

**Energy saving
design for less
air consumption**

Air-assisted Spillback Nozzles

ASPB series

Our pneumatic spillback nozzle is now available!

Adding a compressed air line to your existing system can help resolve various issues.



FEATURES

- Energy-efficient return-type nozzle with lower air consumption than typical pneumatic spray nozzles.
- Mean droplet diameter: approx. 80 μm (at 0.4 MPa compressed air and 2.0 MPa liquid pressure).
- High spray velocity allows the spray to resist exhaust gas flow and reach the center of the cooling tower.

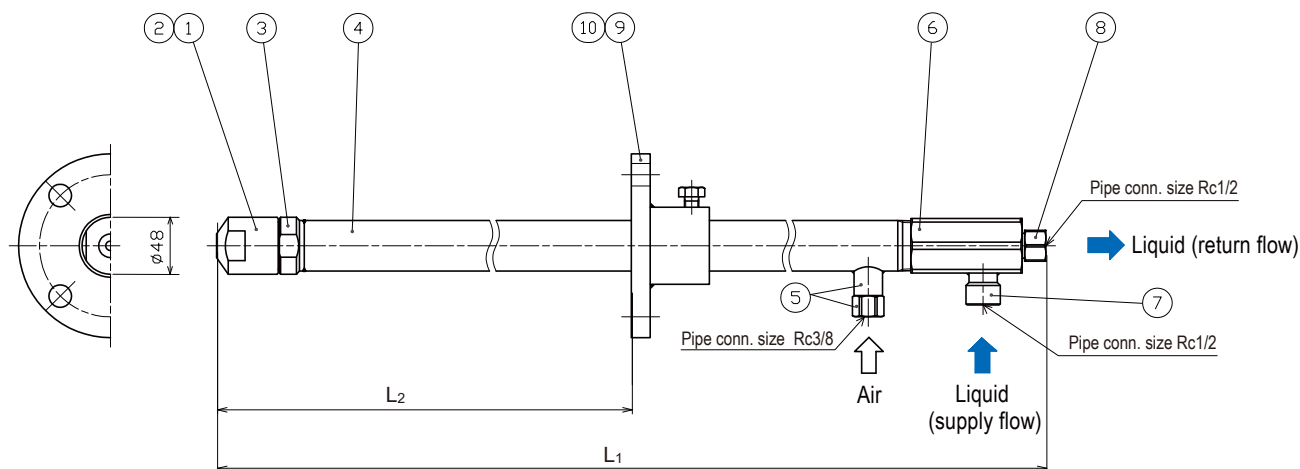
ADVANTAGES

- **Improved cooling performance** compared to conventional spillback nozzles
- **Lower air consumption** than typical pneumatic spray nozzles
- **Reduced drainage** from unvaporized water and **less dust adhesion** inside the cooling tower or near the outlet

APPLICATIONS

Flue gas cooling in incineration plants and similar applications

DRAWING



COMPONENTS

- ① Nozzle tip A
- ② Nozzle tip B
- ③ Nozzle adaptor
- ④ Pipe
- ⑤ Air socket
- ⑥ Joint
- ⑦ Liquid inlet socket
- ⑧ Liquid outlet socket
- ⑨ Packing
- ⑩ Flange

STANDARD TYPE

Type of length	Total length L_1^{*1} (mm)	Length L_2 (mm)	Weight *2 (g)
A	650	300–400	4,800
B	850	400–600	6,000
C	1,050	600–800	7,200
D	1,250	800–1,000	8,400

*1) L_1 : Standard length

*2) The weight shown is when the total length is L_1 and excludes a weight of flange. Add 600 g per 100 mm increase in L_1 .

FREE PASSAGE DIAMETER

Product code	Free passage diameter (mm)	
	Liquid	Air
ASPB20600	2.0	2.5
ASPB20800	2.0	2.5
ASPB201000	2.5	2.5

FLOW-RATE DIAGRAMS

How to read the diagrams

The spray capacity shown is for one nozzle.

Figures at the foot of the bold line (—) indicate liquid return pressures P_R in MPa.

Figures at the head of the thin line (---) indicates compressed air pressures P_a in MPa.

Description of symbols

P_a : Compressed air pressure

P_s : Liquid supply pressure

P_R : Liquid return pressure

Q_a : Compressed air consumption

Q_w : Spray capacity

\bar{d}_{32} : Sauter mean droplet diameter

d_{max} : Max. droplet diameter

Q_a/Q_w : Air-water ratio

• Flow rates are based on a constant liquid supply pressure (P_s) of 2.0 MPa.

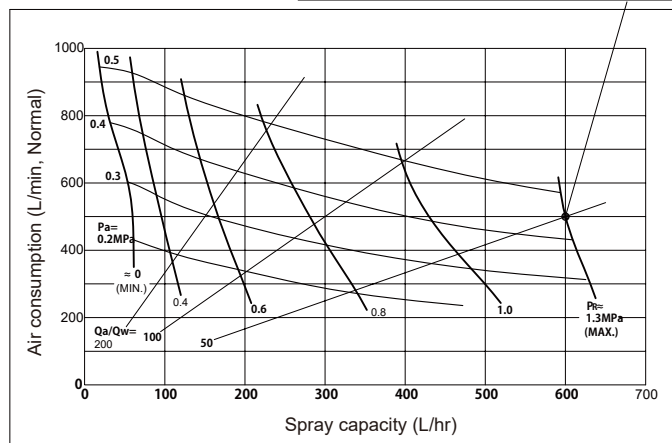
• Recommended return pressure (P_R): 0.4 MPa or higher.

• Backflow of compressed air may occur below 0.3 MPa return pressure.

Design conditions

$P_a = 0.45$ MPa $Q_a = 500$ L/min, Normal
 $P_s = 2.0$ MPa $Q_w = 600$ L/hr
 $P_R = 1.3$ MPa $\bar{d}_{32} = 75$ μ m (estimated)
 $d_{max} = 225$ μ m (estimated)

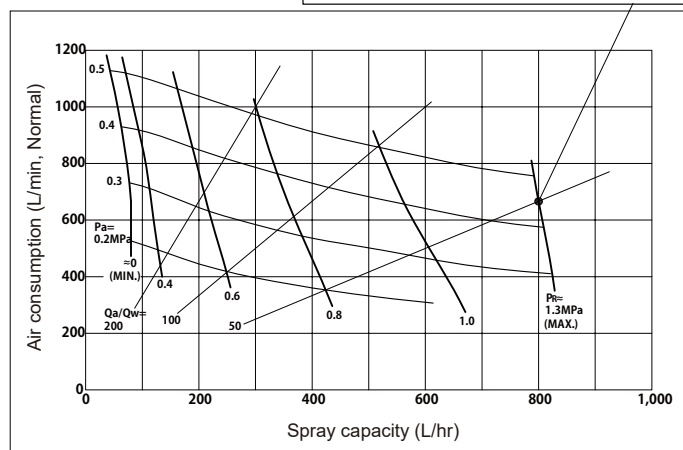
ASPB20600



Design conditions

$P_a = 0.45$ MPa $Q_a = 666$ L/min, Normal
 $P_s = 2.0$ MPa $Q_w = 800$ L/hr
 $P_R = 1.3$ MPa $\bar{d}_{32} = 78$ μ m (estimated)
 $d_{max} = 234$ μ m (estimated)

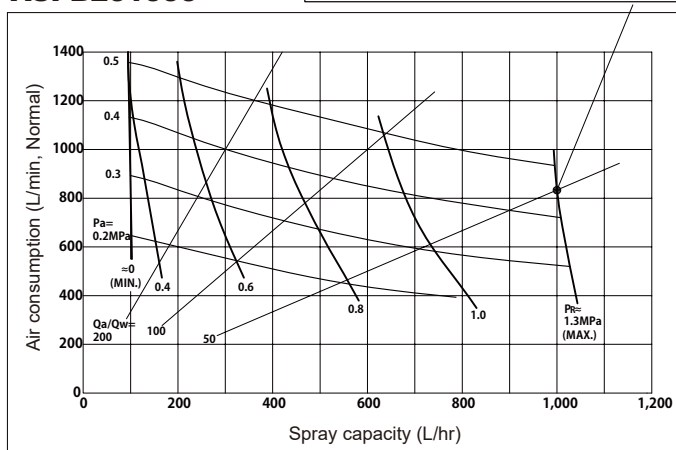
ASPB20800



Design conditions

$P_a = 0.45$ MPa $Q_a = 833$ L/min, Normal
 $P_s = 2.0$ MPa $Q_w = 1,000$ L/hr
 $P_R = 1.3$ MPa $\bar{d}_{32} = 82$ μ m (estimated)
 $d_{max} = 246$ μ m (estimated)

ASPB201000



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.

Specifications of the products and contents of this leaflet are subject to change without prior notice for purpose of product improvement.

Please feel free to send any inquiry, request for information or quote regarding this product to the contact below.



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