

## MEADOS



### **pH and ORP MEASuring and DOSing System**

#### **Two Advanced Instruments in One**

MEADOS pumps combine the powerful Blackstone dosing pumps with the state-of-the-art controllers that HANNA instruments® is famous for. These unique products were developed by Blackstone for measuring and controlling pH or ORP and the regulated dosing of various chemicals. This latest innovation eliminates the need for multiple instruments by combining two instruments into one. No more complicated installations, wiring, and compatibility problems. This compact unit features accurate regulation, proportional dosing, alarm and recorder signals and much more all in one meter.

#### **Easy Installation**

Designed with mounting holes in the rugged base, Blackstone pump/controllers are simple to install. There is no need for any additional hardware. All of the controls and pump assemblies are conveniently located on the front of the unit. If the operator must access the pump head or control panel for any reason, there is no need to uninstall the unit.

#### **Rugged Construction**

Blackstone pump/controllers are housed in rugged, fiber-reinforced polypropylene casings. They are IP55 rated, preventing ingress of liquids. The material used for the housing resists corrosion caused by most chemicals, protecting the unit from hazardous spills and splashes.

#### **Superior Materials**

Blackstone pumps use Kynar®, Viton® and Teflon® materials for all components in contact with the chemicals being dosed. These materials have properties which enable them to resist even the most corrosive chemicals in the industry. Blackstone's choice of material makes the pump more versatile, allowing it to handle a wider variety of reagents. The chemical resistance chart on page T1.56 shows how well Teflon®, Viton® and Kynar® resist the harmful effects of different products.

#### **Simple Pump Action**

A positive displacement solenoid with few moving parts makes Blackstone pumps more reliable than motor driven pumps. With no rotating parts, gears or cams, part wear and oiling associated with motor driven pumps is eliminated, drastically reducing any chance of mechanical failure.

#### **Proportional Dosing**

The Blackstone controller/pump strokes at full capacity when the measured value deviates by more than 1.5 pH or 150 mV from the set value. A proportional control slows down the stroke rate as the measured value approaches the user-selectable value, avoiding overdosage of chemicals. This feature makes the pump's dosing more accurate, saves chemicals and eliminates unnecessary and costly corrections of your processes, especially with slow reacting chemicals.

#### **Isolated Recorder Output**

To enhance troubleshooting and provide the user with the ability to record data while monitoring, the Blackstone controller/pumps provide a recorder output. By simply attaching a recorder to the instrument's 4 to 20 mA output contacts, conveniently located on the front panel, you can obtain a hard copy of the results on demand.

#### **Alarm Output**

When monitoring and controlling pH and ORP levels in a process, it is very important that any potential problem does not go unattended. The HANNA instruments® MEADOS units incorporate an alarm system that will alert the user if the reaction is not within certain guidelines. The alarm of the BL 7916 will be activated if the measured pH value is 2 pH units lower than the set point (if dosing acid, this indicates overdosage, a common symptom of siphoning). The alarm will also activate if the value is 2 pH higher than the set point (if dosing acid, this is an indication of insufficient dosage, a common symptom of the lack of reagents). The BL 7917's alarm will activate if the mV value is 200 mV lower than the set point (if dosing reducing chemicals, this indicates overdosage). The alarm will also activate if the value is 200 mV higher than the set point (if dosing reducing chemicals, this is an indication of lack of reagents).

#### **Auxiliary Dosing Contacts**

The auxiliary dosing contacts of the MEADOS units are closed whenever the pump is dosing. This solution offers considerable advantages, especially for small plants, where these pumps need to be the only equipment left running. This will spare other equipment such as mixers, priming pumps etc. With this feature activated, a mixer can be automatically started, when the pump is dosing.

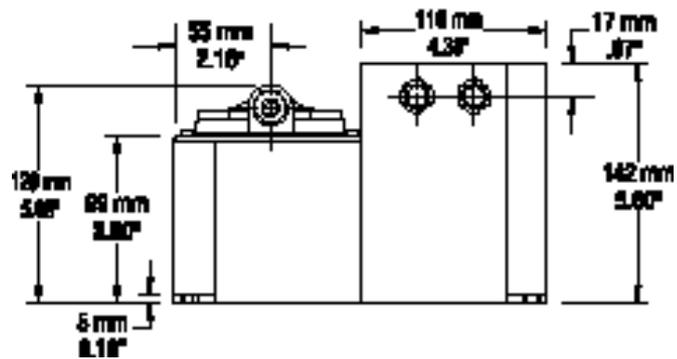
#### **BL 7916 / BL 7917**

Pressure (bar)	Flow Rate (LPH)
0.5	13.3
1.0	11.7
2.0	10.1
3.0	9.0
4.0	7.8

## Mechanical Dimensions for the MEADOS pH and ORP Measuring and Dosing Systems

The Controller/Pump series of instruments are enclosed in a modular housing for maximum protection. These illustrations show the layout of the Controller/Pumps and how they utilize the one-piece polypropylene, injection-molded housing. Since there are no joints or screws holding different sections of the housing together, the case is extremely rugged and sturdy.

**Bottom View**



This series of instruments will mount easily in your plant using a minimum of wall space. The controls and pump head are located in the front to allow easy access.

**Front View**

