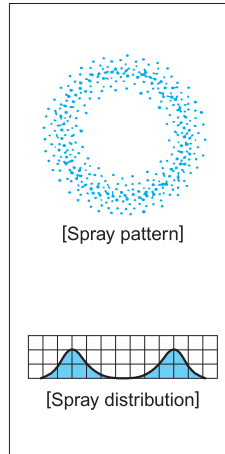


Semi-fine Atomization and Small Capacity Hollow Cone Spray Nozzles

KKBP



[Features]

- Small capacity hollow cone spray nozzle.
- Unique whirler design to make free passage diameter large and minimize clogging.
- Semi-fine atomization.
- Compact, lightweight design with low number of components.
- Maintenance is easy as whirler is detachable.

[Standard Pressure]

0,3 MPa

[Applications]

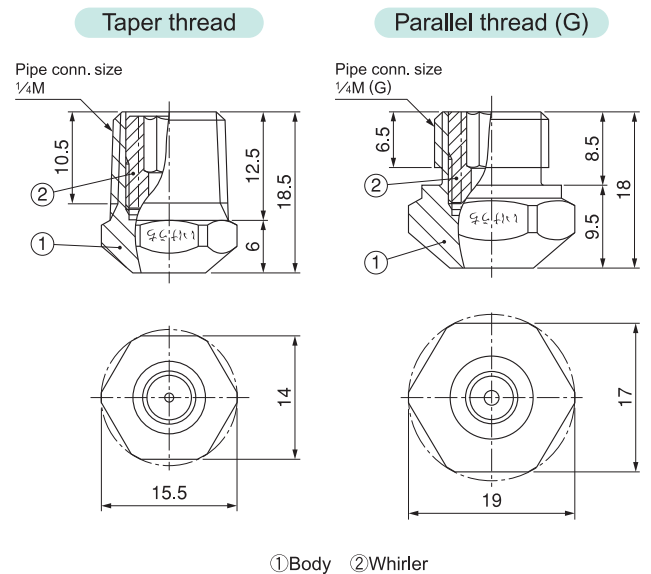
- Humidifying: Air handling units
- Cooling: Gas, metals
- Spraying: Chemicals
- Snow making (for snow machines)

Hollow Cone

KKBP series

KKBP series	
Structure	<ul style="list-style-type: none"> • Comprises nozzle body and whirler. • Thread is male taper pipe thread (R$\frac{1}{4}$) or male parallel pipe thread (G$\frac{1}{4}$B).
Material	<ul style="list-style-type: none"> • Body: S303 • Whirler: S316L equivalent • Optional material (body only): S316, S316L, Brass* (*Brass body is available only with taper pipe thread.)
Mass	<ul style="list-style-type: none"> • Taper pipe thread type: 15 g • Parallel pipe thread type: 20 g

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



Spray Capacity Code	Spray Angle (°)			Spray Capacity (ℓ/min)								Mean Drop Dia. (μm)	Free Pass. Dia. (mm)
	0.2 MPa	0.3 MPa	1.0 MPa	0.2 MPa	0.3 MPa	0.5 MPa	1 MPa	1.5 MPa	2 MPa	3 MPa	5 MPa		
050	63	65	68	0.41	0.50	0.64	0.89	1.08	1.24	1.51	1.93	160	1.0
060	65	68	70	0.49	0.60	0.77	1.07	1.30	1.49	1.82	2.32		
070	60	63	65	0.58	0.70	0.89	1.25	1.52	1.74	2.12	2.71	250	1.2
080	63	65	68	0.66	0.80	1.02	1.43	1.73	1.99	2.42	3.09		
100	55	58	60	0.82	1.00	1.28	1.78	2.17	2.49	3.03	3.87	260	1.4
120	58	60	63	0.99	1.20	1.53	2.14	2.60	2.99	3.63	4.64		
140	55	58	60	1.15	1.40	1.79	2.50	3.04	3.49	4.24	5.41	360	1.6
160	55	58	60	1.32	1.60	2.05	2.85	3.47	3.98	4.84	6.19		
180	50	53	55	1.48	1.80	2.30	3.21	3.90	4.48	5.45	6.96	360	1.8
200	53	55	58	1.65	2.00	2.56	3.57	4.34	4.98	6.05	7.73		

How to order

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

<Example> ... $\frac{1}{4}$ MKKBP050S303

$\frac{1}{4}$ M	KKBP	050	S303
Pipe Conn. Size		Spray Capacity Code	
$\frac{1}{4}$ M		050	
$\frac{1}{4}$ M (G)		{	
		200	

* In case parallel thread type is required, please specify the Pipe Connection Size as $\frac{1}{4}$ M(G).

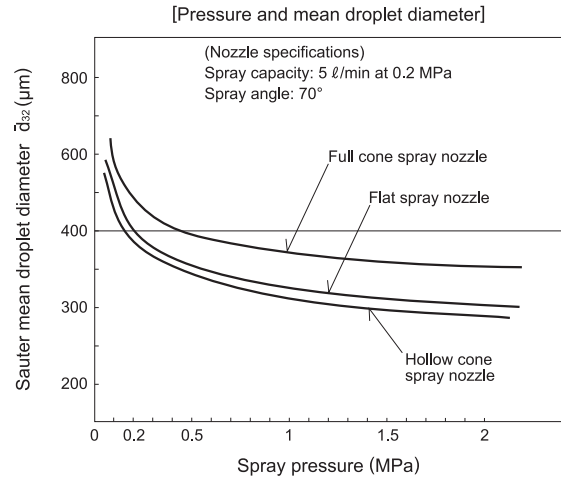
Effective Use of Hollow Cone Spray Nozzles

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.



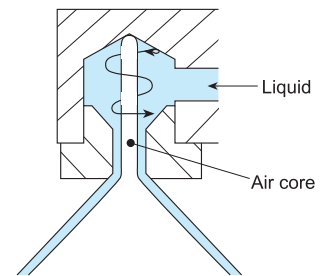
Free Passage Diameter

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.

