



Cimarec^{+TM} Stirring Hot Plates

OPERATION MANUAL
AND PARTS LIST

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

If you do, please contact us 8:00 a.m. to 6:00 p.m. (Eastern Time) at:

1-740-373-4763

Direct

1-800-438-4851

Toll Free, U.S. and Canada

1-877-213-8051

FAX

<http://www.thermoscientific.com>

Internet Worldwide Web Home Page

service.led.marietta@thermofisher.com

Tech Support Email Address

www.unitylabservices.com

Certified Service Web Page

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:

Thermo Fisher Scientific
401 Millcreek Road, Box 649
Marietta, OH 45750

International customers, please contact your local Thermo Scientific distributor.

Table of Contents

Safety Information.....	5
Alert Signals	5
Warnings	5
Información de seguridad.....	7
Señales de alerta	7
Advertencias.....	8
Sicherheitshinweise	9
Gefahrensymbole	9
Warnungen.....	9
Informations de sécurité.....	11
Signaux d'alerte	11
Avertissements.....	11
Informação de Segurança.....	13
Sinais de Aviso	13
Avisos.....	13
Информация по безопасности	15
Сигналы тревоги.....	15
Предупреждения.....	15
Specifications	17
Ceramic Hot Plate Specifications	17
Ceramic Stirrer Specifications	17
Ceramic Stirring Hotplate Specifications.....	18
Aluminum Top Unit Specifications	19
Heating Specifications*	20
Stirring Speed Specifications	20
Environmental Conditions.....	21
Declaration of Conformity	21
Introduction.....	22
General Usage	22
Principles of Operation	23
General Cleaning Instructions	23
Unpacking and Installation.....	24
Unpacking	24
Installation	24
Operation.....	25
Hard Switch.....	25
Setting the Stirring Speed	25
Setting the Temperature	26
Controlling Solution Temperature Using External Probe	27
Heating Small Volumes	27
Heating Metal Vessels and Sand Baths.....	27
Troubleshooting	28
Error Codes.....	28
Exploded Views	29
Wiring Diagram	35
Replacement Parts	36
Accessories	37
THERMO FISHER SCIENTIFIC STANDARD PRODUCT WARRANTY	38

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. 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 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.

SAFETY INFORMATION

To avoid personal injury:

1. Do not use in the presence of flammable or combustible materials — fire or explosion may result. This device contains components which may ignite such materials. Not rated for use in hazardous atmospheres.
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 entry module (part number CIC0000793 or CIC0000469 depend on models) listed in the Replacement Parts section of this manual.
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. Localized heater element temperature can be significantly higher than the temperature indicated on the display. If flammable concentrations reach internal element, a fire could 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 deben ser usados siguiendo las condiciones de operación especificadas en el Manual de Operación. Siempre use prácticas seguras de laboratorio y no deje la plancha de calentamiento en funcionamiento sin vigilancia ya que puede haber cualquier falla en la funcionalidad del producto o en la práctica de laboratorio que podría conducir a un calentamiento incontrolado o excesivo de la superficie superior. Se deben poner en marcha los procedimientos de seguridad (incluyendo, pero no limitado a, desconectar cuando no está en uso) y los planes de respuesta para hacer frente en el peor de los escenarios. Si se produce un fallo de exceso de temperatura, la temperatura de la superficie superior podría elevarse a una temperatura máxima de (300-540 ° C dependiendo de las especificaciones de su modelo) y permanecer a esa temperatura indefinidamente. En estas condiciones, el material se calienta en la superficie de la plancha calefactora que podría alcanzar niveles que superen la temperatura máxima permitida.

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 utilizar cerca de materiales inflamables o combustibles - podría conllevar a un incendio o una explosión. Este dispositivo contiene componentes que pueden encender estos materiales. No está clasificado para ser usado en entornos peligrosos.
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. Reemplace 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 está 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 un módulo de entrada de alimentación (número de pieza CIC0000793 o dependiendo del modelo CIC0000469) que aparece en la sección de piezas de repuesto de este manual.

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 modelos 10 "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. El elemento de temperatura del calentador localizado puede ser significativamente mayor que la temperatura indicada en la pantalla. Si las concentraciones inflamables alcanzan algún componente interno, podrían provocar un incendio.
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 sollten nur unter den in der Betriebsanleitung angegebenen Betriebsbestimmungen eingesetzt werden. Wenden Sie immer sichere Laborpraktiken an und lassen Sie die Heizplatte nicht eingeschaltet, während diese unbeaufsichtigt ist, da das Fehler der Produktfunktionalität oder der Laborpraktiken zu unkontrollierter oder übermäßiger Erwärmung der Oberfläche führen kann. Sicherheitsverfahren (einschliesslich, aber nicht beschränkt auf das Ziehen des Netzsteckers bei Nichtgebrauch) und Reaktionspläne sollten erstellt werden, um auf den Ernstfall vorbereitet zu sein. Wenn eine Störung zu einer Überhitzung führt, könnte die Oberflächentemperatur auf die Maximaltemperatur ansteigen (300-540°C, je nach Modellspezifikation) und für unbestimmte Zeit auf dieser Temperatur verbleiben. Unter diesen Bedingungen kann das zu erhitzende Material an der Oberfläche der Heizplatte eine höhere Temperatur als die Höchsttemperatur erreichen.

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. Nicht in der Nähe von entzündlichen oder brennbaren Materialien verwenden - es besteht Brand- oder Explosionsgefahr. Dieses Gerät enthält Komponenten, die solche Materialien entzünden können. Nicht für den Einsatz in Bereichen freigegeben, in denen Explosionsgefahr besteht.

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 empfohlen, das Netzeingangsmodul (Teilenummer CIC0000793 oder CIC0000469, je nach Modell), wie im Abschnitt Ersatzteile in diesem Handbuchs aufgeführt, zu erwerben.

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. Die lokalisierte Heizelementtemperatur kann wesentlich höher sein als die Temperatur die auf dem Display angegeben ist. Wenn brennbare Mischungen innenliegende Elemente erreichen, könnte dies zu einem Brand 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 entrent 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.

Avertissement: Ces produits ne devraient être utilisés que dans des conditions d'utilisation spécifiées dans le manuel d'utilisation. Employer toujours des pratiques de laboratoire sûres et ne laissez pas la plaque chauffante fonctionner sans surveillance puisque des défaillances de fonctionnement du produit ou de pratique de laboratoire pourraient survenir et conduire à un chauffage incontrôlé ou excessif de la surface supérieure. Des procédures de sécurité (y compris, mais non limité au débranchement lorsqu'il n'est pas en cours d'utilisation) et des plans d'intervention devraient être mis en place pour résoudre le pire des scénarios. Si une panne de surchauffe se produit, la température de la surface supérieure pourrait augmenter jusqu'à la température maximale (300-540°C, en fonction des spécifications de votre modèle) et demeurer indéfiniment à cette température. Dans ces conditions, le matériel chauffé sur la surface de la plaque chauffante pourrait atteindre des niveaux au-delà de la température maximale.

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.

INFORMATION DE SÉCURITÉ

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 présence de matériaux inflammables ou combustibles - cela peut entraîner un incendie ou une explosion. Cet appareil contient des composants qui peuvent enflammer ces matériaux. Ne pas utiliser dans des lieux dangereux.
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. Vérifier et serrer périodiquement le cordon amovible, pour s'assurer qu'il est sécurisé. S'il est desserré, le cordon pourrait devenir chaud et/ou produire une étincelle et constituer un risque potentiel d'incendie. Si le cordon semble endommagé, le remplacer immédiatement. Si le cordon se desserre à maintes reprises, il est conseillé d'acheter le module d'entrée de l'alimentation (numéro de pièce CIC0000793 ou CIC0000469, selon les modèles) inventorié dans la section Pièces de Rechange de ce manuel.
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. La température de l'élément chauffant localisé peut être sensiblement plus élevée que la température indiquée sur l'affichage. Si des concentrations inflammables atteignent l'élément interne, un incendie pourrait se produire.
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 unicamente utilizados sob as condições de operação especificadas no Manual de Utilização. Siga sempre todas as práticas de laboratório seguras e não deixe a chapa eléctrica em funcionamento sem supervisão, uma vez que a funcionalidade do produto ou falhas de práticas de laboratório podem ocorrer e conduzir ao aquecimento não controlado ou excessivo na superfície superior. Os procedimentos de segurança (incluindo, mas não limitado a, desligar da ficha quando não estiver em utilização) e planos de resposta devem ser postos em prática no pior caso possível. Em caso de falha de sobreaquecimento, a temperatura da superfície superior pode aumentar para a temperatura máxima (300 - 540°C dependendo das especificações do seu modelo) e manter-se na mesma durante um tempo indefinido. Sob estas condições, o material a ser aquecido na superfície da chapa pode alcançar níveis excessivos de temperatura.

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 materiais combustíveis ou inflamáveis - poderá resultar em incêndio e explosão. Este dispositivo contém componentes que podem incendiar esses materiais. Não aprovado para utilização em atmosferas perigosas.
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 hidrofúricos 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 periodicamente para se certificar que está seguro. Se estiver solto, o cabo pode ficar quente e/ou faiscar, sendo um perigo potencial de incêndio. Se o cabo estiver danificado, substitua de imediato. Se o cabo estiver solto várias vezes, recomendamos que compre um adaptador de energia (número de peça CIC0000793 ou CIC0000469 dependendo do modelo) listado na secção de Peças de Substituição deste manual.
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 50°C.
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. A temperatura de elemento de aquecimento localizada pode ser significativamente superior à temperatura indicada no ecrã. Se as concentrações inflamáveis alcançarem o elemento interno, poderá resultar em incêndio.
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.

Предупреждение: Данные продукты следует использовать только в рабочих условиях, указанных в руководстве по эксплуатации. Всегда следуйте технике безопасности и не оставляйте работающую плиту без присмотра, так как функциональность продукта или несоблюдение техники безопасности может привести к неконтролируемому или чрезмерному нагреву верхней поверхности. Техника безопасности (включая, но не ограничиваясь, отсоединение от розетки, во время, когда плита не используется) и планы реагирования должны быть приняты для решения крайней необходимости. Если происходит сбой из-за перегрева, температура верхней поверхности может подняться до максимальной температуры (300-540°C в зависимости от спецификации вашей модели) и оставаться при этой температуре в течение длительного времени. В этих условиях, продукты, нагреваемые на поверхности плиты, могут достичь уровня выше максимальной температуры.

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 используйте возле легковоспламеняющихся или горючих материалов – это может привести к пожару или взрыву. Это устройство содержит компоненты, которые могут воспламенить эти материалы. Не предназначено для использования в опасной атмосфере.
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. Периодически проверяйте и затягивайте съемный шнур для того, чтобы убедиться в безопасности. Ослабленный шнур может нагреваться и/или искрить и стать потенциальной опасностью возгорания. Если шнур поврежден, немедленно замените его. Если шнур неоднократно ослабляется, рекомендуется приобрести блок входного питания (номер детали SIC0000793 или SIC0000469 в зависимости от модели), имеющийся в разделе Запасные части данного руководства.
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. Локализованная температура нагревательного элемента может быть значительно выше, чем температура, указанная на дисплее. Если горючие концентрации достигают внутреннего элемента, это может привести к пожару.
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 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 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

SPECIFICATIONS

Ceramic 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)

GENERAL SPECIFICATIONS

Heating Specifications*

Top Plate Surface - Solid Ceramic

Temperature range: 30°C - 540°C (86°F - 1004°F)* 7" x 7" and 4" x 4" models

30°C - 400°C (86°F - 752°F)* 10" x 10"

	4" x 4"	7" x 7"	10" x 10"
Heat-up time to maximum temperature (unloaded top plate).	8 minutes	8 minutes	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	± 5.0°C	± 5.0°C
- Temperature stability at the center of the top plate surface (@ 100°C unloaded).	± 2.0°C	± 2.0°C	± 2.0°C
Accuracy of remote probe at user selected calibration temperature after calibration procedure.	±1.8 typical	±1.8 typical	±1.8 typical
- Temperature stability using remote probe (500 ml of water in a 1000 ml flask at 70°C)	±0.5°C	±0.5°C	±0.5°C

Top Plate Surface - Solid Aluminum

Temperature range: 30°C - 300°C (86°F - 572°F)* 7" x 7"

	7" x 7"
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
Accuracy of remote probe at user selected calibration temperature after calibration procedure.	±1.8 typical
- Temperature stability using remote probe (500 ml of water in a 1000 ml flask at 70°C)	±0.5 °C

** 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.

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.

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 at $\pm 5.0\%$. The motor in the Cimarec⁺ stirring hot plates produces maximum stirring torque under normal laboratory load conditions, and is combined with a powerful magnet to provide exceptional magnetic coupling with a stir bar.

When stirring is turned off, the unique braking feature on the Cimarec⁺ models immediately brings the fluid and stir bar down to a safe speed for quick flask removal.

General Cleaning Instructions

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

Unpacking and Installation



Warning

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

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

Operation's Manual

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

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

Use caution when heating volatile materials; top surface and element can reach the “Flash Point Temperature” of many chemicals. These hot plates and stirring hot plates are not explosion proof. Fire or explosion may result. Unit contains components which may ignite such materials.

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.

Hard Switch

The Cimarec⁺ unit has a hard switch on the left side of the unit. The unit may be powered on by pressing the hard switch. When the unit is turned on, the unit will initialize and then “SP or HP” will be displayed on the temp display screen until a temperature is entered. Software version will be displayed on speed display screen. To turn off power to the unit, press the hard switch off.

Setting the Stirring Speed

Your Cimarec⁺ stirring hot plate has an electronic feedback speed control which will maintain a speed set-point from 50 rpm through 1500 rpm at $\pm 5.0\%$. (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.



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 5 seconds, after which the display will flash until the desired setpoint is reached.

When plugging 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. Nothing will be displayed on the screen when the unit has been cooled below 50°C and the knob is turned to OFF.

Controlling Solution Temperature Using External Probe

To control the solution temperature plug a PT100 probe into the probe receptacle located on the back side of the unit. Place the probe into the solution. The display will indicate the actual temperature of the solution as measured by the probe.

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 ExProbe Err 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.

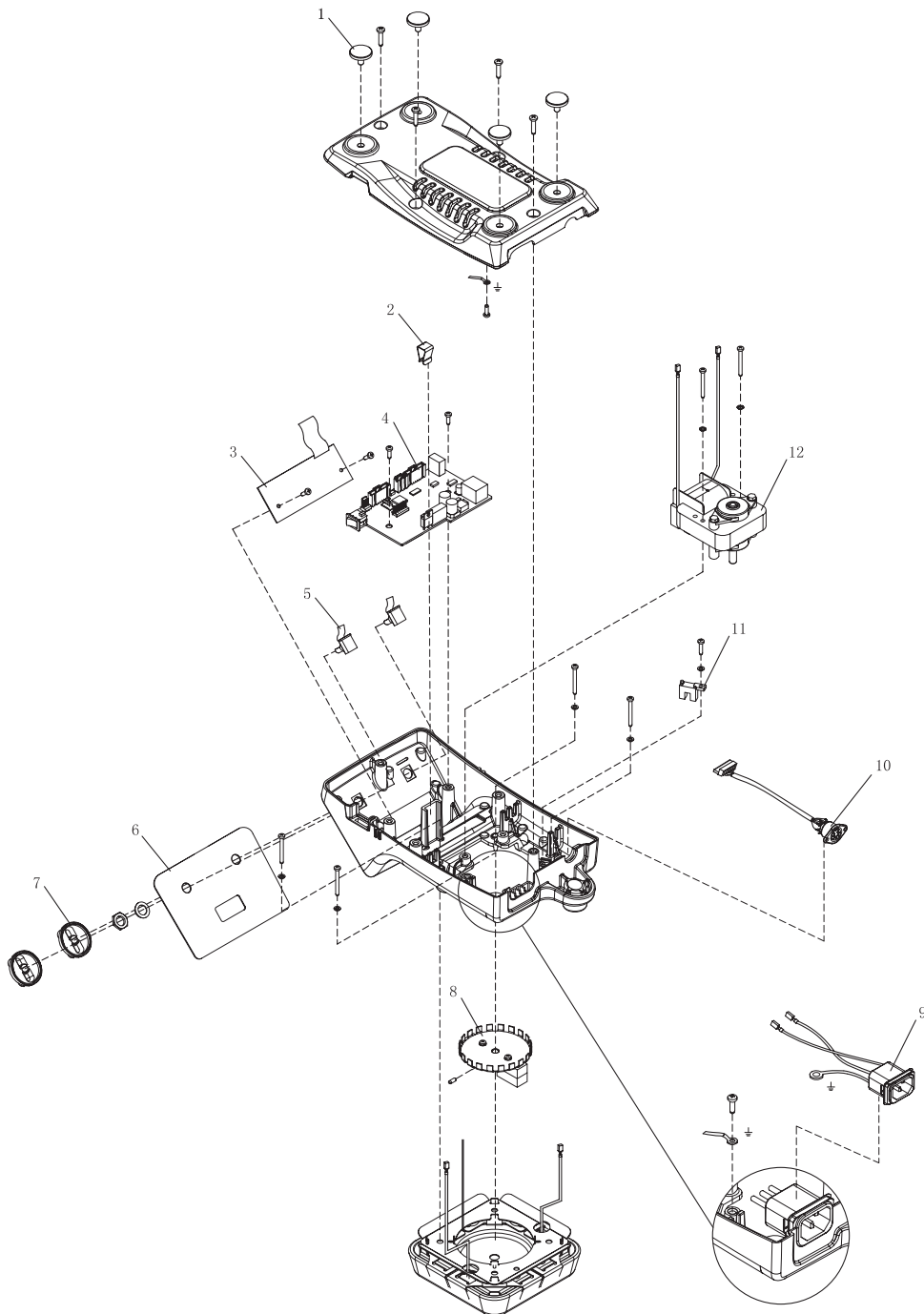
Troubleshooting

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. If the condition that caused the error is no longer present, the unit will clear Errors E01-E05 automatically.

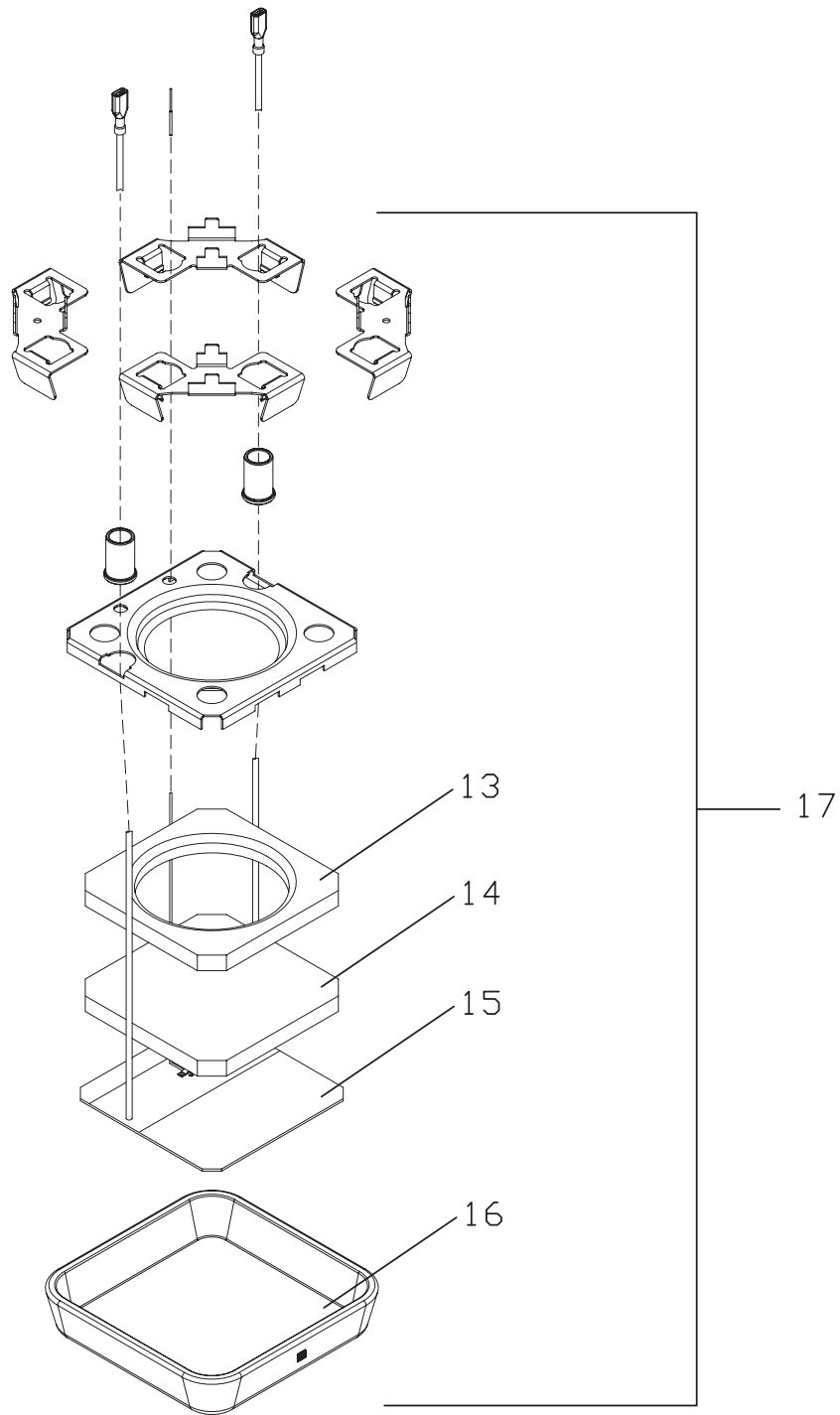
Displayed Message	Intended to Detect	Cause	Solution
E01	Internal thermocouple out of range.	Internal thermocouple not connected. Thermocouple open. Thermocouple connected backwards (reversed polarity).	Ensure proper connection and polarity of thermocouple. Replace thermocouple (attached to element). Ensure proper connection and polarity of thermocouple.
E02	Excessive top heat-up time.	Internal thermocouple short circuit. Failure in Internal thermocouple. Failure in Element. Failure in optocoupler/triac circuit.	Remove short. Replace thermocouple (attached to element). Replace Element. Replace Control Board.
E03	External Probe left out of solution.	External Probe left out of solution. External probe connected backwards.	Place external probe into solution. Correct orientation of external probe.
E04	OTP thermocouple out of range.	OTP Circuit failure.	Replace Control Board.
E05	Motor system failure.	Locked rotor condition. Failure of motor. Failure of motor circuit. Failure of motor sensor.	Free locked rotor. Replace motor. Replace Control Board. Replace motor sensor.

Exploded Views

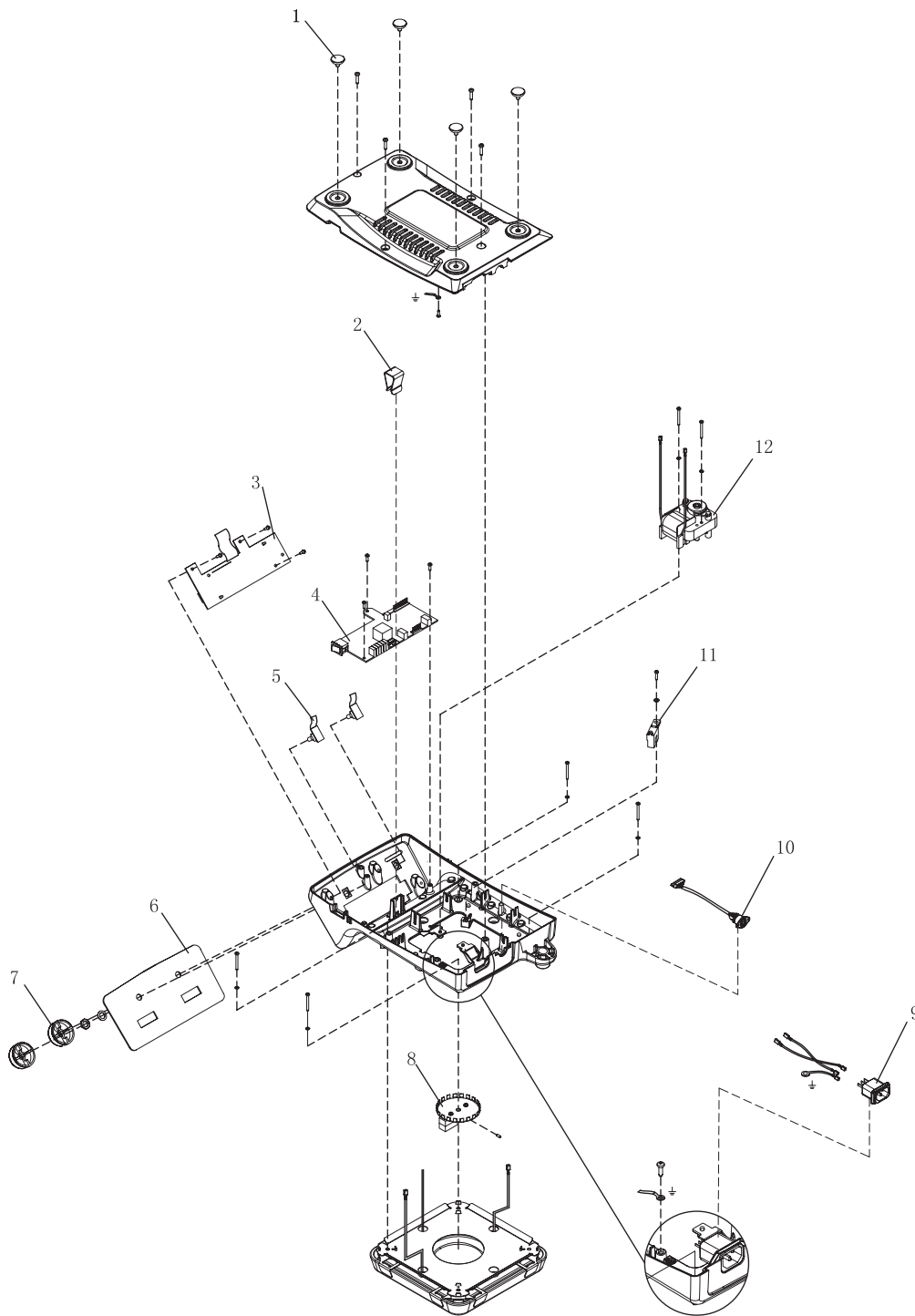


4x4 Exploded View

EXPLODED VIEWS

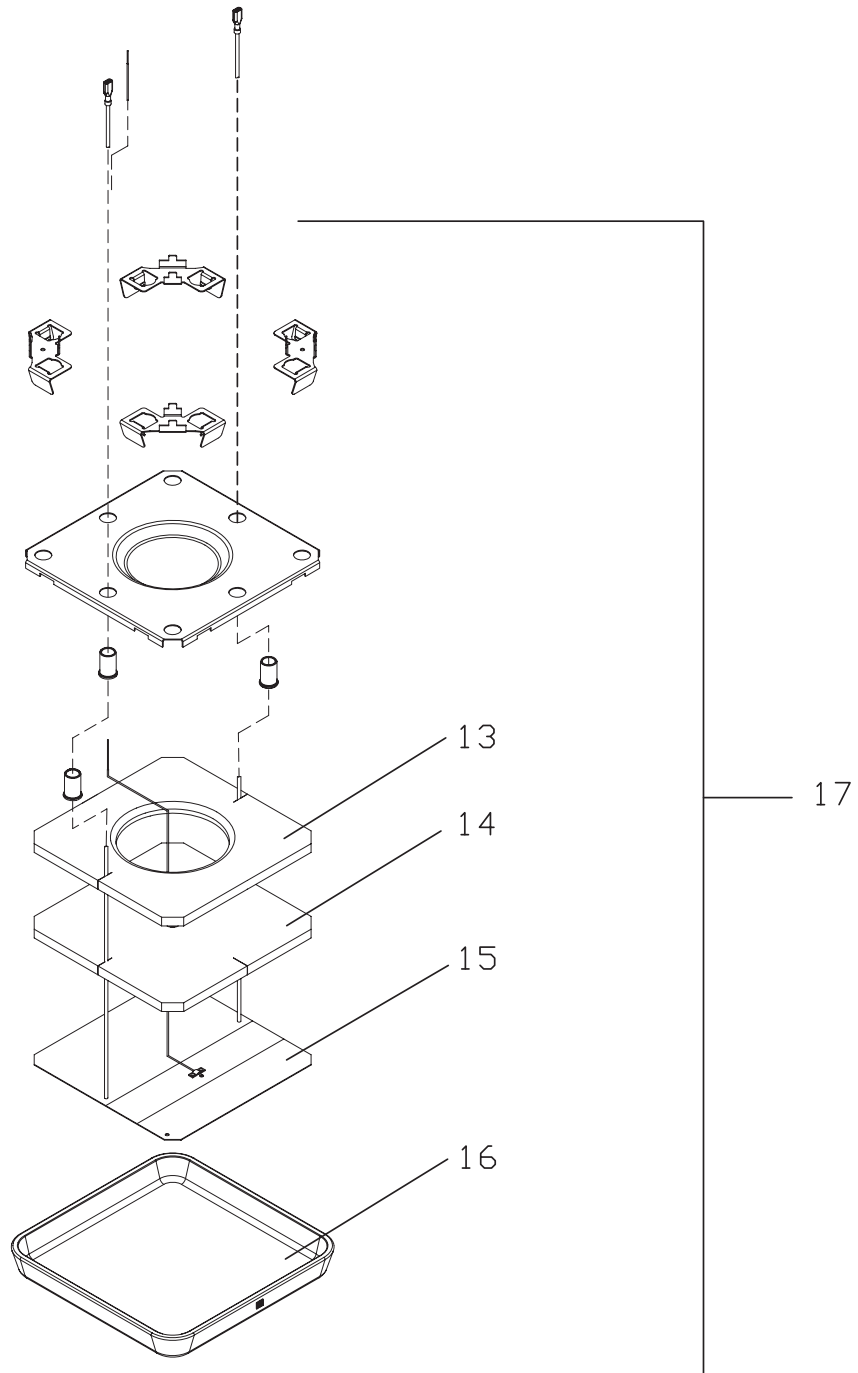


4x4 Exploded View - Top Plate

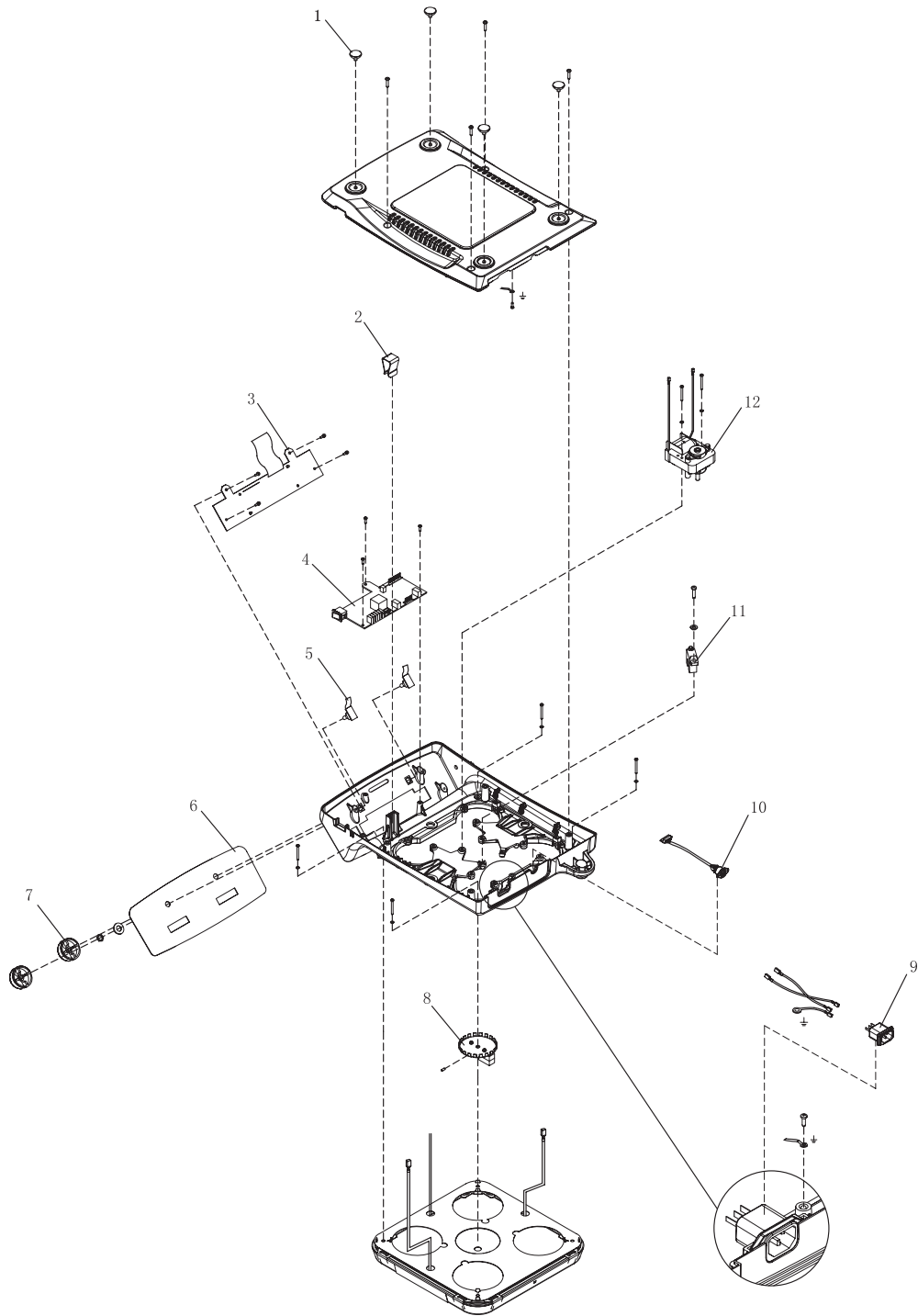


7x7 Exploded View

EXPLODED VIEWS

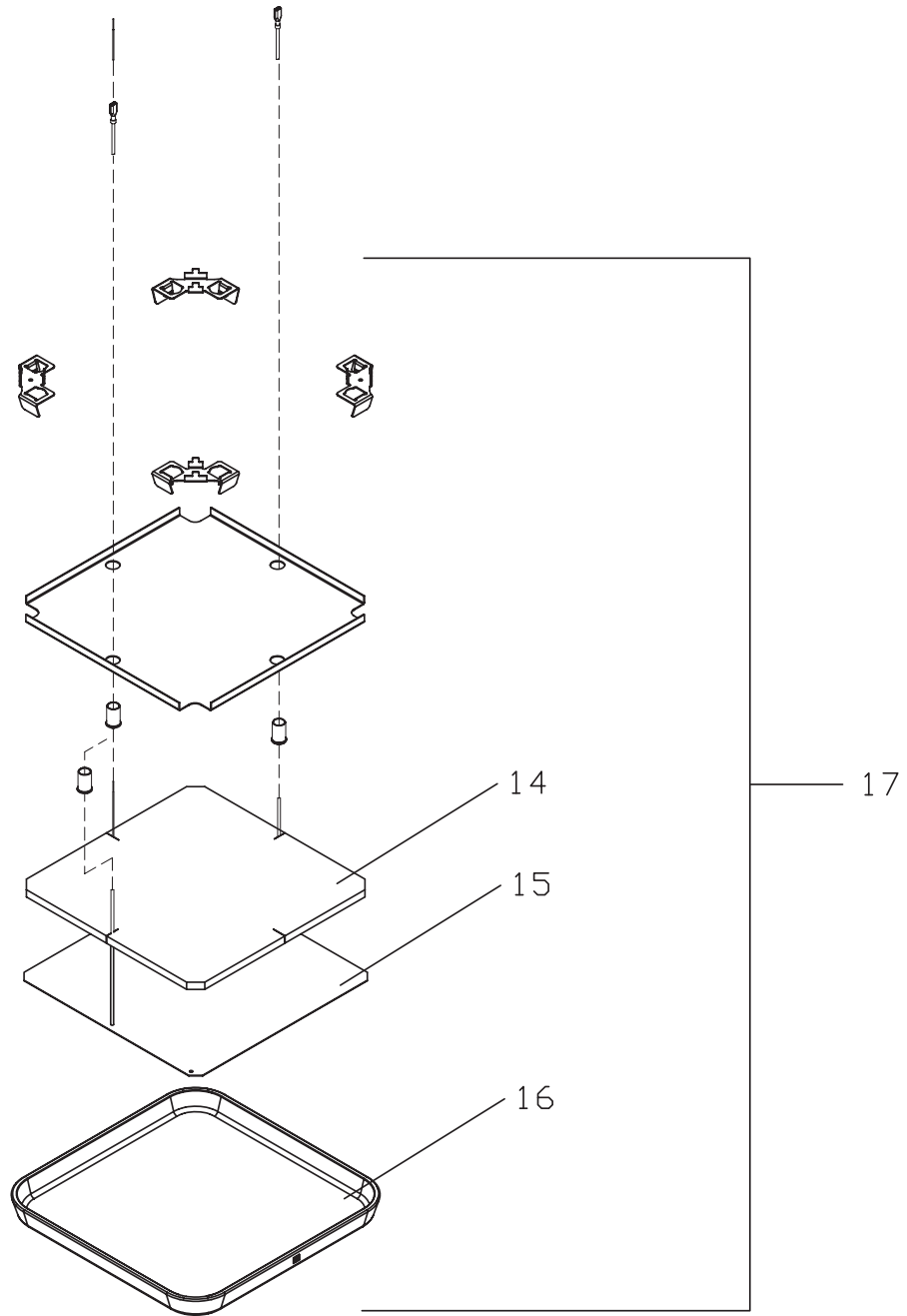


7x7 Exploded View - Top Plate



10x10 Exploded View

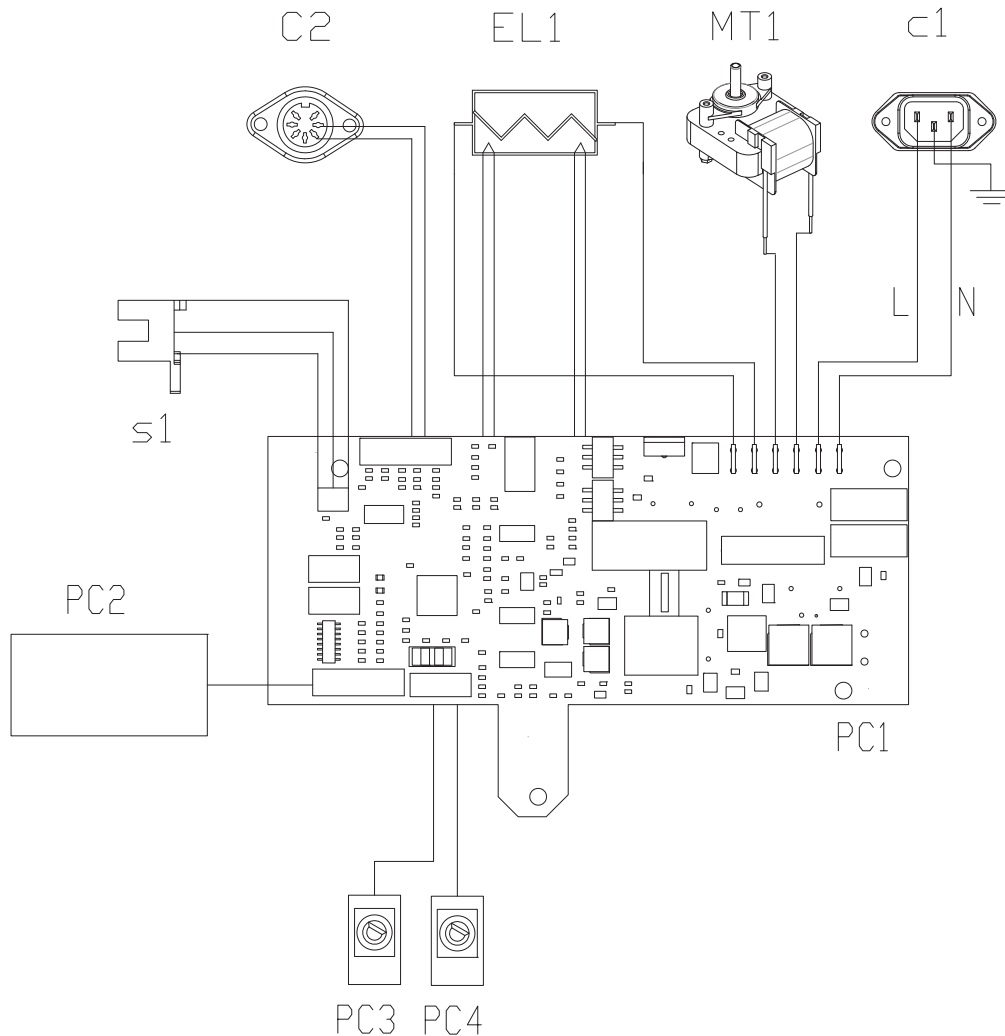
EXPLODED VIEWS



10x10 Exploded View - Top Plate

Wiring Diagram

REF.	DESCRIPTION	(4X4)	(7X7)	(10x10)
C1	INLET	CIC0000793	CIC0000469	CIC0000469
EL(100-120V)	HEATING ELEMENT	CIC0000539	CIC0000925	CIC0000927
EL(220-240V)	HEATING ELEMENT	CIC0000538	CIC0000924	CIC0000926
C2	PROBE CONNECTOR	CIC0000474	CIC0000589	CIC0000590
PC1(SP100-120V)	CONTROL PCB	CIC0000561	CIC0000567	CIC0000990
PC1(HP100-120V)	CONTROL PCB	CIC0000562	CIC0000568	CIC0001029
PC1(SP100-120)	CONTROL PCB	CIC0000563	CIC0000569	CIC0000991
PC1(SP220-240V)	CONTROL PCB	CIC0000564	CIC0000570	CIC0001030
PC1(HP220-240V)	CONTROL PCB	CIC0000565	CIC0000571	CIC0001031
PC1(S220-240V)	CONTROL PCB	CIC0000566	CIC0000572	CIC0001032
PC2(SP/HP)	CONTROL PCB	CIC0000550	CIC0000551	CIC0000554
PC2(S)	CONTROL PCB	CIC0000550	CIC0000553	CIC0000556
PC3/PC4	P.O.T PCB	CIC0000548	CIC0000548	CIC0000548
S1	SPEED SENSOR	SC1310X1	SC1310X1	SC1310X1
MT1(100-120V)	MOTOR	CIC0000480	CIC0000482	CIC0000484
MT1(220-240V)	MOTOR	CIC0000481	CIC0000483	CIC0000485



Replacement Parts

Key	4x4 Part No.	7x7 Part No.	10x10 Part No.	Description
1	FTX34	FTX34	FTX34	Foot (4)
2	CIC0001145	CIC0001145	CCIC0001145	Clips for Triac
3	CIC0000561	CIC0000567	CIC0000990	Control Board SP - 100-120V
3	CIC0000564	CIC0000570	CIC0001030	Control Board SP - 220-240V
3	CIC0000562	CIC0000568	CIC0001029	Control Board HP- 100-120V
3	CIC0000565	CIC0000571	CIC0001031	Control Board HP - 220-240V
3	CIC0000563	CIC0000569	CIC0000991	Control Board S- 100-120V
3	CIC0000566	CIC0000572	CIC0001032	Control Board S- 220-240V
3		CIC0001033		Control Board SP AI top- 100-120V
3		CIC0000988		Control Board SP AI top - 220-240V
3		CIC0001034		Control Board HP AI top - 100-120V
3		CIC0001042		Control Board HP AI top - 220-240V
4	CIC0000550	CIC0000551	CIC0000554	Display Board SP/HP
4		CIC0000553	CIC0000556	Display Board S
5	PC1313X1	PC1313X1	PC1313X1	Speed/Heat Adjustment Board (2)
6	CIC0000494	CIC0000505	CIC0000514	Dial Plate SP
6	CIC0000495	CIC0000506	CIC0000515	Dial Plate HP
6	CIC0000496	CIC0000507	CIC0000516	Dial Plate S
7	CIC0000549	CIC0000549	CIC0000549	Knob (2)
8	MG1310X1	MG1313X1	MG1313X1	Bar Magnet Assembly
9	CIC0000793	CIC0000469	CIC0000469	Power Entry Module
10	CIC0000474	CIC0000589	CIC0000590	Probe Connector
11	SC1310X1	SC1313X1	SC1313X1	Speed Sensor
12	CIC0000480	CIC0000482	CIC0000484	Motor-100-120V
12	CIC0000481	CIC0000483	CIC0000485	Motor - 220-240V
13	JNX33	JNX35	---	Lower Insulation
14	JNX34	JNX36	JNX38	Upper Insulation
15	CIC0000539	CIC0000925	CIC0000927	Heating Element - 100-120V
15	CIC0000538	CIC0000924	CIC0000926	Heating Element - 220-240V
15		CIC0000929		Heating Element AI top - 100-120V
15		CIC0000928		Heating Element AI top - 220-240V
16	540-0033	710-0117	719-0073	Ceramic Top
16		CT1420X1-CMC		Aluminum Top
17	CIC0001430	CIC0001432	CIC0001436	Hot Plate Top Assembly - 100-120V
17	CIC0001431	CIC0001433	CIC0001437	Hot Plate Top Assembly - 220-240V
17		CIC0001440		Hot Plate Top Assembly - 100-120V
17		CIC0001441		Hot Plate Top Assembly - 220-240V

Accessories

Part No.	Description
CIC0000586	Exterior Probe PT100
CIC0000587	Exterior Probe PT1000 Uncoated
CIC0000588	Exterior Probe PT100 Coated with 200c Teflon
7077	Thermometer Clamp
7068	90° Clamp Holder
1000-2	12" Aluminum Rod
7078	Large Clamp
7079	Small Clamp (up to 1/2")
CIC0001146	Transparent Shield 4" x 4"
CIC0000585	Transparent Shield 7" x 7"
CIC0001147	Transparent Shield 10" x 10"

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.

THIS WARRANTY IS EXCLUSIVE AND IN LIEU OF ALL OTHER WARRANTIES, WHETHER WRITTEN, ORAL OR IMPLIED. NO WARRANTIES OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE SHALL APPLY. Thermo shall not be liable for any indirect or consequential damages including, without limitation, damages relating to lost profits or loss of products.

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 (USA and Canada) 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.