

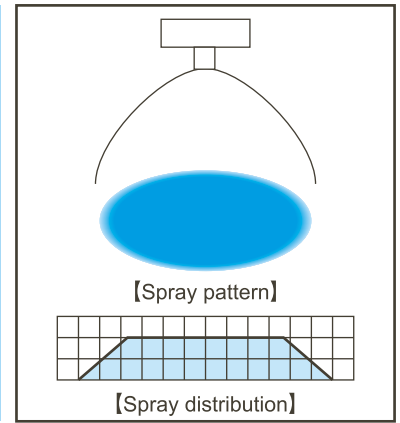
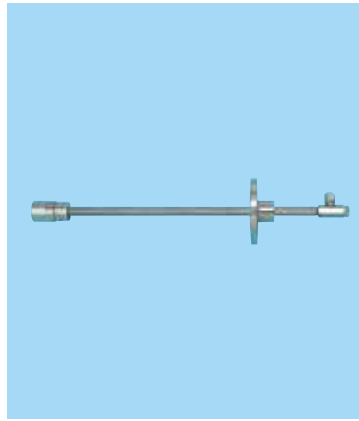
Full Cone Spray Semi-Fine, Semi-Coarse Fog Nozzles

JJA

Features

- Full cone spray pneumatic nozzle producing a large volume of semi-fine to semi-coarse atomization with a mean droplet diameter of 130 μm or more.*1
- Large turn-down ratio.
- Uniform spray droplet size distribution across the entire spray area.
- Large free passage diameter minimizes clogging. Ideal for spraying liquid containing foreign particles and for combustion of waste liquid at waste incinerators.

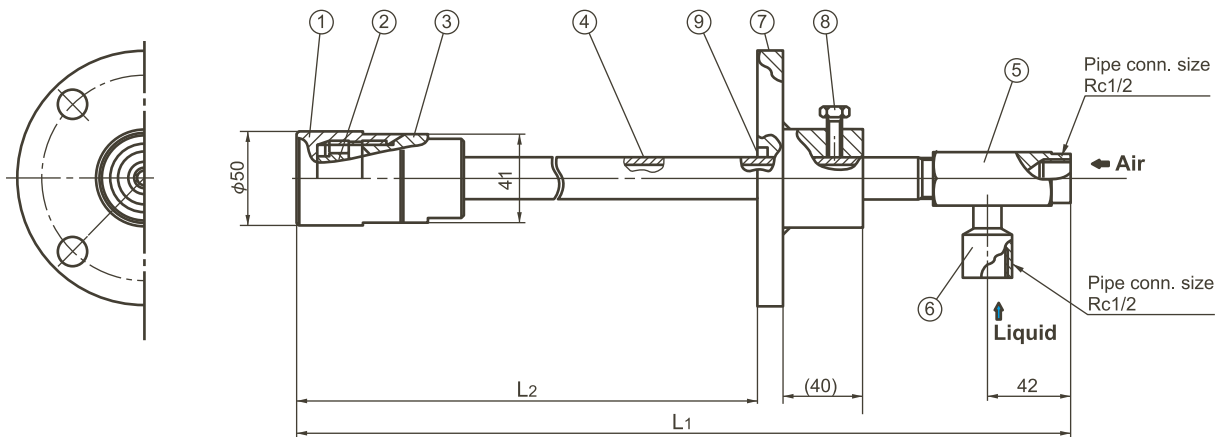
*1) Droplet diameter measured by the immersion sampling method. Please see pages 6-7 for comparison with laser Doppler method.



Applications

- Cooling: Gas, moldings
- Combustion: Waste water

Structure, Materials, Dimensions & Pipe Connection Sizes



Components and materials

No.	Components	Standard materials
①	Nozzle body	S316L
②	Mixing core	S316L
③	Nozzle adaptor	S316L
④	Pipe	S316LTP
⑤	Mixing adaptor	S304
⑥	Liquid socket	S304
⑦	Flange	S304
⑧	Bolt	S304
⑨	Packing	Metal wire reinforced AES wool

Type of length

Type	Total length L1 (mm)	Length L2 (mm)	Mass*2 (kg)
A	440	200-300	1.8
B	540	300-400	2.0
C	740	400-600	2.3
D	940	600-800	2.6
E	1,140	800-1,000	2.9

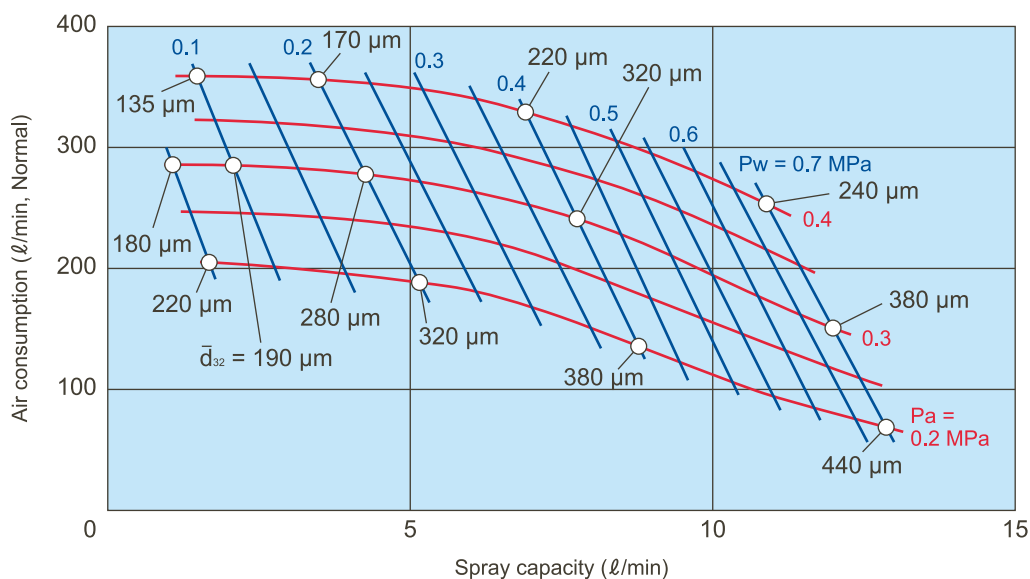
*2) Mass of flange is not included.

Spray capacity code	Air pressure (MPa)	Spray capacity (ℓ/min) & Air consumption (ℓ/min, Normal)										Mean droplet diameter (μm)	Free passage diameter (mm)		
		Liquid pressure (MPa)											Immersion sampling method	Spray orifice	Mixing adaptor
		0.05		0.1		0.3		0.5		0.7		Liquid			Air
12	0.2	1.7	205	2.8	200	7.0	170	10.3	110	12.9	70	150–450	3.7	2.9	3.0
	0.3	1.1	285	2.1	285	6.1	265	9.3	215	12.0	150				
	0.4	—	—	1.5	360	5.2	350	8.4	305	10.9	255				

Spray capacity code	Air pressure (MPa)	Spray capacity (ℓ/min) & Air consumption (ℓ/min, Normal)										Mean droplet diameter (μm)	Free passage diameter (mm)		
		Liquid pressure (MPa)											Immersion sampling method	Spray orifice	Mixing adaptor
		0.05		0.1		0.2		0.3		0.35		Liquid			Air
24 (φ6)	0.2	3.8	395	7.1	390	16.3	235	23.8	170	—	—	200–650	5.2	6.0	4.2
	0.3	2.5	560	5.0	550	11.4	480	19.0	350	24.0	240				
	0.4	1.5	720	3.5	715	8.1	690	14.5	590	18.0	515				

Flow-rate Diagram

Nozzle No.: JJA12



How to read the chart

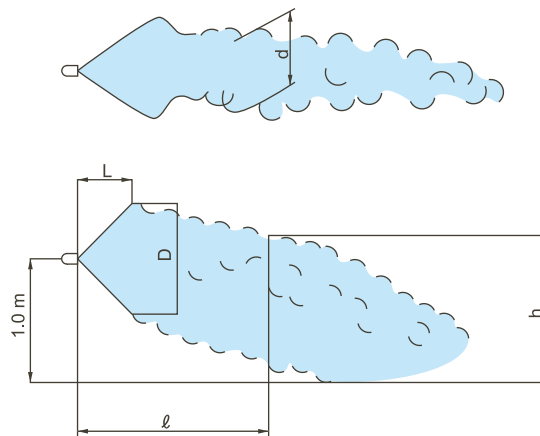
- ① The spray capacity shown is for one nozzle.
- ② Red lines (—) represent compressed air pressures Pa in MPa.
Blue lines (—) represent liquid pressures Pw in MPa.
- ③ Droplet diameter \bar{d}_{32} is Sauter mean droplet diameter measured by the immersion sampling method.

Spray Dimensions

Spray capacity code	Pressure (MPa)		Spray dimensions (m)					
			L	D	h/d			
	Air	Liquid			ℓ = 2.0	ℓ = 3.0	ℓ = 4.0	ℓ = 5.0
12	0.2	0.05	0.6	0.6	0.6/1.1	—	—	—
		0.1	1.4	1.1	0.9/1.2	—	—	—
		0.2	1.5	1.2	1.2/1.5	0.7/1.2	—	—
		0.4	1.8	1.5	1.5/1.8	0.7/1.3	—	—
		0.7	1.9	1.7	1.5/1.8	1.0/1.6	0.6/1.1	—
	0.3	0.05	1.1	0.8	0.9/1.0	0.5/1.4	—	—
		0.1	1.4	1.0	1.0/1.2	0.6/1.4	—	—
		0.2	1.5	1.3	1.2/1.3	0.9/1.5	0.5/1.0	—
		0.4	2.0	1.5	1.5/1.4	1.2/1.5	0.6/1.1	—
		0.7	2.1	1.8	1.7/1.6	1.5/1.7	1.0/1.3	0.7/1.0
	0.4	0.1	1.9	1.1	1.1/1.1	0.9/1.5	0.5/1.0	—
		0.2	2.0	1.5	1.5/1.4	1.3/1.4	1.0/1.5	0.5/1.5
		0.4	2.1	1.5	1.5/1.4	1.4/1.5	1.3/1.5	0.6/1.5
		0.7	2.3	1.8	1.7/1.9	1.8/2.0	1.8/1.9	1.0/2.0

Spray capacity code	Pressure (MPa)		Spray dimensions (m)					
			L	D	h/d			
	Air	Liquid			ℓ = 2.0	ℓ = 3.0	ℓ = 4.0	ℓ = 5.0
24 (φ6)	0.15	0.05	0.6	0.8	0.7/0.8	—	—	—
		0.1	1.1	1.7	1.2/1.3	0.7/1.2	—	—
		0.2	1.3	1.8	1.5/2.8	1.3/3.0	0.7/2.0	—
	0.2	0.05	0.7	0.8	0.8/0.9	—	—	—
		0.1	1.3	1.4	1.3/0.9	0.8/0.7	—	—
		0.2	1.6	1.7	1.5/2.2	1.2/1.9	0.8/1.1	—
		0.25	1.8	1.8	1.8/2.8	1.3/2.0	0.9/1.4	—
	0.3	0.05	1.2	1.0	1.0/1.2	0.8/1.0	—	—
		0.1	1.5	1.3	1.2/1.5	0.8/1.8	0.6/1.0	—
		0.2	1.5	1.4	1.3/1.5	1.1/2.0	0.7/1.3	—
		0.3	1.9	1.5	1.5/2.0	1.3/2.1	0.9/1.7	0.6/1.2
		0.35	2.1	2.0	2.0/2.3	1.5/2.3	1.2/1.8	0.9/1.4
	0.4	0.05	1.4	1.1	1.0/1.2	0.8/1.0	0.4/0.9	—
		0.1	1.9	1.2	1.1/1.0	0.9/1.5	0.7/1.3	—
		0.2	2.0	1.4	1.4/1.1	1.1/1.5	0.8/1.4	0.5/0.9
		0.3	2.1	1.5	1.5/1.6	1.2/2.4	1.0/1.6	0.5/1.6
0.35		2.2	1.6	1.5/2.5	1.3/2.9	1.2/2.4	0.9/1.8	

Note: The above data were measured with tap water in a laboratory, in windless conditions.



How to order

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

<Example> 1/2F JJA 12 B S316L + 2T10 S304

1/2F	JJA	12	B	S316L	+	2T10	S304
Pipe conn. size (Rc1/2)		Spray capacity code	Type of length			Flange size	
		■ 12	■ A				
		■ 24 (φ6)	■ B				
			■ C				
			■ D				
			■ E				

(See p.57)

Please send us an inquiry for the different flange sizes.
For details please ask for our inquiry drawing.