

# Perista Pump<sup>®</sup>

## Peristaltic Pump

### Purpose of Use

Pumps are used for delivery at a flow rate of 0.1-1000 mL/hour. They are suited to feeding applications for a variety of purposes such as chromatography. Atto Perista<sup>®</sup> Pump is the standard of the peristaltic pumps in Japan with its reliability and years of results.

### Principles

A tube is squeezed by rollers and the liquid fed. Peristaltic Pumps have the advantage of being able to feed liquid cleanly without contamination because the place in contact with the solution is the inside of the tube alone and because the place to clean after use is just the tube.



Silicone tube

### Silicon Tube Chemical Proof Chart

◎Excellent, almost completely unaffected

○Slightly affected but presents no problem for usage

△Infiltrated to a certain degree, not recommended

×Extreme damage not usable

|                            |   |                       |   |                             |   |                         |   |
|----------------------------|---|-----------------------|---|-----------------------------|---|-------------------------|---|
| Sodium nitrite             | ◎ | Monochloroacetic acid | ○ | Potassium hydroxide         | ◎ | Phenol                  | ○ |
| Asphalt                    | × | Chloroform            | × | Sodium hydroxide            | ○ | Butadiene               | × |
| Acetaldehyde               | × | Chlorobenzene         | × | 10% sodium hydroxide        | ◎ | Butanol                 | △ |
| Acetone                    | ○ | Chloromethane         | × | Magnesium hydroxide         | ◎ | Butane                  | × |
| Aniline                    | × | Kerosene              | × | Styrene                     | × | Fulfural                | × |
| Linseed oil                | ◎ | Coal tar              | △ | Stearic acid                | △ | 2-propanol              | ○ |
| 2-aminoethanol             | ○ | Fish oil              | △ | Ammonium hydrogen carbonate | ◎ | Benzene                 | × |
| Sulfurous acid             | △ | Acetic acid           | ○ | Tannic acid                 | ◎ | Pentanol                | ○ |
| Sodium sulfite             | ◎ | Acetic ether          | × | Diesel oil                  | ○ | +Pentane                | × |
| Ammonia                    | ○ | Sodium acetate        | ○ | Molasses                    | ◎ | Aromatic carbon hydride | × |
| Ammonia water              | ○ | Butyl acetate         | × | Triethanolamin              | ◎ | Maleic acid             | ◎ |
| Isobutane                  | × | Propyl acetate        | × | Triethylamine               | ◎ | Chromic acid anhydride  | ◎ |
| Ethanol                    | ○ | Pentyl acetate        | × | Triol                       | × | Acetic acid anhydride   | ○ |
| Ethylene glycol            | ○ | Methyl acetate        | × | Trichloroethane             | × | Phtanol acidanhydride   | ○ |
| Hydrochloric acid          | × | Calcium hypochlorite  | ◎ | Trichloroacetic acid        | △ | Methanol                | ◎ |
| Chlorine (moistened)       | ◎ | Sodium hypochlorite   | △ | Naphtha                     | × | Methyl isobutyl ketone  | × |
| Chlorine dielectric oil    | ○ | Diamylamine           | ◎ | Sulfur dioxide              | △ | Methyl ethyl ketone     | × |
| Octanol                    | ◎ | 1,2-dichloroethane    | × | Nitrobenzene                | × | 2-methyl propene        | × |
| Oleic acid                 | ○ | Dichloropentane       | × | Lactic acid                 | ◎ | Melamine resin          | ○ |
| Hydrogen peroxide solution | ○ | Dipentane             | × | Hydroquinone                | ○ | Melt sulfur             | △ |
| Formic acid                | ◎ | Fat acid              | ○ | Paraldehyde                 | × | Kalium phosphate        | △ |
| Xylene                     | × | Dimethyl phthalate    | △ | Paraform aldehyde           | × | Cotton oil              | ◎ |
| Benzene                    | × | Nitric acid           | × | Palmitic acid               | ○ | 0~10% sulfuric acid     | ◎ |
| Glycerol                   | ◎ | Silicon oil           | △ | Pitch                       | × | 10~50% sulfuric acid    | △ |
| Creosote                   | × | Ammonium hydroxide    | ◎ | Ricinus                     | ◎ | 50% sulfuric acid       | × |

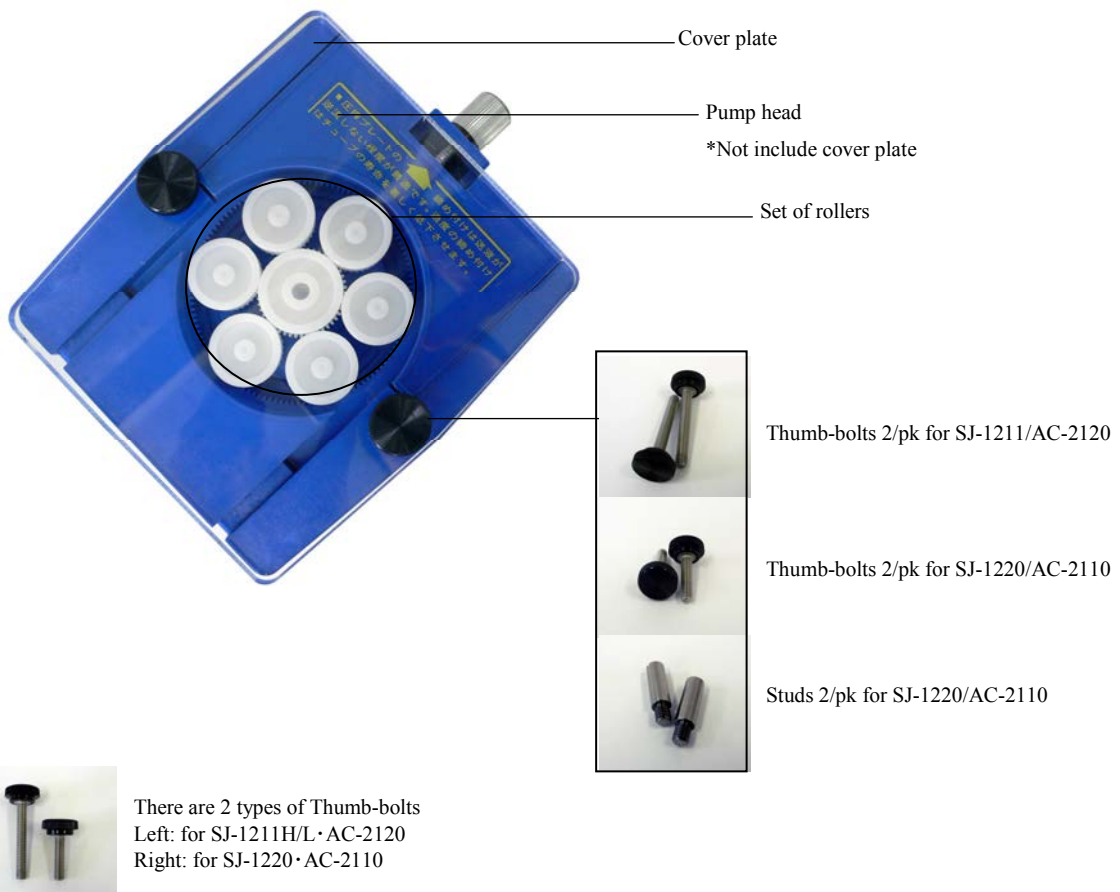
# Perista Pump®

## Peristaltic Pump

### Common Expendables for All Pumps

| Code No. | Name                       | Note                  |
|----------|----------------------------|-----------------------|
| 1292121  | 1 mm, 5 m Silicone Tube    | 1 mm I.D. - 3 mm O.D. |
| 1292302  | 1 mm, 10 m Silicone Tube   | 1 mm I.D. - 3 mm O.D. |
| 1292303  | 1 mm, 20 m Silicone Tube   | 1 mm I.D. - 3 mm O.D. |
| 1292301  | 1 mm, 50 m Silicone Tube   | 1 mm I.D. - 3 mm O.D. |
| 1292120  | 2 mm, 5 m Silicone Tube    | 2 mm I.D. - 4 mm O.D. |
| 1292305  | 2 mm, 10 m Silicone Tube   | 2 mm I.D. - 4 mm O.D. |
| 1292306  | 2 mm, 20 m Silicone Tube   | 2 mm I.D. - 4 mm O.D. |
| 1292304  | 2 mm, 50 m Silicone Tube   | 2 mm I.D. - 4 mm O.D. |
| 1292119  | 3 mm, 5 m Silicone Tube    | 3 mm I.D. - 5 mm O.D. |
| 1292308  | 3 mm, 10 m Silicone Tube   | 3 mm I.D. - 5 mm O.D. |
| 1292309  | 3 mm, 20 m Silicone Tube   | 3 mm I.D. - 5 mm O.D. |
| 1292307  | 3 mm, 50 m Silicone Tube   | 3 mm I.D. - 5 mm O.D. |
| 1292124  | 1, 2 & 3 mm Silicone Tubes | 1 m each              |

### Consumable parts for Pump head



# Perista Pump®

Perista Pump (High / Low flow rate Type)



SJ-1211H Perista Pump (High flow rate)



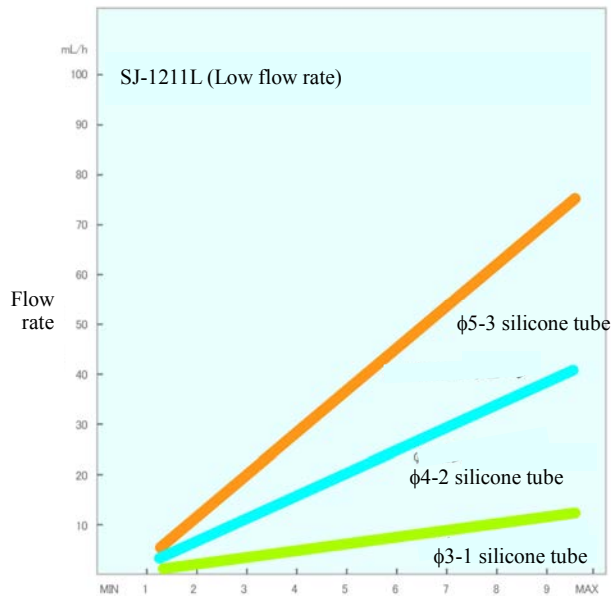
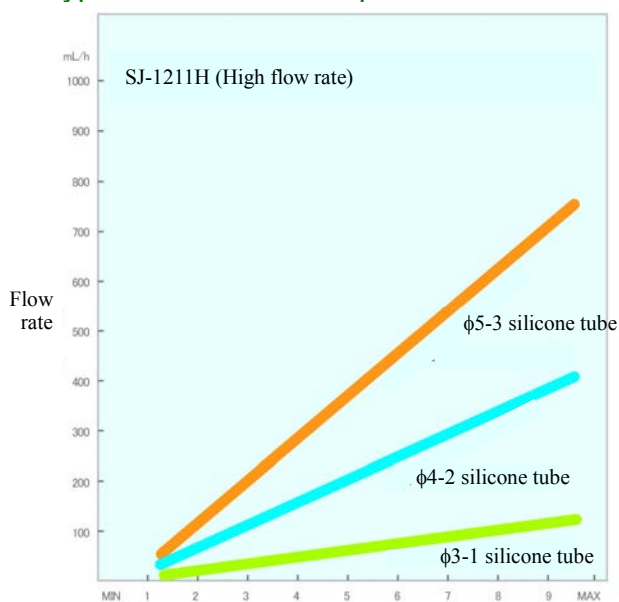
SJ-1211L Perista Pump (Low flow rate)

| Code No. | Type     | Name                |
|----------|----------|---------------------|
| 1221124  | SJ-1211H | Perista Pump®, 110V |
| 1221109  | SJ-1211H | Perista Pump®, 230V |
| 1221125  | SJ-1211L | Perista Pump®, 110V |
| 1221110  | SJ-1211L | Perista Pump®, 230V |

## Specifications

|                               |   |                             |
|-------------------------------|---|-----------------------------|
| Name                          | SJ-1211H Perista Pump   | SJ-1211L Perista Pump       |
| Number of channels            | 1 channel   |                             |
| Flow rate                     | 7 - 700 mL/h  | 0.7 - 70 mL/h               |
| Flow rate repetitive accuracy | ± 1%, subject to ± 15% variation in source voltage  |                             |
| Pressure                      | Discharge: 205.9 kPa (2.1kg/cm <sup>2</sup> ) max<br>Suction: 9.8kPa (0.1kg/cm <sup>2</sup> ) max |                             |
| Tube length                   | 22 m, max   |                             |
| Maximum viscosity             | 1.5 Pas (1500cP) max  |                             |
| Motor                         | AC variable speed motor, 6W   | AC variable speed motor, 3W |
| Control                       | Solid state automatic speed control circuit   |                             |
| Operating temp.               | 0 - 40 degC   |                             |
| Power                         | AC 100 - 115V or 200 - 240V, 50/60 Hz, 10W  |                             |
| Dimensions                    | 110 (W) x 150 (D) x 180 (H) mm, 2.0kg   |                             |

## Typical Flow Rate Graph

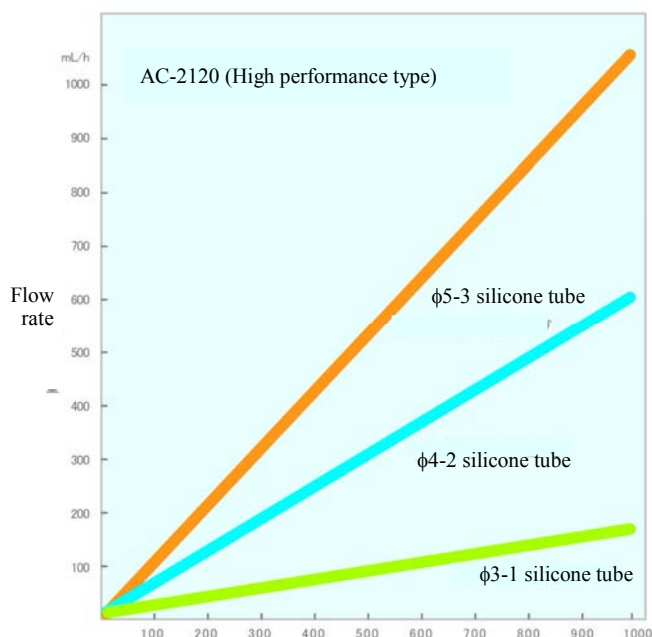


# Perista Pump®

High Performance Perista Pump(External Control Terminals Outfitted Type)



Typical Flow Rate Graph



| Code No. | Type    | Name                |
|----------|---------|---------------------|
| 1221202  | AC-2120 | Perista Pump®, 110V |
| 1221201  | AC-2120 | Perista Pump®, 230V |

## Features

- Flow rate of 1-1000 fold in a tube with a uniform diameter possible by motor revolution control alone
- Supports a flow rate of 0.1-1000 mL/h using a tube with an internal diameter of 1-3 mm
- Easy-to-see operating panel thanks to illuminated panel switches. Flow rate is accurately set with a digital dial
- Equipped with external control terminals; supports (complex) gradient solution preparation

## Specifications

|                               |   |
|-------------------------------|---|
| Name                          | AC-2120 Perista Pump  |
| Number of channel             | 1 channel   |
| Flow rate                     | 0.1 - 1000 mL/ch (Depends on tube I.D.)   |
| Flow rate repetitive accuracy | ± 0.2%, subject to ± 1% variation in source voltage   |
| Pressure                      | Discharge: 205.9 kPa (2.1kg/cm <sup>2</sup> ) max.<br>Suction: 9.8kPa (0.1kg/cm <sup>2</sup> ) max. |
| Tube length                   | 22 m max  |
| Maximum viscosity             | 1.5 Pas (1500cP) max.   |
| Motor                         | AC induction motor  |
| Flow change rate              | 1000 steps (Up to 1000 times)   |
| Operating temp.               | 0 - 40 deg C  |
| Control signals               | Input: Flow rate 0 - 5 VDC, CW, CCW, STOP, TTL<br>MAX FLOW Switch equipped.                         |
| Power                         | AC 100-115V or 200-240V, 50/60 Hz, 10W  |
| Dimensions                    | 120 (W) x 160 (D) x 183 (H) mm, 2.2kg   |
| Fits for:                     | Tubings of 5-3, 4-2, 3-1, and 2.5-0.5 (ID-OD)   |

# Perista Pump<sup>®</sup>

Perista Pump (External Control Terminals Outfitted Type)



| Code No. | Type      | Name                                   |
|----------|-----------|--|
| 1221151  | AC-2110   | Perista Pump <sup>®</sup> · 1-ch, 110V |
| 1221152  | AC-2110   | Perista Pump <sup>®</sup> · 1-ch, 230V |
| 1221161  | AC-2110-2 | Perista Pump <sup>®</sup> · 2-ch, 110V |
| 1221162  | AC-2110-2 | Perista Pump <sup>®</sup> · 2-ch, 230V |

## Features

- Consists of a 1-2-channel pump as the number of cassettes is increased or decreased
- Can feed liquid up to 1000 mL/h per channel using a DC motor for output enhancement
- PC control possible with external control terminals outfitted
- Equipped with a "MAX.FLOW" switch; quickly replaces solution

## Specifications

|                                |   |
|--------------------------------|---|
| Name                           | AC-2110 Perista Pump  |
| Number of channels             | 1-ch / 2-ch   |
| Flow rate                      | 10 - 1000 mL/ch (Depends on tube I.D.)  |
| Flow rate repetitive accuracy: | ± 1%, subject to ± 15% variation in source voltage  |
| Pressure                       | Discharge: 205.9 kPa (2.1kg/cm <sup>2</sup> ) max.<br>Suction: 9.8kPa (0.1kg/cm <sup>2</sup> ) max. |
| Tube length                    | 22 m max  |
| Maximum viscosity              | 1.5 Pas (1500cP) max  |
| Motor                          | DC servo motor, 10 W  |
| Flow change rate per channel   | 20 steps (Up to 20 times)   |
| Operating temp.                | 0 - 40 degC   |
| Control signals                | Input: Flow rate 0 - 5 VDC, FLOW, STOP<br>MAX FLOW Switch equipped.                                 |
| Power                          | AC 100-115V or 200-240V, 50/60 Hz, 20W  |
| Dimensions                     | 110 (W) x 150 (D) x 235 (H) mm, 2.6kg (for 1 channel)   |

## Typical Flow Rate Graph

