BIO-CHEM VALVE

CoolCube™

"HIT AND HOLD" CIRCUIT

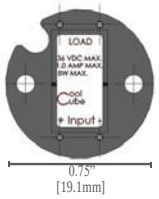
FEATURES

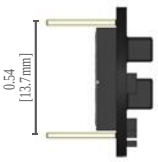
- Provides a "hit and hold" circuit for solenoid valves by stepping down DC voltage
- Reduces power consumption (Wattage) while in the "hold" setting
- Overdrive function permits faster response time
- Turns valve off immediately when power is cut to the circuit
- Terminal pins permit easy installation
- Can be mounted directly to most Bio-Chem Valve™ 075 and 100 series solenoid valves

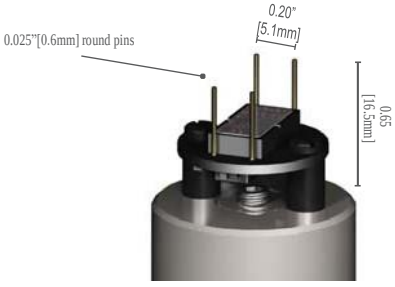
SPECIFICATIONS

SERIES	COOLCUBE-R	COOLCUBE-50R
Time from "hit" to "hold" voltage:	100 ms	100 ms
Input voltage step down to:	1/3	½
Max input voltage:	36 VDC	36 VDC
Max input current:	1 amp	1 amp
"Hold" voltage with 36 VDC input:	12 VDC	18 VDC
"Hold" voltage with 24 VDC input:	8 VDC	12 VDC
"Hold" voltage with 12 VDC input:	4 VDC	6 VDC
Power consumption reduction to:	1/9	¼

DIMENSIONS







Voltage "Step-down" Function

The compact CoolCube™ solenoid control modules provide an easy way to achieve a "hit and hold" circuit independent of the rated voltage.

When a CoolCube™ is connected between a solenoid valve and a power supply, it delivers a pulse width modulated (PWM) "step-down" function. It accepts a range of inputs from 12 to 36 VDC and passes the input on to energize the solenoid valve with full power for 100ms. After 100ms, the CoolCube™ drops the voltage and current to a level sufficient to hold the solenoid in the energized position.

The benefits are less power consumption and lower heat generation. The CoolCube™ can remain under power indefinitely without being damaged. When the power to the CoolCube™ is cut, the valve is turned off immediately, as though the CoolCube™ was not in the system.

Overdrive Function

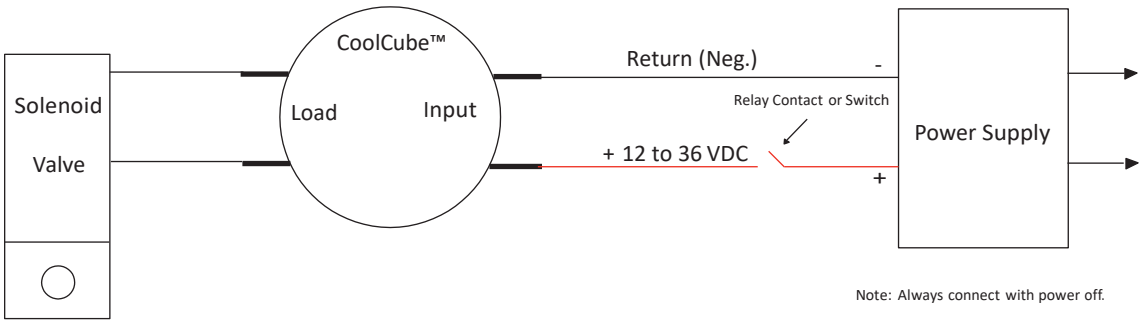
The CoolCube™ enables an overdrive voltage to be placed on a solenoid valve. This means that a solenoid valve rated for 12 VDC or 24 VDC can be energized with a voltage as high as 36 VDC. Since the CoolCube™ automatically drops the voltage after 100ms, the solenoid will not be impaired in any way. The benefits of this are:

- Faster response time - the valve opening response time can be decreased by up to 60%.
- Increased pressure rating - the operating pressure rating can be dramatically increased*.
- Pinch valve tubing - allows the use of larger tubing and / or custom tubing material*.

* Requires additional valve customization.

Please contact Bio-Chem Fluidics to discuss your custom requirements.

INSTALLATION INSTRUCTIONS



1. Using an AMP™, Molex® or similar connector, connect the CoolCube™ to the DC power supply.

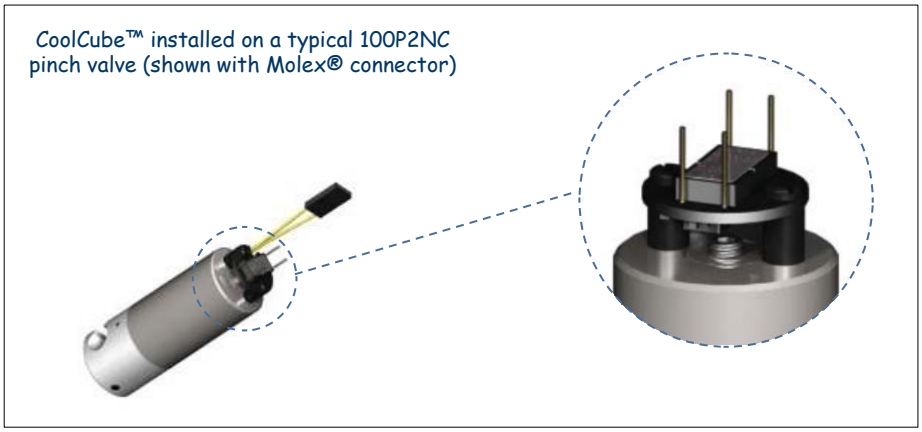
   Caution: Note the polarity indicated on the input side of the CoolCube™. If power is reversed, the unit will not function correctly and the chip set may be damaged.

2. Using an AMP™, Molex® or similar connector, connect the valve lead wires to the CoolCube™. No polarity to the solenoid coil is required.

3. Turn on the power supply.

   Caution: do not turn on the power supply before the CoolCube™ is connected to the valve.

* Connectors are available with 15"of 26 AWG PTFE coated wire as P/N LWA-2 for the "input pins" and the "load pins".



Ordering Information:

Part Number	Can be used with:
COOLCUBE-50R	All Bio-Chem Valve™ solenoid valve products
COOLCUBE-R	All Bio-Chem Valve™ solenoid valve products, except 038, 039 and 040 series isolation valves and "quiet" type pinch valves

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