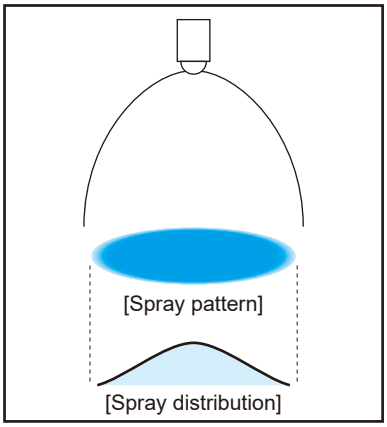
Flat Spray
Semi-fine, Semi-coarse Fog Nozzles

DOVVA-G

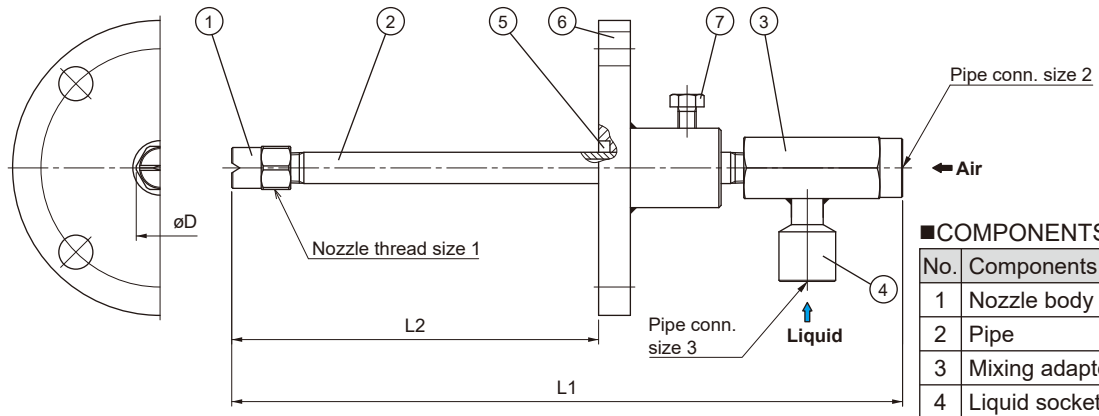


■Flat spray pneumatic nozzle producing semi-fine atomization with a mean droplet diameter of 80 μm or more.*1
■Clog-resistant design due to large free passage diameter is suitable for spraying factory effluents and waste water.
■Simple structure, easy maintenance.
*1) Droplet diameter measured by laser Doppler method

APPLICATIONS

■Denitration: Gas cooling
■Moisture control: Flue gas
■Combustion: Waste water

DRAWING



■COMPONENTS AND MATERIALS

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

DIMENSIONS

Spray angle code	Spray capacity code	Nozzle thread size 1	Pipe connection sizes 2 & 3		Outer dimensions øD (mm)	Free passage diameter (mm)			
						Tip orifice		Adaptor	
						Spray angle code			
			Air	Liquid		70	55	Air	Liquid
70 55	82	Rc1/4	Rc1/2		21	2.5	2.8	3.4	2.4
	110					2.9	3.3	3.9	2.7
	180	Rc3/8			23	3.6	4.1	4.9	3.4
	230					4.1	4.9	5.7	3.8
	300	Rc1/2			29	5.2	5.6	6.5	4.4
	400					5.9	6.3	7.4	5.0
	500	Rc3/4	Rc3/4		35	6.1	7.4	8.3	5.9
	600					7.5	8.3	9.1	6.2

TYPE OF LENGTH

Type	Total length L1*2 (mm)	Length L2 (mm)
A	560	300–400
B	760	400–600
C	960	600–800
D	1,160	800–1,000

*2) L1: Standard length

*3) The weight shown is when the total length is the standard length L1 and excludes a weight of flange. For longer lengths, add the corresponding weight (listed below) for each 100 mm of L1 length, according to the Nozzle thread size 1.

Nozzle thread size 1	Weight per 100 mm
Rc1/4	80 g
Rc3/8	110 g
Rc1/2	170 g
Rc3/4	220 g

WEIGHT

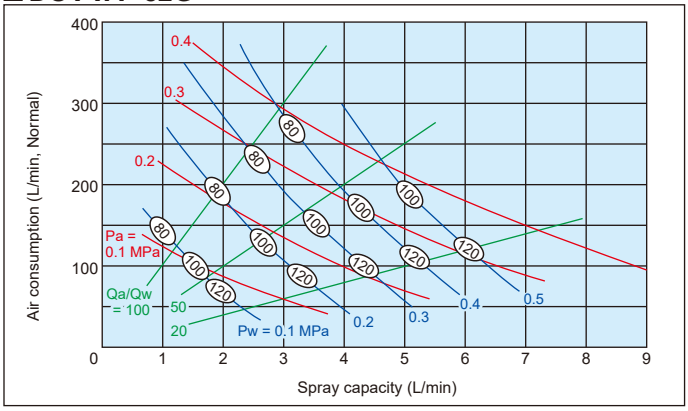
Nozzle thread size 1	Type of length	Weight*3 (g)
Rc1/4	A	750
	B	900
	C	1,100
	D	1,250
Rc3/8	A	900
	B	1,100
	C	1,350
	D	1,550
Rc1/2	A	1,350
	B	1,700
	C	2,000
	D	2,350
Rc3/4	A	2,050
	B	2,500
	C	2,950
	D	3,400

FLOW-RATE DIAGRAMS

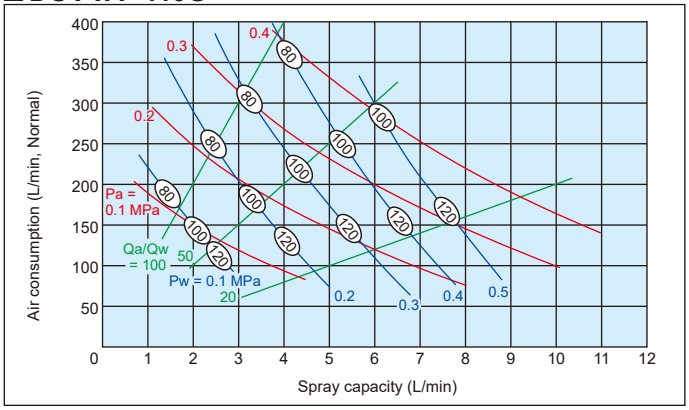
■How to read the chart
1. The spray capacity shown is for one nozzle.
2. Red lines (—) represent compressed air pressures Pa in MPa.
   Blue lines (—) represent liquid pressures Pw in MPa.
   Green lines (—) represent air-water ratio Qa/Qw.
3. Numbers in ovals ⬭ indicate Sauter mean diameters (μm) measured by laser Doppler method.
4. ** to be filled by spray angle code of 70 or 55.

Note:
The flow-rate diagrams below are those of DOVVA-G with total length of 560 mm (length type: A).
For nozzles with a longer total length (type B–D), the original air and liquid pressures need to be increased by about 0.03 MPa in order to obtain numerical values in the diagram due to pressure loss.

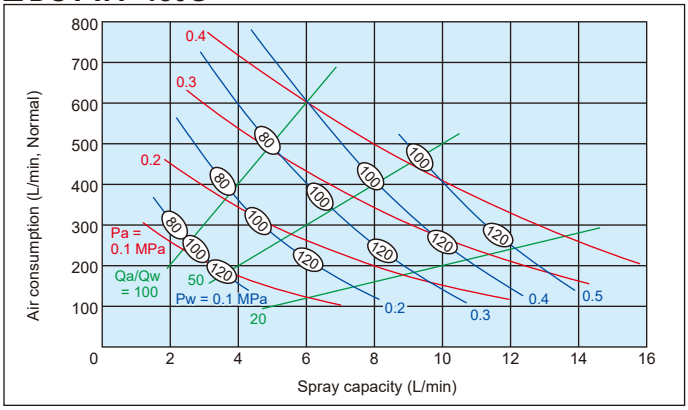
■ DOVVA**82G



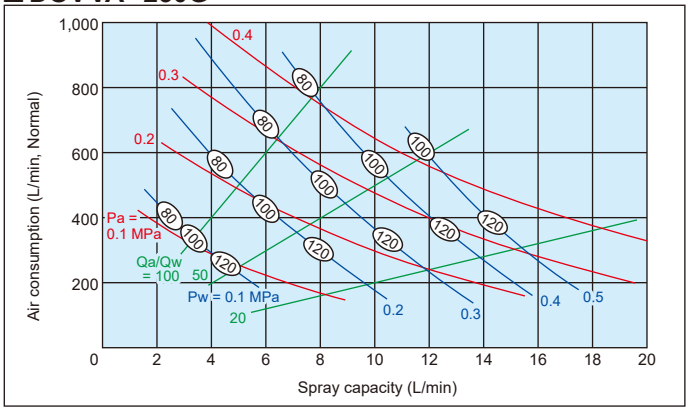
■ DOVVA**110G



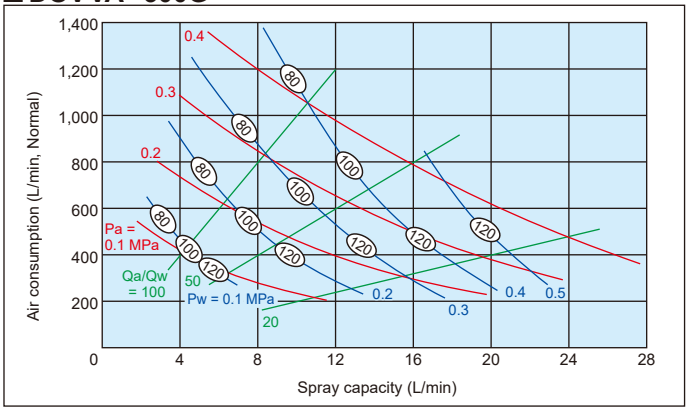
■ DOVVA**180G



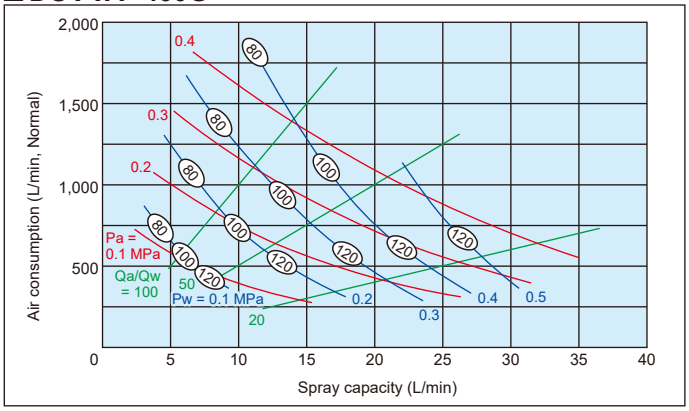
■ DOVVA**230G



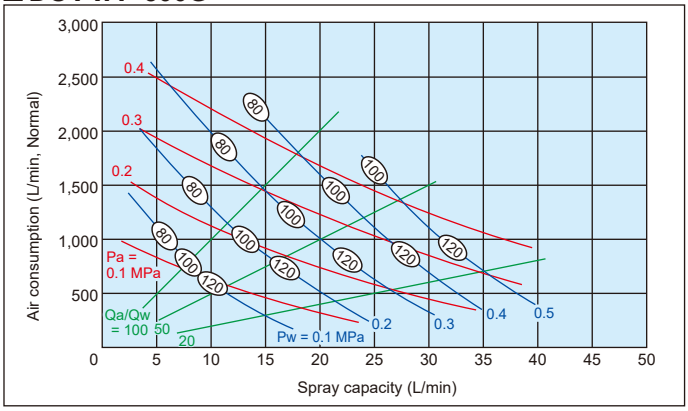
■ DOVVA**300G



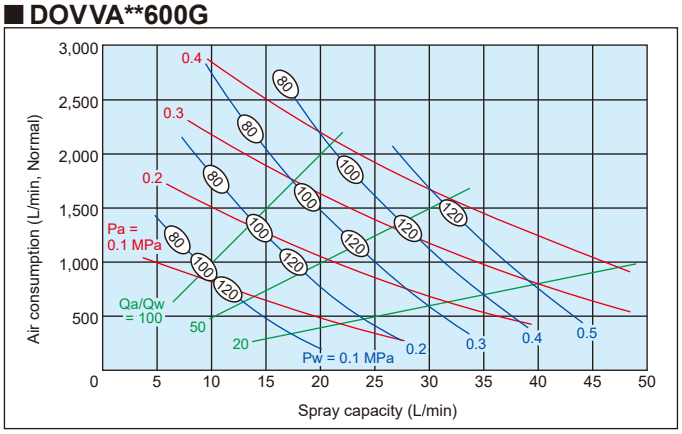
■ DOVVA**400G



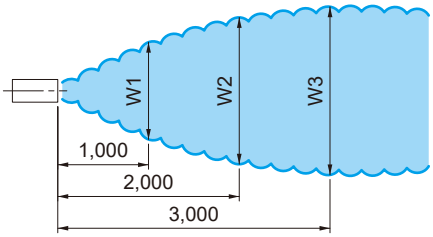
■ DOVVA**500G

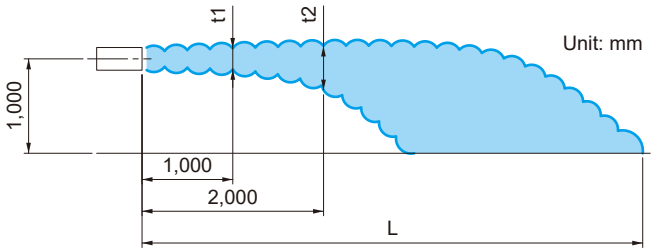


■ DOVVA**600G



SPRAY DIMENSIONS





■Spray angle code: 70

Spray capacity code	Air pressure (MPa)	Liquid pressure (MPa)	Spray dimensions (mm)					
			W1	W2	W3	t1	t2	L
82	0.2	0.2	500	700	900	400	600	4,000
	0.3	0.3	600	800	1,000	400	700	5,000
		0.4	700	1,000	1,200	400	700	5,000
	0.4	0.4	600	900	1,100	400	800	6,000
		0.5	700	1,000	1,300	400	800	6,000
110	0.2	0.2	500	700	900	400	600	5,000
	0.3	0.3	600	800	1,000	400	700	6,000
		0.4	700	1,000	1,200	400	700	6,000
	0.4	0.4	600	900	1,100	400	800	7,000
		0.5	700	1,000	1,300	400	800	7,000
180	0.2	0.2	600	850	1,050	400	600	6,000
	0.3	0.3	650	900	1,150	400	700	7,000
		0.4	800	1,150	1,450	400	700	7,000
	0.4	0.4	700	1,050	1,350	400	800	8,000
		0.5	800	1,200	1,600	400	800	8,000
230	0.2	0.2	700	1,000	1,200	400	600	7,000
	0.3	0.3	700	1,000	1,300	400	700	8,000
		0.4	900	1,300	1,700	400	700	8,000
	0.4	0.4	800	1,200	1,600	400	800	9,000
		0.5	900	1,400	1,900	400	800	9,000
300	0.2	0.2	800	1,100	1,300	400	600	8,000
	0.3	0.3	800	1,100	1,400	400	700	9,000
		0.4	1,000	1,400	1,800	400	700	9,000
	0.4	0.4	900	1,300	1,700	400	800	10,000
		0.5	1,000	1,500	2,000	400	800	10,000
400	0.2	0.2	800	1,100	1,300	400	600	9,000
	0.3	0.3	800	1,100	1,400	400	700	10,000
		0.4	1,000	1,400	1,800	400	700	10,000
	0.4	0.4	900	1,300	1,700	400	800	11,000
		0.5	1,000	1,500	2,000	400	800	11,000
500	0.2	0.2	850	1,150	1,350	400	600	10,000
	0.3	0.3	850	1,150	1,450	400	700	11,000
		0.4	1,050	1,450	1,850	400	700	11,000
	0.4	0.4	950	1,350	1,750	400	800	12,000
		0.5	1,050	1,550	2,050	400	800	12,000
600	0.2	0.2	850	1,150	1,350	400	600	11,000
	0.3	0.3	850	1,150	1,450	400	700	12,000
		0.4	1,050	1,450	1,850	400	700	12,000
	0.4	0.4	950	1,350	1,750	400	800	13,000
		0.5	1,050	1,550	2,050	400	800	13,000

■Spray angle code: 55

Spray capacity code	Air pressure (MPa)	Liquid pressure (MPa)	Spray dimensions (mm)					
			W1	W2	W3	t1	t2	L
82	0.2	0.2	400	550	700	450	700	5,000
	0.3	0.3	500	650	800	450	800	6,000
		0.4	600	900	1,100	450	800	6,000
	0.4	0.4	500	750	900	450	900	7,000
		0.5	600	900	1,100	450	900	7,000
110	0.2	0.2	400	600	800	450	700	6,000
	0.3	0.3	500	700	900	450	800	7,000
		0.4	600	900	1,100	450	800	7,000
	0.4	0.4	500	800	1,000	450	900	8,000
		0.5	600	900	1,100	450	900	8,000
180	0.2	0.2	500	700	900	450	700	7,000
	0.3	0.3	550	800	1,000	450	800	8,000
		0.4	700	1,000	1,250	450	800	8,000
	0.4	0.4	600	900	1,150	450	900	9,000
		0.5	700	1,050	1,350	450	900	9,000
230	0.2	0.2	550	800	1,000	450	700	8,000
	0.3	0.3	600	900	1,100	450	800	9,000
		0.4	750	1,100	1,400	450	800	9,000
	0.4	0.4	650	1,000	1,300	450	900	10,000
		0.5	750	1,200	1,600	450	900	10,000
300	0.2	0.2	600	850	1,050	450	700	9,000
	0.3	0.3	650	950	1,150	450	800	10,000
		0.4	800	1,150	1,450	450	800	10,000
	0.4	0.4	700	1,050	1,350	450	900	11,000
		0.5	800	1,250	1,650	450	900	11,000
400	0.2	0.2	600	850	1,050	450	700	10,000
	0.3	0.3	650	950	1,150	450	800	11,000
		0.4	800	1,150	1,450	450	800	11,000
	0.4	0.4	700	1,050	1,350	450	900	12,000
		0.5	800	1,250	1,650	450	900	12,000
500	0.2	0.2	650	900	1,100	450	700	11,000
	0.3	0.3	700	1,000	1,200	450	800	12,000
		0.4	850	1,200	1,500	450	800	12,000
	0.4	0.4	750	1,100	1,400	450	900	13,000
		0.5	850	1,300	1,700	450	900	13,000
600	0.2	0.2	650	900	1,100	450	700	12,000
	0.3	0.3	700	1,000	1,200	450	800	13,000
		0.4	850	1,200	1,500	450	800	13,000
	0.4	0.4	750	1,100	1,400	450	900	14,000
		0.5	850	1,300	1,700	450	900	14,000

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

HOW TO ORDER

When selecting a nozzle product, various factors must be considered, such as distance to target, number of nozzles required, and installation layout including air and liquid piping.
To ensure the best nozzle selection for your needs, consult our sales representatives during the design phase. Our engineering services are essential for efficient performance.

Inquiry forms with outline drawings are available to confirm dimensions and pipe connections.
Contact us for more details.