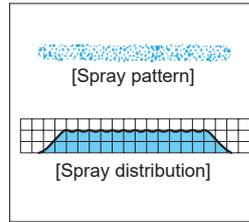


# Even Flat Spray Nozzles

VE/VEP

Flat Spray



### [Features]

- Flat spray pattern with uniform distribution throughout pattern area.
- Even spray impact across the entire spray area.

### [Standard Pressure]

0.3 MPa

### [Applications]

**Cleaning:** Automotives, containers, films, felts, filters, screens, bottles, crushed stones, earth and sand, metal parts, machines, steel plates, steel pieces, wires

**Spraying:** Etchants, oils, lubricants, liquids, solutions, insecticides, herbicides

**Cooling:** Gas, smokes, heat exchangers, tanks, steels, roofs

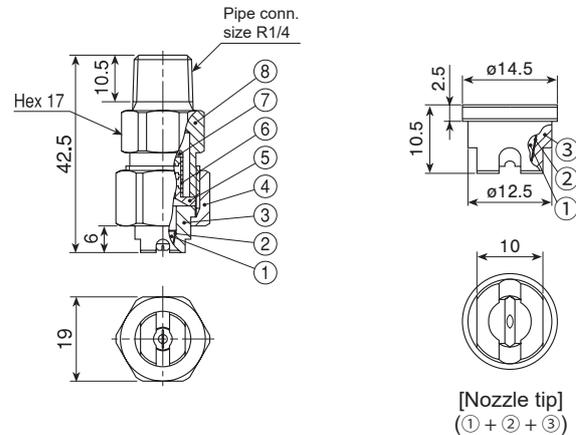
**Water screen:** Fire protection, heat protection, dust suppression, deodorization

## VE series (three-piece structure)

VE series (with ceramic orifice inserted)	
Structure	<ul style="list-style-type: none"> <li>• Three-piece structure with ceramic orifice inserted.</li> <li>• Comprises three parts: Nozzle tip, cap, and adaptor.</li> <li>• Worn-out nozzle tip can be replaced separately.</li> <li>• Small spray capacity models come with or without a removable strainer.</li> </ul>
Material	<ul style="list-style-type: none"> <li>• Nozzle orifice: ceramic</li> <li>• Tip retainer: S303</li> <li>• Cap, Adaptor, and Strainer: S303</li> <li>• Optional material: S316 or others</li> </ul>
Mass	<ul style="list-style-type: none"> <li>• Complete assemblies*<sup>1</sup></li> <li>  S303: 49 g</li> <li>• Nozzle tip</li> <li>  S303: 6.5 g</li> </ul>

\*1) When with a strainer, add 2–5 g to the above mass and 2 mm to the total length.

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



- Ⓐ **Nozzle** (① Ceramic orifice ② Adhesive: Araldite® ③ Tip retainer ④ Cap ⑧ Adaptor)
- Ⓑ **Strainer** (⑤ Strainer holder ⑥ Strainer screen [S316] ⑦ Strainer cap)

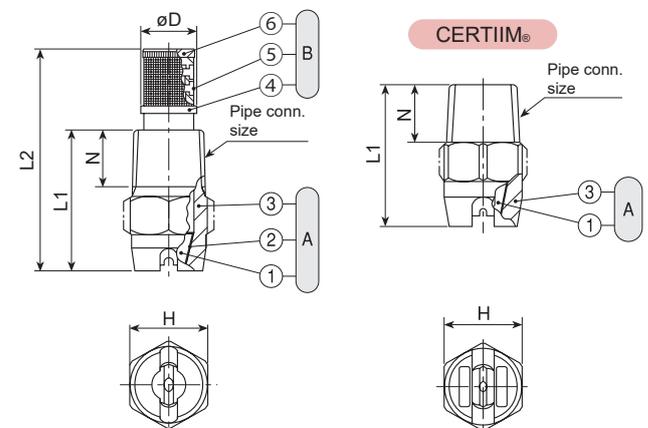
## VEP series (one-piece structure)

VEP series (with ceramic orifice inserted)	
Structure	<ul style="list-style-type: none"> <li>• Ceramic orifice is inserted and adhered into a metal or plastic body.</li> <li>• Small spray capacity models of metal VEP come with or without a strainer.</li> <li>• CERTIIM® is a plastic spray nozzle with a one-shot injection molded ceramic orifice.</li> </ul>
Material	<ul style="list-style-type: none"> <li>• Nozzle orifice: ceramic</li> <li>• Metal parts: S303 or B (brass)</li> <li>• CERTIIM®'s plastic body: PVDF</li> <li>• Optional material: S316 or others</li> </ul>

Pipe conn. size	Dimensions (mm)					Mass*(g)		
	L1	L2	H	øD	N	S303	B	CERTIIM®
R1/8	16.5	30	12	7.5	6.5	8	9	—
R1/4	26	40	14	10	10.5	20	22	—
R3/8	30	—	19	—	11	33	—	—
R1/2	38	—	23	—	14	57	—	—
CERTIIM® R1/8	22	—	12	—	8.5	—	—	2.1
CERTIIM® R1/4	26	—	14	—	10.5	—	—	6

\*1) When with a strainer, add 2–5 g to the above mass.

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



- Ⓐ **Nozzle** (① Ceramic orifice ② Adhesive: Araldite® ③ Nozzle Body)
- Ⓑ **Strainer** (④ Strainer holder ⑤ Strainer screen [S316] ⑥ Strainer cap)

Even Flat Spray Nozzles  
VE/VEP series

Flat Spray

Spray angle code	Spray capacity code	Pipe connection size								Spray angle (°)			Spray capacity (ℓ/min)								Mean drop. dia. (µm)	Free pass. dia. (mm)	Strainer mesh size					
		VE		VEP				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	3 MPa				5 MPa				
		Metal	CER-TIIMe	Metal																					CER-TIIMe			
R1/4	R1/4	R1/8	R1/4	R3/8	R1/2	R1/8	R1/4	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	3 MPa	5 MPa							
115	19	●	○	●	●	○	○	○	104	115	122	0.78	1.10	1.34	1.55	1.90	2.45	2.90	3.47	4.91	6.00	7.76	240	0.5	100			
	23	●	○	●	●	○	○	○	105	115	122	0.94	1.33	1.63	1.88	2.30	2.97	3.51	4.20	5.94	7.27	9.39				0.6	100	
	31	●	○	●	●	○	○	○	105	115	122	1.26	1.79	2.19	2.53	3.10	4.00	4.74	5.66	8.00	9.80	12.7				0.6	100	
	36	●	○	●	●	○	○	○	105	115	122	1.47	2.08	2.55	2.94	3.60	4.65	5.50	6.57	9.30	11.4	14.6				0.7	50	
	39	○	○	○	○	○	○	○	105	115	122	1.59	2.25	2.76	3.18	3.90	5.03	5.96	7.12	10.1	12.3	15.9				0.7	50	
	59	○	○	○	○	○	○	○	105	115	122	2.40	3.41	4.17	4.82	5.90	7.62	9.01	10.8	15.2	18.6	24.1				0.9	50	
	78	○	○	○	○	○	○	○	106	115	121	3.18	4.50	5.52	6.37	7.80	10.1	11.9	14.2	20.1	24.7	31.8				1.0	—	
	117	○	○	○	○	○	○	○	106	115	120	4.78	6.75	8.27	9.55	11.7	15.1	17.8	21.4	30.2	37.0	47.8				1.2	—	
	157	○	○	○	○	○	○	○	106	115	120	6.41	9.06	11.1	12.8	15.7	20.3	24.0	28.0	40.5	49.6	64.1				1.4	—	
	196	○	○	○	○	○	○	○	108	115	120	8.00	11.3	13.9	16.0	19.6	25.3	30.0	35.8	50.6	62.0	80.0				450	1.6	—
	235	○	○	○	○	○	○	○	108	115	118	9.54	13.6	16.6	19.2	23.5	30.3	35.9	42.9	60.7	74.3	95.9				1.7	—	
	274	○	○	○	○	○	○	○	108	115	118	11.2	15.8	19.4	22.4	27.4	35.4	41.9	50.0	70.7	86.6	112				1.9	—	
	314	○	○	○	○	○	○	○	108	115	118	12.8	18.1	22.2	25.6	31.4	40.5	48.0	57.3	81.1	99.3	128				510	2.0	—
	392	○	○	○	○	○	○	○	108	115	118	16.0	22.6	27.7	32.0	39.2	50.6	60.0	71.6	101	124	160				2.2	—	
	469	○	○	○	○	○	○	○	108	115	118	19.1	27.0	33.2	38.4	46.9	60.7	71.8	85.6	121	149	192				640	2.4	—
90	03	●	○	●	●	○	○	○	78	90	101	—	0.17	0.21	0.24	0.30	0.39	0.46	0.55	0.77	0.95	1.22	140	0.2	200			
	04	●	○	●	●	○	○	○	79	90	101	—	0.23	0.28	0.33	0.40	0.52	0.61	0.73	1.03	1.26	1.63				0.2	200	
	05	●	○	●	●	○	○	○	79	90	101	—	0.29	0.35	0.41	0.50	0.65	0.76	0.91	1.29	1.58	2.04				0.3	150	
	07	●	○	●	●	○	○	○	80	90	101	—	0.40	0.49	0.57	0.70	0.90	1.07	1.28	1.81	2.21	2.86				0.3	150	
	10	●	○	●	●	○	○	○	80	90	100	0.41	0.58	0.71	0.82	1.00	1.29	1.53	1.83	2.58	3.16	4.08				0.4	150	
	15	●	○	●	●	○	○	○	82	90	100	0.61	0.87	1.06	1.23	1.50	1.94	2.29	2.74	3.87	4.74	6.12				0.4	150	
	19	●	○	●	●	○	○	○	82	90	98	0.78	1.10	1.34	1.55	1.90	2.45	2.90	3.47	4.91	6.00	7.76				250	0.7	50
	23	●	○	●	●	○	○	○	82	90	98	0.94	1.33	1.63	1.88	2.30	2.97	3.51	4.20	5.94	7.27	9.39				0.7	50	
	31	●	○	●	●	○	○	○	83	90	97	1.26	1.79	2.19	2.53	3.10	4.00	4.74	5.66	8.00	9.80	12.7				0.9	50	
	36	○	○	○	○	○	○	○	83	90	97	1.47	2.08	2.55	2.94	3.60	4.65	5.50	6.57	9.30	11.4	14.6				1.0	—	
	39	○	○	○	○	○	○	○	83	90	97	1.59	2.25	2.76	3.18	3.90	5.03	5.96	7.12	10.1	12.3	15.9				1.0	—	
	59	○	○	○	○	○	○	○	83	90	97	2.40	3.41	4.17	4.82	5.90	7.62	9.01	10.8	15.2	18.6	24.1				1.2	—	
	78	○	○	○	○	○	○	○	84	90	97	3.18	4.50	5.52	6.37	7.80	10.1	11.9	14.2	20.1	24.7	31.8				1.4	—	
	117	○	○	○	○	○	○	○	84	90	96	4.78	6.75	8.27	9.55	11.7	15.1	17.8	21.4	30.2	37.0	47.8				1.7	—	
	157	○	○	○	○	○	○	○	84	90	96	6.41	9.06	11.1	12.8	15.7	20.3	24.0	28.0	40.5	49.6	64.1				2.0	—	
196	○	○	○	○	○	○	○	84	90	96	8.00	11.3	13.9	16.0	19.6	25.3	30.0	35.8	50.6	62.0	80.0	480	2.2	—				
235	○	○	○	○	○	○	○	85	90	95	9.54	13.6	16.6	19.2	23.5	30.3	35.9	42.9	60.7	74.3	95.9	2.4	—					
274	○	○	○	○	○	○	○	85	90	95	11.2	15.8	19.4	22.4	27.4	35.4	41.9	50.0	70.7	86.6	112	2.6	—					
314	○	○	○	○	○	○	○	85	90	94	12.8	18.1	22.2	25.6	31.4	40.5	48.0	57.3	81.1	99.3	128	540	2.8	—				
392	○	○	○	○	○	○	○	85	90	94	16.0	22.6	27.7	32.0	39.2	50.6	60.0	71.6	101	124	160	3.1	—					
469	○	○	○	○	○	○	○	85	90	94	19.1	27.0	33.2	38.4	46.9	60.7	71.8	85.6	121	149	192	680	3.4	—				
80	19	●	○	●	●	○	○	○	72	80	84	0.78	1.10	1.34	1.55	1.90	2.45	2.90	3.47	4.91	6.00	7.76	260	0.7	50			
	23	●	○	●	●	○	○	○	72	80	84	0.94	1.33	1.63	1.88	2.30	2.97	3.51	4.20	5.94	7.27	9.39				0.8	50	
	31	●	○	●	●	○	○	○	72	80	84	1.26	1.79	2.19	2.53	3.10	4.00	4.74	5.66	8.00	9.80	12.7				0.9	50	
	36	○	○	○	○	○	○	○	72	80	84	1.47	2.08	2.55	2.94	3.60	4.65	5.50	6.57	9.30	11.4	14.6				1.0	—	
	39	○	○	○	○	○	○	○	73	80	84	1.59	2.25	2.76	3.18	3.90	5.03	5.96	7.12	10.1	12.3	15.9				1.0	—	
	59	○	○	○	○	○	○	○	74	80	84	2.40	3.41	4.17	4.82	5.90	7.62	9.01	10.8	15.2	18.6	24.1				1.3	—	
	78	○	○	○	○	○	○	○	74	80	84	3.18	4.50	5.52	6.37	7.80	10.1	11.9	14.2	20.1	24.7	31.8				1.6	—	
	117	○	○	○	○	○	○	○	75	80	84	4.78	6.75	8.27	9.55	11.7	15.1	17.8	21.4	30.2	37.0	47.8				1.9	—	
	157	○	○	○	○	○	○	○	76	80	84	6.41	9.06	11.1	12.8	15.7	20.3	24.0	28.0	40.5	49.6	64.1				2.4	—	
	196	○	○	○	○	○	○	○	76	80	83	8.00	11.3	13.9	16.0	19.6	25.3	30.0	35.8	50.6	62.0	80.0				490	2.6	—
	235	○	○	○	○	○	○	○	76	80	83	9.54	13.6	16.6	19.2	23.5	30.3	35.9	42.9	60.7	74.3	95.9				3.1	—	
	274	○	○	○	○	○	○	○	76	80	83	11.2	15.8	19.4	22.4	27.4	35.4	41.9	50.0	70.7	86.6	112				3.3	—	
	314	○	○	○	○	○	○	○	76	80	83	12.8	18.1	22.2	25.6	31.4	40.5	48.0	57.3	81.1	99.3	128				560	3.3	—
	392	○	○	○	○	○	○	○	76	80	83	16.0	22.6	27.7	32.0	39.2	50.6	60.0	71.6	101	124	160				3.7	—	
	469	○	○	○	○	○	○	○	76	80	83	19.1	27.0	33.2	38.4	46.9	60.7	71.8	85.6	121	149	192				700	4.3	—
65	03	●	○	●	●	○	○	○	54	65	76	—	0.17	0.21	0.24	0.30	0.39	0.46	0.55	0.77	0.95	1.22	150	0.3	150			
	04	●	○	●	●	○	○	○	54	65	76	—	0.23	0.28	0.33	0.40	0.52	0.61	0.73	1.03	1.26	1.63				0.3	150	
	05																											

