                    | DPS-704C           | DPS-704GN                  | DPS-704E            | DPS-904EN                     | DPS-1204B                        | DPS-1204BN                   | Wall-mounted type                                    |
| Handy type with 5 L hopper                           | ★HDP-705C          | HDP-705GN                  | ★HDP-705E           | HDP-705GN                     | ★HDP-705B                        | HDP-705BN                    | Handy type with 5 L hopper                           |
| Direct-mounted type                                  | ★DPS-70C           | Customizable               | Customizable        | Customizable                  | Customizable                     | Customizable                 | Direct-mounted type                                  |
| 18 L rectangular can                                 | DPS-70LC           | DPS-70LGN                  | ★DPS-90LE           | DPS-90LEN                     | DPS-120LB                        | DPS-120LBN                   | 18 L rectangular can                                 |
| Transfer pump  | DPS-70TC           | DPS-70TCN                  | ★DPS-90LE           | DPS-90LEN                     | DPS-120LB                        | DPS-120LBN                   | Transfer pump  |
| Raising/lowering stand type                          | DPS-70PC           | DPS-70PCN                  | DPS-90LPE           | DPS-90LPEN                    | DPS-120LPB                       | DPS-120LPBN                  | Raising/lowering stand type                          |
| 20 L pail  | Customizable       | Customizable               | Customizable        | Customizable                  | Customizable                     | Customizable                 | 20 L pail  |
| Applications   | Wall-mounted type  | Handy type with 5 L hopper | Direct-mounted type | Raising/lowering stand type   | Tank-mounted type                | Raising/lowering stand type  | Applications   |

\*1 Aluminum pumps use plated steel components for joints and other wetted parts. We recommend using stainless steel pumps for applications involving fluids that may cause corrosion.

\*2 The allowable viscosity will vary depending on the suction hose and output piping.

\*3 Value at the paint outlet when using the pump on its own with no load and clean water as the fluid

## Recommended product list



★DPS-704C



★HDP-705C



★DPS-70C



★DPS-90E



★DPS-90LE



★DPS-120B



COT-3M

COT-10L

COT-20B

## Pressurized stainless steel tanks



### Features

The tank interior has a mirror finish to minimize paint or solution adhesion and facilitate cleaning.

- COT-3M
- COT-10/10M/10HL
- COT-20B/20BM/20BHL

The range consists of tanks with actual capacities of 3 L, 10 L, 25 L, and 31 L. Also available are models with agitators and level gauges.

\* See pages 7 to 8 for specifications.

# Diaphragm Pumps

## 1. Stable paint supply

All current models feature modified air control valves with double-spool construction originally designed by ANEST IWATA and used on previous models to eliminate malfunctions (switching failures) during pump operation. This results in a highly reliable diaphragm pump resistant to stoppages for use in lines and automated machinery.

## 2. Reduced color changeover and washing time

All models feature a mirror-finish inside the paint chamber (lid inner face) for even faster color changeovers and washing. These models also reduce the amount of cleaning solution needed and wasted fluid.

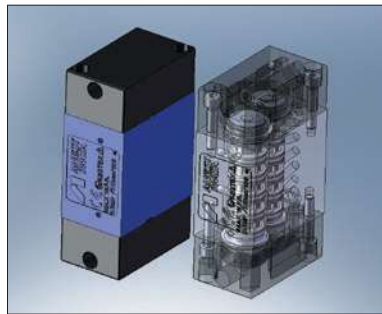
## 3. Wide range of variations

A total of eight different pumps are available to suit the required fluid output and paint type. We can also suggest optimal applications to suit specific working environments.

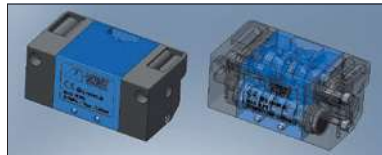
Lid inner face



Air control valves



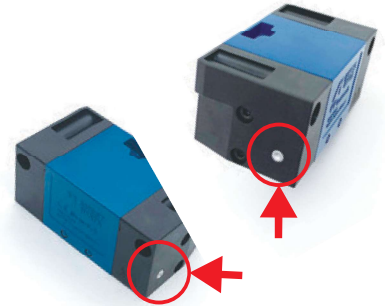
For DDP-70B



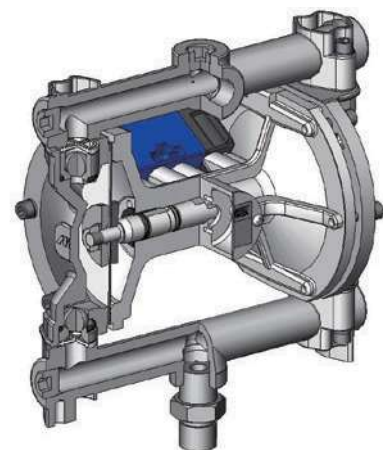
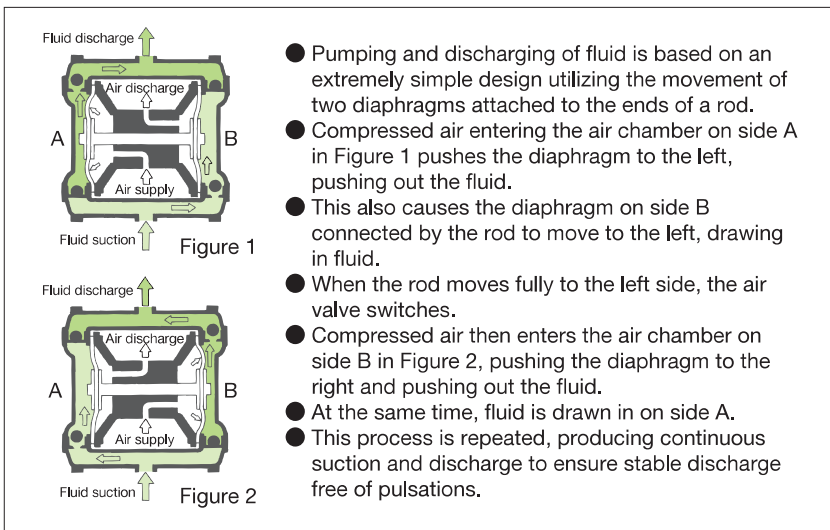
For DDP-90E/-120B

**NEW!!**

The air control valves for use with the DDP-70B and the DDP-90E/-120B now include a reset button to reset the unit if a pump stops due to component wear or other reason.



## Operating principles of double diaphragm pumps



DDP cross-sectional view



# Diaphragm Pump Series



| DDP-70B   | DDP-70BN                             | DDP-90E                              | DDP-90EN                              | DDP-120B                              | DDP-120BN                             | DDP-160D                              | DDP-160DN          | DDP-160D           | DDP-160DN          |  |
|---|--------------------------------------|--------------------------------------|---------------------------------------|---------------------------------------|---------------------------------------|---------------------------------------|--------------------|--------------------|--------------------|--|
| <b>Pump model</b>                                   | <b>DDP-70B</b>                       | <b>DDP-70BN</b>                      | <b>DDP-90E</b>                        | <b>DDP-90EN</b>                       | <b>DDP-120B</b>                       | <b>DDP-120BN</b>                      | <b>DDP-160D</b>    | <b>DDP-160D</b>    | <b>DDP-160DN</b>   |  |
| <b>Wetted parts material (pump body)*1</b>          | Aluminum                             | Stainless steel                      | Aluminum                              | Stainless steel                       | Aluminum                              | Stainless steel                       | Aluminum           | Stainless steel    | Stainless steel    |  |
| <b>Pressure ratio</b>                               | 1:1                                  | 1:1                                  | 1:1                                   | 1:1                                   | 1:1                                   | 1:1                                   | 1:1                | 1:1                | 1:1                |  |
| <b>Operating air pressure range</b>                 | 0.15 to 0.7 MPa                      | 0.15 to 0.7 MPa                      | 0.15 to 0.7 MPa                       | 0.15 to 0.7 MPa                       | 0.15 to 0.7 MPa                       | 0.15 to 0.7 MPa                       | 0.15 to 0.83 MPa   | 0.15 to 0.83 MPa   | 0.15 to 0.83 MPa   |  |
| <b>Fluid output per cycle</b>                       | 20 mL/cycle                          | 20 mL/cycle                          | 50 mL/cycle                           | 50 mL/cycle                           | 150 mL/cycle                          | 150 mL/cycle                          | 330 mL/cycle       | 330 mL/cycle       | 330 mL/cycle       |  |
| <b>Maximum cycles</b>                               | 300 cycles/min                       | 300 cycles/min                       | 200 cycles/min                        | 200 cycles/min                        | 200 cycles/min                        | 200 cycles/min                        | 200 cycles/min     | 200 cycles/min     | 200 cycles/min     |  |
| <b>Maximum fluid output*2</b>                       | 6 L/min                              | 6 L/min                              | 10 L/min                              | 10 L/min                              | 30 L/min                              | 30 L/min                              | 66 L/min           | 66 L/min           | 66 L/min           |  |
| <b>Fluid output at 30 cycles/min</b>                | 0.6 L/min                            | 0.6 L/min                            | 1.5 L/min                             | 1.5 L/min                             | 4.5 L/min                             | 4.5 L/min                             | 10 L/min           | 10 L/min           | 10 L/min           |  |
| <b>Allowable viscosity (guideline values)*3</b>     | Max. 60 sec / NK-2<br>Max. 190 mPa·s | Max. 60 sec / NK-2<br>Max. 190 mPa·s | Max. 100 sec / NK-2<br>Max. 300 mPa·s | Max. 100 sec / NK-2<br>Max. 300 mPa·s | Max. 100 sec / NK-2<br>Max. 300 mPa·s | Max. 100 sec / NK-2<br>Max. 300 mPa·s | Max. 3,000 mPa·s   | Max. 3,000 mPa·s   | Max. 3,000 mPa·s   |  |
| <b>Operating temperature range</b>                  | 5 to 40 °C                           | 5 to 40 °C                           | 5 to 40 °C                            | 5 to 40 °C                            | 5 to 40 °C                            | 5 to 40 °C                            | 5 to 40 °C         | 5 to 40 °C         | 5 to 40 °C         |  |
| <b>Air inlet</b>                                    | G1/4B                                | G1/4B                                | G1/4B                                 | G1/4B                                 | G1/4B                                 | G1/4B                                 | G1/4B              | G1/4B              | G1/4B              |  |
| <b>Paint inlet</b>                                  | Rc1/4                                | Rc1/4                                | G1/2B                                 | G1/2B                                 | G1/2B                                 | G1/2B                                 | G3/4B              | G3/4B              | G3/4B              |  |
| <b>Paint outlet</b>                                 | Rc1/4                                | Rc1/4                                | Rc3/8                                 | Rc3/8                                 | Rc3/8                                 | Rc3/8                                 | G3/4B              | G3/4B              | G3/4B              |  |
| <b>Mass</b>   | 2 kg                                 | 3.2 kg                               | 3.1 kg                                | 5 kg                                  | 4 kg                                  | 7.2 kg                                | 11 kg              | 11 kg              | 16.5 kg            |  |
| <b>Dimensions (L x W x H)</b>                       | 173 x 113 x 143 mm                   | 186 x 213 x 220 mm                   | 186 x 213 x 220 mm                    | 186 x 213 x 220 mm                    | 207 x 223 x 274 mm                    | 207 x 223 x 274 mm                    | 210 x 290 x 320 mm | 210 x 290 x 320 mm | 210 x 290 x 320 mm |  |
| <b>Mounting dimensions</b>                          |                                      |                                      |                                       |                                       |                                       |                                       |                    |                    |                    |  |
| <b>Performance curves</b>                           |                                      |                                      |                                       |                                       |                                       |                                       |                    |                    |                    |  |
| <b>Compressor requirements (for pump operation)</b> | 0.4 to 0.75 kW                       | 0.4 to 0.75 kW                       | 0.4 to 0.75 kW                        | 0.4 to 0.75 kW                        | 0.4 to 1.5 kW                         | 0.4 to 1.5 kW                         | 1.5 to 3.7 kW      | 1.5 to 3.7 kW      | 1.5 to 3.7 kW      |  |

\*1 Aluminum pumps use plated steel components for joints and other wetted parts. We recommend using stainless steel pumps for applications involving fluids that may cause corrosion.  
 \*2 Value at the paint outlet when using the pump on its own with no load and clean water as the fluid.  
 \*3 The allowable viscosity will vary depending on the suction hose and output piping.

\*0.3, 0.5, 0.7 MPa on the graph indicates air pressure.  
 \*The oil used in testing is sumpoline oil.  
 \*0.3, 0.5, 0.7 MPa on the graph indicates air pressure.  
 \*The oil used in testing is sumpoline oil.  
 \*0.3, 0.5, 0.7 MPa on the graph indicates air pressure.  
 \*The oil used in testing is sumpoline oil.



## Bellows Seal Pumps

### 1. Long maintenance intervals

Deploying bellows seals to separate the paint chamber from the air chamber increases maintenance intervals for afding parts.

### 2. Compatible with eco-friendly paints

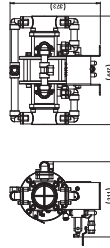
High pressure ratios ensure stable paint supply even with high viscosity eco-friendly paints such as high-solid and water-based paints.

### 3. Supports multiple spray gun use

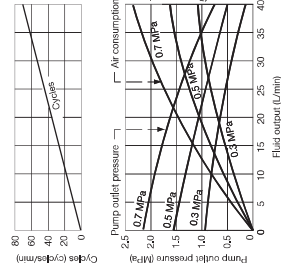
The high fluid output per cycle ensures a stable paint supply even when using multiple spray guns.

## BSP-A030C-N Bellows Seal Pump

| Pump model                               | BSP-A030C-N        |
|--|--------------------|
| Wetted parts material (pump body)        | Stainless steel    |
| Pressure ratio (fluid:air)               | 3:1                |
| Operating air pressure range             | 0.15 to 0.7 MPa    |
| Maximum paint pressure                   | 2.1 MPa            |
| Fluid output per cycle                   | 570 mL/cycle       |
| Maximum cycles                           | 70 cycles/min      |
| Maximum fluid output*1                   | 40 L/min           |
| Fluid output at 30 cycles/min            | 17.1 L/min         |
| Allowable viscosity (guideline values)*2 | 10,000 mPa·s       |
| Operating temperature range              | 5 to 40 °C         |
| Air inlet                                | Rc3/8              |
| Paint inlet                              | Rp1                |
| Paint outlet                             | Rp1                |
| Mass                                     | 27 kg              |
| Dimensions (L × W × H)                   | 311 × 447 × 373 mm |



Cross-sectional diagram



Compressor requirements (for pump operation)

3.7 to 7.5 kW

\*1. Value at the paint outlet when using the pump on its own with no load and clean water as the fluid  
 \*2. The allowable viscosity will vary depending on the suction hose and output piping.  
 \* When used as a fluid transfer pump for non-paint fluids such as lubricant or chemicals, check the pH, viscosity, and fluid properties. Contact your nearest ANEST IWATA sales office if you have any questions.

## Plunger Paint Pumps

### 1. Paint regulator fitted as standard

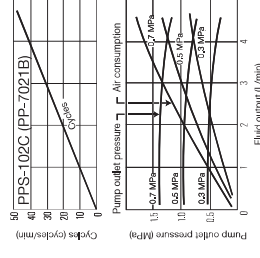
A paint regulator is fitted as standard, allowing paint to be sprayed simply by connecting a spray gun.

### 2. Also usable as a paint supply pump for cell-type spraying facilities

The pump can also be used as a mini paint recirculation system by combining with a back pressure valve.

## PPS Series Plunger Paint Pumps

| Set model                                      | PPS-102C                              |
|--|---------------------------------------|
| Type   | Single-output specifications          |
| Pump model                                     | PP-7021B                              |
| Wetted parts material (pump body)              | Aluminum<br>Steel                     |
| Pressure ratio (fluid:air)                     | 2.3:1                                 |
| Air regulator model                            | RR-55B                                |
| Operating air pressure range                   | 0 to 0.7 MPa                          |
| Fluid output at 30 cycles/min                  | 2.7 L/min                             |
| Paint regulator model                          | Special PR-51B                        |
| Wetted parts material (regulator body)         | Aluminum                              |
| Paint pressure adjustment range                | 0 to 0.6 MPa                          |
| Maximum flow rate                              | 2.0 L/min                             |
| Allowable paint viscosity (guideline values)*1 | Max. 100 sec / NK-2<br>Max. 300 mPa·s |
| Operating temperature range                    | 60 °C or less                         |
| Air inlet                                      | G1/4                                  |
| Paint outlet                                   | G1/4B × 1 outlet                      |
| Paint inlet filter                             | 50 mesh                               |
| Paint intermediate filter                      | 60 mesh                               |
| Options  | TF-71: 100 mesh<br>AMM-711/AMM-611    |
| Dimensions (L × W × H)                         | 380 × 360 × 695 mm                    |
| Mass   | 13.6 kg                               |
| Compressor requirements (for pump operation)   | 0.4 to 0.75 kW                        |



\* 0.3/0.4/0.5/0.6/0.7 MPa on the graph indicate air pressure.

\*1. The allowable viscosity will vary depending on the suction hose and output piping.



PPS-102C

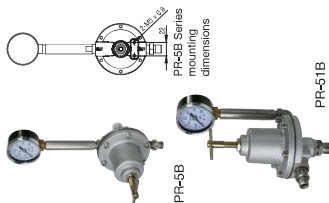


# Paint Control Equipment

## PR-5B Series Paint Regulators

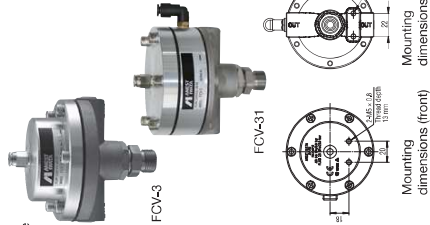
The products in the PR-5B Series are diaphragm type paint regulators that help maintain constant fluid pressure and output to ensure uniform paint film thickness and paint quality control. The line of products includes two types to suit the required pressure adjustment range. As with diaphragm pumps, the wetted parts have a mirror finish to facilitate cleaning.

| Model                         | PR-5B   | PR-5BN          | PR-5B1B                       | PR-5BLN         |
|-------------------------------|---|-----------------|-------------------------------|-----------------|
| Type                          | General purpose                                 | Vertical type   | Low fluid pressure and output | Stainless steel |
| Wetted parts material (body)* | Aluminum  | Stainless steel | Aluminum                      | Stainless steel |
| Pressure adjustment range     | 0 to 0.6 MPa                                    | 0 to 0.3 MPa    | 0 to 0.3 MPa                  | 0 to 0.3 MPa    |
| Maximum flow rate             | 2.0 L/min                                       | 1.5 L/min       | 1.5 L/min                     | 1.5 L/min       |
| Maximum inlet pressure        | 2.5 MPa   | 0.7 MPa         | 0.7 MPa                       | 0.7 MPa         |
| Paint inlet                   | G3/8B   |                 |                               |                 |
| Paint outlet                  | G1/4B   |                 |                               |                 |
| Dimensions (L x W x H)        | 84 x 141 x 220 mm                               |                 |                               |                 |
| Mass                          | 850 g   |                 |                               |                 |
| Mounting dimensions           | 2-M5 x 0.8, thread depth 8 mm, separation 22 mm |                 |                               |                 |



## FCV-3 and FCV-5 Series Flow Control Valves

Products in the FCV-3 and FCV-5 Series are air-operated paint regulators that allow fluid pressure and output to be adjusted remotely. In spray environments involving robots or reciprocators, they can be mounted close to automatic spray guns to eliminate the need for long hoses and to facilitate cleaning. The FCV-31-R1/R2 and FCV-51-R1/R2 have different pressure bearing areas for the diaphragm air and paint chambers, making them ideal for small fluid output adjustments.



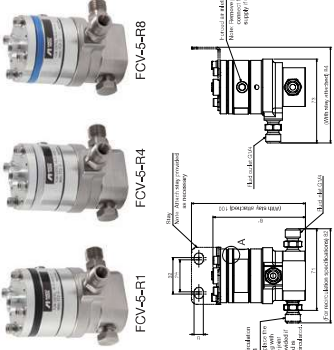
| Model                                    | FCV-3/3N   | FCV-31/31N               | FCV-51-R1/R2             | FCV-51-R1/R2                      |
|--|--|--------------------------|--------------------------|-----------------------------------|
| Type                                     | General purpose                                  | With dump valve function | With dump valve function | For low fluid pressure and output |
| Wetted parts material (body)             | Aluminum/Stainless steel                         | Aluminum/Stainless steel | Aluminum/Stainless steel | Aluminum/Stainless steel          |
| Diaphragm pressure bearing diameter (mm) | 1-1  | 1-4                      | 1-4                      | 1-8                               |
| Guideline fluid output                   | 1, 100 mL/min or greater                         | 35 to 100 mL/min         | 20 to 50 mL/min          | 20 to 50 mL/min                   |
| Maximum air pressure                     | 0.6 MPa  | 0.6 MPa                  | 0.6 MPa                  | 0.6 MPa                           |
| Maximum flow rate                        | 2.0 L/min  | 2.5 MPa                  | 2.5 MPa                  | 2.5 MPa                           |
| Maximum inlet pressure                   | 2.5 MPa  | 2.5 MPa                  | 2.5 MPa                  | 2.5 MPa                           |
| Air inlet                                | Rc1/8  | With $\phi 6$ tube joint | Rc1/4 x 2 outlets        | Rc1/4 x 2 outlets                 |
| Paint inlet                              | G3/8B  |                          |                          |                                   |
| Paint outlet                             | Rc1/4 x 2 outlets                                |                          |                          |                                   |
| Dimensions (L x W x H)                   | 84 x 84 x 106 mm                                 |                          |                          |                                   |
| Mass                                     | 570 g/720 g                                      |                          |                          |                                   |
| Mounting dimensions (front)              | 2-M5 x 0.8, thread depth 13 mm, separation 20 mm |                          |                          |                                   |
| Mounting dimensions (rear)               | N/A  |                          |                          |                                   |

\* This diaphragm pressure bearing diameter ratio will differ from the ratio between the air adjustment pressure and paint outlet pressure (after pressure adjustment).  
 Note that while a larger diaphragm pressure bearing diameter ratio allows greater paint outlet pressure adjustment, the maximum pressure will be lower.

## FCV-5 Features

1. Paint passage interiors with springless construction
2. Unidirectional interior construction

This eliminates faulty operation caused by material adhering to the interior. The interior paint flow is limited to one direction, eliminating paint stagnation and improving paint buildup to facilitate cleaning. \* 50% reduction in cleaning fluid compared to previous ANEST IWATA models

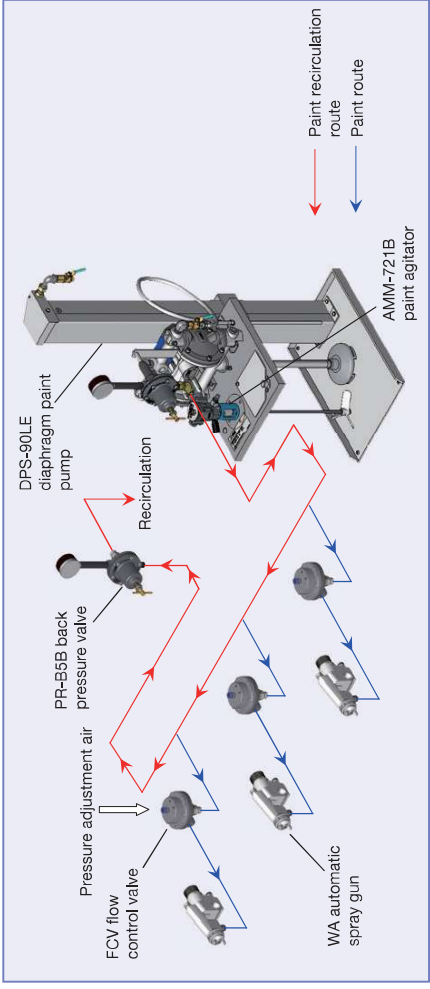


| Model                                    | FCV-5-R1  | FCV-5-R4                 | FCV-5-R8                 | FCV-5-R10                         |
|--|---|--------------------------|--------------------------|-----------------------------------|
| Type                                     | With dump valve function  | With dump valve function | With dump valve function | For low fluid pressure and output |
| Wetted parts material (body)             | Stainless steel   | Stainless steel          | Stainless steel          | Stainless steel                   |
| Diaphragm pressure bearing diameter (mm) | 1-1   | 1-4                      | 1-4                      | 1-8                               |
| Guideline fluid output                   | 100 mL/min or greater   | 35 to 100 mL/min         | 20 to 50 mL/min          | 20 to 50 mL/min                   |
| Maximum air pressure                     | 0.6 MPa   | 0.6 MPa                  | 0.6 MPa                  | 0.6 MPa                           |
| Maximum flow rate                        | 2.0 L/min   | 2.0 L/min                | 2.0 L/min                | 2.0 L/min                         |
| Maximum inlet pressure                   | 1.0 MPa   | 1.0 MPa                  | 1.0 MPa                  | 1.0 MPa                           |
| Air inlet                                | Rc1/8   | Rc1/8                    | Rc1/8                    | Rc1/8                             |
| Paint inlet                              | G1/4B   |                          |                          |                                   |
| Paint outlet                             | G1/4B   |                          |                          |                                   |
| Dimensions (L x W x H)                   | 73 x 71 x 81 mm (main unit only)                                |                          |                          |                                   |
| Mass                                     | 560 g   |                          |                          |                                   |
| Mounting dimensions (front)              | See drawings at right.  |                          |                          |                                   |
| Mounting dimensions (rear)               | With inlet side (before pressure adjustment) recirculation port |                          |                          |                                   |

\* This diaphragm pressure bearing diameter ratio will differ from the ratio between the air adjustment pressure and paint outlet pressure (after pressure adjustment).  
 Note that while a larger diaphragm pressure bearing diameter ratio allows greater paint outlet pressure adjustment, the maximum pressure will be lower.

## Piping Example for Paint Recirculation

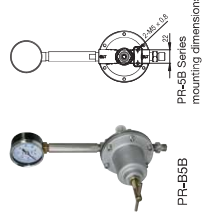
\* Aluminum models use plated steel components for joints and other wetted parts. We recommend using stainless steel models for applications involving fluids that may cause corrosion.



## PR-B5B Series Back Pressure Valves

Integrating these valves together with a paint regulator into the paint piping makes it possible to set up a paint recirculation system. They prevent precipitation of paints susceptible to precipitation, such as metallic paints, as well as ensure stable paint pressure when connected to multiple spray guns. They can be mounted on the paint return side of the paint recirculation system to allow fixed-quantity control.

| Model                         | PR-B5B  | PR-B5BN         |
|-------------------------------|---|-----------------|
| Wetted parts material (body)* | Aluminum  | Stainless steel |
| Pressure adjustment range     | 0 to 0.6 MPa                                    |                 |
| Maximum flow rate             | 2.0 L/min                                       |                 |
| Maximum inlet pressure        | 0.6 MPa   |                 |
| Paint inlet                   | G1/4B   |                 |
| Paint outlet                  | G3/8B   |                 |
| Dimensions (L x W x H)        | 84 x 165 x 260 mm                               |                 |
| Mass                          | 850 g   |                 |
| Mounting dimensions           | 2-M5 x 0.8, thread depth 8 mm, separation 22 mm |                 |



## TJU Series Paint Recirculation System Joints

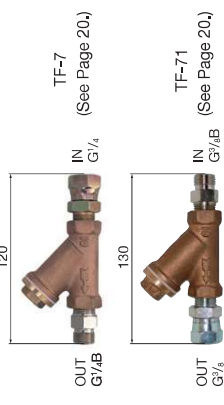
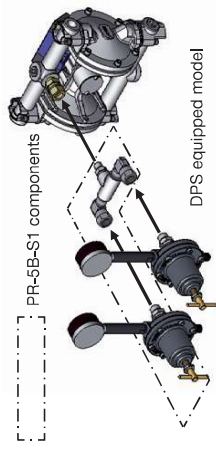
These joints can be attached to fluid joints on manual spray guns and general-purpose automatic spray guns to allow positioning of paint recirculation piping close to the spray guns.

| Model                             | TJU-221B   | TJU-321B           |
|-----------------------------------|--|--------------------|
| Wetted parts material (body)      | Stainless steel  |                    |
| Spray gun connector               | G1/4 cap nut   | G3/8 cap nut       |
| Paint inlet (supply side)         | G1/4B (PF1/4 male)   | G1/4B (PF1/4 male) |
| Paint outlet (recirculation side) | G1/4B (PF1/4 male)   | G1/4B (PF1/4 male) |
| Maximum operating pressure        | 0.69 MPa   |                    |
| Suitable spray gun models         | W-101/LPH-101/WA-61/71   | W-200/LPH-200/W-77 |
| Remarks                           | WA-101/LPA-101<br>WA-200/LPA-200<br>With flow rate adjustment function |                    |



## Options

Adding one paint regulator kit (PH-SB-S1) allows two spray guns to be connected. A stainless steel model is also available. (PH-S5BN-S1)



# Pressurized Paint Tanks

## PT Series Pressurized Paint Tank

Ideal for continuous spray work using a constant paint color. Equipped with an agitator as standard to prevent paint precipitation. Both manual mixing and automatic mixing types are available.

| Manual mixing type                               |                    | General purpose     |                      |                      |
|--|--------------------|---------------------|----------------------|----------------------|
| <b>Type</b>                                      | PT-10D             | PT-20D              | PT-40D               | PT-60D               |
| <b>Model</b>                                     | PT-10D             | PT-20D              | PT-40D               | PT-60D               |
| <b>Tank capacity (normal upper/lower limits)</b> | 10 L (8.4 L/2.6 L) | 20 L (18.8 L/4.9 L) | 40 L (35.6 L/10.7 L) | 60 L (52.6 L/10.7 L) |
| <b>Maximum operating pressure</b>                | 0.34 MPa           |                     |                      |                      |
| <b>Operating temperature range</b>               | 5 to 40 °C         |                     |                      |                      |
| <b>Air inlet</b>                                 | G1/4B              |                     |                      |                      |
| <b>Air outlet</b>                                | G1/4B              |                     |                      |                      |
| <b>Paint outlet</b>                              | G3/8B x 1 outlet   |                     |                      |                      |
| <b>Paint inlet filter</b>                        | 60 mesh            |                     |                      |                      |
| <b>Dimensions (L x W x H)</b>                    | 315 x 315 x 547 mm | 310 x 390 x 652 mm  | 460 x 465 x 700 mm   | 500 x 465 x 885 mm   |
| <b>Mass</b>                                      | 13 kg              | 20 kg               | 27 kg                | 35 kg                |
| <b>Air regulator model</b>                       | RR-56B             |                     |                      |                      |
| <b>Inner container (actual capacity)</b>         | PTC-10W (6 L)      | PTC-20W (14 L)      | PTC-40W (28 L)       | PTC-60W (46 L)       |
| <b>Paint intermediate filter</b>                 | TF-71: 100 mesh    |                     |                      |                      |

| Automatic mixing type                            |                    | General purpose    |                    |                    |
|--|--------------------|--------------------|--------------------|--------------------|
| <b>Type</b>                                      | PT-10DM            | PT-20DM            | PT-40DM            | PT-60DM            |
| <b>Model</b>                                     | PT-10DM            | PT-20DM            | PT-40DM            | PT-60DM            |
| <b>Tank capacity (normal upper/lower limits)</b> | 10L (8.4L/2.6L)    | 20L (18.8L/4.9L)   | 40L (35.6L/10.7L)  | 60L (52.6L/10.7L)  |
| <b>Maximum operating pressure</b>                | 0.34 MPa           |                    |                    |                    |
| <b>Operating temperature range</b>               | 5 to 40 °C         |                    |                    |                    |
| <b>Air inlet</b>                                 | G1/4B              |                    |                    |                    |
| <b>Air outlet</b>                                | G1/4B              |                    |                    |                    |
| <b>Paint outlet</b>                              | G3/8B x 1 outlet   |                    |                    |                    |
| <b>Paint inlet filter</b>                        | 60 mesh            |                    |                    |                    |
| <b>Dimensions (L x W x H)</b>                    | 315 x 315 x 470 mm | 310 x 390 x 590 mm | 460 x 465 x 648 mm | 500 x 465 x 828 mm |
| <b>Mass</b>                                      | 14 kg              | 23 kg              | 31 kg              | 38 kg              |
| <b>Air regulator model</b>                       | RR-56B             |                    |                    |                    |
| <b>Air motor model</b>                           | AM-5C              |                    |                    |                    |
| <b>Inner container (actual capacity)</b>         | PTC-10W (6 L)      | PTC-20W (14 L)     | PTC-40W (28 L)     | PTC-60W (46 L)     |
| <b>Paint intermediate filter</b>                 | TF-71: 100 mesh    |                    |                    |                    |

## Pressurized Stainless Steel Tanks (Paint Tank Type)



**Features**

- COT-3M
- COT-10/10M/10HL
- COT-20B/20BM/20BHL

The tank interior has a mirror finish to minimize adhesion and facilitate cleaning.

\* Maximum operating pressure: 0.40 MPa



COT-20B



COT-10HL



COT-3M



PT-10DM

PT-20DMW

PT-40D

### For water-based paints

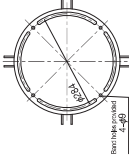
| Model                                    | PT-10DW            | PT-20DW            |
|--|--------------------|--------------------|
| <b>Tank capacity</b>                     | 10L (8.4 L/2.6 L)  | 20L (18.8 L/4.9 L) |
| <b>Maximum operating pressure</b>        | 0.34 MPa           |                    |
| <b>Operating temperature range</b>       | 5 to 40 °C         |                    |
| <b>Air inlet</b>                         | G1/4B              |                    |
| <b>Air outlet</b>                        | G1/4B              |                    |
| <b>Paint outlet</b>                      | G3/8B x 1 outlet   |                    |
| <b>Paint inlet filter</b>                | 60 mesh            |                    |
| <b>Dimensions (L x W x H)</b>            | 315 x 315 x 547 mm | 310 x 390 x 652 mm |
| <b>Mass</b>                              | 13 kg              | 20 kg              |
| <b>Air regulator model</b>               | RR-56B             |                    |
| <b>Inner container (actual capacity)</b> | PTC-10W (6 L)      | PTC-20W (14 L)     |
| <b>Paint intermediate filter</b>         | -                  |                    |

Pressurized tank for water-based paints

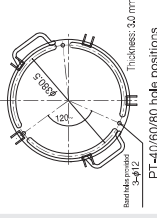
- Wetted parts use different materials or have been subjected to surface treatment compared to general-purpose pressurized tanks.
  - Parts changed to stainless steel. Agitator spindle, suction pipe, bolts (wetted parts)
  - Parts subjected to electroless nickel plating: Suction filter unit, support bands, clamping bands, turbulence plates
- Use together with an inner container (stainless steel).
- Cannot be used with solvent-based paints.
- We recommend pressurized stainless steel tanks when using fluids likely to cause corrosion.

**Inner container (stainless steel)**  
Used inside pressurized paint tanks: ideal for work requiring frequent color changeovers

\* Optional item



PT-20 hole positions



PT-40/60/80 hole positions



Inner container

### For water-based paints

| Model                                    | PT-10DMMW          | PT-20DMMW          | PT-40DMMW           | PT-60DMMW           | PT-80DMMW            |
|--|--------------------|--------------------|---------------------|---------------------|----------------------|
| <b>Tank capacity</b>                     | 10L (8.4 L/2.6 L)  | 20L (18.8 L/4.9 L) | 40L (35.6 L/10.7 L) | 60L (52.6 L/10.7 L) | 80L (68.8 L/10.9 L)  |
| <b>Maximum operating pressure</b>        | 0.18 MPa           |                    |                     |                     |                      |
| <b>Operating temperature range</b>       | 5 to 40 °C         |                    |                     |                     |                      |
| <b>Air inlet</b>                         | G1/4B              |                    |                     |                     |                      |
| <b>Air outlet</b>                        | G1/4B              |                    |                     |                     |                      |
| <b>Paint outlet</b>                      | G3/8B x 1 outlet   |                    |                     |                     |                      |
| <b>Paint inlet filter</b>                | 60 mesh            |                    |                     |                     |                      |
| <b>Dimensions (L x W x H)</b>            | 315 x 315 x 470 mm | 310 x 390 x 590 mm | 460 x 465 x 648 mm  | 500 x 465 x 828 mm  | 500 x 465 x 1,000 mm |
| <b>Mass</b>                              | 14 kg              | 23 kg              | 31 kg               | 38 kg               | 42 kg                |
| <b>Air regulator model</b>               | RR-56B             |                    |                     |                     |                      |
| <b>Air motor model</b>                   | AM-3C              |                    |                     |                     |                      |
| <b>Inner container (actual capacity)</b> | PTC-10W (6 L)      | PTC-20W (14 L)     | PTC-40W (28 L)      | PTC-60W (46 L)      | PTC-80W (62 L)       |
| <b>Paint intermediate filter</b>         | -                  |                    |                     |                     |                      |

## Pressurized Stainless Steel Tank (Vessel Type)



COT-100

**Features**

\* Maximum operating pressure: 0.40 MPa



## Multi-spray Unit

The multi-spray unit is a hybrid spray unit that utilizes the advantages of air spray guns and airless spray guns.

### 1. Effective in reducing paint use

The basic atomizing mechanism is the same as that in airless spray guns for lower paint splashback and scattering than air spray guns. The mechanism also improves the spraying environment by reducing paint use and reducing paint exposure for workers and contamination of spray booths.

### 2. Allows beautiful thick-coat spraying

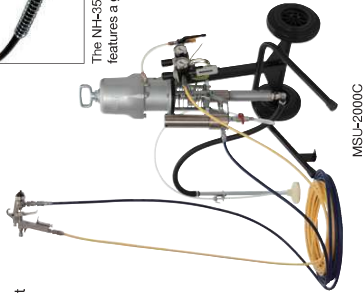
A medium-pressure plunger pump is used, ensuring sufficient atomization even with high viscosity paints. Atomization is also promoted by blowing compressed air from the air cap in the same way as a spray gun, ensuring a beautiful paint finish with thick coats.

### 3. Good paint spraying characteristics

The spray air pressure is lower than that for air spray guns, improving the ability to spray paint on inner faces and corners of box-shape items.



The NH-35100 paint hose features a guard spring.



MSU-2000C

## MSU-2000C Multi-spray Unit

| Unit model   | MSU-2000C                         |
|--|-----------------------------------|
| Pump model   | PP-1171C                          |
| Wetted parts material (pump body)                          | Aluminum/steel                    |
| Pressure ratio   | 17:1                              |
| Operating air pressure range                               | 0 to 0.49 MPa                     |
| Maximum fluid pressure                                     | 9.8 MPa                           |
| Maximum fluid output <sup>1)</sup>                         | 3.5 L/min                         |
| Allowable paint viscosity (guideline values) <sup>2)</sup> | Max. 50 sec / NK-2<br>Max. 160 cP |
| Operating temperature range                                | 5 to 40 °C                        |
| Air inlet  | G1/4B                             |
| Paint outlet   | G1/4B                             |
| Paint inlet filter   | 50 mesh                           |
| Paint intermediate filter (TF-B)                           | 100 mesh                          |
| Dimensions (L x W x H)                                     | 500 x 500 x 895 mm                |
| Mass (excluding accessories)                               | 28.5 kg                           |
| Compressor requirements (for pump operation)               | 2.2 kW                            |
| Spray gun  | MSG-200                           |
| Paint hose   | 10 m (NH-35100)                   |
| Air hose   | 10 m (EAHU-6 type)                |

<sup>1)</sup> Value at the paint outlet when using the pump on its own with no lead and clean water as the fluid

<sup>2)</sup> The allowable viscosity will vary depending on the suction hose and output piping.

Nozzle tip (for MSG-200/MSA-200 only)

| Model      | Fluid output<br>mL/sec | Pattern<br>width |
|------------|------------------------|------------------|
| NT-1502CMU | 3.0                    | 0.18             |
| NT-1503CMU | 4.5                    | 0.27             |
| NT-2002CMU | 4.0                    | 0.24             |
| NT-2004CMU | 8.0                    | 0.48             |
| NT-2005CMU | 10.0                   | 0.60             |
| NT-2503CMU | 7.5                    | 0.45             |
| NT-2504CMU | 10.0                   | 0.60             |
| NT-2505CMU | 12.5                   | 0.75             |
| NT-3003CMU | 9.0                    | 0.54             |
| NT-3004CMU | 12.0                   | 0.72             |
| NT-3005CMU | 15.0                   | 0.90             |
| NT-3006CMU | 18.0                   | 1.08             |
| NT-3503CMU | 10.5                   | 0.63             |
| NT-3504CMU | 14.0                   | 0.84             |
| NT-3505CMU | 17.5                   | 1.05             |
| NT-3506CMU | 21.0                   | 1.26             |

\* The fluid output and pattern width figures are for melamine 20-second NK-2 paint with 4.9 MPa fluid pressure and horizontal spraying at a distance of 200 mm.

### Multi-spray gun

| Type                             | Hand spray gun | Automatic spray gun |
|----------------------------------|----------------|---------------------|
| Model                            | MSG-200        | MSA-200             |
| Maximum operating paint pressure | 9.8 MPa        |                     |
| Normal paint pressure            | 4.9 MPa        |                     |
| Normal spraying air pressure     | 0.15 MPa       |                     |
| Paint hose connection            | G1/4B          |                     |
| Air hose connection              | G1/4B          |                     |
| Spray gun filter (internal)      | 200 mesh       |                     |
| Nozzle tip (accessory)           | NT-2004CMU     |                     |
| Mass                             | 525 g          | 710 g               |

\* Paint viscosity range 10 to 50-second NK-2



MSG-200



MSA-200

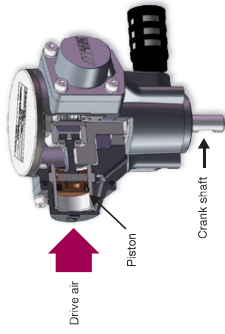
## Paint Agitators



# AMM Series Mazeco Paint Agitator Features

ANEST IWATA's Mazeco Series paint agitators use a radial piston air motor. They offer the following advantages over traditional vane-type air motors:

- 1 | Capable of low-speed rotation even without a reduction gear
- 2 | Streamlined design without reduction gear (fewer replaceable parts)
- 3 | Minimal fluctuations in rotation speed (stable rotation speed)
- 4 | Dramatically lower air consumption (high energy savings)



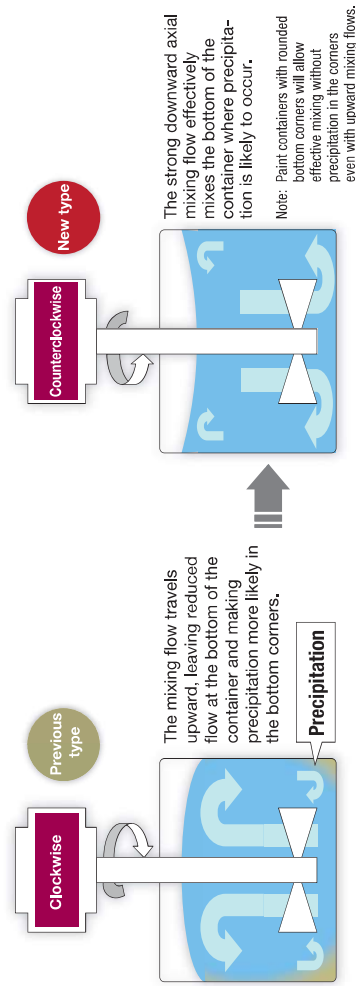
Drive air

Piston

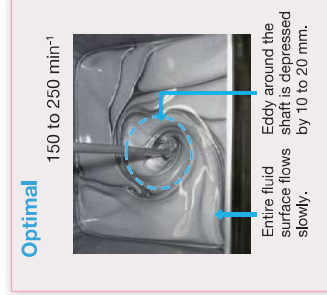
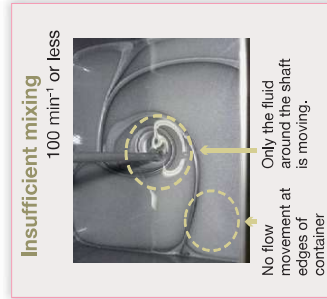
Crank shaft

The range includes the AMM-6 Series with a medium AM-6B air motor and the AMM-7 Series with a small AM-7B air motor to suit the paint to be mixed and the equipment.

### Mixing flow direction differences (For AMM-7 Series)

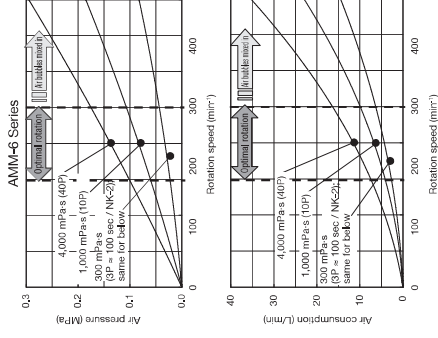
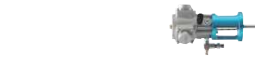


### Mixing differences due to rotation speed — "Mixing" rather than "stirring"



# Agitator Applications

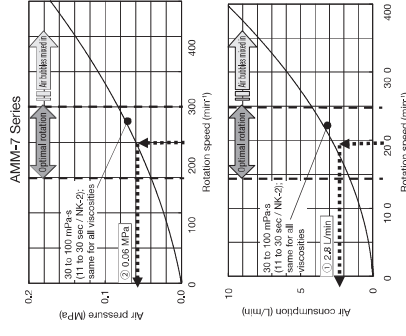
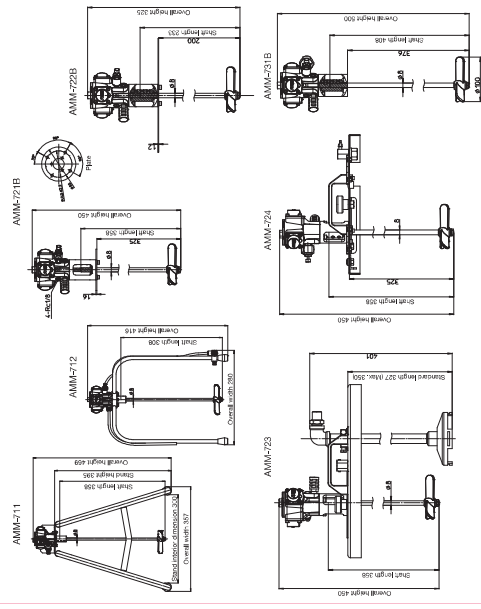
## AMM-6 Series Medium Air Motor



## AMM-7 Series Small Air Motor



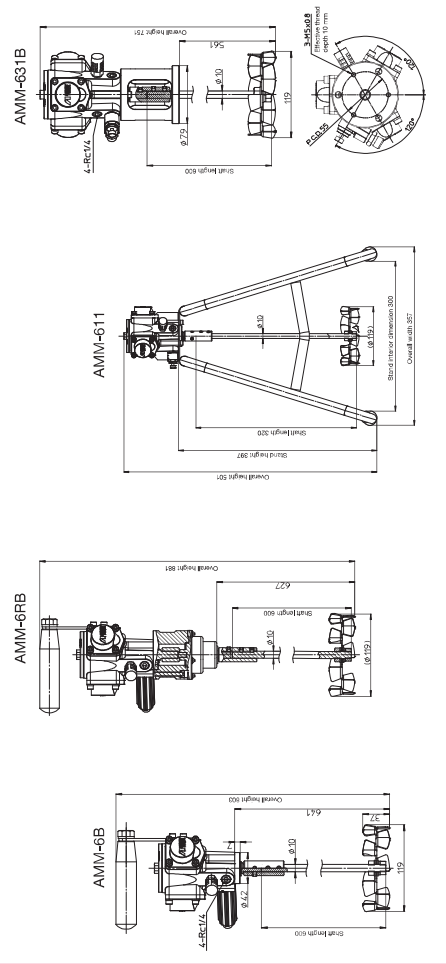
### Dimensional Drawings



- Explanation of graphs
- When the agitator is set to turn at 200 min<sup>-1</sup>,
- ① Air consumption is 2.8 L/min
- ② The air pressure required to drive the agitator is 0.05 MPa

| Agitator model                         | AMM-6B               | AMM-6RB          | AMM-611          | AMM-631B                      |
|--|----------------------|------------------|------------------|-------------------------------|
| Type                                   | Handheld type        | Stand type       | Stand type       | For integration               |
| Air motor model                        | AM-6B                | AM-6B            | AM-7B            | AM-7B                         |
| Reduction gear ratio                   | 1:1                  | 1:5              | 1:1              | 1:1                           |
| Allowable viscosity (guideline values) | Max. 1,000 mPa s     | Max. 4,000 mPa s | Max. 1,000 mPa s | Max. 60 mPa s (20 sec / NK-2) |
| Air inlet                              | G1/4" (ESP1/4" male) | G1/4B            | G1/4B            | ø6 quick connector            |
| Blade material                         | SUS304               | SUS304           | POM (polyacetal) | SUS303                        |
| Shaft material                         | SUS303               | SUS303           | SUS303           | SUS303                        |
| Mass                                   | 2.3 kg               | 3.0 kg           | 4.6 kg           | 2.3 kg                        |
|  |                      |                  |                  | 2.7 kg                        |
|  |                      |                  |                  | 2.7 kg                        |
|  |                      |                  |                  | 1.0 kg                        |
|  |                      |                  |                  | 1.1 kg                        |
|  |                      |                  |                  | 3.5 kg                        |
|  |                      |                  |                  | 2.9 kg                        |
|  |                      |                  |                  | 0.8 kg                        |

### Dimensional Drawings



## Paint Filters

### TF-7 Series Intermediate Paint Filters

Eliminates dust and dirt that can cause painting defects. This is used attached to the paint outlet of diaphragm pumps or paint tanks or between paint hoses.

| Filter model                     | TF-7          | TF-71        |
|----------------------------------|---------------|--------------|
| Body material                    | Brass casting |              |
| Paint inlet                      | G1/4 cap nut  | G3/8 cap nut |
| Paint outlet                     | G1/4B         | G3/8B        |
| Paint filter                     | 100 mesh      |              |
| Optional filter                  | 150/200 mesh  |              |
| Maximum operating paint pressure | 1.27 MPa      |              |

### SFX-179 Series Spray Gun Paint Filters

These filters are used attached to spray gun fluid joints.

| Filter model                     | SFX-179-150  | SFX-179-200                    | SFX-179-300                    |
|----------------------------------|--|--------------------------------|--------------------------------|
| Body material                    | Aluminum   |                                |                                |
| Spray gun connector              | G1/4B  |                                |                                |
| Paint hose connector             | Equivalent to G1/4B                                      | Equivalent to 200 mesh (resin) | Equivalent to 300 mesh (resin) |
| Paint filter                     | Equivalent to 150 mesh (resin)                           | Equivalent to 200 mesh (resin) | Equivalent to 300 mesh (resin) |
| Maximum operating paint pressure | 0.7 MPa  |                                |                                |
| Compatible spray gun models      | W-101/L/PH-101/M-61/W-77/WA-107/L/PA-101/L/W-10B/L/W-18B |                                |                                |

## Air Transformer

Integrated air regulator and air cleaner



## RR-A Series Air Transformers

| Model   | RR-A  | RR-AS   | RR-AT   |
|---|---|---|---|
| Type  | Single-stage pressure adjustment type                     | Double-stage pressure adjustment type         | Single-stage pressure adjustment type         |
| Allowable inlet pressure                          | 1.0 MPa   | 1.4 MPa                                       | 1.4 MPa                                       |
| Pressure adjustment range                         | 0.05 to 0.78 MPa  | 0.05 to 1.13 MPa                              | 0.05 to 1.13 MPa                              |
| Air flow rate                                     | 780 L/min   |   |   |
| Maximum operating temperature (fluid temperature) | 80 °C   |   |   |
| Air inlet   | G3/8B   |   |   |
| Air outlet  | G1/4B x 2   |   |   |
| Air discharge left/right                          | Pressure adjusted air / Original pressure air             | Pressure adjusted air / Pressure adjusted air | Pressure adjusted air / Original pressure air |
| Filter mesh size                                  | 20 µ  |   |   |
| Drain type  | Manual  |   |   |
| Remarks   | Pressure drop of 0.03 MPa for outlet pressure of 0.49 MPa |   |   |



## Air Regulators

### RR-55B/56B/57B Air Regulators

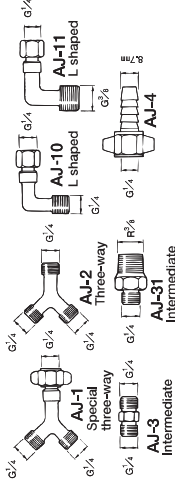
| Model   | RR-55B           | RR-56B           | RR-57B           |
|---|------------------|------------------|------------------|
| Allowable inlet pressure                          | 1.37 MPa         |                  |                  |
| Pressure adjustment range                         | 0.05 to 0.69 MPa | 0.05 to 0.34 MPa | 0.05 to 0.69 MPa |
| Air flow rate*                                    | 580 L/min        |                  |                  |
| Maximum operating temperature (fluid temperature) | 100 °C           |                  |                  |
| Air inlet   | Rc1/4            |                  |                  |
| Air outlet  | Rc1/4            |                  |                  |

\*1. Air flow rate for adjusted outlet pressure of 0.49 MPa



## Joints and Hoses

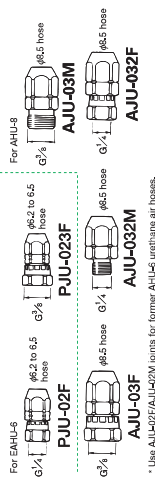
### Air Joints



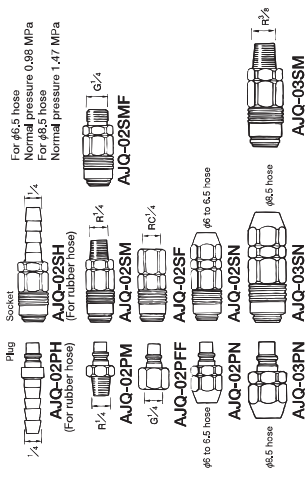
### Air Valve



### Urethane Air Hose Joints



### Air Quick Joints (\*)



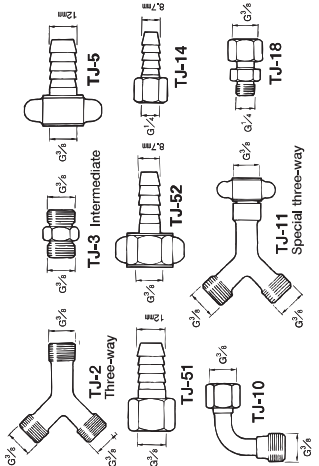
(\*) For use with air hoses only. Never use with paint hoses. If the quick joint is not connected in a conventional manner without drawing out the ground wire, however, hoses should be labeled appropriately to avoid mistaken use of hoses with a ground wire and hoses without a ground wire.

### Air Hoses (\*)

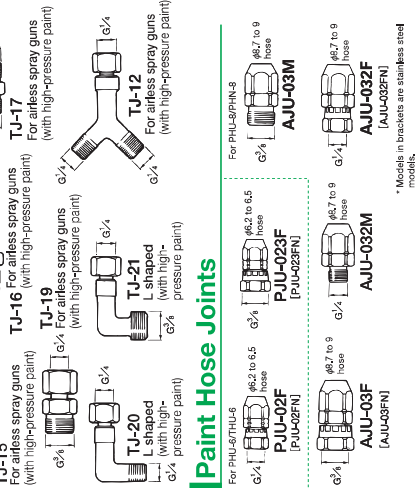
| Model     | Material                  | Inner dia. x Outer dia. x Length | Max. operating pressure |
|-----------|---------------------------|----------------------------------|-------------------------|
| EAHU-620  |                           | φ6.2 x φ9.3 x 20 m               |                         |
| EAHU-630  |                           | φ6.2 x φ9.3 x 30 m               |                         |
| EAHU-650  | Urethane with ground wire | φ6.2 x φ9.3 x 50 m               |                         |
| EAHU-6100 |                           | φ6.2 x φ9.3 x 100 m              |                         |
| EAHU-820  |                           | φ8.5 x φ12 x 20 m                | 1.47 MPa                |
| EAHU-8100 |                           | φ8.5 x φ12 x 100 m               |                         |
| AHU-820B  |                           | φ8.5 x φ12 x 30 m                |                         |
| AHU-830B  |                           | φ8.5 x φ12 x 50 m                |                         |
| AHU-850B  | Urethane                  | φ8.5 x φ12 x 50 m                |                         |
| AHU-8100B |                           | φ8.5 x φ12 x 100 m               |                         |

**CAUTION** Precautions when using air hoses with ground wire(\*)  
 ● These hoses include a ground wire, but the connected devices must be grounded.  
 ● Never use air hoses for supply pumps used with low-resistance paint static spraying units or insulated bases whether or not the ground wire is used. In such cases, use a urethane air hose (AHU-J) or paint hose (PHU/PHN) as the air hose.  
 ● When using the ground wire, ground in accordance with the instruction manual and have broken wires; replace immediately with a new hose.  
 ● For use as air hoses only. Never use as paint hoses.  
 ● If a ground wire is not used, the joint can be connected in a conventional manner without drawing out the ground wire. However, hoses should be labeled appropriately to avoid mistaken use of hoses with a ground wire and hoses without a ground wire.

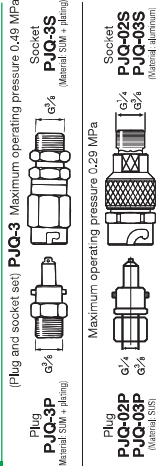
### Fluid Joints



### Paint Hose Joints



### Fluid Quick Joints



### Paint Hoses (\*)

| Model    | Material                    | Inner dia. x Outer dia. x Length | Max. operating pressure |
|----------|-----------------------------|----------------------------------|-------------------------|
| PHU-620  |                             | φ6.2 x φ9.3 x 20 m               |                         |
| PHU-6100 | Urethane                    | φ6.2 x φ9.3 x 100 m              | 0.69 MPa                |
| PHU-820  |                             | φ8.7 x φ12 x 20 m                |                         |
| PHU-8100 |                             | φ8.7 x φ12 x 100 m               |                         |
| PHN-620  |                             | φ6.5 x φ9.5 x 100 m              |                         |
| PHN-6100 |                             | φ6.5 x φ9.5 x 20 m               | 0.69 MPa                |
| PHN-820  | Nylon                       | φ8.9 x φ12.1 x 20 m              |                         |
| PHN-8100 |                             | φ8.9 x φ12.1 x 100 m             |                         |
| PHF-620  | Urethane with inner lining  | φ6.5 x φ9.5 x 20 m               | 0.69 MPa                |
| PHF-6100 |                             | φ6.5 x φ9.5 x 100 m              |                         |
| PHF-820  | fluorine-based inner lining | φ8.9 x φ12.1 x 20 m              |                         |
| PHF-8100 |                             | φ8.9 x φ12.1 x 100 m             |                         |
| THU-620  | Urethane (w/fin)            | φ6.2 x φ9.3 x 2 x 20 m           | 0.69 MPa                |
| THU-6100 |                             | φ6.2 x φ9.3 x 2 x 100 m          |                         |

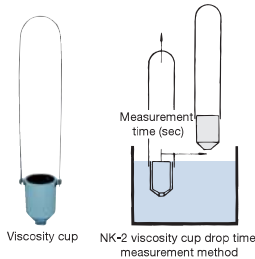
\* The THU Series twin hoses for air feature orange threads and have the mould printed on them.  
 ● **CAUTION** Precautions on paint hose selection(\*)  
 Do not use urethane paint hoses (PHU/THU) with high-discoloring or reactive paints or thinners such as ketone-based solvents, 2K reaction paints, or urethane-based paints. These products may cause the hose to soft, allow paint to spray out, and generate various isocyanates. Use nylon paint hoses (PHN) instead.



# Viscosity Conversion Table

| Class            | Pa·s   | dPa·s (P) | mPa·s (cps) | ANEST IWATA NK-2 (sec) | Ford (sec) |    | Zahn (sec) |    | Krebs KU | Example viscosity                                      | Optimal viscosity for paint agitator (guide) | Optimal viscosity for supply equipment (guide) |                                    |                               |                                       |   |  |                         |                            |
|------------------|--------|-----------|-------------|------------------------|------------|----|------------|----|----------|--|--|--|------------------------------------|-------------------------------|---------------------------------------|---|--|-------------------------|----------------------------|
|                  |        |           |             |                        | #4         | #3 | #4         | #2 |          |  |  | AMM-7 Series (60 mPa·s or less)                | AMM-6 Series (1,000 mPa·s or less) | AMM-6FB (4,000 mPa·s or less) | DDP/DPS-70 Series (190 mPa·s or less) | DDP/DPS-90/120 Series (300 mPa·s or less) | DDP/DPS-160 Series (3,000 mPa·s or less) | FPS (300 mPa·s or less) | BSP (10,000 mPa·s or less) |
| Low viscosity    | 0.01   | 0.1       | 10          |                        | 5          |    |            | 16 |          |  |  |  |                                    |                               |                                       |   |  |                         |                            |
|                  |        |           | 15          |                        | 8          |    |            | 17 |          |  |  |  |                                    |                               |                                       |   |  |                         |                            |
|                  | 0.02   | 0.2       | 20          | 5                      | 10         | 12 |            | 18 |          |  |  |  |                                    |                               |                                       |   |  |                         |                            |
| Medium viscosity |        |           | 25          | 8                      | 12         | 15 |            | 19 |          | Acetone  |  |  |                                    |                               |                                       |   |  |                         |                            |
|                  | 0.03   | 0.3       | 30          | 11                     | 15         | 19 |            | 20 |          |  |  |  |                                    |                               |                                       |   |  |                         |                            |
|                  | 0.04   | 0.4       | 40          | 14                     | 17         | 25 |            | 22 |          | Urethane resin-based metallic paint for resin moldings |  |  |                                    |                               |                                       |   |  |                         |                            |
|                  | 0.05   | 0.5       | 50          | 16                     | 19         | 29 |            | 24 | 30       |  |  |  |                                    |                               |                                       |   |  |                         |                            |
|                  | 0.06   | 0.6       | 60          | 19                     | 21         | 33 |            | 27 | 33       |  |  |  |                                    |                               |                                       |   |  |                         |                            |
|                  | 0.07   | 0.7       | 70          | 21                     | 23         | 36 |            | 30 | 35       |  |  |  |                                    |                               |                                       |   |  |                         |                            |
|                  | 0.08   | 0.8       | 80          | 25                     | 26         | 41 |            | 34 | 37       |  | Cooking oil                                  |  |                                    |                               |                                       |   |  |                         |                            |
|                  | 0.09   | 0.9       | 90          | 29                     | 29         | 45 |            | 37 | 38       |  | Olive oil (20 °C)                            |  |                                    |                               |                                       |   |  |                         |                            |
|                  | 0.10   | 1.0       | 100         | 31                     | 31         | 50 | 10         | 41 | 40       |  |  |  |                                    |                               |                                       |   |  |                         |                            |
|                  | 0.12   | 1.2       | 120         | 38                     | 36         | 58 | 11         | 49 | 43       |  |  |  |                                    |                               |                                       |   |  |                         |                            |
| High viscosity   | 0.14   | 1.4       | 140         | 44                     | 41         | 66 | 13         | 53 | 46       |  |  |  |                                    |                               |                                       |   |  |                         |                            |
|                  | 0.16   | 1.6       | 160         | 49                     | 45         | 67 | 14         | 56 | 48       |  |  |  |                                    |                               |                                       |   |  |                         |                            |
|                  | 0.18   | 1.8       | 180         | 56                     | 51         |    | 16         | 74 | 50       |  |  |  |                                    |                               |                                       |   |  |                         |                            |
|                  | 0.20   | 2.0       | 200         | 63                     | 56         |    | 17         | 82 | 52       |  |  |  |                                    |                               |                                       |   |  |                         |                            |
|                  | 0.22   | 2.2       | 220         | 69                     | 61         |    | 18         |    | 54       |  |  |  |                                    |                               |                                       |   |  |                         |                            |
|                  | 0.24   | 2.4       | 240         | 76                     | 67         |    | 20         |    | 56       |  |  |  |                                    |                               |                                       |   |  |                         |                            |
|                  | 0.26   | 2.6       | 260         | 83                     | 72         |    | 21         |    | 58       |  |  |  |                                    |                               |                                       |   |  |                         |                            |
|                  | 0.28   | 2.8       | 280         | 88                     | 76         |    | 22         |    | 59       |  |  |  |                                    |                               |                                       |   |  |                         |                            |
|                  | 0.30   | 3.0       | 300         | 96                     | 83         |    | 24         |    | 60       |  |  |  |                                    |                               |                                       |   |  |                         |                            |
|                  | 0.40   | 4.0       | 400         |                        |            |    | 30         |    | 64       |  | FRP boat hull paint                          |  |                                    |                               |                                       |   |  |                         |                            |
|                  | 0.50   | 5.0       | 500         |                        |            |    | 37         |    | 68       |  |  |  |                                    |                               |                                       |   |  |                         |                            |
|                  | 0.60   | 6.0       | 600         |                        |            |    | 44         |    | 71       |  |  |  |                                    |                               |                                       |   |  |                         |                            |
|                  | 0.70   | 7.0       | 700         |                        |            |    | 51         |    | 74       |  | Lacquer paint (undiluted)                    |  |                                    |                               |                                       |   |  |                         |                            |
|                  | 0.80   | 8.0       | 800         |                        |            |    | 58         |    | 77       |  |  |  |                                    |                               |                                       |   |  |                         |                            |
|                  | 0.90   | 9.0       | 900         |                        |            |    | 64         |    | 81       |  |  |  |                                    |                               |                                       |   |  |                         |                            |
|                  | 1      | 10        | 1,000       |                        |            |    |            |    | 85       |  | Brown sauce                                  |  |                                    |                               |                                       |   |  |                         |                            |
|                  | 2      | 20        | 2,000       |                        |            |    |            |    | 103      |  | Ketchup (24 °C)                              |  |                                    |                               |                                       |   |  |                         |                            |
|                  | 3      | 30        | 3,000       |                        |            |    |            |    | 121      |  |  |  |                                    |                               |                                       |   |  |                         |                            |
|                  | 4      | 40        | 4,000       |                        |            |    |            |    | 133      |  | Gel coat paint                               |  |                                    |                               |                                       |   |  |                         |                            |
|                  | 5      | 50        | 5,000       |                        |            |    |            |    |          |  |  |  |                                    |                               |                                       |   |  |                         |                            |
| 8                | 80     | 8,000     |             |                        |            |    |            |    |          | Mayonnaise (23 °C)                                     |  |  |                                    |                               |                                       |   |  |                         |                            |
| 10               | 100    | 10,000    |             |                        |            |    |            |    |          |  |  |  |                                    |                               |                                       |   |  |                         |                            |
| 30               | 300    | 30,000    |             |                        |            |    |            |    |          |  |  |  |                                    |                               |                                       |   |  |                         |                            |
| 50               | 500    | 50,000    |             |                        |            |    |            |    |          |  |  |  |                                    |                               |                                       |   |  |                         |                            |
| 80               | 800    | 80,000    |             |                        |            |    |            |    |          |  |  |  |                                    |                               |                                       |   |  |                         |                            |
| 100              | 1,000  | 100,000   |             |                        |            |    |            |    |          |  |  |  |                                    |                               |                                       |   |  |                         |                            |
| 130              | 1,300  | 130,000   |             |                        |            |    |            |    |          |  |  |  |                                    |                               |                                       |   |  |                         |                            |
| 150              | 1,500  | 150,000   |             |                        |            |    |            |    |          |  |  |  |                                    |                               |                                       |   |  |                         |                            |
| 180              | 1,800  | 180,000   |             |                        |            |    |            |    |          |  |  |  |                                    |                               |                                       |   |  |                         |                            |
| 200              | 2,000  | 200,000   |             |                        |            |    |            |    |          |  |  |  |                                    |                               |                                       |   |  |                         |                            |
| 1,000 or greater | 10,000 | 1,000,000 |             |                        |            |    |            |    |          |  |  |  |                                    |                               |                                       |   |  |                         |                            |

\* The data provided above is representative. \* Use this conversion table only as a guide. \* VG (Viscosity Grade) is the ISO symbol used to indicate viscosity grade.



Viscosity units: Correlation between SI and CGS unit systems

1 Pa·s = 1,000 mPa·s = 10 P  
 1 dPa·s = 0.1 Pa·s = 1 P  
 1 mPa·s = 0.001 Pa·s = 1 cps

Pa·s (pascal seconds)  
 dPa·s (decipascal seconds)  
 mPa·s (millipascal seconds)

P (poise)  
 cps (centipoise)

- \* The NK-2 viscosity cup is a viscosity measuring device that uses the drop time measurement method.
- \* The NK-2 viscosity cup is a device for easily determining the viscosity of a fluid, but is not a measuring instrument, and the values determined cannot be used for other purposes.
- \* The values determined using the NK-2 viscosity cup are reference figures. They are not guaranteed.
- \* The values obtained may vary depending on factors such as type of fluid measured, environmental factors, and methods used. Note that the margin of error increases for measurements of 100 sec / NK-2 or greater.
- \* Viscosity conversions comply with JS-10/20/50/100/200 as specified in JIS 8809-78 "Standard liquids for calibrating viscometers."
- \* The viscosity conversion table provides summary values obtained from viscosity cup measurements. The conversion figures obtained from this table are reference values. They are not guaranteed.
- \* 1 P = 100 cP = 0.1 Pa·s

## Safety Precautions

### Use Precautions

- Do not use the products shown in this catalog for the following purposes:
  - Manufacture of orally-administered products such as food or medicine
  - Applications for which product internal corrosion may cause harm to humans, animals, or wildlife
- Carefully read the relevant instruction manuals before use.
- Do not attempt to modify products. Modification may impair performance or result in failure.

- The products described in this catalog are intended for use in Japan. When exporting products purchased in Japan overseas, check in advance to confirm that they comply with applicable regulations and safety standards within the corresponding country.
- The specifications provided in this catalog are subject to change without notice to reflect product improvements.
- The photos and information provided in this catalog may differ from the actual products due to specification changes.

### Inquiries

**ANEST IWATA Corporation**

<https://www.anest-iwata.co.jp/>

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