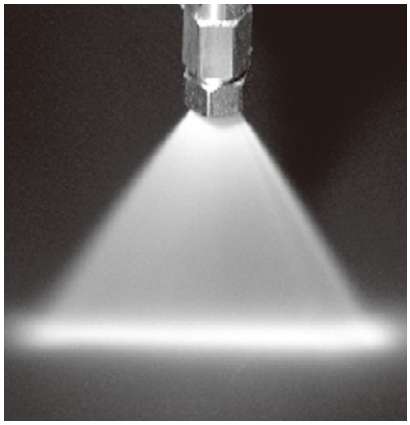
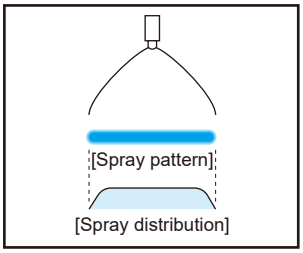
High Impact Flat Spray
Semi-fine, Semi-coarse Fog Nozzles

VVEA





- ■Flat spray pneumatic nozzle producing semi-fine (and semi-coarse) atomization with a mean droplet diameter of 50 µm or more.*1
- ■High spray impact with thin flat spray pattern and uniform distribution.
- ■Large turn-down ratio with minimal variation in spray angle.
- ■Compact design.

*1) Droplet diameter measured by laser Doppler method

APPLICATIONS

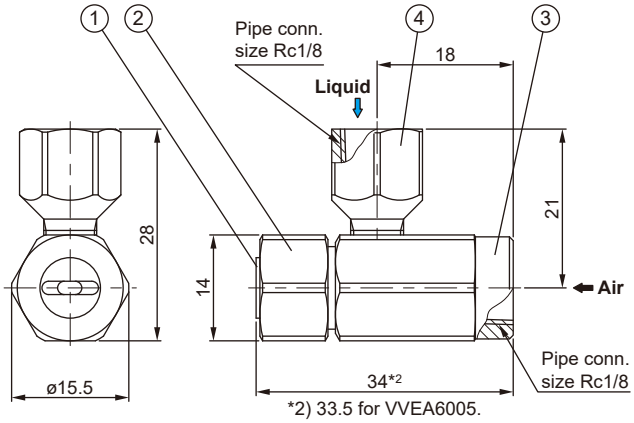
■Cleaning: Printed circuit boards, liquid crystal, steel plates

Download 3D CAD models (VVEA)

DRAWING

Spray angle 60° type

■Weight: 40 g



*2) 33.5 for VVEA6005.

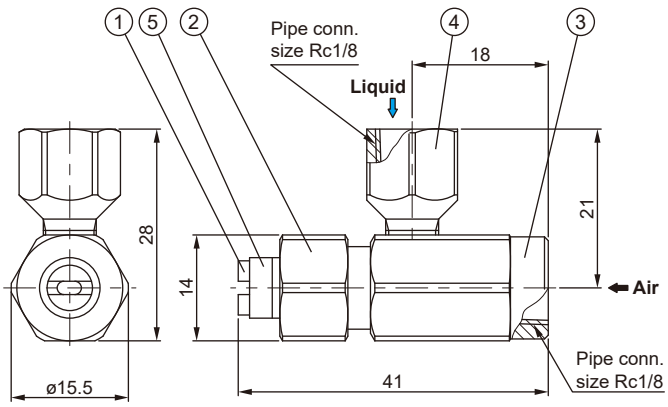
■COMPONENTS AND MATERIALS

No.	Components	Standard materials*3
1	Nozzle tip	S303
2	Cap	S303
3	Mixing adaptor	S303
4	Liquid socket	S303

*3) Optional material: S316

Spray angle 80° type

■Weight: 44 g



■COMPONENTS AND MATERIALS

No.	Components	Standard materials*3
1	Nozzle tip	S303
2	Cap	S303
3	Mixing adaptor	S303
4	Liquid socket	S303
5	Sleeve	S303

Note: No sleeve (component #5) for VVEA8005.

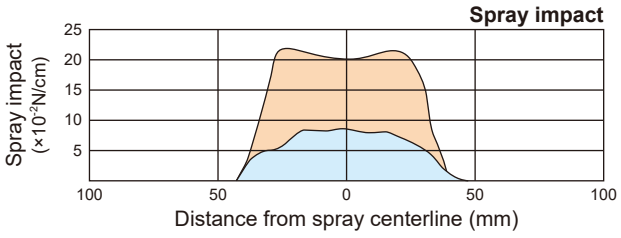
Unit: mm

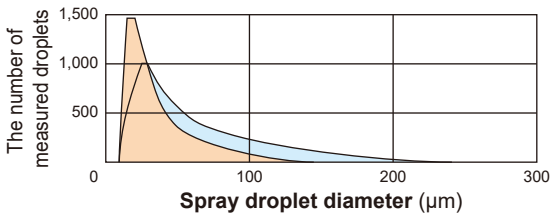
SPRAY IMPACT

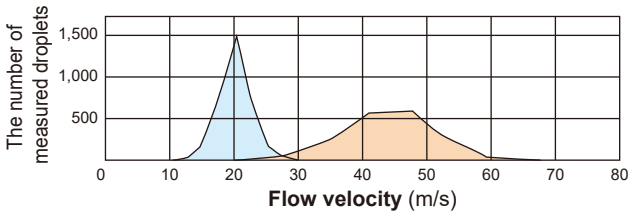
In comparison to a hydraulic spray nozzle with equal spray capacity at the same pressure, VVEA series nozzles achieve a more powerful spray impact (2.5 times higher) with fine droplets (at twice the speed).

■Air pressure: 0.3 MPa ■Air consumption: 59 L/min, Normal
■Liquid pressure: 0.3 MPa ■Spray capacity: 1.1 L/min
■Spray height: 50 mm
(Air pressure and air consumption apply only to VVEA)

○ = VVEA6020 (pneumatic nozzle) ○ = VVP6510 (hydraulic nozzle)





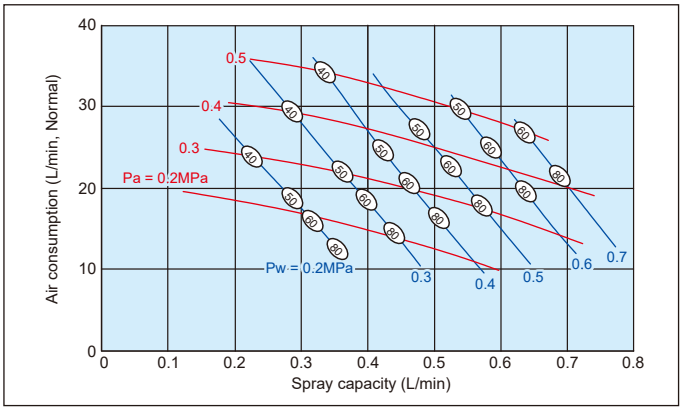


FLOW-RATE DIAGRAMS

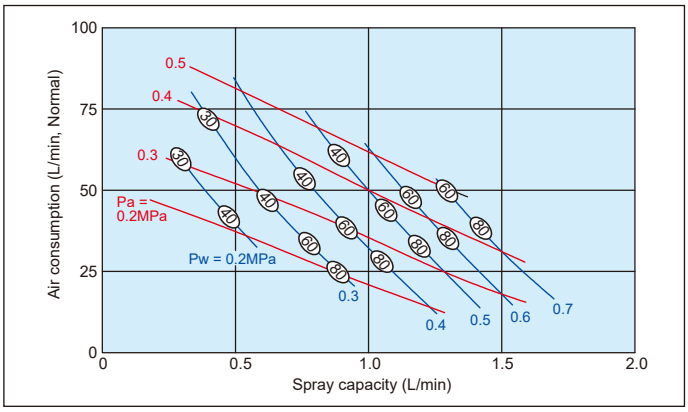
■How to read the chart

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.
3. Numbers in ovals ⬭ indicate Sauter mean diameters (μm) measured by laser Doppler method.
4. Flow-rate diagrams for spray angle code of 80 are available on request.

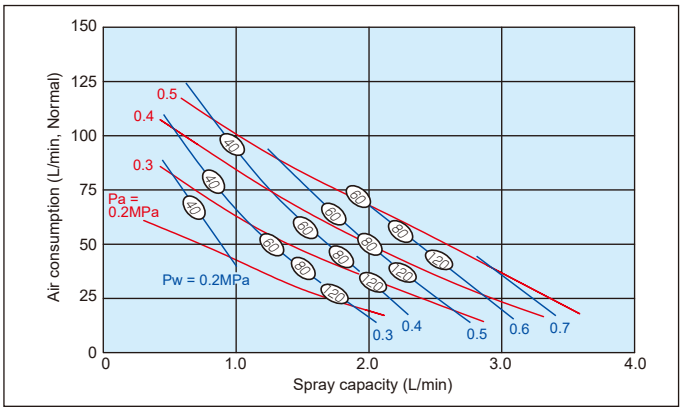
■ VVEA 6005



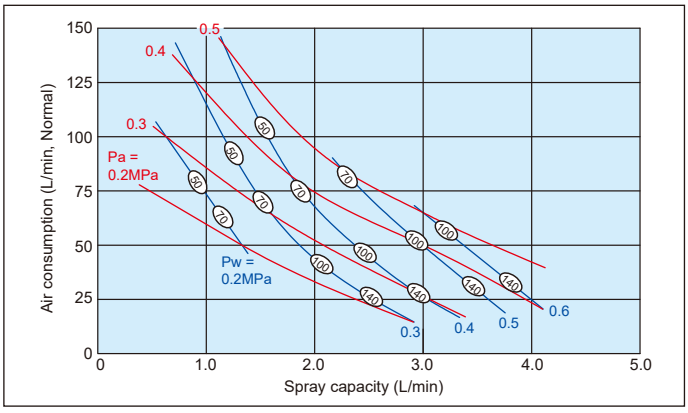
■ VVEA 6010



■ VVEA 6020



■ VVEA 6030



PERFORMANCE DATA

Spray angle code*4	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)									
			0.2		0.3		0.5		Laser Doppler method	Tip orifice	Adaptor	
			Liquid	Air	Liquid	Air	Liquid	Air			Liquid	Air
80	05	0.2	0.31	17	0.45	14	—	—	20–250	0.8	0.7	0.9
		0.3	0.23	24	0.36	22	0.58	18				
		0.4	—	—	0.29	29	0.50	25				
		0.5	—	—	—	—	0.43	33				
	10	0.2	0.54	36	0.90	24	—	—	20–250	1.0	1.1	1.3
		0.3	0.30	58	0.60	49	1.28	25				
		0.4	—	—	0.39	74	1.00	50				
		0.5	—	—	—	—	0.81	69				
	20	0.2	0.96	44	1.98	18	—	—	30–300	1.1	1.6	1.6
		0.3	0.53	81	1.10	59	2.63	19				
		0.4	—	—	0.53	104	2.00	50				
		0.5	—	—	—	—	1.30	89				
	30	0.2	1.34	50	—	—	—	—	40–400	1.3	1.9	1.9
		0.3	0.63	100	1.60	64	—	—				
		0.4	—	—	0.88	128	3.00	50				
		0.5	—	—	—	—	2.25	85				
60	05	0.2	0.31	17	0.45	14	—	—	20–250	1.0	0.8	0.9
		0.3	0.23	24	0.36	22	0.58	18				
		0.4	—	—	0.29	29	0.50	25				
		0.5	—	—	—	—	0.43	33				
	10	0.2	0.54	36	0.90	24	—	—	20–250	1.4	1.1	1.3
		0.3	0.30	58	0.60	49	1.28	25				
		0.4	—	—	0.39	74	1.00	50				
		0.5	—	—	—	—	0.81	69				
	20	0.2	0.96	44	1.98	18	—	—	30–300	1.5	1.6	1.6
		0.3	0.53	81	1.10	59	2.63	19				
		0.4	—	—	0.53	104	2.00	50				
		0.5	—	—	—	—	1.30	89				
	30	0.2	1.34	50	—	—	—	—	40–400	1.6	1.9	1.9
		0.3	0.63	100	1.60	64	—	—				
		0.4	—	—	0.88	128	3.00	50				
		0.5	—	—	—	—	2.25	85				

*4) Spray angle measured at compressed air pressure of 0.4 MPa and liquid pressure of 0.5 MPa.

HOW TO ORDER

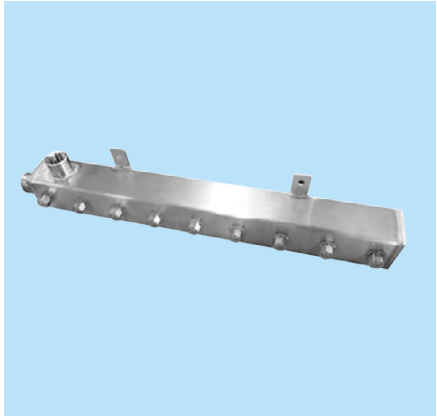
To inquire about or order a specific product please refer to this coding system.

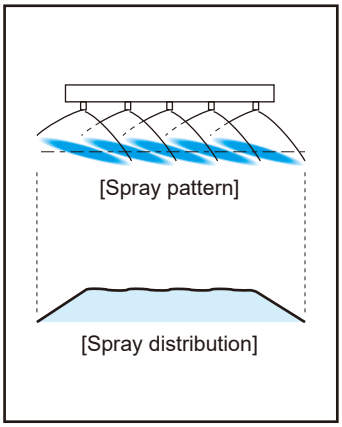
<Example> 1/8 VVEA 6010 S303

1/8	VVEA	60	10	S303
		Spray angle code	Spray capacity code	Material
		■80 ■60	■05 ■10 ■20 ■30	

Integrated Spray Header with VVEA series nozzles

VVEA Header





■Spray header equipped with VVEA series nozzles producing semi-fine (and semi-coarse) atomization with a mean droplet diameter of 50 μm or more.*1

■Combines two pipes for air and liquid into one rectangular spray header. Compact and easy to install and maintain.

■Uniform spray distribution across the entire spray area.

*1) Droplet diameter measured by laser Doppler method

APPLICATIONS

■Cleaning: Liquid crystal glass substrate, printed circuit boards, steel plates