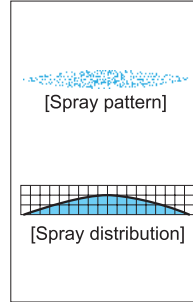


One-piece Structure Standard Flat Spray Nozzles

VVP/VP

Flat Spray



[Features]

- Flat spray pattern with a mountain-shaped spray distribution having gradually tapered edges.
- Tapered edges overlap to provide uniformity of spray distribution in multiple-nozzle arrangements.

[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: Etchants, oils, lubricants, liquids, solutions, insecticides, herbicides
- Cooling: Gas, smokes, heat exchangers, tanks, steels, roofs
- Water screen: Fire protection, heat protection, dust suppression, deodorization

VVP series

VVP series	
Structure	<ul style="list-style-type: none"> • Made of metal or plastic, one-piece structure. • Small spray capacity models of metal VVP come with or without a strainer.
Material	<ul style="list-style-type: none"> • S303, B (brass), or PP • S316L equivalent (precision-molded stainless steel)³ • Strainer for precision-molded stainless steel: S303 or S316 • Optional material: S316, PVC, PVDF, Ultrahigh molecular weight polyethylene, or others

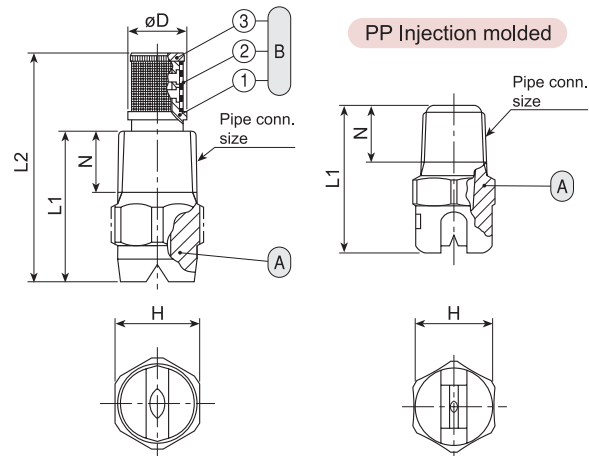
Series	Pipe conn. size	Dimensions (mm)					Mass (g) ¹			
		L1	L2	H	øD	N	S303	B	S316L equiv.	PP
VVP ²	R1/8	18.5	31	12	7.5	6.5	10	11	—	—
	R1/4	25	40	14	10	10.5	21	23	—	—
	R3/8	30	—	19	—	10.5	37	40	—	—
	R1/2	38	—	23	—	14	65	70	—	—
	R3/4	45	—	29	—	15	110	120	—	—
	R1	55	—	35	—	18	170	180	—	—
VVP ³ (Precision-molded stainless steel)	R1/8	20	33.5	12	7.5	7	—	—	9.6	—
	R1/4	27	41	14	10	10.5	—	—	16	—
VVP-PP (Injection molded)	R1/8	22	—	12	—	8.5	—	—	—	1.1
	R1/4	27	—	14	—	11.5	—	—	—	2.2

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

*2) VVP with spray capacity code of 20 or smaller slightly differs in dimensions (L1, L2) and in shape of nozzle tip from the above. Contact us for details.

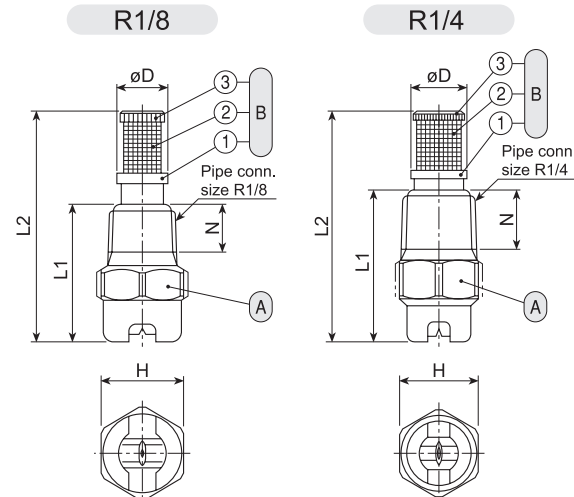
*3) Please see the chart on page 20 for availability.

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



- (A) Nozzle
(B) Strainer (1 Strainer holder 2 Strainer screen [S316] 3 Strainer cap)

Precision-molded stainless steel



- (A) Nozzle
(B) Strainer (1 Strainer holder 2 Strainer screen [S316] 3 Strainer cap)

One-piece Structure Standard Flat Spray Nozzles

VVP/VP 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		
		VVP						VP						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
		All metal			All plastic			Metal		CER-TiIM ₆																		
		R1/8	R1/4	R3/8	R1/2	R3/4	R1	R1/8	R1/4	R1/8	R1/4	R1/8	R1/4															
80	02								●	●	○	○	67	80	90	—	0.12	0.14	0.16	0.20	0.26	0.31	0.37	0.52	150	0.2	200	
	03								●	●	○	○	67	80	90	—	0.17	0.21	0.24	0.30	0.39	0.46	0.55	0.77	150	0.3	150	
	04								●	●	○	○	67	80	90	—	0.23	0.28	0.33	0.40	0.52	0.61	0.73	1.03	150	0.3	150	
	05	●	●					○	○	●	●	○	○	67	80	90	—	0.29	0.35	0.41	0.50	0.65	0.76	0.91	1.29	180	0.3	150
	07	●	●							●	●	○	○	68	80	89	—	0.40	0.49	0.57	0.70	0.90	1.07	1.28	1.81	150	0.4	150
	10	●	●					○	○	●	●	○	○	68	80	89	0.41	0.58	0.71	0.82	1.00	1.29	1.53	1.83	2.58	100	0.5	100
	15									●	●	○	○	69	80	88	0.61	0.87	1.06	1.23	1.50	1.94	2.29	2.74	3.87	50	0.7	50
	20	●	●							●	●	○	○	69	80	88	0.82	1.15	1.41	1.63	2.00	2.58	3.06	3.65	5.16	50	0.8	50
	30	○	○					○	○	○	○	○	○	70	80	87	1.23	1.73	2.12	2.45	3.00	3.88	4.58	5.48	7.75	290	1.0	—
	40	○	○					○	○	○	○	○	○	71	80	87	1.63	2.31	2.83	3.27	4.00	5.16	6.11	7.30	10.3	—	1.2	—
	50									○	○	○	○	71	80	86	2.04	2.89	3.54	4.08	5.00	6.46	7.64	9.13	12.9	—	1.4	—
	60									○	○	○	○	72	80	86	2.45	3.46	4.24	4.90	6.00	7.75	9.17	11.0	15.5	—	1.5	—
	80	○	○							○	○	○	○	72	80	86	3.27	4.62	5.66	6.53	8.00	10.3	12.2	14.6	20.6	—	1.7	—
	100	○	○							○	○	○	○	72	80	85	4.08	5.77	7.07	8.17	10.0	12.9	15.3	18.3	25.8	—	1.8	—
	120	○	○							○	○	○	○	73	80	85	4.90	6.93	8.49	9.80	12.0	15.5	18.3	21.9	31.0	—	2.1	—
	200									○	○	○	○	74	80	85	8.16	11.5	14.1	16.3	20.0	25.8	30.6	36.5	51.6	550	2.9	—
	300									○	○	○	○	74	80	84	12.2	17.3	21.2	24.5	30.0	38.7	45.8	54.8	77.5	570	3.7	—
	400									○	○	○	○	75	80	83	16.3	23.1	28.3	32.7	40.0	51.6	61.1	73.0	103	600	4.1	—
500									○	○	○	○	75	80	83	20.4	28.9	35.4	40.8	50.0	64.6	76.4	91.3	129	—	4.8	—	
600									○	○	○	○	76	80	83	24.5	34.6	42.4	49.0	60.0	77.5	91.7	110	155	—	5.1	—	
800									○	○	○	○	76	80	82	32.7	46.2	56.5	65.3	80.0	103	122	146	206	—	6.1	—	
1000									○	○	○	○	76	80	82	40.8	57.7	70.7	81.7	100	129	153	183	258	—	6.2	—	
65	02								●	●	○	○	52	65	75	—	0.12	0.14	0.16	0.20	0.26	0.31	0.37	0.52	155	0.2	200	
	03								●	●	○	○	52	65	75	—	0.17	0.21	0.24	0.30	0.39	0.46	0.55	0.77	160	0.3	150	
	04								●	●	○	○	52	65	75	—	0.23	0.28	0.33	0.40	0.52	0.61	0.73	1.03	150	0.3	150	
	05								●	●	○	○	52	65	74	—	0.29	0.35	0.41	0.50	0.65	0.76	0.91	1.29	190	0.4	150	
	07								●	●	○	○	53	65	74	—	0.40	0.49	0.57	0.70	0.90	1.07	1.28	1.81	100	0.5	100	
	10								●	●	○	○	54	65	73	0.41	0.58	0.71	0.82	1.00	1.29	1.53	1.83	2.58	100	0.6	100	
	15								●	●	○	○	54	65	73	0.61	0.87	1.06	1.23	1.50	1.94	2.29	2.74	3.87	50	0.8	50	
	20	●	●							●	●	○	○	55	65	72	0.82	1.15	1.41	1.63	2.00	2.58	3.06	3.65	5.16	310	0.9	50
	30	○	○							○	○	○	○	56	65	72	1.23	1.73	2.12	2.45	3.00	3.88	4.58	5.48	7.75	—	1.1	—
	40	○	○							○	○	○	○	56	65	71	1.63	2.31	2.83	3.27	4.00	5.16	6.11	7.30	10.3	—	1.3	—
	50	○	○							○	○	○	○	57	65	71	2.04	2.89	3.54	4.08	5.00	6.46	7.64	9.13	12.9	—	1.5	—
	60	○	○							○	○	○	○	57	65	71	2.45	3.46	4.24	4.90	6.00	7.75	9.17	11.0	15.5	—	1.6	—
	80	○	○							○	○	○	○	58	65	71	3.27	4.62	5.66	6.53	8.00	10.3	12.2	14.6	20.6	—	1.9	—
	100	○	○							○	○	○	○	58	65	70	4.08	5.77	7.07	8.17	10.0	12.9	15.3	18.3	25.8	—	2.1	—
	120	○	○							○	○	○	○	58	65	70	4.90	6.93	8.49	9.80	12.0	15.5	18.3	21.9	31.0	—	2.3	—
	140									○	○	○	○	59	65	69	5.72	8.08	9.90	11.4	14.0	18.1	21.4	25.6	36.1	—	2.5	—
	170									○	○	○	○	59	65	69	6.94	9.82	12.0	13.9	17.0	22.0	26.0	31.1	43.9	—	2.8	—
	200									○	○	○	○	59	65	69	8.16	11.5	14.1	16.3	20.0	25.8	30.6	36.5	51.6	580	3.0	—
300									○	○	○	○	60	65	69	12.2	17.3	21.2	24.5	30.0	38.7	45.8	54.8	77.5	650	3.9	—	
400									○	○	○	○	60	65	68	16.3	23.1	28.3	32.7	40.0	51.6	61.1	73.0	103	—	4.7	—	
500									○	○	○	○	61	65	67	20.4	28.9	35.4	40.8	50.0	64.6	76.4	91.3	129	—	5.3	—	
600									○	○	○	○	61	65	67	24.5	34.6	42.4	49.0	60.0	77.5	91.7	110	155	—	5.7	—	
800									○	○	○	○	62	65	67	32.7	46.2	56.5	65.3	80.0	103	122	146	206	—	6.5	—	
1000									○	○	○	○	62	65	66	40.8	57.7	70.7	81.7	100	129	153	183	258	—	7.3	—	
1500									○	○	○	○	62	65	66	61.2	86.6	106	122	150	194	229	274	387	1,000	9.0	—	
50	03								●	●	○	○	37	50	60	—	0.17	0.21	0.24	0.30	0.39	0.46	0.55	0.77	180	0.3	150	
	04								●	●	○	○	37	50	60	—	0.23	0.28	0.33	0.40	0.52	0.61	0.73	1.03	150	0.4	150	
	05	●	●							●	●	○	○	38	50	59	—	0.29	0.35	0.41	0.50	0.65	0.76	0.91	1.29	210	0.4	150
	07	●	●							●	●	○	○	38	50	58	—	0.40	0.49	0.57	0.70	0.90	1.07	1.28	1.81	100	0.5	100
	10	●	●							●	●	○	○	40	50	58	0.41	0.58	0.71	0.82	1.00	1.29	1.53	1.83	2.58	—	0.6	100
	15									●	●	○	○	40	50	57	0.61	0.87	1.06	1.23	1.50	1.94	2.29	2.74	3.87	50	0.8	50
	20	○	○							○	○	○	○	41	50	57	0.82	1.15	1.41	1.63	2.00	2.58	3.06	3.65	5.16	—	1.0	—
	30	○	○							○	○	○	○	42	50	56	1.23	1.73	2.12	2.45	3.00	3.88	4.58	5.48	7.75	340	1.2	—
	40	○	○							○	○	○	○	42	50	56	1.63	2.31	2.83	3.27	4.00	5.16	6.11	7.30	10.3	—	1.4	—
	50									○	○	○	○	43	50	55	2.04	2.89	3.54	4.08	5.00	6.46	7.64	9.13	12.9	—	1.6	—
	60									○	○	○	○	43	50	55	2.45	3.46	4.24	4.90	6.00	7.75	9.17	11.0	15.5	—	1.7	—
	80	○	○							○	○	○	○	43	50	55	3.27	4.62	5.66	6.53	8.00	10.3	12.2	14.6	20.6	—	2.0	—
	120	○	○							○	○	○	○	44	50	54	4.90	6.93	8.49	9.80	12.0	15.5	18.3	21.9	31.0	550	2.5	—
	200																											

