



## NOZZLE KNOWLEDGE SERIES

### ARTICLE 8: NEED TO KNOW

This is the eighth and final article from our nozzle knowledge series.

What information is it useful to have from you, in order for us to quickly and easily specify the right nozzles for your application?

#### APPLICATION

Firstly, the most important piece of information we require is the application.

Here at SNP, we have decades of experience dealing with various spray applications. If the application is specified at the start, our knowledgeable experts can offer immediate and useful advice from past experiences dealing with similar applications.



#### FLUID SUPPLY

Our team need to know:

- The maximum pressure that the pump can maintain.
- The flow rate that the pump can maintain.
- The pump curve (the relationship between pressure and flow rate).
- The pipe factors between the pump and the nozzle (the likely frictional and gravitational pressure losses).
- What the nozzle can see (the range of pressures and flow rates).
- The flow rate (variations and tolerances – applications such as coating will have a precise flow rate. But for other applications such as dust control, the flow rate will be less refined).



 [info@spray-nozzle.co.uk](mailto:info@spray-nozzle.co.uk)

 [www.spray-nozzle.co.uk](http://www.spray-nozzle.co.uk)

 01273 400092



## TARGETING

Our top targeting questions are:

- How are we going to accurately direct the spray? Will there be any leeway there?
- Where does the fluid need to go?
- Do you need an even or uneven distribution of fluid (this heavily relies on the application)?

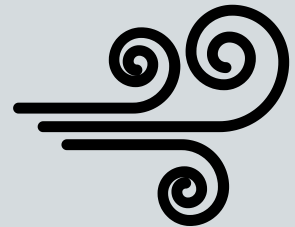


If you provide the answers to those questions, this will equip our team with all of the correct information to correctly position the nozzle and ensure the spray hits the target.

## AIR

When contacting us, we need to know if air is available. The top questions regarding air would be:

- Are air atomisers an option?
- Is there air on site?
- If not, is it possible to get air on site?
- Is it possible to use air in this application (some applications do not require air and this will widen our scope of nozzle selection and thus, offer more options for you)?



## ENVIRONMENTAL CONDITION

Our team need to know:

- The temperature at which the liquid is going to be sprayed.
- What the nozzle is going to be spraying into (this will significantly affect the material selection).
- If it's going into a gas flow, what is the gas flow and will it be moving? Is there going to be any variation?



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- Are there windy conditions as this can affect the direction of the spray.
- Corrosive factors – is the environment likely to be corrosive?



## FLUID PROPERTIES

All data sheets are calibrated for water and if it's just water being sprayed, this isn't an issue.

But if a different liquid is being sprayed with a different viscosity and specific gravity and surface tension, we will need to know what the fluid properties are, to ensure the appropriate adjustments are made.

In a previous article, we went through some equations that showed how spray factors such as flow rate and drop size are calculated.

The other fluid property that is important to understand is particulate content.

How well filtered is the fluid going to be?

If it's pure, clean and very well filtered water, this gives us lots of options. But if there are likely to be contaminants in there that can clog up the nozzle, we'll need to look at clog-resistant nozzles.



**In some applications, not all of this will be precisely defined. But if you can provide us with as much of that information as possible, procuring your nozzle solution or system becomes even more hassle free!**