Cooling Water Circulator (Externally Closed Circulation)

High-precision temp.control

CFA302/611 • CFW611

- Operating temp. range -10 to 80°C (CFA302: -10 to 60°C), high temp. control accuracy of ±0.1°C Provides precision circulating water.
- Powerful cooling capacity as a cooling system. (at a liquid temp. of 10°C, room temp. of 20°C) CFA302 cooling capacity 370W CFA611 cooling capacity 850W CFW611 cooling capacity 1,300W (water-cooled)
- The CFA302/611 is an air-cooled type and the CFW611 is a water-cooled type with low heat dissipation from the equipment.
- Auto-stop operation, auto-start operation, temperature output terminal, calibration offset function Various support functions, such as the RS485 external communication function, are provided as standard.
- High-performance pump (factory-set option) The flow rate and head are improved. (CFA611/CFW611)

Specifications

<table>
<thead>
<tr>
<th>Product code</th>
<th>Model</th>
<th>Method</th>
<th>Operating temp. range</th>
<th>Circulating water*</th>
<th>Cooling method</th>
<th>Operating temp. range*</th>
<th>Temperature setting range</th>
<th>Temperature control accuracy*</th>
<th>Temperature fluctuation*</th>
<th>Temperature indicating unit</th>
</tr>
</thead>
<tbody>
<tr>
<td>221348</td>
<td>CFA302</td>
<td>External closed circulation</td>
<td>-10~+60°C</td>
<td>Setting temp. +10°C or higher: Tap water or softened tap water Setting temp. less than 10°C: Non-freezing liquid</td>
<td>Air cooling</td>
<td>-10 to +60°C (refrigerator operation to 40°C)</td>
<td>-15~+65°C</td>
<td>±0.1°C JTM K05</td>
<td>0.6°C at 20°C JIS</td>
<td></td>
</tr>
<tr>
<td>221565</td>
<td>CFA611</td>
<td>Air cooling</td>
<td>-10 to +80°C (refrigerator operation to 40°C)</td>
<td></td>
<td>Water cooling</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>0.4°C at 20°C JIS</td>
</tr>
<tr>
<td>221566</td>
<td>CFW611</td>
<td>Water cooling</td>
<td></td>
<td></td>
<td></td>
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<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*1 Pure water cannot be used with CFA302.
*2 The performance data are for a room temp. of 20°C with no load and a rated power supply voltage of 50Hz. It varies depending on the Ambient temp. and usage conditions.
*3 Bath dimensions and external dimensions do not include the protruding parts.

The length of the power cord is about 2 meters outside the unit.
### Bath: CFA611/CFW611

#### Connection Port

- **CFA611 (Left side)**
  - Overflow: φ10.5mm
  - Drain cock: φ10.5mm

- **CFW611 (Left side)**
  - Overflow: φ10.5mm
  - Drain cock: φ10.5mm

- **CFA611/CFW611 (Back)**
  - Circulating Water connection port: Rc3/8 (Nozzle is optional)

- **CFW611 (Under the back)**
  - Coolant water connection port: Outlet: φ16, Inlet: Coupler type

#### Heating and Cooling Curve

- **CFA302**
  - Measuring conditions:
    - Room temp.: 20℃
    - Circulating fluid: Nybrine 50%
  - Temperature (℃) vs. Time (min)

- **CFA611**
  - Measuring conditions:
    - Room temp.: 20℃
    - Circulating fluid: Nybrine 50%
  - Temperature (℃) vs. Time (min)

- **CFW611**
  - Measuring conditions:
    - Room temp.: 20℃
    - Circulating fluid: Nybrine 50%
  - Temperature (℃) vs. Time (min)

#### Cooling Capacity Curve

- **CFA302**
  - Measuring conditions:
    - Room temp.: 20℃
    - Circulating fluid: Nybrine 50%
  - Cooling capacity (W) vs. Temperature (℃)

- **CFA611**
  - Measuring conditions:
    - Room temp.: 20℃
    - Circulating fluid: Nybrine 50%
  - Cooling capacity (W) vs. Temperature (℃)

- **CFW611**
  - Measuring conditions:
    - Room temp.: 20℃
    - Circulating fluid: Nybrine 50%
  - Cooling capacity (W) vs. Temperature (℃)

### Optional Items

<table>
<thead>
<tr>
<th>No.</th>
<th>Description</th>
<th>Specifications</th>
<th>Product code</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Connection to high performance pump (CFA611/CFW611)</td>
<td>Max. flow rate: 15/17.7L/min Max. headroom: 14/220.4m (50/60Hz)</td>
<td>281441</td>
</tr>
<tr>
<td>2</td>
<td>Straight circulation nozzle</td>
<td>φ10.5mm, Connecting screw: Rc3/8</td>
<td>221394</td>
</tr>
<tr>
<td>3</td>
<td>Straight circulation nozzle</td>
<td>φ13.0mm, Connecting screw: Rc3/8</td>
<td>221395</td>
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<tr>
<td>4</td>
<td>Straight circulation nozzle</td>
<td>φ16.0mm, Connecting screw: Rc3/8</td>
<td>221396</td>
</tr>
<tr>
<td>5</td>
<td>L-shaped circulation nozzle</td>
<td>φ10.5mm, Connecting screw: Rc3/8</td>
<td>221397</td>
</tr>
<tr>
<td>6</td>
<td>L-shaped circulation nozzle</td>
<td>φ13.0mm, Connecting screw: Rc3/8</td>
<td>221398</td>
</tr>
<tr>
<td>7</td>
<td>L-shaped circulation nozzle</td>
<td>φ16.0mm, Connecting screw: Rc3/8</td>
<td>221399</td>
</tr>
<tr>
<td>8</td>
<td>Insulated circulation hose</td>
<td>1.0, φ9mm-2m length (2pcs), Clamp (4pcs)</td>
<td>221581</td>
</tr>
<tr>
<td>9</td>
<td>One touch fixing holder</td>
<td>φ10.5mm, Connecting screw: Rc3/8, 2pcs set</td>
<td>221582</td>
</tr>
<tr>
<td>10</td>
<td>One touch fixing holder</td>
<td>φ13.7mm, Connecting screw: Rc3/8, 2pcs set</td>
<td>221583</td>
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<tr>
<td>11</td>
<td>Internal communication adapter</td>
<td>RS485-RS232C conversion</td>
<td>281388</td>
</tr>
<tr>
<td>12</td>
<td>Castor fixing holder</td>
<td>Set of 4pcs</td>
<td>281440</td>
</tr>
</tbody>
</table>

*Please specify when ordering main unit.*

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**Dimensions (mm):**

- **CFA302**
  - [Dimensions](#)
  - [Image](#)

- **CFA611 (CFW611)**
  - [Dimensions](#)
  - [Image](#)

*The CFW611 has a cooling water connection on the back, and the left side connection port is different from this figure. There is no mesh panel on the front.*

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**Yamato Scientific Co., Ltd.**

- [Website](#)
- [Email](#)

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**Cooling capacity (W)**

- **CFA611**
  - Measuring conditions:
    - Room temp.: 20℃
    - Circulating fluid: Nybrine 50%
  - Cooling capacity (W) vs. Temperature (℃)

- **CFW611**
  - Measuring conditions:
    - Room temp.: 20℃
    - Circulating fluid: Nybrine 50%
  - Cooling capacity (W) vs. Temperature (℃)

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**Control Panel**

- Low water level monitoring,
- Compressor monitoring,
- Compressor operation indicator
- Circulation pump indicator

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**Output Terminal / Connection Port**

- RS485 external communication terminal
- Temperature output terminal
- Circulating Water port
  - L-type circulation nozzles are optional.

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**Cooling capacity curve**

- **CFA302**
  - Measuring conditions:
    - Room temp.: 20℃
    - Circulating fluid: Nybrine 50%
  - Cooling capacity (W) vs. Temperature (℃)

- **CFA611**
  - Measuring conditions:
    - Room temp.: 20℃
    - Circulating fluid: Nybrine 50%
  - Cooling capacity (W) vs. Temperature (℃)

- **CFW611**
  - Measuring conditions:
    - Room temp.: 20℃
    - Circulating fluid: Nybrine 50%
  - Cooling capacity (W) vs. Temperature (℃)