Thermo
SCIENTIFIC

Cimarec+ stirrers, hotplates, and stirring hotplates

OPERATING MANUAL
AND PARTS LIST

CIC0000809 V17 02/22/17

This manual covers the models shown below

Model	Voltage	Description
HP88854100	100-120V	4x4 Ceramic Hot Plate
HP88854105	220-240V	4x4 Ceramic Hot Plate
S88854100	100-120V	4x4 Ceramic Stirrer
S88854105	220-240V	4x4 Ceramic Stirrer
SP88854100	100-120V	4x4 Ceramic Stirring Hotplate
SP88854105	220-240V	4x4 Ceramic Stirring Hotplate
HP88857100	100-120V	7x7 Ceramic Hot Plate
HP88857105	220-240V	7x7 Ceramic Hot Plate
S88857100	100-120V	7x7 Ceramic Stirrer
S88857105	220-240V	7x7 Ceramic Stirrer
SP88857100	100-120V	7x7 Ceramic Stirring Hotplate
SP88857105	220-240V-EU	7x7 Ceramic Stirring Hotplate
SP88857106	220-240V-AUS/CHN	7x7 Ceramic Stirring Hotplate
SP88857107	220-240V-UK	7x7 Ceramic Stirring Hotplate
HP88857104	100-120V	7x7 Aluminum Hot Plate
HP88857108	220-240V	7x7 Aluminum Hot Plate
S88857104	100-120V	7x7 Aluminum Stirrer
S88857108	220-240V	7x7 Aluminum Stirrer
SP88857104	100-120V	7x7 Aluminum Stirring Hotplate
SP88857108	220-240V	7x7 Aluminum Stirring Hotplate
HP88850100	100-120V	10x10 Ceramic Hot Plate
HP88850105	220-240V	10x10 Ceramic Hot Plate
S88850100	100-120V	10x10 Ceramic Stirrer
S88850105	220-240V	10x10 Ceramic Stirrer
SP88850100	100-120V	10x10 Ceramic Stirring Hotplate
SP88850105	220-240V-EU	10x10 Ceramic Stirring Hotplate
SP88850106	220-240V-AUS/CHN	10x10 Ceramic Stirring Hotplate
SP88850107	220-240V-UK	10x10 Ceramic Stirring Hotplate

Do You Need Information or Assistance on
Thermo Scientific Products

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Our Sales Support staff can provide information on pricing and give you quotations. We can take your order and provide delivery information on major equipment items or make arrangements to have your local sales representative contact you. Our products are listed on the Internet and we can be contacted through our Internet home page.

Our Service Support staff can supply technical information about proper setup, operation or troubleshooting of your equipment. We can fill your needs for spare or replacement parts or provide you with on-site service. We can also provide you with a quotation on our Extended Warranty for your Thermo Scientific products.

Whatever Thermo Scientific products you need or use, we will be happy to discuss your applications. If you are experiencing technical problems, working together, we will help you locate the problem and, chances are, correct it yourself...over the telephone without a service call.

When more extensive service is necessary, we will assist you with direct factory trained technicians or a qualified service organization for on-the-spot repair. If your service need is covered by the warranty, we will arrange for the unit to be repaired at our expense and to your satisfaction.

Regardless of your needs, our professional telephone technicians are available to assist you Monday through Friday from 8:00 a.m. to 6:00 p.m. Eastern Time. Please contact us by telephone or fax. If you wish to write, our mailing address is:

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Safety Information

Alert Signals

Warning
Warnings alert you to a possibility of personal injury.

Caution
Cautions alert you to a possibility of damage to the equipment.

Note
Notes alert you to pertinent facts and conditions.

Hot Surface
Hot surfaces alert you to a possibility of personal injury if you come in contact with a surface during use or for a period of time after use.

Your Thermo Scientific Cimarec+ Hot Plate, Stirrer or Stirring Hot Plate has been designed with function, reliability, and safety in mind. It is your responsibility to install it in conformance with local electrical codes. For safe operation, please pay attention to the alert signals throughout the manual.

Warning: These products should be used only under the operating conditions specified in the Operating Manual.

- If the equipment is used in a manner not specified by the manufacturer, protection provided by the equipment may be impaired
- Always use safe laboratory practices and do not leave the hotplate in operation while unattended as product functionality or laboratory practice failures could occur that might lead to uncontrolled or excessive heating of the top surface.
- Safety procedures (including, but not limited to, unplugging when not in use) and emergency response plans should be put in place to address the worst case possibility.
- If an over-temperature failure occurs, the top surface temperature could rise to the maximum temperature (300-540°C depending on your model's specification) and remain at that temperature indefinitely. Under these conditions, the material being heated on the surface of the hotplate could reach levels in excess of the maximum temperature.

This manual contains important operating and safety information. The user must carefully read and understand the contents of this manual prior to the use of this equipment.

Warnings

To avoid electrical shock, always:

1. Use a properly grounded electrical outlet of correct voltage and current handling capacity.

2. Disconnect from the power supply prior to maintenance and servicing.

To avoid personal injury:

1. Do not use in the presence of flammable vapors outside of a fume hood or near combustible materials where heating could result in a fire or explosion. This device contains components which may ignite such materials. This device is not rated for use in designated hazardous locations where flammable vapors may reach the lower flammability limit.
2. Use caution when heating volatile materials; top surface and element can reach the “Flash Point Temperature” of many chemicals. These hot plates are not explosion proof. Fire or explosion may result. Unit contains components which may ignite such materials.
3. Keep top surface clean. Use a non-abrasive cleaner. Alkali spills, hydrofluoric acid spills or phosphoric acid spills may damage top and lead to thermal failure. Unplug unit and remove spills promptly. Do not immerse unit for cleaning.
4. Replace the top immediately if damaged by etching, scratching or chipping. A damaged top can break in use.
5. Do not use metal foil on hot plate which may block air flow. Overheating will result.
6. Check and tighten the removable cord periodically making sure it is secure. If loosened, the cord could become hot and/or spark and be a potential fire hazard. If cord appears damaged, replace immediately. If cord is repeatedly loosened it is recommended to purchase the power cord.
7. Do not remove or modify grounded power plug. Use only properly grounded outlets to avoid shock hazard.
8. Use appropriate hand and eye protection when handling hazardous chemicals.
9. Gross weight of items placed on top of hot plates should not exceed 35 lbs. (15.9 kg.) on the 10” x 10” models, 25 lbs. (11.3 kg) on the 7” x 7” models and 15 lbs. (6.8 kg) on the 4” x 4” models.
10. “Caution: Hot Top. Avoid Contact.” The top plate of the unit can remain hot for some time after use. A “CAUTION - HOT TOP” light will remain on until top plate temperature cools to below 50°C.
11. Do not leave an active probe out of the fluid. This may cause uncontrolled heating of the fluid on the hot plate and unintentional boiling or an explosion could occur.
12. Do not heat flammable liquids outside of a fume hood. When heating flammable liquids, heater element temperature can be significantly higher than the temperature indicated on the display. If flammable vapors concentrations reach the internal heating element a fire or explosion may result.
13. Note that the exterior housing will be hot during and for a period of time after use.
14. Refer servicing to qualified personnel.

Información de seguridad

Señales de alerta

Advertencia
Las advertencias le alertan de la posibilidad de lesiones personales.

Precaución
Precauciones le alerta de posibilidades de daños en el equipo.

Nota
Las notas le alertan sobre información y condiciones pertinentes.

Superficie caliente
Las superficies calientes le alertan de la posibilidad de lesiones personales si tiene contacto con la superficie durante su uso o después de un determinado periodo de tiempo.

Su Plancha Caliente de Agitación Thermo Scientific Cimarec+ fue diseñada con la función, la fiabilidad y la seguridad en mente. Para su instalación es su responsabilidad hacerlo en conformidad con los códigos eléctricos locales. Para su seguro funcionamiento, por favor, preste atención a las señales de alerta especificados en el manual.

Advertencia: Estos productos se deben utilizar exclusivamente bajo las condiciones de funcionamiento indicadas en el Manual de instrucciones.

- Si el equipo se utiliza en una manera distinta a la indicada por el fabricante, la protección del equipo puede verse afectada.
- Emplee, en todo momento, prácticas de laboratorio seguras y no deje la placa en funcionamiento sin supervisión ya que se podrían producir fallos en las prácticas de laboratorio o en la funcionalidad del producto que podrían dar lugar a un calentamiento excesivo o incontrolado de la superficie superior.
- Se deben instaurar procedimientos de seguridad (incluido, sin carácter limitativo, desconectar el producto cuando no se esté utilizando) y planes de actuación en caso de emergencia de cara a poder hacer frente al peor escenario que pueda producirse.
- Si se produce un fallo de exceso de temperatura, la superficie superior podría alcanzar su temperatura máxima (entre 300 y 540 °C, según las especificaciones técnicas de su modelo) y permanecer en dicha temperatura con carácter indefinido. En estas condiciones, el material calentado en la superficie de la placa podría alcanzar una temperatura bastante superior a la temperatura máxima.

Este manual contiene información importante acerca del funcionamiento y seguridad. Antes de utilizar el equipo el usuario debe leer cuidadosamente y entender el contenido de este manual.

Información de Seguridad

Advertencias

Para evitar descarga eléctrica, siempre:

1.Utilice una toma eléctrica con polo a tierra con la correcta tensión y la capacidad de manejo de corriente.

2.Desconecte de la red eléctrica antes de hacer cualquier mantenimiento y/o reparación.

Para evitar lesiones personales:

1.No utilice el producto en entornos con vapores inflamables expulsados de una campana de evacuación de humos o cerca de materiales combustibles cuyo calentamiento podría dar lugar a un incendio o a una explosión. Este producto contiene componentes que podrían incendiar dichos materiales. Este producto no está concebido para su uso en zonas designadas como peligrosas donde los vapores inflamables pueden alcanzar el límite inferior de inflamabilidad.

2.Tenga cuidado al calentar materiales volátiles; la superficie superior y el elemento puede alcanzar a una "Temperatura Punto de inflamación" de muchos productos químicos. Estas planchas no son a prueba de explosiones. Podría producirse un incendio o una explosión. La unidad contiene componentes que pueden encender estos materiales.

3.Mantenga limpia la parte superior superficie. Use un limpiador no abrasivo. Los vertidos alcalinos, los derrames de ácido fluorhídrico o derrames de ácido fosfórico pueden dañar la parte superior y conllevar a una insuficiencia térmica. Desconecte la unidad y elimine los derrames de inmediato. No sumerja la unidad en líquidos para su limpieza.

4.Remplace la tapa inmediatamente si está dañada por el efecto de los químicos, rayado o astillado. Una tapa dañada puede romperse durante su uso.

5.No utilice papel de aluminio en la plancha caliente este puede bloquear el flujo de aire dando lugar a un sobrecalentamiento.

6.Se debe revisar y apretar el cable desmontable periódicamente para asegurarse de que es seguro. Si esta aflojado, el cable se podría calentar y/o provocar chispas siendo un peligro potencial de incendio. Sustituya el cable inmediatamente si el cable está dañado. Si el cable se afloja continuamente se recomienda comprar el cable de energía eléctrica.

7.No retire o modifique el enchufe con polo a tierra. Utilice sólo enchufes con polo a tierra para evitar el riesgo de descarga eléctrica.

8.Utilice la protección adecuada para manos y ojos al manipular productos químicos peligrosos.

9.El peso bruto de los objetos que se pongan en la parte superior de las planchas calientes no debe exceder las 35 libras. (15,9 kg.) En los modelos10 "x 10", 25 libras. (11.3 kg) en los modelos 7 "x 7" y 15 libras. (6,8 kg) en los modelos 4 "x 4".

10."Precaución: Hot Top. Evite el contacto. "La placa superior de la unidad puede permanecer caliente durante algún tiempo después de su uso. Una luz de "PRECAUCIÓN - HOT TOP" permanecerá encendida hasta que la temperatura plancha superior se enfríe por debajo de los 50 ° C.

11.No deje una sonda activa fuera del fluido. Esto puede causar un calentamiento incontrolado del fluido en la plancha caliente y podría producirse una ebullición o una explosión.

12.No caliente líquidos inflamables fuera de una campana de evacuación de humos. Cuando se calientan líquidos inflamables, la temperatura del elemento térmico puede ser muy superior a la indicada en la pantalla. Si las concentraciones de vapores inflamables alcanzan el elemento térmico interno, se podría producir un incendio o explosión.

13.Debe tener en cuenta que la carcasa exterior permanecerá caliente durante su uso y por un periodo de tiempo después de su uso.

14.Siempre solicite los servicios del personal cualificado.

Sicherheitshinweise

Gefahrensymbole

Warnung
Eine Warnung weist Sie auf die Möglichkeit einer Verletzung hin.

Vorsicht
Das Symbol Vorsicht weist Sie auf die mögliche Beschädigung der Ausrüstung hin.

Hinweis
Hinweise weisen Sie auf einschlägige Fakten und Bedingungen hin.

Heiße Oberfläche
Das Symbol heiße Oberfläche weist Sie auf das Risiko von Verletzungen hin, sollten Sie während des Betriebs oder für einen bestimmten Zeitraum danach in Kontakt mit einer Oberfläche kommen.

Ihre Thermo Scientific Cimarec+ Rühr- Heizplatte wurde unter den Gesichtspunkten der Funktionalität, Zuverlässigkeit und Sicherheit entworfen. Es obliegt Ihrer Verantwortung diese in Übereinstimmung mit den örtlichen elektrischen Vorschriften zu installieren. Für einen sicheren Betrieb beachten Sie bitte die Gefahrensymbole in der gesamten Bedienungsanleitung.

Warnung: Diese Produkte dürfen nur unter den Betriebsbedingungen, die im Betriebshandbuch beschrieben sind, benutzt werden.

- Falls die Ausrüstung in einer vom Hersteller nicht angegebenen Weise benutzt wird, kann dadurch der Schutz den das Gerät bietet, beeinträchtigt werden.
- Befolgen Sie immer sichere Laborpraktiken und lassen Sie die Heizplatte nicht unbeaufsichtigt arbeiten, denn es könnten sich Störungen der Produkt Funktionalität oder Laborpraktiken ergeben, welche zu einer unkontrollierten und übermäßigen Erhitzung der Oberfläche führen könnten.
- Sicherheitsmaßnahmen (einschließlich, aber nicht beschränkt auf abziehen des Stecker, wenn es nicht benutzt wird) und Notfallpläne sollten eingeführt sein, um Extremfälle angehen zu können.
- Falls eine Störung durch Übertemperatur erfolgt, kann sich die Temperatur der Oberflächenfläche auf die Maximum Temperatur(300- 540 °C vom Modell abhängig) erhöhen und auf dieser Temperatur langzeitig verbleiben. Unter diesen Bedingungen, kann das Material, welches auf der Heizplatte erhitzt wird, sich höher als die Temperatur aufheizen.

Dieses Handbuch enthält wichtige Bedienungs- und Sicherheitshinweise. Der Benutzer muss dieses Handbuch sorgfältig durchlesen und die Inhalte vor der Verwendung dieses Geräts verstehen.

Warnungen

Zur Vermeidung von Stromschlag, immer:

1. Eine ordnungsgemäß geerdete Steckdose verwenden, welche auf die korrekte Spannung und Strombelastbarkeit ausgelegt ist.

2.Das Gerät vor der Wartung und Reparatur von der Stromversorgung abtrennen.

Um Verletzungen zu vermeiden:

1.In Gegenwart von brennbaren Dämpfen nicht ausserhalb eines Dunstabzuges oder in der Nähe von brennbarem Material benutzen, wo ein Aufheizen zu Brand oder Explosion führen könnte. Dieses Gerät enthält Bauteile, die solches Material anzünden könnten. Dieses Gerät ist nicht eingestuft für den Gebrauch an gekennzeichneten gefährlichen Orten an denen brennbare Dämpfe die untere Zündgrenze erreichen könnten.

2.Vorsicht beim Erhitzen flüchtiger Materialien. Die Oberfläche und das Element können die Temperatur des "Entflammungspunkts" vieler Chemikalien erreichen.
Die Heizplatten sind nicht explosionsgeschützt. Dies kann zu einem Brand oder einer Explosion führen. Dieses Gerät enthält Komponenten, die solche Materialien entzünden können.

3.Halten Sie die Oberfläche sauber. Verwenden Sie ein nicht scheuerndes Reinigungsmittel. Leckagen von Alkali, Flußsäure oder Phosphorsäure können die Oberfläche beschädigen und zum Ausfall der Heizkomponenten führen. Ziehen Sie den Netzstecker der Einheit und entfernen Sie Leckagen unverzüglich. Nicht zur Reinigung in Flüssigkeiten eintauchen.

4. Ersetzen Sie die Oberfläche sofort, falls es durch Verätzungen, Kratzer oder Absplitterungen beschädigt ist. Eine beschädigte Oberfläche kann während dem Gebrauch brechen.

5. Verwenden Sie keine Metallfolie auf der Heizplatte, welches den Luftstrom blockieren kann. Das kann Überhitzung zur Folge haben.

6. Überprüfen und ziehen Sie das abnehmbare Kabel regelmäßig an und gewährleisten, dass es sicher ist. Wenn gelockert, kann das Kabel heiß werden und/oder Funken schlagen und eine potentielle Brandgefahr darstellen. Wenn das Kabel beschädigt erscheint, sofort ersetzen. Wenn das Kabel sich wiederholt lockert, wird es empfohlen, das Netzkabel zu kaufen.

7. Den geerdeten Netzstecker nicht entfernen oder modifizieren. Verwenden Sie nur geerdete Steckdosen, um einen Stromschlag zu vermeiden.

8. Benutzen Sie geeigneten Hand und Augenschutz beim Umgang mit gefährlichen Chemikalien.

9. Das Bruttogewicht der Gegenstände, die auf die Heizplatten gegeben werden sollte 15,9 kg nicht überschreiten (35 lbs). Auf den 10 Zoll x 10 Zoll Modellen, 11,3 kg (25 lbs) auf den 7 Zoll x 7 Zoll Modellen und 6,8 kg (15 lbs) auf den 4 Zoll x 4 Zoll Modellen.

10."Vorsicht: Heiße Oberfläche. Kontakt vermeiden." Die obere Heizplatte des Geräts kann für einige Zeit nach der Benutzung heiß bleiben. Eine Warnleuchte "ACHTUNG - HEISSE OBERFLÄCHE" wird aufleuchten bis die Temperatur der oberen Heizplatte auf unter 50°C abkühlt.

11.Lassen Sie keine Flüssigkeit aus der aktiven Probe entweichen. Dies kann eine unkontrollierte Erwärmung der Flüssigkeit auf der Heizplatte zur Folge haben und ein unbeabsichtigtes Sieden oder eine Explosion verursachen.

12.Erhitzen Sie keine brennbaren Flüssigkeiten ausserhalb des Dunstabzugs. Beim Erhitzen von brennbaren Flüssigkeiten, kann das Heizelement eine wesentlich höhere Temperatur erreichen, als die auf der Anzeige dargestellte Temperatur. Falls die Konzentration an brennbaren Dämpfen das innere Heizelement erreicht, kann es zu einem Brand oder Explosion führen.

13.Beachten Sie, dass das Außengehäuse während dem Gebrauch und eine gewisse Zeit danach heiß ist.

14.Kontaktieren Sie für alle Wartungsarbeiten qualifiziertes Servicepersonal.

Informations de sécurité

Signaux d'alerte

Avertissement
Les avertissements vous alertent de la possibilité de blessures corporelles.

Mise en garde
Les mises en garde vous avertissent de la possibilité d'endommagement de l'équipement.

Remarque
Les remarques vous alertent de conditions et de faits pertinents.

Surface chaude
Les surfaces chaudes vous avertissent de la possibilité de blessures corporelles, si vous entrer en contact avec une surface en cours d'utilisation ou pour une période de temps après l'utilisation.

Votre Plaque Chauffante Agitatrice Cimarec+ Thermo-Scientifique a été conçue, tout en ayant à l'esprit: la fonction, la fiabilité et la sécurité. Il est de votre responsabilité de l'installer en conformité aux codes électriques locaux. Pour un fonctionnement en toute sécurité, veuillez prêter attention aux signaux d'alerte mentionnés à travers le manuel.

Attention : ces produits ne doivent être utilisés que dans des conditions d'utilisation spécifiées dans le Manuel d'Utilisation.

- Si l'équipement est utilisé d'une manière non-spécifiée par le fabricant, la protection fournie par l'équipement peut en être réduite.
- Toujours suivre des pratiques de laboratoire sécurisées, et ne pas laisser les plaques de cuisson allumées sans les utiliser, car des défauts de fonctionnalités du produit ou les pratiques de laboratoire pourraient survenir, provoquant la perte de contrôle ou la surchauffe de la surface.
- Les procédures de sécurité (dont le débranchement lorsque l'appareil n'est pas utilisé), et les actions en cas d'urgence doivent être mises en œuvre pour éviter les pires cas d'urgences.
- Si un défaut de surchauffe survient, la température de la surface peut augmenter jusqu'au maximum (300-540°C, en fonction des spécificités du modèle), et rester à cette température indéfiniment. Sous ces conditions, le matériel en chauffe sur la surface de la plaque de cuisson peut atteindre des niveaux excessifs de la température maximum.

Ce manuel contient d'importantes informations relatives au fonctionnement et à la sécurité. L'utilisateur doit attentivement lire et comprendre le contenu de ce manuel avant d'utiliser cet équipement.

Avertissements

Pour éviter tout risque de choc électrique, toujours:

1. Utiliser une prise électrique correctement mise à la terre avec une tension et capacité de gestion du courant correctes.

2. Débrancher de la source d'alimentation, avant de procéder à l'entretien et la maintenance

Pour éviter les blessures:

1. Ne pas utiliser en la présence de vapeurs inflammables, en dehors d'une hotte, ou près de matériaux combustibles dont la montée en température pourrait entraîner un incendie ou une explosion. Cet appareil contient des composants pouvant mettre le feu à de tels matériaux. Cet appareil n'est pas conçu pour être utilisé dans des endroits désignés comme dangereux, où des vapeurs inflammables pourraient atteindre le seuil limite d'inflammabilité.
2. Faire preuve de prudence lors du chauffage de matériaux volatils; la surface supérieure et l'élément.
3. Garder propre la surface supérieure. Utiliser un produit de nettoyage non abrasif. Les déversements alcalis, les déversements d'acide fluorhydrique ou les déversements d'acide phosphorique peuvent endommager la partie supérieure et conduire à une défaillance thermique. Débrancher l'appareil et enlever rapidement les déversements. Ne pas plonger l'unité dans de l'eau pour le nettoyer.
4. Remplacer immédiatement la partie supérieure, si elle est endommagée par une attaque chimique, une rayure ou un écaillage. Une partie supérieure endommagée peut tomber en passe en cours d'utilisation.
5. Ne pas utiliser la feuille de métal sur la plaque chaude, cela peut bloquer la circulation d'air. Une surchauffe pourra se produire.
6. Vérifiez et serrez périodiquement la corde amovible afin d'assurer sa sécurisé. Si la corde se desserre, elle va devenir chaude et/ou produire de l'étincelle et aussi devenir un risque d'incendie potentiel. S'il y a des endommagements, on doit remplacer la corde immédiatement. Si la corde se desserre plusieurs fois, on vous recommende d'acheter la corde d'alimentation.
7. Ne pas retirer ou modifier la fiche d'alimentation mise à la terre. Utiliser uniquement des prises mises à la terre correctement, afin d'éviter tout risque de choc électrique.
8. Utiliser des lunettes et des gants de protection, lors de la manipulation de produits chimiques dangereux.
9. Le poids brut des éléments placés sur la partie supérieure des plaques chauffantes ne doit pas dépasser 35 lbs. (15,9 Kg.) sur les modèles 10" x 10", 25 lbs. (11,3 Kg) sur les modèles 7" x 7" et 15 lbs. (6,8 Kg) sur les modèles 4" x 4".
10. "Mise en garde: Partie supérieure Chaude. Éviter tout contact." La partie supérieure de la plaque de l'unité peut rester chaude pendant un certain temps après utilisation. Un témoin "ATTENTION - PARTIE SUPÉRIEURE CHAUDE" restera allumé jusqu'à ce que la température de la partie supérieure de la plaque descende en-dessous de 50°C.
11. Ne pas laisser de sonde active hors du liquide. Cela peut provoquer un réchauffement incontrôlé du liquide sur la plaque chaude et une ébullition involontaire ou une explosion pourraient se produire.
12. Ne pas chauffer des liquides inflammables en dehors d'une hotte. En chauffant des liquides inflammables, la température de l'élément chauffant peut-être beaucoup plus élevée que la température indiquée sur l'écran. Si les concentrations de vapeurs inflammables atteignent l'élément chauffant interne, un incendie ou une explosion peuvent survenir.
13. Notez que le boîtier extérieur sera chaud pendant et pour une période de temps après utilisation.
14. S'adresser à un personnel qualifié pour la maintenance.

Informação de Segurança

Sinais de Aviso

Aviso
Os avisos alertam para a possibilidade de ferimentos pessoais.

Cuidado
Os sinais de cuidados alertam para a possibilidade de danos no equipamento.

Nota
As notas alertam para factos e condições pertinentes.

Superfície Quente
Os sinais de superfície quente alertam para a possibilidade de ferimentos pessoais se entrar em contacto com uma superfície durante a utilização ou por um período de tempo após a utilização.

A sua Chapa Eléctrica Cimarec+ Térmica foi desenhada com funcionalidade, confiança e segurança em mente. É sua responsabilidade instalar de acordo com os regulamentos eléctricos locais. Para operação segura, preste atenção aos sinais de alerta presentes no manual.

Aviso: Estes produtos devem ser utilizados unicamente sobre as condições de operação especificadas no Manual de Operação.

- Se o equipamento for utilizado de forma não especificada pelo fabricante, a protecção fornecida pelo equipamento poderá ser anulada.
- Utilize sempre práticas de laboratório seguras e não deixe a placa de aquecimento a funcionar enquanto o produto não tiver supervisão uma vez que podem ocorrer falhas de funcionamento e ou práticas de laboratório que podem conduzir a aquecimento não controlado ou excessivo na superfície superior.
- Os procedimentos de segurança (incluindo mas não limitado a desligar a ficha quando não estiver em utilização) e planos de resposta de emergência devem ser postos em prática em situações de acidente.
- Se ocorrer uma falha de excesso de temperatura, a temperatura da superfície superior pode subir até ao máximo (300-540ºC dependendo das especificações do modelo) e manter-se assim indefinitivamente. Nestas condições, o material a ser aquecido na superfície da placa de aquecimento pode alcançar níveis em excesso da temperatura máxima.

Este manual contém informação de operação e segurança importante. O utilizador deve ler atentamente e compreender os conteúdos deste manual antes de utilizar o equipamento.

Avisos

Para evitar choque eléctrico:

1. Utilize sempre uma tomada eléctrica aterrada com a voltagem e capacidade de manuseamento de corrente correctas.

2. Desligue sempre a alimentação antes da manutenção e assistência.

Para evitar ferimentos pessoais:

1. Não utilize na presença de vapores inflamáveis quando não estiver perto de um exaustor ou perto de materiais combustíveis onde o aquecimento possa resultar em incêndio ou explosão. Este dispositivo contém componentes que podem incendiar esses materiais. Este dispositivo não serve para ser utilizado em locais perigosos onde vapores inflamáveis possam alcançar o limite de inflamação mais baixo.
2. Tenha cuidado quando aquecer materiais voláteis; a superfície e elemento superiores podem alcançar a "Temperatura de Ponto de Incêndio" de muitos químicos. Estas chapas eléctricas não são à prova de explosão. Poderá resultar em incêndio ou explosão. A unidade contém componentes que.
3. Mantenha a superfície superior limpa. Utilize um detergente não abrasivo. Derramamentos de alcalinos, ácidos hidrofluóricos ou ácidos fósforos podem danificar a superfície e conduzir a falha termal. Desligue a unidade da tomada e limpe os derramamentos de imediato. Não mergulhe a unidade para limpeza.
4. Substitua a superfície de imediato se danificada por cauterização, arranhões ou lascas. A superfície pode partir durante a utilização.
5. Não utilize folha de metal na chapa, pois poderá bloquear o fluxo de ar. Poderá resultar em sobreaquecimento.
6. Verifique e aperte o cabo removível periodiamente para ter certeza que está seguro. Caso esteja frouxo, o cabo poderá se aquecer e/ou soltar faíscas, gerando perigo de incêndio. Se o cabo parecer danificado, substitua-o imediatamente. Se o cabo se afrouxar com frequência, é recomendada a aquisição do cabo de alimentação.
7. Não retire nem modifique a ficha de alimentação aterrada. Utilize unicamente tomadas correctamente aterradas para evitar perigo de choque eléctrico.
8. Utilize protecção de mãos e olhos quando manusear químicos perigosos.
9. O peso bruto dos produtos colocados em cima da chapa não deve exceder os 35 lbs. (15.9 kg.) em modelos 10” x 10”, 25 lbs. (11.3 kg.) em modelos 7” x 7”, e 15 lbs. (6.8 kg.) em modelos 4” x 4”.
10. "Cuidado: Topo Quente. Evite Contacto." A chapa superior da unidade pode permanecer quente durante algum tempo após a utilização. A luz "CUIDADO - TOPO QUENTE" irá permanecer ligada até a temperatura descer abaixo dos 50ºC.
11. Não deixe um estilete activo fora do fluído. Isto poderá causar aquecimento descontrolado do fluído na chapa e poderá resultar em fervura ou explosão não intencional.
12. Não aqueça líquidos inflamáveis fora do alcance de um exaustor. Ao aquecer líquidos inflamáveis, a temperatura do elemento do aquecedor pode ser significantemente mais alta que a temperatura indicada no ecrã. Se as concentrações de vapor inflamável alcançarem o elemento de aquecimento interno, poderá resultar em incêndio ou explosão.
13. Note que o revestimento exterior estará quente durante a utilização e após a mesma.
14. Refira a assistência ao pessoal qualificado.

Информация по безопасности

Сигналы тревоги

Предупреждение
Os avisos alertam para a possibilidade de ferimentos pessoais.

Осторожно
Символы осторожно указывают на возможность повреждения оборудования.

Примечание
Примечания указывают на соответствующие факты и условия.

Горячая поверхность
Символ горячей поверхности предупреждает о возможности получения травмы, если вы вступите в контакт с поверхностью во время использования или в течение периода времени после использования.

Ваша термо нагревательная плита была разработана с функцией надежности и безопасности. Вам необходимо установить ее в соответствии с местными нормативами. Для безопасной эксплуатации, пожалуйста, обратите внимание на сигналы тревоги по всему руководству.

Внимание: Данные товары должны использоваться исключительно согласно условиям функционирования указанным в Руководстве по применению.

- Если устройство используется отличным от указанного производителем образом, предусмотренная защита оборудования может быть повреждена.
- Всегда используйте безопасные рабочие поверхности и не оставляйте конфорку в рабочем состоянии без присмотра, поскольку могут возникнуть повреждения в действии или в техническом состоянии устройства, что может привести к неконтролируемому чрезмерному нагреву наружной поверхности.
- Необходимо обеспечить безопасное использование (включая, но, не ограничиваясь, выключением устройства из розетки в нерабочее время прибора) и поведение предостерегающее возникновение аварий.
- В случае возникновения перегрева, наружная поверхность может достигнуть максимальной температуры (300-540ОС, в зависимости от модели устройства) и сохранять данную температуру в течение неопределенного времени. В данном случае, материал, нагреваемый на поверхности плиты, может достигнуть уровня, превышающего максимальную температуру.

Это руководство содержит важную операционную информацию и информацию по безопасности. Пользователь должен внимательно прочитать и понять содержание данного руководства перед началом использования данного оборудования.

Предупреждения

Во избежание поражения электрическим шоком, всегда:

1. Используйте правильно заземленную розетку соответствующего напряжения и пропускной способностью тока.
2. Отсоединяйте от источника питания перед обслуживанием и сервисом.

Во избежание получения травмы:

1. Не включайте устройство в присутствии легковоспламеняющихся паров вдали от вытяжки или вблизи от легковоспламеняющихся материалов, нагрев которых может привести к возгоранию или взрыву. Данное устройство содержит компоненты, которые могут зажечь такие материалы. Прибор также не предназначен для применения в местах, где обозначен риск достижения легковоспламеняющимися парами уровня возгорания.
2. Будьте внимательны при нагревании летучих веществ; верхняя поверхность и элемент могут достигнуть "температуры вспышки" многих химических веществ. Данные нагревательные плиты не взрывозащищенные. Это может привести к пожару или взрыву. Блок содержит компоненты, которые могут воспламенить эти материалы.
3. Держите верхнюю поверхность в чистоте. Используйте неабразивный очиститель. Щелочные растворители, растворители с содержанием фтористоводородной кислоты или фосфорной кислоты могут повредить верхний слой и привести к термическим повреждениям. Отключайте устройство и тщательно удаляйте растворители. Не опускайте прибор в воду для чистки.
4. Немедленно замените верхнюю поверхность, если она повреждена в результате травления, царапин или обкалывания. Поврежденная верхняя поверхность может сломаться во время использования.
5. Не используйте металлическую фольгу на нагревающей плите, это может блокировать поток воздуха и привести к перегреву.
6. Проверить и заменить съемный кабель, в процессе проверяя безопасность. Если кабель слабо затянут, то он может нагреваться\или искрить, что может быть причиной возгорания. Если кабель поврежден, его необходимо немедленно заменить. Если кабель постоянно слабозатянут, то рекомендуется приобрести кабель питания.
7. Не удаляйте или не изменяйте заземленную вилку. Используйте только правильно заземленные розетки, чтобы избежать поражения электрическим током.
8. Используйте соответствующие защитные средства для рук и глаз при работе с опасными химическими веществами.
9. Общий вес предметов, помещаемых на плиту, не должен превышать 35 фунтов (15,9 кг) на 10" x 10" модели, 25 фунтов (11,3 кг) на 7” x 7” модели, и 15 фунтов (6,8 кг) на 4” x 4” модели.
10. "Осторожно: Горячая поверхность. Избегайте контакта." Верхняя плита блока может оставаться горячей некоторое время после использования. Надпись "ОСТОРОЖНО – ГОРЯЧАЯ ПОВЕРХНОСТЬ" будет гореть до тех пор, пока температура верхней плиты не остынет до температуры ниже 50°C.
11. Не оставляйте активную емкость с чрезмерным количеством жидкости. Это может привести к неконтролируемому нагреву жидкости на горячей плите и непреднамеренному кипению или взрыву.
12. Не нагревайте легковозгораемые жидкости вдали от вытяжки. При нагреве легковозгораемых жидкостей температура нагрева элемента может значительно превысить температуру, обозначенную на дисплее. При концентрации легковоспламеняющихся паров, внутренний элемент нагрева может привести к возгоранию или взрыву.
13. Необходимо принять во внимание, что внешний корпус будет горячим во время и в течение периода времени после использования.
14. За сервисным обслуживанием обращайтесь к квалифицированному персоналу.

Specifications

Ceramic Top Hot Plate Specifications

Overall Dimensions	HP88854100	HP88854105	HP88857100	HP88857105	HP88850100	HP88850105
Width - in.(cm)	5.1 (13)	5.1 (13)	8.2 (20.8)	8.2 (20.8)	11.3 (28.8)	11.3 (28.8)
Height - in.(cm)	3.9 (9.8)	3.9 (9.8)	4.1 (10.5)	4.1 (10.5)	4.1 (10.5)	4.1 (10.5)
Depth - in.(cm)	10.2 (25.9)	10.2 (25.9)	14.2(36)	14.2(36)	17.2(43.8)	17.2(43.8)
Weight - lbs.(kg)	3.3 (1.5)	3.3 (1.5)	7.5 (3.4)	7.5 (3.4)	11.5 (5.2)	11.5 (5.2)
Top Plate Dimensions						
Width - in.(cm)	4.25 (10.8)	4.25 (10.8)	7.25 (18.4)	7.25 (18.4)	10.5 (26.7)	10.5 (26.7)
Height - in.(cm)	1.0 (2.5)	1.0 (2.5)	1.0 (2.5)	1.0 (2.5)	1.0 (2.5)	1.0 (2.5)
Depth - in.(cm)	4.25 (10.8)	4.25 (10.8)	7.25 (18.4)	7.25 (18.4)	10.5 (26.7)	10.5 (26.7)
Volts	100-120	220-240	100-120	220-240	100-120	220-240
Amps	4.4	1.6	12	4.4	13	6.0
Watts	540	384	1440	1056	1560	1440
Freq.	50/60	50/60	50/60	50/60	50/60	50/60
Phase	1	1	1	1	1	1
Max. Temp °C (°F)	540°C(1004°F)	540°C(1004°F)	540°C(1004°F)	540°C(1004°F)	400°C(752°F)	400°C(752°F)

Ceramic Top Stirrer Specifications

Overall Dimensions	S88854100	S88854105	S88857100	S88857105	S88850100	S88850105
Width - in. (cm)	5.1 (13)	5.1 (13)	8.2 (20.8)	8.2 (20.8)	5.1 (13)	5.1 (13)
Height - in. (cm)	3.9 (9.8)	3.9 (9.8)	4.1 (10.5)	4.1 (10.5)	4.1 (10.5)	4.1 (10.5)
Depth - in. (cm)	10.2 (25.9)	10.2 (25.9)	14.2(36)	14.2(36)	17.2(43.8)	17.2(43.8)
Weight - lbs. (kg)	5.0 (2.2)	5.0 (2.2)	9.0 (4.1)	9.0 (4.1)	13.0 (5.9)	13.0 (5.9)
Top Plate Dimensions						
Width - in. (cm)	4.25 (10.8)	4.25 (10.8)	7.25 (18.4)	7.25 (18.4)	10.5 (26.7)	10.5 (26.7)
Height - in. (cm)	1.0 (2.5)	1.0 (2.5)	1.0 (2.5)	1.0 (2.5)	1.0 (2.5)	1.0 (2.5)
Depth - in. (cm)	4.25 (10.8)	4.25 (10.8)	7.25 (18.4)	7.25 (18.4)	10.5 (26.7)	10.5 (26.7)
Volts	100-120	220-240	100-120	220-240	100-120	220-240
Amps	0.2	0.1	0.2	0.1	0.2	0.1
Watts	24	24	24	24	24	24
Freq.	50/60	50/60	50/60	50/60	50/60	50/60
Phase	1	1	1	1	1	1

Ceramic Top Stirring Hotplate Specifications

Overall Dimensions	SP88854100	SP88854105	SP88857100	SP88857105	SP88850100	SP88850105
Width - in. (cm)	5.1 (13)	5.1 (13)	8.2 (20.8)	8.2 (20.8)	11.3 (28.8)	11.3 (28.8)
Height - in. (cm)	3.9 (9.8)	3.9 (9.8)	4.1(10.5)	4.1(10.5)	4.1(10.5)	4.1(10.5)
Depth - in. (cm)	10.2 (25.9)	10.2 (25.9)	14.2 (36)	14.2 (36)	17.2 (43.8)	17.2 (43.8)
Weight - lbs. (kg)	5.0 (2.2)	5.0 (2.2)	9.0 (4.1)	9.0 (4.1)	13.0 (5.9)	13.0 (5.9)
Top Plate Dimensions						
Width - in. (cm)	4.25 (10.8)	4.25 (10.8)	7.25 (18.4)	7.25 (18.4)	10.5 (26.7)	10.5 (26.7)
Height - in. (cm)	1.0 (2.5)	1.0 (2.5)	1.0 (2.5)	1.0 (2.5)	1.0 (2.5)	1.0 (2.5)
Depth - in. (cm)	4.25 (10.8)	4.25 (10.8)	7.25 (18.4)	7.25 (18.4)	10.5 (26.7)	10.5 (26.7)
Volts	100-120	220-240	100-120	220-240	100-120	220-240
Amps	4.4	1.6	12	4.4	13	6.0
Watts	540	384	1440	1056	1560	1440
Freq.	50/60	50/60	50/60	50/60	50/60	50/60
Phase	1	1	1	1	1	1
Max. Temp °C (°F)	540°C(1004°F)	540°C(1004°F)	540°C(1004°F)	540°C(1004°F)	400°C(752°F)	400°C(752°F)

Overall Dimensions	SP88857106	SP88857107	SP88850106	SP88850107
Width - in. (cm)	8.2 (20.8)	8.2 (20.8)	11.3 (28.8)	11.3 (28.8)
Height - in. (cm)	4.1(10.5)	4.1(10.5)	4.1(10.5)	4.1(10.5)
Depth - in. (cm)	14.2 (36)	14.2 (36)	17.2 (43.8)	17.2 (43.8)
Weight - lbs. (kg)	9.0 (4.1)	9.0 (4.1)	13.0 (5.9)	13.0 (5.9)
Top Plate Dimensions				
Width - in. (cm)	7.25 (18.4)	7.25 (18.4)	7.25 (18.4)	7.25 (18.4)
Height - in. (cm)	1.0 (2.5)	1.0 (2.5)	1.0 (2.5)	1.0 (2.5)
Depth - in. (cm)	7.25 (18.4)	7.25 (18.4)	7.25 (18.4)	7.25 (18.4)
Volts	100-120	220-240	100-120	220-240
Amps	12	4.4	13	6.0
Watts	1440	1056	1560	1440
Freq.	50/60	50/60	50/60	50/60
Phase	1	1	1	1
Max. Temp °C (°F)	540°C(1004°F)	540°C(1004°F)	400°C(752°F)	400°C(752°F)

Aluminum Top Unit Specifications

Overall Dimensions	HP88857104	HP88857108	S88857104	S88857108	SP88857104	SP88857108
Width - in. (cm)	8.2 (20.8)	8.2 (20.8)	8.2 (20.8)	8.2 (20.8)	8.2 (20.8)	8.2 (20.8)
Height - in. (cm)	4.1(10.5)	4.1(10.5)	4.1(10.5)	4.1(10.5)	4.1(10.5)	4.1(10.5)
Depth - in. (cm)	14.2 (36)	14.2 (36)	14.2 (36)	14.2 (36)	14.2 (36)	14.2 (36)
Weight - lbs. (kg)	7.5 (3.4)	7.5 (3.4)	9.0 (4.1)	9.0 (4.1)	9.0 (4.1)	9.0 (4.1)
Top Plate Dimensions						
Width - in. (cm)	7.25 (18.4)	7.25 (18.4)	7.25 (18.4)	7.25 (18.4)	7.25 (18.4)	7.25 (18.4)
Height - in. (cm)	1.0 (2.5)	1.0 (2.5)	1.0 (2.5)	1.0 (2.5)	1.0 (2.5)	1.0 (2.5)
Depth - in. (cm)	7.25 (18.4)	7.25 (18.4)	7.25 (18.4)	7.25 (18.4)	7.25 (18.4)	7.25 (18.4)
Volts	100-120	220-240	100-120	220-240	100-120	220-240
Amps	6.0	2.6	0.2	0.1	6.0	2.6
Watts	720	624	24	24	720	624
Freq.	50/60	50/60	50/60	50/60	50/60	50/60
Phase	1	1	1	1	1	1
Max. Temp °C (°F)	300°C(572°F)	300° C(572° F)	-	-	300°C(572°F)	300° C(572° F)

Heating Specifications*

Top Plate Surface - Solid Ceramic

Models	4" x 4"	7" x 7"	10" x 10"
Temperature range	30°C - 540°C (86°F - 1004°F)**		30°C - 400°C (86°F - 752°F)**
Heat-up time to maximum temperature (unloaded top plate)	8 minutes		
Accuracy of the temperature display vs. the actual average temperature of a 2" diameter of setting area at the center of the top plate (setpoint 100°C unloaded)	± 5.0°C		
Temperature stability at the center of the top plate surface (@ 100°C unloaded)	± 2.0°C		
Typical accuracy of remote probe at user selected calibration temperature after calibration procedure	±1.8°C		
Temperature stability using remote probe (500 ml of water in a 1000 ml flask at 70°C)	±0.5°C		

Top Plate Surface - Solid Aluminum

Models	7" x 7"
Temperature range	30°C - 300°C (86°F - 572°F)**
Heat-up time to maximum temperature (unloaded top plate)	10 minutes
Accuracy of the temperature display vs. the actual average temperature of a 2” diameter of setting area at the center of the top plate (setpoint 100°C unloaded).	± 10.0°C
Temperature stability at the center of the top plate surface (@ 100°C unloaded)	± 2.0°C
Typical accuracy of remote probe at user selected calibration temperature after calibration procedure	± 1.8°C
Temperature stability using remote probe (500ml of water in a 1000 ml flask at 70°C)	± 0.5°C

Stirring Speed Specifications

Speed Range 50 to 1500 RPM(Maximum speed is dependent on the viscosity of the solution).
Stability of the stirring speed setpoint (600 ml of water in a 1000 ml glass flask) ± 5.0% at 1000 RPM

Top Plate Size	Max Recommended Flask Size	Max Weight on Top Plate
4" x 4"	1 liter	15 lbs
7" x 7"	4 liters	25 lbs
10" x 10"	6 liters	35 lbs

** The specification defined in this section is derived from testing data statistics of Thermo Fisher Scientific lab. We reserve the right to make changes in design and specification without prior notice.*

*** As the top plate becomes dirty, the maximum temperature will decrease. To return the unit to its maximum temperature performance, use a mild abrasive to remove stained areas.*

Environmental Conditions

Operating:	5°C to 35°C; 20% to 80% relative humidity, non-condensing. Installation category II (overvoltage) in accordance with IEC 664. Pollution degree 2 in accordance with IEC 664. Altitude Limit: 2,000 meters.
Storage:	-25°C to 65°C 10% to 85% relative humidity

Declaration of Conformity

We hereby declare under our sole responsibility that this product conforms with the technical requirements of the following standards:

EMC:	EN 61000-3-2	Limits for harmonic current emissions
	EN 61000-3-3	Limits for voltage fluctuations and flicker
	EN 61326-1	Electrical equipment for measurement, control, and laboratory use; Part I: General Requirements
Safety:	EN 61010-1	Safety requirements for electrical equipment for measurement, control, and laboratory use; Part I: General Requirements
	EN 61010-2-010	Part II: Particular requirements for laboratory equipment for the heating of materials
	EN 61010-2-051	Part II: Particular requirements for laboratory equipment formixing and stirring

per the provisions of the Electromagnetic Compatibility Directive 2014/30/EU, and per the provisions of the Low Voltage Directive 2014/35/EU.

Copies of the Declaration of Conformity are available upon request.

Introduction

Cimarec+ Stirring Hotplate

Please read all the information in this manual before operating the unit.

Your Cimarec+ hot plate, stirrer or stirring hot plate is a heating and/or stirring plate designed for laboratory procedures requiring precise control of temperature and/or stirring speed. Each Cimarec+ model includes a digital temp display and/or a digital speed display for monitoring actual temperature and/or stirring speed.

The hot plate is capable of producing accurately controlled top plate temperatures from 30°C through 300°C, 400°C or 540°C(depending on the model). The temperature is controlled at the plate surface by an internal sensor.

The stirrer will accurately maintain stirring speeds from 50 rpm up to 1500 rpm. The top plate on the Cimarec+ unit is solid ceramic or solid aluminum, and is suitable for use with glass or metal vessels.

Your Cimarec+ model may be used for general purpose heating applications and/or general laboratory mixing of solutions, including sample preparation, heating reagents, melting paraffin, warming resinous chemicals, content analysis, solvent evaporations, digestions, media preparation and sterilization, titrations, sand baths, and microscale chemistry application.

General Usage

Do not use this product for anything other than its intended usage.

Principles of Operation

Each Cimarec+ unit utilizes the latest microprocessor technology to deliver a reliable, controlled, ceramic top stirring hot plate.

Your Cimarec+ stirring hot plate has an electronic closed-loop feedback control which will accurately maintain temperature setpoints from 30°C through 300°C, 400°C or 540°C, depending on the model. Top plate surface temperatures are tested using the latest infrared temperature measurement. The measurements are made with an infrared camera mounted approximately 26" above the top surface of the stirring hot plate. If the temperature measurement of the ceramic top is made with measurement devices other than infrared, the error of the measuring technique may be greater than the error of the unit.

The electronic stirring speed control will maintain the speed setpoint when the unit is loaded. The motor in the Cimarec+ stirring hot plates produces maxi-mum stirring torque under normal laboratory load con-ditions, and is combined with a powerful magnet to provide exceptional magnetic coupling with a stir bar.

General Cleaning Instructions

Wipe exterior surfaces with lightly dampened cloth containing mild soap solution.

Unpacking and Installation

Unpacking

Remove your Cimarec+ unit from the carton.Inspect to ensure that the unit has not been damaged during shipment. If the unit appears to have sustained shipping damage contact the distributor from whom you purchased this product or Customer Service at 800-553- 0039. Check for stir bar and thumbscrew prior to discarding packaging.

The following items are included in the shipment:

Cimarec+ Unit

Cord

Stir Bar(Stirring models only)

Knob

Operating Manual

If any of these items are missing from the carton, contact Customer Service.

Warning

Use a properly grounded electrical outlet of correct voltage and current handling capacity.

Installation

Set the unit on a flat stable surface at least 12" away from combustible materials, and plug the cord set into a properly grounded electrical outlet of correct voltage and current handling capacity.

Operation

Warning

Do not heat volatile materials outside of a fume hood.The top surface and heating element can reach the autoignition temperature of some materials. A fire or explosion may result if this warning is ignored. This stirring hot plate is not explosion proof

Use appropriate hand and eye protection when handling hazardous chemicals.

“Caution: Hot Top. Avoid Contact.” The top plate of the unit can remain hot for some time after use. A “CAUTION - HOT TOP” light will remain on until top plate temperature cools to below 50°C.

Caution

To avoid damage to the top plate or heating element, always keep a vessel filled with liquid on the top plate of a stirring hot plate when the unit is heating or cooling.

Note

For 4" models - SP88854100 and SP88854105, the speed is indicated by the marker on the membrane.

Power Switch

A power switch, located on the left side, is used to power the equipment on and off.

When the power switch is turned on, the unit briefly displays the following according to this order: 1) type of unit “SP”, “HP” or “S” *, 2) software version and 3) current temperature and RPM.

It is recommended to unplug the unit when not in use for 24 hours or longer.

Setting the Stirring Speed

Your Cimarec+ stirring hot plate has an electronic feed-back speed control which will maintain a speed set-point from 50 rpm through 1500 rpm at ±5.0%. (Maximum speed is dependent on viscosity of the solution.)

To set the speed, turn the STIR knob to your desired setting. Turn the knob clockwise to increase the speed or counter-clockwise to decrease the speed with 10 rpm increments. To discontinue stirring, turn knob counter-clockwise to OFF.

** "SP" stands for Stirring Hotplate models.*

"HP" stands for Hot Plate models.

"S" stands for Stirrer models.

Note
The solution temperature is approximately 25% cooler than the hot plate surface temperature.

Note
If you allow the top plate to reach the maximum temperature of 540°C while preheating and then turn the control down to a setpoint less than 200°C, the temperature of the top will drop rapidly to 200°C. Because of the natural cooling characteristics of ceramic, the temperature of the top will drop much more gradually after the top plate temperature reaches 200°C.

Note
Boiling times are dependent on solution volume and the surface area of the flask that is exposed to the hot plate. For example, when heating the same amount of solution in a 2L flask vs. a 1L flask, the solution will heat about 20% faster.

Setting the Temperature

Your Cimarec+ stirring hot plate has an electronic closed-loop feedback control which will accurately maintain temperature setpoints in 1° increments from 30°C through 300°C, 400°C or 540°C, depending on the model. An unloaded hot plate will heat to maximum temperature in just 8 minutes. The temperature is controlled at the top plate by the internal sensor. A “CAUTION - HOT TOP” light on the front panel will illuminate whenever the top surface temperature exceeds 50°C.

Your Cimarec+ stirring hot plate will display the temperature in °C. When choosing a setpoint, the display will indicate the setpoint for 2 seconds, after which the display will flash until the desired setpoint is reached.

When pluging in the remote probe , turn the temperature knob to "OFF", then adjust new temperature setpoint Value. The probe light will illuminate when the remote probe is plugged in. “CAUTION - HOT TOP” light will flash until the top surface has cooled to below 50°C.

Controlling Solution Temperature Using External Probe

To control the solution temperature plug a external probe into the probe receptacle located on the back side of the unit. When the probe is connected, the adjustable temperature range is 30-250 °C. Place the probe into the solution. The display will indicate the actual temperature of the solution as measured by the probe. When the probe is connected, the adjustable temperature range is 30-250 °C.

The external probe offers more exact temperature control than regulating the top plate by the internal sensor. If you need to maintain a precise setpoint it is recommend to use a probe to control the solution temperature instead of controlling by the top plate temperature.

When using a probe with the Cimarec+ unit it is recommended that a clamp on a support rod be used to hold the probe in the solution.

To ensure accurate probe readings, as much of the probe sheath as possible should be immersed in the solution. Make sure the probe is immersed in the liquid and is not located in air or outside of the solution. If the probe is plugged into the hot plate, but is not in solution while the heat control is operating, the temperature display will continue to indicate an ambient temperature, and a probe out of solution error will occur. Because the set point cannot be reached the heating element will continue to supply heat to the top plate, and the maximum top plate temperature(300°C, 400°C or 540°C) may be reached. If the remote probe does not sense a temperature change in three minutes the unit will display E03 and shut down.

Heating Small Volumes

Preheating small volumes is not necessary as it may cause the temperature to overshoot the desired set-point.

Heating Metal Vessels and Sand Baths

Cimarec+ is capable of precisely regulating the top plate temperature, metal vessels and sand baths may be heated safely without the danger of the ceramic top breaking. Use the lowest temperature setting possible for applications to limit thermal stress to the ceramic top. Using a metal vessel or sand bath may reduce the life of the stirring hot plate.

Note

It is not allowed to plug in the external probe while the temperature knob is ON. Please turn the temperature knob to OFF state while plugging in the external knob. Otherwise, the display will blink and the heating element will be turned off until reset.

Troubleshooting

Error Codes

Errors E01 through E04 are heating errors. Error Handler will lock out heating functions if heating error is detected. Stirring functionality is unaffected. Error E05 is stirring error. Error Handler will lock out stirring functions if stirring error is detected. Heating functionality is unaffected. Error E08 is failure of temperature of speed knob, Error Handler will lock out both heating and stirring functions if it is detected. If the condition that caused the error is no longer present, for E01, E03 (out of range) and E05, the unit will clear the errors automatically, for E03 (out of solution), rotating temperature knob to OFF position or turning off the switch on the left side of the unit will clear the error, and for E02, E04 and E08, only unplugging the unit will clear the errors.

Displayed Message	Intended to Detect	Cause	Solution
E01	Internal thermocouple out of range.	Internal thermocouple not connected. Thermocouple open. Thermocouple connected backwards (reversed polarity).	Call technical service
E02	Excessive top heat-up time.	Internal thermocouple short circuit. Failure in internal thermocouple. Failure in heating element. Failure in optocoupler/triac circuit.	Call technical service
E03	External probe left out of solution or out of range.	External probe left out of solution. Failure in external probe.	Place external probe into solution. Replace external probe.
E04	Over temperature condition detected by electronic circuit.	Internal thermocouple temperature is above the Over Temperature Protection triggering value .	Call technical service
E05	Motor system failure.	Locked rotor condition. Failure in motor. Failure in motor circuit. Failure in motor sensor.	Free locked rotor.
E08	Knob failure	Failure in temperature knob or speed knob.	Call technical service

Accessories

Order No	Description
CIC0001444	Splash guard protection shield 4", for 4" x 4" Stirrers
CIC0001445	Splash guard protection shield 7", for 7" x 7" Stirrers
CIC0001446	Splash guard protection shield 10", for 10" x 10" Stirrers
CIC0001447	PT100 External probe, Stainless steel, for all sizes of Hotplates and Hotplate Stirrers
CIC0001448	PT1000 External probe, Stainless steel, for all sizes of Hotplates and Hotplate Stirrers
CIC0001449	Hastelloy PT1000 External probe, Hastelloy, for all sizes of Hotplates and Hotplate Stirrers
CIC0001830	Supporting rod, Aluminum Alloy, for Hotplates and Hotplate Stirrers
CIC0001831	Clamp holder, Stainless steel, for Hotplates and Hotplate Stirrers
CIC0001468	Power cord assembly China plug 10A 250V
CIC0001469	Power cord assembly EURO plug 10A 250V
CIC0001470	Power cord assembly British BS 1363 plug 10A 250V
CIC0001471	Power cord assembly US&JP plug 16A 125V

THERMO FISHER SCIENTIFIC STANDARD PRODUCT WARRANTY

The Warranty Period starts two weeks from the date your equipment is shipped from our facility. This allows for shipping time so the warranty will go into effect at approximately the same time your equipment is delivered. The warranty protection extends to any subsequent owner during the first year warranty period.

During the first three (3) years, component parts proven to be non-conforming in materials or workmanship will be repaired or replaced at Thermo's expense, labor included. Installation and calibration are not covered by this warranty agreement. The Technical Services Department must be contacted for warranty determination and direction prior to performance of any repairs. Expendable items, glass, filters and gaskets are excluded from this warranty.

Replacement or repair of components parts or equipment under this warranty shall not extend the warranty to either the equipment or to the component part beyond the original warranty period. The Technical Services Department must give prior approval for return of any components or equipment. At Thermo's option, all non-conforming parts must be returned to Thermo Fisher Scientific postage paid and replacement parts are shipped FOB destination.

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Your local Thermo Sales Office is ready to help with comprehensive site preparation information before your equipment arrives. Printed instruction manuals carefully detail equipment installation, operation and preventive maintenance.

If equipment service is required, please call your Technical Services Department at 1-800-438-4851 or 1-740-373-4763. We're ready to answer your questions on equipment warranty, operation, maintenance, service and special application. Outside the USA, contact your local distributor for warranty information.

WEEE Compliance

Great Britain

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Deutschland

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Italia

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France

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