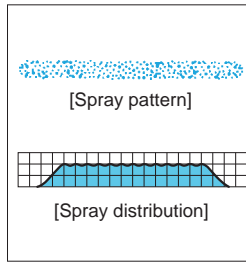


# Quick-detachable Even Flat Spray Nozzles

Stainless Steel

INVE

Flat Spray



- Flat spray pattern with uniform distribution across the pattern area.
- The unique design accommodates easy installation and removal.
- Quick-detachable design helps to significantly reduce maintenance time.

**[STANDARD PRESSURE]**  
0.3 MPa

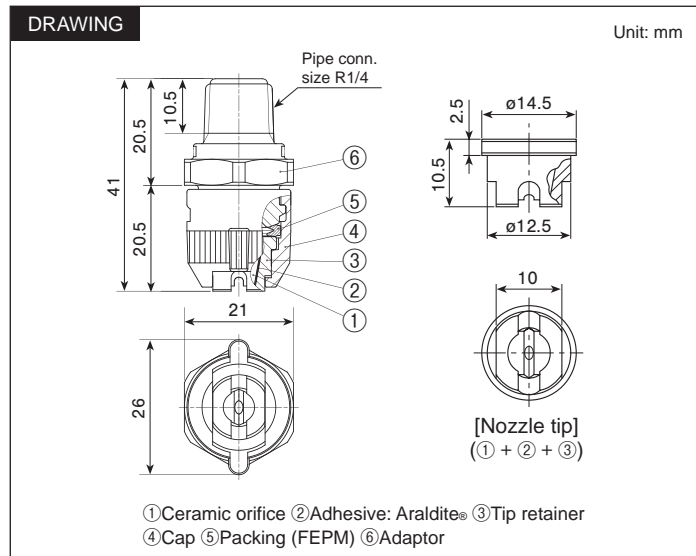
**[APPLICATIONS]**

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

Structure	<ul style="list-style-type: none"> <li>• Has a ceramic orifice in the nozzle tip.</li> <li>• Includes a nozzle section (nozzle tip + cap + packing) and an adaptor.</li> <li>• Worn-out nozzle tips and other parts are available separately for replacement.</li> <li>• Easy installation and removal of the nozzle section with a twist of about 90°.</li> <li>• Tip or packing will not fall out when the nozzle section is removed.</li> </ul>
Material	<ul style="list-style-type: none"> <li>• Nozzle orifice: ceramic</li> <li>• Tip retainer: S303</li> <li>• Cap and Adaptor: S316L equivalent</li> <li>• Packing: FEPM</li> </ul>
Weight	<ul style="list-style-type: none"> <li>• Complete assembly: 51 g</li> <li>• Nozzle tip: 6.5 g</li> </ul>

Max. temperature: 60°C  
 Max. operating pressure: 2.0 MPa  
 The flat spray spread direction is parallel to the surface milling (groves).

[Note] Appearance and dimensions may differ slightly depending on material and nozzle code.



**Easy to install and remove by hand**

For more details see page 18 for the INVV-SS and INV series flat spray nozzles and page 63 for the INJX-SS series full cone spray nozzles.

Common Features of INVV-SS, INV, INVE, and INJX-SS Series

Spray angle code	Spray capacity code	Spray angle (°)			Spray capacity (L/min)								Mean droplet diameter (µm)	Free passage diameter (mm)	
		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	1 MPa			2 MPa
115	78	106	115	121	3.18	4.50	5.52	6.37	7.80	10.1	11.9	14.2	20.1	350	1.0
	117	106	115	120	4.78	6.75	8.27	9.55	11.7	15.1	17.8	21.4	30.2	450	1.2
	157	106	115	120	6.41	9.06	11.1	12.8	15.7	20.3	24.0	28.0	40.5	450	1.4
90	36	83	90	97	1.47	2.08	2.55	2.94	3.60	4.65	5.50	6.57	9.30	300	1.0
	39	83	90	97	1.59	2.25	2.76	3.18	3.90	5.03	5.96	7.12	10.1	300	1.0
	59	83	90	97	2.40	3.41	4.17	4.82	5.90	7.62	9.01	10.8	15.2	300	1.2
	78	84	90	97	3.18	4.50	5.52	6.37	7.80	10.1	11.9	14.2	20.1	300	1.4
	117	84	90	96	4.78	6.75	8.27	9.55	11.7	15.1	17.8	21.4	30.2	300	1.7
	157	84	90	96	6.41	9.06	11.1	12.8	15.7	20.3	24.0	28.0	40.5	300	2.0
80	36	72	80	84	1.47	2.08	2.55	2.94	3.60	4.65	5.50	6.57	9.30	310	1.0
	39	73	80	84	1.59	2.25	2.76	3.18	3.90	5.03	5.96	7.12	10.1	310	1.0
	59	74	80	84	2.40	3.41	4.17	4.82	5.90	7.62	9.01	10.8	15.2	310	1.3
	78	74	80	84	3.18	4.50	5.52	6.37	7.80	10.1	11.9	14.2	20.1	310	1.6
	117	75	80	84	4.78	6.75	8.27	9.55	11.7	15.1	17.8	21.4	30.2	310	1.9
	157	76	80	84	6.41	9.06	11.1	12.8	15.7	20.3	24.0	28.0	40.5	310	2.4
65	31	57	65	73	1.26	1.79	2.19	2.53	3.10	4.00	4.74	5.66	8.00	310	1.1
	36	57	65	73	1.47	2.08	2.55	2.94	3.60	4.65	5.50	6.57	9.30	310	1.2
	39	57	65	73	1.59	2.25	2.76	3.18	3.90	5.03	5.96	7.12	10.1	310	1.3
	59	58	65	72	2.40	3.41	4.17	4.82	5.90	7.62	9.01	10.8	15.2	310	1.4
	78	58	65	72	3.18	4.50	5.52	6.37	7.80	10.1	11.9	14.2	20.1	310	1.8
	117	58	65	69	4.78	6.75	8.27	9.55	11.7	15.1	17.8	21.4	30.2	310	2.3
	157	58	65	69	6.41	9.06	11.1	12.8	15.7	20.3	24.0	28.0	40.5	310	2.7
50	31	43	50	55	1.26	1.79	2.19	2.53	3.10	4.00	4.74	5.66	8.00	350	1.2
	39	43	50	55	1.59	2.25	2.76	3.18	3.90	5.03	5.96	7.12	10.1	350	1.4
	59	43	50	55	2.40	3.41	4.17	4.82	5.90	7.62	9.01	10.8	15.2	350	1.5
	78	43	50	55	3.18	4.50	5.52	6.37	7.80	10.1	11.9	14.2	20.1	350	2.0
	117	43	50	54	4.76	6.75	8.27	9.55	11.7	15.1	17.8	21.4	30.2	350	2.4
	157	43	50	54	6.41	9.06	11.1	12.8	15.7	20.3	24.0	28.0	40.5	350	2.9
40	23	31	40	46	0.94	1.33	1.63	1.88	2.30	2.97	3.51	4.20	5.94	350	1.1
	36	32	40	45	1.47	2.08	2.55	2.94	3.60	4.65	5.50	6.57	9.30	350	1.4
	59	32	40	45	2.40	3.41	4.17	4.82	5.90	7.62	9.01	10.8	15.2	350	1.8
	78	33	40	45	3.18	4.50	5.52	6.37	7.80	10.1	11.9	14.2	20.1	350	2.1
	117	33	40	44	4.78	6.75	8.27	9.55	11.7	15.1	17.8	21.4	30.2	350	2.6
	157	33	40	44	6.41	9.06	11.1	12.8	15.7	20.3	24.0	28.0	40.5	350	3.0
25	19	18	25	32	0.78	1.10	1.34	1.55	1.90	2.45	2.90	3.47	4.91	390	1.1
	31	19	25	32	1.26	1.79	2.19	2.53	3.10	4.00	4.74	5.66	8.00	390	1.4
	39	20	25	32	1.59	2.25	2.76	3.18	3.90	5.03	5.96	7.12	10.1	390	1.5
	59	21	25	32	2.40	3.41	4.17	4.82	5.90	7.62	9.01	10.8	15.2	390	1.9
	78	21	25	32	3.18	4.50	5.52	6.37	7.80	10.1	11.9	14.2	20.1	390	2.3
	117	21	25	32	4.78	6.75	8.27	9.55	11.7	15.1	17.8	21.4	30.2	390	2.7
	157	21	25	32	6.41	9.06	11.1	12.8	15.7	20.3	24.0	28.0	40.5	390	3.4
15	23	10	15	19	0.94	1.33	1.63	1.88	2.30	2.97	3.51	4.20	5.94	500	1.3
	36	10	15	19	1.47	2.08	2.55	2.94	3.60	4.65	5.50	6.57	9.30	500	1.6
	59	10	15	19	2.40	3.41	4.17	4.82	5.90	7.62	9.01	10.8	15.2	500	2.0
	78	10	15	19	3.18	4.50	5.52	6.37	7.80	10.1	11.9	14.2	20.1	500	2.4
	117	10	15	19	4.78	6.75	8.27	9.55	11.7	15.1	17.8	21.4	30.2	500	3.0
	157	12	15	19	6.41	9.06	11.1	12.8	15.7	20.3	24.0	28.0	40.5	500	3.5

**HOW TO ORDER**

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

**① Complete Assembly**

Example: 1/4M INVE 11578 S303 (FEPM) + S316L-IN

1/4M INVE	115	78	S303 (FEPM) + S316L-IN		
Pipe conn. size <sup>1</sup>	Spray angle code	Spray capacity code	Nozzle tip material	Packing material	Material of cap & adaptor
	115 }	19 }			
	15	157			

**② Nozzle Tip Only<sup>2</sup>**

Example: 1/4 VE 11578 S303

1/4 VE	115	78	S303
	Spray angle code	Spray capacity code	Material
	115 }	19 }	
	15	157	

③ Adaptor (R1/4), cap, and packing are available separately for purchase.

\*1) "M" indicates male thread ("R" of the ISO standard), e.g. 1/4M = R1/4.

\*2) Nozzle tips for the INVE series are the same as those used for the VE series.