

# Solutions for Process Industries



*Fluid Metering Solutions  
Made Simple*

**Blue-White<sup>®</sup>**

# Blue-White®

## COMPANY HISTORY



Company Founder, Ozzie King & Truck

### **Blue-White® Industries' founder, Ozzie King**

(October 17, 1909 – August 11, 1998) was a true Pool Industry pioneer. In the late forties he became a successful pool builder and inventor, operating as King Blue-White Pools. In 1957, he switched the focus of the company from building to manufacturing and incorporated Blue-White Industries. In the early years of the industry, products that we now take for granted were simply not available. Ozzie King had the foresight to see what types of products were needed, and the skill to manufacture these products. He was awarded a patent on the Weir Gate Skimmer, which greatly reduced pool construction costs, and effectively cleaned pool water surfaces. This was the most important invention in the pool industry. In addition to the Weir Gate Skimmer, Ozzie developed the underwater pool light (the first underwater light approved by the City of Los Angeles), DE and Sand Filters, Air Gaps, chlorinators, and flowmeters. His F-300 Series flowmeter became the Pool Industry standard. This ingenious meter, which installs in just minutes, enables users to accurately determine actual flow rate in their pool's plumbing system. Health Departments now mandate flowmeters on all public and semi-public pools. In addition, he developed two great Chlorinators, the CHEM-FEED® C-600P, and the FLEXFLO® A-100, for which he was awarded a patent on the pump tube design. Ozzie's contributions to the Industry, both in building design and innovation, and product development and invention, are unequalled. Today Blue-White® Industries is still run by the King family.



Company Founder, Ozzie King, circa 1923

## Blue-White®

### INDUSTRIAL PROCESS MARKETS AND APPLICATIONS:

- Industrial Water and Wastewater
- Agriculture
- Livestock
- Food & Beverage
- Cooling Tower Water Treatment
- Boiler Water Treatment
- Pulp and Paper
- Oil and Gas
- Mining

# FLEXFLO® PERISTALTIC METERING PUMPS



**FLEXFLO® A4**

**FLEXFLO® A3**

**FLEXFLO® A2**

**FLEXFLO® A1**

Blue-White's FLEXFLO® Series of Peristaltic Metering Pump are designed to dose precise amount of chemical; and FLEXFLO® pumps will not experience vapor lock or loss of prime. Each pump comes with built in Tube Failure Detection, which will prevent dangerous chemical spills and downtime.

**A4 has smooth, dependable feed for applications that require high volume chemical dosing requirements.**

- 5" touchscreen display, IP rated M12 connection parts, and advanced communication protocols.
- .01-158.5 GPH (.04-600 LPH)
- 125 PSI (8.6 bar)

**A3 features a bright and responsive 5" display screen that can be used with or without gloves.**

- 5" touchscreen display, IP rated M12 connection parts, and advanced communication protocols.
- .001-33.3 GPH (.003-126 LPH)
- 125 PSI (8.6 bar)

**A2 is designed to handle the demands of a wide range of chemical injection volumes.**

- Self-priming even against max line pressure and by-pass valves are not required.
- .02-17.2 GPH (.07-65.1 LPH)
- 125 PSI (8.6 bar)

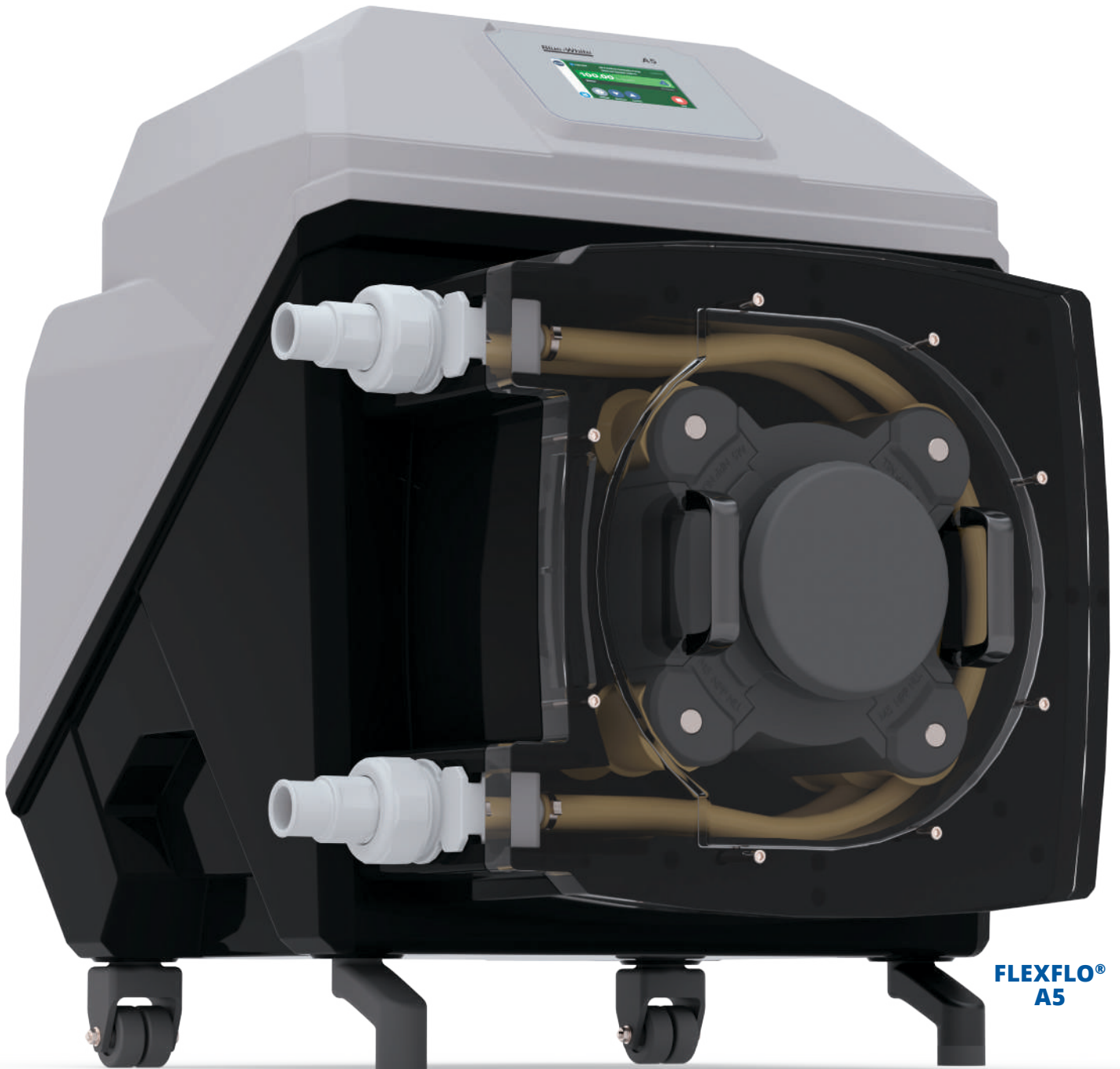
**A1 is simple to work with and simple to maintain with smooth chemical feed that will not vapor lock.**

- Standardize on one pump with the wide feed range.
- .001-5.6 GPH (.002-21.2 LPH)
- 100 PSI (6.9 bar)

Blue-White®

# FLEXFLO® PERISTALTIC METERING PUMPS

## THIS IS HUGE



## The FLEXFLO® A5 Peristaltic Pump

The high-volume flow rate Chemical Feed Pump is capable of outputs up to 9 gallons per minute / 540 gallons per hour at only 75 RPM motor speed, making it incredibly energy efficient. This all inclusive pump has motor, controls and connections all housed in one protective enclosure.

- Up to 80% reduced pulsation due to exclusive offset roller design and dual-channel tube assembly.
- .0498-540 GPH (.1184-2044 LPH)
- 65 PSI (4.4 Bar)

# FLEXFLO® PERISTALTIC METERING PUMPS

Choose the FLEXFLO® Capabilities Your Application Requires:



	<b>A1</b>	<b>A2</b>	<b>A3</b>	<b>A4</b>	<b>A5</b>
Flow Output Range	.001–5.6 GPH (.002 – 21.2 LPH)	.02–17.2 GPH (.07–65.1 LPH)	.001–33.3 GPH (.003–126.1 LPH)	.01–158 GPH (.04–600 LPH)	.0498-540 GPH (.1884-2044 LPH)
Turndown	2,000:1	100:1		2,500:1	
Warranty	2 YEAR				
Variable Speed DC Motor	<b>BRUSHLESS</b>	<b>BRUSH</b>		<b>BRUSHLESS</b>	
TFD (Pat.#7,001,153 and 7,284,964)	<b>YES</b>	<b>YES</b>	<b>YES</b>	<b>YES</b>	<b>YES</b>
Maintenance Mode (Pat. #8,215,931)	<b>NO</b>	<b>YES</b>	<b>YES</b>	<b>YES</b>	<b>YES</b>
Motor Reverse	<b>NO</b>	<b>YES</b>	<b>YES</b>	<b>YES</b>	<b>YES</b>
Tube Info Button	<b>NO</b>	<b>TIMER</b>			
Input: Remote Start/Stop	<b>YES</b>	<b>YES</b>	<b>YES</b>	<b>YES</b>	<b>YES</b>
Input: 4-20mA	<b>YES</b>	<b>YES</b>	<b>YES</b>	<b>YES</b>	<b>YES</b>
Input: Frequency (Pulsed)	<b>NO</b>	<b>YES</b>	<b>YES</b>	<b>YES</b>	<b>YES</b>
Output: 4-20mA	<b>NO</b>	<b>Optional</b>	<b>YES</b>	<b>YES</b>	<b>YES</b>
Output: Pulse	<b>NO</b>	<b>NO</b>	<b>YES</b>	<b>YES</b>	<b>YES</b>
Proportional Dosing	<b>NO</b>	<b>NO</b>	<b>YES</b>	<b>YES</b>	<b>YES</b>
Password Protect (PIN)	<b>NO</b>	<b>NO</b>	<b>YES</b>	<b>YES</b>	<b>YES</b>
Industrial Ethernet (IP)	<b>NO</b>	<b>NO</b>	<b>YES</b>	<b>YES</b>	<b>YES</b>
Profibus	<b>NO</b>	<b>NO</b>	<b>YES</b>	<b>YES</b>	<b>YES</b>
Modbus-TCP	<b>NO</b>	<b>NO</b>	<b>YES</b>	<b>YES</b>	<b>YES</b>

**FLEXFLO® PERISTALTIC PUMPS** have smooth, quiet pumping action and deliver accurate amounts of chemical to your system. Four FLEXFLO® models are offered featuring a broad range of output rates, electronics options and features. If you don't see the FLEXFLO® pump that meets your system requirements, please contact the factory. Blue-White® specializes in meeting OEM requirements.

**FLEXFLO® APPLICATIONS INCLUDE**

- Chemical Metering
- Chlorination
- Chloramination
- Fluoridation
- Polymer Injection
- Pulp and Paper Slurries
- Printing Inks
- Oil Based Fluids
- Gaseous Fluids
- Shear Sensitive Fluids
- Caustics
- Chemical Slurries
- Food and Beverage

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# CHEM-FEED® MULTI-DIAPHRAGM METERING PUMPS



Exclusive hyperlink Drive Technology allows for smooth chemical feed. The Dual-Diaphragm Pumps with full stroke technology will not lose prime or vapor lock with off-gassing chemicals such as Peracetic Acid and Sodium Hypochlorite.

### CD3

- .05-52.6 GPH (.19-199 LPH)
- 125 PSI (10 bar)

### CD1

- .004-7.70 GPH (.015-29.2 LPH)
- 150 PSI (10.3 bar)

# CHEM-FEED® DIAPHRAGM METERING PUMPS



CHEM-FEED® Single Diaphragm Metering Pumps ensure precision chemical feed while providing excellent chemical resistance and dependable service.

### C3

- .3-40.0 GPH (.1-154 LPH)
- 150 PSI (10.3 bar)

### C2

- .02-16.5 GPH (.09-62.5 LPH)
- 175 PSI (12 bar)

### C-600

- 1.74-47.1 GPH (6.6-178.3 LPH)
- 20 PSI (1.4 bar)

### C-1500

- .2-9.5 GPH (.5-.36 LPH)
- 125 PSI (8.6 bar)

# CHEM-FEED® DIAPHRAGM METERING PUMPS

Choose the **CHEM-FEED®** Capabilities Your Application Requires:



	<b>C2</b>	<b>C3</b>	<b>CD1</b>	<b>CD3</b>
Flow Output Range	.02–16.5 GPH (.09–62.5 LPH)	.3–40 GPH (.1–154 LPH)	.004-7.70 GPH (.015-29.2 LPH)	.05–52.6 GPH (.2–199 LPH)
Turndown	100:1	100:1	1,000:1	
Warranty	2 YEAR			
Variable Speed DC Motor	BRUSH	BRUSH	BRUSHLESS	
Dia-Flex® PVDF Single-layer Diaphragm	YES	YES	YES	YES
DFD (Diaphragm Failure Detection)	YES	YES	YES	YES
Protective LCD Snap-on Cover	YES	YES	YES	NO
Maintenance Mode	NO	NO	NO	YES
Input: Remote Start/Stop	YES	YES	YES	YES
Input: 4-20mA	YES	YES	YES	YES
Input: Frequency (Pulsed)	YES	YES	NO	YES
Output: 4-20mA	Optional	Optional	NO	YES
Proportional Dosing	NO	NO	NO	YES
Password Protect (PIN)	NO	NO	LOCKOUT BUTTON	YES
Industrial Ethernet (IP)	CHEM-FEED CONTROL BOX REQUIRED			
Profibus	CHEM-FEED CONTROL BOX REQUIRED			
Modbus-TCP	CHEM-FEED CONTROL BOX REQUIRED			

**CHEM-FEED® DIAPHRAGM METERING PUMPS** provide superior chemical resistance, precision chemical metering capabilities, and are designed to provide excellent service in a wide range of applications.

**CHEM-FEED® APPLICATIONS INCLUDE**

- |                   |                         |                   |
|-------------------|-------------------------|-------------------|
| Chemical Metering | Pulp and Paper Slurries | Caustics          |
| Chlorination      | Printing Inks           | Chemical Slurries |
| Chloramination    | Oil Based Fluids        | Food and Beverage |
| Fluoridation      | Gaseous Fluids          |                   |
| Polymer Injection | Shear Sensitive Fluids  |                   |

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# CHEM-FEED® ENGINEERED SKID SYSTEMS



## CHEM-FEED® Simplex, Duplex, and Triplex Plastic Skid System

The lightweight Plastic Skid Systems are equipped with all necessary components for hassle-free ordering and drop-in-place installation. The durable plastic skids feature rugged, chemical resistant Polyethylene construction with single, duplex, and triplex configurations offered.



## CHEM-FEED® Simplex and Duplex Wall Skids

Piping options such as, PVC, CPVC, PVDF, and Chem Proline® (PE), for the Wall Mount Skid System make it strong and lightweight. The skid systems are chemical resistant, solvent or fusion welded for strength, and designed for small spaces.



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# SONIC-PRO ULTRASONIC FLOW METERS

## SONIC-PRO S6A Ultrasonic Flow Meter

The S6A Ultrasonic Flow Meter accurately measures chemical feed from your chemical metering pump using the latest Ultrasonic technology. The expertly engineered design offers a wide flow range from 10 to 10,000 ml/min and has a low pressure drop of less than 1 PSI.



## EXCLUSIVE PATENTED PARTS

### Flex-A-Prene® Heavy-Duty Peristaltic Pump Tubing

Flex-A-Prene® is a multi-channel pump tube assembly designed by Blue-White® exclusively for FLEXFLO® Peristaltic Dosing Pumps. Flex-A-Prene® is engineered for optimum performance, including up to four times longer service than other pump tube assemblies. The multichannel pump tubes are equipped with Quick Disconnect Fittings that will assist the operator in quickly and safely disconnecting the tube, avoiding chemical spray and spills. These fittings have active check valves that prevents chemical flow in the reverse direction and high contrast part numbers that are easily read for convenient reordering.

### Exclusive Diaphragms

Blue-White's® PVDF diaphragms, used in our CHEM-FEED® Diaphragm type Chemical Metering Pumps, are manufactured in our factory to ensure a quality product. DiaFlex® features an innovative single layer design that exhibits zero breakdown or delamination. DiaFlex® is designed to last the life of the pump which greatly reduces downtime and maintenance.

The PVDF composition of both the pump head itself and the diaphragm ensures excellent chemical compatibility. DiaFlex® is available in three sizes to accommodate varying flow rates.

### Quick Disconnect Fittings for Chemical Feed Pumps

Blue-White's Quick Disconnect Fittings can stop chemicals from pouring or spraying from your pump during maintenance. These Quick disconnect fittings are a toolless and quick way to disconnect a metering pump that will save time and money.

### Star Tanks

The Star System Complete Metering System is available in 7, 15, and 30 gallons. The Star Systems have an easy fill lid with three lid positions: open, closed and vented. The compact and efficient tanks are constructed of natural polyethylene with U.V. inhibitors, and 0.30" thick walls for stability, strength and superior chemical resistance.

### Foot Valves

Foot Valves are used with all Blue-White® diaphragm pumps. The foot valves prevent siphoning and help prevent particles from clogging the diaphragm valves. They also act as a strainer.



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## VARIABLE AREA FLOW METERS

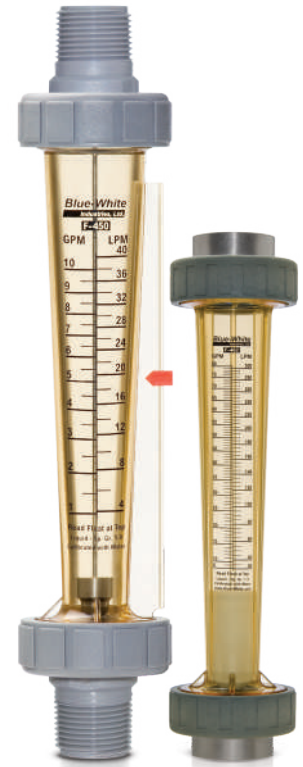


### Acrylic Variable Area Flow Meters

Acrylic Variable Area Flow Meters are durable, highly polished, one piece meter bodies annealed for strength and chemical resistance and are suitable for direct sunlight. Great for dependable flow monitoring.

### Polysulfone Variable Area Flow Meters

Polysulfone Variable Area Molded Flow Meters resists high temperatures and pressures. Models available with no metal in the fluid path for use in UltraPure applications or ideal for corrosive environments such as Deionized Water applications.



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## BW DIGI-METER® PADDLEWHEEL FLOW METERS



### BW DIGI-METER® F-1000 and F-2000 Paddlewheel Flow Meters

The F-1000 and F-2000 Flow Meters are accurate, easy to install, and easy to operate. The F-1000 Flow Meter is sensor mounted on a pipe fitting and battery operated. The F-2000 has sensor, pipe, panel, or wall mount options available and are AC/DC transformer or battery operated (RT models only).

### BW DIGI-METER® MICRO-FLO Paddlewheel Flow Meter

The Micro-Flo Flow Meter is accurate for monitoring low-flow monitoring applications. Be certain your pump is pumping and quickly detect an empty chemical tank, a clogged injection fitting, lost prime, and other problems that can prevent a metering pump from injecting chemical even know the pump is in good working condition.



## CASE STUDIES

### Assisting with Water Reclamation

Stone Brewing located in San Diego, California chose Blue-White's® FLEXFLO® A2 Peristaltic Dosing Pumps to successfully assist with pumping sodium hypochlorite for use in the membrane bioreactor filter backwashes, sulfuric acid prior to reverse osmosis, and sodium hydroxide to bring reclaimed water to the correct pH.

The FLEXFLO® A2 Dosing Pumps were not only successful with assisting with the purification of the brewery's wastewater, but they were easy to install and operator friendly.



### Biological Build-Up Challenge in Industrial Reuse Application

An Orlando, Florida Energy Center injects sodium hypochlorite into reuse water to prevent biological build-up within water tubes in a condensing turbine where thermal energy of steam is converted into mechanical power, which is converted into electric power by a generator. The Energy Center was pleased with the FLEXFLO® A3 Peristaltic Dosing Pumps and the pump's ability to inject gaseous chemicals against moderate to low pressures. The CHEM-FEED® Skid System used offered a compact, efficient, and high quality solution that was a less expensive and easy to install as opposed to purchasing components separately and using an in-house engineering team to design and assemble.

### Dosing Pumps Instrumental in Agricultural Application



A 22-acre farm was searching for a better way to deliver fertilizer because the nitrate portion of the fertilizer was highly susceptible to leaching. The farm decided the more efficient way to deliver the fertilizer was to use a sub-surface drip irrigation system to dose the fertilizer directly into the crop's water supply.

The farm chose the CHEM-FEED® C2 Diaphragm Metering Pump to precisely meet the dosing requirements. Because the C2 was light and transportable. It was easy to move between several fields of crops.



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