

<p style="text-align: center;"><b>TG –FOG SYTEM</b></p> <p style="text-align: center;"><b>COOLING DOWN - TREATMEN APPLICATIONS</b></p> <p style="text-align: center;"><b>TG FOG – INDUSTRY</b></p>
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### **GENERAL CHARACTERISTICS**

The climate control project design of an industry will depend on a number of variables such as:

- Industry sector and activity
- Manufacturing process
- Exterior climate conditions
- Interior heat added by machines and employees.
- Air changes required within the industry activity

There are four climate and ambient control necessity types within the industry sector:

- Cooling
- Humidity control
- Heating
- Ambient sanitary control (dust suppression, odor neutralisation etc.)

TGROK PROJECTS has a broad and hands on job experience in the design and turn key delivery of climate control projects within industry sectors such as:

- Leather
- Construction materials manufacturing
- Winery
- Fruit and vegetable processing
- Wood
- Metal
- Plastic manufacturing and transformation
- Residues Management
- etc.

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The TG-FOG installation will increase the efficiency of your manufacturing and assembling processes (humidification etc.) on top of increasing the productivity of your employees.

Depending on the client demands and industry typology, the TG-FOG installation will be designed in order to control and monitor any or all of the following climate parameters:

- Temperature.
- Relative Humidity.
- Air changes i.e ventilation.
- Ambient sanitary conditions

Based upon the necessities of the industry sector and client, TGROK PROJECTS will design both ventilation and TG-FOG system application either **separately** or as part of the same common project, resulting in the following project scenarios:

- **Forced ventilation system** (without fog-system): the main target of this type of installation is to control the number of “air changes” within the industry and therefore creating an optimal and healthy comfort and environment for the employees.  
Result: **Air** will be **changed** within the working environment (4 to 15 air changes). **Temperature** will not decrease. **Relative humidity** will decrease and match the outer relative humidity.
- **8 – 30 TG-FOG spray nozzle installation** (without forced ventilation): this installation type will allow cooling down the ambient and increasing the relative humidity within an specific working area (30m<sup>2</sup> – 250m<sup>2</sup>).
- **Fixed TG-FOG installation + Forced Ventilation system**: a fixed TG-FOG spray nozzle installation will be combined with a forced ventilation system in order to cooling down, producing air changes and increasing relative humidity within an entire industry.
- **TG-FOG spray nozzles installed in front of fans**: this application type is the most efficient solution when willing to cooling down and generating air circulation within specific working areas in an industry

You will benefit from the flexible and fully adaptable TG-FOG system technology within any of the following application types:

- Cooling down entire industries or specific working areas within an industry
- Humidification of entire industries of specific industry processes
- Dust neutralisation and suppression
- Aerial micronised application (treatment application, disinfectant etc.) of any product which can be dissolved in water
- Odour neutralisation by micronising into the ambient a mix of enzymatic products and water.
- Static electricity suppression  
Explosive atmospheres risk minimisation.

### COMPETITIVE ADVANTAGES

- **Maximum energy savings and increased productivity** due to low water pressure (3bar through 5bar) and low compressed air pressure (2,5bar through 3,5bar) mix.
- **Very cheap investment and high value for money**, since the compressed air and water needed to run the TG-FOG spray nozzles are available in most of the industries.
- TG-FOG spray nozzle **liquid flow rate** (3ltr/h through 10ltr/h) and **droplet size** (5microns through 100microns) **can be adjusted at any time**, by simply regulating the liquid pressure at main liquid pump exit.
- **Micronising fog-distance up to 8meters**, resulting in a better and quicker homogenisation and hence a more effective cooling result in the farm.
- **No maintenance of the system and no clogging** (0%) occur at the TG-FOG atomising nozzle regardless of the product micronised through the nozzles. This is due to the wide external TG-FOG orifice (both 0,8mm and 1mm orifices available).

Important Remark: the 0,8mm external orifice TG-FOG nozzle has a section 16 times larger than the section of a 0,2mm external orifice high pressure nozzle.

- **Easy mounting process**. The TG-FOG nozzle can be connected to any flexible and/or rigid air and liquid feeding pipes (PVC, Polyethylene, aluminium, metal etc.) via clamps, direct connection, micro-tube etc.
- The TG-FOG **spray nozzles are made out of top quality polymers**, which resist any chemical attack and temperature exposure.
- **Low energy consumption** e.g. for **20 nozzles the air consumption is 18m<sup>3</sup>/h** and the water consumption ranges from **60ltr/h through 180ltr/h** depending on the water pressure adjusted at installation header.

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