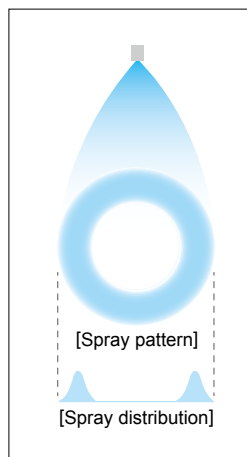


# Low Flow Rate Hollow Cone Spray Nozzles

Made-to-Order

**KD**



- Low flow rate hollow cone spray nozzle in a three-piece structure.
- Combines compact design and semi-fine atomization capability.
- The whirl chamber is made up of a ceramic orifice and whirler, providing excellent wear resistance.

## [STANDARD PRESSURE]

0.3 MPa

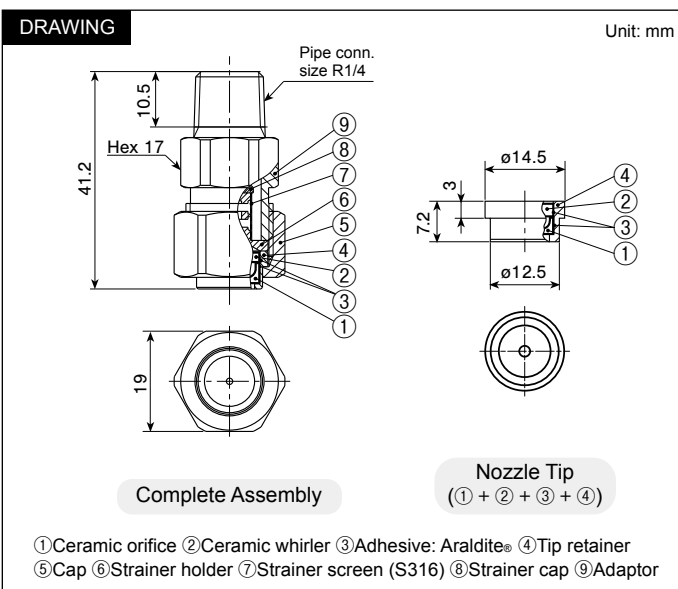
## [APPLICATIONS]

Cooling: Gas  
Spraying: Chemicals, dust suppression

Hollow Cone

|           |                                                                                                                                                                                                                                                                                                                 |
|-----------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Structure | <ul style="list-style-type: none"> <li>• Nozzle orifice and whirler are made of ceramic.</li> <li>• Includes three parts: Nozzle tip, cap, and adaptor. Worn-out nozzle tips can be replaced separately.</li> <li>• Small spray capacity models (KD03, 033 and 042) come with or without a strainer.</li> </ul> |
| Material  | <ul style="list-style-type: none"> <li>• Nozzle orifice and whirler: ceramic</li> <li>• Metal parts: S303</li> </ul> <p>SPECIAL ORDER MATERIAL: S316 or others</p>                                                                                                                                              |
| Weight    | <ul style="list-style-type: none"> <li>• Complete assembly*1: 46 g</li> <li>• Nozzle tip: 3 g</li> </ul>                                                                                                                                                                                                        |

\*1) With strainer, add 5 g to the above weight and 2 mm to the total length.



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

| Spray capacity code | Pipe conn. size | Spray angle (°) |         |         | Spray capacity (L/min) |          |         |         |         |         |       |         |       | Mean droplet diameter (μm) | Free passage diameter (mm) |
|---------------------|-----------------|-----------------|---------|---------|------------------------|----------|---------|---------|---------|---------|-------|---------|-------|----------------------------|----------------------------|
|                     | R1/4            | 0.15 MPa        | 0.3 MPa | 0.7 MPa | 0.1 MPa                | 0.15 MPa | 0.2 MPa | 0.3 MPa | 0.5 MPa | 0.7 MPa | 1 MPa | 1.5 MPa | 2 MPa |                            |                            |
| 03                  | ●               | —               | 80      | 85      | —                      | —        | 0.25    | 0.30    | 0.38    | 0.44    | 0.52  | 0.63    | 0.72  | 130                        | 0.7                        |
| 033                 | ●               | —               | 80      | 88      | —                      | —        | 0.27    | 0.33    | 0.42    | 0.49    | 0.58  | 0.69    | 0.79  | —                          | 0.7                        |
| 037                 | ○               | —               | 70      | 75      | —                      | —        | 0.31    | 0.37    | 0.47    | 0.55    | 0.64  | 0.77    | 0.88  | —                          | 1.0                        |
| 042                 | ●               | 90              | 93      | 97      | —                      | 0.30     | 0.35    | 0.42    | 0.53    | 0.62    | 0.73  | 0.88    | 1.00  | —                          | 0.7                        |
| 057                 | ○               | 78              | 85      | 90      | —                      | 0.41     | 0.47    | 0.57    | 0.72    | 0.84    | 0.99  | 1.19    | 1.36  | —                          | 1.1                        |
| 068                 | ○               | 90              | 95      | 99      | —                      | 0.49     | 0.56    | 0.68    | 0.86    | 1.01    | 1.18  | 1.42    | 1.62  | 200                        | 1.1                        |
| 084                 | ○               | 90              | 95      | 103     | 0.50                   | 0.61     | 0.70    | 0.84    | 1.05    | 1.21    | 1.42  | 1.69    | 1.92  | —                          | 1.1                        |
| 116                 | ○               | 66              | 70      | 72      | 0.70                   | 0.84     | 0.96    | 1.16    | 1.45    | 1.68    | 1.96  | 2.34    | 2.65  | 260                        | 1.3                        |
| 146                 | ○               | 74              | 78      | 80      | 0.88                   | 1.06     | 1.21    | 1.46    | 1.85    | 2.16    | 2.54  | 3.05    | 3.49  | 310                        | 1.8                        |
| 176                 | ○               | 71              | 73      | 75      | 1.06                   | 1.27     | 1.46    | 1.76    | 2.22    | 2.60    | 3.06  | 3.68    | 4.20  | —                          | 1.7                        |
| 182                 | ○               | 81              | 87      | 91      | 1.10                   | 1.32     | 1.51    | 1.82    | 2.30    | 2.69    | 3.17  | 3.81    | 4.34  | —                          | 1.8                        |
| 211                 | ○               | 83              | 88      | 92      | 1.27                   | 1.53     | 1.75    | 2.11    | 2.67    | 3.12    | 3.67  | 4.41    | 5.04  | —                          | 1.8                        |
| 224                 | ○               | 75              | 80      | 82      | 1.34                   | 1.62     | 1.85    | 2.24    | 2.83    | 3.31    | 3.90  | 4.69    | 5.35  | —                          | 1.7                        |
| 262                 | ○               | 75              | 80      | 83      | 1.57                   | 1.90     | 2.17    | 2.62    | 3.31    | 3.87    | 4.56  | 5.48    | 6.25  | —                          | 1.7                        |
| 316                 | ○               | 93              | 97      | 97      | 1.90                   | 2.29     | 2.62    | 3.16    | 3.99    | 4.67    | 5.50  | 6.61    | 7.54  | —                          | 1.8                        |
| 394                 | ○               | 83              | 87      | 91      | 2.36                   | 2.85     | 3.26    | 3.94    | 4.98    | 5.82    | 6.86  | 8.24    | 9.40  | 420                        | 1.7                        |

●: Available with or without strainer (mesh size #50) ○: Only available without strainer

## HOW TO ORDER

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

### ① Complete Assembly

Example: 1/4M KD 03 S303W

|                              |    |                     |          |                                      |
|------------------------------|----|---------------------|----------|--------------------------------------|
| 1/4M                         | KD | 03                  | S303     | W                                    |
| Pipe conn. size <sup>2</sup> |    | Spray capacity code | Material | Strainer                             |
|                              |    | 03                  |          | W (with strainer)                    |
|                              |    | 394                 |          | (Blank indicates "without strainer") |

### ② Nozzle Tip Only

Example: 1/4 KD 03 S303

|     |    |                     |          |
|-----|----|---------------------|----------|
| 1/4 | KD | 03                  | S303     |
|     |    | Spray capacity code | Material |
|     |    | 03                  |          |
|     |    | 394                 |          |

\*2) "M" indicates male thread ("R" of the ISO standard), e.g. 1/4M = R1/4.

This nozzle series is made-to-order.