



Finding the Best Dosing Pump for Your Water or Wastewater Treatment Application

Often two types of chemical dosing pumps are considered when treating water or wastewater, Diaphragm or Peristaltic.

In these critical applications the chemical feed unit must be able to measure the precise amounts of chemical to meet, but not exceed, chemical demand.

The question is posed, which of these pump types will be most effective and reliable, the diaphragm pump or the peristaltic pump? Both are positive displacement pumps but work in very different ways.

Written by: Jean Hendrickson, Blue-White Industries
Phone: 714-893-8529 *Fax:* 714-894-9492
Email: info@blue-white.com



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Diaphragm Dosing Pumps

Diaphragm pumps can appear more cost effective than peristaltic pumps however, they have their challenges. Some of the most common include: The diaphragm has a pumping cycle that consists of a suction and discharge phase. This intermittent pumping of chemicals, specifically during the suction phase of the cycle, can cause gas build up. This buildup of gases can lead to vapor lock and the pump may lose prime.

Diaphragm pumps have check valves in the suction and discharge ends of the pump head. If either set of check valves becomes fouled, the pump will not meter chemical accurately, if at all. Loss of prime may occur. Diaphragm pumps can also create shear stress on fluids, particularly if the pump employs a high velocity stroke action.

Fluids containing particulates, and gas forming chemicals can foul heads and valves.

Another consideration is, routine maintenance procedures must be performed, in particular the cleaning of check valves and inspection of diaphragms.

These common problems are resolved with Blue-White's CHEM-FEED[®] CD3 Dual Diaphragm Chemical Dosing Pump.



CHEM-FEED[®] CD3

Blue-White[®]

Industries, Ltd.

The gentle, near continuous and pulsation-free chemical feed of the CD3 dosing pump is the solution when pumping harsh chemicals. The CD3 experiences no loss of prime and will not vapor lock when dosing off-gassing chemical such as Peracetic Acid or Sodium Hypochlorite.

The meticulously engineered CHEM-FEED[®] CD3 is equipped with Blue-White's exclusive, single layer DiaFlex[®] PVDF diaphragms. This patented, ultra-durable diaphragm is designed to last the life of the pump.

The CD3 is simple to order and the pump features a drop-in place design for ease of installation, while operator friendly built-in controls make setup fast and simple.

CD3 has a broad feed range of .05 to 53 GPH (0.2 to 200 LPH) and a large turndown ratio to ensure precision accuracy of chemical dosing. A VGA Graphic multi-color backlit LCD displays remote/local control status, motor speed, output rate, input signal values, service and alarm status in three easy to see colors.

Control Inputs include: 4-20mA, 0-10Vdc, and Pulse inputs for remote external speed or batch control and 0-30 VDC / contact closure remote start/stop

CD3 has an energy efficient brushless DC variable speed motor for maintenance-free performance, and is NSF 61, CE, ETL, and NEMA 4X listed.



**DiaFlex[®] PVDF
diaphragms**

Peristaltic Dosing Pumps

Peristaltic metering pumps excel at pumping fluids that contain particulate matter into lower pressure systems because there are no valves to clog. In addition, the gentle forces created during the peristaltic pumping action will not damage delicate fluids within the tube.

Peristaltic pumps are also extremely effective when pumping gas-forming chemical. Whereas diaphragm pumps tend to lose their prime and fail when gasses build up in the pump head, peristaltic pumps are capable of pumping both fluid and gas and will not lose prime. However, peristaltic pumps typically don't do well pumping against high pressure.

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FLEXFLO[®] A3



FLEX-A-PRENE[®]
Tubing

The FLEXFLO[®] A3 Peristaltic Dosing Pump is fitted with Blue-White's exclusive FlexAPrene[®] Multi-Tube Technology. These innovative pump head tubes provide optimal performance while operating at much higher pressures than conventional single tube designs. The Multi-Tube design delivers tube life up to four times longer than average single tubes. This minimizes maintenance procedures and related costs.

The A3 is equipped with Blue-White's exclusive, built-in, Tube Failure Detection System (TFD). This technology detects a wide range of conductive chemicals with no false triggering. If the TFD detects tube failure, the pump will automatically shut off and energize a relay switch. This permits communication with external equipment, such as a back-up pump or alarm. It also serves to prevent chemical spills and added downtime.

Other FLEXFLO[®] A3 features include; clamp-less over molded tube fittings; two CNC machined rollers and two alignment rollers for optimum squeeze and tube life. The maximum working pressure is up to 125PSI / 8.6 bar with a 2500:1 turndown ratio. Units are NEMA 4X / IP66 rate.

It is important to find the right pump for your application and calling upon a company such as Blue-White[®] that offers both Diaphragm and Peristaltic pumping units will help to ensure you get the best non-biased answers.

Blue-White[®] is ISO 9001:2015 Certified.