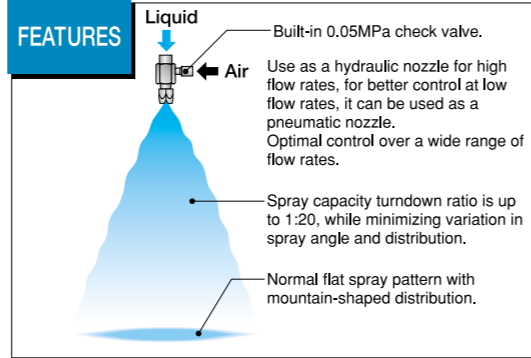
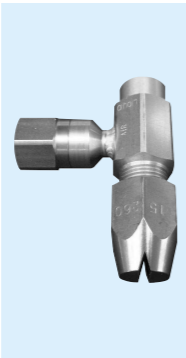


VVP+AS series Hydraulic/Pneumatic (dual-use) Flat Spray Nozzles

- Steel making process**
- Cooling continuous casted steel (Bloom)
 - Cooling continuous casted steel (Slab short side)
 - Cooling continuous casted steel (Billet)
 - Cooling roll on continuous casting machine

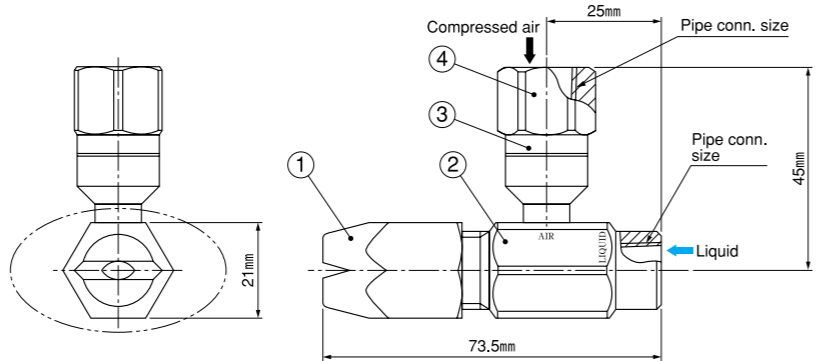
- Rolling mill process**
- Cooling sheets on continuous annealing line
 - Cooling roll in heat treatment
 - Cooling electromagnetic steel



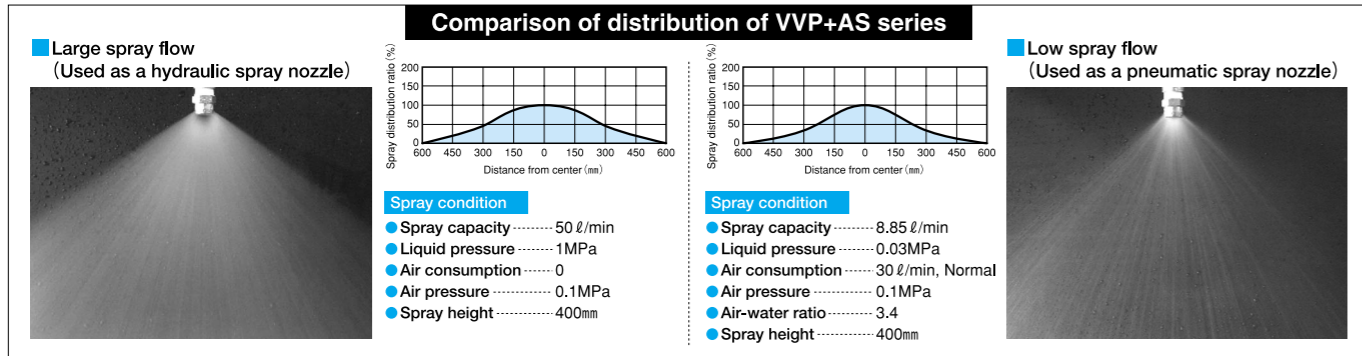
VVP+AS series

MATERIALS

- ① Nozzle: S303
- ② Mixing adaptor: S304
- ③ Check valve: S304
- ④ Air socket: S303



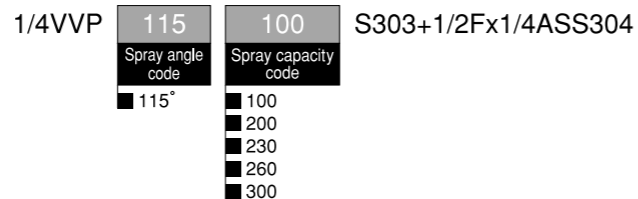
Spray angle code	Spray capacity code	Spray angle (°)				Spray capacity Qw (ℓ/min) & Air consumption Qa (ℓ/min, Normal) at Liquid pressure Pw (MPa) & Air pressure of 0.1MPa												Mean droplet diameter (μm)	Free pass. dia. (mm)		Mass (g)					
		0.01 MPa	0.1 MPa	0.3 MPa	0.7 MPa	0.01 MPa	0.02 MPa	0.03 MPa	0.05 MPa	0.07 MPa	0.1 MPa	0.15 MPa	0.2 MPa	0.3 MPa	0.5 MPa	0.7 MPa	1 MPa		1.5 MPa	2 MPa		Nozzle	Adaptor			
115°	100	—	107	115	119	Qw	—	—	0.94	2.96	4.77	5.69	6.97	8.05	9.87	12.75	15.09	18.05	22.12	25.56	400	1.4		190		
						Qa	—	—	35	10	—	—	—	—	—	—	—	—	—	—		2.4				
	200	100	107	115	119	Qw	3.46	4.9	6	7.75	9.17	10.9	13.4	15.5	19	24.52	29.03	34.71	42.54	49.14		550	2.7		7.0	2.0
						Qa	46	40	30	4	—	—	—	—	—	—	—	—	—	—			—		2.8	
	230	100	107	115	119	Qw	3.98	5.63	6.9	8.91	10.5	12.6	15.4	17.8	21.8	28.2	33.38	39.92	48.92	56.52	550	3.0				
						Qa	46	40	30	4	—	—	—	—	—	—	—	—	—	—		—				
	260	100	107	115	119	Qw	4.5	6.37	7.8	10.1	11.9	14.2	17.4	20.1	24.7	31.87	37.73	45.13	55.3	63.89	550					
						Qa	46	40	30	3	—	—	—	—	—	—	—	—	—	—		—				
	300	100	107	115	119	Qw	5.11	7.23	8.85	11.4	13.5	16.1	19.8	22.8	28	36.16	42.81	51.2	62.75	72.49	550					
						Qa	46	40	30	4	—	—	—	—	—	—	—	—	—	—		—				



How to order

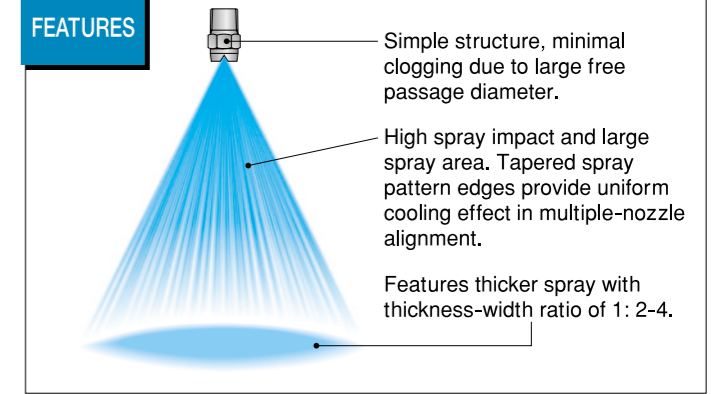
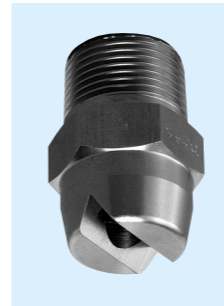
Please inquire or order for a specific nozzle using this coding system.

〈Example〉 1/4VVP115100S303+1/2Fx1/4ASS304



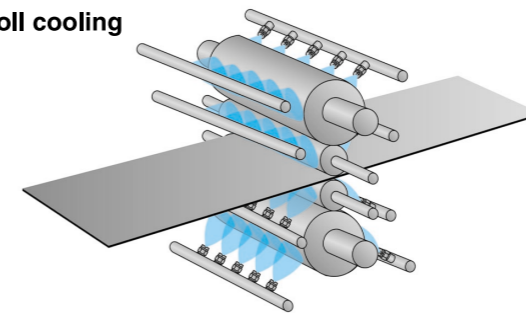
WVVP series Thick Flat Spray Nozzles

- Rolling mill process**
- Roll cooling
 - Cooling steel plates



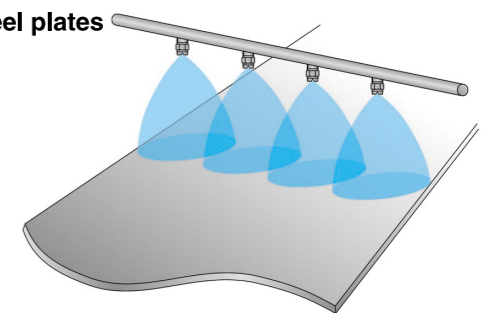
WVVP nozzles used in cooling application

- Roll cooling



WVVP achieves uniform and effective cooling.

- Cooling steel plates

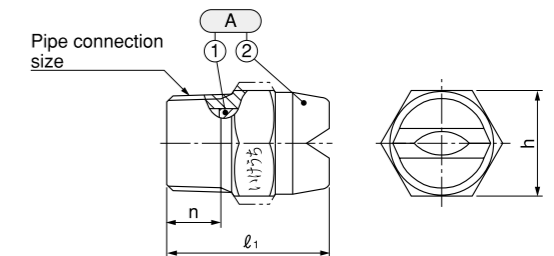


WVVP provides a wide and uniform cooling zone.

WVVP series

MATERIAL S303 (Stainless steel 303)

Series	Pipe connection size	Dimensions (mm)		
		ℓ ₁	n	h
WVVP	1/2M	38	14	23
	3/4M	45	15	29
	1M	55	18	35



[Note] Appearance and dimensions may differ slightly depending on materials and nozzle codes.

Ⓐ Nozzle (① Nozzle body ② Deflector)

Spray angle and spray capacity codes	Pipe connection size			Spray angle		Spray capacity (ℓ/min)				
	1/2M	3/4M	1M	0.3 MPa		0.05 MPa	0.1 MPa	0.2 MPa	0.3 MPa	0.5 MPa
3*50/40	○			20	50	16.3	23.1	32.7	40.0	51.6
5*80/100		○		20	75	31.6	44.7	63.2	77.5	100
3*80/200			○	20	80	81.6	115	163	200	258
3*50/200			○	20	50	81.6	115	163	200	258

Conversion of unit [Pressure] 0.1MPa ≒ 14.50psi 10psi ≒ 0.069MPa [Flow rate] 1ℓ (liter) ≒ 0.264 US gal. 1US gal. ≒ 3.79ℓ (liter)

How to order

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

〈Example〉 1/2M WVVP 3*50/40 S303

