In many industries, such as in metals industry or chemical industry, bi-phase water-air atomizers are mainly, but not only, used to suppress and cool fumes. In these situations, it is very important to have products that give a homogenous distribution of the nebulized jet that interact with the gaseous phase, and to have the possibility to work with a wide range of pressures, both for water and air.

PNR Italia 50-years’ experience allows to find different solutions for the difficult problems the company has faced for its clients, and in this page you can find some special atomizers that have been created, with a special attention to their industrial applications.

In this page, we present, for information only, the products currently available. For more detailed information on the performance and size of individual products, we invite you to visit our website www.pnr.eu in the “Special Atomizers” section (link: www.pnr.eu/it/prodotti/atomizzatori-speciali/), or write an email to info@pnr.it.

In many industrial processes requiring gas cooling, fumes suppression or the injection of chemicals, it is necessary to use suitable air atomizing nozzles. PNR bi-phase nozzles MF series are products specifically designed to improve the efficiency of the manufacturing processes with a reduced energy consumption and a low clogging risk. The special geometry of the MF air atomizing nozzles provides a uniform spray pattern and small droplets.

The MN series atomizers are normally used to cool blooms and billets. They have a full cone spray pattern and a mounting system to the support plates through two pins and O-rings in Viton. They can be supplied with 1/4” or 3/8” female liquid/air connections upon request. All MN atomizers are supplied with a capacity/pressure chart so to be able to adjust the pumps to the capacities required by the plant.

The MO atomizers with oval spray coverage are normally used to cool blooms and billets. They have a fastening system to lock them on the supporting plates through two pins and O-ring in Viton. On request they can be supplied with 1/4” or 3/8” female liquid/air connections upon request. All MO atomizers are supplied with a capacity/pressure chart in order to adjust the pumps to the capacities required for the plant.

In continuous casting, and in slab casting in particular, lance atomizers replace conventional compact atomizers, currently called block atomizers, where the atomizer body is equipped with an extension and the spray tip is located at the exit end of the extension. The reasons of this replacement are due either to the geometrical need to insert the spraying pipe between rolls, whose clearance is often very small and prevents the use of block atomizers, or to the convenience to position the feeding pipes far from the intensely heated area near the slabs.

Lance atomizers can be classified according to different parameters:

- **Atomizer’s body:** the body where atomization is generated is matched by a plug-in connection to fluid feeding ducts, may have different shapes according to the model and may be casted or machined.
- **Geometry of the pipe:** straight pipe, or bent type.
- **Connections of the pipe to the body:** the extension pipe is welded onto the block body, or the extension pipe is screwed to the block body with a locknut.