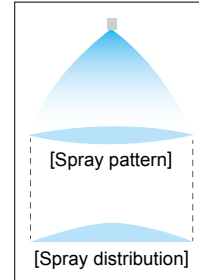


# One-Piece Structure Standard Flat Spray Nozzles

Some Models are Made-to-Order

## VVP/VP

Flat Spray



- Flat spray pattern with a mountain-shaped spray distribution and gradually tapered edges.
- Tapered edges overlap to provide uniform spray distribution in multi-nozzle arrangements.

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

### VVP SERIES

Size R1/2 or larger: made-to-order

Structure	<ul style="list-style-type: none"> <li>• One-piece structure, made of metal or plastic.</li> <li>• Small spray capacity VVP nozzles made of metal come with or without a strainer.</li> </ul>
Material	<ul style="list-style-type: none"> <li>• S303, PP, or PVDF</li> </ul> <p>SPECIAL ORDER MATERIAL: S316, PVC, or others</p>

Material	Pipe conn. size	Dimensions (mm)					Weight (g)		
		L1	L2	H	øD	N	S303	PP	PVDF
S303 <sup>1,2</sup>	R1/8	18.5	31	12	7.5	6.5	10	-	-
	R1/4	25	40	14	10	10	21	-	-
	R3/8	30	-	19	-	10.5	37	-	-
	R1/2	38	-	23	-	14	65	-	-
	R3/4	45	-	29	-	15	110	-	-
PP PVDF	R1/8	22	-	12	-	8.5	-	1.1	2.1
	R1/4	27	-	14	-	11.5	-	2.2	4.3

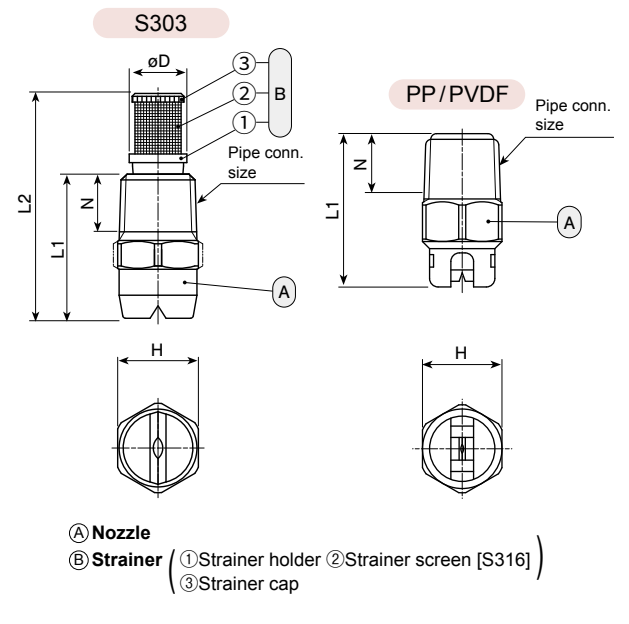
\*1) VVP nozzles with a spray capacity code of 20 or smaller differ in dimension (L1, L2) and shape. Contact us for details.

\*2) With strainer, add 2g for R1/8 and 5g for R1/4 to the above weight.

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

Strainer is optional on some models of metal VVP and VP series and can be ordered without it. See table for details.

### DRAWING



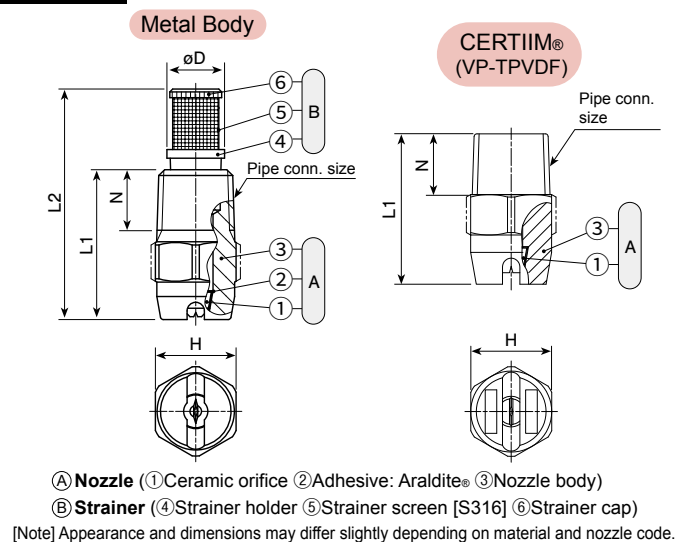
### VP SERIES (with ceramic orifice)

Structure	<ul style="list-style-type: none"> <li>• One-piece structure with a ceramic orifice insert.</li> <li>• Small spray capacity VP nozzles made of metal come with or without a strainer.</li> <li>• CERTIIM is a one-piece plastic nozzle molded around a 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> </ul> <p>SPECIAL ORDER MATERIAL: S316 or others</p>

Body material	Pipe conn. size	Dimensions (mm)					Weight (g)		
		L1	L2	H	øD	N	S303	B	CERTIIM
Metal <sup>2</sup>	R1/8	16.5	30	12	7.5	6.5	8	9	-
	R1/4	26	40	14	10	10.5	20	22	-
PVDF (CERTIIM)	R1/8	22	-	12	-	8.5	-	-	2.1
	R1/4	26	-	14	-	10.5	-	-	6

\*2) With strainer, add 2g for R1/8 and 5g for R1/4 to the above weight.

### DRAWING



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

## VVP Series, 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 <sup>3</sup>						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
		S303						PP/PVDF		Metal		CER-TIIM																
		R1/8	R1/4	R3/8	R1/2	R3/4	R1	R1/8	R1/4	R1/8	R1/4	R1/8	R1/4															
115	03								●	●	○	○	101	115	124	—	0.17	0.21	0.24	0.30	0.39	0.46	0.55	0.77	140	0.2	200	
	04								●	●	○	○	102	115	124	—	0.23	0.28	0.33	0.40	0.52	0.61	0.73	1.03	140	0.2	200	
	05								●	●	○	○	102	115	124	—	0.29	0.35	0.41	0.50	0.65	0.76	0.91	1.29	160	0.3	150	
	07								●	●	○	○	103	115	124	—	0.40	0.49	0.57	0.70	0.90	1.07	1.28	1.81	160	0.3	150	
	10								●	●	○	○	103	115	124	0.41	0.58	0.71	0.82	1.00	1.29	1.53	1.83	2.58	140	0.4	150	
	15	●	●						●	●	○	○	104	115	123	0.61	0.87	1.06	1.23	1.50	1.94	2.29	2.74	3.87	140	0.5	100	
	20	●	●						●	●	○	○	104	115	123	0.82	1.15	1.41	1.63	2.00	2.58	3.06	3.65	5.16	270	0.5	100	
	30	●	●						●	●	○	○	105	115	122	1.23	1.73	2.12	2.45	3.00	3.88	4.58	5.48	7.75	270	0.8	50	
	40	●	●						○	○			106	115	122	1.63	2.31	2.83	3.27	4.00	5.16	6.11	7.30	10.3	270	0.9	50	
	60	○	○										107	115	121	2.45	3.46	4.24	4.90	6.00	7.75	9.17	11.0	15.5	140	1.3	—	
	80	○	○										107	115	121	3.27	4.62	5.66	6.53	8.00	10.3	12.2	14.6	20.6	140	1.5	—	
	100	○	○										107	115	120	4.08	5.77	7.07	8.17	10.0	12.9	15.3	18.3	25.8	140	1.7	—	
	200	○	○										109	115	120	8.16	11.5	14.1	16.3	20.0	25.8	30.6	36.5	51.6	510	2.4	—	
	230	○	○										109	115	119	9.39	13.3	16.3	18.8	23.0	29.7	35.1	42.0	59.4	510	2.7	—	
	260	○	○	○									109	115	119	10.6	15.0	18.4	21.2	26.0	33.6	39.7	47.5	67.1	140	2.8	—	
300	○	○	○	○								109	115	119	12.2	17.3	21.2	24.5	30.0	38.7	45.8	54.8	77.5	140	3.0	—		
400	○	○	○	○	○							110	115	118	16.3	23.1	28.3	32.7	40.0	51.6	61.1	73.0	103	580	3.5	—		
500	○	○	○	○	○	○						110	115	118	20.4	28.9	35.4	40.8	50.0	64.6	76.4	91.3	129	580	3.9	—		
600	○	○	○	○	○	○						111	115	118	24.5	34.6	42.4	49.0	60.0	77.5	91.7	110	155	610	4.3	—		
800	○	○	○	○	○	○						111	115	117	32.7	46.2	56.5	65.3	80.0	103	122	146	206	700	5.0	—		
1000	○	○	○	○	○	○						111	115	117	40.8	57.7	70.7	81.7	100	129	153	183	258	700	5.6	—		
1500	○	○	○	○	○	○						111	115	117	61.2	86.6	106	122	150	194	229	274	387	900	7.2	—		
90	02								●	●	○	○	76	90	100	—	0.12	0.14	0.16	0.20	0.26	0.31	0.37	0.52	145	0.2	200	
	03								●	●	○	○	76	90	100	—	0.17	0.21	0.24	0.30	0.39	0.46	0.55	0.77	150	0.2	200	
	04								●	●	○	○	77	90	100	—	0.23	0.28	0.33	0.40	0.52	0.61	0.73	1.03	140	0.3	150	
	05								●	●	○	○	77	90	100	—	0.29	0.35	0.41	0.50	0.65	0.76	0.91	1.29	170	0.3	150	
	07								●	●	○	○	78	90	100	—	0.40	0.49	0.57	0.70	0.90	1.07	1.28	1.81	140	0.4	150	
	10								●	●	○	○	78	90	99	0.41	0.58	0.71	0.82	1.00	1.29	1.53	1.83	2.58	140	0.5	100	
	15	●	●						●	●	○	○	79	90	99	0.61	0.87	1.06	1.23	1.50	1.94	2.29	2.74	3.87	140	0.6	100	
	20	●	●						●	●	○	○	79	90	98	0.82	1.15	1.41	1.63	2.00	2.58	3.06	3.65	5.16	140	0.7	50	
	30	●	●						○	○			80	90	97	1.23	1.73	2.12	2.45	3.00	3.88	4.58	5.48	7.75	280	0.8	50	
	40	○	○						○	○			81	90	97	1.63	2.31	2.83	3.27	4.00	5.16	6.11	7.30	10.3	280	1.0	—	
	50	○	○						○	○			81	90	97	2.04	2.89	3.54	4.08	5.00	6.46	7.64	9.13	12.9	280	1.3	—	
	60	○	○										82	90	96	2.45	3.46	4.24	4.90	6.00	7.75	9.17	11.0	15.5	280	1.4	—	
	80	○	○										82	90	96	3.27	4.62	5.66	6.53	8.00	10.3	12.2	14.6	20.6	280	1.7	—	
	100	○	○										82	90	96	4.08	5.77	7.07	8.17	10.0	12.9	15.3	18.3	25.8	140	1.7	—	
	120	○	○	○									83	90	95	4.90	6.93	8.49	9.80	12.0	15.5	18.3	21.9	31.0	540	2.0	—	
140	○	○	○	○								83	90	95	5.72	8.08	9.90	11.4	14.0	18.1	21.4	25.6	36.1	540	2.2	—		
170	○	○	○	○	○							83	90	95	6.94	9.82	12.0	13.9	17.0	22.0	26.0	31.1	43.9	540	2.4	—		
200	○	○	○	○	○							84	90	95	8.16	11.5	14.1	16.3	20.0	25.8	30.6	36.5	51.6	540	2.7	—		
230	○	○	○	○	○							84	90	94	9.39	13.3	16.3	18.8	23.0	29.7	35.1	42.0	59.4	540	2.8	—		
260	○	○	○	○	○							84	90	94	10.6	15.0	18.4	21.2	26.0	33.6	39.7	47.5	67.1	140	3.1	—		
300	○	○	○	○	○							84	90	94	12.2	17.3	21.2	24.5	30.0	38.7	45.8	54.8	77.5	140	3.4	—		
400	○	○	○	○	○	○						85	90	94	16.3	23.1	28.3	32.7	40.0	51.6	61.1	73.0	103	580	3.8	—		
500	○	○	○	○	○	○						85	90	93	20.4	28.9	35.4	40.8	50.0	64.6	76.4	91.3	129	580	4.2	—		
600	○	○	○	○	○	○						86	90	93	24.5	34.6	42.4	49.0	60.0	77.5	91.7	110	155	700	4.7	—		
800	○	○	○	○	○	○						86	90	93	32.7	46.2	56.5	65.3	80.0	103	122	146	206	700	5.8	—		
900	○	○	○	○	○	○						86	90	92	36.7	52.0	63.6	73.5	90.0	116	137	164	232	750	5.7	—		
1000	○	○	○	○	○	○						86	90	92	40.8	57.7	70.7	81.7	100	129	153	183	258	750	6.0	—		
1200	○	○	○	○	○	○						86	90	92	49.0	69.3	84.9	98.0	120	155	183	219	310	850	6.6	—		
1500	○	○	○	○	○	○						86	90	92	61.2	86.6	106	122	150	194	229	274	387	950	7.2	—		
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	140	0.3	150	
	04								●	●	○	○	67	80	90	—	0.23	0.28	0.33	0.40	0.52	0.61	0.73	1.03	140	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	140	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	140	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	140	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	140	0.8	50	
	30	○	○						○	○																		

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 <sup>3</sup>							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
		S303					PP/PVDF		Metal		CER-TIIM																			
		R1/8	R1/4	R3/8	R1/2	R3/4	R1	R1/8	R1/4	R1/8	R1/4	R1/8	R1/4																	
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	190	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	190	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	190	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	190	0.7	50		
	20	●	●							●	●	○	○	55	65	72	0.82	1.15	1.41	1.63	2.00	2.58	3.06	3.65	5.16	310	0.8	50		
	30	○	○							○	○	○	○	56	65	72	1.23	1.73	2.12	2.45	3.00	3.88	4.58	5.48	7.75	310	1.1	-		
	40	○	○							○	○	○	○	56	65	71	1.63	2.31	2.83	3.27	4.00	5.16	6.11	7.30	10.3	310	1.3	-		
	50	○	○							○	○	○	○	57	65	71	2.04	2.89	3.54	4.08	5.00	6.46	7.64	9.13	12.9	310	1.5	-		
	60	○	○							○	○	○	○	57	65	71	2.45	3.46	4.24	4.90	6.00	7.75	9.17	11.0	15.5	310	1.6	-		
	80	○	○							○	○	○	○	58	65	71	3.27	4.62	5.66	6.53	8.00	10.3	12.2	14.6	20.6	310	1.8	-		
	100	○	○							○	○	○	○	58	65	70	4.08	5.77	7.07	8.17	10.0	12.9	15.3	18.3	25.8	310	2.1	-		
	120	○	○							○	○	○	○	58	65	70	4.90	6.93	8.49	9.80	12.0	15.5	18.3	21.9	31.0	310	2.3	-		
	140	○	○							○	○	○	○	59	65	69	5.72	8.08	9.90	11.4	14.0	18.1	21.4	25.6	36.1	310	2.5	-		
	170	○	○							○	○	○	○	59	65	69	6.94	9.82	12.0	13.9	17.0	22.0	26.0	31.1	43.9	310	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	650	4.7	-			
500	○	○							○	○	○	○	61	65	67	20.4	28.9	35.4	40.8	50.0	64.6	76.4	91.3	129	650	5.4	-			
600	○	○							○	○	○	○	61	65	67	24.5	34.6	42.4	49.0	60.0	77.5	91.7	110	155	650	5.7	-			
800	○	○							○	○	○	○	62	65	67	32.7	46.2	56.6	65.3	80.0	103	122	146	206	650	6.5	-			
1000	○	○							○	○	○	○	62	65	66	40.8	57.7	70.7	81.7	100	129	153	183	258	650	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	190	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	210	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	210	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	210	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	210	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	340	1.4	-		
	50	○	○							○	○	○	○	43	50	55	2.04	2.89	3.54	4.08	5.00	6.46	7.64	9.13	12.9	340	1.6	-		
	60	○	○							○	○	○	○	43	50	55	2.45	3.46	4.24	4.90	6.00	7.75	9.17	11.0	15.5	340	1.7	-		
	80	○	○							○	○	○	○	43	50	55	3.27	4.62	5.66	6.53	8.00	10.3	12.2	14.6	20.6	340	2.1	-		
	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	○	○							○	○	○	○	45	50	53	8.16	11.5	14.1	16.3	20.0	25.8	30.6	36.5	51.6	640	3.3	-		
	300	○	○							○	○	○	○	45	50	53	12.2	17.3	21.2	24.5	30.0	38.7	45.8	54.8	77.5	640	4.2	-		
	400	○	○							○	○	○	○	46	50	52	16.3	23.1	28.3	32.7	40.0	51.6	61.1	73.0	103	640	5.0	-		
	500	○	○							○	○	○	○	46	50	52	20.4	28.9	35.4	40.8	50.0	64.6	76.4	91.3	129	640	5.6	-		
	600	○	○							○	○	○	○	47	50	52	24.5	34.6	42.4	49.0	60.0	77.5	91.7	110	155	750	6.1	-		
800	○	○							○	○	○	○	47	50	51	32.7	46.2	56.6	65.3	80.0	103	122	146	206	750	7.1	-			
1000	○	○							○	○	○	○	47	50	51	40.8	57.7	70.7	81.7	100	129	153	183	258	1,000	7.9	-			
1500	○	○							○	○	○	○	48	50	51	61.2	86.6	106	122	150	194	229	274	387	1,100	9.7	-			
40	05	●	●											30	40	48	-	0.29	0.35	0.41	0.50	0.65	0.76	0.91	1.29	230	0.4	150		
	07	●	●											30	40	48	-	0.40	0.49	0.57	0.70	0.90	1.07	1.28	1.81	230	0.6	100		
	10	○	○											31	40	47	0.41	0.58	0.71	0.82	1.00	1.29	1.53	1.83	2.58	230	0.7	50		
	20	○	○											32	40	46	0.82	1.15	1.41	1.63	2.00	2.58	3.06	3.65	5.16	380	1.0	-		
	30	○	○											33	40	46	1.23	1.73	2.12	2.45	3.00	3.88	4.58	5.48	7.75	380	1.3	-		
	40	○	○											33	40	45	1.63	2.31	2.83	3.27	4.00	5.16	6.11	7.30	10.3	380	1.5	-		
	80	○	○											34	40	44	3.27	4.62	5.66	6.53	8.00	10.3	12.2	14.6	20.6	380	2.2	-		
	120	○	○											35	40	44	4.90	6.93	8.49	9.80	12.0	15.5	18.3	21.9	31.0	380	2.8	-		
	200	○	○											35	40	43	8.16	11.5	14.1	16.3	20.0	25.8	30.6	36.5	51.6	710	3.5	-		
	300	○	○											36	40	42	12.2	17.3	21.2	24.5	30.0	38.7	45.8	54.8	77.5	800	4.5	-		
	400	○	○											36	40	42	16.3	23.1	28.3	32.7	40.0	51.6	61.1	73.0	103	800	5.3	-		
	500	○	○											37	40	42	20.4	28.9	35.4	40.8	50.0	64.6	76.4	91.3	129	850	5.8	-		
600	○	○											37	40	42	24.5	34.6	42.4	49.0	60.0	77.5	91.7	110	155	850	6.6	-			
800	○	○																												

## VVP (S316L-IN) SERIES

Precision-manufactured stainless steel VVP nozzle with low flow rate.

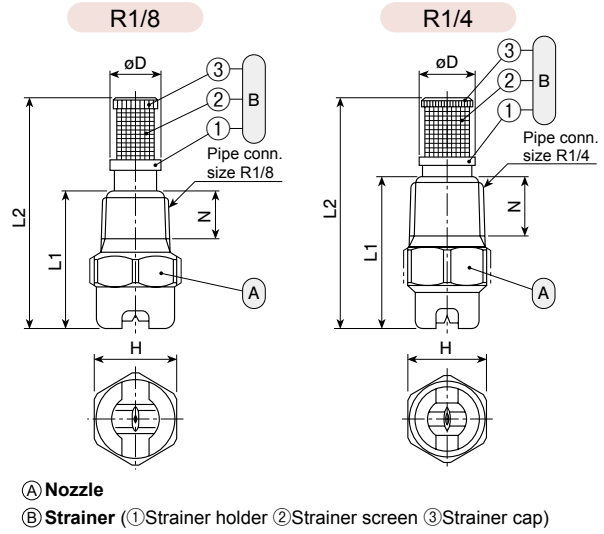
Structure	<ul style="list-style-type: none"> <li>Made of metal.</li> <li>Available with or without a strainer.</li> </ul>
Material	<ul style="list-style-type: none"> <li>S316L equivalent</li> <li>Strainer: S303 or S316</li> </ul>

Pipe conn. size	Dimensions (mm)					Weight <sup>2</sup> (g)
	L1	L2	H	øD	N	
R1/8	20	33.5	12	7.5	7	9.6
R1/4	27	41	14	10	10.5	16

\*2) With strainer, add 2g for R1/8 and 5g for R1/4 to the above weight.

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

### DRAWING



## VVP (S316L-IN) Series, precision stainless steel nozzle with low flow rate

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
		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			
115	03	●	●	101	115	124	-	-	0.21	0.24	0.30	0.39	0.46	0.55	0.77	140	0.2	200
	04	●	●	102	115	124	-	-	0.28	0.33	0.40	0.52	0.61	0.73	1.03	0.2	200	
	05	●	●	102	115	124	-	0.29	0.35	0.41	0.50	0.65	0.76	0.91	1.29	0.3	150	
	07	●	●	103	115	124	-	0.40	0.49	0.57	0.70	0.90	1.07	1.28	1.81	0.3	150	
	10	●	●	103	115	124	0.41	0.58	0.71	0.82	1.00	1.29	1.53	1.83	2.58	270	0.4	150
90	03	●	●	76	90	100	-	-	0.21	0.24	0.30	0.39	0.46	0.55	0.77	150	0.2	200
	04	●	●	77	90	100	-	-	0.28	0.33	0.40	0.52	0.61	0.73	1.03	0.3	150	
	05	●	●	77	90	100	-	0.29	0.35	0.41	0.50	0.65	0.76	0.91	1.29	0.3	150	
	07	●	●	78	90	100	-	0.40	0.49	0.57	0.70	0.90	1.07	1.28	1.81	0.4	150	
	10	●	●	78	90	99	0.41	0.58	0.71	0.82	1.00	1.29	1.53	1.83	2.58	280	0.5	100
80	07	●	●	68	80	89	-	0.40	0.49	0.57	0.70	0.90	1.07	1.28	1.81	180	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	290	0.5	100
65	03	●	●	52	65	75	-	-	0.21	0.24	0.30	0.39	0.46	0.55	0.77	160	0.3	150
	04	●	●	52	65	75	-	-	0.28	0.33	0.40	0.52	0.61	0.73	1.03	0.3	150	
	05	●	●	52	65	74	-	0.29	0.35	0.41	0.50	0.65	0.76	0.91	1.29	0.4	150	
	07	●	●	53	65	74	-	0.40	0.49	0.57	0.70	0.90	1.07	1.28	1.81	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	310	0.6	100
50	03	●	●	37	50	63	-	-	0.21	0.24	0.30	0.39	0.46	0.55	0.77	180	0.3	150

●: Available with or without strainer

### HOW TO ORDER

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

VVP

VP

Example: 1/4M VVP 11515 S303W

1/4M	VVP	115	15	S303	W
Pipe conn. size <sup>4</sup>	Series	Spray angle code	Spray capacity code	Material <sup>5</sup>	Strainer
1/8M ∫ 1M	VVP VP	115 ∫ 15	02 ∫ 1500	S303 B TPVDF PVDF PP-IN	W (with strainer) (Blank indicates "without strainer")

The VVP series with thread size R1/2 and larger are made-to-order.

### VVP (S316L-IN)

Example: 1/4M VVP 6507 S316L-IN + WS303

1/4M	VVP	65	07	S316L-IN+	W	S303
Pipe conn. size <sup>4</sup>	Series	Spray angle code	Spray capacity code	Nozzle material	Strainer	Strainer material
1/8M ∫ 1/4M	VVP VP	115 ∫ 50	03 04 ∫ 05 07 10	S316L-IN+	W (with strainer) (Blank indicates "without strainer")	S303 S316

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

\*5) TPVDF and B are only for the VP series. PVDF and PP-IN are only for the VVP series.