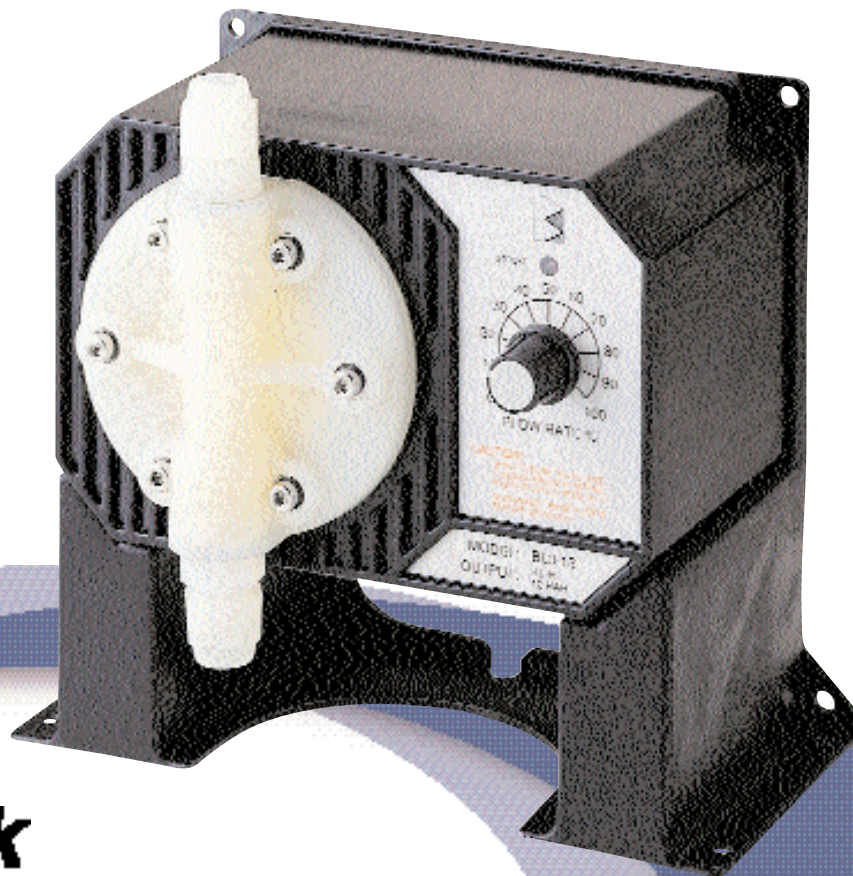


# BlackStone Chemical Feed Dosing Pumps

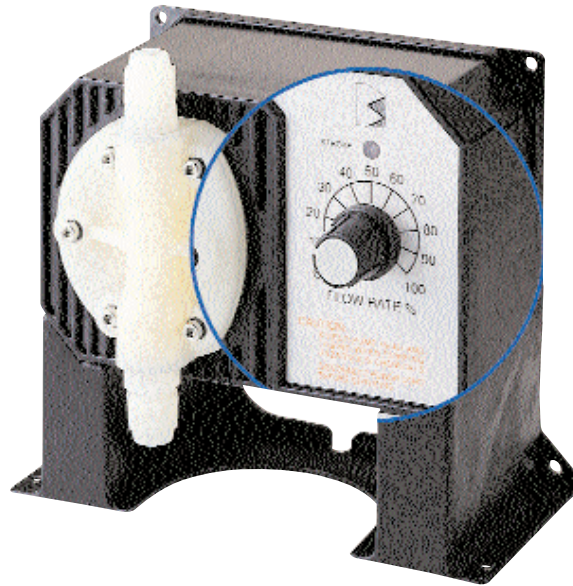
**The BlackStone line of dosing pumps is an affordable and reliable alternative to your chemical feed requirements.**

**BlackStone pumps feature 7 different models that range from 0.5 to 5 GPH output covering applications ranging from 7 to 190 PSI**



ISO 9001 Certified

The most important question one must ask when choosing a dosing system is: can it handle all the chemicals that we plan to use? Not all dosing pumps are manufactured the same way and you need to be sure that the pump you choose is engineered to handle all the chemicals at different concentrations for your requirements. Most pumps are offered with materials such as polypropylene that are adequate only in a very narrow spectrum of applications. This means that the user often needs to change a whole set of pumpheads, valves and membranes when choosing different chemicals. This is not only time consuming but also necessitates keeping a stock full of different spare parts. Any advantages that might have been accrued by using cheap material goes out by the wayside when considering time, confusion, stock and heightened possibility of errors. We are certain that our solution, due to economy of scale, costs no more than ordinary pumps on the market.



### High Quality Materials

Blackstone pumps are supplied with the highest quality material as standard equipment, not optional. The diaphragm utilizes one-piece construction in Teflon®, which unlike conventional laminated diaphragms stands up to the test of time and wear. Ball valves are constructed in glass. The Pumphead and O-rings are all made of Teflon® or Kynar® which offer unsurpassed resistance. The chemical resistance chart, on the right, shows how well Kynar® and Teflon® stand up to the most aggressive chemicals.

### Simple Operation

Blackstone pumps are equipped with a single control for pump output. The external Flow Rate Control (potentiometer) on the face of the pump allows you to adjust the flow percentage up to 100% of the rated capacity. This feature eliminates the need to worry about stroke lengths and power settings. An LED indicator lights up each time a stroke begins. This allows the user to access the stroke rate even from a distance.

### Versatility of Design

BlackStone pumps have been designed to meet the ever changing needs of industry. To accommodate diverse applications, the pumps can be easily mounted anywhere in your plant with a broad, flat horizontal base and holes for tank, shelf or floor mounting. The rear of the pump housing also provides holes to facilitate vertical, wall, tank or machine mounting. With pump valve assembly and unit controls both located on the front of the pump, there is never a problem with installation or flow adjustments.

### Chemical Resistance Guide

	PVC	Polypro	Hypalon	Viton	Kynar	Teflon
Acetic Acid, 80%	D	B	A	E	A	A
Bleach	A	B	A	A	A	B
Citric Acid	A	A	A	A	A	A
Copper Cyanide	A	A	X	B	A	A
Copper Sulfate	A	A	B	B	A	A
Ferric Chloride	A	A	B	B	A	A
Ferric Sulfate	A	A	B	B	A	A
Hydrazine	X	X	B	B	A	A
Hydrochloric Acid, (Concentrated)	A	A	B	B	A	A
Hydrochloric Acid, (Diluted)	A	A	B	B	A	A
Hydrofluoric Acid, (Diluted)	D	B	D	A	A	A
Hydrogen Sulfide AQ. SOL.	C	A	B	B	A	A
Magnesium Nitrate	A	A	A	A	A	A
Magnesium Sulfate	A	A	A	A	A	A
Nitric Acid, 50%	A	C	E	A	A	A
Phosphoric Acid	B	B	A	B	A	A
Plating Solutions	A	A	C	A	A	A
Potassium Cyanide	A	A	B	B	A	A
Potassium Nitrate	A	A	B	B	A	A
Propyl Alcohol	C	X	B	B	A	A
Soaps	A	A	B	B	A	A
Sodium Bicarbonate	A	A	A	A	A	A
Sodium Bisulfite	A	A	A	A	A	A
Sodium Hydroxide, 50%	A	A	B	E	A	A
Sodium Hypochlorite, 18%	A	A	A	D	A	A
Sulfuric Acid, (Concentrated)	A	A	B	A	A	A
Tanning Reagents	A	A	A	X	A	A
Trichlorethane	E	C	E	A	A	A

#### SYMBOL KEY

A - Excellent	B - Good	C - Fair
D - Acceptable (limited use)	E - Not recommended	X - Unknown

# BlackStone Pumps

...components engineered to meet the highest chemical handling standards for best compatibility and versatility.

## Rugged Design

BlackStone pumps are completely sealed during assembly and offer IP65 resistance against splashes and spills providing excellent protection even in hostile environments. The fiber-reinforced polypropylene housing stands up to aggressive chemicals while offering superior strength under tough industrial conditions.

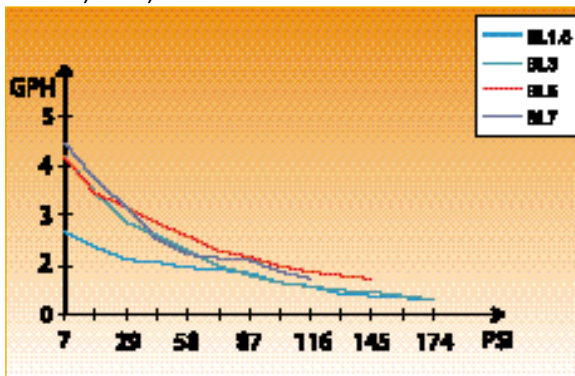
## Reliability Through Simplicity

BlackStone's positive displacement solenoid driven pumps use a minimum number of moving parts, therefore reducing the chance of mechanical failure. Part wear and oiling associated with motor driven pumps are more accurate than standard pumps with the positive displacement design ensuring each stroke is identical to the strokes before and after it, thus keeping the flow rate constant.

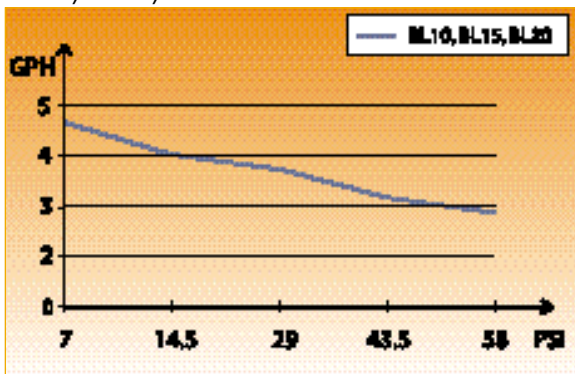
## BlackStone Prevails

BlackStone pumps offer features not usually found in other pumps. Together with the superior customer service and expert technical support, BlackStone is placed in a league of its own. When comparing material, construction, performance and price, you will agree that BlackStone is simply the best.

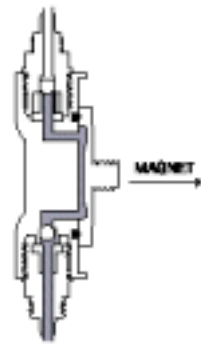
BL1.5, BL3, BL5 flow rate chart



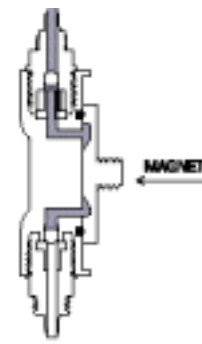
BL10, BL15, BL20 flow rate chart



## Positive Displacement Magnetic Pump



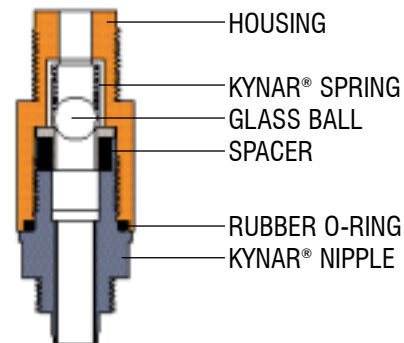
During intake or suction stroke, the magnet draws the diaphragm back, opening the suction valve (lower glass ball) and filling the pumphead with the material.



The discharge stroke closes the suction valve and forces all the pumphead out through the discharge valve (upper glass ball) and into the delivery system.

## Check Ball Valves

The valve assemblies of BlackStone pumps have glass check balls. This is a proven system requiring minimum maintenance and providing maximum control of the liquid flow. Glass is used for its ability to resist corrosion when exposed to a wide variety of aggressive chemicals. The spring in the injection valve assembly (optional) is made entirely in Kynar® in order to protect it from aggressive chemicals. O-Rings forming a seal between components are also encapsulated in Teflon® to prevent damage and prolong their lives, without compromising flexibility.

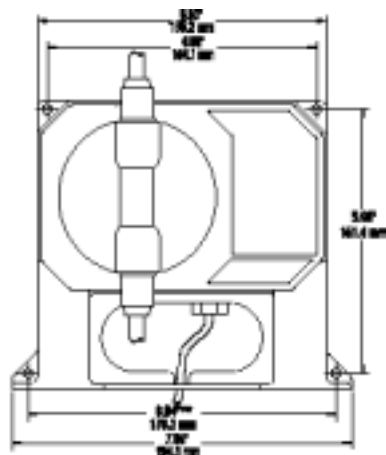
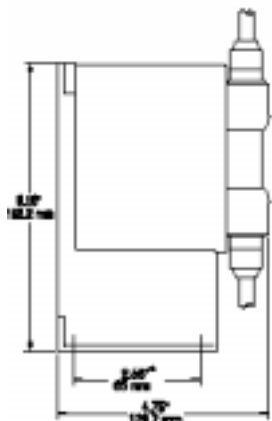
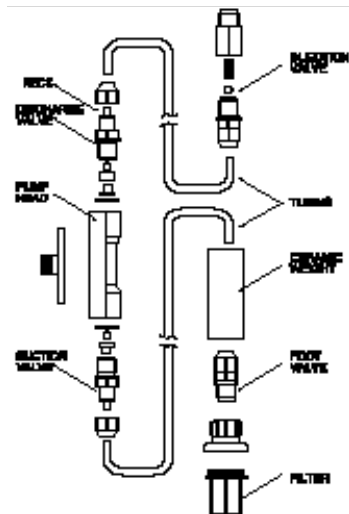


## BlackStone Pumps

A wide range of BlackStone pumps with different dosing capacities are available for your specific needs. Each pump is supplied with an injection and foot valve assembly plus 23' (7 m) of polyethylene tubing. Replacement parts and maintenance kits are available through your authorized Hanna distributor.

Specifications	BL 1.5	BL 3	BL 5	BL 7	BL 10	BL 15	BL 20
Output in GPH	0.4	0.8	1.3	2.0	2.9	4.0	4.8
Pressure in PSI	188.5	116	101.5	43.5	43.5	14.5	7.3
Pump Casing	Fiber-reinforced polypropylene						
Pumphead	Pumphead in Kynar®, diaphragm and valve seats in Teflon®, glass ball valves and O-rings in Viton®						
Fittings	Polyethylene, 3/8" injection fitting						
Self-Priming	Max. self priming height 5 feet (1.5 m)						
Power Supply	*110/115V, 50/60Hz						
Max. Absorbed Power	Approximately 200 W						
Protection	IP65						
Environment	0 to 50°C (32 to 122°F); max. 95% RH non-condensing						
Dimensions	6.5 x 7.6 x 4.8" (165H x 194W x 121D mm)						
Weight	Approximately 6.6 lb. (3 Kg)						

\*220/240V 50/60 Hz model available



\*Dimensions for floor mounting. \*\* Dimensions for wall mounting.

## Accessories

### HI 721101

This kit contains the Kynar® pumphead, Teflon® coated O-ring, 6 screws and washers

### HI 721102

This kit contains all the necessary replacement parts for your discharge valve assembly. Complete with a Viton® O-ring, glass valve ball, valve spacer and seat, head nipple and tube nut to secure the assembled parts.

### HI 721103

HI 721103 is the suction valve assembly. Complete with a Viton® O-ring, glass valve ball, the valve spacer and seat, head nipple and the tube nut to secure the assembled parts.

### HI 721004

The HI 721004 comes complete with an injection nipple, Teflon® coated spring, glass valve ball and a valve assembly.

### HI 721005

This kit contains a filter with a filter holder and a valve assembly.

### HI 721003

This kit contains 10 glass balls and 10 valve O-rings.

### HI 721006

This kit contains 4 Kynar® springs.

### HI 720029

LDPE hose, 10' (3 m)  
Inside diameter, 1/4" (4.71 mm)  
Outside diameter, 3/8" in (7.87 mm)

### HI 720030

LDPE hose, 33' (10 m)  
Inside diameter, 1/4" (4.71 mm)  
Outside diameter, 3/8" in (7.87 mm)

### HI 720031

LDPE hose, 165' (50 m)  
Inside diameter, 1/4" (4.71 mm)  
Outside diameter, 3/8" in (7.87 mm)

### HI 720032

LDPE hose, 333' (100 m)  
Inside diameter, 1/4" (4.71 mm)  
Outside diameter, 3/8" in (7.87 mm)

### HI 721008

This kit contains 4 ceramic weights.

### HI 740156

This kit contains 3 valve seats.

### HI 721101



PUMP HEAD

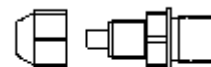


TEFLON® COATED O-RING



6 SCREWS & WASHERS

### HI 721102



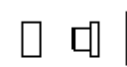
TUBE NUT



HEAD NIPPLE



CHECK BALL



SPACER VALVE SEAT



VITON® O-RING

### HI 721103



VITON® O-RING



CHECK VALVE SEAT

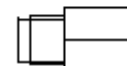


HEAD NIPPLE



TUBE NUT

### HI 721004



INJECTION NIPPLE



KYNAR® SPRING

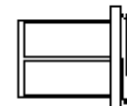


CHECK BALL

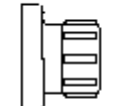


VALVE ASSEMBLY

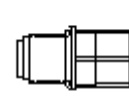
### HI 721005



FILTER



FILTER HOLDER



VALVE ASSEMBLY

### HI 721003



VITON® O-RINGS



GLASS BALLS

### HI 721006



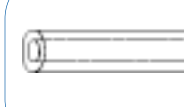
KYNAR® SPRINGS

### HI 720032



LDPE HOSE

### HI 721008



CERAMIC WEIGHT

Authorized Distributor [www.clarksonlab.com](http://www.clarksonlab.com)



For more information contact: Clarkson Laboratory  
350 Trousdale Drive Chula Vista, CA 91910  
Phone 619-425-1932 • Fax 619-425-7917  
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