



# Cooling Tower Control & Dosing Acid or Base (pH)

## XP2 Series

Ordering Code	Description
<b>PH-XP2</b>	ON/OFF or Proportional pH Controller with powered relay output for optional Acid or Base Pump. Datalogging standard. pH probe, flow switch & manifold not included.
<b>DCON-PH2-P</b>	PH-XP2 Controller & Peristaltic Pump with manifold on PVC backboard (Incl. Flow switch, pH probe, & injection valve).
<b>DCON-PH2-P-CABG</b>	DCON-PH2-P with controller & pump in IP66 Polyester hinged cabinet.



PH-XP2



DCON-PH2-P

## Description

One complete pH (acid and/or base) dosing system for cooling towers, water features, or any circulating system requiring pH correction. The integrated PH-XP2 controller maintains the system pH by dosing either Acid and/or Base via one or two Peristaltic Pumps.

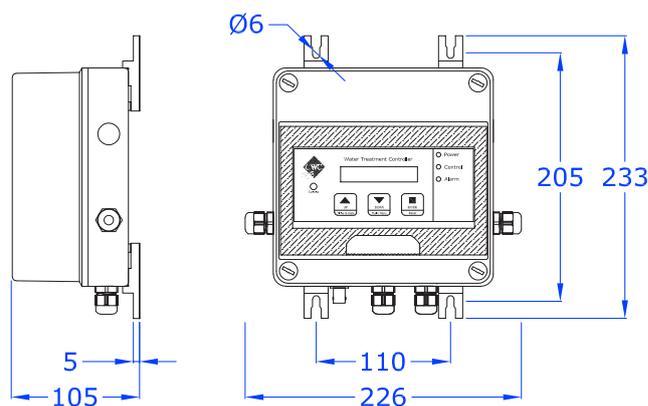
The systems are supplied with manifold on PVC backboards or with controllers and pumps in IP66 hinged cabinets.

pH control can be programmed to take place continuously or only during 28 day timer programs. High & Low Level and Maximum Dose Timer Alarms are standard features. Datalogging of the pH level, output and alarm status is incorporated in the controller and can be downloaded via a Coms port on the front fascia.

## Features & Benefits

- pH Control (with 28 day timer) of Acid and/or Base via dosing pumps
- Data logging of pH, output status, alarm & power status
- Easy to program and calibrate
- Backlit LCDs simultaneously displays pH process value & pH Setpoint
- Manual priming & testing via menu
- Automatic Slug Dose Feature
- Fail-safe alarm relay with remote power failure detection
- Flow switch logic can be reversed or disabled.
- Weatherproof - can be mounted outside

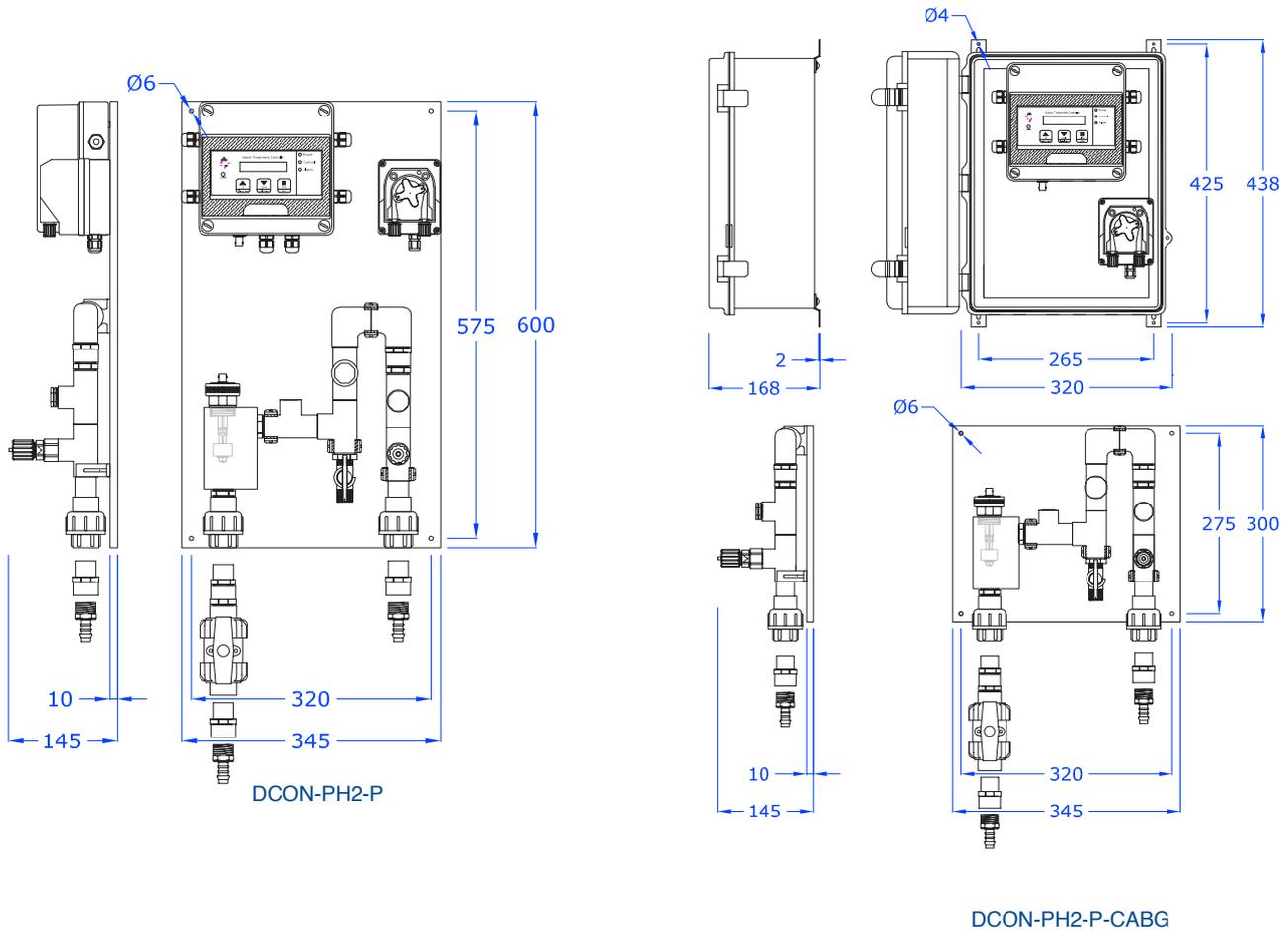
## Dimensional Drawing - Controller only



PH-XP2

(Note: Specifications subject to change without notice)

## Dimensional Drawings



## How to Order

**Controller Only** (excludes probes, pumps, manifold, backboard & cabinets)

Ordering Code → **PH - XP2**

**Conductivity Bleed & Dosing Systems Supplied with Peristaltic Dosing Pumps**

Ordering Code → **DCON - PH2 - P - CABG**

Explanation of Fixed Part Codes	
<b>DCON</b>	System with XP2 Series controller (supersedes DCON Series controller)
<b>PH2</b>	pH Control Incorporated
<b>P</b>	pH Control via Dosing Pump

Mounting of Controller & Pumps	
<b>blank</b>	Controller & pump on PVC backboard.
<b>CABG</b>	Controller & pump in IP66 hinged cabinet



## Options & Accessories

Ordering Code	Description
RV ILS-3/4-T20E	In-line Strainer, 3/4" NPTF ports, transparent Nylon bowl, 20% glass filled PP body, EPDM gasket, 20 mesh (915 micron) SS304 screen, max 6.9 bar @ 52 degC or 10.3 bar @ 21 degC, mounting in any orientation
RV ILS-1-T20E	In-line Strainer, 1" NPTF ports, transparent Nylon bowl, 20% glass filled PP body, EPDM gasket, 20 mesh (915 micron) SS304 screen, max 6.9 bar @ 52 degC or 10.3 bar @ 21 degC, mounting in any orientation
AF09B-XP2	Isolated 4-20mA output card (proportional to 0-13.99pH)
AF10B-XP2	Output Card for BMS/DDC, incl. isolated 4-20mA (proportional to 0-13.99pH), plus open collector NPN logic outputs for pump/solenoid valve status, and for alarm & power status.
SP-XP2-COMCABLE-1	Serial cable for local download of logged data from <b>DIGICHEM</b> ® XP2 & PH-XP2 controllers (plugs into Comms port on controller fascia. Software for download at <a href="http://www.cwc.com.au">www.cwc.com.au</a> )
HOBO-CABLE-USB-232	USB to Serial Adaptor to connect SP-XP2-COMCABLE-1 Serial cable to USB port. (Converts any serial DE-9 or DB-9 Connector to USB)

## Specifications

	DCON-PH2-P	DCON-PH2-P-CABG
<b>Dosing Pumps Incl.</b>		
Acid/Base (pH controlled)	1.3 l/hr	1.3 l/hr
Pump Type	Peristaltic Pump (SEKO PE-1.3-FP-T), 2.7 bar max (EPDM Compound Squeeze tube, PP injection valve, PVC foot valve, Clear PVC suction tubing, Black UV stable PE discharge tubing). Bromine Pump 0.4 l/hr, 2.7bar	
<b>Manifold</b>		
Description (Inlet to Outlet)	Inlet, isolation valve, flow switch, pH Probe, sample point, check valve, injection points, outlet.	
Probes Included	pH (WA OPF10-NNN-1.5m), N/O volt-free flow switch	
Inlet & Outlet	20mm solvent weld union ends, or 3/4" BSP Female thread (3/4" Male x 12mm hosetails supplied loose)	
Max Pressure & Temp	270 kPa (2.7 bar), 50°C	
<b>Physical</b>		
Protection	IP65	IP66
Operating Temperature	0-50°C	
Pump and/or Controller mounting	PVC backboard	IP66 Polyester Hinged cabinet
Manifold mounting	PVC backboard	
Packaged dimensions	630(l) x 370(w) x 290(h) mm	480(l) x 370(w) x 400(h) mm
Actual Packaged weight	9kg	12kg



## Specifications - cont.

PH-XP2 CONTROLLER	
<b>Control Functions</b>	
Measured Variables	pH
Range	0-13.99pH
Resolution	0.01pH
Accuracy	0.4% of Range
Repeatability & drift	0.8% of Range
Control Type	ON/OFF or proportional
Hysteresis	1-90% (ON/OFF control only)
ON/OFF Dose [Bleed] Cycle	ON/OFF = 0-99s/0-99s (ON/OFF control only)
Proportional Band	1-90% (Proportional control only)
Cycle Time	10-100s (Proportional control only)
Timer Programs	pH control can be programmed to occur continuously or only during 28 day timer programs
<b>Alarms</b>	
Level Alarms	High & Low pH
Max Dose [Bleed] Timer Alarm	0-999m (0=disabled)
Alarm Output	Common alarm via N/O & N/C failsafe volt-free contact
<b>General</b>	
Display	Backlit Single Line LCD displays pH process value, Setpoint, Flow & Alarm Status
Keypad	UP, DOWN & ENTER pushbuttons
LED Indication	None required as all output status indicated on LCD display
Manual Test	All outputs independently activated via menu
Flow Sensing	Can be enabled/disabled
Calibration	Menu driven
Datalogging Interval	Programmable from 5 min to 240 min
Logged Variables	pH, %Output, %Alarm
Data Retention	100 years
Battery Backup	1 year (approx)
Battery Type	CR2032 (3VDC)
<b>Electrical</b>	
Power Supply	220-240 VAC, 50/60Hz (110VAC available on request)
Power Consumption	10W max (with no loads on outputs)
Fuse	2A, 5x20mm (in-line with circuit & powered relays)
Auxiliary Mains Output	240VAC continuous (2A fused)
Control Relay Outputs	Switched 240VAC outputs rated 6A/250VAC resistive (4A fused)
Alarm Relay Outputs	N/O & N/C Volt-free (6A/250VAC resistive) 2A fused. Relay Coil de-energises on power failure

## Recommended Spare Parts & Consumables

Ordering Code	Description
WA OPF10-NNN-1.5m	Replacement pH probe, 1.5m cable
SP-SK-01A-BK	Replacement Squeeze tube, EPDM 3x8mm (pre-greased with connectors) for SEKO PE-1.3 peristaltic pump with SP-SK-06 rotor assembly
SP-SK-06	Replacement rotor assembly for SEKO PE-1.3 pump with SP-SK-01A-BK squeeze tube