## Quick-detachable Standard Flat Spray Nozzles

### INVV-SS/INV

#### INVV-SS series

| Structure | Comprises a nozzle part (nozzle tip + cap + packing) and an adaptor.  
|           | Worn-out nozzle tip and other parts are individually available for replacement.  
|           | The nozzle part can be removed and installed simply by turning 90° with one hand.  
|           | Tip or packing will not fall off when removing the nozzle part.  
| Material  | Nozzle tip: S303  
|           | Cap and Adaptor: S316L equivalent  
|           | Packing: FEPM  
| Mass      | Complete assemblies: 57 g  
|           | Nozzle tip: 13 g  

- Heat resistance temperature: 150°C  
- Withstanding pressure: 2.0 MPa  

[Note] Appearance and dimensions may differ slightly depending on materials and nozzle codes.

#### INV series (with ceramic orifice inserted)

| Structure | Includes a ceramic orifice in the nozzle tip.  
|           | Comprises a nozzle part (nozzle tip + cap + packing) and an adaptor.  
|           | Worn-out nozzle tip and other parts are individually available for replacement.  
|           | The nozzle part can be removed and installed simply by turning 90° with one hand.  
|           | Tip or packing will not fall off when removing the nozzle part.  
| Material  | Nozzle orifice: Ceramic  
|           | Tip retainer: S303  
|           | Cap and Adaptor: S316L equivalent  
|           | Packing: FEPM  
| Mass      | Complete assemblies: 51 g  
|           | Nozzle tip: 6.5 g  

- Heat resistance temperature: 60°C  
- Withstanding pressure: 2.0 MPa  

[Note] Appearance and dimensions may differ slightly depending on materials and nozzle codes.

#### Features
- Flat spray pattern with a mountain-shaped spray distribution having gradually tapered edges.  
- Easy mounting/dismounting with a knurled tab.  
- Quick-detachable design helps to significantly reduce maintenance time.

#### Standard pressure
- 0.3 MPa

#### Applications
- Cleaning: Automotives, containers, films, felts, filters, screens, bottles, crushed stones, earth and sand, metal parts, machines, steel plates and pieces  
- Spraying: Oils, lubricants, glues, insecticides, herbicides  
- Cooling: Tanks, roofs  
- Water screen: Dust suppression, deodorization
Flat Spray

INVV-SS series

① Nozzle tip
② Cap
③ Packing
④ Adaptor

① Ceramic orifice
② Adhesive: Araldite®
③ Tip retainer
④ Cap
⑤ Packing
⑥ Adaptor

Spray pattern
Spray distribution

Features
● Flat spray pattern with a mountain-shaped spray distribution having gradually tapered edges.
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Standard pressure
0.3 MPa

Applications
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Spraying: Oils, lubricants, glues, insecticides, herbicides
Cooling: Tanks, roofs
Water screen: Dust suppression, deodorization

43 20.5 12.5 2.5 10.5 22.5 26 41 20.5 10.5 20.5 21 14.5

INV series

● Comprises a nozzle part (nozzle tip + cap + packing) and an adaptor.
● Worn-out nozzle tip and other parts are individually available for replacement.
● The nozzle part can be removed and installed simply by turning 90° with one hand.
● Tip or packing will not fall off when removing the nozzle part.
● Nozzle tip: S303
● Cap and Adaptor: S316L equivalent
● Packing: FEPM

INVV-SS series

Structure
Material
Complete assemblies: 57 g
Nozzle tip: 13 g
Mass
Heat resistance temperature: 150°C
Withstanding pressure: 2.0 MPa

Note: Appearance and dimensions may differ slightly depending on materials and nozzle codes.

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INV series (with ceramic orifice inserted)

Structure
Material
Complete assemblies: 51 g
Nozzle tip: 6.5 g
Mass
Heat resistance temperature: 60°C
Withstanding pressure: 2.0 MPa

Note: Appearance and dimensions may differ slightly depending on materials and nozzle codes.

How to order
Please inquire or order for a specific nozzle using this coding system.

① Complete assemblies
(Example) 1/4M INVV 11560 S303 (FEPM) + S316L-IN

② Nozzle tip only
(Example) 1/4 M VV 11560 S303

Note:
Nozzle tips of INVV-SS series are the same as those used on VV series.
Nozzle tips of INV series are the same as those used on V series.
Quick-detachable Standard Flat Spray Nozzles

INVV series

Structure
- Two-piece structure comprising a nozzle tip (with packing) and an adaptor.
- Easy installation and removal of the nozzle tip just by turning 60°.

Material
- Nozzle tip: PP
- Adaptor: PP or PPS
- Packing: FEPM

Pipe conn. size Dimensions (mm) Mass (g)
<table>
<thead>
<tr>
<th>Pipe conn. size</th>
<th>L1 (mm)</th>
<th>L2 (mm)</th>
<th>L3 (mm)</th>
<th>W1 (mm)</th>
<th>W2 (mm)</th>
<th>N (mm)</th>
<th>PP (g)</th>
<th>PPS (g)</th>
</tr>
</thead>
<tbody>
<tr>
<td>R1/8</td>
<td>10</td>
<td>27</td>
<td>27</td>
<td>30</td>
<td>27</td>
<td>8</td>
<td>9.0</td>
<td>12</td>
</tr>
<tr>
<td>R1/4</td>
<td>10</td>
<td>30</td>
<td>40</td>
<td>30</td>
<td>27</td>
<td>11.5</td>
<td>9.4</td>
<td>12</td>
</tr>
<tr>
<td>R3/8</td>
<td>10</td>
<td>40</td>
<td>50</td>
<td>30</td>
<td>27</td>
<td>12</td>
<td>10.3</td>
<td>14</td>
</tr>
</tbody>
</table>

[Note]
- INVV series nozzles are not compatible with the discontinued ISVV series.
- Appearance and dimensions may differ slightly depending on materials and nozzle codes.
- Tab line conforms with the flat spray spread direction.

Spray angle (°) Pipe connection size Spray capacity (l/min)
<table>
<thead>
<tr>
<th>Spray angle code</th>
<th>R1/8</th>
<th>R1/4</th>
<th>R3/8</th>
</tr>
</thead>
<tbody>
<tr>
<td>115</td>
<td>05</td>
<td>07</td>
<td>10</td>
</tr>
<tr>
<td></td>
<td>10</td>
<td>15</td>
<td>20</td>
</tr>
<tr>
<td></td>
<td>30</td>
<td>40</td>
<td>50</td>
</tr>
<tr>
<td>90</td>
<td>05</td>
<td>07</td>
<td>10</td>
</tr>
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<td></td>
<td>15</td>
<td>20</td>
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<tr>
<td></td>
<td>15</td>
<td>20</td>
<td>30</td>
</tr>
</tbody>
</table>

[Features]
- Flat spray pattern with a mountain-shaped spray distribution having gradually tapered edges.
- Made of high chemical and heat resistant PP (polypropylene).
- Quick-detachable design helps to significantly reduce maintenance time.
- Nozzle tips are color-coded by spray capacity for easy identification.

[Standard pressure]
0.3 MPa

[Applications]
- Cleaning
- Etching
- Stripping
- Chemical treatment
- For periodic maintenance or for the applications where precise spray alignment is required
Quick-detachable Standard Flat Spray Nozzles

INVV series

### How to order

Please inquire or order for a specific nozzle using this coding system.

**Complete assemblies**

<table>
<thead>
<tr>
<th>Pipe conn. size*</th>
<th>Spray angle code</th>
<th>Spray capacity code</th>
</tr>
</thead>
<tbody>
<tr>
<td>1/8M</td>
<td>115</td>
<td>05</td>
</tr>
<tr>
<td>1/4M</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>3/8M</td>
<td>50</td>
<td>50</td>
</tr>
</tbody>
</table>

**Nozzle tip only** (with packing)

<table>
<thead>
<tr>
<th>Pipe conn. size*</th>
<th>Spray angle code</th>
<th>Spray capacity code</th>
</tr>
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<tbody>
<tr>
<td>1/8F</td>
<td>115</td>
<td>05</td>
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<tr>
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</table>

**INCO series**

- **Structure**: Two-piece structure including a connector and an adaptor.
- **Material**: Connector: PP
  - Adaptor: PP or PPS
  - Packing: FEPM
  - Easy installation and removal of the connector just by turning 60°.
- **Dimensions (mm)**
  - **L1**: 3
  - **L2**: 30
  - **L3**: 30
  - **W1**: 15
  - **W2**: 15
  - **N**: 30
  - **Mass (g)**
    - **PP**: 9
    - **PPS**: 15

**Note**: Appearance and dimensions may differ slightly depending on materials and connector codes.

### ALSO AVAILABLE!

Quick-detachable Off-center Even Flat Spray Nozzles

INOVVE series

See p.41 of this catalog.

Quick-detachable Full Cone Spray Nozzles

INJJX series

See p.69 of this catalog.

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### How to order

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