# Corning temperature controller manual

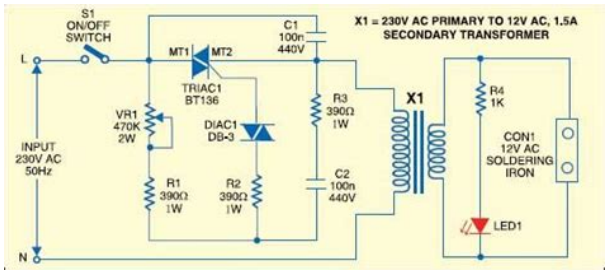
**File Name:** Corning temperature controller manual.pdf
**Size:** 3228 KB
**Type:** PDF, ePub, eBook
**Category:** Book
**Uploaded:** 8 May 2019, 15:18 PM
**Rating:** 4.6/5 from 571 votes.

**Book Descriptions:**

# Corning temperature controller manual

Before initial me, check that the unit you received is the correct voltage for your location.Failure to me this product according to this instruction manual may degrade or defeat the protection normally provided by this product. Read this instruction manual prior to product use and keep this instruction manual for future reference. This product is designed for me in laboratory environments by persons knowledgeable in safe laboratory practices. Always wear safety glasses and other appropriate protective equipment when operating this product. Use only the power cord supplied with the product. The power cord is the device available for full disconnect from mains input. Position the product for use so that the power cord can be easily disconnected without having to move the product. Disconnect the power cord before moving or cleaning the unit. Do not immerse the product for cleaning. The ceramic top may break if impacted. The maximum gross weight placed on the top surface must not exceed 11Kg 25 lbs. These units are not explosion or spark proof. Do not heat or stir volatile or flammable materials. Do not operate this product near volatile or flammable materials. Do not use this product with a metal vessel. Stir Control Knob Turn it all the way counterclockwise to turn off stirring function. Turn it clockwise to set desired stirring speed. Stiffing Speed Display Shows the speed set for stirring Heat Control Knob Turn it all the way counterclockwise to turn off heating function. Turn it clockwise to set desired heating temperature. Heating Tetnperatax Display Shows the temperature set for heating. Temperature Probe In Use Indicator illuminates when the external temperature probe is connected to the unit. Disconnect power cord. Insert temperature controller connector into the input connector. Reconnect power cord. Product is now ready for use with External Temperature Controller. Repeat the above process when disconnecting the temperature controller.http://www.steel-plast.ru/userfiles/find-car-owners-manuals-online.xml

- **corning temperature controller manual, corning temperature controller manual pdf, corning temperature controller manual download, corning temperature controller manual 2017, corning temperature controller manual free.**

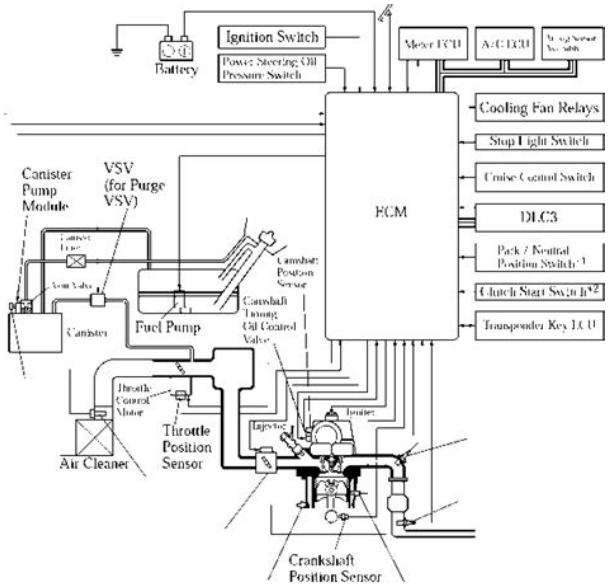



Place stir bar into vessel. Place vessel in the center of the top surface. Turn Stir Control Knob until the Stirring Speed Display shows the desired speed. The speed setting can be adjusted according to the table below. Constant Display The number will not flash when actual stirring speed is at the set speed.The number will remain constantly ON when the actual stirring speed is at the set speed. Allow stir bar to cease rotation before removing the vessel from the unit. Materials of high viscosity must be stirred at slower speed settings. If using a PC420D or PC620D and the stirring function, place stir bar Into vessel. Place vessel in the center of the top surface. Turn Heat Control Knob tuna the Heating Temperature Display shows the desired temperature.Hot Top Indicator The Hot Top Indicator will be ON at all times when the temperature of the top surface is too hot to touch greater than approximately 60.q. The Hot Top Indicator vrill FLASH when the Heat Control K.ol, is turned OFF, but the top surface is still too hot to touch.Fill vessel with solution to be heated. If using a PC420D or PC620D and the stirring function, place stir bar into vessel. Place vessel in the center of the top surface. The microprocessor controlled heat, generated by the heating element, is based upon the sensor temperature and the value set on the Heating Temperature Display. When the sensor temperature is not within range of the value set on the display, the display will FLASH. When the sensor temperature is within range, the value displayed will remain constantly ON. The Heating Temperature Display does not indicate the actual temperature of materials placed on top of the product or the actual temperature of the ceramic top surface. See page 11 for more details. When the sensor temperature is not within range of the value set on the display, the display will FLASH. When the sensor temperature is within range, the value displayed will remain constantly ON.[http://anvlaw.com/userfiles/find-car-owners-manual.xml](http://anvlaw.com/userfiles/find-car-owners-manual.xml)


The type of error routines which may be active in a product varies depending upon the functionality of the model and the operating software version. If an error routine is engaged, the product will typically shut down. Some error routines will display an error code number in the left digital location

of the Heating Temperature Display when the product is shut down. For more information on error codes, call Corning Technical Service at 978.442.2200. Please contact Corning Inc.There are potential failure modes in product functionality or in process of use that could result in uncontrolled or unexpected heating of the top surface.A list of available replacement parts are listed on page 12. Please contact Corning or a Corning authorized repair facility for repair or maintenance issues. Use only replacement power cords available from Corning and Corning authorized product distributors. A nonabrasive cleaner may be used to clean the ceramic top. Inspect the ceramic top for damage during cleaning. Discontinue product use if the ceramic top is chipped, etched, or shows excessive scratching. A replacement top can be ordered. See page 12 for details. Contact Corning or a Corning authorized repair facility for top replacement. General It is important to keep this product dry and clean. Remove minor exterior liquid spills promptly. Clean exterior surfaces with a nonabrasive cleaner. Do not reconnect product to power input until all cleaned surfaces have dried. If liquid or wet solid material gets inside the product, immediately disconnect power to the product and discontinue use. Contact Corning for additional instructions regarding interior spills. The display will blink at any time when the temperature sensor is not within range of the set temperature value. The temperature measured by the sensor is a composite of the temperature of the heating element located beneath the sensor, the ceramic top above the sensor, and the very small air space around the sensor.

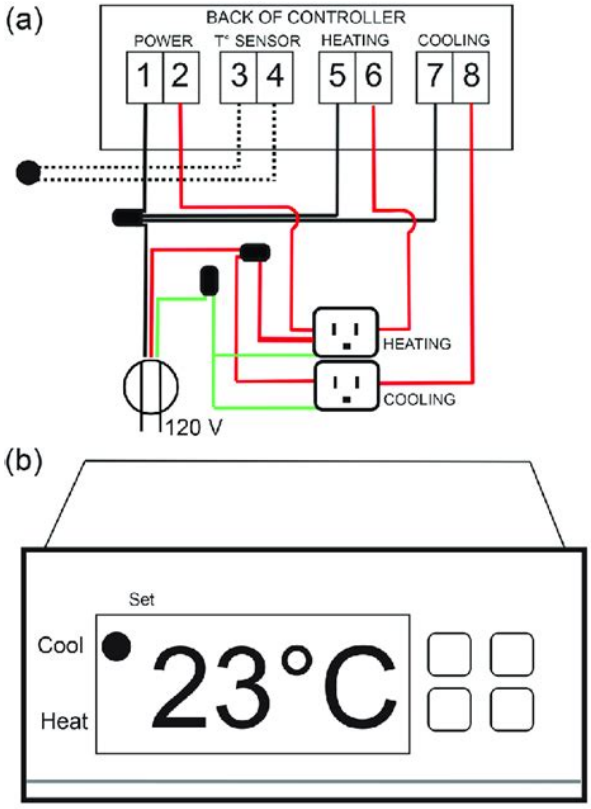
If an abnormal condition is detected, the product will shut down. A metal vessel will also scratch the ceramic top plate. The stir bar keeps decoupling. Why and what can I do to stop this. These units are programmed to minimize decoupling. However, liquid viscosity, stir bar magnetic strength, vessel used, and speed changes can cause decoupling. High viscosity liquids must be stirred at slower speed settings. The magnetic strength of stir bars can weaken over time and may need to be replaced. Vessels used need to have thin, flat bottoms to insure optimal performance. Rapid decreases in stir speed can cause decoupling as the magnet slows down quicker than the stir bar and the liquid. What size vessel should I use. Vessels used on the top of a hot plate must not be larger than the top plate. Can I do the repairs myself instead of sending it in to Corning’s equipment repair department. When repairs are completed by Corning or a Corning authorized repair facility, the performance and safety of the product will be verified before being returned to you. We do sell replacement parts so customers can complete repairs themselves. It is recommended that only people knowledgeable in electronics complete those repairs. There is no warranty or return on equipment replacement parts. IEC 610101 2001 Second Edition. IEC 610102010 2003 Second Edition. IEC 610102051 2003 Second Edition.It is the product user’s responsibility to correctly dispose of waste equipment by handing it over to an authorized facility for separate collection and recycling.This warranty begins from the date of the purchase by the end user. This warranty is made in lieu of all other warranties expressed or implied including the warranties of merchant ability and fitness for a particular purpose. Corning shall not be liable for loss or damages arising from the use of these products nor for consequential damages of any kind.




http://afreecountry.com/?q=node/4371

In the event this product fails under normal laboratory conditions with the specified period of time because of a defect in material or workmanship, Corning will, at its option, repair or replace the product. Contact the Corning Technical Information Center for return authorization and shipping instructions at Register by mail by detaching the Warranty Registration card from this instruction manual and mailing the completed card. Or you can register online at warranty. Post in the comments. Please try again.Please try again.Please try again later.In order to navigate out of this carousel please use your heading shortcut key to navigate to the next or previous heading. In order to navigate out of this carousel please use your heading shortcut key to navigate to the next or previous heading. Register a free business account It has dual LED readouts to display temperature and speed settings. Its temperature control knob adjusts temperature in 5degree increments. Stirring control slowly increases speed for improved safety and enhanced coupling with the stir bar sold separately. For safety, a hot top light indicates when the unit is over 60 degrees C, even when the power is off. The hot plate can hold a support rod for the external temperature controller. This 120V stirring hot plate is used to heat glassware and heat and mix liquid solutions for scientific applications. Laboratory hot plates are electric or gasfired benchtop appliances that are used to heat glassware or its liquid or solid contents. Stirring hot plates can stir a liquid solution by means of a stir bar that is spun magnetically inside the vessel holding the solution. Hot plates are commonly used in scientific research, clinics, and classrooms. Corning manufactures consumable glass, ceramics, and plastic laboratory tools under the brands Corning, Costar, Cellgro, Pyrex, Axygen, Gosselin, and Lambda, among others. The company, founded in 1908, is headquartered in New York, NY.

https://infocorrosion.com/images/85047a-service-manual.pdf




Whats in the Box PC620D stirring hot plate External temperature controller 2 9inch support rods Stir bar retriever Instructions To calculate the overall star rating and percentage breakdown by star, we don’t use a simple average. Instead, our system considers things like how recent a review is and if the reviewer bought the item on Amazon. It also analyzes reviews to verify trustworthiness. Please try again later. G. Lowitz 4.0 out of 5 stars Having used it now for several days, I have some firsthand experience Id like to share with the Amazon community. Hopefully Corning engineers will review this as well and chime in with their feedback. First impressions Overall, the unit is well built and packed nicely in the box. It features a large ceramic top, neutralgray cast base, and easytoread red LED digital displays for stirring speed and temperature. The design is sleek and modern. It looks good in the lab. The AC cord is a heavyduty Eurostyle detachable threeprong cord, which I like, as the cord is easy to replace if needed. It is also consistent with the types of cords found on test and measurement equipment. This unit operates on 120VAC and can draw over 1.1KW at full temperature. After comparing other models on the market, it was the external temperature sensor that sold me on this Corning model. There is a comparable Corning model in a smaller footprint that also supports this sensor, but I opted for the additional power and heating area. For those not familiar with hot plates, the external sensor is very important to maintaining reasonable temperature control of the medium. Let me explain. On most hot plates, the temperature of the LED display is the spot temperature on the underside of the ceramic or sometimes aluminum substrate. In the case of ceramic, there is a substantial temperature gradient from the center to the edges. I measured and confirmed this using a Fluke IR Thermometer and found the temperature to vary substantially depending on the location.

http://clinicamaxclin.com/images/8500-manual.pdf

Aluminum substrates are more uniform, but there will always be some differential between the edge and the center. Therefore, without an external sensor, this temperature setting is almost meaningless. What matters is the temperature of the medium that youre measuring or monitoring. As a result, suppose you wanted to heat your medium to 50 deg C. The hot plate thermal sensor has no idea what the medium temperature is. It may set the hot plate to 50 deg C, but the medium could be much cooler or take longer to come up to temperature. Conversely, by using an external sensor that you immerse in the medium directly, the feedback loop to the temperature controller is now a closedloop with a direct reading of the medium. In theory, this would provide better temperature control of the target medium. This is tricky due to the long thermal lag between the time you change the dial and the change in medium temperature. The 4wire Kelvin connection from the Buildera ThermaDur temperature probe is important to ensure that the sensor cable doesnt introduce resistance into the measurement, which would otherwise add about 1.5 degrees of error at 100 deg C when compared to a 2wire measurement. In the first test, we set the target temperature to 50 deg C starting from room temp and set the stirring rate to 200 RPM to keep a more consistent medium temperature. We noticed that the magnetic linkage was rather weak and although the apparatus was well centered, it sometimes struggled to maintain control over the spinner, especially at low velocity, such as 60100 RPM. This surprised us considering this was only water. What would happen in a more viscous fluid. How well will it stir. But that wasnt the purpose of our test, which was more focused on temperature control. That said, we found the stirrer to be less than stellar, which has been mentioned in other reviews as well. I have to agree. Possibly a stronger magnet would improve results and this is a future experiment we can try.

Also, the manual does state the bottom of the carrier must be very flat. The Corning beaker is quite flat and not too thick, so it should be a reasonable test vehicle. The test results were quite interesting. The temperature of the medium gradually ramped from 18 to 50 deg C in about 30 minutes based on the 500 ml of water in the beaker. The period of the oscillation varied slightly, but was typically in the 15minute range. Any thermal system will have some hystereses to turn on and off the heating element in order to maintain an average temperature. In this case, the average temperature appears to be around 51.2 degrees or so certainly within the specified limits of accuracy of this hot plate. Interestingly, after about 2 hours and somewhat stable temperature around 51 deg C, there was drop down to 50 deg C. Its unclear why the controller must have shut off for a longer period, but apparently it did. That said, the hot plate really cannot be used for an ultra high precision measurement as the sophistication of the closedloop temperature controller is limited in this application. After the water cooled back to room temperature approximately 23 deg C at this point, we then cranked the knob up to 100 deg C and turned off the stirrer altogether. In this case, we expected a different result because the maximum water temperature is 100 deg C, regardless of the hot plate temperature, because this will be the boiling point of water or thereabouts. Indeed, we saw a fairly rapid rise in water temperature as the unit approached 100 degrees. However, it took nearly 45 minutes to fully reach 100 degrees it was hovering just below that for a while, at which

point the LED on the front panel finally stopped flashing indicating that it reached thermal target of 100 deg C. The actual measured temperature of the water at equilibrium on the Agilent DMM was just over 100 deg C about 100.

http://joshuadacosta.com/wp-content/plugins/formcraft/file-upload/server/content/files/16285a6548b96e---C-a-reference-manual-5th-edition-download.pdf

3 degrees which is within the accuracy of a Class A sensor, measuring device, as well as accounting for some nonpurities in the filtered water e.g. dissolved salts. We could have done this experiment with distilled water, but we chose to use high quality filtered tap water for convenience. In summary, the temperature control of the Corning hot plate using the external sensor provides an acceptable average temperature level within a few degrees of accuracy of the dial setting. This method is preferred to openloop measurements without feedback. The magnetic stirrer seems weaker than expected and further experimentation will be required to determine whether this can be improved with a different stronger magnetic stirring element. The unit is overall very quiet just some buzz from the motor and whirling of the stirrer, but nothing unexpected or objectionable. In all, I rate the Corning PC620D four stars and recommend it particularly when used with the external sensor. The deduction is due to the stirrer, which could be improved. The temperature regulation was good, although not spectacular, but within stated specifications. There may be some possibility for Corning engineers to improve the temperature feedback algorithm in a future version of the product. I dont know whether this is firmware upgradeable probably not by the consumer but it would be a nice bonus were that the case. You may have to register before you can post click the register link above to proceed. To start viewing messages, select the forum that you want to visit from the selection below.

http://bacvietexpress.com/upload/userfiles/files/8449b-manual.pdf

https://events.citeve.pt/chat-conversation/boss-dr-beat-db-30-manual-0