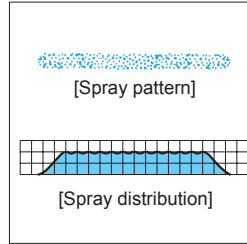


Even Flat Spray Nozzles

VEP/VE

Flat Spray



- Flat spray pattern with uniform distribution across the 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 stone, earth and sand, metal parts, machines, steel plates, steel pieces, wires
 Spraying: Etchants, oils, lubricants, liquids, solutions, insecticides, herbicides
 Cooling: Gas, heat exchangers, tanks, steel, roofs
 Water screen: Fire protection, heat protection, dust suppression, deodorization

VEP SERIES (one-piece structure)

| | |
|-----------|---|
| Structure | <ul style="list-style-type: none"> • One-piece structure with a ceramic orifice insert. • Small spray capacity VEP nozzles made of metal come with or without a strainer. • CERTIIM is a one-piece plastic nozzle molded around a ceramic orifice. |
| Material | <ul style="list-style-type: none"> • Nozzle orifice: ceramic • Metal parts: S303 or B (brass) • CERTIIM's plastic body: PVDF <p>SPECIAL ORDER MATERIAL: S316 or others</p> |

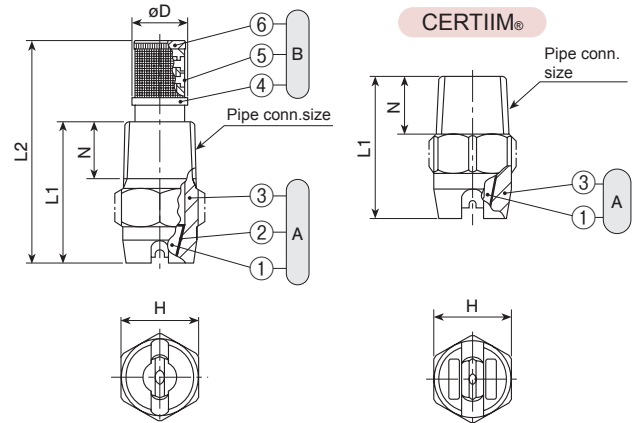
| Pipe conn. size | Dimensions (mm) | | | | | Weight (g) | | |
|-----------------|-----------------|----|----|-----|------|--------------------|-----------------|---------|
| | L1 | L2 | H | øD | N | S303 ^{*1} | B ^{*1} | CERTIIM |
| R1/8 | 16.5 | 30 | 12 | 7.5 | 6.5 | 8 | 9 | — |
| R1/4 | 26 | 40 | 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) With strainer, add 2g for R1/8 and 5g for R1/4 to the above weight. No strainers for CERTIIM (VEP-TPVDF).

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

DRAWING

Unit: mm



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

VE SERIES (three-piece structure)

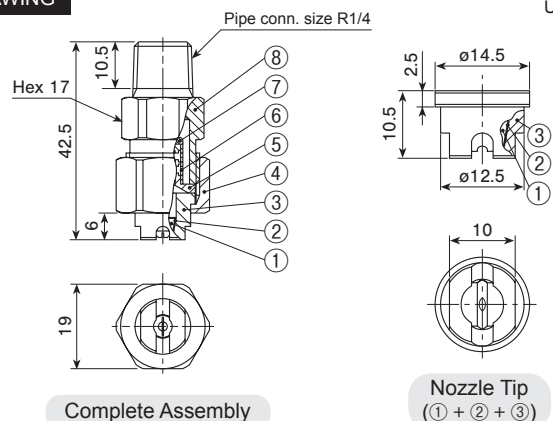
| | |
|-----------|---|
| Structure | <ul style="list-style-type: none"> • Three-piece structure with a ceramic orifice insert. • Includes three parts: Nozzle tip, cap, and adaptor. • Worn-out nozzle tips can be replaced separately. • Small spray capacity models come with or without a strainer. |
| Material | <ul style="list-style-type: none"> • Nozzle orifice: ceramic • Tip retainer: S303 • Cap, Adaptor, and Strainer: S303 <p>SPECIAL ORDER MATERIAL: S316 or others</p> |
| Weight | <ul style="list-style-type: none"> • Complete assembly^{*2}: 43 g • Nozzle tip: 6.5 g |

*2) With strainer, add 5g to the above weight and 2 mm to the total length.

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

DRAWING

Unit: mm



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

Even Flat Spray Nozzles
VEP/VE 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 | | | | | | | | |
|------------------|---------------------|----------------------|------|------|------|---------|------|------|-----------------|---------|---------|------------------------|---------|----------|---------|---------|---------|---------|-------|----------------------|----------------------|--------------------|-------|--------------------|--------------------|-----|------|-----|-----|-----|
| | | VEP | | | | | | | 0.15 MPa | 0.3 MPa | 0.7 MPa | VE | | | | | | | | | | | | | | | | | | |
| | | Metal | | | | CERTIIM | | | | | | 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 ³ | 5 MPa ³ | | | | | |
| | | R1/8 | R1/4 | R3/8 | R1/2 | R1/8 | R1/4 | R1/4 | | | | | | | | | | | | | | | | | | | | | | |
| 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 |
| | 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 |
| | 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 |
| | 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 | ● | ● | | | | | | | ○ | 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 | ● | ● | | | | | | | ○ | 56 | 65 | 74 | 0.41 | 0.58 | 0.71 | 0.82 | 1.00 | 1.29 | 1.53 | 1.83 | 2.58 | 3.16 | | | | 4.08 | | | 0.5 |
| | 15 | ● | ● | | | | | | | ○ | 56 | 65 | 74 | 0.61 | 0.87 | 1.06 | 1.23 | 1.50 | 1.94 | 2.29 | 2.74 | 3.87 | 4.74 | | | | 6.12 | } | 0.5 | 100 |
| | 19 | | ● | | | | | | | ○ | 57 | 65 | 73 | 0.78 | 1.10 | 1.34 | 1.55 | 1.90 | 2.45 | 2.90 | 3.47 | 4.91 | 6.00 | | | | 7.76 | | 270 | 0.8 |
| | 23 | | ○ | | | | | | | ○ | 57 | 65 | 73 | 0.94 | 1.33 | 1.63 | 1.88 | 2.30 | 2.97 | 3.51 | 4.20 | 5.94 | 7.27 | | | | 9.39 | | 0.9 | 50 |
| | 31 | | ○ | | | | | | | ○ | 57 | 65 | 73 | 1.26 | 1.79 | 2.19 | 2.53 | 3.10 | 4.00 | 4.74 | 5.66 | 8.00 | 9.80 | | | | 12.7 | | 1.1 | — |
| | 36 | | ○ | | | | | | | ○ | 57 | 65 | 73 | 1.47 | 2.08 | 2.55 | 2.94 | 3.60 | 4.65 | | | | | | | | | | | |

| 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 | | | |
|------------------|---------------------|----------------------|------|------|----------|------|----------|---------|-----------------|----------|---------|------------------------|---------|----------|---------|---------|---------|---------|--------------------|----------------------|----------------------|--------------------|-------|--------------------|--------------------|
| | | VEP | | | | | | VE | 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 ³ | 5 MPa ³ |
| | | Metal | | | CER-TIIM | | | | | | | | | | | | | | | | | | | | |
| R1/8 | R1/4 | R3/8 | R1/2 | R1/8 | R1/4 | 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 ³ | 5 MPa ³ | | | | | |
| 50 | 19 | ● | | | | | 43 | 50 | 56 | 0.78 | 1.10 | 1.34 | 1.55 | 1.90 | 2.45 | 2.90 | 3.47 | 4.91 | 6.00 | 7.76 | 300 | 0.9 | 50 | | |
| | 31 | ○ | | | | | 43 | 50 | 55 | 1.26 | 1.79 | 2.19 | 2.53 | 3.10 | 4.00 | 4.74 | 5.66 | 8.00 | 9.80 | 12.7 | | 1.2 | — | | |
| | 39 | ○ | | | | | 43 | 50 | 55 | 1.59 | 2.25 | 2.76 | 3.18 | 3.90 | 5.03 | 5.96 | 7.12 | 10.1 | 12.3 | 15.9 | | 1.4 | — | | |
| | 59 | ○ | | | | | 43 | 50 | 55 | 2.40 | 3.41 | 4.17 | 4.82 | 5.90 | 7.62 | 9.01 | 10.8 | 15.2 | 18.6 | 24.1 | | 1.5 | — | | |
| | 78 | ○ | | | | | 43 | 50 | 55 | 3.18 | 4.50 | 5.52 | 6.37 | 7.80 | 10.1 | 11.9 | 14.2 | 20.1 | 24.7 | 31.8 | | 2.0 | — | | |
| | 117 | ○ | | | | | 43 | 50 | 54 | 4.78 | 6.75 | 8.27 | 9.55 | 11.7 | 15.1 | 17.8 | 21.4 | 30.2 | 37.0 | 47.8 | | 2.4 | — | | |
| | 157 | ○ | | | | | 43 | 50 | 54 | 6.41 | 9.06 | 11.1 | 12.8 | 15.7 | 20.3 | 24.0 | 28.0 | 40.5 | 49.6 | 64.1 | | 2.9 | — | | |
| | 196 | ○ | | ○ | | | 43 | 50 | 53 | 8.00 | 11.3 | 13.9 | 16.0 | 19.6 | 25.3 | 30.0 | 35.8 | 50.6 | 62.0 | 80.0 | 570 | 3.3 | — | | |
| | 235 | ○ | | ○ | | | 43 | 50 | 53 | 9.54 | 13.6 | 16.6 | 19.2 | 23.5 | 30.3 | 35.9 | 42.9 | 60.7 | 74.3 | 95.9 | | 3.7 | — | | |
| | 274 | ○ | | ○ | | | 43 | 50 | 53 | 11.2 | 15.8 | 19.4 | 22.4 | 27.4 | 35.4 | 41.9 | 50.0 | 70.7 | 86.6 | 112 | | 4.0 | — | | |
| | 314 | ○ | | | ○ | | 44 | 50 | 52 | 12.8 | 18.1 | 22.2 | 25.6 | 31.4 | 40.5 | 48.0 | 57.3 | 81.1 | 99.3 | 128 | 650 | 4.4 | — | | |
| | 392 | ○ | | | ○ | | 44 | 50 | 52 | 16.0 | 22.6 | 27.7 | 32.0 | 39.2 | 50.6 | 60.0 | 71.6 | 101 | 124 | 160 | | 4.7 | — | | |
| 469 | ○ | | | ○ | | 44 | 50 | 52 | 19.1 | 27.0 | 33.2 | 38.4 | 46.9 | 60.7 | 71.8 | 85.6 | 121 | 149 | 192 | 850 | 5.0 | — | | | |
| 40 | 23 | ○ | | | | | 31 | 40 | 46 | 0.94 | 1.33 | 1.63 | 1.88 | 2.30 | 2.97 | 3.51 | 4.20 | 5.94 | 7.27 | 9.39 | 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 | 11.4 | 14.6 | | 1.4 | — | | |
| | 59 | ○ | | | | | 32 | 40 | 45 | 2.40 | 3.41 | 4.17 | 4.82 | 5.90 | 7.62 | 9.01 | 10.8 | 15.2 | 18.6 | 24.1 | | 1.8 | — | | |
| | 78 | ○ | | | | | 33 | 40 | 45 | 3.18 | 4.50 | 5.52 | 6.37 | 7.80 | 10.1 | 11.9 | 14.2 | 20.1 | 24.7 | 31.8 | | 2.1 | — | | |
| | 117 | ○ | | | | | 33 | 40 | 44 | 4.78 | 6.75 | 8.27 | 9.55 | 11.7 | 15.1 | 17.8 | 21.4 | 30.2 | 37.0 | 47.8 | | 2.6 | — | | |
| | 157 | ○ | | | | | 33 | 40 | 44 | 6.41 | 9.06 | 11.1 | 12.8 | 15.7 | 20.3 | 24.0 | 28.0 | 40.5 | 49.6 | 64.1 | | 3.0 | — | | |
| | 196 | ○ | | ○ | | | 33 | 40 | 43 | 8.00 | 11.3 | 13.9 | 16.0 | 19.6 | 25.3 | 30.0 | 35.8 | 50.6 | 62.0 | 80.0 | 630 | 3.6 | — | | |
| | 235 | ○ | | ○ | | | 33 | 40 | 43 | 9.54 | 13.6 | 16.6 | 19.2 | 23.5 | 30.3 | 35.9 | 42.9 | 60.7 | 74.3 | 95.9 | | 3.7 | — | | |
| | 274 | ○ | | ○ | | | 33 | 40 | 43 | 11.2 | 15.8 | 19.4 | 22.4 | 27.4 | 35.4 | 41.9 | 50.0 | 70.7 | 86.6 | 112 | | 4.1 | — | | |
| | 314 | ○ | | | ○ | | 33 | 40 | 43 | 12.8 | 18.1 | 22.2 | 25.6 | 31.4 | 40.5 | 48.0 | 57.3 | 81.1 | 99.3 | 128 | 720 | 4.3 | — | | |
| | 392 | ○ | | | ○ | | 33 | 40 | 43 | 16.0 | 22.6 | 27.7 | 32.0 | 39.2 | 50.6 | 60.0 | 71.6 | 101 | 124 | 160 | | 4.8 | — | | |
| | 469 | ○ | | | ○ | | 34 | 40 | 43 | 19.1 | 27.0 | 33.2 | 38.4 | 46.9 | 60.7 | 71.8 | 85.6 | 121 | 149 | 192 | 900 | 5.5 | — | | |
| 25 | 19 | ○ | | | | | 18 | 25 | 32 | 0.78 | 1.10 | 1.34 | 1.55 | 1.90 | 2.45 | 2.90 | 3.47 | 4.91 | 6.00 | 7.76 | 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 | 9.80 | 12.7 | | 1.4 | — | | |
| | 39 | ○ | | | | | 20 | 25 | 32 | 1.59 | 2.25 | 2.76 | 3.18 | 3.90 | 5.03 | 5.96 | 7.12 | 10.1 | 12.3 | 15.9 | | 1.5 | — | | |
| | 59 | ○ | | | | | 21 | 25 | 32 | 2.40 | 3.41 | 4.17 | 4.82 | 5.90 | 7.62 | 9.01 | 10.8 | 15.2 | 18.6 | 24.1 | | 1.9 | — | | |
| | 78 | ○ | | | | | 21 | 25 | 32 | 3.18 | 4.50 | 5.52 | 6.37 | 7.80 | 10.1 | 11.9 | 14.2 | 20.1 | 24.7 | 31.8 | | 2.3 | — | | |
| | 117 | ○ | | | | | 21 | 25 | 32 | 4.78 | 6.75 | 8.27 | 9.55 | 11.7 | 15.1 | 17.8 | 21.4 | 30.2 | 37.0 | 47.8 | | 2.7 | — | | |
| | 157 | ○ | | | | | 21 | 25 | 32 | 6.41 | 9.06 | 11.1 | 12.8 | 15.7 | 20.3 | 24.0 | 28.0 | 40.5 | 49.6 | 64.1 | | 3.4 | — | | |
| | 196 | ○ | | ○ | | | 21 | 25 | 32 | 8.00 | 11.3 | 13.9 | 16.0 | 19.6 | 25.3 | 30.0 | 35.8 | 50.6 | 62.0 | 80.0 | 730 | 3.7 | — | | |
| | 235 | ○ | | ○ | | | 21 | 25 | 31 | 9.54 | 13.6 | 16.6 | 19.2 | 23.5 | 30.3 | 35.9 | 42.9 | 60.7 | 74.3 | 95.9 | | 4.0 | — | | |
| | 274 | ○ | | ○ | | | 21 | 25 | 31 | 11.2 | 15.8 | 19.4 | 22.4 | 27.4 | 35.4 | 41.9 | 50.0 | 70.7 | 86.6 | 112 | | 4.5 | — | | |
| | 314 | ○ | | | ○ | | 21 | 25 | 31 | 12.8 | 18.1 | 22.2 | 25.6 | 31.4 | 40.5 | 48.0 | 57.3 | 81.1 | 99.3 | 128 | 800 | 4.8 | — | | |
| | 392 | ○ | | | ○ | | 21 | 25 | 31 | 16.0 | 22.6 | 27.7 | 32.0 | 39.2 | 50.6 | 60.0 | 71.6 | 101 | 124 | 160 | | 5.1 | — | | |
| 469 | ○ | | | ○ | | 21 | 25 | 31 | 19.1 | 27.0 | 33.2 | 38.4 | 46.9 | 60.7 | 71.8 | 85.6 | 121 | 149 | 192 | 1,050 | 5.5 | — | | | |
| 15 | 23 | ○ | | | | | 10 | 15 | 19 | 0.94 | 1.33 | 1.63 | 1.88 | 2.30 | 2.97 | 3.51 | 4.20 | 5.94 | 7.27 | 9.39 | 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 | 11.4 | 14.6 | | 1.6 | — | | |
| | 59 | ○ | | | | | 10 | 15 | 19 | 2.40 | 3.41 | 4.17 | 4.82 | 5.90 | 7.62 | 9.01 | 10.8 | 15.2 | 18.6 | 24.1 | | 2.0 | — | | |
| | 78 | ○ | | | | | 10 | 15 | 19 | 3.18 | 4.50 | 5.52 | 6.37 | 7.80 | 10.1 | 11.9 | 14.2 | 20.1 | 24.7 | 31.8 | | 2.4 | — | | |
| | 117 | ○ | | | | | 10 | 15 | 19 | 4.78 | 6.75 | 8.27 | 9.55 | 11.7 | 15.1 | 17.8 | 21.4 | 30.2 | 37.0 | 47.8 | | 3.0 | — | | |
| | 157 | ○ | | | | | 12 | 15 | 19 | 6.41 | 9.06 | 11.1 | 12.8 | 15.7 | 20.3 | 24.0 | 28.0 | 40.5 | 49.6 | 64.1 | | 3.5 | — | | |
| | 196 | ○ | | ○ | | | 13 | 15 | 19 | 8.00 | 11.3 | 13.9 | 16.0 | 19.6 | 25.3 | 30.0 | 35.8 | 50.6 | 62.0 | 80.0 | 850 | 3.8 | — | | |
| | 235 | ○ | | ○ | | | 13 | 15 | 19 | 9.54 | 13.6 | 16.6 | 19.2 | 23.5 | 30.3 | 35.9 | 42.9 | 60.7 | 74.3 | 95.9 | | 4.3 | — | | |
| | 274 | ○ | | ○ | | | 13 | 15 | 19 | 11.2 | 15.8 | 19.4 | 22.4 | 27.4 | 35.4 | 41.9 | 50.0 | 70.7 | 86.6 | 112 | | 4.7 | — | | |
| | 314 | ○ | | | ○ | | 13 | 15 | 19 | 12.8 | 18.1 | 22.2 | 25.6 | 31.4 | 40.5 | 48.0 | 57.3 | 81.1 | 99.3 | 128 | 950 | 5.2 | — | | |
| | 392 | ○ | | | ○ | | 13 | 15 | 19 | 16.0 | 22.6 | 27.7 | 32.0 | 39.2 | 50.6 | 60.0 | 71.6 | 101 | 124 | 160 | | 5.4 | — | | |
| | 469 | ○ | | | ○ | | 13 | 15 | 18 | 19.1 | 27.0 | 33.2 | 38.4 | 46.9 | 60.7 | 71.8 | 85.6 | 121 | 149 | 192 | 1,250 | 5.8 | — | | |

●: Available with or without strainer ○: Only available without strainer *3) Use CERTIIM (VEP-TPVDF) only at pressures below 2.0 MPa.

HOW TO ORDER VEP SERIES

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

Example: 1/4M VEP 11519 S303W

| | | | | | |
|-------------------------------|------------------|-----------------------------------|------------------------|--------------------------------------|----------|
| 1/4M | VEP | 115 | 19 | S303 | W |
| Pipe conn. size ⁷⁾ | Spray angle code | Spray capacity code ⁴⁾ | Material ⁵⁾ | Strainer ⁶⁾ | |
| 1/8M | 115 | 03 | S303 | W (with strainer) | |
| 1/4M | 5 | 5 | B | (Blank indicates "without strainer") | |
| 3/8M | 15 | 469 | TPVDF | | |
| 1/2M | | | | | |

*4) When spray capacity code is 03, 04, or 05, "AL99-" is indicated before the material code.

Example: 1/4M VEP 9003 AL99-S303W

*5) Brass body is available only in sizes R1/8 and R1/4.

*6) No strainers for VEP-TPVDF.

HOW TO ORDER VE SERIES

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

① Complete Assembly

Example: 1/4M VE 11519 S303W

| | | | | | |
|-------------------------------|------------------|-----------------------------------|-----------|--------------------------------------|----------|
| 1/4M | VE | 115 | 19 | S303 | W |
| Pipe conn. size ⁷⁾ | Spray angle code | Spray capacity code ⁴⁾ | Material | Strainer | |
| | 115 | 03 | | W (with strainer) | |
| | 5 | 5 | | (Blank indicates "without strainer") | |
| | 15 | 157 | | | |