

Products Lineup

Cone Spray Nozzles

Hollow Cone Spray Nozzles p.46~

- Extremely fine mist and ultra-small capacity : KB, KBN
- Semi-fine atomization and small capacity : K, KKBP
- Small capacity : KD
- Medium capacity : AAP
- Medium capacity / Alumina ceramic : AP-AL92
- Flange-type, large capacity : TAA
- For effective use of hollow cone spray nozzles

Full Cone Spray Nozzles p.57~

- Standard type : JJXP
- Quick-detachable nozzles : INJJX
- Ceramic orifice and whirler inserted : JUP
- All alumina ceramic : JUXP-AL92
- Small capacity : JJRP, J
- Flange-type, large capacity : TJJX
- Wide-angle type : BBXP
- Narrow-angle type : NJJP
- Clog-resistant, vaneless nozzles : AJP, AJP-AL92
- For effective use of full cone spray nozzles

Square Spray Nozzles p.80~

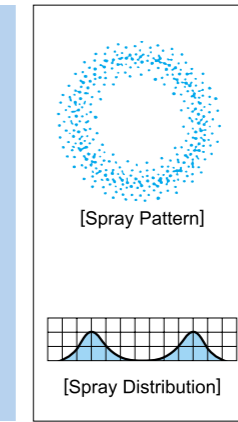
- Square full cone spray : SSXP

Special Spray Nozzles p.82~

- SPILLBACK nozzles for gas cooling : SPB
- 7-head nozzles : 7KB, 7JJXP
- Sockets for alumina nozzles

Extremely Fine Mist and Ultra-Small Capacity Hollow Cone Spray Nozzles

KB



- [Features]**
- Ultra-small capacity hollow cone spray nozzle with the finest atomization among hydraulic nozzles.
 - Capable of generating extremely fine spray.
 - The whirl chamber is formed by a ceramic orifice and closer(*1), which provides excellent wear-resistance.

[Standard Pressure]
0.7MPa

- [Applications]**
- Humidifying : Air handling units, green houses, etc.
Cooling : Gases, thin plates, poultry, etc.
Spraying : Alcohol, chemicals, etc.

Hollow Cone

KB-series

KB-series (with ceramic orifice inserted)								
Structure	<ul style="list-style-type: none"> • Spray orifice and closer are made of ceramics. • Thread is parallel male pipe thread (G$\frac{1}{4}$B; PF$\frac{1}{4}$M). • All models equipped with built-in strainers. 							
Material	<ul style="list-style-type: none"> • Spray orifice & closer : ceramic • Metal parts : B (brass) or S303 (stainless steel 303) 							

[without check valve]

[with check valve]

Series	Pipe Conn. Size	Dimensions(mm)					Mass(g)	
		l_1	l_2	h	n	ϕd	S303	B
KB (w/o check valve)	$\frac{1}{4}$ M (PF) [G $\frac{1}{4}$ B]	31	22.5	16 (B) 17 (S303)	6	11	24.8	25
KB**CV (w/ check valve)	$\frac{1}{4}$ M (PF) [G $\frac{1}{4}$ B]	32	22.5	16 (B) 17 (S303)	6	11	25.3	25.5

①Ceramic orifice ②Ceramic closer (*1) ③Packing-PTFE ④Nozzle body
⑤Spring ⑥Ball-S304 ⑦Packing-NBR ⑧O-ring-NBR
⑨Strainer-B+S304 or S303+S304

*1) In our newly-designed KB (with code N) nozzles (see p.47), the closer is made of polyester elastomer, not ceramic.

Spray Angle Code	Spray Capacity Code (*2)	Pipe Conn. Size	Spray Angle			Spray Capacity (ℓ/hr)										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	$\frac{1}{4}$ M (PF) [G $\frac{1}{4}$ B]	65°	80°	80°	1.31	1.51	1.69	1.85	2.00	2.39	2.62	2.93	3.38	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				5	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°	2.13	2.46	2.75	3.01	3.25	3.89	4.26	4.76	5.50				60	0.30	200
	125N		65°	80°	80°	2.68	3.10	3.47	3.80	4.10	4.90	5.37	6.00	6.94						
	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°	3.44	3.97	4.44	4.86	5.25	6.28	6.88	7.69	8.88						
	20N		65°	80°	80°	4.32	4.99	5.58	6.11	6.60	7.90	8.65	9.66	11.2				5	0.40	150
	22N		65°	80°	80°	4.75	5.48	6.13	6.71	7.25	8.67	9.50	10.6	12.3						
	25		70°	80°	80°	5.40	6.24	6.97	7.64	8.25	9.87	10.8	12.1	14.0				5	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				75	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				5	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				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				5	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	5	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	130	0.60	100					
320	75°	80°	80°	69.7	80.5	90.0	98.6	107	127	140	156	180								
60°	063	$\frac{1}{4}$ M (PF) [G $\frac{1}{4}$ B]	—	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				90	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) Spray Capacity Code with N is our newly-designed KB-series. See page 47 for the features.

[Note]
The spray capacity of KB nozzle is shown as ℓ/hr. The spray capacity code does not correspond with the spray capacity at the standard pressure.

Features of newly-designed KB (with code "N") series

- **Anti-clogging design**
 - Larger orifice diameter (1.3~2.6 times) compared with conventional KB.
 - Strongly clog-resistant and extremely-fine spray.
 - **Available in wide range from low (0.2MPa) to high (10MPa) pressure**
 - Capable of spraying from 0.2MPa Able to spray at low capacity.
 - Designed to withstand pressures up to 10MPa Suitable for even finer atomization. (*1)
- *1) When spraying at pressures of 2MPa and above, use SUS303 nozzles.

■ Spray capacity of newly-designed KB at high pressure (3MPa~10MPa)

Spray Angle Code	Spray Capacity Code	Spray Angle	Spray Capacity (ℓ/hr)				Mean Drop. Dia. at 10MPa (μm)
			3 MPa	5 MPa	7 MPa	10 MPa	
80°	063N	80°	4.14	5.34	6.33	7.56	33
	10N		6.74	8.70	10.3	12.3	5
	125N		8.50	11.0	13.0	15.5	
	16N		10.9	14.0	16.6	19.8	
	20N		13.7	17.7	20.9	24.9	
22N	15.1	19.4	22.9	27.4	40		

Check Valve


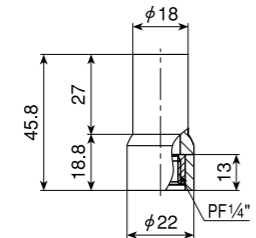

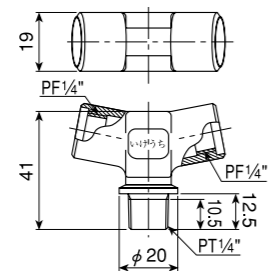
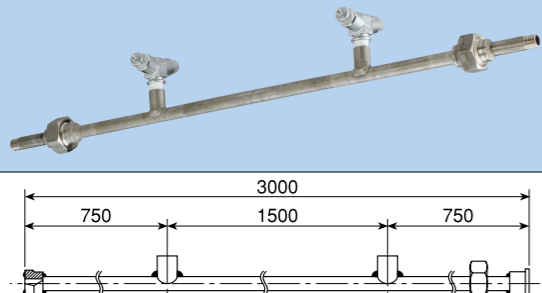
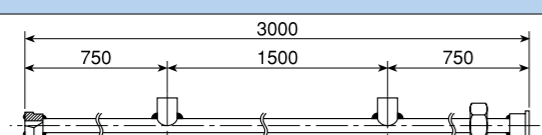
For drip-free shut-off, KB nozzles with check valves are available. The standard operating pressure of check valve is 0.4MPa. Supply pressure minus the operating pressure of the check valve (0.4MPa) is the atomizing pressure.

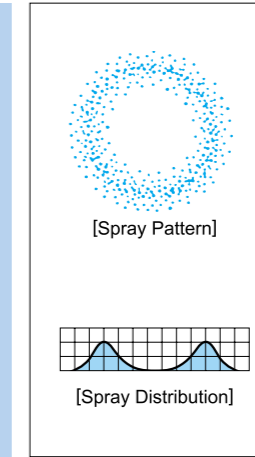
How to order Please inquire or order for a specific nozzle using this coding system.

〈Example〉...1/4MKB80071BCV-RW

1/4 MKB	80	071	B	CV	-RW
<small>Spray Angle Code</small>	<small>Spray Capacity Code</small>	<small>Material</small>	<small>Check Valve</small>		
80°	063N	B	CV (with Check Valve)		
60°	320	S303	— (without Check Valve)		

Related Products for KB-series

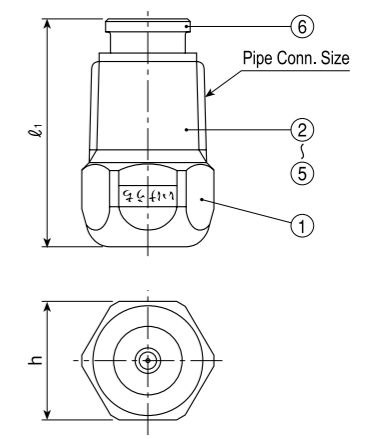
Series	Appearance	Structure	Features
Fitting for PVC pipe 13AKB adaptor PVC			<ul style="list-style-type: none"> • Fitting for KB to 13A (1/2") Tee. • Material : PVC
Two-way adaptor			<ul style="list-style-type: none"> • Adaptor for connecting 2 pcs. of KB. Three types of threads for pipe connection (1/4PT, 1/4PF, M15X1) are available. • Material : Chrome-plated brass
Spray header			<ul style="list-style-type: none"> • Stainless steel header with two-way adaptor. • Length of header : 3m or 4m Please contact us for details.



- [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]**
1.0MPa
- [Applications]**
 Cooling : Poultry farms, Outside cooling, etc.
 Humidifying : Air handling units, greenhouses, etc.
 Spraying : Alcohol, disinfectant, etc.
 Others : Dust suppression, irrigation for greenhouse, etc.

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 R1/4 (PT 1/4 male) or NPT 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



Series	Pipe Conn. Size	Dimensions (mm)		Mass (g)
		l ₁	h	
KBN	1/4 M	27	14	4

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

- ① Body
- ② Closer
- ③ Spring-S304
- ④ Poppet-NBR
- ⑤ Strainer-S316
- ⑥ Strainer holder-PP

Spray Angle Code	Spray Capacity Code	Pipe Conn. Size	Spray Angle				Spray Capacity (ℓ/hr)							Mean Drop. Dia. (μm)	Free Pass. Dia. (mm)	Strainer Mesh Size	Nozzle 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	1/4M	50°	80°	80°	80°	1.07	1.31	1.69	2.00	2.39	3.12	4.28	5.18	6.19	35	0.2	200	Orange
	125		60°	80°	80°	80°	2.19	2.68	3.47	4.10	4.90	6.39	8.77	10.6	12.7	5	0.3	100	Green
	22		65°	80°	80°	80°	3.88	4.75	6.13	7.25	8.67	11.3	15.5	18.8	22.4	60	0.4	100	Purple

*Check valve which closes and opens at 0.3MPa is built into the nozzle. (Nozzles without check valves are available.)

[Note] The spray capacity of KBN nozzle is shown as ℓ/hr. The spray capacity code does not correspond with the spray capacity at the standard pressure.

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

〈Example〉... 1/4M (PT) KBN 80 125 TPA CV W

1/4 M	(PT)	KBN 80	125	TPA	CV	W
<small>Thread Type</small>	<small>Spray Capacity Code</small>	<small>Check Valve</small>				
(PT)	063	CV (with Check Valve)				
(NPT)	125	— (without Check Valve)				
	22					