An atomizer can work on two different liquid feed principles, that is:

- Liquid is supplied to the atomizer through a line under pressure
- Liquid is aspirated by the atomizer from a container at ambient pressure.

**PRESSURE PRINCIPLE**

It is the most widely used, and therefore a large range of capacities and spray patterns are available. Liquid capacity, air capacity and droplet sizes can be adjusted by regulating air and liquid feed pressures and the two fluids are mixed inside the atomizer prior to being ejected (Internal mix atomizers).

A different type allows for mixing the fluids just after they are ejected from the orifice, avoiding mutual influence of the two fluid pressure values inside a mixing chamber and allowing wider regulation range (External mix atomizers).

**SIPHON PRINCIPLE**

These atomizers offer lower capacity values for liquids and a simpler layout since the liquid is aspirated from the atomizer through a Venturi effect. The liquid is simply supplied from an open container, whose level can be lower or higher than the atomizer one to fine tune the liquid capacity. The atomizing air provides the vacuum necessary into the mixing chamber for the Venturi effect.

The set-up can be designed in two different ways so as to obtain the following actions:

- Air and liquid are mixed up in a mixing chamber inside the atomizer and then they are ejected through the orifice as a spray.
- Air and liquid are ejected from the atomizer through different orifices, and the spray is generated by the impact of the two jets.

**INTERNAL MIX SET-UPS**

The spray is ejected from one or more orifices in the wall of a mixing chamber. In these atomizers a change in the pressure of one of the fluids inside the mixing chamber has an influence on the capacity of the second fluid and this effect reduces the ease of regulation. As an example, increasing the air pressure will decrease the liquid quantity being atomized and the droplet size, and vice-versa.

**EXTERNAL MIX SET-UPS**

The two fluids are ejected through different orifices, their mixing happens outside the orifice. Therefore their pressure values can be adjusted avoiding cross influence with a more precise and stable regulation. External mix set-ups can only work with liquid feed under pressure, and only produce flat jet spray.