

# BETE® FLEXFLOW™ PRECISION SPRAY CONTROL SYSTEMS FOR AUTOMATIC SPRAY NOZZLES

BETE's FlexFlow Spray Systems ensure precision control and flexible automation for our Electric HydroPulse® and other automatic spray nozzles. These plug-and-play controllers are an elegant solution for precision coating, moistening, and lubricating applications. Consider the FlexFlow for any industrial process where expensive compounds or ingredients need to be sprayed directly onto the process target. Each control panel can be used as a standalone system – or upgrade to the 2000 model to integrate with your existing plant operations. Discover optimal spray performance for applying flavorings, coatings, mold inhibitors, antimicrobials, preservatives, release agents, and moisturizers with exceptional accuracy.



## FLEXFLOW™ 1000

- HMI touch screen includes intuitive operations for streamlined control and diagnostic overview for troubleshooting
- Operate up to 12 nozzles
- 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

The FlexFlow 2000 offers ultimate system flexibility by managing up to 20 spray nozzles in up to 20 independently controlled 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

# COMPATIBLE AUTOMATIC SPRAY NOZZLES

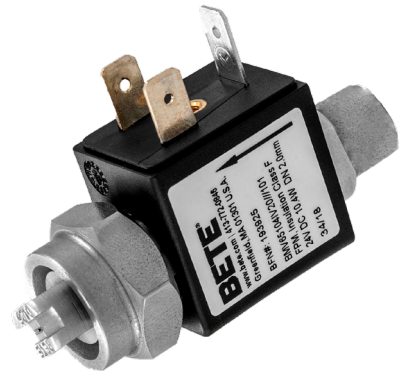
## HYDROPULSE® - ELECTRIC - EHP - FOOD GRADE HYGIENIC

<b>Liquid inlet connection</b>	1/8", NPT or BSPP; or ½" Tri-Clamp
<b>Maximum liquid flow rate</b>	1.0 GPM / 3.8 LPM
<b>Maximum rated pressure</b>	250 PSI / 17 bar
<b>Thermal insulation class</b>	F (155°C/311°F)
<b>Power</b>	9.3W @ 24VDC
<b>Maximum cycle frequency</b>	150 cycles/sec
<b>Nozzle construction</b>	All stainless steel wetted components, Food grade Viton® (FKM) seals compliant with 21 CFR 177.2600, hygienic design
<b>Interchangeable BJ, BJH, and CW nozzle tip options.</b>	



## HYDROPULSE® - ELECTRIC - EHPI - INDUSTRIAL

<b>Liquid inlet connection</b>	1/8", NPT or BSPP
<b>Maximum liquid flow rate</b>	1.0 GPM / 3.8 LPM
<b>Maximum rated pressure</b>	300 PSI / 20 bar
<b>Thermal insulation class</b>	F (155°C/311°F)
<b>Power</b>	10.4W @ 24VDC
<b>Maximum cycle frequency</b>	50 cycles/sec
<b>Nozzle construction</b>	Stainless steel wetted components, Viton® (FKM) seals
<b>Interchangeable BJ, BJH, and CW nozzle tip options.</b>	



### BENEFITS

- Precision volume sprays directly on the target
- Reduced waste and minimal over spray maintains a clean, safe environment
- Uniform and repeatable coverage improves product consistency
- Each nozzle provides a wide range of flow rates



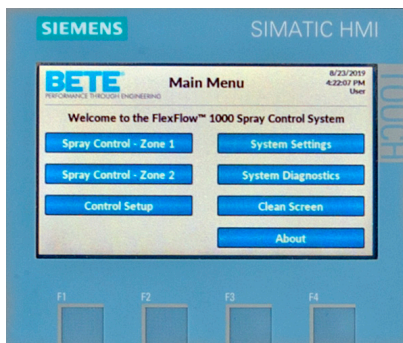
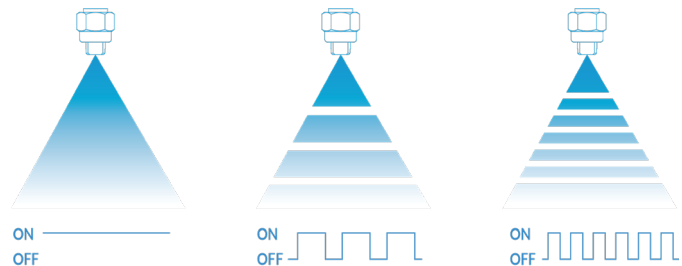
# FEATURES AND UPGRADES

The BETE FlexFlow™ spray controller are standalone electrical control panels intended to provide user-friendly control of BETE Electric HydroPulse (EHP/EHPI) series electric-actuated spray nozzles.



A Siemens brand Programmable Logic Controller (PLC) and associated hardware operates the nozzles. Spray zones can be triggered manually or they can be triggered automatically using digital inputs from process sensors. User-adjustable signal delays provide the most accurate spray timing functionality.

The spray flow rate can also be electronically controlled by pulsing the sprays while adjusting the ratio of ON versus OFF dwell time within each cycle. Pulsing at high frequency allows the average flow rate to be adjusted while maintaining constant fluid supply pressure and the appearance of continuous, uniform coverage. This flow control process is known as Pulse Width Modulation (PWM).



A touchscreen Human Machine Interface (HMI) allows users to configure the spray system and adjust spray parameters through an easy-to-navigate menu of options. Adjustable parameters for each spray zone include nozzle cycle rate, duty cycle, trigger signal delays, and trigger state.

# FEATURES AND UPGRADES



A cable gland plate comes standard with every FlexFlow control panel. Only pierce as many openings as needed through the membrane for easy access to field wiring.



The FlexFlow 2000 includes an Ethernet port for process integration with your existing plant operations.



A hygienic enclosure upgrade is available for any FlexFlow System.



Hygienic enclosure wall-mounts are an available upgrade add-on.

- All CE-compliant FlexFlow models sold will require a power cord supplied by the customer to ensure proper configuration without an adapter. BETE offers a 6' long standard 15A grounded plug for customers in North America as a standard add-on item. The FlexFlow spray controllers are supplied with a 24VDC power supply with a power input range from 85-264VAC, Single Phase.
- Password protection can be added as a standard addition to any panel.
- XA and PHP nozzles can also be controlled by FlexFlow with our standard adaptor kit.
- BETE offers additional supplementary equipment such as spray bars and junction boxes for a full turn-key solution.

For additional information, please email us at [sysfab@bete.com](mailto:sysfab@bete.com)