



THE  
**SPRAY NOZZLE**  
PEOPLE

# FlexFlow™

Precision control for  
automatic spray  
nozzles



## FOOD INDUSTRY

### KEY APPLICATIONS

- ✓ Application of antimicrobial agents for food safety
- ✓ Application of preservatives and mold inhibitors
- ✓ Application of egg wash
- ✓ Coating bottles to minimise scuff damage
- ✓ Applying water to balance moisture loss from the freezing process
- ✓ Applying coatings and release agents to pans, conveyors etc
- ✓ Applications of flavorings, oil and butter to enhance appearance/taste
- ✓ Apply viscous coatings like syrups, glazes and chocolate

### KEY BENEFITS

- ✓ Control a wide range of flow rates
- ✓ Guarantee an even and uniform application rate that connects with conveyor line for automated speed adjustments
- ✓ Reduce consumption of expensive coatings
- ✓ Reduce overspray waste and improve product quality
- ✓ Exact target coatings secure a clean and safe environment
- ✓ Promote increased production
- ✓ Reduce maintenance and downtime
- ✓ Reliable spray dosing provides an accurate calorie count



FlexFlow® Spray Systems ensure precision control & flexible automation for Electric HydroPulse® & other automatic spray nozzles.

These plug-and-play controllers are easy to programme & provide an elegant solution for precision coating, moistening & lubricating applications.

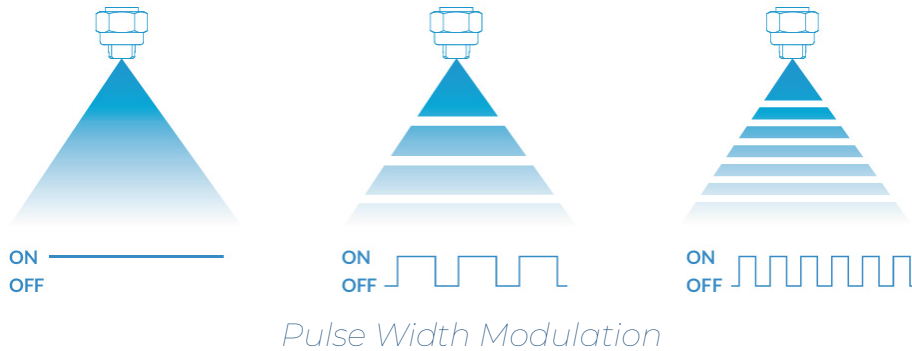
Use the FlexFlow™ to spray flavourings, coatings, mould inhibitors, antimicrobials, preservatives, release agents, and moisturisers with great accuracy.

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

The Go-to People for spray nozzle solutions

## How FlexFlow® works



FlexFlow™ spray controllers provide fine spray precision by regulating spray flow rate using Pulse Width Modulation (PWM). With traditional single fluid spray nozzles, the only way to adjust flow rate is by adjusting liquid supply pressure. This results in changes to spray performance characteristics such as drop size and spray pattern. By comparison, PWM flow control works by cycling spray nozzles on and off at high frequencies, up to 150 times per second. Adjusting the duty cycle, or ratio of ON versus OFF dwell time, enables FlexFlow to control the average flow rate without changing the supply pressure or spray performance characteristics. High frequency operation ensures that spray coverage remains uniform, even when coating products on high speed conveyors.

## Key features

- ▼ Spray zones are activated by automatic triggers such as photoelectric or proximity sensors, or manually
- ▼ Adjustable trigger delay settings provide ultimate timing control to reduce material waste and cleaning maintenance
- ▼ Spray flow rate regulated using Pulse Width Modulation (PWM)
- ▼ FlexFlow 1000 operates up to 12 nozzles, FlexFlow 2000 operates up to 20 nozzles



## FlexFlow™ Models

There are two models: FlexFlow 1000 and the FlexFlow 2000.

Each control panel can function as a standalone system. The 2000 model features an Ethernet port to allow integration with your existing plant operations.

### FlexFlow 1000

- ✓ HMI touch screen includes intuitive operations for streamlined control and diagnostic overview for troubleshooting
- ✓ Operate up to 12 nozzles total
- ✓ Two zones of precision control
- ✓ Operate up to 6 nozzles in each zone
- ✓ Zones 1 and 2 can be programmed with independent or synchronous settings



### FlexFlow 2000

Experience increased precision spray flexibility by controlling up to 20 unique spray nozzles with up to 20 independently managed spray zones. With individual spray zone assignment for each nozzle, you can group nozzles into as many zones as needed to accomplish your spray process objectives.



- ✓ HMI touch screen includes intuitive operations for streamlined control and diagnostic overview for troubleshooting
- ✓ Match spray volume to conveyor speed with auto-adjust duty cycle
- ✓ Extremely flexible in zone operations – can operate up to 20 nozzles with up to 20 triggers in up to 20 zones
- ✓ Ethernet port for process integration
- ✓ Three versions available with an easy upgrade path:
  - Model 2010 operates up to 10 nozzles
  - Model 2016 operates up to 16 nozzles
  - Model 2020 operates up to 20 nozzles