



Pneumatic atomizing nozzles are available in various designs to comply with specific spray and flow requirements:

- self-aspiration (siphon principle)
- supply of liquid from a vessel located at a higher level (gravity principle)
- supply of liquid under pressure (pressure principle)
- mixing of fluids inside or outside the nozzle
- full cone or flat fan spray pattern

For many applications, adjustability of liquid flow and, thereby, of the droplet size, is possible with the aid of manually operated accessory components.

A pneumatically controlled piston (series 136) or magnetic valve (series 166) allows to perform automatic or intermittent operations. A number of special customized designs complete the nozzle range.

Criteria for selecting pneumatic atomizing nozzles

1. Spray pattern

Pneumatic flat fan atomizing nozzles should be chosen for humidifying and cooling of goods, for web dampening and for a number of painting tasks; in short, wherever a broad linear impact is required. **Pneumatic full cone atomizing nozzles**, however, should be used, when a compact, circular impact or a major reach is required, e.g. for direct air humidifying, for gas cooling or for chemical process applications.

2. Mode of liquid supply

Whenever liquid can be supplied under pressure, it is recommended to use nozzles functioning by the **liquid pressure principle**. Use of pneumatic atomizing nozzles operating to the **siphon or the gravity principle** is recommended when liquid is to be sprayed in small quantities, e.g. for spraying of disinfectants.

3. Mixing of fluids

The supply of air or gas provides an additional breaking up of the liquid flow into finest drop particles. This supply and mixing can either take place inside or outside the nozzle. **Inside mixing** should be preferred, when water, low viscosity liquids or liquids without solid matter are to be atomized. **Outside mixing** is particularly suited for atomizing viscous liquids which are prone to impurities and therefore tend to cause clogging of the nozzle. Low liquid pressures are used with this type of nozzle due to its design.

