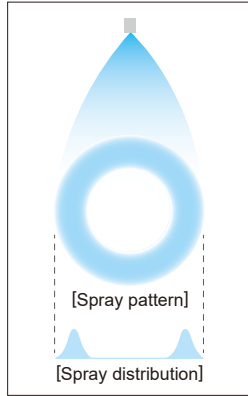


# Extremely Fine Fog and Ultra-Low Flow Rate Hollow Cone Spray Nozzles

**KB**

Hollow Cone



- Ultra-low flow rate hollow cone spray nozzle with the finest atomization among our hydraulic nozzles.
- Capable of generating an extremely fine spray.
- The whirl chamber is formed by a ceramic orifice and closer,\*1 providing excellent wear resistance.

**[STANDARD PRESSURE]**

0.7 MPa

**[APPLICATIONS]**

- Humidifying: Air handling units, greenhouses
- Cooling: Gas, thin plates, poultry
- Spraying: Alcohol, chemicals

Structure	<ul style="list-style-type: none"> <li>• Nozzle orifice and closer are made of ceramics.*1</li> <li>• Male parallel pipe thread (G1/4B).</li> <li>• All models include a built-in strainer.</li> <li>• It can accommodate an optional check valve.</li> </ul>
Material	<ul style="list-style-type: none"> <li>• Nozzle orifice &amp; closer: ceramic*1</li> <li>• Metal parts: S303 or B (brass)</li> </ul>

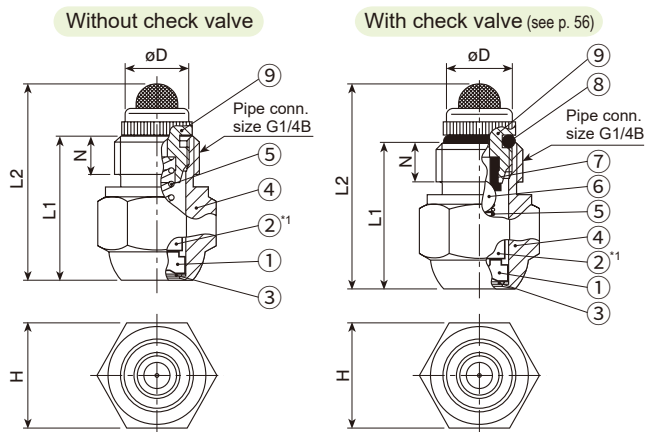
Series	Dimensions (mm)					Weight (g)	
	L1	L2	H	øD	N	S303	B
KB (w/o check valve)	22.5	31	17 (S303) 16 (B)	10.5	6	24.8	25
KB**CV (w/ check valve)	22.5	32	17 (S303) 16 (B)	10.5	6	25.3	25.5

\*1) For KB nozzles with N in the spray capacity code (page 56), the closer is made of polyester elastomer instead of ceramic.

[Note]

1. Appearance and dimensions may differ slightly depending on material and nozzle code.
2. A thread conversion adaptor is required for connections with tapered pipe threads. An optional O-ring P11 is recommended for use above 0.5 MPa (page 56).

## DRAWING



- ①Orifice disc ②Closer\*1 ③Packing (PTFE) ④Nozzle body
- ⑤Spring ⑥Ball (S304) ⑦Packing (NBR) ⑧O-ring (NBR)
- ⑨Strainer (S303+S304 or B+S304 for mesh size #100, S303+S304+S316 or B+S304+S316 for mesh size #150, #200)

Spray angle code	Spray capacity code*2	Spray angle (°)			Spray capacity (L/hr) <sup>3</sup>									Mean drop. dia. (µm)	Free pass. dia. (mm)	Strainer mesh size
		0.3 MPa	0.7 MPa	2 MPa	0.3 MPa	0.4 MPa	0.5 MPa	0.6 MPa	0.7 MPa	1 MPa	1.2 MPa	1.5 MPa	2 MPa			
80	063N	65	80	80	1.36	1.55	1.72	1.86	2.00	2.35	2.56	2.83	3.22	45	0.20	200
	071	—	80	80	—	1.70	1.90	2.08	2.25	2.69	2.95	3.29	3.81			
	08	—	80	80	—	1.97	2.20	2.41	2.60	3.11	3.40	3.80	4.40	}	0.15	200
	09	—	80	80	—	2.23	2.49	2.73	2.95	3.53	3.86	4.32	4.99			
	10N	65	80	80	2.19	2.51	2.78	3.03	3.25	3.84	4.18	4.63	5.30	60	0.25	200
	125N	65	80	80	2.77	3.16	3.51	3.82	4.10	4.84	5.27	5.84	6.68			
	14	—	80	80	—	3.48	3.89	4.26	4.60	5.50	6.02	6.73	7.78	50	0.15	200
	16N	65	80	80	3.51	4.02	4.47	4.88	5.25	6.22	6.79	7.55	8.66			
	20N	65	80	80	4.41	5.06	5.62	6.13	6.60	7.82	8.53	9.49	10.9	}	0.40	150
	22N	65	80	80	4.84	5.55	6.18	6.74	7.25	8.59	9.37	10.4	12.0			
	25	70	80	80	5.40	6.24	6.97	7.64	8.25	9.87	10.8	12.1	14.0	75	0.25	150
	28	70	80	80	6.05	6.99	7.82	8.56	9.25	11.1	12.1	13.5	15.7			
	32	70	80	80	6.94	8.01	8.96	9.82	10.6	12.7	13.9	15.5	17.9	65	0.30	150
	38	70	80	80	8.25	9.52	10.7	11.7	12.6	15.1	16.5	18.4	21.3			
	45	70	80	80	9.79	11.3	12.6	13.9	15.0	17.9	19.6	21.9	25.3	}	0.40	100
	50	70	80	80	10.9	12.6	14.0	15.4	16.6	19.9	21.8	24.3	28.1			
	56	70	80	80	12.2	14.1	15.7	17.2	18.6	22.3	24.4	27.2	31.5	}	0.40	100
	63	72	80	80	13.7	15.8	17.7	19.4	21.0	25.1	27.5	30.7	35.5			
	71	72	80	80	15.5	17.8	20.0	21.9	23.6	28.2	30.9	34.6	39.9	}	0.50	100
	80	72	80	80	17.5	20.2	22.6	24.7	26.7	31.9	35.0	39.0	45.1			
90	73	80	80	19.6	22.7	25.4	27.8	30.0	35.9	39.3	43.9	50.8	110	0.50	100	
100	73	80	80	21.8	25.2	28.2	30.9	33.3	39.9	43.7	48.8	56.4				
1250	73	80	80	27.2	31.5	35.2	38.5	41.6	49.8	54.5	60.9	70.4	}	0.50	100	
180	74	80	80	39.2	45.3	50.6	55.5	59.9	71.6	78.5	87.6	101				
200	74	80	80	43.6	50.4	56.3	61.7	66.6	79.7	87.3	97.5	113	}	0.60	100	
320	75	80	80	69.7	80.5	90.0	98.6	107	127	140	156	180				
60	063	—	60	60	—	1.51	1.69	1.85	2.00	2.39	2.62	2.93	3.38	45	0.15	200
	14	—	60	60	—	3.48	3.89	4.26	4.60	5.50	6.02	6.73	7.78			
	32	—	60	60	—	8.01	8.96	9.82	10.6	12.7	13.9	15.5	17.9	}	0.30	150
	56	50	60	60	12.2	14.1	15.7	17.2	18.6	22.3	24.4	27.2	31.5			
	140	53	60	60	30.5	35.2	39.4	43.2	46.6	55.7	61.0	68.2	78.8	130	0.50	100
	280	54	60	60	61.0	70.5	78.8	86.4	93.2	112	122	136	158			

\*2) The KB series nozzles with "N" in the spray capacity code can be used at pressures of 0.2 to 10 MPa. See the next page for more features and information.

\*3) The values above are for the KB series without the check valve. For spray capacity with the check valve, please request the flow-rate diagram. The spray capacity of KB series is listed in liters per hour (L/hr), not in L/min. The spray capacity code does not correspond with the spray capacity at standard pressure.

**Features of the KB series, identified with "N" in the spray capacity code**

● **Anti-clogging design**

- It features a larger orifice diameter, about 1.3–2.6 times the size compared to the conventional KB models, making it clog-resistant.

● **Available for a wide range of pressures, from low (0.2 MPa) to high (10 MPa)**

- Capable of spraying from 0.2 MPa, for a low spray capacity.
- Also designed to withstand pressures of up to 10 MPa, making it suitable for finer atomization.<sup>4</sup>

\*4) When spraying at pressures of 2 MPa or higher, use S303 nozzles.

■ **Spray capacity (at 0.2 MPa and 3–10 MPa)**

Spray angle code	Spray capacity code	Spray capacity (L/hr)						Mean droplet dia. at 10 MPa (µm)
		0.2 MPa	3 MPa	5 MPa	6 MPa	7 MPa	10 MPa	
80	063N	1.13	3.88	4.89	5.31	5.70	6.70	33
	10N	1.82	6.40	8.11	8.83	9.48	11.2	
	125N	2.29	8.07	10.2	11.1	12.0	14.1	
	16N	2.89	10.5	13.4	14.6	15.7	18.6	
	20N	3.64	13.2	16.8	18.4	19.8	23.4	
	22N	3.99	14.5	18.5	20.2	21.7	25.7	

**Check Valve (Option)**

To prevent coarse spray at start-up and dripping after shut-off, KB series nozzles are available with an optional built-in ball check valve. The check valve operates at 0.4 MPa. The required supply pressure is the spray pressure plus the check valve pressure, with a **minimum of 0.5 MPa to ensure reliable activation** due to a ±0.1 MPa deviation. Nozzle spray angle and capacity are not guaranteed with check valves.

**HOW TO ORDER**


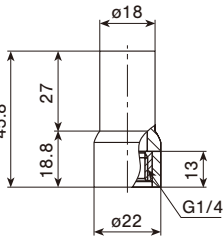

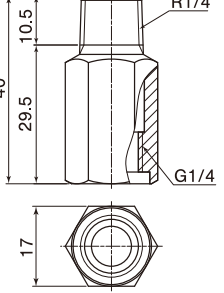

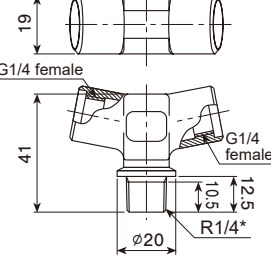
To inquire about or order a specific nozzle please refer to this coding system.

Example: 1/4M KB 80071 S303 CV-RW

1/4M KB	80	071	S303	CV	-RW
Pipe conn. size <sup>5</sup>	Spray angle code	Spray capacity code	Material	Check valve	Strainer
	80 60	063N ∅ 320	S303 B	CV (with check valve) (Blank indicates "without check valve")	

\*5) "M" indicates male parallel pipe thread ("G" of the ISO standard) in the KB series.

**Optional Accessories for KB series**

Product	Picture	Structure (unit: mm)	Features
<b>Fitting for PVC Pipe 13AKB Adaptor</b>			<ul style="list-style-type: none"> <li>● Fitting for KB series nozzle to 13A (1/2") Tee connectors.</li> <li>● Material: PVC</li> <li>● O-ring is required.</li> </ul>
<b>1/4M(R)x1/4F(G) KB Adaptor</b>	 ID #168846		<ul style="list-style-type: none"> <li>● Adaptor to convert thread connection from G1/4 to R1/4.</li> <li>● Material: S303</li> <li>● Product ID: #168846 (Requires O-ring) #1011 (Metal-to-metal seal)</li> </ul> <p>Use adaptor #168846 for pressures over 0.5 MPa. Adaptor #168846 requires an O-ring P11 (ID #44) for connection, while adaptor #1011 does not.</p>
<b>Two-Way Adaptor</b>			<ul style="list-style-type: none"> <li>● Adaptor for connecting 2 pcs. of KB series nozzles.</li> <li>● Material: chrome-plated brass</li> <li>● O-ring is required.</li> </ul> <p>*Two types of threads for pipe connection are available: male tapered thread (R1/4) or male parallel thread (G1/4).</p>