

Medium / Large Capacity Fine Mist Nozzles

GSIM_s series Nozzles

Patented



- GSIM_s series fine mist nozzles, developed from a new nozzle engineering concept, have excellent atomization capabilities.
- GSIM_s series nozzles produce a large volume of fine atomization with a low consumption of compressed air, having very low air-water ratios.
- Simple structure, easy maintenance.

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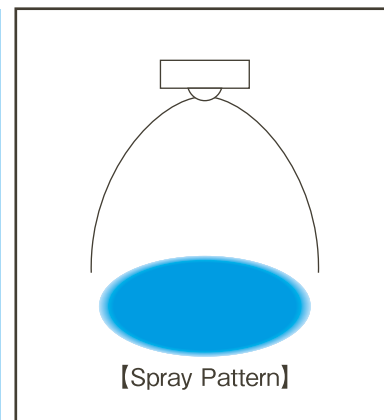
Medium / Large Capacity Fine Mist Nozzles – GSIM_s + Adaptor type –

GSIM_s

Features

- Pneumatic spray nozzle producing large amount of "fine mist", spray capacity 30ℓ/hr-1000ℓ/hr.
- Energy-saving design - mean droplet diameter of 50μm and a maximum droplet diameter of 150μm (*1) at an air-water ratio of 150.
- Available in spray angles of 20° and 60°, in 6 spray capacity types - 12 varieties in total. Wide selection.
- Easy maintenance with simple structure and compact body.

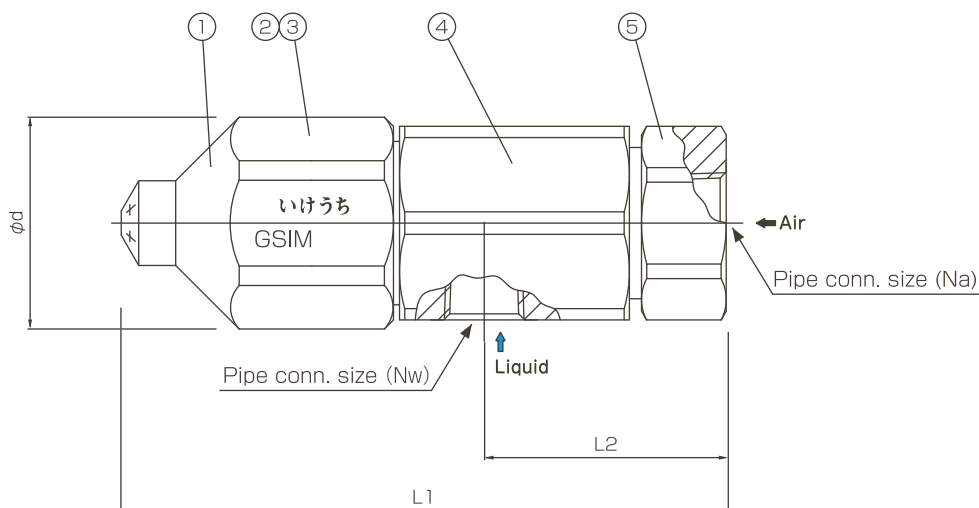
*1) Measured by Laser Doppler Method



Applications

- Cooling: Gas, moldings, refractories
- Moisture control: Gas, concrete
- Combustion: Oil, waste fluid
- Dust suppression: Recycling facilities, material facilities, moldings

Structure, Dimensions, Materials and Pipe Connection Sizes



Components and materials

No.	Components	Standard Materials
①	Nozzle Tip	S316L
②	Nozzle Core	S316L
③	Whirler	S316L
④	Nozzle Adaptor	S303
⑤	Air Connection	S303

Dimensions

Spray Angle Code	Air Consumption Code	Pipe Connection Size (in.)		Outer Diameter φd (mm)	Total Length L1 (mm)	Length L2 (mm)	Free Passage Diameter*2 (mm)	
		Air (Na)	Liquid (Nw)				Liquid	Air
20,60	37	PT3/8F	PT1/4F	35	100	40	1.9(2.2)	1.7(1.7)
	55						2.2(2.2)	2.0(2.0)
	75	PT1/2F	PT3/8F	45	120	42	2.7(3.2)	2.3(2.3)
	110						3.2(3.2)	3.0(3.0)
	150						3.9(4.0)	3.5(3.5)
220	PT3/4F	PT1/2F	50	140	44	4.0(4.0)	4.3(4.3)	

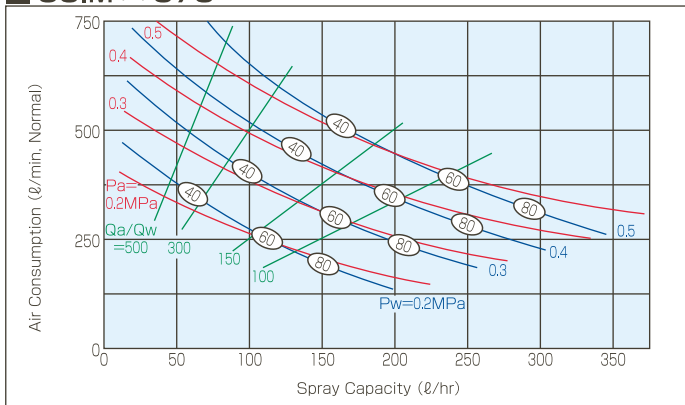
*2) Free passage diameter in () shows that of GSIM_s with spray angle of 20°.

Flow-rate Diagram

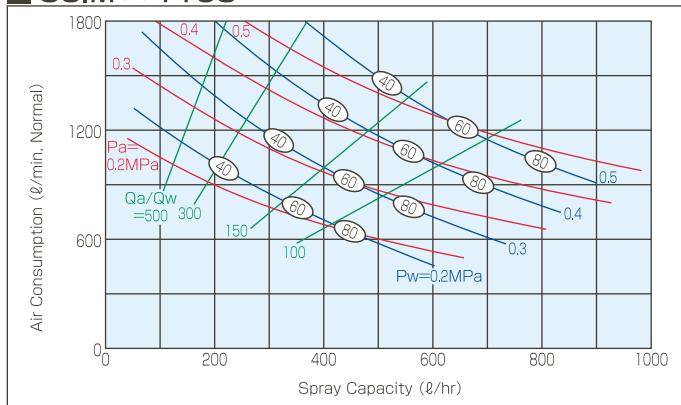
How to read the chart

- ① The spray capacity shown is for one nozzle.
- ② **Red lines** (—) represent compressed air pressure P_a in MPa.
Blue lines (—) represent liquid pressure P_w in MPa.
Green lines (—) represent air-water ratio Q_a/Q_w .
- ③ Figures in ovals \bigcirc indicate Sauter mean droplet diameters (μm) measured by the Laser Doppler Method.
- ④ ** is to be filled by spray angle code No. 20 or 60.

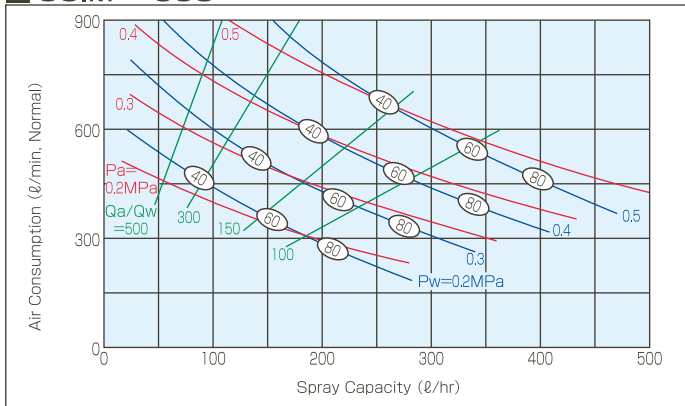
GSIM**37S



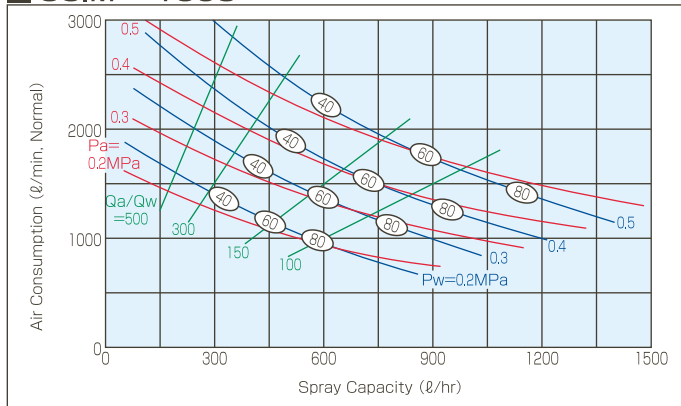
GSIM**110S



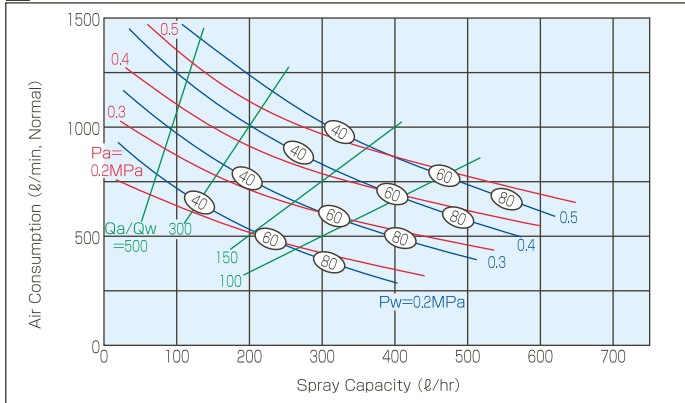
GSIM**55S



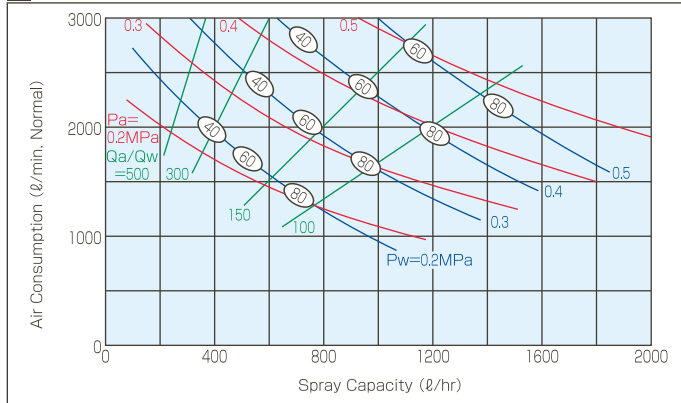
GSIM**150S



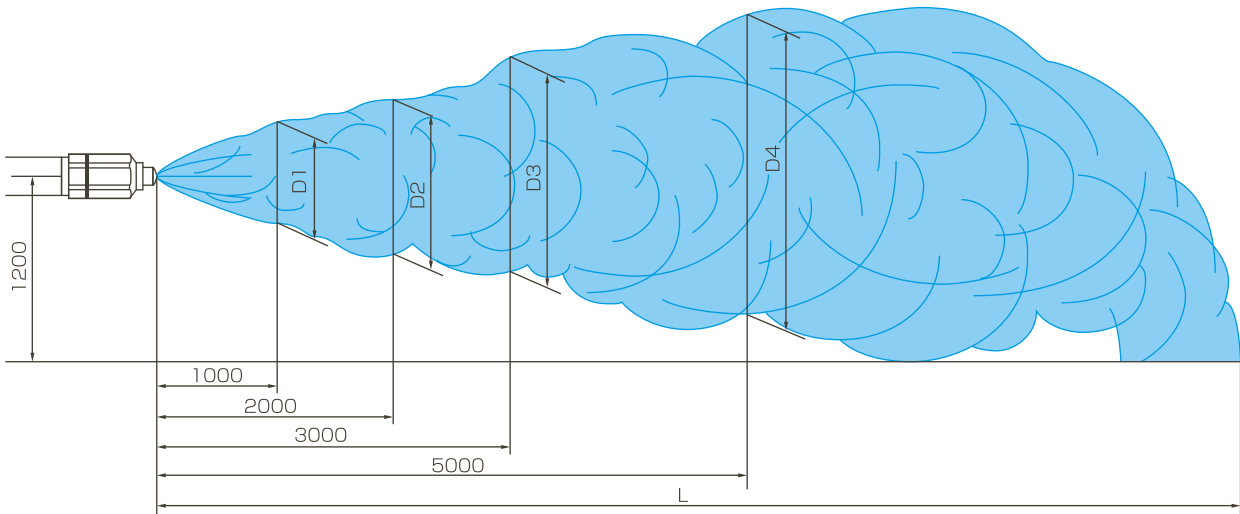
GSIM**75S



GSIM**220S



Spray Dimensions



Spray Angle Code	Air Consumption Code	Air Pressure (MPa)	Liquid Pressure (MPa)	Spray Dimensions (mm)				
				D1	D2	D3	D4	L
20°	37	0.3	0.25~0.35	200	450	750	1,100	9,000
		0.4	0.35~0.45	250	500	850	1,200	10,000
		0.5	0.45~0.55	300	550	900	1,300	10,000
	55	0.3	0.25~0.35	250	500	800	1,200	10,000
		0.4	0.35~0.45	300	550	900	1,300	11,000
		0.5	0.45~0.55	350	600	1,000	1,400	11,000
	75	0.3	0.25~0.35	300	550	900	1,300	12,000
		0.4	0.35~0.45	350	650	1,000	1,400	13,000
		0.5	0.45~0.55	400	750	1,100	1,500	13,000
	110	0.3	0.25~0.35	350	600	1,000	1,400	12,000
		0.4	0.35~0.45	400	700	1,100	1,500	13,000
		0.5	0.45~0.55	450	800	1,200	1,600	13,000
	150	0.3	0.25~0.35	400	750	1,100	1,500	13,000
		0.4	0.35~0.45	450	800	1,200	1,600	14,000
		0.5	0.45~0.55	500	850	1,300	1,700	14,000
	220	0.3	0.25~0.35	450	800	1,200	1,500	13,000
		0.4	0.35~0.45	500	850	1,250	1,600	14,000
		0.5	0.45~0.55	550	900	1,300	1,700	14,000

Spray Angle Code	Air Consumption Code	Air Pressure (MPa)	Liquid Pressure (MPa)	Spray Dimensions (mm)				
				D1	D2	D3	D4	L
60°	37	0.3	0.25~0.35	600	900	1,200	1,700	8,000
		0.4	0.35~0.45	550	850	1,100	1,700	8,000
		0.5	0.45~0.55	500	800	1,000	1,700	8,000
	55	0.3	0.25~0.35	650	950	1,300	1,800	9,000
		0.4	0.35~0.45	600	900	1,200	1,800	9,000
		0.5	0.45~0.55	550	850	1,100	1,800	9,000
	75	0.3	0.25~0.35	700	1,000	1,400	1,900	10,000
		0.4	0.35~0.45	650	950	1,300	1,900	10,000
		0.5	0.45~0.55	600	900	1,200	1,900	10,000
	110	0.3	0.25~0.35	700	1,000	1,400	1,900	10,000
		0.4	0.35~0.45	650	950	1,300	1,900	11,000
		0.5	0.45~0.55	600	900	1,200	1,900	11,000
	150	0.3	0.25~0.35	800	1,200	1,500	2,000	11,000
		0.4	0.35~0.45	700	1,100	1,400	2,000	12,000
		0.5	0.45~0.55	600	1,000	1,300	2,000	12,000
	220	0.3	0.25~0.35	900	1,300	1,600	2,100	11,000
		0.4	0.35~0.45	800	1,200	1,500	2,100	12,000
		0.5	0.45~0.55	700	1,100	1,400	2,100	12,000

How to inquire / order

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

<Example> GSIM6075SS316L+TS303

GSIM	60	75	S	S316L	+	T	S303
	Spray Angle Code	Air Consumption Code		Material of Nozzle Tip			Material of Adaptor
	■ 20° ■ 60°	■ 37 ■ 55 ■ 75 ■ 110 ■ 150 ■ 220					

Medium / Large Capacity Fine Mist Nozzles

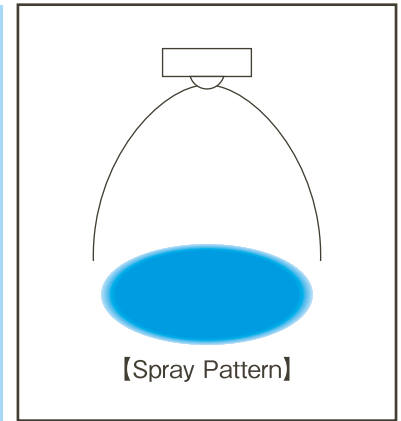
— GSIM_s + Nozzle Lance type —

GSIM_s

Features

- Produces fine atomization having a mean droplet diameter of $50\mu\text{m}$ and a maximum droplet diameter of $150\mu\text{m}$ (*1) at an air-water ratio of 150.
- Available in two spray angles of 20° and 60° .
- Fixed with a flange.

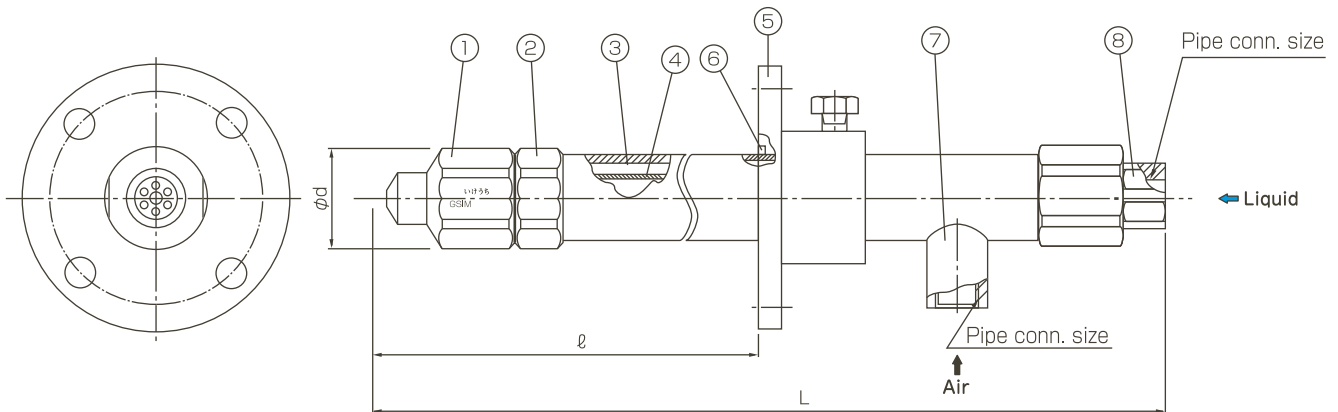
*1) Measured by Laser Doppler Method



Applications

- Cooling: Gas, moldings, refractories
- Moisture control: Gas, concrete
- Combustion: Oil

Structure, Dimensions, Materials and Pipe Connection Sizes



Components and materials

No.	Component	Standard Material
①	Nozzle Tip	S316L
②	Adaptor	S316L
③	Outer Pipe(for air)	S316LTP
④	Inner Pipe(for liquid)	S304TP
⑤	Flange	S304
⑥	Packing	Ceramic fibre + stainless steel wire
⑦	Air Connection	S304
⑧	Liquid Connection	S304

Dimensions

Spray Angle Code	Air Consumption Code	Pipe Conn. Size (in.)		Outer Diameter φd	Free Passage Diameter*2 (mm)	
		Air	Liquid		Liquid	Air
20,60	37	PT3/8F	PT3/8F	35	1.9(2.2)	1.7(1.7)
	55				2.2(2.2)	2.0(2.0)
	75	PT1/2F	PT1/2F	45	2.7(3.2)	2.3(2.3)
	110				3.2(3.2)	3.0(3.0)
	150	PT3/4F		50	3.9(4.0)	3.5(3.5)
	220				4.0(4.0)	4.3(4.3)

*2) Free passage diameter in () shows that of GSIM_S with spray angle of 20° .

Nozzle length

Type	Total Length L (mm)	Length ℓ (mm)
A	560	300~400
B	760	400~600
C	960	600~800
D	1160	800~1000

How to inquire / order

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

<Example> GSIM60110SBS316L+3T5S304(ℓ)

GSIM	60	110	S	B	S316L	+	3T5	S304	(ℓ)
	Spray Angle Code	Air Consumption Code		Nozzle Length	Material of Nozzle		Flange Size	Material of Flange	Length between the nozzle head and flange
	■20 ■60	■37 ■110 ■55 ■150 ■75 ■220		■A ■D ■B ■C					

Flange size: Refer to the table of flange dimensions on page 78.