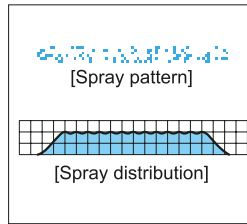


Even Flat Spray Nozzles

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

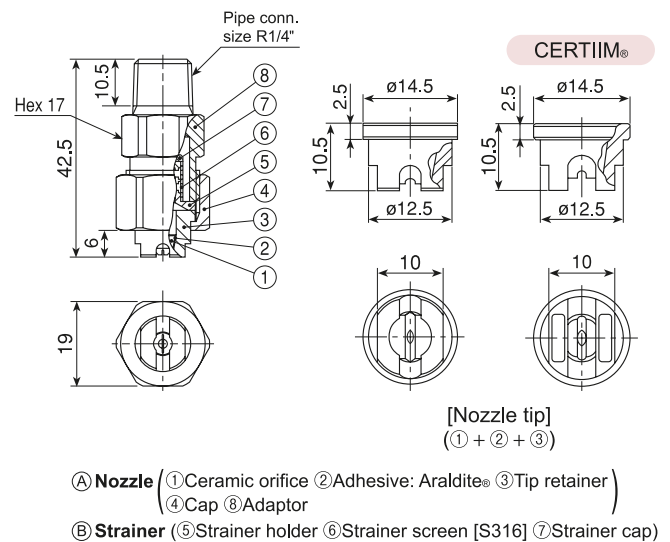
Water screen: Fire protection, heat protection, dust suppression, deodorization

VE series (three-piece structure)

	VE series (with ceramic orifice inserted)
Structure	<ul style="list-style-type: none"> • Three-piece structure with ceramic orifice inserted. • Comprises three parts: Nozzle tip, cap, and adaptor. • Worn-out nozzle tip can be replaced separately. • Small spray capacity models come with or without a removable strainer. • CERTIIM® is a one-shot injection molded nozzle tip created by molding the precision-made ceramic orifice into a plastic retainer.
Material	<ul style="list-style-type: none"> • Nozzle orifice: ceramic • Tip retainer: S303 or PVDF • Cap, Adaptor, and Strainer: S303 • Optional material: S316 or others
Mass	<ul style="list-style-type: none"> • Complete assemblies*¹ S303: 49 g • Nozzle tip S303: 6.5 g CERTIIM®: 2 g

*1) 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.



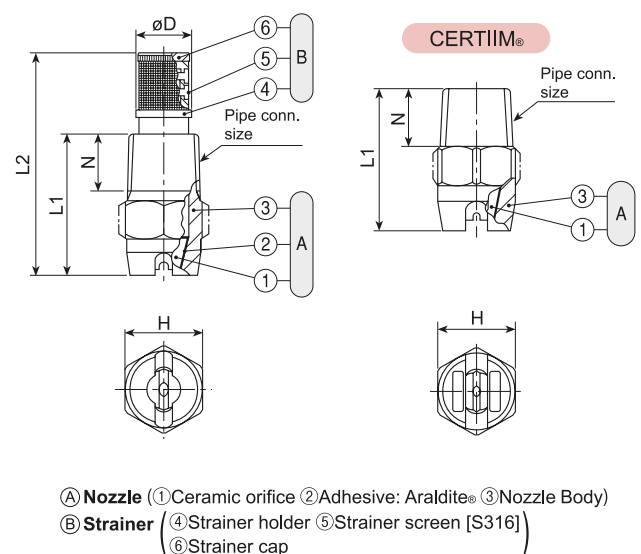
VEP series (one-piece structure)

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

Pipe conn. size	Dimensions (mm)					Mass*(g)	
	L1	L2	H	øD	N	S303	CERTIIM®
R1/8	16.5	30	12	7.5	6.5	8	—
R1/4	26	40	14	10	10.5	20	—
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) With a strainer, add 2–5 g to the above mass.

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



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																																	
		Metal		CER-TIIM _{Me}		Metal																																	
		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	—													
80	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	—													
	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	—													
65	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	—													
	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	●	○	●	●					54	65	75	—	0.29	0.35	0.41	0.50	0.65	0.76	0.91	1.29	1.58	2.04		0.4	150													
	07	●	○	●	●					55	65	75	—	0.40	0.49	0.57	0.70	0.90	1.07	1.28	1.81	2.21	2.86	§	0.4	150													
	10																																						

●: Available with/without strainer ○: Available without strainer

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

② Nozzle tip only

〈Example〉 1/4 VE 11519 S303

1/4 VE	115	19	S303
--------	-----	----	------

Spray angle code	Spray capacity code	Material
115	03	S303
}	}	
15	157	TPVDF

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

*2) "M" indicates male thread ("R" of the ISO standard) and "F" indicates female thread ("Rc" of the ISO standard), e.g. 1/8M = R1/8".

*3) When spray capacity code is 03, 04, or 05, "(AL99)" is indicated at the end of nozzle description.

〈Example〉 1/4MVEP9003S303W (AL99)

*4) No strainer for VEP-TPVDF.

1/4M VEP	115	19	S303	W
Pipe conn. size ²	Spray angle code	Spray capacity code ³	Material	Strainer ⁴
■ 1/8M	■ 115	■ 03	■ S303	■ W (with strainer)
■ 1/4M	■ 5	■ 5	■ TPVDF	■ (Blank denotes "without strainer")
■ 3/8M	■ 15	■ 469		
■ 1/2M				