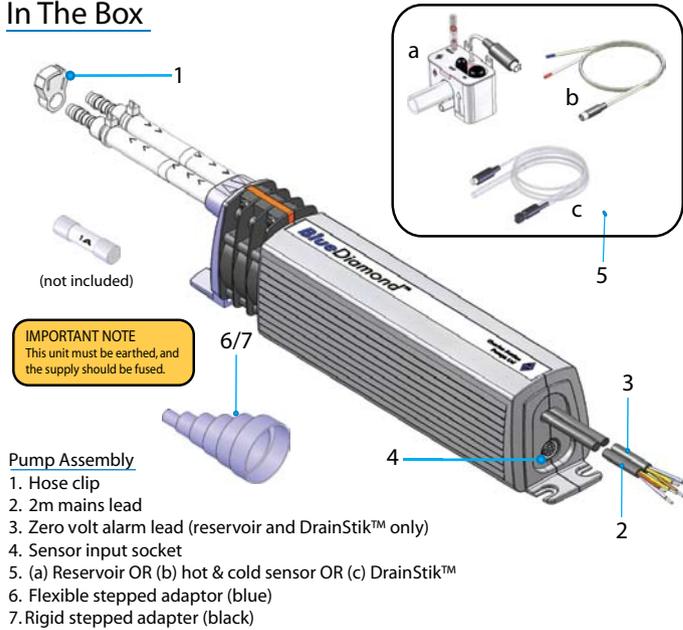


BlueDiamond™

Blue Diamond pumps are self priming pumps designed to quickly and efficiently remove condensed water from refrigeration and air conditioning systems where gravity drainage is not practical.

The pumps are operated by either full reservoir sensing with zero volt alarm output, the hot & cold thermistor sensor or DrainStik™ with zero volt alarm output (recommended).

In The Box



IMPORTANT NOTE
This unit must be earthed, and the supply should be fused.

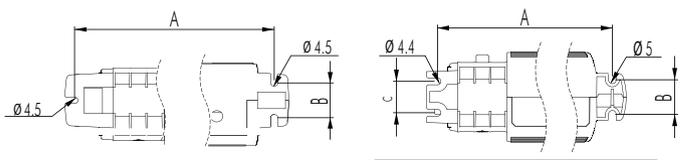
- Pump Assembly**
1. Hose clip
 2. 2m mains lead
 3. Zero volt alarm lead (reservoir and DrainStik™ only)
 4. Sensor input socket
 5. (a) Reservoir OR (b) hot & cold sensor OR (c) DrainStik™
 6. Flexible stepped adaptor (blue)
 7. Rigid stepped adapter (black)

Performance Chart

	A		B		Fuse A	Supply Voltage
	Flow L/hr (Gph)	Lift m (ft)	Head m (ft)	Head m (ft)		
Mini Blue	8 (2.1)	5 (16.4)	8 (26.24)	8 (26.24)	0.5	230 & 110
Maxi Blue	14 (3.7)	5 (16.4)	8 (26.24)	8 (26.24)	0.5	230 & 110
Blue Diamond	50 (13.2)	7 (22.9)	20 (65.6)	20 (65.6)	1.0	230 & 110

Mounting Detail

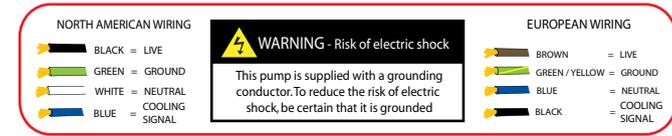
The pump may be mounted in any position but must be kept DRY.



	A	B	C
Blue Diamond	260	24	--
Maxi Blue	142	22	20
Mini Blue	122	22	20

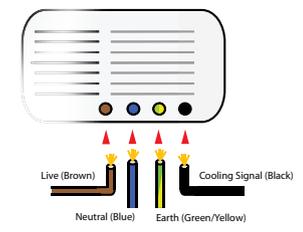
SAFETY WARNING
Be sure that the power to the unit is disconnected before installing, servicing or removing any component.
Do not store or install the pump in a damp environment.
The unit must not be placed outside, immersed in water or exposed to frost. All existing collection elements and fittings should be thoroughly cleaned before installing. Do not install if damaged.

Wiring Diagram



Electrical Connections

Standard Pump - Cooling Signal - MiniBlue
The pump is supplied with 4-core mains cable. This should be fused at 0.5A and wired into the air conditioning unit's terminal block. The pump can be run continuously for testing purposes by supplying the black (cooling signal) lead with 220 - 240V.



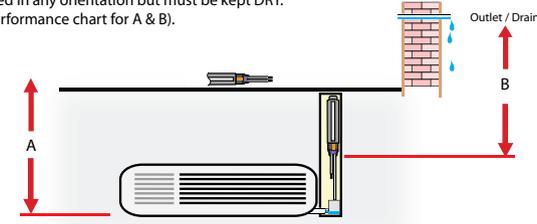
Operational Test

After steps 1-4 have been completed, the pump's operation should be checked. Correct operation occurs when the pump operates with the AC unit in cooling mode. The pump should continue to run for approximately 20mins after the AC unit exits cooling mode (or is turned off). With the pump running, check all tubing for signs of leaks and restrictions which may impair performance of the pump.

Installation

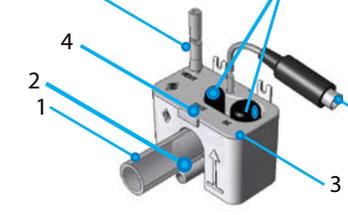
Leave sufficient space around the pump unit to allow for cooling. When all other installation tasks have been completed, connect the mains cable (Live, Neutral and Earth) to a suitable mains supply. The mains supply should be fused (see table).

Placement of the pump - Ensure that the pump is not more than A above the condensate outlet, and not more than B below the desired drainage point for the pump outlet. The pump can be mounted in any orientation but must be kept DRY. (See performance chart for A & B).



Reservoir Sensing Option - MaxiBlue / Blue Diamond

6 - KEEP VERTICAL AND ABOVE DRIP TRAY



Reservoir Specification

W x D x H 70 x 40 x 50 mm
Fixing hole centres 35 mm
Thermistor sensing @ <30°C

Reservoir Assembly

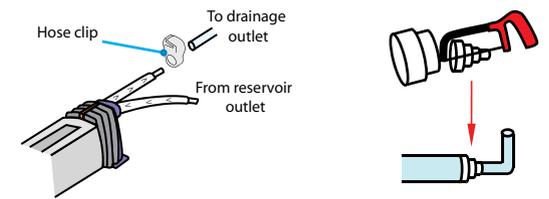
1. Condensate inlet tube Ø14mm ID - side
2. Condensate outlet spout Ø8mm OD - side
3. Condensate inlet tube Ø14mm ID - top
4. Condensate outlet spout Ø8mm OD - top
5. Level sensor plug + 2m lead
6. Vent tube
7. Blanking plugs

1. Reservoir Installation

Choose to use either the top or side IN & OUT connections and fit blanking plugs to the unused ports. Connect the reservoir outlet to the inlet of the pump & the flexible condensate inlet to the condensate tray hose. The reservoir is fitted with a vent tube, which must remain unblocked with the free end secured above the full level of the condensate drip tray. Ensure the reservoir assembly is secured in a VERTICAL position using the screws supplied.

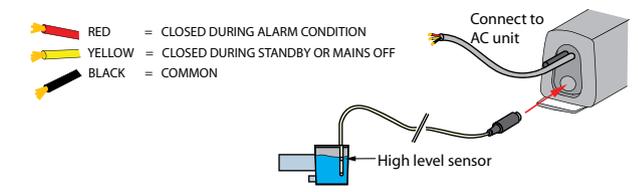
2. Connect Tubing

Connect the discharge tube of the pump to a suitable drainage system using the hose clip supplied. A stepped adaptor is also supplied to convert various tube diameters.



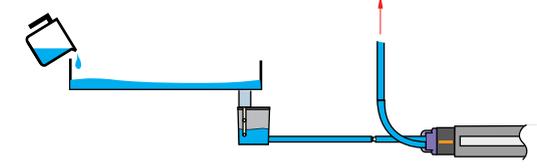
3. Volt free alarm connection

CONTACTS RATED AT 230V 3A
The alarm cable is connected to volt free changeover relay contacts housed within the pump. This may be used to warn the air conditioning unit of a high reservoir water fault. Plug the reservoir sensor into the sensor input socket at the rear of Blue Diamond.

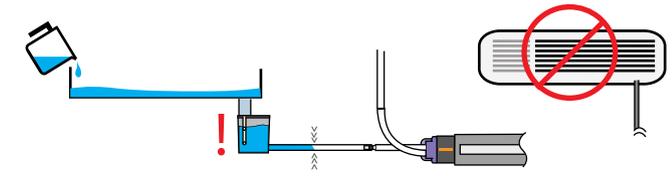


4. Commissioning & Test (Reservoir and DrainStik™)

The operational test ensures that the pump responds to the water level & that the pump switches off when dry. To test, slowly pour cold water into the tray until the pump switches on. Allow the pump to run and switch off. The pump should run for approximately 20 seconds after emptying the reservoir/condensate tray pipe.

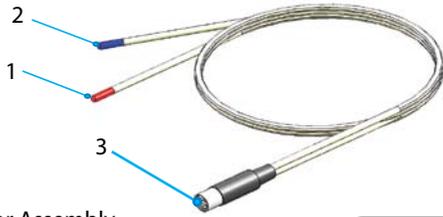


To ensure that the alarm connection is working, restrict the outlet of the reservoir/DrainStik™ hose and fill with water up to the high level sensor. The pump will turn on initially, then after a short delay the alarm relay will switch, detected using a multimeter or observing the shut down of the AC unit. Allow the water to exit the reservoir; the water should then be pumped away, and AC operation will restart.



Important Note
Before Running, Ensure:
The condensate tray is free from debris.
The mains supply is fused.
The inlet & outlet of the pump are connected correctly.
All tubing is watertight and kink free.

Hot & Cold Sensing Option



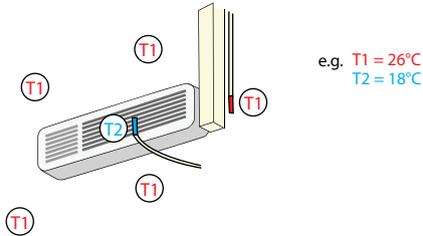
Sensor Assembly

1. Hot thermistor sensor (red)
2. Cold thermistor sensor (blue)
3. Sensor plug + 2m lead

SAFETY WARNING
Since there is no water level sensing, the alarm relay will not operate with hot & cold sensing option.

1. Hot & Cold sensor Installation

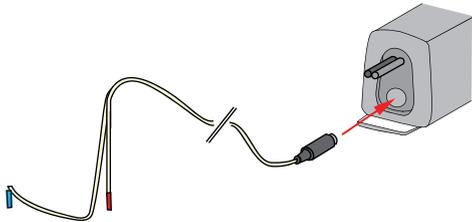
Position the red sensor in a suitable place at ambient air temperature. It is recommended that ceiling voids are avoided as these are usually at much higher temperatures. Then place the blue sensor in the path of the air flow from the air conditioning unit.



2. Connect Tubing - See part 2 of reservoir installation

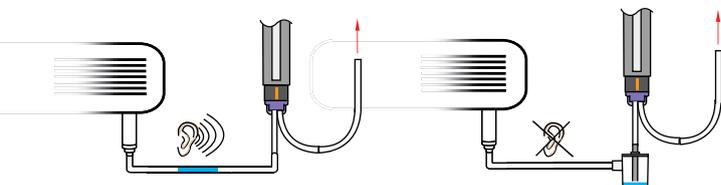
3. Connect Sensor

With the sensors in position, plug the sensor plug into the sensor input socket at the rear of the Blue Diamond.



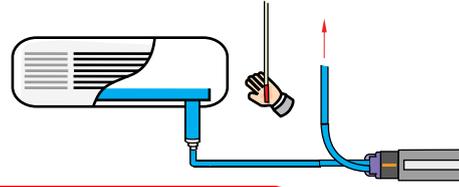
4. Silencer Installation

If the blue diamond is installed remotely, occasionally water can become trapped in the u-bend at the lowest point of the system. Due to the pump's high flow rate, this can create a gurgling noise. It is recommended to fit the silencer supplied with the hot & cold sensor option. This must be fitted at the lowest point in the system, to reduce this noise.



5. Commissioning & Test

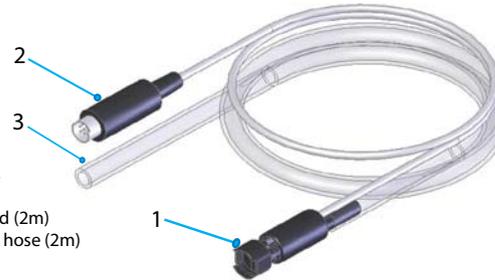
Gently warm the RED sensor until it is approximately 8°C warmer than the BLUE sensor and the pump will turn on. Allow the red sensor to cool. The pump will turn off again when the RED & BLUE sensors are within 2°C of each other. This could take several minutes.



Important Note

Before Running, Ensure:
The condensate tray is free from debris.
The mains supply is fused at 1A.
The inlet & outlet of the pump are connected correctly.
All tubing is watertight and kink free.

DrainStik™ Option



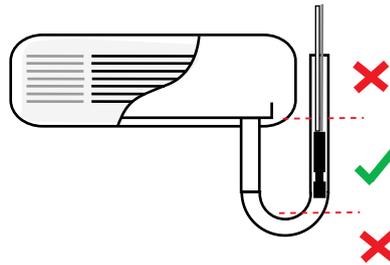
Sensor Assembly

1. Sensor body
2. Sensor, plug and lead (2m)
3. Condensate suction hose (2m)

1. Sensor Installation

Insert the sensor into the condensate tray pipe as shown and secure the hose in position. Follow the recommendations below to ensure correct positioning:

- The DrainStik™ must be mounted vertically.
- The end of the DrainStik™ must be mounted at least 10mm above the top of the 'U'-bend.
- The top of the DrainStik™ body must be mounted below the condensate tray.
- Remove any pipe insulation down to the level of the end of the DrainStik™ or use the silicon hose provided.



2. Connections

Mount the pump as required and position the suction hose and sensor lead in the desired location. Trim off excess hose and bunch excess cable with a cable tie (provided). Connect the hose to the pump inlet and sensor lead to the pump. Use cable ties to secure the hose and cable so that the pump can not be accidentally disconnected. See parts 2 and 3 of reservoir installation for details of pump outlet connections and volt free alarm connections.

3. Commissioning & Test

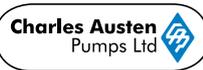
Refer to part 4 of reservoir installation for commissioning and test instructions.

PATENTED

BlueDiamond™

www.bluediamondpump.com

Installation Instructions



Warranty

The Blue Diamond is manufactured under Charles Austen Pumps strict quality control system. In the unlikely event of failure within 2 years from the date of purchase under normal usage, Charles Austen Pumps will repair the item free of charge subject to the following conditions:-

Two year warranty from delivery date in conjunction with our conditions of sale.

Charles Austen pumps will decline any responsibility if the installation of the Blue Diamond does not conform to our instructions and specifications. Any modifications to the unit will immediately void the warranty. We reserve the right to alter any specification without prior notification.

Cleaning & Maintenance

The Blue Diamond condensate removal pump will tolerate some dust and sludge. However, if the reservoir or sensors require cleaning, use warm soapy water and take care not to damage the sensors.

After any cleaning or maintenance work, carry out an operational test before using the pump.

Disposal of this product
All electrical and electronic products should be disposed of separately from the general waste system through designated collection facilities provided by the government or local authorities.



Charles Austen
Pumps Ltd

Royston Road, Byfleet, Surrey KT14 7NY

Tel: +44(0) 1932 355277

Fax: +44(0) 1932 351285

E-mail: info@charlesausten.com

Web: www.charlesausten.com

S30-182 /1