

# Quick-detachable Standard Flat Spray Nozzles

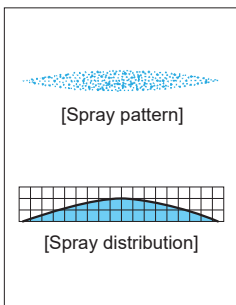
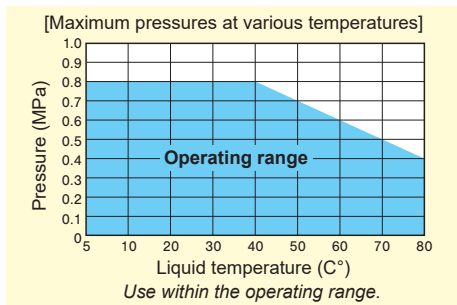
Plastic

INVV

Flat Spray



- Flat spray pattern with a mountain-shaped spray distribution and gradually tapered edges.
- Made of highly chemical and heat resistant plastic.
- Quick-detachable design helps to significantly reduce maintenance time.
- Nozzle tips are color-coded by spray capacity for easy identification.
- Adaptors are color-coded by material: gray for PP and black for PPS. (PVDF adaptor is only available on a made-to-order basis.)



**[STANDARD PRESSURE]**

0.3 MPa

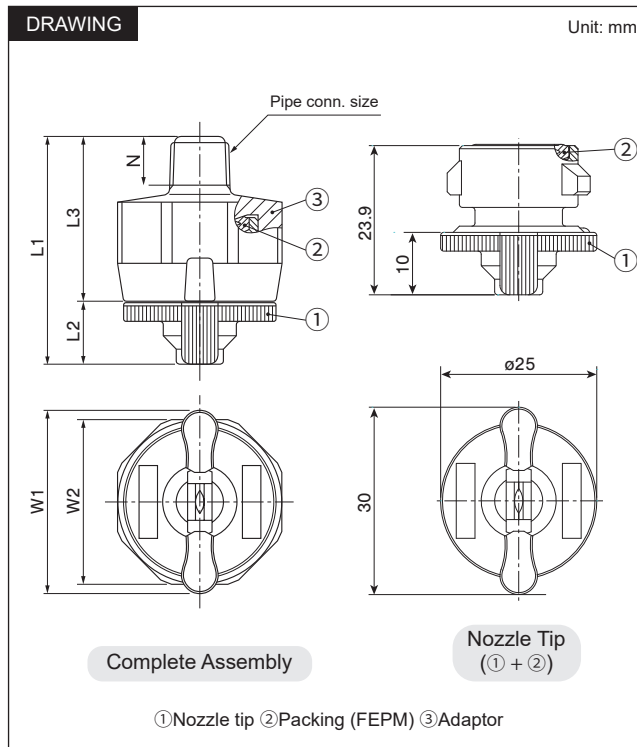
**[APPLICATIONS]**

- Cleaning
- Etching
- Stripping
- Chemical treatment
- For periodic maintenance or for applications where precise spray alignment is required

Structure	<ul style="list-style-type: none"> <li>• Two-piece structure including a nozzle tip with packing and an adaptor.</li> <li>• Easy installation and removal of the nozzle tip with a twist of about 60°.</li> </ul>
Material	<ul style="list-style-type: none"> <li>• Nozzle tip: PP</li> <li>• Adaptor: PP or PPS [SPECIAL ORDER MATERIAL: PVDF]</li> <li>• Packing: FEPM</li> </ul>

Pipe conn. size	Dimensions (mm)						Weight (g)	
	L1	L2	L3	W1	W2	N	PP	PPS
R1/8	37	10	27	30	27	8	9.0	12
R1/4	40	10	30	30	27	11.5	9.4	12
R3/8	40	10	30	30	27	12	10.3	14

- [Note]
- **INVV series nozzles are not compatible with the discontinued ISVV series.**
  - Appearance and dimensions may differ slightly depending on material and nozzle code.
  - The tabs (wings) are in line with the flat spray spread direction.



Spray angle code	Spray capacity code	Pipe connection size			Spray angle (°)			Spray capacity (L/min)						Mean drop. dia. (µm)	Free pass. dia. (mm)	Nozzle tip color	
		R1/8	R1/4	R3/8	0.15 MPa	0.3 MPa	0.7 MPa	0.05 MPa	0.1 MPa	0.15 MPa	0.2 MPa	0.3 MPa	0.5 MPa				0.7 MPa
115	05	○	○	○	102	115	124	—	0.29	0.35	0.41	0.50	0.65	0.76	}	0.3	Green
	07	○	○	○	103	115	124	—	0.40	0.49	0.57	0.70	0.90	1.07		0.3	Brown
	10	○	○	○	103	115	124	0.41	0.58	0.71	0.82	1.00	1.29	1.53		0.4	Red
	15	○	○	○	104	115	123	0.61	0.87	1.06	1.23	1.50	1.94	2.29		0.5	Grey
	20	○	○	○	104	115	123	0.82	1.15	1.41	1.63	2.00	2.58	3.06		0.6	Black
	30	○	○	○	105	115	122	1.23	1.73	2.12	2.45	3.00	3.88	4.58		0.8	Blue
	40	○	○	○	106	115	122	1.63	2.31	2.83	3.27	4.00	5.16	6.11		0.8	Orange
50	○	○	○	106	115	122	2.04	2.89	3.54	4.08	5.00	6.46	7.64	300	0.9	Pink	
90	05	○	○	○	77	90	100	—	0.29	0.35	0.41	0.50	0.65	0.76	}	0.3	Green
	07	○	○	○	78	90	100	—	0.40	0.49	0.57	0.70	0.90	1.07		0.4	Brown
	10	○	○	○	78	90	99	0.41	0.58	0.71	0.82	1.00	1.29	1.53		0.5	Red
	15	○	○	○	79	90	99	0.61	0.87	1.06	1.23	1.50	1.94	2.29		0.6	Grey
	20	○	○	○	79	90	98	0.82	1.15	1.41	1.63	2.00	2.58	3.06		0.7	Black
	30	○	○	○	80	90	97	1.23	1.73	2.12	2.45	3.00	3.88	4.58		0.9	Blue
	40	○	○	○	81	90	97	1.63	2.31	2.83	3.27	4.00	5.16	6.11		1.1	Orange
50	○	○	○	81	90	97	2.04	2.89	3.54	4.08	5.00	6.46	7.64	300	1.2	Pink	
65	05	○	○	○	52	65	74	—	0.29	0.35	0.41	0.50	0.65	0.76	}	0.4	Green
	07	○	○	○	53	65	74	—	0.40	0.49	0.57	0.70	0.90	1.07		0.5	Brown
	10	○	○	○	54	65	73	0.41	0.58	0.71	0.82	1.00	1.29	1.53		0.6	Red
	15	○	○	○	54	65	73	0.61	0.87	1.06	1.23	1.50	1.94	2.29		0.8	Grey
	20	○	○	○	55	65	72	0.82	1.15	1.41	1.63	2.00	2.58	3.06		0.9	Black
	30	○	○	○	56	65	72	1.23	1.73	2.12	2.45	3.00	3.88	4.58		1.1	Blue
	40	○	○	○	56	65	71	1.63	2.31	2.83	3.27	4.00	5.16	6.11		1.3	Orange
50	○	○	○	57	65	71	2.04	2.89	3.54	4.08	5.00	6.46	7.64	350	1.5	Pink	
50	05	○	○	○	38	50	59	—	0.29	0.35	0.41	0.50	0.65	0.76	}	0.4	Green
	07	○	○	○	38	50	58	—	0.40	0.49	0.57	0.70	0.90	1.07		0.5	Brown
	10	○	○	○	40	50	58	0.41	0.58	0.71	0.82	1.00	1.29	1.53		0.6	Red
	15	○	○	○	40	50	57	0.61	0.87	1.06	1.23	1.50	1.94	2.29		0.8	Grey
	20	○	○	○	41	50	57	0.82	1.15	1.41	1.63	2.00	2.58	3.06		1.0	Black
	30	○	○	○	42	50	56	1.23	1.73	2.12	2.45	3.00	3.88	4.58		1.2	Blue
	40	○	○	○	42	50	56	1.63	2.31	2.83	3.27	4.00	5.16	6.11		1.4	Orange
50	○	○	○	43	50	55	2.04	2.89	3.54	4.08	5.00	6.46	7.64	400	1.6	Pink	

**HOW TO ORDER**

To inquire about or order a specific nozzle please refer to this coding system.

① Complete Assembly

Example: 1/8M INVV 9030 PP (FEPM) + PP

<b>1/8M</b>	<b>INVV</b>	<b>90</b>	<b>30</b>	<b>PP (FEPM) +</b>	<b>PP</b>
Pipe conn. size*		Spray angle code	Spray capacity code	Nozzle tip material (packing: FEPM)	Adaptor material
■ 1/8M		■ 115	■ 05		■ PP
■ 1/4M		■ 50	■ 50		■ PPS
■ 3/8M					

② Nozzle Tip Only (with packing)

Example: INVV 9030 PP (FEPM)

<b>INVV</b>	<b>90</b>	<b>30</b>	<b>PP (FEPM)</b>
	Spray angle code	Spray capacity code	Nozzle tip material (packing: FEPM)
	■ 115	■ 05	
	■ 50	■ 50	

③ Adaptor is available for purchase separately.

\*\*M" indicates male thread ("R" of the ISO standard), e.g. 1/8M = R1/8.

**ALSO AVAILABLE!**

Quick-detachable  
Off-center Even Flat  
Spray Nozzles

**INOVVE** SERIES


See page 39 for more details.

Quick-detachable  
Full Cone  
Spray Nozzles

**INJXX** SERIES

See page 67 for more details.

**Quick-detachable IN PLUG** SERIES

Picture	Features																				
 <p>IN Plug tip</p>	<ul style="list-style-type: none"> <li>Two-piece structure includes a plug tip with packing and an adaptor.</li> <li>You can change an IN-series nozzle tip to this plug tip, or replace a complete IN nozzle assembly with an IN plug assembly.</li> </ul> <p>IN plug tips are compatible with INVV, INOVVE, and INJXX series adaptors. When ordering use the item names shown in the table below.</p>																				
	<table border="1"> <thead> <tr> <th>Pipe conn. size</th> <th>Adaptor material</th> <th>Order item name</th> </tr> </thead> <tbody> <tr> <td rowspan="2">R1/8</td> <td>PPS</td> <td>1/8M INPLUG PP(FEPM)+PPS</td> </tr> <tr> <td>PP</td> <td>1/8M INPLUG PP(FEPM)+PP</td> </tr> <tr> <td rowspan="2">R1/4</td> <td>PPS</td> <td>1/4M INPLUG PP(FEPM)+PPS</td> </tr> <tr> <td>PP</td> <td>1/4M INPLUG PP(FEPM)+PP</td> </tr> <tr> <td rowspan="2">R3/8</td> <td>PPS</td> <td>3/8M INPLUG PP(FEPM)+PPS</td> </tr> <tr> <td>PP</td> <td>3/8M INPLUG PP(FEPM)+PP</td> </tr> <tr> <td colspan="2">Plug tip only, without adaptor</td> <td>INPLUG PP(FEPM)</td> </tr> </tbody> </table>	Pipe conn. size	Adaptor material	Order item name	R1/8	PPS	1/8M INPLUG PP(FEPM)+PPS	PP	1/8M INPLUG PP(FEPM)+PP	R1/4	PPS	1/4M INPLUG PP(FEPM)+PPS	PP	1/4M INPLUG PP(FEPM)+PP	R3/8	PPS	3/8M INPLUG PP(FEPM)+PPS	PP	3/8M INPLUG PP(FEPM)+PP	Plug tip only, without adaptor	
Pipe conn. size	Adaptor material	Order item name																			
R1/8	PPS	1/8M INPLUG PP(FEPM)+PPS																			
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