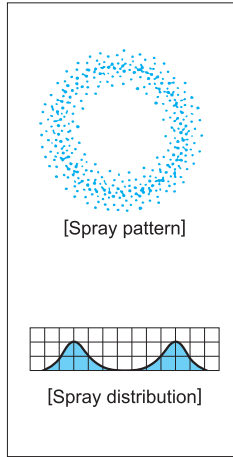


Extremely Fine Fog and Ultra-small Capacity Hollow Cone Spray Nozzles

KBN



[Features]

- Ultra-small capacity hollow cone spray nozzle with the finest atomization among hydraulic nozzles.
- Minimal clogging with free passage diameter 1.3–2.6 times bigger than that of conventional nozzles.
- High-purity alumina ceramic tip provides stable performance with longer life even under high pressure conditions.

[Standard Pressure]

1 MPa

[Applications]

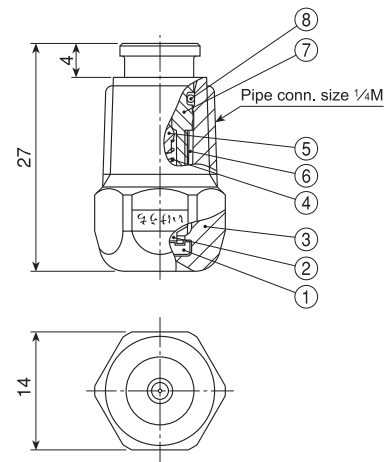
- Cooling: Poultry farms, Outside cooling
 Humidifying: Air handling units, greenhouses
 Spraying: Alcohol, disinfectant
 Others: Dust suppression, irrigation for greenhouse

Hollow Cone

KBN series

KBN series (with ceramic orifice inserted)	
Structure	<ul style="list-style-type: none"> ● One-piece structure with one-shot injection molded ceramic orifice. ● Thread is R$\frac{1}{4}$(PT$\frac{1}{4}$ male) or NPT $\frac{1}{4}$ male. ● All models equipped with strainer and check valve.
Material	<ul style="list-style-type: none"> ● Body: PA (polyamide) ● Spray orifice: ceramic ● Closer: polyester elastomer
Mass	● 4 g

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



- ①Ceramic orifice ②Closer ③Body ④Spring (S304) ⑤Poppet (NBR)
 ⑥Strainer screen (S316) ⑦Strainer holder (PP) ⑧O-ring (NBR)

Spray Angle Code	Spray Capacity Code	Spray Angle (°)				Spray Capacity (ℓ/hr)										Mean Drop. Dia. (μm)	Free Pass. Dia. (mm)	Strainer Mesh Size	Nozzle Body Color
		0.5 MPa	1 MPa	1.3 MPa	2 MPa	0.5 MPa	0.6 MPa	0.8 MPa	1 MPa	1.3 MPa	2 MPa	3.5 MPa	5 MPa	7 MPa					
80	063	50	80	80	80	1.13	1.36	1.72	2.00	2.35	2.99	4.05	4.75	5.58	35	0.2	200	Red	
	125	60	80	80	80	2.29	2.77	3.51	4.10	4.84	6.20	8.43	9.94	11.7	50	0.3	100	Green	
	22	65	80	80	80	3.99	4.84	6.18	7.25	8.59	11.1	15.0	18.0	21.3	60	0.4	100	Purple	

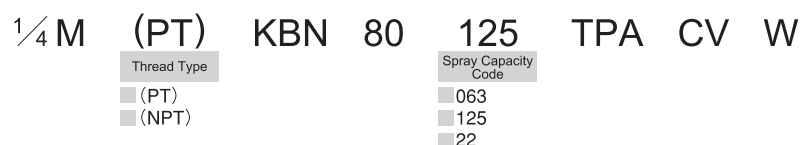
[Note]

1. The spray capacity of KBN series nozzle is shown as ℓ/hr.
2. Check valve which closes and opens at 0.3 MPa is built into the nozzle.
3. KBN series nozzles with check valves are not guaranteed for spray angle and spray capacity.

How to order

Please inquire or order for a specific nozzle using this coding system.

<Example>... $\frac{1}{4}$ M(PT)KBN80125TPACVW



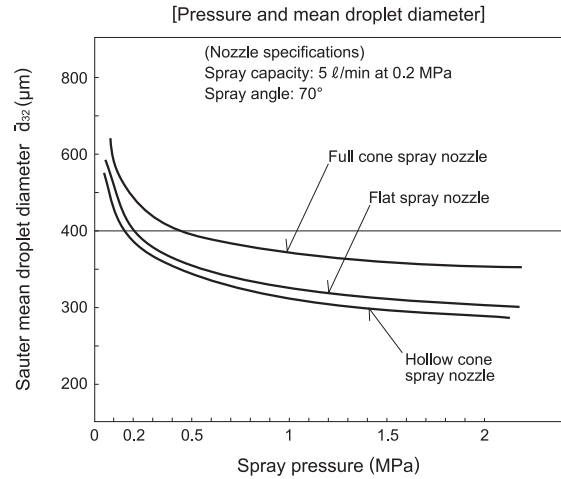
Effective Use of Hollow Cone Spray Nozzles

Mean Droplet Diameter

If spray pressure, spray capacity and spray angle are kept the same, the mean droplet diameter of a hollow cone spray nozzle is the smallest among all hydraulic nozzles.

Reducing the mean droplet diameter increases the total surface area of the spray liquid which has a great effect on transport phenomena of materials, such as chemical reaction, absorption, adsorption, etc.

Hollow cone spray nozzles are suitable for cooling and washing gases, humidifying and chemical reactions.



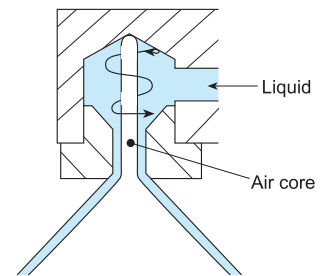
Free Passage Diameter

Free passage diameter shows the approximate value of the smallest dimension of liquid passage in the nozzle. Among hollow cone spray nozzles, **AAP** and **TAA series** nozzles have no obstructions inside and minimize clogging problems.

Wear Resistance

In the tangential hollow cone spray nozzles an air core is generated in the center of the vortex current, which causes wear at the end of the air core when the spraying liquid contains slurry.

In order to maintain optimum nozzle performance, the nozzle material is very important. That is why IKEUCHI's hollow cone spray nozzles are made of highly wear-resistant ceramics and SiC, etc.



Viscosity

As the viscosity of liquid increases, the spray capacity of hollow cone spray nozzles increases but the spray angle decreases. Also, the mean droplet diameter becomes larger. Because viscous liquid increases the resistance inside the pipe, the liquid pressure drop must be also taken into consideration.

