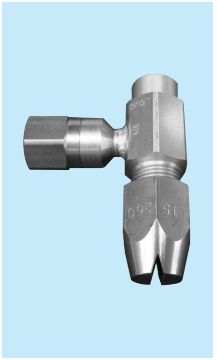
VVP+AS series Hydraulic/Pneumatic (Dual-use) Flat Spray Nozzles

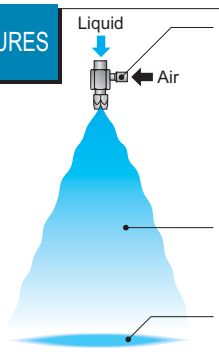
Patented

Steel making process

- Cooling bloom, slab short side, billet
- Roll cooling



FEATURES



- Built-in 0.05 MPa check valve.
- Can be used as a hydraulic nozzle for high flow rates and as a pneumatic nozzle for better control at low flow rates, which allows optimal control over a wide range of flow rate with minimal air consumption.
- Spray capacity turndown ratio is up to 1:20, while minimizing variation in spray angle and distribution.
- Normal flat spray pattern with mountain-shaped distribution.

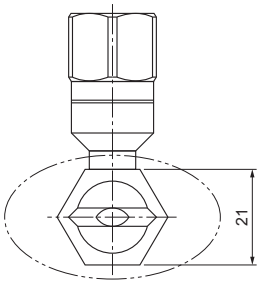
VVP+AS series

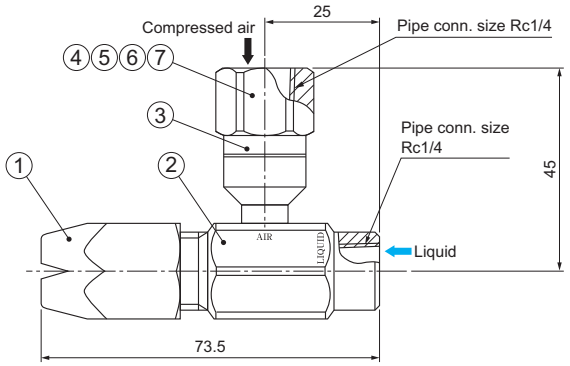
MATERIALS

①**Nozzle body**: S303
②**Mixing adaptor**: S304
③**Air socket**: S304
④**Check valve body**: S303
⑤**Poppet**: S303
⑥**Spring**: S304
⑦**O-ring**: NBR

MASS

Approx. 200 g





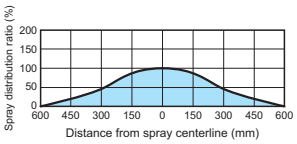
Spray angle code	Spray capacity code	Spray angle (°) 0.01 MPa	0.1 MPa	0.3 MPa	0.7 MPa	Spray capacity (ℓ/min) & Air consumption (ℓ/min, Normal)* Liquid pressure (MPa) 0.01 Liquid / Air	0.02 Liquid / Air	0.03 Liquid / Air	0.05 Liquid / Air	0.07 Liquid / Air	0.1 Liquid / Air	0.15 Liquid / Air	0.2 Liquid / Air	0.3 Liquid / Air	0.5 Liquid / Air	0.7 Liquid / Air	1 Liquid / Air	1.5 Liquid / Air	2 Liquid / Air	Mean droplet diameter (μm)	Free pass. dia. (mm) Nozzle	Adaptor Liquid	Adaptor Air
115	100	—	107	115	119	—	—	0.94 / 35	2.96 / 10	4.83/—	5.69/—	6.97/—	8.05/—	9.87/—	12.8/—	15.1/—	18.1/—	22.1/—	25.6/—	400–550	1.4	7.0	2.0
	200	100	107	115	119	1.55 / 46	2.93 / 40	4.26 / 30	6.81 / 4	9.29/—	10.9 /—	13.4 /—	15.5 /—	19 /—	24.5/—	29.0/—	34.7/—	42.5/—	49.1/—		2.4		
	230	100	107	115	119	1.78 / 46	3.37 / 40	4.89 / 30	7.84 / 4	10.7 /—	12.6 /—	15.4 /—	17.8 /—	21.8 /—	28.2/—	33.4/—	39.9/—	48.9/—	56.5/—		2.7		
	260	100	107	115	119	2.01 / 46	3.81 / 40	5.53 / 30	8.86 / 3	12.1 /—	14.2 /—	17.4 /—	20.1 /—	24.7 /—	31.9/—	37.7/—	45.1/—	55.3/—	63.9/—		2.8		
	300	100	107	115	119	2.28 / 46	4.32 / 40	6.28 / 30	10.1 / 4	13.7 /—	16.1 /—	19.8 /—	22.8 /—	28 /—	36.2/—	42.8/—	51.2/—	62.8/—	72.5/—		3.0		

*Air consumption measured at compressed air pressure of 0.1 MPa

Conversion of unit [Pressure] 0.1 MPa ≈ 14.50 psi, 10 psi ≈ 0.07 MPa [Flow rate] 1 ℓ (liter) ≈ 0.26 US gal., 1 US gal. ≈ 3.79 ℓ (liter)

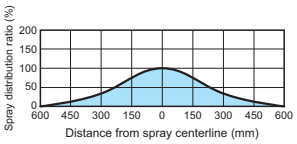
Comparison of distribution of VVP+AS series

Large spray flow
(Used as a hydraulic spray nozzle)



Spray condition

- Spray capacity: 51.2 ℓ/min
- Liquid pressure: 1 MPa
- Air consumption: 0
- Compressed air pressure: 0.1 MPa
- Spray height: 400 mm



Spray condition

- Spray capacity: 6.28 ℓ/min
- Liquid pressure: 0.03 MPa
- Air consumption: 30 ℓ/min, Normal
- Compressed air pressure: 0.1 MPa
- Air-water ratio: 3.4
- Spray height: 400 mm

Low spray flow
(Used as a pneumatic spray nozzle)

How to order

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

<Example> VVP 115 100 S303 + 1/4F×1/4F AS S304

VVP115 | 100 (Spray capacity code) | S303 + 1/4F × 1/4F AS S304

- 100
- 200
- 230
- 260
- 300