

PH OR ORP CONTROLLER AND PUMP

PHP-700 Series



- ✓ pH or ORP Controller and Dosing Pump in One Compact Unit
- ✓ ± 0.01 pH / ± 5 mV Accuracy with Unbeatable Performance
- ✓ Isolated 4 to 20 mA Recorder Output
- ✓ Proportional Dosing Slows the Pump Down When the Measured pH or ORP Level Approaches the Set Value— Ensuring Precise Dosage and Avoids Costly Waste of Chemicals Due to Overdosage
- ✓ Alarm Contact Activated When pH or ORP Value Varies by More than 2 pH or 200 mV Units from the Setpoint
- ✓ Auxiliary Contacts Allow User to Attach a Mixer or Priming Pump that is Activated only When the Pump is Dosing
- ✓ PVDF, FKM and PTFE Materials Are Used for All Parts that Come into Contact with Liquid

TWO ADVANCED INSTRUMENTS IN ONE

The PHP-700 Series pumps combine the powerful PHP-600 series dosing pumps with the state-of-the-art controllers. These unique products were developed for measuring and controlling pH or ORP and the regulated dosing of various chemicals. The latest innovation eliminates the need for multiple instruments by combining two instruments into one. No more complicated installations, wiring, and compatibility problems. This compact system features accurate



PHP-701 and PHE-1411 electrode (sold separately) shown smaller than actual size.

regulation, proportional dosing, alarm and recorder signals and much more all in one unit.

EASY INSTALLATION

Designed with mounting holes in the rugged base, the PHP-700 Series 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 dismount the unit.

RUGGED CONSTRUCTION

The PHP-700 Series pump/controllers are housed in rugged, fiber-reinforced polypropylene casings. They are IP65 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

The PHP-700 Series pumps use PVDF, FKM and PTFE materials for all components in contact with the chemicals being dosed. These

materials have properties that enable them to resist even the most corrosive chemicals in the industry. The choice of material makes the pump more versatile, allowing it to be used to handle a wider variety of reagents.

SIMPLE PUMP ACTION

A positive displacement solenoid with few moving parts makes PHP-700 Series 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 PHP-700 Series 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 over-dosage 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 PHP-700 Series controller/pumps provide for 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 will not go unattended. The units incorporate an alarm system that will alert the user if the reaction is not within certain guidelines. The alarm of the PHP-700 Series will be activated if the measured pH value is 2 pH units lower than the setpoint (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 setpoint (if dosing acid, this is an indication of insufficient dosage, a common symptom of the lack of reagent). The alarm will activate if the mV value is 200 mV lower than the setpoint (if dosing reducing chemicals, this indicates overdosage). The alarm will also activate if the value is 200 mV higher than the setpoint (if dosing reducing chemicals, this is an indication of lack of reagent).

AUXILIARY DOSING CONTACTS

The auxiliary dosing contacts of the 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.

SPECIFICATIONS

Power Supply:

110/115 V 50/60 Hz ±15% (40W)

220/240 V 50/60 Hz ±15% (40W)

(optional)

Range: 0.00 to 14.00 pH;

0 to ±999 mV

Resolution: 0.01 pH; 1 mV

Accuracy: ±0.01 pH; ±5 mV

Input: High impedance 1012 Ω BNC Connector

Dosage: Proportional; acid or base; oxidizing or reducing; user selectable

Dosing Contact: Isolated, 2A, max 240V, resistive load, 1,000,000 strokes

Alarm Contact: Isolated, 2A, max 240V, resistive load, 1,000,000 strokes

Calibration:

Offset: ±1 pH by offset trimmer

Slope: 85 to 115% by slope trimmer

Recorder Output: 4 to 20 mA, isolated

Environment: 0 to 50°C (32 to 122°F)

Dimensions: 181 L x 221 W x 142 mm H (7.1 x 8.7 x 5.6")

Weight: 5 kg (Approx. 11 lb)

Maximum Capacity			
Pressure		Flow	
PSI	BAR	GPH	LPH
14.5	1.0	3.1	11.7
29.0	2.0	2.7	10.1
58.0	4.0	2.1	7.8

To Order	
Model No.	Description
PHP-701	pH controller and metering pump
PHP-702	ORP controller and metering pump
PHE-7351-15	Industrial electrode for in-line or submersion
PHA-4	4.00 pH buffer solution 500 ml (1 pint) bottle
PHA-7	7.00 pH buffer solution 500 ml (1 pint) bottle
PHA-10	10.00 pH buffer solution 500 ml (1 pint) bottle
ORE-6510	ORP submersible electrode
PHEH-65-10	Required mounting assembly for ORE-6510

Accessories

Model No.	Description
PHP-600-PHK	PVDF pumphead, PTFE coated O-ring and 6 screws and washers
PHP-600-DVA	Spare discharge valve assembly, complete with a FKM O-ring, glass valve ball, the valve spacer and seat, head nipple and the tube nut to secure the assembled parts
PHP-600-SVA	Spare suction valve assembly, complete with a FKM O-ring, glass valve ball, the valve spacer and seat, head nipple and the tube nut to secure the assembled parts
PHP-600-IVA	Injection valve assembly, complete with and injection nipple, PTFE coated spring, glass valve ball and a valve assembly
PHP-600-FVA	Foot valve assembly contains a filter with a filter holder, and a valve assembly
PHP-600-CW	4 x ceramic weight

Comes complete with discharge and suction valves and operator's manual.

Add suffix "-220VAC" to model number for 220/240V operation, no additional charge.

Ordering Examples: PHP-701, controller and chemical metering pump, PHE-7351-15, pH electrode, PHA-4, 4.00 pH buffer, PHA-7, 7.00 pH buffer.

PHP-702, ORP controller and metering pump, and ORE-6510, ORP submersible electrode.

PUMP ACCESSORIES FOR PHP-600 AND PHP-700 SERIES



PHP-600-PHK
shown smaller
than actual size.



PHP-600-IVA shown
larger than actual size.



PHP-600-CW shown
smaller than actual size.

PHP-600-SVA,
shown larger
than actual size.



PHP-600-FVA shown
larger than actual size.



PHP-600-DVA shown
larger than actual size.

Accessories

Model No.	Description
PHP-600-PHK	Kynar pumphead, PTFE coated O-ring and 6 screws and washers
PHP-600-DVA	Spare discharge valve assembly, complete with a FKM O-ring, glass valve ball, the valve spacer and seat, head nipple and the tube nut to secure the assembled parts
PHP-600-SVA	Spare suction valve assembly, complete with a FKM O-ring, glass valve ball, the valve spacer and seat, head nipple and the tube nut to secure the assembled parts
PHP-600-IVA	Injection valve assembly, complete with and injection nipple, PTFE coated spring, glass valve ball and a valve assembly
PHP-600-FVA	Foot valve assembly contains a filter with a filter holder, and a valve assembly
PHP-600-CW	4 x ceramic weight