



**Sealpump
Engineering Ltd**

SPRAY TECHNOLOGY

FOR THE FOOD & BAKERY INDUSTRIES



COMPLETE SPRAY SOLUTIONS FOR:

COATING | COOLING | CLEANING | LUBRICATION | HUMIDITY CONTROL | & MANY MORE



**Sealpump
Engineering Ltd**

From a single nozzle to a complete integrated and controlled spraying system, Sealpump Engineering provides the total solution for all spraying applications

With over 40 years experience, Sealpump Engineering Limited is one of the UK's major designers and suppliers of industrial spray nozzle systems. Our UK wide team of dedicated designers and sales engineers visit sites to advise on the optimum solution for each application.

We design, manufacture, supply and install spray nozzle systems for a wide variety of applications within the food and baking industries. As these industries strive to meet ever more stringent standards on production efficiency and product quality, Sealpump Engineering has designed unique methods and processes in key areas of humidification & product coating.

Our partnerships with selected engineering service providers allow us to offer total solutions, integrating our spraying products into new and existing processes. Customers derive cost benefits from decreased water and material consumption and energy efficiency through well designed systems.

Sealpump Engineering Limited is a quality assured company in accordance to standard ISO 9001: 2015

Spray Nozzle Types

- Flat fan
- Deflected Flat Fan
- Solid jet
- Hollow cone
- Solid cone
- Air atomising
- Ultrasonic fogging
- Tank cleaning
- Air nozzles
- Spraying systems

Applications

- Cleaning
- Coating
- Cooling
- Humidification
- Applying viscous liquids
- Applying temperature critical products
- Lubrication and mould release
- Odour control
- Dough splitting
- Automated spraying systems

**Total Solutions
for all
Spraying
Applications**



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In all areas of precision spray nozzles and applications, Sealpump Engineering is a leading and innovative spray technology company. Founded in 1979, we have a wealth of experience in spray technology and have designed and supplied our spraying expertise to virtually every processing and manufacturing industry, none more so than the food and baking industries.

There are many applications within food and bakery processes which can benefit greatly from well designed, innovative and reliable spray technology, such as humidity control in the baking process, applying a wide variety of coatings and flavourings to food products, lubricating, cleaning of vessels and equipment, bread scoring and dough splitting and many more.

Sealpump Engineering Ltd has the correct nozzle for your spray application, with thousands of nozzles readily available in various configurations and materials, a quick, professional service is guaranteed. Optimising spray performance and improving productivity is a key aspect to our automated spraying systems, fully controllable and ensuring the highest level of performance is achieved from every spray system.

Humidification Systems for the Baking Process



*“Bakers, like humidity?
Don’t like wetting?
Then Dry Fog is for you”*

Humidification is the artificial regulation of humidity in the environment. When the atmosphere becomes too dry, moisture is drawn from surrounding materials, which has a detrimental effect on your product. Low relative humidity is not only uncomfortable, it can also be damaging to equipment and materials.

The Dry fogging nozzle is ideal for increasing the level of relative humidity within a room or process by introducing moisture back into the atmosphere without causing wet areas or excessive water drop out.

Ultra-fine fogs down to only 1 micron (0.001mm) are possible, therefore ensuring the soft plume of water droplets remain in suspension until evaporation takes place. When complemented with our special water valve assembly, the unit becomes a highly efficient non-drip, self-cleaning atomiser.

The heavy duty stainless steel water valve is controlled by the same compressed air supply used to activate the nozzle. A simple on/off signal is required to activate the system and when the signal is removed, the water valve self-cleans every time by blowing excess water away, significantly reducing any potential particulate build up. This air controlled valve also ensures that every time the nozzle is turned on/off, it does not drip meaning there is no risk of having a blocked nozzle, allowing for use in environments where control is essential and access limited.

Nozzles are controlled by a Sealpump control panel, which switches the system on/off automatically to provide the stable humidification levels required. Sealpump can work with you to design a highly efficient Dry Fog humidity control system with controls that can link into existing processes.

The Dry Fog humidification systems provide an economical, low maintenance and low energy consuming humidity control solution, capable of achieving up to 99% rh.

Advantages

- Less than 5 micron droplets
- Close humidity control
- Non-drip system
- Self-cleaning nozzles
- Saves up to 90% on steam energy
- Low running costs
- Low maintenance
- Low energy consumption
- No pump required
- Easy mounting & install

Applications

- Provers
- Conditioning rooms
- Bread coolers
- Retarder provers
- Comfort cooling

Dry Fog Humidity Control for Dough Fermentation Rooms

“Dry Fog creates the perfect conditions for your process”

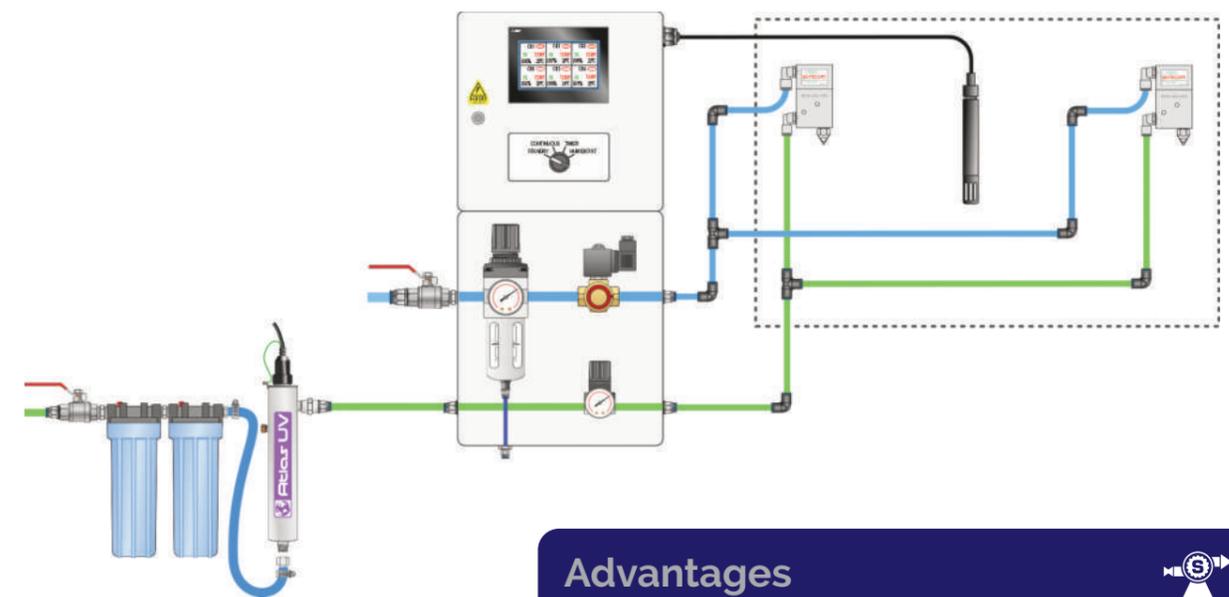
For traditional bread making methods the fermentation or conditioning rooms is where pre-mixed dough is fermented or conditioned for up to three hours. This process changes the dough from a dense mass into an elastic product which is then ready for the cooking and cooling stages.

Fermentation rooms are used mainly when making speciality baked goods rather than bulk products, due to the increased time it takes compared to the more high volume production CBP method favoured by the mass producers.

As with all baking stages, creating a well-controlled environment is essential in helping produce a consistently good end product. By using our Dry Fog technology you can increase the level of relative humidity within a room by introducing moisture back into the air without causing wet areas or excessive water dropout. Most importantly rh can be raised to 99% without the concern of damp equipment or product.

In these rooms, the Dry Fog nozzles are strategically located to give an even humidity level without over fogging. Mains water can be used along with an ultraviolet disinfection unit, and due to the unique self-cleaning nozzle design, there is no risk of blocked nozzles meaning little or no maintenance is required.

Our systems can be supplied with humidity sensors and full control package or we can retrofit into the rooms and link into existing controls the site may have.



Advantages

- Humidity of up to 99%
- Low pressure system
- Self-cleaning and non drip system
- No need for high pressure equipment
- Little or no maintenance
- Easily mounted nozzles
- No pump required
- Non-wetting

Dry Fog Humidity Control for Proving Rooms



“Improve performance through perfect humidity control”

Ultrasonic Dry Fog Nozzle Assembly

Droplets of approximately 5 micron increasing relative in UK Bakery's Proofer

Advantages

- Suitable for new or existing provers
- Up to 90% cost saving on steam
- Dry Fog spray of less than 5-micron droplets
- Low energy and running costs
- Low maintenance
- Perfect humidity control without increasing temperature
- Can be used along or in conjunction with steam
- Easy controls can be linked into overall proofer PLC
- Nozzles can be individually controlled
- PLC control allows for gradual rather than aggressive humidity control

Creating the perfectly controlled environment is critical in the bakery process in order to help generate repeatable production of a high quality baked product.

Provers allow the product to rise to approximately 90% of its final size. If the humidity and temperature are not controlled accurately enough, the dough will either rise too much or not enough, meaning a poor quality final product and increased waste, therefore reducing the bakery's bottom line.

Typically, the standard method of controlling the relative humidity is by injecting steam. In many provers steam injection can be replaced with our Ultrasonic Dry Fog system.

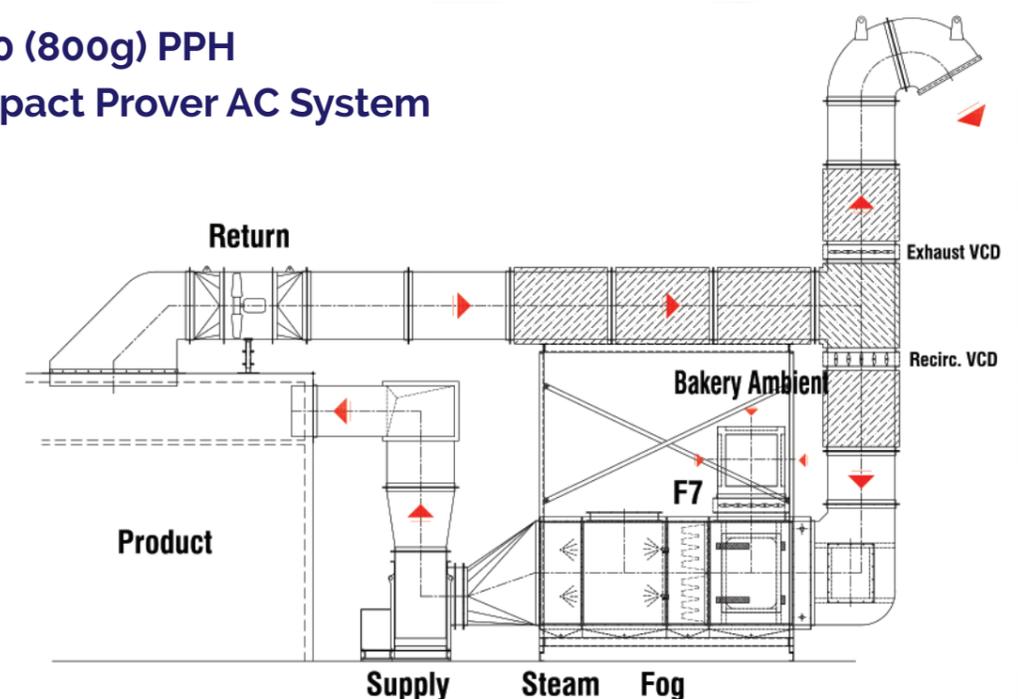
Whether for a new proofer or as an upgrade package to an existing proofer, Sealpump Engineering's Dry Fog Humidification system can either be used as a stand-alone system without the need for steam generation or used in conjunction with your existing steam controls.

The Dry Fog nozzle is ideal for increasing the level of relative humidity within a proofer by introducing moisture in a Dry Fog spray back into the air without causing any wetting. Ultra-fine droplets down to 1 micron (0.001mm) in size ensure a soft plume of water remains in suspension until evaporation, allowing for rh of up to 99%.

If you have an existing proofer where steam control alone is causing problems with controlling the relative humidity and increasing heat when not necessary, then our system can be installed either to replace the steam, or if you still need the heat from steam, to be used alongside the steam system to ensure that the humidity is maintained but the temperature is also controlled and not increased too much by just adding steam.

Whichever method you chose, this fogging system allows much greater and accurate control over the humidity in your process, while also vastly reducing your running costs and requiring little or no maintenance, unlike traditional steam generation.

7,500 (800g) PPH Compact Prover AC System



The image above shows how the Dry Fog Humidification system can be used in conjunction with steam injection to accurately control the relative humidity whilst not increasing temperature. This then ensures that the environment is always kept at the perfect conditions for your product, reducing running and maintenance costs as well.

Dry Fog Humidity Control for Retarder Provers



“Reduce operating costs through Dry Fog technology”

Retarder provers are a useful addition to the baking process as they can hold a raw product at a stable temperature until the proving process is required to begin. The retarder prover can hold and retard the bread for up to three days allowing for delays in production as well as letting bakers schedule breaks in batch production. They also help produce a better end product, as the dough is allowed longer to rest between mixing and proving.

These provers can be used by both small craft bakeries, family bakers with multiple outlets or larger plants. Whatever the size of prover or site, having control over the humidity level is essential; this can be achieved by using our Ultrasonic Dry Fog nozzle system. Our system can replace the traditional method of injecting steam, therefore greatly reducing operating costs and energy use whilst increasing performance and controllability.

Energy and running costs are a big factor in many manufacturing processes, and the chance to reduce them while also increasing performance can have a positive effect on a bakery's bottom line.

The Dry Fog technology can be used in small or larger retarder provers and systems can be adapted to suit all types. The system can be used alongside existing humidity monitoring equipment or we can supply a fully controlled and self-contained package to suit your needs.

Advantages



- Up to 99% rh can be achieved
- No need for steam generation
- Virtually no maintenance
- Droplet sizes as small as 1 micron
- Low energy costs
- Easy control and mounting platform
- Up to 90% cost saving on steam
- Non-drip and self-cleaning system

Dry Fog Humidity Control for Fresh Produce Cold Storage

“Improve shelf life and product freshness with Fogging technology”



One of the biggest problems facing fresh produce producers and suppliers is finding ways to increase the shelf life and freshness of their product, whether it is potatoes or broccoli or carrots and fruits, all without compromising product quality and adding excessive costs.

Our Ultrasonic Dry Fog nozzle system can accurately and economically control the relative humidity of a cold store to up to 99% rh, adding moisture into the atmosphere through millions of airborne water particles as small as 1 micron, but without the wetting of any storage equipment or floors.

The moisture created by the fog allows the product to hold its weight for longer, increase its shelf life and helps reduce the risk of disease. In potato storage it can also protect the potatoes from compression damage which reduces scrap and wasted product.

Our Dry Fog nozzles can also be used to dose in chemicals that stop the risk of sprout growth, again helping the products while at the same time controlling the rh. As we design and supply the complete liquid delivery and spray control package, we can offer either the standard humidity control systems, or a system with the added option of a chemical dosing system, meaning a dual purpose spray solution.

Advantages



- Increases product shelf life
- Maintains product weight
- Less than 5 micron droplets
- Non-drip & self-cleaning design
- Reduces risk of disease
- Protects products from compression damage
- Low running costs & low energy usage

Applications

- Cold storage
- Potatoes
- Carrots
- Sprouts
- Fruits

Dry Fog Humidity Control for Bread Coolers

“Use Dry Fog for increased control over humidity”

During the baking process, whether the product is bread, confectionary or other baked products, cooling is an integral stage of the food processing industry. Coolers are essentially large, ventilated boxes where temperature and humidity are tightly controlled by air flow variance and which traditionally use standard hydraulic water sprays. In typical circumstances, the temperature in the cooler is maintained to approximately 20 degrees C while the humidity is held at around 85-90%. If the bread is not cooled sufficiently, it can collapse when slicing and cause condensation on the inside of the packaging.

By replacing the existing traditional water sprays with our Dry Fog system it allows for greater control over the relative humidity within the cooler, increased efficiency and reduced water usage. The Dry Fog nozzle assembly uses compressed air and water to create an ultra-fine spray consisting of droplets as small as 1 micron, this type of spray increases the rh without wetting and eliminates the need for drip trays, re-circulation systems and maintenance intensive high-pressure systems.

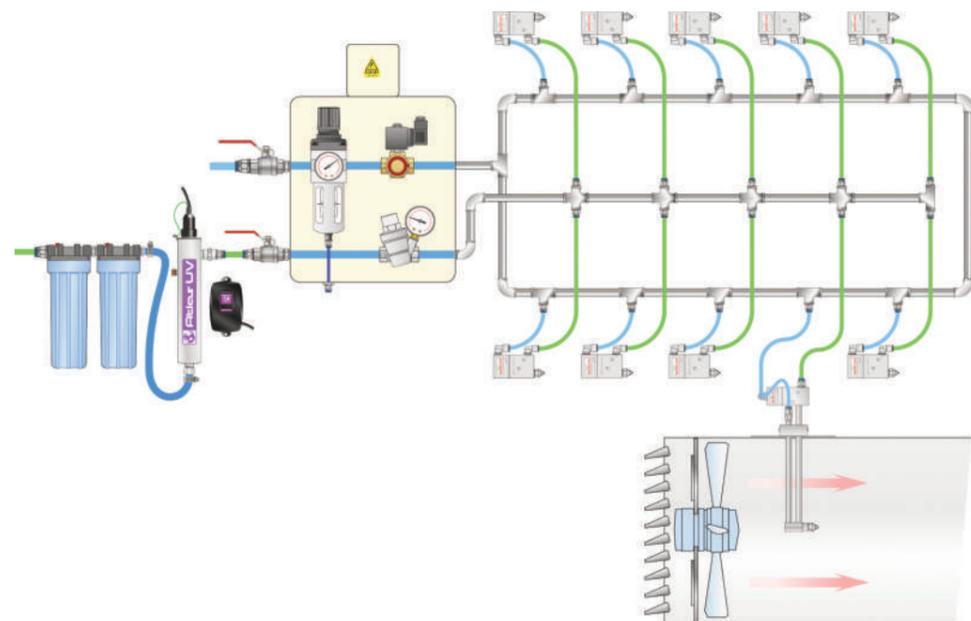
As well as the quality of the spray performance, the nozzles come complete with a non-drip and self-cleaning valve, meaning they are virtually maintenance free. The unique valve design means that control is easy and as the valve self-cleans the nozzle every time it is switched on/off there is no risk of the nozzle blocking.

Our Ultrasonic Dry Fog system is not confined to new bread coolers only, a retrofitted upgrade to the existing traditional air washer humidity control system is available.

Between Sealpump and selected partners, we can design, manufacture, supply and install a brand new, much more efficient humidification system in your bread cooler. This new Dry Fog system will immediately increase efficiency, dramatically reduce your running costs and improve your product.

Our Dry Fog cooler upgrade system includes removing the existing air washer water spray system, which can include hundreds of nozzles, removal of sparge pipes, eliminator blades and high energy usage pumps.

We then replace all this high maintenance equipment with our Dry Fog Humidification system, which includes a small number of Dry Fog nozzle assemblies complete with non-drip & self-cleaning valves, water filtration and control unit which offers extremely accurate humidity control, where each nozzle can be controlled individually to ensure that the exact humidity is reached, maintained and controlled throughout the process.



New Ultrasonic Dry Fog Nozzle Assemblies in a Bread Cooler (Fig 1)

Replacing Hundreds of Inefficient Water Nozzles (Fig 2)

The image to the right (fig 2) also highlights the wetting and moisture fallout of the old style water nozzles, the Dry Fog nozzles do not wet due to droplet sizes being so small (1-5 micron), therefore, the bakery benefits from huge water savings and savings on water disposal.



A UK Bakery's Bread Cooler following startup of the Dry Fog Humidity Control Cooler Upgrade System (Fig 3)

Savings



- No eliminator blades required
- No sparge pipes required
- No brittle sparge pipe nozzles to replace
- Less power consumed – no pumps needed
- No pump filters to replace & monitor
- Less water consumed – no dump cycle
- No water treatment
- Hygiene hours halved
- Less maintenance required
- Full nozzle change in less than 2 hours
- No nozzle leakage, dripping or blocking

Advice



- Fog nozzles need to be spaced as far apart as possible
- Ideally the fog generated should be given enough distance to travel so that the fog is fully absorbed into the airflow
- Airflow to be constantly monitored by Temp & Humidity Probe
- PLC controlled to be gradual rather than aggressive
- One nozzle per solenoid – Cooler upgrades use a maximum of 26 nozzles

Aquarius Humidity Control



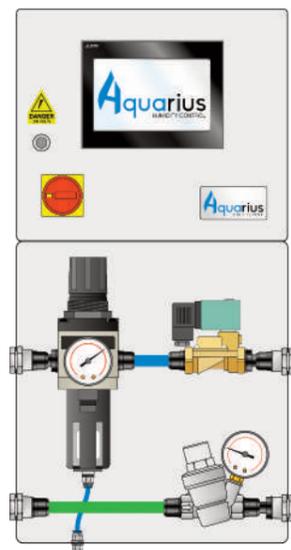
Control is Key

To complement our dry fog nozzle technology and to offer a full and comprehensive solution, our Aquarius Humidification control system ensures a completely automated, user-friendly humidification system. Our Aquarius controller works along with our Dry Fog nozzles to create a perfectly controlled environment, whatever your process.

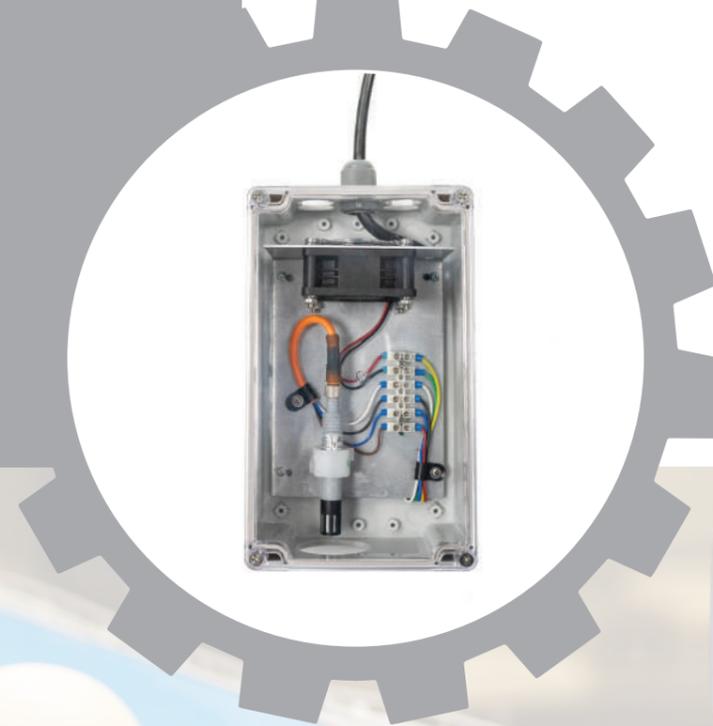
The Aquarius controller, available in either painted steel or stainless steel, offers accurate control over the relative humidity in a variety of applications such as production halls and facilities, cold stores, storage rooms and numerous bakery applications.

Depending on how you intend to integrate and install the Aquarius controller and water treatment, we offer options on how the controller is built and supplied. The Aquarius controller & water treatment can either be supplied as wall mounted options, or can be supplied combined, mounted on an easy to install floor standing frame. Both options are very easy to install and come ready for connection to your mains water, compressed air and electrical supply.

The Aquarius control system has a range of features which have been designed to not only improve control accuracy, but also to make it as user friendly as possible, low maintenance and reliable.



Aquarius Humidity Control



Accurate Control

The system monitors and records both humidity and temperature, allowing the user to monitor the effects temperature can have on the humidity level. Our advanced sensor comes in an aspirated box and features sensor protection which hides the sensor from corrosive fluids. Built in timers are also included should customers prefer to set the timer function.

To increase the accuracy, the Aquarius has a pulsed operation which means that it can always maintain the correct RH level without 'over shooting' above the set parameters.

Colour Touch Screen PLC Control

The latest colour touch screen HMI is used within the Aquarius which has easy to use graphics and menu screens. We offer customisable graphics depending on the customers application and requirements which can greatly improve the user experience.

The Aquarius system also offers the user the option of remote monitoring without being near the controller itself. You can log in via the internet wherever you are to look at real time humidity and temperature levels within your controlled area.



Multiple Zone Control

For applications where humidification control is needed in more than one area, the Aquarius humidity control system offers multi-zone control. For example, for a production facility with three separate areas/zones to be controlled, the system would include a humidity & temperature sensor in each zone, which can be set to different parameters so the zone can be controlled independently, all from the same touch screen on the Aquarius unit.

Aquarius Humidity Control



Auto Flush Hygiene & Low Maintenance

When atomising liquid so finely, water treatment and hygiene is essential for both preventing suspended solids and particles entering the system and also removing bacteria build up in the water.

To maintain optimal hygiene standards within the Aquarius system, through the pipework to the fogging nozzles, the Aquarius automatically flushes the system daily when not in use. The flush cycle is pre-set to work for 2 mins every 12 hours. This is to combat any potential bacteria build up caused by stagnant water stored for too long.



Water Treatment

Our water treatment unit includes inline water filters, one 50 micron, the other 5 micron, and an ultraviolet disinfection unit.

The UV unit is a versatile unit designed to remove waterborne bacteria using the proven method of exposure to ultraviolet light. The water treatment unit comes fully assembled and piped, ready to be connected to your water supply.

This unit can be supplied ready to mount to a wall or a machine, or supplied along with the control panel, all in one convenient floor standing design.

Aquarius Humidity Control

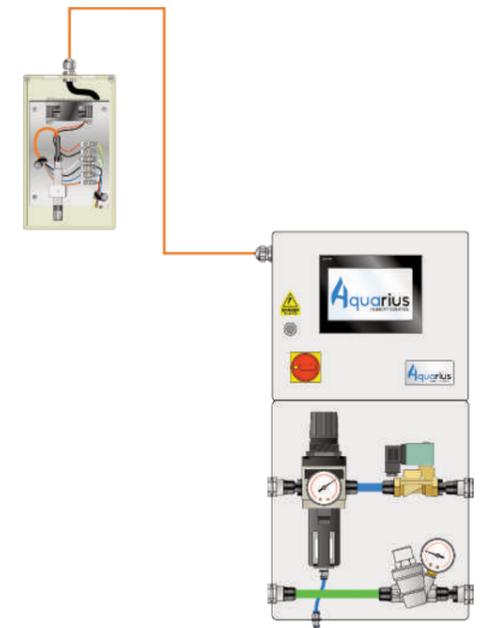


Humidification & Room Disinfection

The Aquarius System also offers a dual function for both humidification and for room disinfection. Should the customer wish to use the Aquarius to disinfect the room or area that it humidifies, a disinfection function can be included, which enables the user to schedule in a fixed disinfection time, and run time, by switching from the humidification function to the disinfection function.

By switching the function, this moves from full water supply (humidification) to water supply with a suitable disinfectant dosed in via a dosing unit. This feature must be specified at the time of order. Please be aware that we neither supply nor recommend a particular brand or supplier, however, we stress that only approved and safe solutions are used.

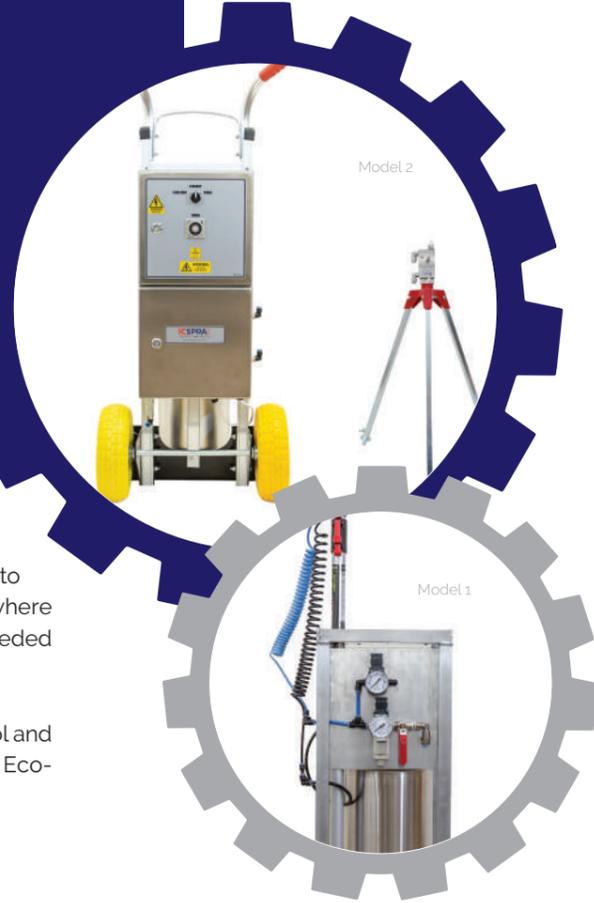
As well as being an effective way of disinfecting rooms and the equipment and surfaces within the room, it is also disinfecting the humidification system and its components, which assists with your maintenance and hygiene



Features

- ✓ Available in painted steel or stainless steel
- ✓ Colour touch screen
- ✓ Easy to use graphics - customisable
- ✓ Single or multi zone control
- ✓ Single or double humidity/temperature measurement
- ✓ Sensor in aspirated Box
- ✓ Sensor protection hides sensor from corrosive fluids
- ✓ Settable parameters for humidity including pulse
- ✓ Daily flush of system when not in use for hygiene
- ✓ Dual fluid control - e.g. humidity and disinfection
- ✓ Remote access using Internet
- ✓ Built-in timers to permit continued production
- ✓ External audible and visual alarm
- ✓ Electronics and fluids in separate enclosures for safety
- ✓ Three sizes available - 1/4" / 1/2" / 1" BSP
- ✓ Wall mounted or all-in-one floor standing design

Mobile Humidification Systems



Our Eco-Fog range of mobile humidification systems feature our dry fog nozzle technology and offer a convenient and easy to use mobile humidification solution for applications and areas where either a fixed system is not suitable or where control is not needed continually.

Depending on the application type, area size and level of control and operator input required, we have two standard options in the Eco-Fog range, although custom designs are also available.

ECO-Fog Model 1 Fogging System

The Eco-Fog Model 1 mobile fogging system is our most economical mobile fogging system in our range and features one fogging nozzle assembly, ideal for small areas. The fogging nozzle is mounted on an extendable vertical arm which can extend up to 3.2 metres tall which helps disperse the fog.

There are 3 fogging head tips available to use with this system, one producing 2 litres per hour, 3 litres per hour of liquid and one producing 8 litres per hour. The Model 1 has simple manual on/off control making it easy for operators to use.

ECO-Fog Model 2 Fogging System

The Eco-Fog Model 2 mobile fogging system is extremely versatile in both the size of the areas it can be used in and by how it is used. Using our Dry Fog nozzle technology, the Model 2 can run up to 3 fogging heads from the control unit. Each fogging head can either be mounted on extendable stands and placed either around a large area, or each one can be placed in a separate room enabling you to control humidity in up to 3 rooms at once.

Control of the fogging heads is simple on the Model 2 and it features a constant, standby or timer selector switch. This allows for manual on/off control but also features a built-in time out timer. This lets the operator set the timer to a desired length and the system will automatically stop, reducing the need for operator input. A 19-litre liquid tank is included and mounted on the back of the frame.

Advantages



- Quick & easy to set up
- Mobile
- Simple operation
- No maintenance
- 1-3 fogging heads can be used
- No fixed install needed

Applications



- Humidification & disinfection
- Cold storage
- Test labs
- Pilot bakeries & plants
- Product storerooms
- Small conditioning rooms

Dry Fog for Flour Dust Control



“Improve worker wellbeing & process cleanliness with Dry Fog Dust Control”

The control of flour dust and other fine ingredient particles or seasonings, within the food production and baking process is an important part in helping to create the best possible environment for staff wellbeing and for process cleanliness.

Whether unloading or processing, fine dust can become airborne and create a hazard for workers, increase the need for deep cleaning from the hygiene team and potentially create a fire risk.

Our Dry Fog technology can eliminate this and therefore create a safe, clean and risk-free environment or process. By placing our Dry Fog nozzle assemblies close to the source of the dust, such as unloading flour bags, any airborne dust particles are controlled and settled back down. The 1-5 micron droplet size created by our fogging nozzles does not wet equipment, does not wet product, does not wet surfaces and does not wet floors.

Depending on the application and the frequency of need of use, we offer fixed, installed systems with either manual or integrated automatic controls, or can offer our Eco-Fog mobile fogging systems for smaller areas or processes where a fixed system is not needed.

Advantages



- Mobile or fixed systems available
- More cost effective than extraction
- Non-wetting
- Easy control & mounting
- Non-drip & self-cleaning valve
- Vastly reduces airborne dust
- Eliminates risk of explosion

Applications



- Flour & seasoning unloading
- Processing
- Mixing drums
- Flour bag unloading
- Oven exits & explosion risk areas

Fogging & Misting Systems for Sanitising & Disinfecting



ECO-FOG Mobile Fogging Disinfection Systems



“Portable ‘No-Wet’ Disinfection Machines”

Our Eco-Fog mobile sanitization systems are a range of portable disinfection machines giving you the ability to carry out an antiviral deep clean of your premises. All the Eco-Fog models use our Dry Fog nozzle technology which creates an ultra-fine fog with droplets between 1-5 micron which does not wet and requires virtually no maintenance. The fogging nozzle head comes complete with a non-drip and self-cleaning valve meaning that when the head is turned on/off it never drips, and it is virtually maintenance free. Due to size of the droplet created, the Eco-Fog models are suitable for use in environments where electrical equipment, machinery or packaging is present.

Which system is most suitable for you depends on the application, size of the area needed to be controlled and the level of control and operator input required. However, these sanitization systems are suitable for most applications where areas need to be disinfected and sterilized. Our Eco-Fog range of mobile fogging sanitization systems comprises of two different models.

Eco-Fog Model 1

The Eco-Fog Model 1 mobile fogging disinfection system is our most economical mobile fogging system in our range and is ideally suited for either static fogging or handheld fogging.

Mounted on a lightweight aluminium frame with wheels, the Model 1 comes complete with liquid pressure tank for storing and pressurising the solution you are using. This tank is available in either 18 litre, 9 litre or 4.5 litre sizes depending on your usage requirement. The Model 1 Mini versions makes the complete unit physically smaller and easily used for smaller applications where space is tight.

The fogging nozzle is mounted on an extendable vertical arm which can extend up to 3.2 metres tall which helps disperse the fog. There are three fogging head tips available to use with this system, one producing 2 litres per hour, 3 litres per hour, and one producing 8 litres per hour.

This lance can also be used for easy handheld fogging when disinfecting specific areas or surfaces. The Model 1 has simple manual on/off control making it easy for operators to use.

ECO-Fog Model 2

The Eco-Fog Model 2 mobile fogging disinfection system is extremely versatile and can be used to sanitise a range of different size areas. The Model 2 can run up to 3 fogging heads from the control unit. Each fogging head can either be mounted on extendable stands and placed either around a large area, or each one can be placed in a separate room enabling you to disinfect 3 rooms at once, both methods vastly speed up the disinfecting and sterilising of areas. The Model 2 can also be used for handheld fogging, meaning you can have up to 3 operators using the handheld lance again speeding up the process while all running from one control unit and liquid tank.

The Eco-Fog Model 2 is mounted on aluminium complete with all terrain puncture proof tyres and is lightweight and easy to move around and transport. Control of the fogging heads is simple on the Model 2 and it features a constant, standby or timer selector switch. This allows for manual on/off control but also features a built-in time out timer. This lets the operator set the timer to a desired length and the system will automatically stop reducing the need for operator input. A 19-litre liquid tank is included and mounted on the back of the frame.

“Peace of mind & cleanliness with spray technology”

As leading experts in spray technology, Sealpump Engineering offer a full range of disinfection and sanitising systems using our fogging and misting spray heads. These systems enable our customers to keep their workplaces clean and safe easily and effectively, ensuring peace of mind for their staff and customers as well as maintaining optimum process hygiene standards.

Sealpump Engineering offer both mobile and fixed misting and fogging systems for the disinfection and sanitising of factories, offices, process machinery and transport among others. Both our portable and static cleaning systems are suitable for use with safe and approved anti-viral disinfectants.

The well-designed portable and fixed misting systems reduce the need for a complete strip down and deep clean, whilst improving efficiency and freeing up critical operator time or expensive call outs.

Advantages of Portable Disinfection Fogging

- Easy to move from area to area
- Low disinfection chemical usage
- Hygienic operation
- Low energy & running cost
- Plug & play control
- Disinfection of all surfaces & airborne microorganisms quickly and safely
- More cost effective than sub-contracting
- Removes the need for costly & inconvenient deep cleaning

Eva-Mist Sanitising Spray Gun

*“Quick, easy & efficient disinfection
with the Eva-mist gun”*

The Eva-Mist Disinfectant Spray Gun is quick and easy to operate, and since the spray mist does not wet it removes the need for using and disposing of cloths and antibacterial wipes, thus reducing waste and helping the environment.

The Eva-Mist spray gun uses our unique mini mist spray nozzle and creates an extremely fine mist suitable for spraying all approved disinfectants.

The Eva-mist produces a dry mist which does not wet and is suitable for use on all surfaces including electronics and packaging.

The Eva-Mist spray gun weighs only 390g and has easy on/off trigger operation. The Eva-Mist comes with a 250ml suction cup which has a quick connect feature making it easy to detach and refill with disinfection liquid.

To operate the Eva- Mist simply connect an air hose to the spray gun, fill the liquid canister and spray, it's as easy as that.

Features



- Lightweight product
- Consistent operation
- Compatible with disinfectants
- Built for all applications
- Quick & easy to operate
- Does not wet surface
- Suitable for all surfaces including electronics & fabrics
- Simple trigger operation

Fixed Room Disinfection Fogging System



Sealump Engineering consults with customers to design and supply a fixed and permanent system for misting larger areas including larger production halls and buildings, storage areas and offices. Our fixed disinfection misting systems offer a full and comprehensive disinfection of the area by creating an ultra-fine disinfectant fog that works its way onto all surfaces, whether desks and computer keyboards in offices, to seating, machinery and all other equipment. As the droplets created are so fine, airborne microorganisms are also reduced. Importantly, no equipment or surfaces are made wet, again this is down to the ultra-fine droplets created by our spray technology.

The fixed systems are designed with each individual application in mind, meaning controls can be specific to customer's requirements, for example, timed spray operation when buildings are closed.

The fixed room disinfection systems are designed to have little or no maintenance or operator input, allowing for ease of use, but giving maximum performance. Having such a system installed gives everyone maximum protection from viruses in their daily lives.

These systems can be integrated with your building humidification system also.

Advantages of Fixed Whole Room Fogging



- Less than 5-micron droplets
- Low energy & running cost
- Easy & flexible control, can be linked into building controls
- Hygienic design and easy operation
- Fully automated
- Disinfection of all surfaces & airborne microorganisms quickly and safely
- More cost effective than sub-contracting
- Removes the need for costly & inconvenient deep cleaning
- Low maintenance
- Low disinfection chemical usage

Product and Ingredient Coating



“Repeatable results through spray control”

Consistency of the final product is essential in all food and bakery processes, therefore achieving controlled and repeatable product coating through accurate spray system design, improves the efficiency of any production process.

We design, supply and install a comprehensive range of hydraulic and air assisted atomising nozzles and systems to help achieve complete control and even spray coverage, reducing waste and overspray even when applying viscous or heated coatings. Our systems are designed by working alongside our customers to achieve the best results for them as all applications require different set ups and control. Our team of sales engineers can visit site to understand your requirements, and support you from initial site survey through to system install.

Coating Applications



- Spraying slurries such as starch yeast and sugar
- Applying oil, flavourings and butter onto bakery products before baking to enhance taste & appearance
- Adding water moisture to both help with adhesion of ingredients and maintain moisture loss from freezing
- The application of viscous or heated coatings such as chocolate
- Spraying tiger glaze onto baked goods
- Applying egg glazes & many more

Spray Technology for Applying Flavourings



“The correct spray solution controls material usage and improves quality”

Applying the correct amount and having the optimum distribution of flavourings to a baked or processed product can not only reduce costly waste but can also have a direct effect on product quality and ultimately effect whether consumers will continue to buy the product or not. Therefore ensuring the flavourings are applied properly is very important.

An efficient solution using spray technology can guarantee that high product standards are continually met and also improve a bakery or manufacturers bottom line by eliminating expensive waste of ingredients.

Sealpump can design and supply a spray system which will compliment your existing process line and can incorporate a simple manual control package or a fully integrated solution that includes product delivery and filtration. After an initial site survey by one of our sales engineers, we can also run spray trials in our testing facilities to see how the flavouring performs under different conditions. This also allows for the selection of the correct nozzle type and system.

Colour Touch Screen PLC Control:

Advantages



- Reduce waste of ingredients
- Improved process efficiency
- Ensures even coverage of each product
- Eliminates misting of oil based products
- Reduce down time with low maintenance and in-built cleaning cycles
- A precise coating can ensure a consistent calorie count

Applications



- Applying chocolate to cakes and baked goods
- Decoration of cakes
- Spraying butter and syrups
- Applying sugars and starch solutions
- Spraying caramel and other flavourings

Spraying Temperature Controlled and Viscous Coatings



“Systems and components”

Applying viscous liquids or coatings that need to be temperature controlled pose challenges for food processes, however, with a well-designed spray solution, these challenges can be overcome and processes improved.

We can provide spray nozzles and systems for applications such as coating confectionery with chocolate, spraying butter and oils onto bread and baked goods and applying glazes such as egg and tiger glaze.

As well as selecting the correct nozzle type, Sealpump can then ensure that the spray controller, delivery lines and associated components complement the existing process line, liquid type and production conditions.

For applications where the liquid requires accurate temperature control in order to apply it evenly, we can design and supply a solution that is fully temperature controlled from process start, through the delivery process and even heated nozzles and spray headers.

Applications



- Applying chocolate coatings
- Spraying egg glaze
- Spraying tiger glaze
- Applying butter and margarine to bread products
- Cake decoration

Heated Components and Options

- Spray nozzles
- Spray headers
- Liquid and air delivery lines
- Pressure tanks and mixing vessels

Advantages

- Increases production speed
- Improved product quality
- Improved consistency of product
- Reduces waste of expensive coatings and ingredients
- Systems can be fully controlled with no 'cold spots'
- Products can be cooled or heated
- Controlled systems are not affected by change in outside temperature
- Accurate control of flow & liquid viscosity

Spray Solutions for Product Adhesion



“Improve process efficiency through spray technology”

Whether a plant is making bread buns or baked products that require seeds and toppings, or a food manufacturer making pizzas, ensuring that the toppings consistently adhere to the product is essential.

This application is an example of how spray technology can improve a food and baked goods production process by automating what can be a maintenance intensive job.

By using a well-designed and reliable spray system, a plant can greatly improve efficiency and control while also reducing waste and increasing production speed. The correct nozzle type and size ensures the exact amount of water is applied to the product every time meaning complete reliability and peace of mind for the operator.

Many sites, whether a small craft bakery or mass food producer still use labour intensive and expensive methods such as dipping bread dough in water before proofing or using valuable operator resources by using manual hand spraying or brushing on.

An example of where spray technology can improve the process is with a large mass producer of frozen pizzas. This company used a steam tunnel to make sure toppings such as pepperoni and chicken adhered to the pizza base before freezing, however, this method was very expensive to run and maintain due to the need to generate steam as well as being difficult to control. Sealpump designed and supplied a cold water and air nozzle system to replace the steam hood while offering much better coverage, control and repeatability has greatly reduced the energy and maintenance costs.

Sealpump can design and supply a system tailored to the exact needs of our customer, with scope of supply ranging from nozzles, filtration and manual controls to a fully automated system which can be linked into the process line and controls. Our systems can include specially designed headers and controls and can be supplied to be mounted on the line, wall or even supplied as a mobile unit.

Advantages



- Precise control of Liquid volume
- Automates a manual process
- Reduces product waste/rejection
- Provides repeatable results
- Precise coverage

Applications

- Applying seeds to bread and dough products
- Adhesion of pizza toppings
- Adding garnish to savoury goods

Tank and Vessel Cleaning Solutions

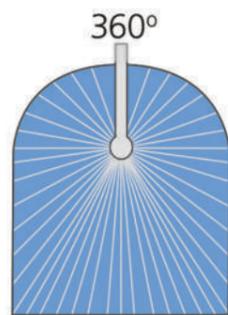


“Peace of mind cleanliness for the food industry”

It doesn't matter whether your process requires a light rinse or high impact, fully controllable wash cycle, Sealpump Engineering offer a variety of tank washing and CIP nozzle systems along with technical expertise to assist in selecting the most suitable product for your application.

To complement our larger range of wash heads, Sealpump also offer the design and supply of automated tank washing systems. Such systems are key in achieving cost savings and improving process efficiency. From stainless steel static spray balls to geared rotating nozzles; our range has the product for all projects.

Sealpump has helped improve and solve numerous washing problems in the food and beverage industries from rinsing out small glass jars and bottles to sanitising full scale tanks and mixing vessels by providing the correct solution.



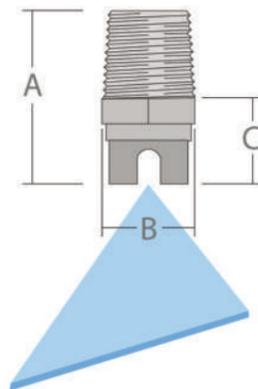
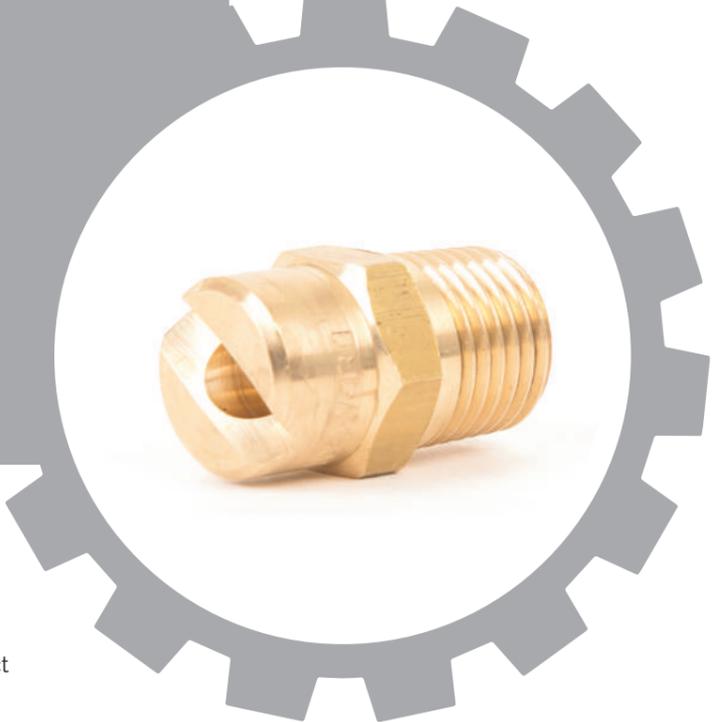
Applications

- Keg or barrel cleaning
- Cleaning of mixing vessels
- Rinsing, cleaning and sanitising
- Blending and vat cleaning
- 1 Mtr – 20 mtr diameter tanks cleaned

Features

- Reduced labour costs
- Reduced down time
- Reduced water and chemical costs
- Improved cleanliness
- Quicker cleaning time
- Reduced waste water disposal cost

Belt Cleaning and Tray Washing

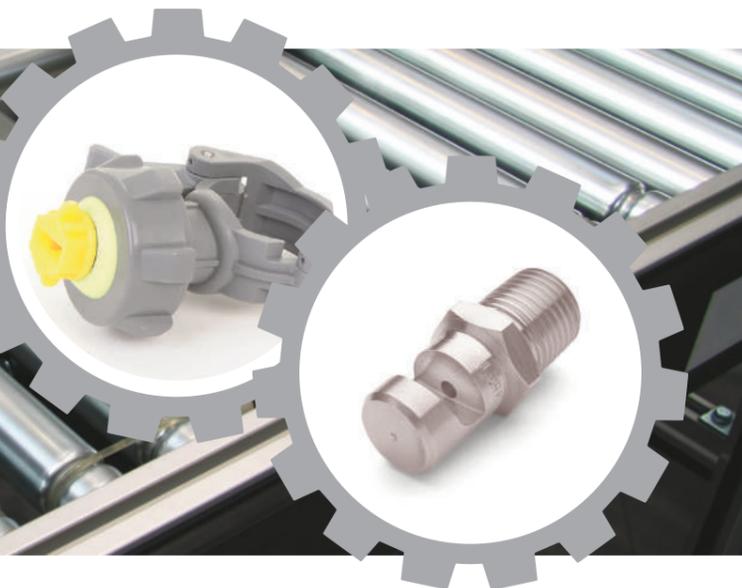


The cleanliness of equipment in the food and bakery industry is of the upmost importance and helps ensure that production and product standards are continuously met.

Sealpump Engineering supply a range of spray nozzles, accessories and systems designed specifically for such applications, including conveyor belt cleaning and tray washing.

Selecting the correct spray solution for your cleaning application can greatly improve cleaning efficiency, reduce costly downtime, reduce labour and chemical costs and more.

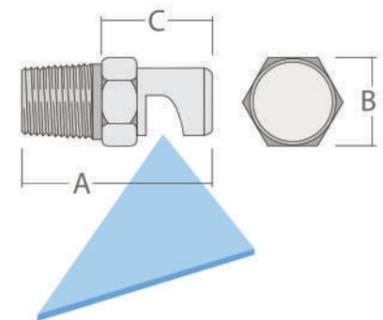
Conveyor Belt Cleaning



Conveyor belts carrying food products require regular cleaning to ensure that hygiene standards are maintained. Cleaning efficiency can be improved significantly by using fixed spray nozzles in place of manual operator based cleaning.

Depending on the application nozzles can be mounted both above and below the conveyor to allow for a thorough clean. For rinsing, cleaning and sanitising, generally narrow flat fan spray nozzles are used due to their even coverage and uniform spray pattern. These nozzle types are available in many configurations and materials including stainless and plastic and can be supplied in dovetail and quick release version for ease of installation & maintenance.

We also supply control packages as well as the spray nozzles. These controls can be supplied with either manual control or automatically controlled and times systems linked to production sequences.



Tray Washing



Efficient tray washing can not only help improve cleanliness but also greatly reduce costly down time, reduce waste and cleaning product consumption and reduce wasted labour time.

Tray washing is typically done by using flat fan nozzles designed to ensure a complete and even coverage of the tray. These nozzles are available in a wide range of flow rates, spray angles, materials and type such as dovetail or quick release versions to allow repeatability, no threads, and easy maintenance.

The thorough cleaning given by a well specified and designed tray washing system can also reduce the risk of any cross contamination of food stuffs when different products are made.

Should you require controls for your tray washing applications, Sealpump Engineering can work with you to offer the best solution, from manual controls to integration into your production process line.



Air Nozzles for Drying and Blowing



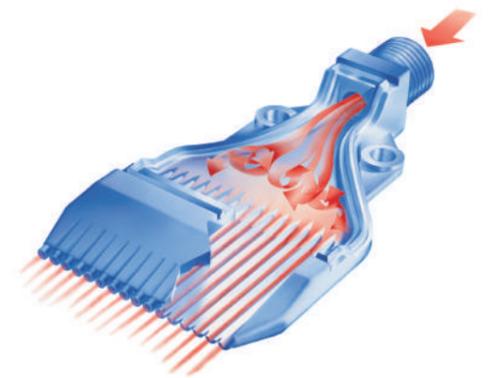
“Reduce air consumption and noise levels”

By using a dedicated air nozzle rather than relying on open ended pipe, it means you not only greatly reduce and control the amount of expensive compressed air used, but noise levels are reduced significantly. By channelling air through multi-channel air nozzles you can also increase the blowing power.

The flat fan air nozzles produce a flat fan shaped air pattern, replacing open ended pipe while offering major advantages in efficiency and performance.

This performance is based on partitioning the air inflow into single air jets. These separate orifices are arranged to ensure optimum flow conditions, provide a uniform and powerful overall air jet.

We also provide a range of round and pencil jet air nozzles for many different applications.



Applications

- Blowing off/out
- Cooling baked goods
- Blowing rejected product
- Drying conveyors
- Cleaning

Features

- ¼" BSP male connection
- Reduction of noise levels of up to 12db
- Low service air pressure with same blowing power
- Low operating costs
- High blowing power
- Improved worker safety

Mould Inhibitor Spray System



“Increase product shelf life through spray control”

Sealpump Engineering can help a bakery or food processing company extend the shelf life of its product by installing a spray system that evenly and consistently applies mould inhibitors to many types of food products including convenience foods and baked products.

A problem many food producers face have is being able to control the optimum amount of inhibitor being applied every time. When not enough liquid is added, the shelf life of the goods declines, however, if too much is used then returns from quality control & customers increases as the taste suffers.

A well designed mould inhibitor spray solution can accurately control the amount sprayed onto each product, whether it be bread buns or speciality baked goods, therefore helping reduce the amount of costly liquid required, reducing operating costs & improving efficiency of operation.

System Options

- Wall or process mounted controls
- Automatic re-fill system or manual option
- Systems can be manually controlled or fully automated
- Pre-set spray programmes means the system is ready for use
- Trolley mounted systems available

Advantages

- Increase product shelf life
- Reduces and controls usage of expensive mould inhibitor
- Even coverage of each product
- Operator peace of mind
- Can be linked into existing process line
- Easy to use
- Low maintenance

Dough Tin and Pan Lubrication



“Controlling expensive material wastage and increasing process speed”

The lubrication of dough tins and pans is often a process which is manually carried out, a process which can waste valuable operator time, use excessive amounts of costly oil or release agent and not have consistent results. Even in some applications where nozzle systems are being used, the wrong type, number or settings can cause considerable overspray and misting which can again cause unnecessary mess, wasted time and expensive product waste.

Sealpump can help you ensure that the lubrication system is both efficient, low maintenance and reliable. We can design and install a solution to fit the exact needs of your line and supply a complete system including sensors to detect the tins or pans which can then trigger the sprays to start/stop. This means that each tin is covered evenly and limits overspray and mess by crucially not wasting costly material.

Our nozzle control packages can adjust and control the volume of release agent or oil and also adjust the spray pattern for width to allow for different size tins and pans to be sprayed while ensuring optimum performance. A well designed spray lubrication system can increase production speed by automating and improving existing systems and methods but also offer quick payback on investment through material savings.

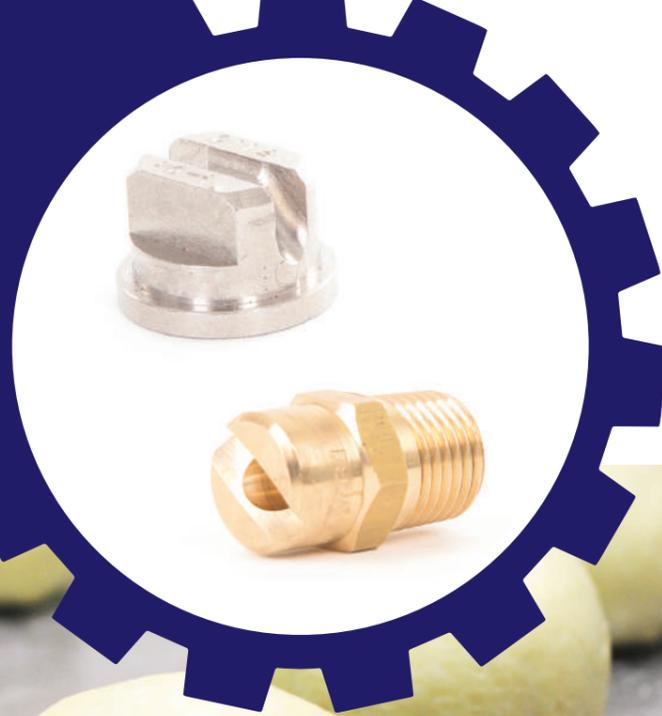
Advantages

- Reduced operating costs
- Lower usage of lubricant /release agent
- Staff can be moved to more important processes
- Greater control of volume
- Cleaner operation with less mess/overspray
- Systems include tank, delivery line, nozzles, controls, sensors & timers
- Increased production speed and quick payback

Applications

- Bread tins
- Dough tubs
- Pan lubrication
- Conveyor lubrication

Dough Splitting and Scoring



Odour Control Systems



“Creating a better environment through Spray and AiroPure Odour control technology”

“Reduce waste product and downtime through spray technology”

In many baked goods processes a reliable dough splitting and scoring system is often required as the traditional method of using a mechanical splitter can cause problems through high maintenance and un-reliability which can lead to increased down time and high rates of waste product.

Sealpump can help overcome these problems by supplying a highly reliable spray solution which can accurately and consistently score and split dough products. For this application a pencil jet type spray pattern is used to give a straight, defined sprayed line. Used in conjunction with one of our specifically designed control packages, the nozzle can be precisely controlled to make sure the exact result is achieved every time.

As environmental standards become ever more stringent, the onus is on companies to stay ahead and look for ways of improving the manufacturing processes and the environments around them.

Sealpump Engineering can provide unique methods of controlling odours that arise through manufacturing and ensure that any waste produced, such as gases, can be cleared of any odours that could cause complaints. Sealpump can work with you to eliminate any odour problems your process may cause, from initial site survey to system design, install and on-going chemical supply and support. Our Dry Fog spray technology can be used in conjunction with the market leading AiroPure odour control agent.

Description:

Unlike alternative odour control additives, AiroPure's sophisticated science means it combines physically with the odour molecules and destroys them completely. AiroPure is available as an odourless product or now with new 'Fresh or 'Berry' fragrance.

Advantages



- Replaces high maintenance mechanical systems
- Provides accurate and repeatable results
- Gives defined and straight score marks and cuts
- Decreases scrap product rate
- Reduces down time
- Improves product appearance

System Options

- Ready to use spray system
- Trolley, line or wall mounted
- Integration into production line
- Automatic re-fill and delivery system
- Components only or full system can be supplied
- Range of nozzle sizes
- On-site commissioning

Advantages



- 100% biodegradable
- Environmentally friendly
- Non-carcinogenic
- Non-hazardous, non-irritant and safe under CHIP, COSHH, REACH
- Recognised as safe in the food industry
- Non-acidic or caustic
- Low dosage rates
- Ideal for use with dry fog nozzle technology

Applications



- Systems can be mounted in stacks or chimneys
- Head space spraying at a concentration of 500:1 with water
- Direct spray onto waste material at a concentration of 50:1
- Control of legionella as low as 150:1 with water

Automated Spraying Systems



“Total solutions and control through spray technology”

Sealpump's Automated Variable Spraying Systems offer an advanced and self-contained control package which enables extremely accurate control over the spraying of liquids and more viscous solutions in many spray applications in the food and baking industry.

Each system comes complete with precision spray nozzles selected specifically for each application, fluid delivery system and variable spray controller complete with HMI touch screen panel.

The system is available with pre-set spraying software allowing for easy operator use and complete automation which can be linked to your production/process machinery or software meaning that you'll be up and running quickly and seeing the benefits.

Our tailored systems allow customers to greatly improve their processes in applications such as coating, cooling, cleaning and humidification while gaining quick payback by:

- Minimising Labour Costs
- Controlling waste product & eliminating overspray
- Increasing production speed & product quality

Every enquiry and application is treated on an individual basis and Sealpump's team of sales engineers work closely with each customer to tailor a solution and system to match your needs.

Should you require a more basic control system, we offer a manual control system, while not compromising on spray performance. This system requires the operator to manually input and regulate the spray pressures etc. This does not offer the pre-set spray programs, software and complete automation of other models, but it does reduce cost significantly for applications where a more basic solution can be used.

The overall aim of our systems is to improve product quality and control, reduce costs and control wastage, while increasing profitability, and delivering a complete and integrated spraying solution.

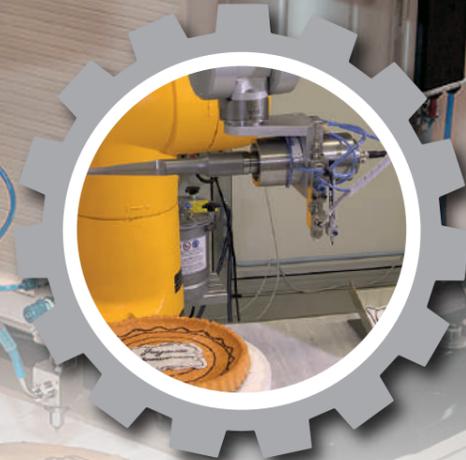
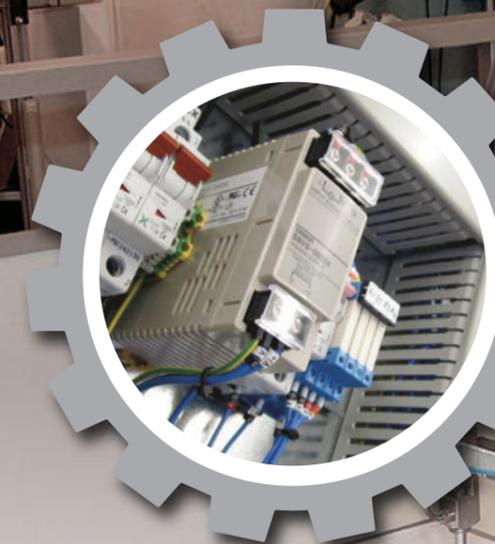
Advantages

- Improve product quality and control
- Controlled costs
- Less wasted product
- Increase profitability
- Easy operation and maintenance
- Automation of production Line
- Complete integration into each production line/process
- Cost effective solutions
- Each system tailored to the customer's requirements

Features

- Unique pre-set spray program
- Integrated software program
- HMI touch screen controls
- Mounting and trolley options
- Food grade material component option
- Spray control cabinet IP65 rated
- System status shown on touch screen panel
- Easy to use, step by step controls
- Automatically adjusting flow and spray coverage to suit individual products.
- Heated nozzles, headers, pressure vessels and delivery line options with controllable heating panel
- Different mounting and cabinet options available

Configure your Spray System - Components and Options



To allow for ease of integration and installation in your process we offer different mounting options on our systems.

The Automated Variable Spray system is available either in two separate panels mounted on a trolley meaning the system can be moved around easily, or in a one panel version which can be machine or wall mounted.

There are also a number of mobile spray trolley designs available to cater for the different requirements of various applications.

However, should you require a bespoke design, please let us know and we will work with you to create the best possible solution.

Customers own logo can be included on the door label and screen – ideal for OEM clients who prefer systems to look consistent with their own equipment.

The mobility of the Mobile System means that the system is very versatile and is suited to applications where a panel cannot be mounted on a production line or conveyor.

The Panel/Wall Mounted System offers an all in one control system, which can be mounted in a fixed position in a process, with only the fluid delivery system mounted on a stand or trolley.

Our systems can feature a manual filling option or have our automatic delivery and filling system which uses an air driven diaphragm pump and pressure vessel. The automatic filling system will fill a pressure vessel to a pre-determined level which is controlled by a float switch. This then allows the system to take the fluid from a constant and steady level.

We also offer the option of a temperature controlled system where all components can be heated in order to spray materials like chocolate, fats or butter.



Spray Nozzle Types

- Flat fan
- Deflected flat fan
- Solid jet
- Hollow cone
- Solid cone
- Air atomising
- Ultrasonic fogging
- Tank cleaning
- Air nozzles
- Spraying systems

Applications

- Cleaning
- Coating
- Cooling
- Humidification
- Applying viscous liquids
- Applying temperature critical products
- Lubrication and mould release
- Odour control
- Dough splitting
- Automated spraying systems

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