User Manual

VersaCool

Refrigerated Bath Circulator

Manual Part Number U01265, April 4, 2016

Multilingual Setup Wizards
Multilingual Essential Safety Instructions
Installation
Operation
Preventive Maintenance
Troubleshooting

thermoscientific

Table of Contents

Preface

Compliance

US/Canada
UL Listed to US and Canadian Standards (File E473332)

European Union - CE
The Declaration of Conformity is available on request.

WEEE
This product is required to comply with the European Union's Waste Electrical & Electronic Equipment (WEEE) Directive 2012/19/EU. It is marked with 'wheelie bin' symbol:

Thermo Fisher Scientific has contracted with one or more recycling/ disposal companies in each EU Member State, dispose of or recycle this product through them. Further information on Thermo Fisher Scientific's compliance with these Directives is available at:
www.thermoscientific.com/WEEERoHS

Unpacking

The bath is supplied with an electrical power cord. Do not discard the packaging until the cord is located and the bath is operating.

If the bath shows external or internal damage contact the transportation company and file a damage claim. Under ICC regulations, this is your responsibility.

⚠ CAUTION **The bath does not have handles. Take into account its weight, 80 pounds (36 kilograms), when unpacking and transporting. We recommend two people lift it from the bottom.**

⚠ CAUTION **Position baths in an upright position for 24 hours before starting. This will ensure the lubrication oil has drained back into the compressor.**

After-sale Support

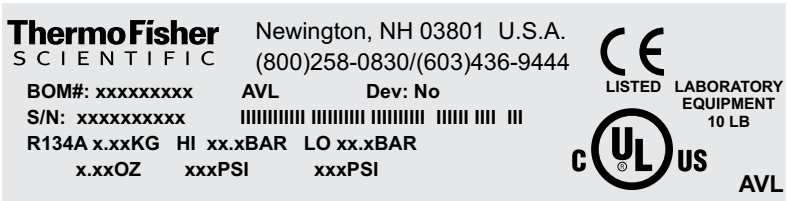
Thermo Fisher Scientific is committed to customer service both during and after the sale. If you have questions concerning the bath operation, or questions concerning spare parts or Service Contracts, call our Sales, Service and Customer Support phone number, see next page for contact information.

Before calling, please obtain the following information:

- bath BOM number
- bath serial number
- bath firmware version (see Chapter 4)
- power source voltage

The bath's BOM and serial number are located on the nameplate label on the rear of the bath, see label sample on the next page.

Sample Nameplate



Feedback

We appreciate any feedback you can give us on this manual. Please e-mail us at:

tcmanuals@thermofisher.com

Please include the manual part number and the revision date listed on the front cover.

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Chapter 1 Safety

Safety Factors

Make sure you read and understand all instructions and safety precautions listed in this manual before installing or operating your bath. If you have any questions concerning the operation of your bath or the information in this manual, please contact us. See inside cover for contact information.

DANGER indicates an imminently hazardous situation that, if not avoided, will result in death or serious injury.

WARNING indicates a potentially hazardous situation that, if not avoided, could result in death or serious injury.

CAUTION indicates a potentially hazardous situation that, if not avoided, may result in minor or moderate injury.

The lightning flash with arrow symbol, within an equilateral triangle, is intended to alert the user to the presence of non-insulated "dangerous voltage" within the bath's enclosure. The voltage magnitude is significant enough to constitute a risk of electrical shock.

This label indicates the presence of hot surfaces.

This label indicates read the manual.

Observe all warning labels.

Never remove warning labels.

The bath's construction provides protection against the risk of electrical shock by grounding appropriate metal parts. The protection will not function unless the power cord is connected to a properly grounded outlet. It is the user's responsibility to assure a proper ground connection is provided.

The circuit protector located on the rear of the bath is not intended to act as a disconnecting means.

The bath's power cord is used as the disconnecting device, it must be easily accessible at all times.

Never operate the bath with damaged cords.

The bath is not intended for use with Personal Protection Ground Fault Interrupter (GFI) outlets with a rating of 10 mAmp or below.

If GFI outlets are required at the point of installation, Equipment Protection GFI outlets with a rating above 10 mAmp are recommended.

Never place the bath in a location or atmosphere where excessive heat, moisture, or corrosive materials are present.

Many refrigerants are undetectable by human senses and are heavier than air replacing the oxygen in an enclosed area causing loss of consciousness. Refer to the R134A refrigerant's SDS for additional information.

Never connect the process fluid inlet or outlet fittings to the building water supply or any water pressure source.

Never operate the bath without fluid in the reservoir.

Use only the approved fluids listed in this manual.

To prevent freezing, never operate the bath below 5°C with only water in the reservoir.

Other than water, before using any approved fluid, or when performing maintenance where contact with the fluid is likely, refer to the manufacturer’s SDS and EC Safety Data sheet for handling precautions.

Ensure the fluid will not generate toxic gases. Flammable gases can build up over the fluid during usage.

Do not use automotive antifreeze. Commercial antifreeze contains silicates, or any Organic Acid Technologies (OATs), that can damage the pump seals. Use of automotive antifreeze voids the manufacturer’s warranty.

Never use corrosive fluids with this bath. Use of these fluids also voids the manufacturer’s warranty.

When using a process fluid mixture of ethylene glycol and water or propylene glycol and water, check the fluid concentration and pH on a regular basis. Changes in concentration and pH can impact system performance. See Chapter 3.

Never operate damaged or leaking equipment.

Never operate the bath or add fluid to the reservoir with panels removed.

Do not clean the bath with solvents, only use a soft cloth and water.

Always drain the bath before moving. Drain the bath before it is transported and/or stored. Store the bath in the temperature range -25°C to 60°C (with packaging), and <80% relative humidity.

Always turn the bath off and disconnect the supply voltage from its power source before moving the bath or before performing any service or maintenance procedures. Transport the bath with care. Sudden jolts or drops can damage its components.

Refer service and repairs to a qualified technician.

Performance of installation, operation, or maintenance procedures other than those described in this manual may result in a hazardous situation and voids the manufacturer's warranty and safety compliance.

Personal Protective Equipment

The are no special personal protective equipment requirements needed to perform normal operation unless required by the manufacturer of the fluid you are using. We do recommend wearing eye protection and gloves.

Training

The user must review and understand all the sections in this manual before operating the bath.

DE

Grundlegende Sicherheitsanweisungen Laborbäder

Falls Sie eine dieser Anweisungen nicht verstehen, lesen Sie das Handbuch oder kontaktieren Sie uns bevor Sie weitermachen.

Sicherheit, alle Produkte:

DANGER weist auf eine unmittelbar gefährliche Situation hin, die, falls sie nicht vermieden wird, zum Tod oder schweren Verletzungen führt.

WARNING weist auf eine potenziell gefährliche Situation hin, die zu ernsthaften Verletzungen oder zum Tod führen kann, wenn sie nicht vermieden wird.

CAUTION weist auf eine potenziell gefährliche Situation hin, die, falls sie nicht vermieden wird, zu leichteren bis mittelschweren Verletzungen führen kann. Es kann auch verwendet werden, um gegen unsichere Praktiken zu warnen.

 ist dafür vorgesehen, den Benutzer vor dem Bestehen einer nicht isolierten "gefährlichen Spannung" im Gehäuse des Zirkulators zu warnen. Die Höhe der Spannung ist bedeutend genug, sodass ein Stromschlag-Risiko besteht.

 weist auf das Vorhandensein heißer Oberflächen hin.

 weist darauf hin, das Handbuch zu lesen.

Benutzen Sie das Bad keinesfalls als steriles oder an Patienten angeschlossenes Gerät. Außerdem ist das Bad nicht für den Gebrauch an Orten mit Gefahrenklasse I, II oder III, wie in den nationalen Vorgaben für elektrische Geräte definiert, ausgelegt.

Stellen Sie das Bad niemals an einer Stelle oder in einer Atmosphäre auf, wo übermäßige Temperaturen, Feuchtigkeit, oder korrosive Materiale vorhanden sind. Lesen Sie im Benutzerhandbuch über die Betriebsparameter.

Lassen Sie vor dem Start die gekühlten Bäder in aufrechter Position bei Raumtemperatur (~25°C) 24 Stunden lang stehen. Dies stellt sicher, dass das Schmieröl wieder in den Kompressor zurückfließt.

Schließen Sie das Bad an eine vorschriftsmäßig geerdete Steckdose an.

Die Leitungsschutzvorrichtung auf der Rückseite des Bades ist nicht als trennvorrichtung vorgesehen.

Bedienen Sie den Zirkulator, indem Sie nur das mitgelieferte Steckerkabel verwenden. Falls das Netzkabel des Zirkulators als Trennvorrichtung benutzt wird, muss es zu jedem Zeitpunkt leicht zugänglich sein.

Stellen Sie sicher, dass die elektrischen Leitungen keine der Sanitäranschlüsse oder Verrohrungen berühren.

Legen Sie niemals Netzspannung an einen der Kommunikationsanschlüsse des Bades an.

Stellen Sie sicher, dass die von Ihnen ausgewählte Verrohrung, ihre Anforderungen für Höchsttemperatur und -Druck erfüllt.

Stellen Sie sicher, dass alle elektrischen, und falls möglich, auch Kommunikationsanschlüsse vor dem Start ausgeführ werden.

Die verwendeten Kühlmittel sind schwerer als Luft und werden im Fall einer Leckage den Sauerstoff ersetzen, was zu Bewusstlosigkeit führt. Kontakt mit auslaufendem Kühlmittel führt zu Hautverbrennungen. Den Typ des verwendeten Kühlmittels entnehmen Sie dem Namensschild des Zirkulators und zusätzliche Informationen dem neuesten US Sicherheitsdatenblatt (SDS) des Herstellers, vormals MSDS, und dem EU Sicherheitsdatenblatt.

Stellen Sie sicher, dass die Auslassanschlüsse des Behälters geschlossen und alle Rohranschlüsse gesichert sind. Stellen Sie außerdem sicher, dass jegliche Reste vor dem Abfüllen gründlich entfernt werden.

Um Verschütten zu vermeiden, stellen Sie Ihre Behälter vor dem Abfüllen ins Bad.

Öl-basierte Flüssigkeiten dehnen sich bei Erwärmung aus. Vermeiden Sie die Überfüllung des Behälters.

Benutzen Sie nur Flüssigkeiten, die in diesem Handbuch aufgelistet sind. Bei Verwendung anderer Flüssigkeiten wird die Garantie ungültig. Verwenden Sie niemals 100%-iges Glykol.

Bei Gebrauch von Wasser bei über 80°C, überwachen Sie den Flüssigkeitsstand sorgfältig, denn häufiges Ablöschen wird nötig sein. Es generiert auch Dampf.

Wasser-Glykol-Mischungen benötigen das Ablöschen mit reinem Wasser, andernfalls steigt der Anteil von Glykol an, was zu hoher Viskosität und schwacher Leistung führt.

Außer bei Wasser, entnehmen Sie den Umgang betreffende Vosichtsmaßnahmen vor der Verwendung einer zugelassenen Flüssigkeit, oder bei Wartungsarbeiten wo der Kontakt mit der Flüssigkeit wahrscheinlich ist, dem SDS und EC Sicherheitsdatenblatt.

Stellen Sie sicher, dass die Flüssigkeit keine giftigen Gase generieren kann. Über der Flüssigkeit können sich im Gebrauch entzündbare Gase bilden.

Prüfen Sie beim Gebrauch von Ethylen-Gglykol und Wasser, regelmäßig die Konzentration und den pH-Wert der Flüssigkeit. Änderungen der Konzentration und des pH-Werts können die Leistung des Systems beeinträchtigen.

Stellen Sie sicher, dass der Übertemperatur-Abschaltpunkt niedriger als der Brandpunkt der ausgewählten Wärmeträgerflüssigkeit eingestellt wird.

Die höchste Betriebstemperatur, gemäß Definition in EN 61010 (IEC 1010), muss auf 25°C unter dem Brandpunkt der Badflüssigkeit begrenzt werden.

Stellen Sie sicher, dass die Flüssigkeit vor dem Umgang oder dem Abfluss eine sichere Temperatur (unter 40°C) hat.

Benutzen Sie niemals beschädigte oder undichte Ausrüstung, und auch keine beschädigten Kabel.

Betreiben Sie das Bad niemals ohne Flüssigkeit im Behälter.

Betreiben Sie keinesfalls das Bad und füllen Sie den Behälter nicht mit Flüssigkeit auf, wenn die Tafeln entfernt wurden.

Bad nicht mit Lösungsmitteln reinigen, benutzen Sie ein weiches Tuch und Wasser.

Lassen Sie den Behälter vor dem Transport und/oder der Lagerung aus, nahe oder unter den Gefriertemperaturen.

Schalten Sie das Bad immer ab und trennen Sie vor dem Umzug oder der Durchführung von Instandhaltungs- oder Wartungsarbeiten. Lassen Sie die Instandhaltung und Reparaturen von einem qualifizierten Techniker durchführen.

Transportieren Sie das Bad mit Sorgfalt. Plötzliche Stöße oder das Herabfallen kann seine Komponenten beschädigen.

Der Benutzer ist verantwortlich für die Dekontaminierung, falls Gefahrenstoffe verschüttet werden. Halten Sie Rücksprache mit dem Hersteller bezüglich der Kompatibilität von Dekontaminierungs- und/oder Reinigungsmitteln.

Falls das Bad bei niedrigen Temperaturen transportiert und/oder gelagert werden soll, muss es ausgelassen und anschließend mit einer 50/50 labortauglichen Glykol-Wasser-Mischung ausgespült werden.

Die Außerbetriebnahme darf nur von einem Fachhändler unter Verwendung zertifizierter Ausrüstung durchgeführt werden. Alle einschlägigen Vorschriften müssen befolgt werden.

Die Ausführung von Installations-, Betriebs- oder Wartungsprozeduren, außer den im Handbuch beschriebenen, kann zu einer gefährlichen Situation führen und macht die Herstellergarantie ungültig.

das Bad ist nicht für den Gebrauch mit Personen-Fehlerstromschutzschalter (GFI)-Steckdosen, die eine Leistung von 10 mA oder weniger haben, vorgesehen.

Falls zum Zeitpunkt der Installation GFI-Steckdosen erforderlich sind, empfehlen wir Geräteschutz-GFI-Steckdosen mit einer Leistung von über 10 mA.

Um Gefrieren zu vermeiden, betreiben Sie das Bad nicht unter 5°C wenn nur Wasser im Behälter ist.

Für den Betrieb mit Silikonöl bei über 125°C und bei 35°C oder mehr Umgebungstemperatur ist ein Mindestabstand von 12” auf einer Seite, offen auf der anderen Seite und ein Mindestabstand von 6” auf der Rückseite erforderlich.

Stellen Sie die Software des Bades so ein, dass sie der verwendeten Flüssigkeit entspricht.

Einbau von VersaCool Zirkulationsbädern:

Die Rohr anschlüsse für externe Zirkulation befinden sich auf der Rückseite des Bades. ⇦ ist der Rücklauf von der externen Anwendung. ⇦ ist der Vorlauf zur externen Anwendung (Zulaufseite). Die Anschlüsse sind männliche 16M x 1. Entfernen Sie die Überwurfmutter und Scheiben um die mitgelieferten ¼″, ½″, 8 mm oder 12 mm Schlauchbinder. Mitgeliefert werden auch ¼″ MNPT und ½″ MNPT Schlauchbinder, die zusammen mit Schnellentkupplungselementen verwendet werden.

Um Schäden an der Verrohrung des Bades zu vermeiden, verwenden Sie ein 19 mm Stützschlüssel, wenn Sie externe Anschlüsse entfernen/einbauen. Siehe Abb. 1.

Hinweis: Wenn Sie keine externe Zirkulation verwenden, müssen die Rohranschlüsse mit Kappen versehen werden.

Füllen Sie den Behälter bis zwischen die MIN und entsprechende MAX Fülllinie.

Nachdem Sie das Netzkabel angeschlossen haben, bringen Sie die Leitungsschutzvorrichtung auf der Rückseite des Bades in die ❙ Stellung. Siehe Abb. 2.

Abb. 1

Abb. 2

Anschließend erscheint sofort der Touchscreen:

Dann erscheint der Installationsassistenten-Bildschirm.

FR

Consignes de sécurité
Bains de laboratoire

Si vous ne comprenez pas l'une de ces instructions, reportez-vous au manuel ou contactez-nous avant d'effectuer une opération.

Sécurité, tous les produits :

DANGER indique une situation de danger imminent qui, si elle n'est pas évitée, peut entraîner une blessure grave ou mortelle.

WARNING indique une situation de danger potentiel qui, si elle n'est pas évitée, pourrait entraîner une blessure grave ou mortelle.

CAUTION indique une situation de danger potentiel qui, si elle n'est pas évitée, peut entraîner une blessure légère à modérée. Ce symbole est également utilisé pour mettre en garde contre des pratiques dangereuses.

 ce symbole avertit l'utilisateur de la présence d'une « tension dangereuse » non isolée dans l'enceinte du circulateur. La magnitude de la tension est suffisante pour constituer un risque d'électrocution.

 indique la présence de surfaces chaudes.

 indique qu'il convient de lire le manuel.

N'utilisez pas le bain comme appareil stérile ou relié au patient. En outre, le bain n'est pas prévu pour une utilisation dans des emplacements dangereux de classe I, II ou III, tels que définis par le National Electrical Code.

Ne placez jamais le bain dans un endroit ou sous une atmosphère présentant un excès de chaleur, d'humidité ou des matériaux corrosifs. Reportez-vous au mode d'emploi pour connaître les paramètres de fonctionnement.

Conservez les bains réfrigérés en position verticale à température ambiante (~25°C) pendant 24 heures avant leur démarrage. Cette opération permet de rediriger l'huile de lubrification vers le compresseur.

Branchez le bain sur une prise correctement mise à la terre.

Le protecteur de circuit situé à l'arrière du bain n'est pas destiné à faire office de dispositif de sectionnement.

Faites fonctionner le circulateur uniquement avec le cordon d'alimentation fourni. Si le cordon d'alimentation du circulateur est utilisé comme dispositif de sectionnement, il doit être facilement accessible à tout moment.

Vérifiez que les cordons électriques ne sont pas en contact avec un tuyau ou un raccordement de plomberie.

Ne mettez jamais les raccordements de communication du bain sous tension.

Vérifiez que les tuyaux choisis répondent à vos exigences maximales de température et de pression.

Vérifiez que tous les raccordements électriques et, le cas échéant, de communication, sont exécutés avant le démarrage.

Les réfrigérants utilisés sont plus lourds que l'air. En cas de fuite, ils chassent l'oxygène et provoquent une perte de connaissance. Tout contact avec la fuite de réfrigérant peut causer des brûlures cutanées.

Reportez-vous à la plaque signalétique du circulateur pour connaître le type de réfrigérant utilisé. Lisez également la fiche de données de sécurité (SDS, anciennement MSDS) américaine la plus récente du fabricant ainsi que la fiche de données de sécurité européenne pour obtenir des informations complémentaires.

Vérifiez que les orifices de vidange du réservoir sont fermés et que les raccordements de plomberie sont bien fixés. Vérifiez également qu'il n'y a pas de résidus avant de procéder au remplissage.

Placez vos contenants dans le bain avant de le remplir afin d'éviter de les renverser.

Les liquides à base d'huile se dilatent lorsqu'ils sont chauffés. Évitez de trop remplir le réservoir.

Utilisez uniquement les liquides approuvés cités dans le manuel. L'utilisation d'autres liquides annulent la garantie. N'utilisez jamais du glycol pur.

Si vous utilisez de l'eau à une température supérieure à 80°C, surveillez de près le niveau de liquide. Des remplissages fréquents seront nécessaires. L'eau crée également de la vapeur.

Les mélanges eau/glycol nécessitent des remplissages d'eau pure. Autrement, le pourcentage de glycol augmente, causant ainsi une forte viscosité et de faibles performances.

Excepté pour l'eau, avant d'utiliser un liquide approuvé, ou de procéder à une opération de maintenance pouvant comporter un contact avec le liquide, reportez-vous aux fiches de données de sécurité du fabricant et de l'Union européenne pour connaître les précautions de manipulation.

Vérifiez qu'aucun gaz toxique n'est produit par le liquide. Les gaz inflammables peuvent s'accumuler au-dessus du liquide lors de son utilisation.

Si vous utilisez de l'éthylène glycol et de l'eau, vérifiez régulièrement la concentration du liquide et le pH. Des modifications de la concentration et du pH peuvent affecter les performances du système.

Vérifiez que le point de coupure haute température est défini sous le point de feu pour le liquide caloporteur choisi.

La température de fonctionnement la plus élevée, telle que définie par l'EN 61010 (IEC 1010), doit être limitée à 25°C sous le point de feu du liquide du bain.

Vérifiez que le liquide est à une température sûre (en dessous de 40°C) avant de le manipuler ou de le vidanger.

Ne faites jamais fonctionner un équipement endommagé, qui fuit ou dont les cordons sont usés.

Ne faites jamais fonctionner le bain lorsque le réservoir est vide.

Ne faites jamais fonctionner le bain ou n'ajoutez jamais de liquide au réservoir lorsque les panneaux sont déposés.

Ne nettoyez pas le bain avec des solvants. Utilisez un chiffon doux et de l'eau.

Vidangez le réservoir avant de le transporter et/ou de le stocker aux températures de congélation ou en dessous.

Éteignez le bain et débranchez la tension d'alimentation de sa source avant de déplacer ou de procéder à une opération de réparation ou de maintenance. Confiez les entretiens et réparations à un technicien qualifié.

Transportez le bain avec précaution. Les secousses ou les chutes peuvent endommager les composants.

L'utilisateur est responsable de la décontamination si des matériaux dangereux sont renversés. Consultez le fabricant pour connaître la procédure de décontamination et.ou la compatibilité des agents de nettoyage.

Il convient de vidanger et de rincer le bain à l'aide d'un mélange composé à parts égales d'eau et de glycol de qualité de laboratoire s'il doit être transporté et/ou stocké sous des températures basses.

La mise hors service doit être effectuée par un revendeur qualifié à l'aide d'un équipement certifié. Toutes les réglementations en vigueur doivent être respectées.

L'exécution des procédures d'installation, de fonctionnement ou de maintenance autres que celles décrites dans le manuel peuvent créer une situation dangereuse et annuler la garantie du fabricant.

Ne branchez pas le bain sur une prise avec disjoncteur différentiel de 10 mA ou moins.

Si des prises avec disjoncteur différentiel sont nécessaires au point d'installation, il est recommandé d'utiliser les modèles de plus de 10 mA.

Afin d'éviter la congélation, ne faites jamais fonctionner le bain en dessous de 5°C si le réservoir contient uniquement de l'eau.

Pour un fonctionnement avec de l'huile de silicone au-dessus de 125°C et à une température ambiante d'au moins 35°C, prévoyez un espace minimum de 30,5 cm sur un côté, libre de l'autre côté et de 15 cm à l'arrière.

Réglez le logiciel du bain afin de concorder avec le liquide utilisé.

Installation pour le bain à circulation

Les raccordements de plomberie pour la circulation externe se situent à l'arrière du bain.  correspond au débit de retour de l'application externe.  correspond au débit de sortie vers l'application externe (côté alimentation). Les raccordements sont mâles 16M x 1. Déposez les écrous de raccord et les plaques pour installer les raccords cannelés de 8 mm et 12 mm, ¼″, ½″, fournis. Des raccords cannelés ¼″ MNPT et ½″ MNPT sont également fournis comme déconnexions rapides.

Pour éviter d'endommager la plomberie du bain, utilisez une clé de 19 mm lors de la dépose ou de l'installation des raccordements externes. Voir Figure 1.

Remarque : si vous n'utilisez pas de circulation externe, bouchez les raccordements de plomberie.

Remplissez doucement le réservoir entre les lignes MIN et MAX.

Après avoir branché le cordon électrique, placez le protecteur de circuit situé à l'arrière du bain sur la position **I**. Voir Figure 2.

Figure 1

Figure 2

Ensuite, l'écran tactile affiche momentanément :

Ensuite l'écran de l'assistant d'installation apparaît.

ES

Instrucciones básicas de seguridad
Baños de laboratorio

Si no se entiende alguna de estas instrucciones, consulte el manual o póngase en contacto con nosotros antes de proceder.

Seguridad, todos los productos:

⚠ DANGER indica una situación de peligro inmediato que, si no se evita, provocará la muerte o lesiones graves.

⚠ WARNING indica una situación potencialmente peligrosa que, si no se evita, podría tener como resultado lesiones graves o la muerte.

⚠ CAUTION indica una situación potencialmente peligrosa que, si no se evita, puede ocasionar lesiones leves o moderadas. También se utiliza para alertar de prácticas inseguras.

 está indicado para alertar al usuario de la presencia de "tensión peligrosa" sin aislar dentro del alojamiento del circulador. La magnitud de la tensión es lo suficientemente importante para constituir un riesgo de electrocución.

 indica la presencia de superficies calientes.

 indica que se debe leer el manual.

No utilice el baño como dispositivo conectado al paciente o dispositivo estéril. Además, el baño no está diseñado para ser utilizado en lugares peligrosos de Clase I, II o III de acuerdo con el Código Eléctrico Nacional.

Nunca lo coloque en un lugar o una atmósfera donde haya calor excesivo, humedad, ventilación inadecuada o materiales corrosivos. Consulte el manual del usuario para conocer los parámetros de funcionamiento.

Deje los baños refrigerados en posición vertical a temperatura ambiente (~25 °C) durante 24 horas antes de comenzar. De este modo se asegurará de que el aceite de lubricación pase al compresor.

Conecte el baño a una toma correctamente conectada a tierra.

El protector de circuitos situado en la parte posterior del baño no está diseñado para actuar como un medio de desconexión.

Para hacer funcionar el circulador, utilice solamente el cable de línea suministrado. Si el cable de alimentación del circulador se utiliza como dispositivo de desconexión, debe estar accesible en todo momento.

Asegúrese de que los cables eléctricos no tocan ninguna de las conexiones de tuberías o los tubos.

Nunca aplique tensión de línea a ninguna de las conexiones de comunicación del baño.

Asegúrese de que los tubos que selecciona cumplen los requisitos de temperatura y presión máximas.

Asegúrese de que todas las conexiones eléctricas y, si procede, las conexiones de comunicación se realizan antes de la puesta en marcha.

Los refrigerantes utilizados son más pesados que el aire y, si hay una fuga, sustituirán al oxígeno, lo que provocará la pérdida de consciencia. El contacto con el refrigerante expulsado provocará quemaduras en la piel. Consulte la placa de datos del circulador para conocer el tipo de refrigerante utilizado y, a continuación, la hoja de datos de seguridad (SDS) más reciente del fabricante para EE.UU., anteriormente conocida como MSDS, así como la hoja de datos de seguridad para la UE a fin de obtener información adicional.

Asegúrese de que los puertos de drenaje del depósito están cerrados y de que todas las conexiones de las tuberías son seguras. Asegúrese también de retirar minuciosamente cualquier residuo antes de proceder con el llenado.

Para evitar salpicaduras, coloque los contenedores en el baño antes de llenarlos.

Los fluidos con base de aceite se expanden al calentarse. Evite llenar el depósito en exceso.

Utilice solo los fluidos aprobados que se incluyen en el manual. Si utiliza otros fluidos, quedará anulada la garantía. Nunca utilice glicol al 100%.

Si utiliza agua por encima de 80 °C, supervise detenidamente el nivel del fluido; se precisarán llenados frecuentes. También crea vapor.

Si se utilizan mezclas de agua/glicol será necesario rellenar con agua pura. De lo contrario, el porcentaje de glicol aumentará y provocará una elevada viscosidad y un rendimiento deficiente.

Salvo que se utilice agua, antes de utilizar cualquier fluido aprobado, o cuando realice tareas de mantenimiento donde es probable que se toque el fluido, consulte el SDS del fabricante y la hoja de datos de seguridad para la CE a fin de conocer las precauciones de manipulación.

Asegúrese de que el fluido no genera gases tóxicos. Los gases inflamables pueden acumularse sobre el fluido durante el uso.

Al utilizar etilenglicol y agua, revise la concentración y el pH del fluido periódicamente. Los cambios en la concentración y el pH pueden afectar al rendimiento del sistema.

Asegúrese de que el punto de corte por sobretemperatura está configurado por debajo del punto de combustión para el fluido de transferencia de calor seleccionado.

La temperatura de trabajo más alta, según establece la norma EN 61010 (IEC 1010), debe limitarse a 25 °C por debajo del punto de combustión del fluido del baño.

Asegúrese de que el fluido se encuentra a una temperatura segura (por debajo de 40 °C) antes de manipularlo o drenarlo.

Nunca utilice un equipo dañado o con fugas, o con algún cable dañado.

Nunca utilice el baño sin fluido en el depósito.

Nunca utilice el baño o añada fluido al depósito con los paneles retirados.

No limpie el baño con disolventes; utilice solamente un paño suave y agua.

Drene el depósito antes de transportarlo y/o guardarlo a temperaturas cercanas a la congelación o por debajo de estas.

Apague siempre el baño y desconecte la tensión de suministro de su fuente de alimentación antes de mover o realizar cualquier procedimiento de servicio o mantenimiento. Delegue las tareas de servicio y las reparaciones en un técnico cualificado.

Transporte el baño con cuidado. Las caídas o los impactos repentinos pueden dañar los componentes.

El usuario es responsable de la descontaminación si se derraman materiales peligrosos. Consulte al fabricante lo concerniente a la descontaminación y/o la compatibilidad de los agentes de limpieza.

Si el baño debe transportarse y/o guardarse a bajas temperaturas, es necesario drenarlo y limpiarlo con una mezcla de agua/glicol de grado de laboratorio al 50/50.

El desmantelamiento solo debe ser realizado por un proveedor cualificado que utilice el equipo homologado. Debe cumplirse toda la normativa vigente.

La realización de los procedimientos de instalación, funcionamiento o mantenimiento distintos de los que se describen en el manual pueden dar lugar a situaciones peligrosas y anularán la garantía del fabricante.

Instalación para baño de circulación VersaCool:

Las conexiones de las tuberías para circulación externa se encuentran en la parte posterior del baño.  es el caudal de retorno desde la aplicación externa.  es el caudal de salida a la aplicación externa (lado de suministro). Las conexiones son macho 16M x 1. Retire las placas y tuercas de unión para instalar las conexiones dentadas de 0,25 pulgadas, 0,5 pulgadas, 8 mm o 12 mm que se suministran. También se suministran conexiones dentadas MNPT de 0,25 pulgadas y 0,5 pulgadas que se utilizan principalmente con las desconexiones rápidas.

Para evitar que se produzcan daños en la fontanería del baño, utilice una llave inglesa fija de 19 mm para retirar o instalar las conexiones externas. Consulte la Figura 1.

Nota: Cuando no utilice circulación externa, deben taparse las conexiones de las tuberías.

Llene el depósito lentamente hasta un punto intermedio entre las líneas de llenado MIN y MAX adecuadas.

Después de conectar el cable de alimentación, coloque el protector de circuitos situado en la parte posterior del baño en la posición **I**. Consulte la Figura 2.

Figura 1

Figura 2

A continuación, la pantalla táctil muestra momentáneamente:

A continuación, se muestra la pantalla del Asistente de configuración.

PT

Instruções Essenciais de Segurança Banhos Laboratoriais

No caso de não compreender qualquer uma destas instruções, consulte o manual ou contacte-nos antes de prosseguir.

Segurança, todos os produtos:

⚠ DANGER Indica uma situação de perigo iminente que, se não for evitada, vai resultar em morte ou lesões graves.

⚠ WARNING Indica uma situação de potencial perigo, que se não for evitada, pode resultar em morte ou lesões graves.

⚠ CAUTION Indica uma situação de potencial perigo, que se não for evitada, pode resultar em ferimentos leves ou moderados. Também é utilizado para alertar contra práticas não seguras.

 Destina-se a alertar o utilizador para a presença de "voltagem perigosa" sem isolamento na caixa da bomba de circulação. A magnitude da voltagem é suficientemente significante para constituir um risco de choque eléctrico.

 Indica a presença de superfícies quentes.

 Indica a leitura do manual.

Não utilize o dispositivo de banho como um dispositivo estéril ou ligado ao paciente. Em complemento, o dispositivo de banho não se destina a ser utilizado em Locais Perigosos de Classe I, II ou III conforme definido pelo Código Eléctrico Nacional.

Nunca coloque o dispositivo de banho num local ou atmosfera onde esteja presente calor excessivo, humidade ou materiais corrosivos. Consulte o manual de utilizador relativamente a parâmetros operacionais.

Deixe os dispositivos de banho refrigerados na posição vertical à temperatura ambiente (~25°C) durante 24 horas antes do arranque. Desta forma assegura que o óleo de lubrificação drene para o compressor.

Ligue o equipamento a uma tomada de alimentação com ligação à terra.

O protector de circuito localizado na parte posterior do dispositivo não se destina a actuar como meio de desconexão.

Opere a bomba de circulação utilizando apenas o cabo da linha fornecido. Se o cabo de alimentação da bomba de circulação for utilizado como dispositivo de desconexão eléctrica, o mesmo deve ser facilmente acessível em todas as alturas.

Certifique-se de que os cabos eléctricos não entram em contacto com nenhuma das conexões de canalização ou tubagens.

Nunca aplique voltagem de linha a quaisquer das ligações de comunicação do dispositivo de banho.

Certifique-se de que o tubo que selecciona cumpre os requisitos de temperatura e pressão máximos.

Certifique-se de que todas as conexões eléctricas e, se aplicável, de comunicação são realizadas antes do arranque.

Os refrigerantes utilizados são mais pesados do que o ar e, em caso de fuga, vão substituir o oxigénio causando perda de consciência. O contacto com o refrigerante em vazamento vai causar queimaduras na pele. Consulte a placa de identificação do circulador relativamente ao tipo de refrigerante utilizado e depois a Ficha de Segurança (SDS) dos EUA mais recente, anteriormente designada como MSDS, e a Ficha de Segurança da UE para informação adicional.

Certifique-se de que todas as portas de drenagem do reservatório estão fechadas e que todas as conexões de canalização são seguras. Certifique-se também de que qualquer resíduo é cuidadosamente removido antes do enchimento.

Para evitar derrame, coloque os seus recipientes no banho antes de encher.

Os fluidos à base de óleo expandem quando aquecidos. Evite o enchimento excessivo do reservatório.

Utilize apenas os fluidos aprovados listados no manual. A utilização de outros fluidos invalida a garantia. Nunca utilize glicol a 100%.

Quando utilizar água acima dos 80°C, acompanhe de perto o nível do fluido, pois serão necessárias reposições frequentes. Também gera vapor.

Mas misturas de água/glicol requerem reposições com água pura, caso contrário a percentagem de glicol vai aumentar resultando em elevada viscosidade e fraco desempenho.

Com exclusão da água, antes de utilizar qualquer fluido aprovado, ou quando realizar a manutenção onde o contacto com o fluido for provável, consulte as Fichas de Segurança SDS e EC do fabricante relativamente a precauções de manuseamento.

Certifique-se de que não são gerados gases tóxicos pelo fluido. Podem desenvolver-se gases inflamáveis sobre o fluido durante a utilização.

Quando utilizar etilenoglicol e água, verifique a concentração do fluido e o pH regularmente. As alterações na concentração e no pH podem ter impacto no desempenho do sistema.

Certifique-se de que o ponto de corte do valor-limite da temperatura está definido abaixo do ponto de combustão para o fluido de transferência de calor seleccionado.

A temperatura operacional mais elevada, conforme definido pela NE 61010 (IEC 1010), deve estar limitada a 25°C abaixo do ponto de combustão do fluido do banho.

Certifique-se de que o fluido está a uma temperatura segura (abaixo dos 40°C) antes de manusear ou drenar.

Nunca opere equipamento danificado ou a vazar, ou com cabos danificados.

Nunca opere o banho sem o fluido no reservatório.

Nunca opere o banho ou adicione fluido ao reservatório com os painéis removidos.

Não limpe o banho com solventes, utilize apenas um pano macio e água.

Drene o reservatório antes de o transportar e/ou armazenar, perto ou abaixo de temperaturas de congelamento.

Desactive sempre o banho e desligue a tensão de alimentação da fonte antes de deslocar ou realizar quaisquer procedimentos de revisão ou manutenção. As revisões e reparações devem ser efectuadas por um técnico qualificado.

Transporte o banho com cuidado. Solavancos ou quedas súbitas podem danificar os seus componentes.

O utilizador é responsável pela descontaminação se forem derramados materiais perigosos. Consulte o fabricante relativamente à descontaminação e ou à compatibilidade de agentes de limpeza.

Se o banho estiver para ser transportado e/ou armazenado a temperaturas baixas, é necessário realizar a drenagem e o enxaguamento com uma mistura de glicol/água de grau laboratorial 50/50.

O desmantelamento deve ser apenas efectuado por um representante qualificado utilizando equipamento certificado. Todos os regulamentos predominantes têm de ser seguidos.

Realizar procedimentos de instalação, operação ou manutenção para além dos descritos no manual pode resultar numa situação perigosa e invalida a garantia do fabricante.

O banho não se destina a utilização com tomadas de Interruptor para Falhas com Ligação à Terra de Protecção Pessoal (GFI) com uma classificação de 10 mAmp ou inferior.

Se forem necessárias tomadas de GFI no momento da instalação, recomenda-se as tomadas GFI de Protecção de Equipamento com uma classificação acima de 10 mAmp.

Para evitar o congelamento, nunca opere o banho abaixo de 5°C apenas com água no reservatório.

O funcionamento com Óleo de Silicone acima de 125°C e ambiente de 35°C ou superior requer uma desobstrução mínima num lado de 12" (30 cm), abertura no outro lado e 6" (15 cm) na parte posterior.

Ajuste o software fo banho de acordo com o fluido utilizado.

Instalação para Bomba de Circulação VersaCool:

As ligações de canalização para circulação externa estão localizadas na parte posterior do banho. é o fluxo de retorno da aplicação externa. é o fluxo de saída para a aplicação externa (lado de abastecimento). As ligações são 16M macho x 1. Remova as porcas de união e as placas para instalar as espigas dos tubos ¼", ½", 8 mm ou 12 mm fornecidas. São também fornecidas as espigas de tubos ¼" MNPT e ½" MNPT utilizadas com desconexões rápidas.

Para evitar danos na tubagem do banho, utilize uma chave de apoio de 19 mm quando remover/instalar as ligações externas. Ver Figura 1.

Nota: Quando não utilizar circulação externa as conexões de canalização devem encontrar-se tapadas.

Encha lentamente o reservatório para ficar entre as linhas MIN e MAX.

Após a ligação do cabo de alimentação, coloque o protector de circuito localizado na frente do refrigerador na posição ▌. Ver Figura 2.

Figura 1

Figura 2

Então o ecrã de toque apresenta momentaneamente:

Então o Visor do Assistente de Configuração aparece.

NL

Essentiële veiligheidsinstructies Baden voor laboratoria

Als één van de instructies niet duidelijk is, raadpleeg dan de handleiding of neem contact op met ons vooraleer door te gaan.

Veiligheid, alle producten:

⚠ DANGER duid op een onmiddellijke gevaarlijke situatie die, indien ze niet wordt vermeden, zal leiden tot de dood of ernstige letsels.

⚠ WARNING duid op een gevaarlijke situatie die, indien ze niet wordt vermeden, kan leiden tot de dood of ernstige letsels.

⚠ CAUTION duidt op een mogelijke gevaarlijke situatie die, indien ze niet wordt vermeden, zal leiden tot lichte of middelmatige letsels. Het kan ook gebruikt worden als waarschuwing tegen onveilige praktijken.

 bedoeld om de gebruiker te waarschuwen voor de aanwezigheid van een niet-geïsoleerde "gevaarlijke spanning" binnenin de behuizing van de circulatiepomp. De grootte van de spanning is voldoende significant om een gevaar te vormen op een elektrisch schok.

 duidt op de aanwezigheid van hete oppervlakken.

 duidt op het raadplegen van de handleiding.

Gebruik het bad niet als steriel of als een met de patiënt verbonden apparaat. Daarnaast is het bad niet ontworpen voor gebruik in gevaarlijke situaties van klasse I, II of III zoals gedefinieerd door de National Electrical Code.

Plaats deze nooit op een locatie met overmatige hitte, vochtigheid, onvoldoende ventilatie of waar er corrosieve materialen aanwezig zijn. Raadpleeg de gebruikershandleiding voor de operationele parameters.

Laat de gekoelde baden gedurende 24 uur in een rechtopstaande positie staan bij kamertemperatuur (~25°C) vooraleer deze te starten. Dit verzekert dat de smeerolie terug in de compressor is gelopen.

Sluit het bad steeds aan op een goed geaard stopcontact.

De circuitbeveiliging bevindt zich aan de achterzijde van het bad en is niet bedoeld als middel om het los te koppelen.

Laat de circulatiepomp alleen functioneren met het meegeleverde netsnoer. Het netsnoer van de circulatiepomp wordt gebruikt om het apparaat los te koppelen en dit moet te allen tijde goed bereikbaar zijn.

Verzeker dat de netsnoeren niet in contact komen met de leidingaansluitingen of slangen.

Sluit nooit de netspanning aan op de communicatie-aansluitingen van het bad.

Verzeker dat de slangen die u selecteert bestand zijn tegen de maximale temperatuur- en drukvereisten.

Verzeker dat alle elektrische en, indien van toepassing, communicatie-aansluitingen goed zijn aangesloten vooraleer te starten.

Koelmiddelen zijn zwaarder dan lucht en als er een lek is, zal het de zuurstof vervangen en kan dit leiden tot bewusteloosheid. Contact met het lekkende koelmiddel kan leiden tot brandwonden op de huid.

Raadpleeg het typeplaatje van de circulatiepomp voor het type koelmiddel dat wordt gebruikt en raadpleeg vervolgens het meest recente veiligheidsgegevensblad (Safety Data Sheet - SDS) van de producent, eerder gekend als MSDS, en het Europese veiligheidsgegevensblad voor extra informatie.

Zorg ervoor dat de afvoerpoorten van het reservoir zijn gesloten en dat alle leidingaansluitingen goed zijn afgedicht. Verzeker ook dat alle residuen grondig zijn verwijderd voorafgaand aan het vullen.

Om het morsen tegen te gaan, plaatst u uw containers in het bad vooraleer ze te vullen.

Op olie-gebaseerde vloeistoffen zetten uit wanneer ze worden opgewamd. Vermijd het overvullen van het reservoir.

Maak alleen gebruik van de goedgekeurde vloeistoffen in de handleiding. Het gebruik van andere vloeistoffen zal de garantie doen vervallen. Gebruik nooit 100% glycol.

Bij het gebruik van water dat warmer is dan 80°C moet u het vloeistofniveau goed in de gaten houden en zal u regelmatig vloeistof moeten bijvullen. Het creëert ook stoom.

Mengelingen van water en glycol vereisen regelmatig dat het water wordt bijgevuld, anders zal het percentage glycol leiden tot een verhoogde viscositeit en slechte prestaties.

Vooraleer een goedgekeurde vloeistof, dus geen water, te gebruiken of onderhoud uit te voeren waarbij het waarschijnlijk is dat u in aanraking komt met de vloeistof, raadpleegt u het meest recente veiligheidsgegevensblad (Safety Data Sheet - SDS) van de leverancier en het Europese veiligheidsgegevensblad voor voorzorgsmaatregelen om ermee om te gaan.

Verzeker dat er geen giftige gassen kunnen worden gegenereerd door de vloeistof. Er kunnen zich dan ontvlambare gassen opbouwen boven de vloeistof tijdens het gebruik.

Bij het gebruik van ethyleenglycol en water moet u de vloeistofconcentratie en pH op een regelmatige basis controleren. Wijzigingen in de concentratie en de pH kunnen een impact hebben op de prestaties van het systeem.

Verzeker dat het "cut-off"-punt van een te hoge temperatuur lager wordt gezet dan het ontstekingspunt voor de warmte-overdracht van de geselecteerde vloeistof.

De hoogste werktemperatuur, zoals gedefinieerd door de EN 61010 (IEC 1010), moet beperkt worden tot 25°C graden onder het ontstekingspunt voor de vloeistof van het bad.

Verzeker dat de vloeistof een veilige temperatuur heeft (lager dan 40°C) vooraleer deze te hanteren of deze af te laten.

Gebruik nooit beschadigde of lekkende apparatuur, of apparatuur waarvan het netsnoer is beschadigd.

Stel het bad nooit in werking zonder dat er zich vloeistof in het reservoir bevindt.

Stel het bad nooit in werking of voeg geen vloeistof toe aan het reservoir wanneer de panelen zijn verwijderd.

Reinig het bad niet met solventen maar gebruik een zachte doek en water.

Laat het reservoir leeglopen voor het transporteren en/of opslag bij temperaturen nabij of onder het vriespunt.

Schakel het bad steeds uit en koppel het netsnoer los vooraleer service- of onderhoudsprocedures uit te voeren. Laat het onderhoud en de herstellingen steeds uitvoeren door een gekwalificeerd technicus.

Transporteer het bad steeds erg zorgvuldig. Plotse schokken of druppels kunnen de componenten beschadigen.

De gebruiker is verantwoordelijk voor de ontsmetting als er gevaarlijke materialen worden gemorst. Neem contact op met de producent betreffende de verontreiniging en/of de compatibiliteit van de reinigingsmiddelen.

Als het bad moet worden getransporteerd en/of moet worden opgeslagen in koude temperaturen moet het eerst volledig leeg worden gelaten en vervolgens worden gespoeld met een 50/50 glycol/watermengeling van laboratoriumkwaliteit.

Het buiten dienst stellen mag alleen uitgevoerd worden door een gekwalificeerde dealer die gebruik maakt van gecertificeerde uitrusting. Alle geldende regelgevingen moeten worden gevolgd.

Het uitvoeren van de installatie-, de werkings- of onderhoudsprocedures op een andere manier dan beschreven in de handleiding kunnen leiden tot een gevaarlijke situatie en zullen de garantie van de producent ongeldig maken.

Het bad is niet bedoeld voor gebruik met een aardlekschakelaar voor uw persoonlijke bescherming met een vermogen van 10mA of lager.

Als er aardlekschakelaaruitgangen zijn vereist op de plaats van de installatie worden er aardlekschakelaars met een vermogen van 10 mA aanbevolen ter bescherming van de apparatuur.

Stel het bad nooit in werking bij een temperatuur lager dan 5°C wanneer er zich alleen water in het reservoir bevindt om zo bevriezing te voorkomen.

Het werken met siliconenolie op meer dan 125°C en een omgevingstemperatuur van 35°C of hoger vereist een minimale afstand aan één zijde van 30 cm, een open zijde aan de andere zijde en 15 cm aan de achterzijde.

Pas de software van het bad aan zodat deze overeenkomt met de gebruikte vloeistof.

Installatie voor het circulerende VersaCool-bad:

De leidingaansluitingen voor de externe circulatie bevinden zich aan de achterzijde van het bad.  is de retourstroom van de externe applicatie. is de afvoerstroom naar de externe applicatie (toevoerzijde). De aansluitingen zijn mannelijke 16M x 1. Verwijder de eenheidsmoeren en platen om de meegeleverde slangkoppelingen van ¼", ½", 8 mm of 12 mm te installeren. Er zijn ook ¼" MNPT en ½" MNPT slangkoppelingen met een snelkoppeling meegeleverd.

Om schade te voorkomen aan de leidingen van het bad gebruikt u een moersleutel van 19 mm bij het losmaken/installeren van de externe aansluitingen. Zie figuur 1.

Opmerking: Wanneer de externe circulatie niet wordt gebruikt moeten de leidingaansluitingen goed worden afgedekt.

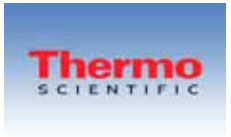
Vul het reservoir langzaam totdat het niveau zich tussen de MIN- en MAX-vullijnen bevindt.

Plaats nadat het netsnoer is aangesloten de circuitbeveiliging die zich aan de achterzijde van het bad bevindt in de **I**-positie. Zie figuur 2.

Figuur 1

Figuur 2

Het aanraakscherm toont even het volgende:



Vervolgens verschijnt de instelwizard.

IT

Istruzioni essenziali per la sicurezza
Bagni da laboratorio

Se queste istruzioni non sono chiare, fare riferimento al manuale oppure contattare il nostro ufficio prima di procedere.

Sicurezza, tutti i prodotti:

⚠ DANGER indica una situazione di pericolo imminente che, se non evitata, potrebbe causare morte o ferite gravi.

⚠ WARNING indica una situazione potenzialmente pericolosa che se non evitata potrebbe causare lesioni gravi o morte.

⚠ CAUTION indica una situazione di pericolo potenziale che, se non evitata, potrebbe causare ferite lievi o non gravi. Viene anche utilizzato come avviso contro pratiche non sicure.

 destinato ad avvisare l'utente della presenza di "tensioni pericolose" non isolate all'interno dell'involucro del sistema di circolazione. Il valore della tensione è abbastanza significativo da costituire un rischio di scosse elettriche.

 indica la presenza di superfici calde.

 segnala di leggere il manuale.

Non utilizzare il bagno come dispositivo sterile o collegato a un paziente. Inoltre, il bagno non è progettato per l'utilizzo in luoghi pericolosi di Classe I, II o III secondo le definizioni del National Electrical Code.

Non collocare mai il bagno in luoghi o atmosfere soggetti a calore eccessivo, umidità o materiali corrosivi. Fare riferimento al manuale dell'utente per i parametri operativi.

Lasciare i bagni refrigerati in posizione verticale a temperatura ambiente (~25°C) per 24 prima dell'avviamento. Ciò garantirà il ritorno dell'olio di lubrificazione nel compressore.

Collegare il bagno ad una presa di rete adeguatamente messa a terra.

Il sistema di protezione circuito sul retro del bagno non è progettato per operare come sistema di disconnessione.

Azionare il circolatore solo tramite il cavo di linea in dotazione. Se il cavo di alimentazione del circolatore viene utilizzato come sistema di disconnessione elettrica, deve essere sempre facilmente accessibile.

Assicurarsi che i cavi elettrici non entrino in contatto con tubazioni o loro raccordi.

Non applicare mai la tensione di linea alle connessioni di comunicazione del bagno.

Assicurarsi che la tubazione selezionata soddisfi i requisiti di temperatura e pressione massimi.

Assicurarsi che prima dell'avviamento vengano realizzate tutte le connessioni elettriche e, se previste, di comunicazione.

I refrigeranti utilizzati sono più pesanti dell'aria e, in caso di perdite, possono sostituire l'ossigeno causando perdita di conoscenza.. Il contatto della pelle con il refrigerante fuoriuscito causa ustioni. Per ulteriori informazioni, fare riferimento alla targhetta del circuito circolatore per il tipo di refrigerante utilizzato e ai dati tecnici di sicurezza aggiornati del produttore (US Safety Data Sheet - SDS), precedentemente noti come MSDS, non ché ai dati tecnici di sicurezza UE.

Assicurarsi che eventuali porte di scarico del serbatoio siano chiuse e che tutte le connessioni delle tubazioni siano sicure. Verificare anche che eventuali residui vengano rimossi completamente prima di procedere al riempimento.

Per evitare gocciolamenti, collocare i contenitori nel bagno prima di eseguire il riempimento.

I fluidi a base di olio si espandono quando vengono riscaldati. Evitare di riempire eccessivamente il serbatoio.

Utilizzare esclusivamente i fluidi certificati elencati nel manuale. L'utilizzo di altri fluidi annulla la garanzia. Non utilizzare mai glicole al 100%.

Quando si utilizza acqua ad una temperatura superiore a 80°C, monitorare attentamente il livello del fluido, in quanto potrebbe essere necessario eseguire dei rabbocchi frequenti. In tali condizioni si crea anche del vapore.

Le miscele acqua/glicole richiedono rabbocchi con acqua pura, altrimenti la percentuale di glicole aumenterà, con la conseguenza di una maggiore viscosità e prestazioni insoddisfacenti.

Oltre all'acqua, prima di utilizzare altri fluidi approvati, o quando si eseguono operazioni di manutenzione nelle quali potrebbe verificarsi il contatto con il fluido, fare riferimento ai fogli tecnici di sicurezza SDS e EC del produttore per le precauzioni da adottare.

Assicurarsi che il fluido non generi gas tossici. I gas infiammabili possono accumularsi sul fluido durante l'utilizzo.

Se si utilizza glicole di etilene ed acqua, controllare periodicamente la concentrazione del fluido e il pH. Variazioni di concentrazione e pH possono compromettere le prestazioni del sistema.

Assicurarsi che il punto di esclusione della sovra-temperatura sia impostato ad un valore più basso del punto di accensione per il fluido di trasferimento calore selezionato.

La temperatura massima operativa, in base alle definizioni della norma EN 61010 (IEC 1010), deve essere limitata a 25°C sotto il punto di accensione del fluido del bagno.

Assicurarsi che il fluido si trovi ad una temperatura di sicurezza (sotto i 40°C) prima di maneggiarlo o scaricarlo.

Non azionare mai apparecchi danneggiati, che presentano perdite, o con cavi danneggiati.

Non azionare mai il bagno senza liquido nel serbatoio.

Non azionare mai il bagno o aggiungere fluidi al serbatoio con i pannelli rimossi.

Non pulire il bagno con solventi, utilizzare esclusivamente un panno morbido e acqua.

Scaricare il serbatoio prima che venga trasportato e/o stoccato in prossimità o sotto la temperatura di congelamento.

Spegnere sempre il bagno e scollegare la tensione di alimentazione dalla fonte di alimentazione prima di ogni spostamento e prima di eseguire operazioni di manutenzione. Demandare assistenza e riparazioni ad un tecnico qualificato.

Spostare il bagno con cautela. Sobbalzi o cadute improvvise possono danneggiare i suoi componenti.

L'utente è responsabile della decontaminazione in caso di gocciolamenti di materiale pericoloso. Consultare il produttore in relazione alla decontaminazione e/o alla compatibilità con agenti detergenti.

Se è necessario trasportare il bagno o stoccarlo in condizioni di bassa temperatura, l'apparecchio andrà scaricato e risciacquato con una miscela 50/50 di glicole/acqua a gradazione da laboratorio.

La disattivazione deve essere eseguita solo da rivenditori qualificati utilizzando attrezzature certificate. Dovranno essere rispettate tutte le norme vigenti.

L'esecuzione di procedure di installazione, funzionamento o manutenzione diverse da quelle descritte nel manuale potrebbero determinare situazioni di pericolo e causare l'annullamento della garanzia del produttore.

Il bagno non è destinato all'uso con prese dotate di salvavita (Personal Protection Ground Fault Interrupter - GFI) da 10 mAmp o meno.

Qualora nel luogo di installazione siano necessarie prese GFI, si consiglia di utilizzare protezioni GFI con valore nominale superiore a 10 mAmp.

Per evitare il congelamento, non utilizzare mai l'apparecchio a temperature inferiori a 5° con solo acqua nel serbatoio.

Il funzionamento con olio al silicone a temperature superiori a 125°C e 35°C o più di temperatura ambiente richiede uno spazio minimo laterale di 30 cm, spazio aperto sull'altro lato e 15 cm sul retro.

Impostare il software del bagno in base al fluido utilizzato.

Installazione per il bagno a circolazione VersaCool:

Le connessioni delle tubazioni per la circolazione esterna si trovano sul retro del bagno.  è il flusso di ritorno dall'applicazione esterna.  è il flusso in uscita verso l'applicazione esterna (lato alimentazione). Le connessioni sono di tipo maschio 16M x 1. Rimuovere le piastre e i dadi di unione per installare le spine per tubi in dotazione da ¼″, ½″, 8 mm or 12 mm. Vengono anche fornite delle spine per tubi MNPT da ¼″ e da ½″ con innesti rapidi.

Per evitare danni alle tubazioni del bagno, utilizzare una chiave da 19 mm quando si rimuovono/installano le connessioni esterne. Vedere Figura 1.

Nota: Se non si utilizza la circolazione esterna, i connettori delle tubazioni vanno coperti.

Riempire lentamente il serbatoio tra le linee di livello MIN e MAX.

Dopo avere collegato il cavo di alimentazione, impostare il sistema di protezione circuito sul retro del bagno in posizione **I**. Vedere Figura 2.

Figura 1

Figura 2

Il touchscreen visualizzerà temporaneamente:

Quindi comparirà la videata della procedura guidata di configurazione.

BG

Важни инструкции за безопасност Лабораторни вани

Ако някоя от тези инструкции не бъде разбрана, се обърнете към ръководството или се свържете с нас, преди да продължите.

Безопасност, всички продукти:

DANGER указва непосредствено опасна ситуация, която, ако не бъде избегната, ще доведе до смърт или тежка телесна повреда.

WARNING указва потенциално опасна ситуация, която, ако не бъде избегната, може да доведе до смърт или тежка телесна повреда.

CAUTION указва потенциално опасна ситуация, която, ако не бъде избегната, може да доведе до лека или средна телесна повреда. Също така се използва, за да предупреждава срещу опасни практики.

предназначен да предупреждава потребителя за наличие на неизолирано "опасно напрежение" в рамките на корпуса на циркулатора. Величината на напрежението е достатъчно значима, за да поражда риск от електрически удар.

указва наличието на горещи повърхности.

указва, че ръководството трябва да се прочете.

Не използвайте ваната като стерилно устройство или устройство, свързано с пациенти. В допълнение ваната не е предназначена за употреба в клас I, II или III опасни места, както е определено от Националния закон за електричеството на САЩ (NEC).

Никога не поставяйте ваната на място или в атмосфера, където има висока температура, влажност или корозивни материали. Вижте ръководството за потребителя за експлоатационните параметри.

Оставете охладените вани в изправено положение при стайна температура (~25°C) в продължение на 24 часа, преди да ги стартирате. Това гарантира, че смазочното масло се отцежда обратно в компресора.

Свържете ваната към правилно заземен контакт.

Предпазителят за веригата, разположен на задната част на ваната, не е предназначен да действа като средство за изключване.

Работете с циркулатора, използвайки само предоставения кабел. Ако захранващият кабел на циркулатора се използва като устройство за изключване, той трябва да е лесно достъпен по всяко време.

Уверете се, че електрическите кабели не са в контакт с която и да било от водопроводните връзки или тръби.

Никога да не се прилага линейно напрежение към която и да било от комуникационните връзки на ваната.

Уверете се, че тръбите, които изберете, отговарят на изискванията за максимална температура и налягане.

Уверете се, че всички електрически и, ако е приложимо, комуникационни връзки са направени, преди да стартирате.

Използваните хладилни агенти са по-тежки от въздуха и, ако има теч, те ще заменят кислорода, причинявайки загуба на съзнание. Контактът с изтичащ хладилен агент ще предизвика изгаряния на кожата. Направете справка с фирмената табела на циркулатора за типа на използвания хладилен агент, след което към най-актуалния информационен лист за безопасност на САЩ (SDS) от производителя, известен преди като MSDS, и също така и към информационния лист за безопасност на ЕС, за допълнителна информация.

Уверете се, че всички портове за източване на резервоара са затворени и че всички водопроводни връзки са фиксирани. Също така се уверете, че всички остатъци са напълно отстранени, преди да напълните.

За да се избегне разливане, поставете контейнерите във ваната, преди да напълните.

Течностите на маслена основа се разширяват при загряване. Избягвайте препълването на резервоара.

Използвайте само одобрените течности, посочени в ръководството. Използването на други течности ще анулира гаранцията. Никога не използвайте 100% гликол.

При използване на вода над 80°C следете отблизо нивото на течността, ще се налагат чести допълвания. Също така се отделя пара.

Водните/гликолните смеси изискват допълвания с чиста вода; в противен случай процентът на гликол ще се увеличи, което ще доведе до висок вискозитет и слаба производителност.

Освен когато ползвате вода, преди да използвате каквато и да било одобрена течност или когато извършвате дейности по поддръжка, където е възможен контакт с течността, направете справка с SDS от производителя и информационния лист за безопасност на ЕС за предпазни мерки при работа.

Уверете се, че течността не може да генерира токсични газове. Запалими газове могат да се натрупат над течността по време на употреба.

При използване на етилен гликол и вода проверявайте редовно концентрацията на течността и pH. Промените в концентрацията и pH могат да окажат влияние върху производителността на системата.

Уверете се, че точката на прекъсване за превишена температура е заложена да е по-ниска от точката на запалване за пренасящата топлина течност, която сте избрали.

Най-високата работна температура, както е определено от EN 61010 (IEC 1010), трябва да бъде ограничена до 25°C под точката на запалване на течността във ваната.

Уверете се, че течността е с безопасна температура (под 40°C), преди да боравите с нея или да я източвате.

Никога не експлоатирайте повредено оборудване или оборудване с течове, както и такова с повредени кабели.

Никога не експлоатирайте ваната без охлаждаща течност в резервоара.

Никога не експлоатирайте ваната или не добавяйте течност към резервоара, докато има отстранени панели.

Не почиствайте ваната с разтворители, използвайте мека кърпа и вода.

Източете резервоара, преди да го транспортирате и/или да го съхранявате при близки до или под нулата температури.

Винаги изключвайте ваната и изваждайте щепсела на захранващото напрежение от източника на захранването, преди да преместите или преди да извършвате каквито и да било процедури по обслужване или поддръжка. За обслужване и ремонтни дейности се обърнете към квалифициран техник.

Транспортирайте ваната внимателно. Внезапни сътресения или изпускания могат да повредят компонентите му.

Потребителят е отговорен за деконтаминацията, ако бъдат разсипани опасни материали. Консултирайте се с производителя относно деконтаминацията и/или съвместимостта на почистващите агенти.

Ако ваната трябва да се транспортира и/или да се съхранява при ниски температури, тя трябва да бъде източена и след това промита със смес от 50/50 лабораторен клас гликол/вода.

Извеждането от експлоатация трябва да се извършва само от квалифициран дилър, като се използва сертифицирано оборудване. Всички действащи разпоредби трябва да се спазват.

Извършване на монтаж, експлоатация или процедури за поддръжка, различни от тези, описани в ръководството, може да доведе до опасна ситуация и анулира гаранцията на производителя.

Ваната не е предназначена за употреба с контакти с диференциалнотоковата защита (GFI), предназначени за лично предпазване, с номинал от 10 mAmp или по-малко.

Ако GFI контакти се изискват на мястото на монтаж, то се препоръчват контакти за диференциалнотоковата защита (GFI), предназначени за предпазване на оборудване, с номинал от 10 mAmp.

За да предотвратите замръзване, никога не експлоатирайте ваната при температура под 5°C, и само с вода в резервоара.

При работа със силиконово масло над 125°C и нагоре и температура на околната среда 35°C и нагоре се изисква минимален клиренс от 12" от едната страна, открито пространство от другата страна и 6" отзад.

Регулирайте софтуера на ваната, за да е в съответствие с използваната течност.

Монтиране за циркулационна вана VersaCool:

Водопроводните връзки за външна циркулация са разположени в задната част на ваната.  е връщащият поток от външното приложение. е изходящият поток към външното приложение (подаващата страна). Връзките са мъжки 16M x 1. Премахнете съединителните гайки и пластини, за да инсталирате предоставените ¼″, ½″, 8 мм или 12 мм щуцери за маркуч. Предоставени са също щуцери за маркуч с ¼" и ½" външна скосена тръбна резба, използвани за бързо разкачване.

За да се предотврати повреда на тръбопровода на ваната, използвайте 19 мм поддържащ гаечен ключ, когато отстранявате/монтирате външните връзки. Вижте фигура 1.

Бележка: Когато не използвате външна циркулация, водопроводните връзки трябва да бъдат затапени.

Бавно напълнете резервоара до помежду MIN и MAX линиите на запълване.

След като захранващият кабел е свързан, поставете предпазителя на веригата, разположен в задната част на ваната, на позиция ▮. Вижте фигура 2.

Фигура 1

Фигура 2

Тогава на сензорния екран веднага се показва:

След това се появява екранът на съветника за настройка.

CS

Základní bezpečnostní pokyny Laboratorní lázně

Pokud některým z těchto pokynů nebudete rozumět, nahlédněte před pokračováním do návodu k obsluze nebo nás kontaktujte.

Bezpečnost, všechny produkty:

DANGER Značí bezprostředně nebezpečnou situaci, která pokud nebude odstraněna, povede ke smrtelnému nebo závažnému úrazu.

WARNING Značí potenciálně nebezpečnou situaci, která pokud nebude odstraněna, může vést ke smrtelnému nebo závažnému úrazu.

CAUTION Značí potenciálně nebezpečnou situaci, která pokud nebude odstraněna, může vést k méně až středně závažnému úrazu. Slouží také jako výstraha před nebezpečnými postupy.

Slouží k upozornění uživatele na přítomnost neizolovaného „nebezpečného napětí“ v krytu cirkulačního termostatu. Napětí je dostatečně vysoké na to, aby představovalo riziko úrazu elektrickým proudem.

Značí přítomnost horkých povrchů.

Značí, že si má obsluha přečíst návod k obsluze.

Lázeň nepoužívejte jako sterilní zařízení nebo zařízení připojené k pacientovi. Lázeň navíc není určena k používání v rizikových lokalitách třídy I, II nebo III podle národních elektrotechnických předpisů.

Lázeň nikdy neumisťujte do míst nebo prostředí s nadměrnou teplotou či vlhkostí nebo do prostředí, kde jsou přítomné korozivní materiály. Provozní parametry jsou uvedené v návodu k obsluze.

Než začnete, nechte chlazené lázně 24 hodin stát ve vzpřímené poloze při pokojové teplotě (přibl. 25 °C). Tím zajistíte, že se lubrikační olej vypustí zpátky do kompresoru.

Připojte lázeň k řádně uzemněné zásuvce.

Jistič umístěný na zadní straně lázně není určen k tomu, aby sloužil jako odpojovač.

Cirkulační termostat smí být napájen pouze pomocí dodaného kabelu. Pokud je napájecí kabel cirkulačního termostatu použit jako odpojovací zařízení, musí být neustále přístupný.

Elektrické kabely nesmí přijít do kontaktu s žádnými připojovacími armaturami nebo hadicemi.

Nikdy nepřivádějte elektrické napětí k žádným komunikačním konektorům lázně.

Vámi zvolené potrubí a hadice musí vyhovovat vašim požadavkům na maximální teplotu a tlak.

Před spuštěním zařízení připojte veškerá elektrická a komunikační vedení.

Použitá chladiva jsou těžší než vzduch a pokud dojde k jejich úniku, vytlačí veškerý vzduch a způsobí ztrátu vědomí. Kontakt s unikajícím chladivem způsobí popálení pokožky. Typ použitého chladiva zjistíte na štítku s technickými údaji cirkulačního termostatu a další informace jsou uvedeny v aktuálním bezpečnostním listu výrobce.

Přesvědčte se, že jsou zavřené všechny vypouštěcí otvory nádržky, a že jsou bezpečně zajištěné všechny připojovací armatury. Před naplněním taky zajistěte, aby byly odstraněny všechny usazeniny.

Abyste předešli rozlití, umístěte nádoby do lázně ještě před naplněním.

Kapaliny na bázi oleje při zahřátí nabývají na objemu. Nádržku nepřeplňujte.

Používejte pouze schválené kapaliny uvedené v návodu k obsluze. Použití jiných kapalin způsobí zneplatnění záruky. Nikdy nepoužívejte 100% glykol.

Při používání vody s teplotou nad 80 °C pozorně sledujte hladinu kapaliny, neboť bude potřeba časté doplňování. Dochází také k vytváření páry.

Směsi vody a glykolu vyžadují doplňování čistou vodou. V opačném případě by vzrostla koncentrace glykolu, což by vedlo k vysoké viskozitě a špatnému výkonu.

Před používáním jiné schválené kapaliny než vody nebo při provádění údržby s možným kontaktem s kapalinou si přečtěte pokyny k manipulaci v bezpečnostním listu výrobce.

Zajistěte, aby se z kapaliny nevypařovaly žádné toxické plyny. Při používání se nad kapalinou mohou hromadit hořlavé plyny.

Při používání etylenglykolu a vody pravidelně kontrolujte koncentraci a pH kapaliny. Změny koncentrace a pH mohou mít vliv na výkon systému.

Zajistěte, aby byl horní limit teploty nastaven níže, než je teplota vznícení zvolené kapaliny pro přenos tepla.

Nejvyšší pracovní teplota, stanovená podle normy EN 61010 (IEC 1010), musí být o 25 °C nižší než teplota hoření kapaliny v lázni.

Před manipulací nebo vypouštěním se přesvědčte, že má kapalina bezpečnou teplotu (nižší než 40 °C).

Nikdy nepoužívejte poškozené nebo netěsné zařízení nebo zařízení s poškozenými kabely.

Lázeň nikdy nepoužívejte, pokud v nádržce není žádná kapalina.

Lázeň nikdy nepoužívejte nebo do ní nepřidávejte kapalinu, když jsou demontované panely.

Nečistěte lázeň pomocí rozpouštědel, použijte měkký hadřík a vodu.

Před transportem a před uskladněním při teplotách okolo bodu mrazu nádržku vypusťte.

Před přesunem nebo prováděním servisu či údržby lázeň vždy vypněte a odpojte napájení. Servis a opravy přenechejte kvalifikovaným servisním technikům.

Při přenášení lázně buďte opatrní. Náhlé nárazy nebo pády mohou poškodit její součásti.

Pokud dojde k rozlití nebezpečných materiálů, musí uživatel zajistit dekontaminaci. Informace o dekontaminaci a o kompatibilitě čisticích prostředků získáte u výrobce.

Pokud se má lázeň přesunout nebo uskladnit při nízkých teplotách, musí být vypuštěna a vypláchnuta směsí glykolu v laboratorní kvalitě a vody v poměru 1:1.

Vyřazení z provozu smí provádět pouze kvalifikovaný prodejce s pomocí certifikovaného vybavení. Musí být dodržena veškerá platná nařízení.

Provádění jiných postupů při instalaci, obsluze nebo údržbě, než které jsou popsány v návodu k obsluze, může vést k nebezpečným situacím a způsobit zneplatnění záruky výrobce.

Lázeň není určena k používání se zásuvkami s proudovým chráničem s citlivostí 10 mA nebo nižší.

Pokud jsou na místě instalace vyžadovány zásuvky s proudovým chráničem, doporučuje se používat chránič s citlivostí vyšší než 10 mA.

Aby nedošlo k zamrznutí, nepoužívejte lázeň při teplotách nižších než 5 °C, když je v nádržce pouze voda.

Při používání silikonového oleje při teplotách 125 °C nebo vyšších a okolní teplotě 35 °C nebo vyšší je vyžadován minimální volný prostor na jedné straně 30 cm, otevřený prostor na druhé straně a 15 cmů na zadní straně.

Upravte software lázně tak, aby vyhovoval použité kapalině.

Instalace cirkulační lázně VersaCool:

Připojovací armatury pro externí cirkulaci jsou umístěné na zadní části lázně.  je vratný tok z externího zařízení.  je výstupní tok do externího zařízení (přívodní strana). Přípojky mají vnější závit 16M x 1. Demontujte spojovací matice a destičky, abyste mohli namontovat dodané ¼″, ½″, 8mm nebo 12mm ostnaté hadicové armatury. Součástí dodávky jsou také ostnaté hadicové armatury ¼″ MNPT a ½″ MNPT používané s rychlospojkami.

Aby nemohlo dojít k poškození potrubí lázně, používejte při demontáži nebo instalaci externích přípojek 19mm kontra klíč. Viz obr. 1.

Poznámka: Když nepoužíváte externí cirkulaci, musí být připojovací armatury zaslepeny krytkami.

Pomalu nádržku naplňte tak, aby hladina byla mezi značkami MIN a MAX.

Po připojení napájecí šňůry přepněte jistič na zadní straně lázně do polohy **I**. Viz obr. 2.

Obr. 1

Obr. 2

Poté se na dotykové obrazovce dočasně zobrazí:

Poté se zobrazí obrazovka průvodce nastavením.

DA

Essentielle sikkerhedsinstruktioner Laboratoriebade

Hvis nogen af disse instrukser ikke kan forstås, så referer til manualen eller kontakt os, før du fortsætter.

Sikkerhed, alle produkter:

DANGER indikerer en omgående farlig situation som, hvis den ikke undgås, vil resultere i død eller alvorlig skade.

WARNING indikerer en potentielt farlig situation som, hvis den ikke undgås, kunne resultere i død eller alvorlig skade.

CAUTION indikerer en potentielt farlig situation som, hvis den ikke undgås, kunne resultere i mindre eller moderat skade. Det bruges også til at alarmere mod usikker praksis.

 beregnet til at alarmere brugeren om tilstedeværelsen af ikke-isoleret "farlig spænding" inden for cirkulatorens indelukke. Omfanget af spændingen er betydelig nok til at udgøre en risiko for elektrisk stød.

 indikerer tilstedeværelse af varme overflader.

 indikerer, at du skal læse håndbogen.

Brug ikke badet som en steril eller patientforbundet enhed. Derudover er badet ikke designet til brug i klasse I, II eller III farlige steder som defineret af National Electrical Code.

Placer aldrig badet i et sted eller atmosfære, hvor overdreven varme, fugtighed eller ætsende materialer er til stede. Refere til brugerhåndbogen for driftsparametre.

Stil kølede bade i en opretstående position ved stuetemperatur (~25 °C) fi 24 timer, før du starter. Dette sikrer, at smøreolien dræner tilbage ind i kompressoren.

Forbind badet til en korrekt jordet stikkontakt.

Kredsløbsbeskytteren, der er placeret bag på badet, er ikke beregnet til at fungere som en metode til at afryde.

Betjen cirkulatoren kun ved brug af den leverede ledning. Hvis cirkulatorens strømledning bruges som en afbrydende enhed, skal den altid være tilgængelig.

Sørg for, at elektriske ledninger ikke er i berøring med nogen af rørforbindelserne eller slangerne.

Påfør aldrig spænding til nogen af badets kommunikationsforbindelser.

Sørg for, at de rør, som du vælger, opfylder dine krav til maksimal temperatur og tryk.

Sørg for, at alle elektriske, og hvis relevant, kommunikationsforbindelser udføres før start.

Brugte kølemidler er tungere end luft og, hvis der er en læk, vil erstatte oxygenen, hvilket forårsager tab af bevidsthed. Kontakt med lækkende kølemiddel vil forårsage hudforbrændinger. Se cirkulatorens navneplade for den brugte kølemiddeltype og så producentens mest aktuelle amk. sikkerhedsdatablad (SDS), tidligere kendt som MSDS, samt EUs sikkerhedsdatablad for yderligere oplysninger.

Sørg for, at alle reservoirdrænporte er lukkede og at alle rørforbindelser er sikrede. Sørg også for, at alle rester fjernes grundet før påfyldning.

For at undgå spild skal du placere dine containere i badet før påfyldning.

Betjen aldrig badet uden væske i reservoiret.

Oliebaserede væsker ekspanderer ved opvarmning. Undgå overfyldning af reservoiret.

Brug kun de accepterede væsker, der er opført i håndbogen. Brug af andre væsker annullerer garantien. Brug aldrig 100 % glycol.

Når du bruger vand på over 80 °C, så overvåg væskeniveauet tæt, da hyppige påfyldninger vil være påkrævet. Det skaber også damp.

Vand/glycol-miksturer kræver påfyldning med rent vand, ellers vil procentdelen af glycol forøges, hvilket resulterer i høj viskositet og dårlig ydelse.

Før du bruger nogen godkendt væske, andet end vand, eller når du udfører vedligeholdelse, hvor kontakt med væsken er sandsynlig, så referer til producentens SDS og EC sikkerhedsdatablad for betjeningsforholdsregler.

Sørg for, at ingen giftige gasser kan dannes af væsken. Brændbare gasser kan dannes over væsken under brug.

Når du bruger etylenglycol og vand så kontroller væskekoncentrationen og pH på jævnlig basis. Ændringer i koncentration og pH kan påvirke systemets ydelse.

Sørg for, at over-temperaturskæringspunktet er indstillet lavere end brandpunktet for den valgte varmetransfervæske.

Den højeste driftstemperatur, som defineret af EN 61010 (IEC 1010), skal være begrænset til 25 °C under brandpunktet af badvæsken.

Sørg for, at væsken er på sikre temperaturer (under 40 °C) før håndtering eller dræning.

Betjen aldrig beskadiget eller lækkende udstyr, eller hvis det har nogen beskadigede ledninger.

Betjen aldrig badet uden væske i reservoiret.

Betjen aldrig badet eller tilføj væsker til reservoiret med panelerne fjernet.

Rengør ikke badet med opløsningsmidler, brug en blød klud og vand.

Dræn reservoiret, før det transporteres og/eller opbevares i, nær eller under frosttemperaturer.

Sluk altid for badet, og afbryd forsyningsspændingen fra strømkilden, før du flytter eller udfører nogen servicerings- eller vedligeholdelsesprocedurer. Referer servicering og reparation til en kvalificeret tekniker.

Transporter badet forsigtigt. Pludselige stød eller tab kan beskadige dets komponenter.

Brugeren er ansvarlig for dekontaminering, hvis der spildes farlige materialer. Konsulter producenten ang. dekontaminering og/eller rengøringsmiddelkompatibilitet.

Hvis badet skal transporteres og/eller opbevares i kolde temperaturer, skal det drænes og så skylles med en 50/50 glycol/vand-mikstur af laboratoriekvalitet.

Dekommissionering skal kun udføres af en kvalificeret forhandler ved brug af certificeret udstyr. Alle gældende regulativer skal følges.

Udførelse af installations-, drifts- eller vedligeholdelsesprocedurer andet end dem, der er beskrevet i denne håndbog, kan resultere i farlige situationer og annullere producentens garanti.

Badet er ikke beregnet til brug med Personal Protection Ground Fault Interrupter (GFI) stik med en vurdering på 10 mAmp eller mindre.

Hvis GFI-stik er påkrævet ved installation, så anbefales Equipment Protection GFI-stik med en vurdering over 10 mAmp.

For at forebygge frysning så må du aldrig betjene badet under 5 °C kun med vand i reservoiret.

Betjening med Silicon Oil over 125 °C og 35 °C omgivende eller over kræver minimum 12" plads til den ene side, at der er åbent til den anden side og 6" bagtil.

Juster badets software til at godkende den brugte væske.

Installation af VersaCool cirkulerende bade:

Rørforbindelserne til ekstern cirkulation befinder sig bag på badet. ⇦ er returstrømmen fra den eksterne applikation. ⇦ er udløbsstrømmen til den eksterne applikation (forsyningsside). Forbindelserne er han 16M x 1. Fjern foreningsmøtrikkerne og -pladerne for at installere de medfølgende ¼″, ½″, 8 mm eller 12 mm slangehager. Der medfølger også ¼″ MNPT og ½″ MNPT slangehager, der bruges med hurtige afbrydelser.

For at forebygge skader på badets rør skal du bruge en 19 mm backing-nøgle, når du fjerner/installerer de eksterne forbindelser. Se Figur 1.

Bemærk: Når du ikke bruger ekstern cirkulation, skal rørforbindelserne have hætter.

Fyld langsomt reservoiret til mellem MIN- og den korrekte MAX-fyldlinje.

Efter strømledningen er forbundet, skal du placere kredsløbsbeskytteren, der befinder sig bag på badet, i positionen **I**. Se Figur 2.

Figur 1

Figur 2

Så viser berøringsskærmen momentant:

Så vises sætningsguidedisplayet.

EL

Βασικές οδηγίες ασφαλείας
Λουτρά εργαστηρίου

Εάν οποιαδήποτε από αυτές τις οδηγίες δεν είναι κατανοητή, ανατρέξτε στο εγχειρίδιο ή επικοινωνήστε μαζί μας πριν προχωρήσετε.

Ασφάλεια, όλα τα προϊόντα:

⚠ DANGER Υποδεικνύει άμεση κατάσταση κινδύνου που αν δεν αποφευχθεί, μπορεί να προκαλέσει θάνατο ή σοβαρό τραυματισμό.

⚠ WARNING Υποδεικνύει δυνητικά επικίνδυνη κατάσταση που αν δεν αποφευχθεί, μπορεί να προκαλέσει θάνατο ή σοβαρό τραυματισμό.

⚠ CAUTION Υποδεικνύει δυνητικά επικίνδυνη κατάσταση που αν δεν αποφευχθεί, μπορεί να προκαλέσει μικρό ή ήπιο τραυματισμό. Μπορεί να χρησιμοποιηθεί και ως προειδοποίηση μη ασφαλών πρακτικών.

 για την προειδοποίηση του χρήστη σχετικά με την παρουσία μην-μονωμένης "επικίνδυνης τάσης" μέσα στο περίβλημα του κυκλοφορητή. Το μέγεθος της τάσης είναι αρκετά σημαντικό ώστε να αποτελέσει κίνδυνο ηλεκτροπληξίας.

 υποδεικνύει την παρουσία ζεστών επιφανειών

 υποδεικνύει ανάγνωση του εγχειριδίου.

Μη χρησιμοποιείτε το λουτρό ως αποστειρωμένη συσκευή ή συσκευή συνδεδεμένη με τον ασθενή.

Επιπλέον, το λουτρό δεν έχει σχεδιαστεί για χρήση στην Κατηγορία I, II ή III Επικίνδυνες Θέσεις από τον Εθνικό Ηλεκτρολογικό Κώδικα.

Ποτέ μην τοποθετείτε λουτρό σε τοποθεσία ή σε περιβάλλον με υπερβολική ζέστη, υγρασία ή παρουσία διαβρωτικών υλικών. Ανατρέξτε στις λειτουργικές παραμέτρους του εγχειριδίου χρήστη.

Αφήνετε τα παγωμένα λουτρά σε κατακόρυφη θέση, σε θερμοκρασία δωματίου (~25°C) για 24 ώρες πριν την έναρξη. Αυτό εξασφαλίζει ότι το λάδι λίπανσης θα εισρεύσει μέσα στον συμπιεστή.

Συνδέστε το λουτρό σε κατάλληλα γειωμένη έξοδο.

Το προστατευτικό κυκλώματος που βρίσκεται στο πίσω μέρος του λουτρού δεν θα πρέπει να χρησιμοποιείται ως μέσω αποσύνδεσης.

Λειτουργήστε τον κυκλοφορητή χρησιμοποιώντας μόνο το κορδόνι γραμμής. Αν το καλώδιο ισχύος του κυκλοφορητή χρησιμοποιηθεί ως συσκευή αποσύνδεσης, θα πρέπει να είναι εύκολα προσβάσιμο ανά πάσα στιγμή.

Βεβαιωθείτε ότι τα ηλεκτρικά καλώδια δεν έρχονται σε επαφή με τις υδραυλικές συνδέσεις ή τις σωληνώσεις.

Ποτέ μην δίνετε τάση γραμμής σε οποιαδήποτε τις συνδέσεις επικοινωνίας.

Βεβαιωθείτε ότι οι σωληνώσεις που έχετε επιλέξει πληρούν τις μέγιστες προϋποθέσεις θερμοκρασίας και πίεσης.

Βεβαιωθείτε ότι όλες οι ηλεκτρικές, και εφόσον υφίστανται, οι συνδέσεις επικοινωνίας έχουν γίνει πριν την έναρξη.

Τα ψυκτικά που χρησιμοποιούνται είναι βαρύτερα από τον αέρα και εάν υπάρχει διαρροή, θα αντικαταστήσουν το οξυγόνο και θα προκαλέσουν απώλεια αισθήσεων. Η επαφή με ψυκτικό διαρροής θα προκαλέσει εγκαύματα στο δέρμα. Ανατρέξτε στην πινακίδα για τον τύπο του ψυκτικού που χρησιμοποιείται και το τρέχον Φύλλο Δεδομένων Ασφαλείας Η.Π.Α (SDS) γνωστά ως MSDS και το Φύλλο Δεδομένων Ασφάλειας Ε.Ε. για περισσότερες πληροφορίες.

Βεβαιωθείτε ότι τυχόν θυρίδες αποστράγγισης της δεξαμενής έχουν κλείσει και ότι όλες οι υδραυλικές συνδέσεις είναι ασφαλισμένες. Επίσης, βεβαιωθείτε ότι τυχόν υπολείμματα έχουν αφαιρεθεί με προσοχή πριν το γέμισμα.

Για την αποφυγή διαρροών, τοποθετείστε τα δοχεία σε λουτρό πριν το γέμισμα.

Τα υγρά με βάση τα έλαια διαστέλλονται όταν θερμαίνονται. Αποφύγετε την υπερπλήρωση της δεξαμενής.

Χρησιμοποιήστε μόνο εγκεκριμένα υγρά που αναφέρονται στο εγχειρίδιο. Η χρήση άλλων υγρών ακυρώνει την εγγύηση. Ποτέ μη χρησιμοποιείτε γλυκόλη 100%.

Όταν χρησιμοποιείτε νερό με θερμοκρασία άνω των 80°C, ελέγχετε προσεκτικά τη στάθμη του υγρού, θα χρειάζονται συχνά γεμίσματα. Επίσης, δημιουργεί ατμό.

Τα μείγματα νερού/γλυκόλης απαιτούν γέμισμα με καθαρό νερό, διαφορετικά το ποσοστό της γλυκόλης θα αυξηθεί και θα δώσει υψηλό ιξώδες και χαμηλές επιδόσεις.

Εκτός από νερό, πριν χρησιμοποιήσετε οποιοδήποτε εγκεκριμένο υγρό ή κατά τη διαδικασία της συντήρησης όπου η επαφή με το υγρό είναι πιθανή, ανατρέξτε στα Φύλλο Δεδομένων Ασφαλείας SDS και EC του κατασκευαστή για προφυλάξεις κατά τον χειρισμό.

Βεβαιωθείτε ότι το υγρό δε δημιουργεί τοξικά αέρια. Τα εύφλεκτα αέρια ενδέχεται να συσσωρευτούν πάνω από το υγρό κατά τη διάρκεια της χρήσης.

Κατά τη χρήση αιθυλενο-γλυκόλης και νερού, ελέγχετε τακτικά τη συγκέντρωση του υγρού και του pH. Οι αλλαγές σε συγκέντρωση και pH ενδέχεται να επηρεάσουν τις επιδόσεις του συστήματος.

Βεβαιωθείτε ότι η διακοπή λόγω θερμοκρασίας έχει ρυθμιστεί χαμηλότερα από το σημείο πυροδότησης για το υγρό μεταφοράς που έχει επιλεγεί.

Η υψηλότερη θερμοκρασία λειτουργίας, όπως ορίζεται βάσει EN 61010 (IEC 1010), θα πρέπει να είναι περιορισμένη στους 25°C κάτω από το σημείο πυροδότησης του υγρού του λουτρού.

Βεβαιωθείτε ότι το υγρό έχει ασφαλή θερμοκρασία (κάτω των 40°C) πριν τον χειρισμό ή την απόρριψή του.

Ποτέ μη λειτουργείτε εξοπλισμό που έχει υποστεί βλάβη ή παρουσιάζει διαρροές ή χαλασμένα καλώδια.

Μη λειτουργείτε το λουτρό χωρίς ψυκτικό υγρό μέσα στη δεξαμενή.

Ποτέ μη λειτουργείτε το λουτρό και μην προσθέτετε υγρό στη δεξαμενή εάν τα πλαίσια έχουν αφαιρεθεί.

Μην καθαρίζετε το λουτρό με διαλύτες, χρησιμοποιήστε αποκλειστικά απαλό πανί και νερό.

Αποστραγγίστε τη δεξαμενή πριν τη μεταφορά και/ή την αποθήκευση σε θερμοκρασίες κάτω της ψύξης.

Σβήνετε πάντα το λουτρό και αποσυνδέστε την τάση τροφοδοσίας από την πηγή τροφοδοσίας πριν τη μετακίνηση ή το σέρβις και τις διαδικασίες συντήρησης. Για σέρβις και επισκευές απευθυνθείτε σε εξειδικευμένο τεχνικό.

Μεταφέρετε το λουτρό με προσοχή. Ξαφνικά τραντάγματα ή πτώσεις ενδέχεται να προκαλέσει βλάβες στα εξαρτήματα.

Ο χρήστης φέρει την ευθύνη για τον καθαρισμό ή την απολύμανση, εφόσον υπάρξει διαρροή επικίνδυνων υλικών. Συμβουλευτείτε τον κατασκευαστή για τον καθαρισμό και/ή τη συμβατότητα των καθαριστικών.

Αν το λουτρό πρέπει να μεταφερθεί και/ή να αποθηκευτεί σε χαμηλή θερμοκρασία, θα πρέπει να αποστραγγιστεί και να εκπλυθεί με εργαστηριακό μείγμα γλυκόλης/νερού, 50/50.

Η θέση εκτός λειτουργίας θα πρέπει να εκτελείται από εξειδικευμένο προμηθευτή με τη χρήση πιστοποιημένου εξοπλισμού. Όλοι οι κανονισμοί εν ισχύ θα πρέπει να τηρούνται.
Οι διαδικασίες εγκατάστασης, λειτουργίας ή συντήρησης εκτός από εκείνες που περιγράφονται στο εγχειρίδιο ενδέχεται να προκαλέσουν επικίνδυνες καταστάσεις και ακύρωση της εγγύησης του κατασκευαστή.

Το λουτρό δεν προορίζεται για χρήση με εξόδους προσωπικής προστασίας διακόπτη βλάβης γείωσης (GFI) των 10 mAmp ή χαμηλότερο.

Αν οι έξοδοι διακοπτών βλάβης γείωσης απαιτούνται κατά τη στιγμή της εγκατάστασης, συνιστώνται έξοδοι προστασίας διακόπτων γείωσης GFI των 10 mAmp.

Για την αποφυγή παγώματος, μη χρησιμοποιείτε ποτέ το λουτρό σε θερμοκρασία κάτω των 5°C με μόνο νερό στη δεξαμενή.

Η λειτουργία με λάδι σιλικόνης άνω των 125°C και 35°C θερμοκρασία περιβάλλοντος ή ανώτερη απαιτεί ελάχιστη απόσταση στη μία πλευρά των 12”, ανοιχτή στην άλλη πλευρά και 6” στο πίσω μέρος.

Ρυθμίστε το λογισμικό του λουτρού ώστε να συμφωνεί με το υγρό που χρησιμοποιείται.

Εγκατάσταση λουτρού κυκλοφορίας VersaCool:

Οι υδραυλικές σωληνώσεις εξωτερικής κυκλοφορίας βρίσκονται στο πίσω μέρος του λουτρού.  είναι η επιστροφή ροής από την εξωτερική εφαρμογή.  είναι η ροή εξόδου στην εξωτερική εφαρμογή (πλευρά παροχής). Οι συνδέσεις είναι αρσενικές 16M x 1. Αφαιρέστε τα παξιμάδια και τις πλάκες ένωσης για να εγκαταστήσετε τις παρεχόμενες ακίδες σωλήνων ¼″, ½″, 8 mm ή 12 mm. Παρέχονται επίσης, ακίδες σωλήνων ¼″ MNPT και ½″ MNPT που χρησιμοποιούνται με ταχείες αποσυνδέσεις.

Για την αποφυγή βλαβών στα υδραυλικά του λουτρού, χρησιμοποιήστε ένα κλειδί 19 mm κατά την αφαίρεση/εγκατάσταση των εξωτερικών συνδέσεων. Δείτε Εικόνα 1.

Σημείωση: Όταν χρησιμοποιείτε την εξωτερική κυκλοφορία, οι υδραυλικές σωληνώσεις θα πρέπει να καλυφθούν.

Γεμίστε αργά τη δεξαμενή μεταξύ των γραμμών MIN και MAX.

Αφού συνδεθεί το καλώδιο ρεύματος, τοποθετήστε το προστατευτικό κυκλώματος που βρίσκεται μπροστά από τον πύργο ψύξης στη θέση **I**. Δείτε Εικόνα 2.

Εικόνα 1

Εικόνα 2

Στην συνέχεια, η οθόνη αφής δείχνει για λίγο:

Στη συνέχεια εμφανίζεται ο Οδηγός Ρύθμισης Οθόνης.

ET

Olulised ohutusjuhised Laboratooriumi vesivannid

Kui mistahes juhised ei ole arusaadavad, siis enne jätkamist vaadake kasutusjuhendit või võtke meiega ühendust.

Ohutus, kõik tooted:

DANGER tähistab otsest ohtlikku olukorda, millele tähelepanu pööramata jätmine võib põhjustada surma või tõsise vigastuse.

WARNING tähistab potentsiaalselt ohtlikku olukorda, millele tähelepanu pööramata jätmine võib põhjustada surma või tõsise vigastuse.

CAUTION tähistab potentsiaalselt ohtlikku olukorda, millele tähelepanu pööramata jätmine võib põhjustada väiksema või keskmise raskusega vigastuse. Seda kasutatakse ka ohtlikust tegevusest hoiatamiseks.

 ettenähtud kasutaja hoiatamiseks ringluspumba korpuses olevast isoleerimata "ohtlikust pingest". Pinge tugevus on piisav elektrilöögi tekitamiseks.

 tähistab kuumade pindade olemasolu.

 tähistab kasutusjuhendi vaatamise vajadust.

Ärge kasutage vasivanni steriilsete seadmetena või patsiendiga ühendatavate seadmetena. Lisaks eelnevale, ei ole vesivann ettenähtud kasutamiseks I, II või III klassi ohtlikes rakendustes vastavalt NEC nõuetele.

Ärge kunagi paigutage vesivanni ülemäärase kuumusega ja niiskusega kohtadesse või keskkondadesse või söövitavate materjalide lähedale. Vaadake tööparameetreid kasutusjuhendist.

Enne käivitamist jätke jahutatavad vesivannid püstisesse asendisse toatemperatuuril (~25°C) 24-ks tunniks. See tagab määrdeõli voolamise tagasi kompressorisse.

Ühendage vesivann nõuetekohaselt maandatud seinapistikuga.

Vesivanni tagaosas asuv kontuurikaitse ei ole ettenähtud seadme toitevõrgust lahtiühendamiseks.

Kasutage ringluspumpa ainult kaasasoleva toitejuhtmega. Kui ringluspumba toitejuhet kasutatakse toitevõrgust lahtiühendamiseks, siis peab olema kogu aeg lihtsalt juurdepääsetav.

Veenduge, et elektrijuhtmed ei puutu kokku toruühendustega või torudega.

Äge kunagi rakendage võrgupinget vesivanni mistahes andmesideühendustele.

Veenduge, et kasutatavad torud vastavad maksimaalsetele temperatuuri ja surve nõuetele.

Enne käivitamist veenduge, et kõik elektriühendused ja vajadusel ka andmesideühendused, on teostatud nõuetekohaselt.

Kasutatavad jahutusained on õhust raskemad ning tõrjuvad lekke korral õhu välja ning võivad põhjustada meelemärkuse kadu. Lekkiva jahutusainega kokkupuutumine põhjustab nahapõletusi. Lisateabeks kasutatava jahutusaine kohta vaadake ringluspumba andmeplaati ja tootja kõige hilisemat ohutuskaarti (SDS, MSDS, EL ohutuskaart).

Veenduge, et mahuti kõik tühjendusavad on suletud ning toruühendused on kindlalt kinni. Enne vesivanni täitmist veenduge, et see on täiesti puhas.

Mahavoolamise ärahoidmiseks asetage mahutid vesivanni enne vesivanni täitmist.

Soojendamisel õlialusel vedelikud paisuvad. Vältige mahuti ületäitmist.

Kasutage ainult kasutusjuhendis kirjeldatud heakskiidetud vedelikke. Muude vedelike kasutamine muudab garantii kehtetuks. Ärge kunagi kasutage 100%-st glükooli.

Kui kasutate üle 80°C vett, siis jälgige tähelepanelikult vedeliku taset, vajadusel lisage vedelikku juurde. See võib põhjustada auru teket.

Vesi/glükool segude korral on vaja lisada puhast vett, vastasel juhul suureneb glükooli sisaldus, mis toob kaasa suurema viskoossuse ja mittenõuetekohase toimimise.

Veest erinevate heakskiidetud vedelike kasutamisel või hoolduse korral, kus on tõenäoline kokkupuude vedelikega, vaadake ohutusnõuete järgimiseks tootja ohutuskaarti (SDS, MSDS, EL ohutuskaart).

Veenduge, et vedelik ei tekita mürgiseid gaase. Kasutamise ajal võivad vedeliku kohale tekkida tuleohtikud gaasid.

Etüleenglükooli ja vee kasutamisel kontrollige regulaarselt vedeliku kontsentratsiooni ja pH-taset. Kontsentratsiooni ja pH-taseme muutused võivad mõjutada süsteemi toimimist.

Veenduge, et temperatuurikaitse väljalülitamispunkt on seadistatud madalamale, kui valitud soojuskandja vedeliku süttimispunkt.

Kõige kõrgem töötemperatuur vastavalt EN 61010 (IEC 1010) standardile peab olema seadistatud 25°C võrra madalamale tasemele, kui on veevanni vedeliku süttimispunkt.

Veenduge, et vedelik on enne käsitlemist või väljalaskmist ohutul temperatuuril (alla 40°C).

Ärge kasutage kunagi kahjustatud või lekkivat seadet või kahjustatud toitejuhtmega seadet.

Ärge kasutage vesivanni kunagi ilma vedelikuta mahutiga.

Ärge kasutage vesivanni või lisage vedelikku eemaldatud paneelidega mahutisse.

Ärge puhastage vesivanni lahustitega, kasutage pehmet lappi ja vett.

Tühjendage mahuti enne transportimist ja/või enne ladustamist külmumistemperatuuri lähedal või sellest allpool.

Enne seadme liigutamist või mistahes hooldustööde läbiviimist lülitage vesivann alati välja ja ühendage lahti toitevõrgust. Hooldamisel ja remondi korral pöörduge kogemustega tehniku poole.

Vesivanni transportimisel olge eriti ettevaatlikud. Ootamatud põrutused ja kukkumised võivad kahjustada seadme komponente.

Kui mahavoolanud materjal on ohtlik, siis vastutab desinfitseerimise eest kasutaja. Desinfitseerimise ja puhastusainete sobivuse osas võtke ühendust tootjaga.

Kui vesivanni on vaja transportida ja/või ladustada madalate temperatuuride tingimustes, siis tuleb see tühjaks lasta ning seejärel loputada laboris kasutatava glükooli/vee 50/50 seguga.

Kasutusest eemaldamisel pöörduge sertifitseeritud seadmeid kasutava kogemustega ettevõtte poole. Järgige kõiki kehtivaid eeskirju.

Kasutusjuhendis kirjeldamata paigaldamis-, töötamis- või hooldusprotseduurid võivad kaasa tuua ohtliku olukorra ning muudavad garantii kehtetuks.

VersaCool ringlusega vesivanni paigaldamine:

Välise ringlussüsteemi toruühendused asuvad vesivanni taga. ⇦ tagastusvool välisest seadmest. ⇨ väljavool välisesse seadmesse (toitepool). Ühendused on 16M x 1 (sisekeermega). Tarnekomplektis olevate ¼″, ½″, 8 mm või 12 mm vooliku kinnitusotsikute paigaldamiseks eemaldage ülemutrid ja plaadid. Kiirlukkudega kasutakse tarnekomplektis olevaid ¼″ MNPT ja ½″ MNPT vooliku kinnitusotsikuid.

Vesivanni torustiku kahjustamise ärahoidmiseks kasutage väliste ühenduste eemaldamisel/paigaldamisel 19 mm silmusvõtit. Vaadake joonist 1.

Märkus: Välise ringluse mittekasutamisel tuleb toruühendused sulgeda korkidega.

Täitke mahuti aeglaselt kuni MIN ja MAX tähistustuste vahele.

Pärast toitejuhme ühendamist viige vesivanni tagaosas asub kontuurikaitse ▮ asendisse. Vaadake joonist 2.

Joonis 1

Joonis 2

Seejärel kuvatakse koheselt kuvarile:

Seejärel ilmub seadistamise viisardi kuva:

FI

Consignes de sécurité
Bains de laboratoire

Si vous ne comprenez pas l'une de ces instructions, reportez-vous au manuel ou contactez-nous avant d'effectuer une opération.

Sécurité, tous les produits :

⚠ DANGER indique une situation de danger imminent qui, si elle n'est pas évitée, peut entraîner une blessure grave ou mortelle.

⚠ WARNING indique une situation de danger potentiel qui, si elle n'est pas évitée, pourrait entraîner une blessure grave ou mortelle.

⚠ CAUTION indique une situation de danger potentiel qui, si elle n'est pas évitée, peut entraîner une blessure légère à modérée. Ce symbole est également utilisé pour mettre en garde contre des pratiques dangereuses.

 ce symbole avertit l'utilisateur de la présence d'une « tension dangereuse » non isolée dans l'enceinte du circulateur. La magnitude de la tension est suffisante pour constituer un risque d'électrocution.

 indique la présence de surfaces chaudes.

 indique qu'il convient de lire le manuel.

N'utilisez pas le bain comme appareil stérile ou relié au patient. En outre, le bain n'est pas prévu pour une utilisation dans des emplacements dangereux de classe I, II ou III, tels que définis par le National Electrical Code.

Ne placez jamais le bain dans un endroit ou sous une atmosphère présentant un excès de chaleur, d'humidité ou des matériaux corrosifs. Reportez-vous au mode d'emploi pour connaître les paramètres de fonctionnement.

Conservez les bains réfrigérés en position verticale à température ambiante (~25°C) pendant 24 heures avant leur démarrage. Cette opération permet de rediriger l'huile de lubrification vers le compresseur.

Branchez le bain sur une prise correctement mise à la terre.

Le protecteur de circuit situé à l'arrière du bain n'est pas destiné à faire office de dispositif de sectionnement.

Faites fonctionner le circulateur uniquement avec le cordon d'alimentation fourni. Si le cordon d'alimentation du circulateur est utilisé comme dispositif de sectionnement, il doit être facilement accessible à tout moment.

Vérifiez que les cordons électriques ne sont pas en contact avec un tuyau ou un raccordement de plomberie.

Ne mettez jamais les raccordements de communication du bain sous tension.

Vérifiez que les tuyaux choisis répondent à vos exigences maximales de température et de pression.

Vérifiez que tous les raccordements électriques et, le cas échéant, de communication, sont exécutés avant le démarrage.

Les réfrigérants utilisés sont plus lourds que l'air. En cas de fuite, ils chassent l'oxygène et provoquent une perte de connaissance. Tout contact avec la fuite de réfrigérant peut causer des brûlures cutanées.

Reportez-vous à la plaque signalétique du circulateur pour connaître le type de réfrigérant utilisé. Lisez également la fiche de données de sécurité (SDS, anciennement MSDS) américaine la plus récente du fabricant ainsi que la fiche de données de sécurité européenne pour obtenir des informations complémentaires.

Vérifiez que les orifices de vidange du réservoir sont fermés et que les raccordements de plomberie sont bien fixés. Vérifiez également qu'il n'y a pas de résidus avant de procéder au remplissage.

Placez vos contenants dans le bain avant de le remplir afin d'éviter de les renverser.

Les liquides à base d'huile se dilatent lorsqu'ils sont chauffés. Évitez de trop remplir le réservoir.

Utilisez uniquement les liquides approuvés cités dans le manuel. L'utilisation d'autres liquides annulent la garantie. N'utilisez jamais du glycol pur.

Si vous utilisez de l'eau à une température supérieure à 80°C, surveillez de près le niveau de liquide. Des remplissages fréquents seront nécessaires. L'eau crée également de la vapeur.

Les mélanges eau/glycol nécessitent des remplissages d'eau pure. Autrement, le pourcentage de glycol augmente, causant ainsi une forte viscosité et de faibles performances.

Excepté pour l'eau, avant d'utiliser un liquide approuvé, ou de procéder à une opération de maintenance pouvant comporter un contact avec le liquide, reportez-vous aux fiches de données de sécurité du fabricant et de l'Union européenne pour connaître les précautions de manipulation.

Vérifiez qu'aucun gaz toxique n'est produit par le liquide. Les gaz inflammables peuvent s'accumuler au-dessus du liquide lors de son utilisation.

Si vous utilisez de l'éthylène glycol et de l'eau, vérifiez régulièrement la concentration du liquide et le pH. Des modifications de la concentration et du pH peuvent affecter les performances du système.

Vérifiez que le point de coupure haute température est défini sous le point de feu pour le liquide caloporteur choisi.

La température de fonctionnement la plus élevée, telle que définie par l'EN 61010 (IEC 1010), doit être limitée à 25°C sous le point de feu du liquide du bain.

Vérifiez que le liquide est à une température sûre (en dessous de 40°C) avant de le manipuler ou de le vidanger.

Ne faites jamais fonctionner un équipement endommagé, qui fuit ou dont les cordons sont usés.

Ne faites jamais fonctionner le bain lorsque le réservoir est vide.

Ne faites jamais fonctionner le bain ou n'ajoutez jamais de liquide au réservoir lorsque les panneaux sont déposés.

Ne nettoyez pas le bain avec des solvants. Utilisez un chiffon doux et de l'eau.

Vidangez le réservoir avant de le transporter et/ou de le stocker aux températures de congélation ou en dessous.

Éteignez le bain et débranchez la tension d'alimentation de sa source avant de déplacer ou de procéder à une opération de réparation ou de maintenance. Confiez les entretiens et réparations à un technicien qualifié.

Transportez le bain avec précaution. Les secousses ou les chutes peuvent endommager les composants.

L'utilisateur est responsable de la décontamination si des matériaux dangereux sont renversés. Consultez le fabricant pour connaître la procédure de décontamination et.ou la compatibilité des agents de nettoyage.

Il convient de vidanger et de rincer le bain à l'aide d'un mélange composé à parts égales d'eau et de glycol de qualité de laboratoire s'il doit être transporté et/ou stocké sous des températures basses.

La mise hors service doit être effectuée par un revendeur qualifié à l'aide d'un équipement certifié. Toutes les réglementations en vigueur doivent être respectées.

L'exécution des procédures d'installation, de fonctionnement ou de maintenance autres que celles décrites dans le manuel peuvent créer une situation dangereuse et annuler la garantie du fabricant.

Ne branchez pas le bain sur une prise avec disjoncteur différentiel de 10 mA ou moins.

Si des prises avec disjoncteur différentiel sont nécessaires au point d'installation, il est recommandé d'utiliser les modèles de plus de 10 mA.

Afin d'éviter la congélation, ne faites jamais fonctionner le bain en dessous de 5°C si le réservoir contient uniquement de l'eau.

Pour un fonctionnement avec de l'huile de silicone au-dessus de 125°C et à une température ambiante d'au moins 35°C, prévoyez un espace minimum de 30,5 cm sur un côté, libre de l'autre côté et de 15 cm à l'arrière.

Réglez le logiciel du bain afin de concorder avec le liquide utilisé.

Installation pour le bain à circulation

Les raccordements de plomberie pour la circulation externe se situent à l'arrière du bain.  correspond au débit de retour de l'application externe.  correspond au débit de sortie vers l'application externe (côté alimentation). Les raccordements sont mâles 16M x 1. Déposez les écrous de raccord et les plaques pour installer les raccords cannelés de 8 mm et 12 mm, ¼″, ½″, fournis. Des raccords cannelés ¼″ MNPT et ½″ MNPT sont également fournis comme déconnexions rapides.

Pour éviter d'endommager la plomberie du bain, utilisez une clé de 19 mm lors de la dépose ou de l'installation des raccordements externes. Voir Figure 1.

Remarque : si vous n'utilisez pas de circulation externe, bouchez les raccordements de plomberie.

Remplissez doucement le réservoir entre les lignes MIN et MAX.

Après avoir branché le cordon électrique, placez le protecteur de circuit situé à l'arrière du bain sur la position **I**. Voir Figure 2.

Figure 1

Figure 2

Ensuite, l'écran tactile affiche momentanément :

Ensuite l'écran de l'assistant d'installation apparaît.

GA

Treoracha Riachtanacha Sábháilteachta Folcadáin Saotharlainne

Má tá aon treoir ann nach dtuigtear, ceadaigh an lámhleabhar nó déan teagmháil linn sula dtéann tú níos faide.

Sábháilteacht, gach táirge:

DANGER léiríonn sé staid ghuaiseach as a leanfaidh bás nó tromghortú, mura seachnaítear í.

WARNING léiríonn sé staid ghuaiseach, a bhféadfadh bás nó tromghortú a bheith ina thoradh air, mura seachnaítear í.

CAUTION léiríonn sé staid ghuaiseach, as a leanfaidh mionghortú nó dochar measartha, mura seachnaítear í. Úsáidtear é, leis, chun rabhadh a thabhairt i gcás cleachtais neamhshábháilte.

ceaptha leis an úsáideoir a chur ar an eolas maidir le “voltas contúirteach” neamhinslithe laistigh d’imfhálú an fhuaraitheora. Tá an voltas suntasach a dhóthain le bheith ina bhaol turrainge leictrí.

léiríonn sé dromchlaí te.

léiríonn sé gur chóir an lámhleabhar a léamh.

Ná húsáid an trealamh mar ghléas steiriúil nó mar ghléas a nasctar le hothar. Lena chois sin, níor ceapadh an trealamh lena úsáid i Láithreacha Guaiseacha Aicme I, II nó III mar a shainmhínítear sa Chód Náisiúnta Leictreach.

Ná cuir an folcadán in áit nó in atmaisféar ina bhfuil teas iomarcach, taise, nó ábhair chreimneacha. Ceadaigh lámhleabhar an úsáideora go bhfeice tú na paraiméadair oibríochtúla.

Fág folcadáin chuisniúcháin ina seasamh go hingearach ag teocht an tseomra (~25°C) ar feadh 24 uaire sula dtosaítear iad. Cinntíonn sé sin go ndraenálann an ola bealaithe ar ais isteach sa chomhbhrúiteoir.

Ceangail an trealamh d’asraon atá talmhaithe i gceart.

Níl an cosantóir ciorcaid atá suite ar chúl an fholcadáin ceaptha le gníomhú mar mhodh dícheangail.

Ná hoibrigh an t-athfhillteoir ach amháin leis an corda líne soláthraithe. Má úsáidtear corda cumhachta an athfhillteora mar ghléas dícheangail, ní mór teacht a bheith air i gcónaí.

Cinntigh nach mbíonn aon teagmháil idir na cordaí leictreacha agus aon cheann de na naisc nó an feadánra pluiméireachta.

Ná cuir voltas líne i bhfeidhm ar aon cheann de naisc chumarsáide an fholcadáin.

Cinntigh go gcomhlíonann an feadánra a roghnaíonn tú na riachtanais uasteochta agus uasbhrú.

Cinntigh go ndéantar gach nasc leictreach, agus más cuí, gach nasc cumarsáide sula dtosaítear.

Is airde ná aer na cuisneáin a úsáidtear, agus má bhíonn sceitheadh ann, gabhfaidh siad áit na hocsaigine as a leanfaidh cailliúint comhfheasa. Dófar craiceann i gcás teagmháil idir craiceann agus sceitheadh cuisneáin. Féach ainmphláta an dáileora go bhfeice tú an cineál cuisneáin a úsáidtear agus ansin féach Leathanach Sonraí Sábháilteachta SA is déanaí an déantóra, an rud a dtugtaí an MSDS air cheana, agus Leathanach Sonraí Sábháilteachta AE chun breis eolais a fháil.

Cinntigh go bhfuil aon phort draenála taiscumair dúnta agus go bhfuil gach nasc pluiméireachta daingean. Cinntigh, leis, go mbaintear aon iarmhar go hiomlán sula líontar.

Chun doirteadh a sheachaint, cuir do ghabhdáin isteach san fholcadán sula líontar iad.

Fairsingíonn leachtanna ola-bhunaithe tar éis iad a théamh. Seachain nach rólíontar an taiscumar.

Ná húsáid ach na leachtanna ceadaithe atá liostaithe sa lámhleabhar. Cuirtear an baránta ar neamhní má úsáidtear leachtanna eile. Ná húsáid gliocól 100% riamh.

Agus uisce is teo ná 80°C á úsáid, coimeád súil ghéar ar leibhéal an leachta, beidh gá leis an leacht a bharrlíonadh go minic. Cruthófar gal, leis.

Is gá íonuisce a chur le meascáin uisce/gliocóil, nó méadóidh céatadán an ghliocóil as a leanfaidh ardslaodacht agus drochfheidhmíocht.

Sula n-úsáidtear aon leacht ceadaithe seachas uisce, nó nuair a bhíonn cothabháil á déanamh nuair is dócha go mbeadh teagmháil leis an leacht, ceadaigh SDS agus Leathanach Sonraí Sábháilteachta AE an déantóra go bhfeice tú na réamhchúraimí láimhsithe.

Cinntigh nach féidir leis an leacht aon gháis thocsaineacha a ghiniúint. Is féidir le gáis inadhainte cruinniú os cionn an leachta fad a bhíonn sé in úsáid.

Agus gliocóil eitiléine agus uisce á n-úsáid, seiceáil tiúchan an leachta agus an pH ar bhonn rialta. Is féidir le hathruithe ar thiúchan agus ar pH difear a dhéanamh d’fheidhmíocht an chórais.

Cinntigh go socraítear pointe scoir na huasteochta faoi bhun an phointe dóiteáin i gcás an leachta aistrithe teasa a roghnaítear.

Ní mór an teocht oibre is airde, mar a shainmhínítear in EN 61010 (IEC 1010), a bheith teoranta ag 25°C faoi bhun phointe dóiteáin an leachta folcadáin.

Cinntigh go bhfuil an leacht ag teocht sábháilte (faoi bhun 40°C) sula láimhseálann nó sula ndraenálann tú é.

Ná hoibrigh riamh le trealamh damáistithe nó trealamh atá ag sceitheadh, ná le haon chorda damáistithe.

Ná hoibrigh an folcadán riamh gan leacht a bheith sa taiscumar.

Ná hoibrigh an folcadán agus ná cuir leacht leis an taiscumar fad a bhíonn na painéil bainte.

Ná glan an folcadán le tuaslagóir, úsáid ceirt bhog agus uisce.

Draenáil an taiscumar sula ndéantar é a iompar, agus/nó a stóráil gar don reophointe nó faoina bhun.

Cas an folcadán as i gcónaí agus dícheangail an voltas soláthair óna fhoinse cumhachta sula mbogtar an

folcadán nó sula ndéantar aon seirbhísiú nó obair chothabhála. Iarr ar theicneoir cáilithe gach seirbhísiú agus deisiú a dhéanamh.

Iompar an folcadán go cúramach. Is féidir le croitheadh nó ísliú tobann na comhpháirteanna a dhamáistiú.

Is é an t-úsáideoir a bheidh freagrach as dí-éilliú má dhoirtear ábhair ghuaiseacha. Ceadaigh an déantóir maidir le dí-éilliú agus nó oiriúnacht oibreán glantacháin.

Má tá an folcadán le hiompar agus/nó a stóráil ag teocht fuar ní mór é a dhraenáil agus a shruthlú ina dhiaidh sin le meascán gliocóil/uisce 50/50 de ghrád saotharlainne.

Níor chóir ach do dhéileálaí cáilithe, a úsáideann trealamh deimhnithe, an gléas a dhíchoimisiúnú. Ní mór cloí le gach rialachán atá i bhfeidhm.

Féadfaidh staid ghuaiseach agus cur ar neamhní bharánta an déantóra a bheith ina thoradh ar fheidhmiú na nósanna imeachta suiteála, oibriúcháin nó cothabhála seachas iad siúd a ndéantar cur síos orthu sa lámhleabhar.

Níl an folcadán ceaptha le húsáid le hasraonta idirscorthóra ciorcaid i gcás fabht talmhaithe (GFI) a bhfuil 10 mAmp nó faoina bhun de rátáil acu.

Más gá asraonta GFI ag an bpointe suiteála, moltar asraonta GFI Cosanta Trealaimh a bhfuil 10 mAmp nó os a chionn de rátáil acu, a úsáid.

Chun reo a sheachaint, ná hoibrigh an folcadán riamh faoi bhun 5°C gan ach uisce sa taiscumar.

Chun oibriú le hOla Sileacóin os cionn 125°C agus 35°C de theocht timpeallachta nó os a cionn is gá 12” d’íosachar spáis ar thaobh amháin, é a bheith ar oscailt ar an taobh eile agus 6” de spás ar chúl.

Coigeartaigh bogearraí an fholcadáin de réir an leachta a úsáidtear.

Le Folcadán Fuaraithe VersaCool a shuiteáil

Gheofar na naisc phluiméireachta le haghaidh athfhilleadh seachtrach ar chúl an fholcadáin.  seo an sreabhadh fillte ón fheidhmiúchán seachtrach.  seo an sreabhadh asraoin chuig an bhfeidhmiúchán seachtrach (an taobh soláthair). Naisc fhireanna16M x 1 iad. Bain na cnónna agus na plátaí aontais chun na frídíní píobáin soláthraithe ¼”, ½”, 8 mm nó 12 mm a shuiteáil. Cuirtear frídíní píobáin ¼” MNPT agus ½” MNPT ar fáil, leis, le húsáid le dínaisc thapa.

Chun damáiste do phluiméireacht an fholcadáin a sheachaint, úsáid rinse tacaíochta 19 mm agus naisc sheachtracha á mbaint/á suiteáil. Féach Figiúr 1.

Nóta: Ní mór na naisc phluiméireachta a bheith caidhpeáilte nuair nach bhfuil an t-athfhilleadh seachtrach in úsáid.

Líon an taiscumar idir na línte cearta líonta MIN agus MAX go mall.

Tar éis an corda cumhachta a cheangal, cuir an cosantóir ciorcaid atá suite ar chúl an fholcadáin i riocht **I**. Féach Figiúr 2.

Figiúr 1.

Figiúr 2.

Ansin beidh an méid seo a leanas le léamh ar an scáileán tadhaill ar feadh nóiméid:

Thermo SCIENTIFIC

Ansin feicfear Taispeáint an Draoi Chumraithe.

Thermo SCIENTIFIC

HR

Osnovne sigurnosne upute
Laboratorijska korita

Ako ne razumijete bilo koje od ovih uputa, pogledajte priručnik ili nas kontaktirajte prije nego što nastavite.

Sigurnost, svi proizvodi:

DANGER označava neposrednu opasnost koja će, ako se ne izbjegne, uzrokovati smrt ili tešku ozljedu.

WARNING označava moguću opasnu situaciju koja, ako se ne izbjegne, može uzrokovati smrt ili tešku ozljedu.

CAUTION označava moguću opasnu situaciju koja, ako se ne izbjegne, može uzrokovati manju ili srednje tešku ozljedu. Također se može koristiti da upozori na nesigurne radnje.

 upozorava korisnika na prisutnost neizoliranog „opasnog napona“ unutar kućišta cirkulatora. Napon je dovoljno velik da predstavlja opasnost od strujnog udara.

 ukazuje na prisutnost vrućih površina.

 ukazuje da je potrebno pročitati priručnik.

Nemojte koristiti korito kao sterilni proizvod ili proizvod povezan na pacijenta. Pored toga, korito nije predviđeno za upotrebu na opasnim lokacijama klase I, II ili II prema definicijama Nacionalnog električnog standarda (engl. National Electrical Code).

Nikad nemojte postavljati korito gdje je prisutna prekomjerna toplina, vlažnost ili nagrizajući materijali. Radni parametri navedeni su u korisničkom priručniku.

Prije pokretanja ostavite hlađena korita u uspravnom položaju 24 sata na sobnoj temperaturi (~25 °C). Na ovaj se način osigurava da ulje za podmazivanje istekne nazad u kompresor.

Povežite korito na pravilno uzemljenu utičnicu.

Osigurač koji se nalazi sa stražnje strane korita nije predviđen da se koristi kao uređaj za iskopčavanje.

Koristite cirkulator samo s priloženim kabelom. Ako se kabel za napajanje cirkulatora koristi kao uređaj za iskopčavanje, mora uvijek biti lako dostupan.

Pazite da električni kabeli ne dođu u dodir s vodovodnim priključcima ili cijevima.

Nikad nemojte primjenjivati linijski napon na komunikacijske priključke korita.

Pazite da odabrane cijevi ispunjavaju zahtjeve za maksimalnu temperaturu i tlak.

Pazite da postavite sve električne i, ako postoje, komunikacijske priključke prije pokretanja.

Korištena sredstva za hlađenja teža su od zraka i, ako dođe do curenja, zamijenit će kisik te dovesti do gubitka svijesti. Kontakt sa sredstvom za hlađenje koje curi uzrokuje opekline. Pogledajte natpisnu pločicu cirkulatora za vrstu korištenog sredstva za hlađenje, a zatim potražite dodatne informacije u najnovijem sigurnosno-tehničkom listu za US (engl. Safety Data Sheet; SDS), ranije poznatom kao MSDS, kao i sigurnosno-tehničkom listu za EU.

Provjerite jesu li svi odvodni otvori rezervoara zatvoreni i svi vodovodni priključci pričvršćeni. Također temeljito uklonite sve ostatke prije punjenja.

Da izbjegnete prosipanje, postavite spremnike u korito prije punjenja.

Tekućine na bazi ulja se šire prilikom zagrijavanja. Nemojte prepunjavati rezervoar.

Koristite samo odobrene tekućine navedene u priručniku. Korištenje drugih tekućina poništava jamstvo. Nikad nemojte koristiti stopostotni glikol.

Prilikom upotrebe vode preko 80 °C pozorno pratite razinu tekućine, jer će biti potrebna česta dolijevanja. Također se stvara para.

Smjese voda/glikol zahtijevaju dolijevanje čiste vode, jer će se u suprotnom postotak glikola povećati i dovesti do visoke viskoznosti i slabih performansi.

Prije korištenja bilo koje odobrene tekućine, osim vode, ili prilikom obavljanja postupaka održavanja u kojima će vjerojatno doći do kontakta s tekućinom, pogledajte mjere predostrožnosti prilikom rukovanja u sigurnosno-tehničkom listu proizvođača i EZ sigurnosno-tehničkom listu.

Pazite da tekućina ne može proizvesti nikakve otrovne plinove. Zapaljivi plinovi mogu se nakupiti nad tekućinom tijekom upotrebe.

Prilikom upotrebe etilen glikola i vode redovito provjeravajte koncentraciju tekućine i pH vrijednost. Promjene u koncentraciji i pH vrijednosti mogu utjecati na performanse sustava.

Pazite da prekidna temperaturna točka bude postavljena niže od temperature paljenja za odabranu tekućinu za prijenos topline.

Najviša radna temperatura, prema definicijama standarda EN 61010 (IEC 1010), mora biti ograničena na 25 °C ispod temperature paljenja tekućine korita.

Pazite da tekućina bude na sigurnoj temperaturi (ispod 40 °C) prije rukovanja ili ispuštanja.

Nikad nemojte koristiti oštećenu opremu ili opremu koja propušta, kao ni opremu s oštećenim kabelima.

Nikad nemojte koristiti korito ako u rezervoaru nema tekućine.

Nikad nemojte koristiti korito za dodavanje tekućine u rezervoar sa skinutim pločama.

Nemojte koristiti otapala za čišćenje korita, već koristite meku krpu i vodu.

Ispraznite rezervoar prije prenosa i/ili pohrane na temperaturama blizu ili ispod točke smrzavanja.

Uvijek isključite korito i iskopčajte napon izvora napajanje iz izvora napajanje prije pomicanja ili obavljanja bilo kakvih postupaka servisiranja ili održavanja. Servisiranje i popravke treba obavljati kvalificirani serviser.

Oprezno prenosite opremu. Naglo drmanje ili ispuštanje opreme može oštetiti njene komponente.

Korisnik je odgovoran za dekontaminaciju ako dođe do prosipanja opasnih materijala. Obratite se proizvođaču u vezi s kompatibilnošću sredstava za dekontaminaciju ili čišćenje.

Ako se korito prenosi i/ili pohranjuje na niskim temperaturama, potrebno ga je isprazniti, a zatim isprati smjesom od 50/50 laboratorijskog glikola/vode.

Stavljanje izvan pogona mora obaviti isključivo kvalificirani trgovac pomoću certificirane opreme. Moraju se slijediti svi važeći propisi.

Obavljanje postupaka ugradnje, korištenja ili održavanja koji nisu opisani u priručniku može dovesti do opasne situacije i poništava jamstvo proizvođača.

Korito nije namijenjeno za upotrebu s utičnicama sa zaštitom od strujnog udara (GFI) s nazivnom vrijednošću od 10 mAmp ili nižom.

Ako su GFI utičnice potrebne tijekom ugradnje, preporučuju se GFI utičnice s nazivnom vrijednošću iznad 10 mAmp.

Da bi se spriječilo smrzavanje, nikad nemojte koristiti korito ispod 5 °C kada se u rezervoaru nalazi samo voda.

Upotreba silikonskog ulja na temperaturi iznad 125 °C i temperaturi okruženja od 35 °C ili iznad zahtijeva minimalni razmak od 12" (30,48 cm) s jedne strane, otvoren prostor s druge strane i 6" (15,24 cm) sa stražnje strane.

Podesite softver korita tako da odgovara korištenoj tekućini.

Ugradnja cirkulirajućeg korita VersaCool:

Vodovodni priključci za vanjsko cirkuliranje nalaze se sa stražnje strane korita.  označava povratni protok od vanjskog uređaja.  označava izlazni protok ka vanjskom uređaju (strana s koje se vrši snabdijevanje). Priključci su muški 16M x 1. Skinite matice i ploče da postavite priložene priključke za crijevo od ¼", ½", 8 mm ili 12 mm. Također su priloženi MNPT priključci za crijevo od ¼" i ½" koji se koriste s brzim iskopčavanjem.

Kako bi se spriječilo oštećenje vodovoda korita potrebno je koristiti podešavajući ključ od 19 mm za skidanje/postavljanje vanjskih priključaka. Pogledajte sliku 1.

Napomena: Kada se vanjsko cirkuliranje ne koristi, vodovodni priključci moraju se zatvoriti čepovima.

Polako napunite rezervoar do razine između oznaka MIN i MAX.

Nakon povezivanja kabela za napajanje postavite osigurač koji se nalaze sa stražnje strane korita u položaj **I**. Pogledajte sliku 2.

Slika 1

Slika 2

Zaslon na dodir će potom nakratko prikazati:

Zatim će se pojaviti zaslon čarobnjaka za podešavanje.

HU

Alapvető biztonsági utasítások
Laboratóriumi fürdők

Ha valamelyik utasítást nem érti, lapozza fel a kézikönyvet, vagy forduljon hozzánk, mielőtt folytatná a munkát.

Biztonság – összes termék:

DANGER Közvetlen veszélyhelyzetet jelez, amely halált vagy súlyos sérülést okoz, ha meg nem előzik.

WARNING Potenciálisan veszélyes helyzetet jelez, amely halált vagy súlyos sérülést okoz, ha meg nem előzik.

CAUTION Potenciálisan veszélyes helyzetet jelez, amely enyhe, vagy közepes sérülést okozhat, ha meg nem előzik. A nem biztonságos eljárásokra is ez a jelzés figyelmeztet.

Veszélyes mértékű, nem szigetelt feszültség jelenlétére figyelmezteti a felhasználót a keringetőszivattyú házában. A feszültség nagysága elég jelentős ahhoz, hogy áramütés veszélyét jelentse.

Forró felületek okozta veszélyre figyelmeztet.

Azt jelzi, hogy el kell olvasni a használati utasítást.

Ne használja a fürdőt steril vagy beteghez csatlakoztatott eszközként. Továbbá a fürdő nem használható a National Electrical Code szabvány által definiált I., II. vagy III. osztályú veszélyes helyen.

Ne helyezze a fürdőt olyan helyre vagy légkörbe, ahol erős hő, nedvesség vagy korrozív anyagok vannak jelen. Az üzemi paraméterek megtalálhatók a felhasználói kézikönyvben.

A hűtött fürdőket használat előtt 24 órán át tartsa álló helyzetben szobahőmérsékleten (~25 °C). A kenőolaj így vissza tud folyni a kompresszorba.

Csatlakoztassa a fürdőt egy megfelelően földelt csatlakozóaljzathoz.

A fürdő hátulján található áramkörvédő nem használható megszakítóként.

A keringetőszivattyút csak a mellékelt tápkábellel használja. Ha a keringetőszivattyú tápkábele szolgál megszakítóként, akkor folyamatosan jól hozzáférhetőnek kell lennie.

Biztosítsa, hogy az elektromos vezetékek ne érintkezzenek semmilyen csővel vagy csőcsatlakozással.

Soha ne vezessen hálózati feszültséget a fürdő kommunikációs csatlakozóiba.

Olyan csővezetéket használjon, amely megfelel a maximális hőmérséklettel és nyomással kapcsolatos követelményeknek.

Indítás előtt gondoskodjon az összes elektromos – és adott esetben kommunikációs – csatlakoztatásról.

Az alkalmazott hűtőközegek nehezebbek a levegőnél, ezért szivárgás esetén kiszorítják az oxigént, ami eszméletvesztést okoz. A szivárgó hűtőközeg a bőrrel érintkezve fagyást okoz. A hűtőközeg típusa fel van tüntetve a berendezés adattábláján, további információkat pedig a gyártó legfrissebb amerikai biztonsági adatlapján (SDS, korábbi nevén MSDS) vagy európai biztonsági adatlapján találhat.

Gondoskodjon arról, hogy a tartály valamennyi ürítőnyílása zárva legyen, és minden csőcsatlakozás stabil legyen. Feltöltés előtt gondosan távolítson el minden maradványt.

Töltés előtt a kifolyás megelőzése érdekében helyezze a tartályokat a fürdőbe.

Melegítéskor az olajalapú folyadékok tágulnak. Ne töltse túl a tartályt.

Csak a kézikönyvben szereplő, jóváhagyott folyadékot használjon. Egyéb folyadék használata esetén a garancia érvénytelenné válik. Soha ne használjon 100%-os glikolt.

80 °C feletti víz használata esetén gondosan figyelje a folyadékszintet, gyakran lehet szükség utántöltésre. Emellett gőz is keletkezik.

A víz-glikol keverékeket tiszta vízzel kell feltölteni, ellenkező esetben megnövekszik a glikol koncentrációja, nagyobb lesz a viszkozitás, és gyengül a teljesítmény.

Amennyiben nem vízről van szó, bármilyen jóváhagyott folyadék használata előtt, illetve olyan karbantartás végrehajtásakor, amely várhatóan folyadékkal való érintkezéssel jár, ismerkedjen meg a kezelési óvintézkedésekkel a gyártó által kibocsátott SDS és EK biztonsági adatlap alapján.

Bizonyosodjon meg arról, hogy a folyadékból nem termelődhet mérgező gáz. A folyadék felett a használat során tűzveszélyes gázok halmozódhatnak fel.

Etilén-glikol és víz használata esetén rendszeres időközönként ellenőrizze a folyadék koncentrációját és pH-értékét. A koncentráció és a pH-érték megváltozása befolyásolhatja a rendszer teljesítményét.

A termikus lekapcsolási pontot az alkalmazott hőátadó folyadék lobbanáspontjánál kisebb értékre kell állítani.

Az EN 61010 (IEC 1010) meghatározásának megfelelő legmagasabb üzemi hőmérséklet korlátjának 25 °C-kal a fürdőfolyadék lobbanáspontja alatt kell lennie.

A folyadék kezelése vagy leeresztése előtt gondoskodjon arról, hogy az biztonságos hőmérsékletű legyen (40 °C alatt).

Ne üzemeltesse a berendezést, ha az sérült vagy szivárog, illetve ha bármelyik vezetéke sérült.

Ne üzemeltesse a fürdőt anélkül, hogy a tartályban folyadék lenne.

Ha nincs a helyén az összes panel, ne üzemeltesse a fürdőt, és ne töltsön folyadékot a tartályba.

Ne tisztítsa a fürdőt oldószerrel. Puha rongyot és vizet használjon a tisztításhoz.

Ürítse ki a tartályt, mielőtt a berendezést fagypont alatt vagy annak közelében tárolná és/vagy szállítaná.

A fürdő mozgatása, illetve szervizelési vagy karbantartási eljárás végrehajtása előtt mindig kapcsolja ki és válassza le az áramforrásról a berendezést. A szervizelést és a javítást bízza képzett szakemberre.

A fürdő szállításakor legyen óvatos. A zökkenések vagy leejtés kárt tehet a berendezés komponenseiben.

Veszélyes anyag kifolyása esetén a dekontaminálás a felhasználó felelőssége. A dekontaminálást, illetve a tisztítószerek kompatibilitását illetően forduljon a gyártóhoz.

Alacsony hőmérsékleten történő szállításhoz vagy tároláshoz a fürdőt le kell üríteni, majd laboratóriumi minőségű glikol és víz 50-50 százalékos keverékével ki kell öblíteni.

Az üzemen kívül helyezést csak szakkereskedő hajthatja végre, minősített berendezés használatával. Minden érvényben lévő előírást be kell tartani.

A telepítési, üzemeltetési, illetve karbantartási eljárásoknak a kézikönyvben foglalttól eltérő végrehajtása veszélyes helyzetet teremthet, és érvénytelenné teszi a gyártó garanciáját.

A fürdő nem csatlakoztatható 10 mA vagy ennél kisebb áramú személybiztonsági földzárlat-megszakítós (GFI) aljzathoz.

Ha a telepítés helyén GFI-aljzatra van szükség, akkor javasolt 10 mA feletti berendezésvédelmi GFI-ajzatot használni.

A fagyás megelőzése érdekében soha ne üzemeltesse a fürdőt 5 °C alatt úgy, hogy csak víz van a tartályában.

Ha a berendezést szilikonolajjal üzemelteti 125 °C felett, és a környezeti hőmérséklet 35 °C vagy magasabb, akkor a berendezés egyik oldalán legalább 30,5 cm-es szabad hely, a másik oldalán nyitott tér, mögötte pedig legalább 15,3 cm-es nyitott terület legyen.

A fürdő szoftverét állítsa be a használt folyadéknak megfelelően.

Telepítés VersaCool keringető fürdő esetén:

A külső keringetés csőcsatlakozásai a fürdő hátulján találhatók. ⇦ : visszáram a külső alkalmazásból. ⇨ : kimeneti áram a külső alkalmazásba. A csatlakozások 16M x 1 apa típusúak. Távolítsa el hollandi anyákat és a lemezeket, majd telepítse a mellékelt ¼″, ½″, 8 mm vagy 12 mm méretű tömlőcsonkokat. Gyorscsatlakozóval használható ¼″ MNPT és ½″ MNPT tömlőcsonk is mellékelve van.

A fürdő csővezetéke sérülésének megelőzése érdekében 19 mm-es racsnis kulccsal távolítsa el, illetve telepítse a külső csatlakozásokat. Lásd 1. ábra.

Fontos: Ha nem használ külső keringetést, a csőcsatlakozásokat le kell zárni.

Lassan töltse fel a tartályt a MIN és a megfelelő MAX jelzés közötti szintre.

A tápkábel csatlakoztatása után állítsa a fürdő hátsó részén található áramkörvédőt ▮ helyzetbe. Lásd 2. ábra.

1. ábra

2. ábra

Rövid időre a következő jelenik meg az érintőképernyőn:

Ezután a beállítóvarázsló kijelzője jelenik meg.

LT

Pagrindinės saugos instrukcijos Laboratorinės vonelės

Jei kurios nors iš šių instrukcijų yra nesuprantamos, prieš tęsdami skaitykite vadovą arba kreipkitės į mus.

Sauga, visi gaminiai:

DANGER nurodo neišvengiamai pavojingą situaciją, kurios neišvengus, galima mirties arba rimto sužalojimo baigtis.

WARNING nurodo galimai pavojingą situaciją, kurios neišvengus, galima mirties arba rimto sužalojimo baigtis.

CAUTION nurodo galimai pavojingą situaciją, kurios neišvengus, kyla nerimto arba vidutiniško sužalojimo tikimybė. Taip pat galima pranešti, kai yra naudojama nesaugiai.

skirta pranešti naudotojui, kai prie cirkuliatoriaus yra neizoliuota „pavojinga įtampa“. Įtampos dydis yra gana svarbus ir gali sukelti elektros šoko pavojų.

nurodo esamus karštus paviršius.

nurodo skaityti vadovą.

Nenaudokite vonelės kaip sterilaus ar prie paciento prijungto prietaiso. Be to, vonelė nėra skirtas naudoti I, II ir III klasės pavojingose vietose, kaip nurodyta Nacionaliniame elektros kodekse.

Niekada nedėkite vonelės vietoje ar ore, kur yra per didelis karštis, drėgmė ar korozinės medžiagos. Darbinių parametrų ieškokite naudotojo vadove.

Prieš įjungdami 24 valandoms palikite atšaldytas voneles vertikalioje padėtyje kambario temperatūroje (~25 °C). Taip sutepimo alyva suteka atgal į kompresorių.

Prijunkite vonelę prie tinkamai įžeminto išvado.

Grandinės saugiklis vonelės užpakalinėje dalyje yra skirtas atjungimui.

Įjunkite cirkuliatorių tik su tiekiamu linijos laidu. Jei cirkuliatoriaus maitinimo laidas yra naudojamas kaip atjungimo prietaisas, jį būtina lengvai pasiekti visuomet.

Užtikrinkite, kad elektros laidai nesiliestų su kanalizacijos jungtimis ar vamzdynu.

Niekada nejunkite linijos įtampos prie bet kurių vonelės komunikacinių jungčių.

Užtikrinkite, kad jūsų pasirinktas vamzdynas atitinka jūsų didžiausios temperatūros ir slėgio reikalavimus.

Užtikrinkite, kad visos elektros, ir jei yra, komunikacijos jungtys yra sujungtos prieš paleidžiant.

Naudojami aušalai yra sunkesni nei oras ir, esant nutekėjimui, jie išstums deguonį, dėl ko galima prarasti sąmonę. Prisilietus prie ištekėjusių aušalų, galima nudegti odą. Naudojamo aušalo tipo ir gamintojo naujausios JAV saugumo duomenų išklotinės (SDS), anksčiau žinomos kaip MSDS bei ES saugumo duomenų išklotinės papildomos informacijos ieškokite cirkuliatoriaus techninių duomenų lentelės.

Užtikrinkite, kad visi rezervuaro drenažo prievadai yra uždaryti ir visos kanalizacijos jungtys yra apsaugotos. Taip pat užtikrinkite, kad bet prieš pildant būtų nuvalytos visos nuosėdos.

Vengdami išsiliejimo, prieš pildami padėkite savo konteinerius į vonelę.

Įšilę skysčiai aliejaus pagrindu plečiasi. Venkite rezervuaro perpildymo.

Naudokite tik vadove išvardintus patvirtintus skysčius. Kitų skysčių panaudojimas panaikina garantiją. Niekada nenaudokite 100 % glikolio.

Naudodami aukštesnės nei 80 °C temperatūros vandenį, atidžiai stebėkite skysčio lygį, reikės dažnai papildyti. Jis taip pat garuoja.

Vandens / glikolio mišiniams reikės papildymo grynu vandeniu, kitaip glikolio koncentracija kils ir didės klampa bei prastės veikimas.

Be vandens, prieš naudodami kitą patvirtintą skystį arba atlikdami priežiūrą, kur galimas kontaktas su skysčiu, tvarkymo atsargumo priemonių ieškokite gaminto SDS ir EB saugos duomenų išklotinę.

Užtikrinkite, kad skystis negarins toksinių dujų. Naudojimo metu virš skysčio gali susikaupti degios dujos.

Naudodami etileno glikolį ir vandenį, reguliariai tikrinkite skysčio koncentraciją ir pH. Koncentracijos ir pH pakitimai gali turėti įtakos sistemos veikimui.

Užtikrinkite, kad per didelės temperatūros atkirtimo taškas yra nustatytas žemiau nei pasirinkto karščio perdavimo skysčio degimo taškas.

Aukščiausia darbinė temperatūra, kaip apibrėžta EN 61010 (IEC 1010), turi būti ribojama 25 °C žemiau vonelės skysčio degimo taško.

Prieš tvarkydami ar išpildami, užtikrinkite, kad skystis yra saugioje temperatūroje (žemiau 40 °C).

Niekada nenaudokite pažeistos ar pratekančios įrangos arba pažeistų laidų.

Niekada nenaudokite vonelės be skysčio rezervuare.

Niekada nenaudokite vonelės ir nepilkite skysčio į rezervuarą su nuimtais skydeliais.

Nevalykite vonelės tirpikliais, naudokite minkštą medžiagą ir vandenį.

Ištuštinkite rezervuarą prieš transportuodami ir / arba sandėliuodami artimoje užšalimui ar žemesnėje temperatūroje.

Visada išjunkite vonelę ir atjunkite maitinimo įtampą nuo jos elektros šaltinio prieš perkeldami ir prieš atlikdami bet kokias aptarnavimo ar priežiūros procedūras. Aptarnavimo ir remonto kreipkitės į kvalifikuotą techniką.

Vonelę transportuokite atsargiai. Staigūs krestelėjimai arba kritimai gali pažeisti jos komponentus.

Naudotojas yra atsakingas už išvalymą, jei išsilieja pavojingos medžiagos. Dėl išvalymo ir / arba valiklių suderinamumo kreipkitės į gamintoją.

Jei vonelė yra transportuojam ir / arba saugoma žemoje temperatūroje, ją reikia išleisti ir praskalauti 50/50 laboratorijoje sumaišytą glikolio / vandens mišinį.

Eksploatacijos nutraukimą turi atlikti tik kvalifikuotas pardavėjas, naudojantis sertifikuotą įrangą. Reikia laikytis visų galiojančių nuostatų.

Kitokių įrengimo, naudojimo ir priežiūros procedūrų nei nurodyta vadove gali sukelti pavojingą situaciją ir anuliuoja gamintojo garantiją.

Papildomos saugos priemonės, „VersaCool“ cirkuliuojančios vonelė:

Vonelės nėra skirtos naudoti su Asmeniniu apsauginio įžeminimo gedimo pertraukikliais (GFI) išvedimais su 10 mAmp ar žemesniu nominalu.

Jei GFI išvadai yra reikalingi įrengimo taške, rekomenduojami Įrangos apsaugos GFI išvadai su nominalu, aukštesniu nei 10 mAmp.

Kad neužšaltų, niekada nenaudokite vonelės žemesnėje nei 5 °C temperatūroje tik su vandeniu.

Silicio alyvos aukštesnėje nei 125 °C ir 35 °C aplinkos ar aukštesnėje temperatūroje naudojimui reikia mažiausiai 12 colių tarpo vienoje pusėje, atviro tarpo kito ir 6 colių tarpo užpakalyje.

Reguliuokite vonelės programinę įrangą, kad ji atitiktų naudojamą skystį.

„VersaCool“ cirkuliacinės vonelės įrengimas:

Kanalizacijos jungtys išorinei cirkuliacijai yra vonelės užpakalinėje dalyje. ⇦ yra atgalinė išorinio pritaikymo tėkmė. ⇦ yra išvado į išorinį tiekimą (tiekimo pusė) tėkmė. Jungtys yra 16M x 1 kištukai. Nuimkite sujungimo veržles ir plokšteles, kad galėtumėte įrengti tiekiamas ¼ col., ½ col., 8 mm arba 12 mm žarnos užkarpas. Taip tiekiamos ¼ col. MNPT ir ½ col. MNPT žarnos užkarpos, naudojamos su greitais atjungimais.

Kad išvengti vonelių kanalizacijos sugadinimo, naudokite 19 mm atraminį raktą išorinėms jungtims nuimti / uždėti. Žr. 1 paveikslą.

Pastaba: Kai nenaudojamos su išorine cirkuliacija, jungtys turi būti uždengtos.

Lėtai pildykite rezervuarą iki tarp MIN ir tinkamos MAX užpildymo linijų.

Kai elektros laidas yra prijungtas, perjunkite grandinės saugiklį, kuris yra vonelės užpakalyje, į ▮ padėtį. Žr. 2 paveikslą.

1 pav.

2 pav.

Tada jutiklinis ekranas akimirksniu rodo:

Tada pasirodo Nustatymų vedlio rodmuo.

LV

Būtiskas drošības instrukcijas Laboratorijas vannas

Ja kāda no šīm instrukcijām nav saprotama, pirms turpināt darbu, skatiet rokasgrāmatu vai sazinieties ar mums.

Drošības apzīmējumi (attiecas uz visiem izstrādājumiem)

⚠ DANGER Norāda uz nopietnu apdraudējumu, kas var izraisīt nāvi vai nopietnas traumas, ja netiek novērsts.

⚠ WARNING Norāda uz potenciāli bīstamu situāciju, kas var izraisīt nāvi vai nopietnas traumas, ja netiek novērsta.

⚠ CAUTION Norāda uz potenciāli bīstamu situāciju, kas var izraisīt vieglas vai mērenas traumas, ja netiek novērsta. Šis apzīmējums arī tiek izmantots, lai brīdinātu par nedrošu rīcību.

 Brīdina lietotāju par neizolēta bīstama sprieguma klātbūtni cirkulatora korpusā. Spriegums ir pietiekami augsts, lai radītu elektrotrieciena saņemšanas risku.

 Norāda uz karstu virsmu klātbūtni.

 Norādījums lasīt rokasgrāmatu.

Neizmantojiet vannu kā sterilu vai ar pacientu saistītu ierīci. Turklāt vanna nav paredzēta lietošanai I, II vai III klases bīstamās zonās atbilstoši ASV Nacionālās elektrotehnikas standartu sistēmas prasībām.

Vannu nekādā gadījumā nedrīkst novietot vietā vai vidē, kur pastāv pārmērīga karstuma, mitruma vai korozīvu vielu klātbūtne. Ekspluatācijas parametrus skatiet lietotāja rokasgrāmatā.

Pirms iedarbināšanas dzesēšanas vannām jāatrodas vertikālā pozīcijā istabas temperatūrā (~25 °C) 24 stundu ilgumā. Tādējādi tiek nodrošināta eļļošanas eļļas atplūde kompresorā.

Pieslēdziet vannu atbilstoši sazemētai kontaktligzdai.

Vannas aizmugurē izvietotā kontūra aizsargierīce nav paredzēta izmantošanai kā atvienošanas ierīce.

Cirkulatora ekspluatācijai izmantojiet tikai komplektā iekļauto barošanas vadu. Ja cirkulatora barošanas vads tiek izmantots kā atvienošanas ierīce, tam jābūt vienmēr pieejamam.

Nodrošiniet, lai elektriskie vadi nesaskartos ar cauruļu savienojumiem un caurulēm.

Nekādā gadījumā nepievienojiet līnijas spriegumu vannas sakaru savienojumiem.

Nodrošiniet, lai izvēlētās caurules atbilstu maksimālās temperatūras un spiediena prasībām.

Nodrošiniet, lai pirms iekārtas iedarbināšanas būtu izveidoti visi elektriskie un, ja nepieciešams, sakaru savienojumi.

Izmantotie aukstumaģenti ir smagāki par gaisu un noplūdes gadījumā izspiedīs skābekli, izraisot samaņas zudumu. Nonākot saskarē ar noplūdušu aukstumaģentu, rodas ādas apdegumi. Izmantojamā aukstumaģenta veidu skatiet uz cirkulatora nominālvērtību plāksnītes, savukārt papildinformāciju skatiet jaunākajā ražotāja nodrošinātajā ASV drošības datu lapā (SDS) (kādreizējā MSDS), kā arī ES drošības datu lapā.

Nodrošiniet, lai visas rezervuāra iztukšošanas pieslēgvietas būtu noslēgtas un visi cauruļu savienojumi būtu droši. Kā arī nodrošiniet, lai pirms uzpildes būtu rūpīgi izvākti visi atlikumi.

Lai novērstu izšļakstīšanos, konteinerus pirms uzpildes ievietojiet vannā.

Šķidrumi uz eļļas bāzes karstuma ietekmē izplešas. Izvairieties no rezervuāra pārpildīšanas.

Izmantojiet tikai apstiprinātos šķidrumus, kas norādīti rokasgrāmatā. Citu šķidrumu lietošanas gadījumā tiek anulēta garantija. Nekādā gadījumā nelietojiet 00% glikolu.

Ja tiek izmantots ūdens ar temperatūru virs 80 °C, rūpīgi pārraugiet šķidruma līmeni, jo būs nepieciešama regulāra tā papildināšana. Tādējādi arī tiek radīts tvaiks.

Ūdens/glikola maisījumu līmeņa papildināšana jāveic ar tīru ūdeni, jo pretējā gadījumā pieaugs glikola īpatsvars maisījumā, izraisot ļoti augstu viskozitātes līmeni un neapmierinošu veiktspēju.

Ja tiek izmantots jebkāds apstiprināts šķidrums, izņemot ūdeni, vai tiek veikti apkopes darbi, kuru laikā iespējams nonākt saskarē ar šķidrumu, skatiet uz apiešanos ar šo šķidrumu attiecināmos drošības pasākumus ražotāja nodrošinātajās SDS un EK drošības datu lapās.

Nodrošiniet, lai šķidrums neradītu toksiskas gāzes. Šķidruma lietošanas laikā virs tā var veidoties viegli uzliesmojošas gāzes.

Ja tiek izmantots etilēnglikols un ūdens, regulāri pārbaudiet šķidruma koncentrāciju un pH līmeni. Koncentrācijas un pH līmeņa izmaiņas var ietekmēt sistēmas veiktspēju.

Nodrošiniet, lai iestatītā pārmērīgas temperatūras atslēgšanas punkta vērtība būtu zemāka par izmantojamā siltumpārneses šķidruma uzliesmošanas temperatūru.

Augstākās darba temperatūras ierobežojumam, kā tas definēts standartā EN 61010 (IEC 1010), jābūt 25 °C zem vannas šķidruma uzliesmošanas temperatūras.

Pirms apiešanās ar šķidrumu vai tā iztukšošanas nodrošiniet, lai tā temperatūra būtu droša (zem 40 °C).

Nekādā gadījumā nedarbiniet aprīkojumu, ja tas ir bojāts vai tam ir sūce, vai arī barošanas vads ir bojāts.

Nekādā gadījumā nedarbiniet vannu, ja rezervuārā nav šķidruma.

Nekādā gadījumā nedarbiniet vannu un nepievienojiet šķidrumu rezervuārā, ja paneļi ir noņemti.

Vannas tīrīšanai nedrīkst izmantot šķīdinātājus; tīrīšanu var veikt, lietojot mīkstu drāniņu un ūdeni.

Iztukšojiet rezervuāru pirms tā transportēšanas un/vai uzglabāšanas apstākļos, kad temperatūra ir tuvu sasalšanas temperatūrai vai zem tās.

Pirms pārvietošanas vai jebkādu apkalpošanas vai apkopes procedūru veikšanas vienmēr izslēdziet vannu un atvienojiet to no elektroapgādes tīkla. Apkalpošanu un remontu drīkst veikt tikai atbilstoši kvalificēti tehniskie speciālisti.

Transportējot vannu, ievērojiet piesardzību. Pēkšņi satricinājumi vai krišana var sabojāt tā sastāvdaļas.

Ja notiek bīstamu materiālu noplūde, lietotājs ir atbildīgs par dekontamināciju. Lai saņemtu informāciju par dekontamināciju un/vai tīrīšanas līdzekļu saderību, vērsieties pie ražotāja.

Ja vannu paredzēts transportēt un/vai uzglabāt zemas temperatūras klātbūtnē, tā ir jāiztukšo un jāizskalo ar lietošanai laboratorijā piemērotu glikola/ūdens maisījumu (50/50).

Izņemšanu no ekspluatācijas drīkst veikt tikai attiecīgi kvalificēts izplatītājs, izmantojot sertificētu aprīkojumu. Ir jāievēro visu piemērojamo likumdošanas aktu prasības.

Ja tiek veiktas uzstādīšanas, ekspluatācijas vai apkopes procedūras, kas atšķiras no šajā rokasgrāmatā aprakstītajām, var rasties bīstamas situācijas un tiek anulēta ražotāja garantija.

Vanna nav paredzēta izmantošanai ar personiskai aizsardzībai paredzētajām zemesslēguma aizsardzības (Personal Protection Ground Fault Interrupter — GFI) kontaktligzdām, kuru nominālvērtība ir 10 mAmp vai mazāka.

Ja uzstādīšanas vietā ir nepieciešamas GFI kontaktligzdas, ir jāizmanto aprīkojuma aizsardzībai paredzētas GFI kontaktligzdas, kuru nominālvērtība pārsniedz 10 mAmp.

Lai novērstu sasalšanu, nekādā gadījumā nedarbiniet vannu ar temperatūru zem 5°C, ja rezervuārā ir tikai ūdens.

ja ierīce tiek darbināta ar silikona eļļu, kuras temperatūra pārsniedz 125 °C, bet apkārtējās vides temperatūra ir 35 °C vai augstāka, ir jānodrošina 12” minimālā brīvā zona vienā ierīces pusē, otrai pusei jābūt pilnībā brīvai un ierīces aizmugurē jābūt 6” brīvai zonai.

Pielāgojiet vannas programmatūru atbilstoši izmantojamajam šķidrumam.

VersaCool cirkulācijas vannas uzstādīšana

Cauruļu savienojumi ārējai cirkulācijai atrodas vannas aizmugurē. ⇦ ir atplūdes plūsma no ārējās ierīces. ⇨ ir izplūdes plūsma uz ārējo ierīci (padeves puse). Savienojumi ir "vīrišķie" 16M x 1. Noņemiet savienotājuzmavas un paplāksnes, lai uzstādītu komplektā iekļautās ¼″, ½″, 8 mm vai 12 mm šļūteņu iemavas. Komplektā arī ir iekļautas ¼″ MNPT un ½″ MNPT šļūtenes iemavas, kas paredzētas ātrai atvienošanai.

Lai neizraisītu vannas cauruļu savienojumu bojājumus, ārējo savienojumu demontāžai/uzstādīšanai izmantojiet 19 mm uzmaucamo atslēgu ar fiksatoru. Skatiet 1. attēlu.

Piezīme. Ja netiek izmantota ārējā cirkulācija, cauruļu savienojumiem jābūt noslēgtiem.

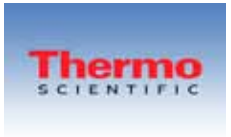
Lēnām uzpildiet rezervuāru, lai līmenis būtu starp attiecīgajām MIN. un MAKS. uzpildes līnijām.

Pēc barošanas vada pievienošanas pārslēdziet kontūra aizsargierīci, kas atrodas vannas aizmugurē, pozīcijā ▮. Skatiet 2. attēlu.

1. attēls

2. attēls

Pēc tam skārienekrānā uz brīdi tiek parādīts:



Pēc tam tiek parādīts iestatīšanas vedņa displejs:

MT

Istruzzjonijiet Essenzjali tas-Sigurtà Laboratory Baths

Jekk xi waħda minn dawn l-istruzzjonijiet ma tinftihemx, irreferi għall-manwal jew ikkuntattjana qabel ma tipproċedi.

Sigurtà: il-prodotti kollha:

DANGER jindika sitwazzjoni perikoluża b'mod imminenti, li jekk ma tiġix evitata, se tirriżulta f'mewt jew f'korriment serju.

WARNING jindika sitwazzjoni potenzjalment perikoluża, li jekk ma tiġix evitata, tista' tirriżulta f'mewt jew f'korriment serju.

CAUTION jindika sitwazzjoni potenzjalment perikoluża, li jekk ma tiġix evitata, tista' tirriżulta f'korriment żgħir jew moderat. Jista' jintuża wkoll biex iwissi kontra prattiċi li mhumiex siguri.

intenzjonat biex iwissi lill-utent dwar il-preżenza ta' "vultaġġ perikoluż" mhux insulat fl-enclosure taċ-chiller. Il-qawwa tal-vultaġġ hi sinifikanti biżżejjed biex tikkostitwixxi riskju ta' xokk elettriku.

jindika l-preżenza ta' wċuh jaħarqu.

jindika biex dak li jkun jaqra l-manwal.

Tużax il-banju bħala tagħmir sterili jew tagħmir li jiġi kkonnettjat mal-pazjent. Barra minn hekk, il-banju mhuwiex maħsub għall-użu f'Postijiet Perikoluži ta' Klassi I, II jew III kif definit min-National Electrical Code.

Qatt m'għandek tpoġġi l-banju f'post jew atmosfera fejn ikun hemm sħana eċċessiva, umdità, jew materjali korrużivi. Irreferi għall-manwal tal-utent għall-parametri tal-operat.

Ħalli r-refrigerated baths f'pożizzjoni wieqfa fit-temperatura tal-kamra (~25°C) għal 24 siegħa qabel ma tixgħelhom. Dan jiżgura li ż-żejt tal-lubrikazzjoni jkun mar lura fil-kompressur.

Ikkonnettja l-banju ma' outlet li jkun ertjat kif suppost.

Is-circuit protector li jinsab fuq in-naħa ta' wara tal-banju, mhuwiex intenzjonat biex jaġixxi bħala tagħmir ta' skonnettjar.

Ħaddem is-circulator billi tuża l-line cord fornuta biss. Jekk is-circulator power cord tintuża bħala tagħmir ta' skonnettjar, trid tkun aċċessibbli faċilment il-ħin kollu.

Żgura li l-electrical cords ma jkunu jmissu ma' kwalunkwe konnessjonijiet tal-plumbing jew tubing.

Qatt m'għandek tapplika line voltage ma' kwalunkwe waħda mill-konnessjonijiet tal-komunikazzjoni tal-banju.

Aċċerta ruħek li t-tubing li tagħżel ikun jissodisfa r-rekwiżiti tat-temperatura massima u pressjoni massima tiegħek.

Kun żgur li l-konnessjonijiet elettriċi kollha u, jekk applikabbli, il-konnessjonijiet tal-komunikazzjoni, ikunu saru qabel ma tixgħel it-tagħmir.

Ir-refrigerants użati huma itqal mill-arja u, jekk ikun hemm tnixxija, se jissostitwixxu l-ossiġnu u jikkawżaw li wieħed jintilef minn sensih. Kuntatt ma' refrigerant li jkun qed inixxi se jikkawża ħruq tal-ġilda. Irreferi għas-circulator nameplate għat-tip ta' refrigerant użat u mbagħad għal US Safety Data Sheet (SDS) l-aktar riċenti tal-manifattur, li qabel kienet magħrufa bħala MSDS, u l-EU Safety Data Sheet għal informazzjoni addizzjonali.

Aċċerta ruħek li r-reservoir drain ports kollha jkunu magħluqin u l-konnessjonijiet kollha tal-plumbing ikunu siguri. Żgura wkoll li tneħħi bir-reqqa kwalunkwe residwu qabel ma timla.

Biex tevita t-tixrid, poġġi l-kontenituri tiegħek fil-banju qabel ma timla.

Fluwidi bbażati fuq iż-żejt jespandu meta jissaħħnu. Evita li timla żżejjed ir-reservoir.

Uża biss il-fluwidi approvati li huma elenkati fil-manwal. Li tuża fluwidi oħrajn, se jikkawża li l-garanzija ma tibqax valida. Qatt m'għandek tuża 100% glycol.

Meta tuża ilma b'temperatua ta' aktar minn 80°C, immonitorja mill-qrib il-livell tal-fluwidu; top-offs frekwenti se jkunu meħtieġa. Joħloq ukoll il-fwar.

Taħlitiet ta' ilma/glycol jeħtieġu top-offs b'ilma pur, inkella, l-perċentwali ta' glycol se tiżdied u tirriżulta f'viskożità għolja u prestazzjoni batuta.

Minbarra l-ilma, qabel ma tuża kwalunkwe fluwidu approvat, jew meta tagħmel xi manutenzjoni fejn x'aktarx li se jkollok kuntatt mal-fluwidu, irreferi għall-SDS jew l-EC Safety Data Sheet tal-manifattur għall-prekawzjonijiet tal-immaniġġjar.

Kun żgur li l-ebda gassijiet tossiċi ma jiġu ġġenerati mill-fluwidu. Gassijiet li jistgħu jieħdu n-nar jistgħu jakkumulaw fuq il-likwidu matul l-użu.

Meta tuża l-ethylene glycol u ilma, iċċekkja l-konċentrazzjoni tal-fluwidu u l-pH fuq bażi regolari. Bidliet fil-konċentrazzjoni u fil-pH jista' jkollhom impatt fuq il-prestazzjoni tas-sistema.

Aċċerta ruħek li l-over temperature cut-off point ikun issettjat iktar baxx mill-fire point għall-heat transfer fluid li jkun intgħażel.

L-ogħla temperatura tal-operat, kif definita mill-EN 61010 (IEC 1010), trid tkun limitata għal 25°C taħt il-fire point tal-fluwidu tal-banju.

Kun żgur li l-fluwidu jkun f'temperatura sigura (inqas minn 40°C) qabel ma timmaniġġjah jew tbattlu.

Qatt m'għandek tħaddem tagħmir bil-ħsara jew li jkun qed inixxi, jew li jkollu xi power cords bil-ħsara.

Qatt m'għandek tħaddem il-banju mingħajr fluwidu fir-reservoir.

Qatt m'għandek tħaddem il-banju jew iżżid il-fluwidu fir-reservoir bil-panels imneħħija.

Tnaddafx il-banju bis-solventi; uża biċċa drapp ratba u ilma.

Battal ir-reservoir qabel ma jiġi ttrasportat, u/jew jinħażen qrib jew taħt temperaturi taħt iż-żero.

Dejjem titfi l-banju u skonnettja l-provvista tal-vultaġġ minn sors tal-provvista tad-dawl tiegħu qabel ma ċċaqilqu jew qabel ma twettaq kwalunkwe proċeduri ta' servicing jew manutenzjoni. Irreferi s-service u t-tiswijiet lill-technician ikkwalifikat.

Ittrasporta l-banju b'attenzjoni. Skossi għall-għarrieda jew li twaqqa' t-tagħmir, jistgħu jagħmlu ħsara lill-komponenti tiegħu.

L-utent hu responsabbli għad-dekontaminazzjoni jekk materjali perikoluži jinxterdu. Ikkonsulta l-manifattur dwar il-kompatibilità tad-dekontaminazzjoni jew ta' sustanzi tat-tindif.

Jekk il-banju jkun se jiġi ttrasportat u/jew jinħażen f'temperaturi kesħin, jeħtieġ li jitbattal u mbagħad jitlaħlaħ b'taħlita ta' 50/50 laboratory grade glycol/ilma.

Id-dekommissjonar irid isir biss minn aġent ikkwalifikat bl-użu ta' tagħmir iċċertifikat. Ir-regolamenti prevalenti kollha jridu jiġu segwiti.

Il-prestazzjoni tal-proċeduri tal-installazzjoni, operat, jew manutenzjoni, ħlief dawk deskritti fil-manwal, jistgħu jirriżultaw f'sitwazzjoni perikoluża, u dan se jħassar il-garanzija tal-manifattur.

Prekawzjonijiet Addizzjonali tas-Sigurtà, VersaCool Circulating Bath:

Il-banju mhuwiex maħsub għall-użu ma' Personal Protection Ground Fault Interrupter (GFI) outlets b'rating ta' 10 mAmp jew inqas.

Jekk GFI outlets ikunu meħtieġa fil-punt tal-installazzjoni, hu rakkomandat li jintużaw Equipment Protection GFI outlets b'rating ta' aktar minn 10 mAmp.

Biex tevita l-iffriżar, qatt m'għandek tħaddem il-banju f'temperatura ta' inqas minn 5°C bl-ilma biss fir-reservoir.

Li tħaddem b'Silicon Oil f'temperatura ta' aktar minn 125°C u f'temperatura ambjentali ta' 35°C jew aktar, jeħtieġ spazju minimu fuq naħa waħda ta' 12", li jkun miftuħ fuq in-naħa l-oħra, 6" fuq in-naħa ta' wara.

Aġġusta s-software tal-banju biex ikun jaqbel mal-likwidu użat.

Installazzjoni għal VersaCool Circulating Bath:

Il-konnessjonijiet tal-plumbing għaċ-ċirkolazzjoni esterna jinsabu fuq in-naħa ta' wara tal-banju. hu r-return flow mill-applikazzjoni esterna. hu l-outlet flow għall-applikazzjoni esterna (supply side). Il-konnessjonijiet huma male 16M x 1. Neħħi l-union nuts u plates biex tinstalla l-¼″, ½″, 8 mm jew 12 mm hose barbs ipprovduti. Ipprovduti wkoll hemm il-¼″ MNPT u ½″ MNPT hose barbs użati bi quick disconnects.

Biex tipprevjeni li tagħmel ħsara lill-plumbing tal-banju, uża 19 mm backing wrench meta tneħħi/tinstalla l-konnessjonijiet esterni. Ara Figura 1.

Nota: Meta ma tkunx qed tuża ċirkolazzjoni esterna, il-konnessjonijiet tal-plumbing ma jridux ikunu mgħottija (capped).

Imla bil-mod ir-reservoir għal bejn il-fill lines MIN u MAX li suppost.

Wara li l-power cord tkun ikkonnettjata, poġġi s-circuit protector li jinsab fuq in-naħa ta' wara tal-banju, fuq il-pożizzjoni I. Ara Figura 2.

Figura 1

Figura 2

Imbagħad it-touchscreen juri għal ftit ħin:

Imbagħad tidher is-Set-up Wizard Display.

PL Ważne instrukcje dotyczące bezpieczeństwa Wanny laboratoryjne

W przypadku niezrozumienia którychkolwiek z niniejszych instrukcji, przed przystąpieniem do dalszych prac należy zapoznać się z instrukcją obsługi lub skontaktować się z nami.

Bezpieczeństwo, wszystkie produkty:

DANGER wskazuje na sytuację bezpośredniego zagrożenia, która bez podjęcia środków zaradczych doprowadzi do śmierci lub poważnych obrażeń ciała.

WARNING wskazuje na sytuację potencjalnie niebezpieczną, która bez podjęcia środków zaradczych może doprowadzić do śmierci lub poważnych obrażeń ciała.

CAUTION wskazuje na sytuację potencjalnie niebezpieczną, która bez podjęcia środków zaradczych doprowadzi do drobnych lub umiarkowanych obrażeń ciała. Ponadto będzie wykorzystywana do zgłaszania niebezpiecznych zachowań.

 ostrzega użytkownika o niezaizolowanym "niebezpiecznym napięciu" w obrębie obudowy cyrkulatora. Wartość bezwzględna napięcia jest na tyle wysoka, by nieść za sobą ryzyko porażenia prądem elektrycznym.

 ostrzega przed gorącymi powierzchniami.

 nakazuje przeczytać instrukcję obsługi.

Nie używać wanny, jako urządzenia sterylnego ani mającego kontakt z pacjentem. Ponadto wanna nie jest przeznaczona do zastosowań w obrębie Lokalizacji Niebezpiecznych, Klasy I, II lub III określonych przez Krajowe Normy Elektryczne.

Nigdy nie umieszczać wanny w miejscu bądź w atmosferze, gdzie wystawiona będzie na działanie zbyt wysokich temperatur, wilgoci lub materiałów powodujących korozję. Aby zapoznać się z parametrami roboczymi, patrz instrukcja użytkownika.

Przed uruchomieniem wanny chłodnicze pozostawić w pozycji pionowej w temperaturze pokojowej (~25°C) przez okres 24 godzin. Dzięki temu olej smarny spłynie z powrotem do sprężarki.

Wannę podłączyć do odpowiednio uziemionego gniazdka.

Ochronnika obwodu znajdującego się w tylnej części wanny nie należy używać jako urządzenia odłączającego.

Cyrkulator należy obsługiwać wyłącznie z wykorzystaniem dostarczonego sznura przyłączeniowego. W przypadku, gdy kabel zasilający cyrkulatora pełni funkcję urządzenia odłączającego, należy zadbać, aby przez cały czas był on łatwo dostępny.

Upewnić się, że żadne z kabli elektrycznych nie stykają się ze złączami lub rurami kanalizacyjnymi.

Nigdy nie stosować napięcia międzyprzewodowego na żadnym ze złączy komunikacyjnych wanny.

Upewnić się czy wybrane przez użytkownika przewody rurowe spełniają wymogi dotyczące maksymalnych wartości temperatur i ciśnienia.

Przed uruchomieniem sprawdzić czy wykonane zostały wszystkie połączenia elektryczne i, o ile ma zastosowanie, połączenia komunikacyjne.

Wykorzystywane czynniki chłodnicze są cięższe od powietrza, dlatego w przypadku nieszczelności zastąpią tlen, co doprowadzi do utraty przytomności. Kontakt z wyciekającym czynnikiem chłodniczym doprowadzi do poparzeń skóry. Aby uzyskać więcej informacji, patrz tabliczka znamionowa cyrkulatora, na której oznaczono typ wykorzystywanego czynnika chłodniczego, najnowsza karta charakterystyki substancji niebezpiecznej US (SDS) producenta wcześniej znana jako MSDS, a także karta charakterystyki substancji niebezpiecznej EU.

Upewnić się, że wszystkie otwory spustowe zbiornika zostały zamknięte oraz, że wszystkie połączenia kanalizacyjne zostały odpowiednio zabezpieczone. Ponadto przed napełnieniem należy sprawdzić czy dokładnie usunięto wszelkie pozostałości.

Aby uniknąć rozlania, przed napełnieniem pojemniki należy umieścić w wannie.

Płyny na bazie oleju zwiększają swoją objętość pod wpływem ciepła. Unikać przepełnienia zbiornika.

Korzystać wyłącznie z zatwierdzonych płynów wymienionych w instrukcji obsługi. Wykorzystywanie innych płynów skutkować będzie utratą gwarancji. Nigdy nie używać 100% glikolu.

W przypadku wody, której temperatura przekracza 80°C należy uważnie obserwować poziom płynu, ponieważ konieczne będzie częste dopełnianie. Ponadto powoduje tworzenie się pary.

Mieszaniny wody/glikolu wymagają częstego uzupełniania czystą wodą. W przeciwnym razie wartość procentowa glikolu wzrośnie, co będzie skutkować dużą lepkością oraz słabą wydajnością.

W przypadku stosowania zatwierdzonego płynu innego niż woda lub w przypadku wykonywania prac konserwacyjnych, gdzie prawdopodobny jest kontakt z płynem, patrz środki ostrożności opisane w SDS oraz karta charakterystyki substancji niebezpiecznej EC.

Upewnić się, że płyn nie będzie generował gazów toksycznych. Podczas pracy, nad płynem mogą zgromadzić się gazy palne.

W przypadku wykorzystywania glikolu etylenowego i wody należy regularnie sprawdzać stężenie płynu oraz pH. Zmiany stężenia i pH mogą wpłynąć na wydajność układu.

Upewnić się, że punkt odcięcia w przypadku zbyt wysokiej temperatury ma wartość niższą od punktu palenia dla wybranego płynu przewodzącego ciepło.

Najwyższa temperatura robocza określona w EN 61010 (IEC 1010) musi zostać ograniczona do 25°C poniżej punktu palenia płynu wanny.

Przed przystąpieniem do pracy z płynem lub przed spuszczeniem upewnić się, że jego temperatura nie stwarza niebezpieczeństwa (ma wartość 40°C).

Nigdy nie obsługiwać uszkodzonego, nieszczelnego sprzętu oraz, jeśli jego kable zostały uszkodzone.

Nigdy nie dopuszczać do sytuacji, w której wanna będzie pracować bez płynu w zbiorniku.

Nigdy nie obsługiwać wanny ani nie dodawać płynu do zbiornika, jeśli wcześniej zdjęto panele.

Do czyszczenia wanny nie należy używać rozpuszczalników. Zamiast tego wystarczy miękka szmatka i woda.

Przed przetransportowaniem i/lub zmagazynowaniem zbiornika w temperaturach oscylujących wokół granicy zamarzania, zbiornik należy opróżnić.

Przed przetransportowaniem lub przystąpieniem do jakichkolwiek prac serwisowych czy konserwacyjnych zawsze należy pamiętać o wyłączeniu wanny oraz odłączeniu zasilania elektrycznego. Prace serwisowe oraz naprawcze należy zlecić wykwalifikowanemu technikowi.

Podczas transportowania wanny niezbędne jest zachowanie należytej ostrożności. Nagłe wstrząsy lub upadek mogą skutkować uszkodzeniem podzespołów.

W przypadku rozlania materiałów niebezpiecznych odpowiedzialność za ich neutralizację spoczywa na użytkowniku. Aby zapoznać się z informacjami dotyczącymi odkażania oraz środków czyszczących, skontaktować się w producentem.

Jeśli wanna ma zostać przetransportowana i/lub zmagazynowana w niskich temperaturach niezbędne jest spuszczenie z niej płynów, a następnie przepłukanie mieszaniną woda/glikol o czystości laboratoryjnej w proporcjach 50/50.

Wycofanie z eksploatacji może zostać przeprowadzone wyłącznie przez wykwalifikowanego sprzedawcę wykorzystującego sprzęt posiadający niezbędne atesty. Niezbędne jest przestrzeganie wszystkich obowiązujących przepisów.

Wykonywanie czynności montażowych, konserwacyjnych lub obsługa odbiegająca od wytycznych opisanych w instrukcji obsługi może skutkować niebezpiecznymi sytuacjami oraz utratą gwarancji producenta.

Wanna ta nie została przeznaczona do użytku z gniazdkami wyłącznika różnicowo-prądowego zapewniającymi ochronę osobistą (GFI) przy wartości znamionowej wynoszącej 10 mAmp lub mniej.

W przypadku, gdy w momencie instalacji wymagane jest zastosowanie gniazdek GFI, zaleca się zastosowanie gniazdek GFI zabezpieczających sprzęt, których wartość znamionowa przekracza 10 mAmp.

Aby zapobiec zamarzaniu nigdy nie dopuszczać do sytuacji, w której wanna będzie użytkowana w temperaturze poniżej 5°C, gdy w zbiorniku będzie znajdować się sama woda.

Praca z olejem silikonowym o temperaturze przekraczającej 125°C oraz temperaturze otoczenia wynoszącej 35°C lub więcej wymaga zachowania odległości wynoszącej minimum 12" z jednej strony, otwartej przestrzeni z drugiej strony oraz 6" w części tylnej.

Skonfigurować oprogramowanie wanny w celu zachowania zgodności z płynem.

Instalacja wanny cyrkulacyjnej VersaCool:

Złącza kanalizacyjne zewnętrznego układu cyrkulacyjnego znajdują się w tylnej części wanny. ⇦ jest przepływem powrotnym z obwodu zewnętrznego. ⇨ jest przepływem wylotowym do obwodu zewnętrznego (strona zasilająca). Złącze męskie 16M x 1. Zdjąć nakrętkę łączącą oraz płytki w celu zamontowania dostarczonych ¼″, ½″, 8 mm lub 12 mm końcówek węża. Dostarczone zostały również końcówki węży ¼″ MNPT oraz ½″ MNPT stosowane wraz ze elementami do szybkiego rozłączania.

Aby zapobiec uszkodzeniu instalacji wodociągowej wanny podczas zdejmowania/montowania złączy zewnętrznych należy używać 19 mm klucza nakładkowego. Patrz rysunek 1.

Uwaga: Jeśli cyrkulacja zewnętrzna nie jest wykorzystywana, połączenia kanalizacyjne muszą zostać zaślepione.

Powoli napełnić zbiornik tak, aby poziom cieczy znalazł się pomiędzy linią napełnienia MIN. i MAKS.

Po podłączeniu kabla zasilającego, ochronnik obwodu zlokalizowany w tylnej części wanny w ustawić w położeniu **I**. Patrz rysunek 2.

Rysunek 1

Rysunek 2

Następnie ekran dotykowy niezwłocznie wyświetli:

Następnie wyświetlony zostanie ekran konfiguratora.

RO

Instrucțiuni Esențiale de Siguranță
Căzi de laborator

Consultați manualul sau contactați-ne înainte de a merge mai departe dacă oricare dintre aceste instrucțiuni sunt pe deplin înțelese.

Siguranță, toate produsele:

DANGER indică o situaţie periculoasă iminentă care, în cazul în care nu se evită, poate cauza moarte sau vătămare corporală gravă.

WARNING indică o situație potențial periculoasă care dacă nu se evită poate cauza moartea sau rănirea gravă.

CAUTION indică o situație potențial periculoasă care dacă nu se evită poate cauza răni minore sau moderate. Se folosește și pentru a atenționa împotriva practicilor periculoase.

 menit să atenționeze utilizatorul cu privire la prezența „voltajului periculor” neizolat din incinta propagatorului. Magnitudinea voltajului este destul de mare pentru a prezenta risc de șoc electric.

 indică prezenta suprafețelor încinse.

 indică citirea manualului.

Nu folosiți cada ca dispozitiv steril sau conectat la pacient. În plus, cada nu este concepută pentru a se folosi în Locuri Periculoase din Clasele I, II sau III conform definițiilor Codului Electric Național.

Nu plasați cada niciodată în locuri sau medii unde se află niveluri crescute de căldură, umezeală sau substanțe corozive. Consultați manualul de utilizare pentru parametrii operaționali.

Cazile frigorifice se lasă în poziție verticală la temperatura camerei (~25°C) pentru 24 de ore înainte de a se porni. Acest lucru asigură scurgerea înapoi în compresor a uleiului de lubrifiere.

Conectați cada o priză împământată corespunzător.

Învelișul protector al circuitului se află pe latura din spate a căzii și nu este conceput sprea a se folosi pentru deconectare.

Operați propagatorul folosind numai cablul furnizat. Cablul de alimentare al propagatorului trebuie să fie în permanență ușor accesibil dacă se folosește ca dispozitiv de deconectare.

Cablurile electrice nu trebuie să intre în contact cu țevile sau conexiunile de instalație.

Niciodată să nu aplicați tensiune de linie la conexiunile de comunicare ale căzii.

Asigurați-vă că țevile selectate îndeplinesc cerințele privind temperatura și presiunea maximă.

Asigurați-vă că toate conexiunile electrice și de comunicare (dacă este cazul) se fac înainte de pornire.

Agenții frigorifici folosiți sunt mai grei decât aerul, iar dacă există o scurgere ei vor înlocui oxigenul și vor cauza pierderi de conștiență. Contactul cu scurgerile de agent frigorific poate cauza ardere la nivelul pielii. Consultați plăcuța de identificare a propagatorului pentru tipul de agent frigorific folosit și apoi cea mai actuală Fișă cu Date de Siguranță SUA(FDS) a producătorului cunoscută drept MSDS și Fișa cu Date de Siguranță UE pentru informații suplimentare.

Asigurați-vă ca orificiile pentru scurgerea rezervorului sunt închise și toate conexiunile instalației sunt în siguranță. De asemenea, asigurați-vă că înainte de umplere s-au înlăturat toate reziduurile.

Puneți recipientele în cadă înainte de umplere pentru a evita împrăștierea.

Lichidele pe bază de ulei se dilată la căldură. Evitați umplerea în exces a rezervorului.

Folosiți numai lichidele aprobate care sunt enumerate în manual. Folosirea altor lichide anulează garanția. Niciodată nu se folosește 100% glicol.

Când folosiți apă la peste 80°C trebuie să monitorizați cu atenție nivelul de lichid, sunt necesare reumpleri frecvente. De asemenea, se produc aburi.

Amestecurile de apă/glicol necesită umplere cu apă pură altfel se va mări procentajul de glicol, iar acest lucru va rezulta în nivel crescut al vâscozității și randament scăzut.

În afară de apă, înainte de folosirea vreunui lichid aprobat sau când se efectuează întreținerea când este probabilă intrarea în contact cu fluidul trebuie să consultați FDS și Fișa cu Date de Siguranță CE pentru măsurile de siguranță privind manevrarea.

Asigurați-vă că fluidul nu produce gaze toxice. Pe parcusul folosirii lichidului se pot acumula gaze inflamabile.

Verificați regulat concentrația lichidușui și pH-ul când folosiți etilen glicol. Schimbările concentrației și a pH-ului poate afecta performanța instalației.

Asigurați-vă că punctul de întrerupere a depășirii temperaturii este setat mai jos decât punctul de ardere pentru transferul de căldură al fluidului selectat.

Cea mai ridicată temperatură de funcționare conform EN 61010 (IEC 1010) trebuie să se limiteze la 25°C sub punctul de ardere al lichidului din cadă.

Asigurați-vă că fluidul se află la o temperatură sigură (sub 40°C) înainte de a-l manevra sau scurge.

Niciodată să nu operați echipament care prezintă avarii sau scurgeri sau cabluri avariate.

Cada nu se operează niciodată fără fluid în rezervor.

Cada nu se operează niciodată și nu se adaugă fluid în rezervor dacă panourile sunt îndepărtate.

Nu curățați cada folosind solvenți, folosiți un material moale și apă.

Rezervorul se scurge înainte de a se transporta și/sau depozita la temperaturi aprope sau sub cele de îngheț.

Cada se oprește mereu și se deconectează de la tensiunea de alimentare de la sursa de energie înainte de a se muta sau înainte de efectuare oricăror proceduri de reparație sau întreținere. Reparațiile și întreținerea se efectuează de către tehnicienii calificați.

Cada se transportă cu grijă. Zguduielile sau căderile pot avaria componentele căzii.

Utilizatorul este responsabil de decontaminare dacă se varsă materiale periculoase. Consultați producătorul cu privire la compatibilitatea agenților de decontaminare și de curățare.

Cada trebuie să se scurgă și se clătească cu un amestec de laborator din 50/50 glicol/apă dacă se va transporta și/sau depozita la temperaturi scăzute.

Retragerea din funcționare se efectuează numai de către un furnizor calificat folosind echipament certificat. Trebuie să se respecte toate prevederile curente.

Performanța instalației, operarea sau procedurile de întreținere pe lângă cele descrise în manual pot să cauzeze situații periculoase sau se anuleze garanția producătorului.

Cada nu este concepută pentru a se folosi cu prizele de tip Intreruptor pentru lipsa circuitului de impamantare (GFI)cu rată de 10 mAmp sau mai jos.

Dacă prizele de tip GFI sunt necesare la locul de instalre se recomandă prizele GFI pentru Protecția echipamentului cu rată de peste 10 mAmp.

Nu operați cada niciodată la temperaturi sub 5°C dacă în rezervor se află numai apă pentru a preveni înghețarea.

Operarea cu Ulei Silicon la temperaturi de peste 125°C și cu temperaturi ambientale de 35°C sau mai mult necesită un spațiu minim de 12” pe o parte, spațiu liber pe cealaltă parte și 6” pe latura din spate.

Ajustați softul căzii pentru a se potrivi cu lichidul folosit.

Instalare pentru Căzi Propagatoare VersaCool:

Conexiunile instalației pentru circulație externă se află pe partea laterală a căzii.  este fluxul de intoarecere de la aplicația externă.  este fluxul de evacuare pentru aplicația externă (ofertă). Conexiunile sunt bărbătești 16m x 1. Îndepărtați piulițele și plăcile de cuplare pentru a instala cârligele furnizare pentru furtun de ¼″, ½″, 8 mm sau 12 mm . De asemenea, s-au furnizat și cârlige pentru furtun ¼″ MNPT și ½″ MNPT pentru deconectări rapide.

Pentru a preveni daunele la instalația căzii se folosește o contracheie de 19 mm când se îndepărtează/ instalează conexiunile externe. Vezi Figura 1.

Notă: Conexiunile de la instalație trebuie să se limiteze când nu se folosește propagarea externă.

Rezervorul se umple încet între liniile de umplere dintre MIN și MAX.

După ce s-a conectat cablul de alimentare se pune învelișul de protecție aflat pe latura din spate a căzii pe poziția ▌. Vezi Figura 2.

Figura 1

Figura 2

Apoi ecranul tactil afișează momentan:

Apoi se afișează Ecranul pentru Asistență la Instalare.

SK

Základné bezpečnostné pokyny Laboratórne kúpele

Ak nerozumiete niektorému z týchto pokynov, pred pokračovaním si prečítajte príručku alebo nás kontaktujte.

Bezpečnosť, všetky produkty:

DANGER označuje bezprostredne nebezpečnú situáciu, ktorá, ak sa jej nevyhnete, spôsobí usmrtenie alebo vážne poranenie.

WARNING označuje potenciálne nebezpečnú situáciu, ktorá, ak sa jej nevyhnete, môže spôsobiť usmrtenie alebo vážne poranenie.

CAUTION označuje potenciálne nebezpečnú situáciu, ktorá, ak sa jej nevyhnete, môže spôsobiť ľahké alebo stredne ťažké poranenie. Používa sa aj ako varovanie pred nebezpečnými postupmi.

Slúži na upozornenie používateľa na prítomnosť neizolovaného „nebezpečného napätia“ pod krytom obehového čerpadla. Napätie je dostatočne vysoké na to, aby predstavovalo riziko úrazu elektrickým prúdom.

označuje prítomnosť horúcich povrchov.

označuje nutnosť prečítania príručky.

Kúpeľ nepoužívajte ako sterilné zariadenie alebo ako zariadenie pripojené k pacientovi. Kúpeľ okrem toho nie je určený na použitie v nebezpečných prostrediach triedy I, II alebo III definovaných kódom NEC (National Electrical Code).

Kúpeľ nikdy neumiestňujte na miesto alebo v prostredí, kde je prítomné nadmerné teplo, vlhkosť alebo korózne materiály. Prevádzkové parametre nájdete v návode na použitie.

24 hodín pred spustením nechajte chladené kúpele vo zvislej polohe pri izbovej teplote (~25 °C). Tým sa zaistí, že mazací olej sa preleje späť do kompresora.

Kúpeľ pripojte k správne uzemnenej zásuvke.

Chránič obvodu sa nachádza na zadnej strane kúpeľa a nie je určený na prostriedok na odpájanie.

Obehové čerpadlo prevádzkujte iba pomocou dodaného kábla. Ak sa napájací kábel obehového čerpadla používa ako zariadenie na odpojenie od elektriny, musí byť po celý čas ľahko prístupný.

Uistite sa, že elektrické káble nie sú v kontakte so žiadnou z vodovodných prípojok a potrubí.

Nikdy nepripájajte sieťové napätie na žiadne z komunikačných pripojení kúpeľa.

Uistite sa, že vybrané potrubie spĺňa požiadavky na maximálnu teplotu a tlak.

Pred začatím sa uistite, že sú vykonané všetky elektrické a prípadne aj komunikačné pripojenia.

Použité chladivá sú ťažšie ako vzduch a ak dôjde k úniku, nahradia kyslík a spôsobia stratu vedomia. Kontakt s unikajúcim chladivom môže spôsobiť popálenie pokožky. Typ použitého chladiva nájdete na typovom štítku obehového čerpadla a ďalšie informácie nájdete v poslednej karte bezpečnostných údajov (KBÚ) pre USA, predtým známej ako MSDS a karte bezpečnostných údajov pre EÚ.

Uistite sa, že sú všetky odtokové otvory zatvorené a že sú všetky potrubné spoje pevné. Zaistite tiež, aby boli pred plnením všetky zvyšky dôkladne odstránené.

Aby nedošlo k rozliatiu, pred naplnením umiestnite do kúpeľa nádoby.

Kvapaliny na báze oleja sa pri zohriatí rozťahujú. Zabráňte preplneniu nádrže.

Používajte iba schválené kvapaliny uvedené v návode na použitie. Použitie iných kvapalín zruší platnosť záruky. Nikdy nepoužívajte 100 % glykol.

Pri použití vody s teplotou nad 80 °C starostlivo sledujte hladinu kvapaliny, bude potrebné časté dolievanie. Bude sa tiež vytvárať para.

Zmesi vody/glykolu vyžadujú dolievanie čistej vody, v opačnom prípade sa zvýši percentuálny podiel glykolu, čo má za následok vysokú viskozitu a znížený výkon.

Pred použitím akejkoľvek inej schválenej kvapaliny ako vody alebo pri vykonávaní údržby, keď je pravdepodobný kontakt s kvapalinou, si prečítajte KBÚ výrobcu a kartu bezpečnostných údajov ES, v ktorej sú uvedené opatrenia pri manipulácii.

Uistite sa, že kvapalina nemôže generovať žiadne toxické plyny. Počas používania sa v kvapaline môžu vytvárať horľavé plyny.

Pri použití etylénglykolu a vody v pravidelných intervaloch kontrolujte koncentráciu kvapaliny a pH. Zmeny koncentrácie a pH môžu ovplyvniť výkon systému.

Uistite sa, že medzný bod nadmernej teploty je nastavený nižšie, ako je bod vzplanutia vybranej teplonosnej kvapaliny.

Najvyššia prevádzková teplota definovaná normou EN 61010 (IEC 1010) musí byť obmedzená na 25 °C pod bodom vzplanutia tekutiny v kúpeli.

Pred manipuláciou alebo vypúšťaním sa uistite, že kvapalina má bezpečnú teplotu (do 40 °C).

Nikdy neprevádzkujte poškodené alebo netesné zariadenie alebo v prípade akéhokoľvek poškodenia káblov.

Nikdy nepoužívajte kúpeľ, ak v nádržke nie je kvapalina.

Keď sú odstránené panely, nepoužívajte kúpeľ ani nedolievajte kvapalinu do nádržky.

Kúpeľ nečistite pomocou rozpúšťadiel, používajte jemnú handričku a vodu.

Pred prepravou a/alebo skladovaním blízko alebo pod bodom mrazu vypustite nádrž.

Pred presúvaním alebo vykonaním akýchkoľvek servisných postupov alebo údržby vždy vypnite kúpeľ a odpojte napájacie napätie od zdroja elektrickej energie. Servis a opravy prenechajte kvalifikovanému technikovi.

Kúpeľ prepravujte opatrne. Náhle otrasy alebo pády môžu poškodiť jeho komponenty.

V prípade rozliatia nebezpečných materiálov je používateľ zodpovedný za dekontamináciu. Informácie o dekontaminácii a/alebo kompatibilných čistiacich prostriedkov vám poskytne výrobca.

Ak má byť kúpeľ prepravovaný a/alebo skladovaný pri nízkych teplotách, musí byť najskôr vypustený a potom prepláchnutý zmesou vody/glykolu laboratórneho stupňa v pomere 50/50.

Vyradenie z prevádzky môže vykonať len oprávnený predajca pomocou certifikovaného vybavenia. Je nutné dodržiavať všetky platné zákonné ustanovenia.

Vykonanie inštalácie, prevádzky alebo postupov údržby, ktoré nie sú popísané v tomto návode, môže viesť k nebezpečným situáciám a bude viesť k zrušeniu platnosti záruky výrobcu.

Kúpeľ nie je určený na použitie so zásuvkami s osobným prúdovým uzemneným chráničom (GFI) s hodnotou 10 mA alebo nižšou.

Ak sa na mieste inštalácie vyžadujú zásuvky GFI, odporúčajú sa zásuvky na ochranu zariadenia GFI s hodnotou vyššou ako 10 mA.

Aby sa zabránilo zamrznutiu, nikdy neprevádzkujte kúpeľ do 5 °C len s vodou v nádržke.

Prevádzka so silikónovým olejom s teplotou nad 125 °C a pri teplote okolia 35 °C a vyššej vyžaduje minimálny voľný priestor 12“ na jednej strane, otvorený priestor na druhej strane a 6“ v zadnej časti.

Nastavte softvér kúpeľa tak, aby sa zhodoval s použitou kvapalinou.

Inštalácia obehového kúpeľa VersaCool:

Potrubné prípojky pre externý obeh sú umiestnené na zadnej strane kúpeľa.  je spätný tok z externej aplikácie.  je výstupný tok do externej aplikácie (na strane prívodu). Prípojky sú vonkajšieho typu 16M x 1. Odstráňte prevlečné matice a platne na inštaláciu dodaných ¼, ½, 8 mm alebo 12 mm hrotov hadíc. Súčasťou dodávky sú aj hroty hadíc ¼ MNPT a ½ MNPT používané s rýchlym rozpojením.

Pri demontáži/montáži externých pripojení použite 19 mm podporný kľúč, aby nedošlo k poškodeniu potrubia kúpeľa. Pozri obrázok 1.

Poznámka: Ak nepoužívate externý obeh, pripojenia potrubí musia byť uzavreté krytkami.

Pomaly naplňte zásobník, aby bola hladina medzi značkami MIN a MAX.

Po pripojení napájacieho kábla umiestnite chránič obvodu umiestnený na prednej strane kúpeľa do polohy ▌. Pozri obrázok 2.

Obrázok 1

Obrázok 2

Potom sa na dotykovej obrazovke na okamih zobrazí:

Potom sa zobrazí sprievodca inštaláciou.

SL

Osnovna varnostna navodila Laboratorijske kopeli

Če ne razumete kateregakoli navodila, si poglejte navodila za uporabo ali stopite v stik z nami, še preden nadaljujete.

Varnost - vsi izdelki:

DANGER Opozarja na akutne nevarne okoliščine, ki lahko – če se jim ne izognete – povzročijo resne ali celo smrtno nevarne poškodbe.

WARNING Opozarja na morebitno nevarne okoliščine, ki lahko – če se jim ne izognete – povzročijo resne ali celo smrtno nevarne poškodbe.

CAUTION Opozarja na akutne nevarne okoliščine, ki lahko – če se jim ne izognete – povzročijo lažje ali srednje nevarne poškodbe. Uporablja se tudi kot opozorilo proti nevarni praksi.

 opozarja na bližino neizolirane nevarne napetosti v ohišju cirkulatorja. Napetost je dovolj visoka, da lahko povzroči električni šok.

 opozarja na vroče površine.

 opozarja, da je potrebno prebrati navodila.

Ne uporabljajte kopeli kot sterilne naprave, ali na prave, povezane z bolnikom. Poleg tega kopel ni načrtovana za uporabo v napravah, ki delujejo v nevarnih okoljih I., II. in II. razreda po določilih Nacionalnega pravilnika za električne naprave.

Nikoli ne namestite kopeli na mesto ali v okoljske pogoje z visoko temperaturo, vlago ali jedkimi snovmi. Delovni parametri so navedeni v navodilih za uporabo.

Hladilne kopeli morajo v pokončnem položaju pri sobni temperaturi (~25 °C) mirovati 24 ur pred začetkom obratovanja. Slednje zagotavlja, da olje za mazanje odteče nazaj v kompresor.

Priključite kopel v pravilno ozemljeno vtičnico.

Zaščita krogotoka, ki je nameščena na zadnjem delu kopeli ni načrtovana kot izklopna naprava.

Naprava lahko deluje le s priloženim napajalnim kablom. Če se napajalni kabel cirkulatorja uporabi tudi za odklop, mora biti vedno lahko dosegljiv.

Zagotovite, da se električni kabli ne dotikajo vodovodnih priključkov ali cevi.

Nikoli ne priključite omrežne napetosti neposredno na katerikoli priključek kopeli.

Poskrbite, da bodo izbrane cevi izpolnjevale zahteve glede temperature in tlaka.

Poskrbite, da bodo pred zagonom vzpostavljene vse električne in, če obstajajo tudi komunikacijske povezave.

Uporabljena hladilna sredstva so težja od zraka. Če obstajajo netesna mesta, bodo izpodrinila kisik in povzročila izgubo zavesti. Stik z uhajajočim hladilnim sredstvom bo povzročil ozebline. Dodatne informacije boste našli na cirkulatorjevi ploščici s podatki, na kateri je naveden tip hladilnega sredstva, najnovejšem varnostnem listu za ZDA (SDS), ki je bil prej poznan pod nazivom MSDS in varnostnem listu za EU.

Zagotovite, da bodo zaprta vsa praznilna mesta rezervoarja in da so zavarovani vsi cevni priključki. Prav tako poskrbite, da bodo pred polnjenjem temeljito odstranjene vse usedline.

Da preprečite polivanje, postavite vaše vsebnike v kopel še pred polnjenjem.

Tekočine na osnovi olj se pri segrevanju razširijo. Preprečite, da bi bil rezervoar preveč napolnjen.

Uporabite le odobrene tekočine, navedene v predmetnih navodilih za uporabo. Uporaba drugih tekočin izniči veljavnost garancije. Nikoli ne uporabite 100-odstotnega glikola.

Če uporabljate vodo, segreto na več kot 80 °C pazljivo spremljajte nivo tekočine, saj bo potrebno pogosto dolivanje. Poleg tega nastaja para.

Pri mešanicah vode in glikola je potrebno dolivati čisto vodo, saj se v nasprotnem primeru delež glikola poveča, slednje pa povzroči visoko viskoznost in slabo zmogljivost.

Z izjemo vode, morate pred uporabo katerekoli odobrene tekočine ali pred izvajanjem vzdrževalnih del, pri katerih je zelo verjeten stik s tekočino, preveriti proizvajalčev SDS in varnostne liste EU z napotki za ravnanje.

Poskrbite, da tekočina ne tvori strupenih plinov. Med uporabo se lahko nad tekočino nakopičijo vnetljivi plini.

Ko uporabljate etilen glikol in vodo redno preverjajte koncentracijo tekočine in pH. Spreminjanje koncentracije in vrednosti pH lahko vpliva na zmogljivost sistema.

Poskrbite, da je izklopna vrednost za temperaturo nastavljena nižje od plamenišča tekočine, ki se uporablja kot prenosni medij.

Najvišja delovna temperatura, kot je določena v EN 61010 (IEC 1010), mora biti omejena na 25 °C pod plameniščem tekočine v kadi.

Zagotovite, da ima tekočina varno temperaturo (pod 40 °C) pred rokovanjem ali izpustom.

Nikoli ne upravljajte poškodovane ali netesne opreme, ali opreme s poškodovanimi kabli.

Nikoli ne uporabljajte kopeli, če v rezervoarju ni tekočine.

Nikoli ne uporabljajte kopeli ali dodajajte tekočine v rezervoar, če so odstranjeni paneli.

Ne čistite kopeli s topili, uporabite mehko krpo in vodo.

Pred transportom izpraznite rezervoar ni/ali shranite pri temperaturi zmrzovanja ali v njeni bližini.

Vedno izklopite kopel in odklopite napajalno napetost preden premikate napravo ali izvajate popravila ali vzdrževalne posege. Servis in popravila lahko izvaja le ustrezno usposobljen tehnik

Previdno transportirajte kad. Nenadni sunki ali padci lahko poškodujejo njene dele.

Uporabnik je zadolžen za dekontaminacijo, če se polijejo nevarne snovi. Posvetujte se s proizvajalcem glede dekontaminacije in/ali primernih čistil.

Če morate kad transportirati n/ali shraniti pri nizkih temperaturah , jo morate izprazniti in nato izplakniti z mešanico 50/50 glikol/voda laboratorijske kakovosti.

Razgradnjo naprave lahko opravi le ustrezno usposobljen zastopnik, ki uporablja odobreno opremo. Uporabljajte vse veljavne zadevne predpise.

Izvajanje kakršnihkoli postopkov, povezanih z montažo, delovanjem ali vzdrževanjem, ki niso navedeni v teh navodilih, lahko povzroči nevarne okoliščine in izniči veljavnost garancije proizvajalca.

Kopel ni načrtovana za uporabo z vtičnicami, opremljenimi z diferenčnimi zaščitnimi odklopniki (GFI), z diferenčnim tokom 10 mA ali manjšim.

Če so na priključnem mestu zahtevane vtičnice GFI, priporočamo uporabo vtičnic GFI z diferenčnim tokom, večjim od 10 mA.

Zaradi preprečevanja zmrzovanja, ne sme kopel nikoli delovati pri temperaturi pod 5 °C, če je napolnjena le z vodo.

Pri delovanju s silikonskim oljem temperature nad 125 °C, v prostoru s temperaturo, ki dosega ali presega 35 °C, mora biti na eni strani najmanjša razdalja 30,5 cm (12”), na drugi strani mora biti prost dostop in vsaj 15,2 cm (6”) na zadnji strani.

Prilagodite programsko opremo kopeli, da ustreza uporabljeni tekočini.

Namestitev cirkulacijske kopeli VersaCool:

Priključki za zunanji obtok so na zadnji strani kopeli.  povratni vod zunanje aplikacije  dovod zunanje aplikacije (dovodna stran). Moški priključki 16M x 1. Odstranite prekrivne matice ni plošče ter privijte priložene cevne nastavke ¼″, ½″, 8 mm ali 12 mm. Priloženi so tudi cevni nastavki s hitrimi spojkami ¼″ MNPT in ½″ MNPT.

Zaradi preprečevanja poškodb na krogotoku kopeli, uporabite pri namestitvi/odstranjevanju zunanjih priključkov dodatni držalni ključ 19 mm. Glejte sliko 1.

Opomba: Če ne uporabljate zunanjega obtoka, zaprite priključke s čepi.

Počasi polnite rezervoar do nivoja med črtama MIN in MAX.

Po priklopu napajalnega kabla, preklopite stikalo na zadnji strani kopeli v položaj **I**. Glejte sliko 2.

Slika 1

Slika 2

Na zaslonu, občutljivem na dotik, se za trenutek izpiše:

Nato se odpre nastavitveni zaslon.

SR

Osnovna bezbednosna uputstva
Laboratorijska korita

Ako ne razumete bilo koja od ovih uputstava, pogledajte priručnik ili nas kontaktirajte pre nego što nastavite.

Bezbednost, svi proizvodi:

DANGER označava neposrednu opasnost koja, ako se ne izbegne, će da dovede do smrti ili teške povrede.

WARNING označava potencijalno opasnu situaciju koja, ako se ne izbegne, može da dovede do smrti ili teške povrede.

CAUTION označava potencijalno opasnu situaciju koja, ako se ne izbegne, može da dovede do lakše ili srednje teške povrede. Takođe može da se koristi da upozori na nesigurne radnje.

 upozorava korisnika na prisustvo neizolovanog „opasnog napona“ unutar kućišta cirkulatora. Napon je dovoljno velik da predstavlja opasnost od strujnog udara.

 ukazuje na prisustvo vrelih površina.

 ukazuje da je potrebno pročitati priručnik.

Nemojte da koristite korito kao sterilni uređaj ili uređaj povezan na pacijenta. Pored toga, korito nije predviđeno za upotrebu na opasnim lokacijama klase I, II ili II prema definicijama Nacionalnog električnog standarda (engl. National Electrical Code).

Nikad nemojte da postavljate korito tamo gde je prisutna prekomerna toplota, vlažnost ili nagrizajući materijali. Radni parametri navedeni su u korisničkom priručniku.

Pre pokretanja ostavite hlađena korita u uspravnom položaju 24 sata na sobnoj temperaturi (~25 °C). Na ovaj se način osigurava da ulje za podmazivanje istekne nazad u kompresor.

Povežite korito na pravilno uzemljenu utičnicu.

Osigurač koji se nalazi sa zadnje strane korita nije predviđen da se koristi kao uređaj za iskopčavanje.

Koristite cirkulator samo s priloženim kablom. Ako se kabl za napajanje cirkulatora koristi kao uređaj za iskopčavanje, uvek mora da bude lako dostupan.

Pazite da električni kablovi ne dođu u dodir s vodovodnim priključcima ili cijevima.

Nikad nemojte da primenjujte linijski napon na komunikacijske priključke korita.

Pazite da izabrane cevi ispunjavaju zahteve za maksimalnu temperaturu i pritisak.

Pazite da postavite sve električne i, ako postoje, komunikacijske priključke pre pokretanja.

Korišćena sredstva za hlađenje su teža od vazduha a i, ako dođe do curenja, zameniće kiseonik te dovesti do gubitka svesti. Kontakt sa sredstvom za hlađenje koje curi uzrokuje opekotine. Pogledajte pločicu s podacima cirkulatora za vrstu korišćenog sredstva za hlađenje, a zatim potražite dodatne informacije u najnovijem bezbednosnom listu za SAD (engl. Safety Data Sheet; SDS), ranije poznatom kao MSDS, kao i bezbednosnom listu za EU.

Proverite da li su svi odvodni otvori rezervoara zatvoreni i svi vodovodni priključci pričvršćeni. Takođe temeljito uklonite sve ostatke pre punjenja.

Da ne bi došlo do prosipanja, postavite kontejnere u korito pre punjenja.

Nikad nemojte da koristite korito ako u rezervoaru nema tečnosti.

Tečnosti na bazi ulja se šire prilikom zagrevanja. Nemojte da prepunjavate rezervoar.

Koristite samo odobrene tečnosti koje su navedene u priručniku. Korišćenje drugih tečnosti poništava garanciju. Nikad nemojte da koristite stoprocentni glikol.

Kada koristite vodu preko 80 °C pažljivo pratite nivo tečnosti , jer će biti potrebna česta dosipanja. Takođe se stvara para.

Mešavine voda/glikol zahtevaju dosipanje čiste vode, jer će se u suprotnom procenat glikola povećati i dovesti do visoke viskoznosti i slabih performansi.

Prije korišćenja bilo koje odobrene tečnosti, osim vode, ili prilikom obavljanja postupaka održavanja u kojima će verovatno doći do kontakta s tečnošću, pogledajte mere predostrožnosti prilikom rukovanja u bezbednosnom listu proizvođača i EZ bezbednosnom listu.

Pazite da tečnost ne može proizvesti nikakve otrovne gasove. Zapaljivi gasovi mogu da se nakupe nad tečnošću tokom korišćenja.

Prilikom upotrebe etilen glikola i vode redovno proveravajte koncentraciju tečnosti i pH vrednost. Promene u koncentraciji i pH vrijednosti mogu da utiču na performanse sistema.

Pazite da prekidna temperaturna tačka bude postavljena niže od temperature paljenja za odabranu tečnost za prenos toplote.

Najviša radna temperatura, prema definicijama standarda EN 61010 (IEC 1010), mora da bude ograničena na 25 °C ispod temperature paljenja tečnosti korita.

Pazite da tečnost bude na bezbednoj temperaturi (ispod 40 °C) pre rukovanja ili ispuštanja.

Nikad nemojte da koristite oštećenu opremu ili opremu koja propušta, kao ni opremu s oštećenim kablovima.

Nikad nemojte da koristite korito ako u rezervoaru nema tečnosti.

Nikad nemojte da koristite korito za dodavanje tečnosti u rezervoar sa skinutim pločama.

Nemojte da koristite rastvarače za čišćenje korita, već koristite meku krpu i vodu.

Ispraznite rezervoar pre prenosa i/ili čuvanja na temperaturama blizu ili ispod tačke smrzavanja.

Uvijek isključite korito i iskopčajte napon izvora napajanje iz izvora napajanje pre pomeranja ili obavljanja bilo kakvih postupaka servisiranja ili održavanja. Servisiranje i popravke treba da obavlja kvalifikovani serviser.

Oprezno prenosite korito. Naglo drmanje ili ispuštanje opreme može da ošteti njene komponente.

Korisnik je odgovoran za dekontaminaciju ako dođe do prosipanja opasnih materijala. Obratite se proizvođaču u vezi s kompatibilnošću sredstava za dekontaminaciju ili čišćenje.

Ako se korito prenosi i/ili čuva na niskim temperaturama, treba ga isprazniti, a zatim isprati mešavinom od 50/50 laboratorijskog glikola/vode.

Stavljanje izvan pogona mora da obavi isključivo kvalifikovani trgovac pomoću certifikovane opreme. Mora da se pridržava svih važećih propisa.

Obavljanje postupaka ugradnje, korišćenja ili održavanja koji nisu opisani u priručniku može da dovede do opasne situacije i poništava garanciju proizvođača.

Korito nije namenjeno za upotrebu s utičnicama sa zaštitom od strujnog udara (GFI) s nazivnom vrednošću od 10 mAmp ili nižom.

Ako su GFI utičnice potrebne prilikom ugradnje, preporučuju se GFI utičnice s nazivnom vrednošću iznad 10 mAmp.

Da bi se sprečilo smrzavanje, nikad nemojte da koristite korito ispod 5 °C kada se u rezervoaru nalazi samo voda.

Korišćenje silikonskog ulja na temperaturi iznad 125 °C i temperaturi okoline od 35 °C ili iznad zahteva minimalni razmak od 12” (30,48 cm) s jedne strane, otvoren prostor s druge strane i 6” (15,24 cm) sa zadnje strane.

Podesite softver korita tako da odgovara korišćenoj tečnosti.

Ugradnja cirkulirajućeg korita VersaCool:

Vodovodni priključci za vanjsko cirkuliranje nalaze se sa zadnje strane korita. ⇦ označava povratni protok od vanjskog uređaja. ⇦ označava izlazni protok prema vanjskom uređaju (strana s koje se vrši snabdevanje). Priključci su muški 16M x 1. Skinite matice i ploče da biste postavili priložene priključke za crevo od ¼″, ½″, 8 mm ili 12 mm. Priloženi su i MNPT priključci za crevo od ¼″ i ½″ koji se koriste s brzim iskopčavanjem.

Da bi se sprečilo oštećenje vodovoda korita mora se koristiti podešavajući ključ od 19 mm za skidanje/ postavljanje vanjskih priključaka. Pogledajte sliku 1.

Napomena: Kada se vanjsko cirkuliranje ne koristi, vodovodni priključci moraju da se zatvore pomoću čepova.

Polako napunite rezervoar do nivoa između oznaka MIN i MAX.

Nakon povezivanja kabla za napajanje postavite osigurač koji se nalaze sa zadnje strane korita u položaj **I**. Pogledajte sliku 2.

Slika 1

Slika 2

Zatim će ekran osetljiv na dodir nakratko da prikaže:

Zatim će da se pojavi dispjel čarobnjaka za postavljanje.

SV

Viktiga säkerhetsinstruktioner Laboratoriebad

Om någon av dessa anvisningar är svåra att förstå se handboken eller kontakta oss innan du går vidare.

Säkerhet, alla produkter:

DANGER anger en imminent riskfylld situation som, om den inte undviks, resulterar i allvarliga skador eller dödsfall.

WARNING anger en riskfylld situation som, om den inte undviks, kan resultera i dödsfall eller allvarlig skada.

CAUTION anger en riskfylld situation som, om den inte undviks, kan resultera i lättare eller medelsvåra skador. Den ska även användas för att varna om riskfyllda metoder.

 avsedd för att varna användaren om ej isolerad "farlig spänning" inuti cirkulatorns hölje. Spänningen är tillräckligt hög för att utgöra en risk för elchock.

 anger att det finns heta ytor.

 anger att man bör läsa i handboken.

Använd inte badet som steril eller ansluten till patient. Badet är heller inte designad för användning i riskfyllda miljöer Klass I, II eller III, enligt definition i Nationella elbestämmelser.

Placera aldrig badet på en plats eller i en miljö med hög värme, luftfuktighet eller med frätande material. Se användarhandboken för driftsparametrar.

Lämna bad i en upprätt position vid rumstemperatur (~25°C) under 24 timmar innan den startas. Detta försäkrar att smörjoljan rinner tillbaka till kompressorn.

Anslut badet till ett korrekt jordat uttag.

Kretsbrytaren på baksidan av badet är inte avsett för att användas som avstängning.

Använd endast cirkulatorn med den medföljande nätsladden. Om cirkulatorns nätsladd är den elektriska avstängningsanordningen, den måste alltid vara lättillgänglig.

Försäkra att strömsladdarna inte kommer i kontakt med avloppsanslutningarna eller rör.

Applicera aldrig spänning till någon av badets kommunikationsanslutningar.

Försäkra att dina rör uppfyller max kraven för tryck och temperatur.

Försäkra att alla elektriska och ev. kommunikationsanslutningar har slutförts innan uppstart.

Kylmedium som används är tyngre än luft och kommer, om en läcka uppstår, att tränga ut syre vilket orsakar medvetslöshet. Kontakt med läckande kylmedium orsakar brännskador på hud. Se cirkulatorns namnskylt för typ av kylmedium som används och sedan tillverkarens aktuella US Säkerhetsdatablad (SDS), tidigare kallat MSDS, och EU Säkerhetsdatablad för ytterligare information.

Försäkra att behållarens tömningsportar är stängda och att alla avloppsanslutningar är säkrade. Försäkra även att alla rester avlägsnas innan påfyllning.

För att undvika spill ska man placera behållarna i badet innan påfyllning.

Oljebaserade vätskor expanderar vid uppvärmning. Undvik överfyllning av behållaren.

Använd endast godkända vätskor som listas i handboken. Användning av andra vätskor upphäver garantin. Använd aldrig 100 % glykol.

När man använder vatten över 80°C så ska man övervaka vätskenivån noga, regelbunden påfyllning kommer att vara nödvändig. Det skapar även ånga.

Vatten/glykolblandningar kräver påfyllning av rent vatten. I annat fall så kommer glykolhalten att öka vilket resulterar i hög viskositet och dålig prestanda.

Utöver vatten, innan man använder en godkänd vätska, eller vid underhåll där man troligen kommer i kontakt med vätskan, ska man referera till tillverkarens SDS och EU Säkerhetsdatablad för försiktighetsåtgärder vid hantering.

Försäkra att vätskan inte kan generera giftiga gaser. Brandfarliga gaser kan samlas vid användning av vätskan.

När man använder etylenglykol och vatten så ska man regelbundet kontrollera vätskans koncentration och pH-värde. Ändringar i koncentration och pH-värde kan påverka systemets prestanda.

Försäkra avstängningstemperaturen för övertemperatur är lägre än den valda vätskans flampunkt.

Den högsta driftstemperaturen, enligt EN 61010 (IEC 1010), måste vara begränsad till 25°C under flampunkten för badets vätska.

Försäkra att vätskan har en säker temperatur (under 40°C) innan hantering eller tömning.

Använd aldrig skadad eller läckande utrustning, eller med skadade sladdar.

Använd aldrig badet utan vätska i behållaren.

Använd aldrig badet eller lägg till vätska i behållaren med panelerna borttagna.

Rengör inte kylaren med rengöringsmedel. Använd en mjuk trasa och vatten.

Töm behållaren innan transport och/eller förvaring i temperaturer nära eller under fryspunkten.

Stäng alltid av badet och koppla bort strömförsörjningen innan det flyttas eller innan service eller underhållsprocedurer. Överlåt service och reparationer till en behörig tekniker.

Transportera badet varsamt. Plötsliga ryck eller fall kan skada dess komponenter.

Användaren är ansvarig för rengöringen om farliga material spills ut. Konsultera med tillverkaren gällande rengöring och för kompatibilitet med rengöringsmedel.

Om badet ska transporteras och/eller lagras i kalla temperaturer så måste det först tömmas och sköljas med en 50/50-blandning av glykol/vatten.

Urtagning ur drift för endast utföras av behörig återförsäljare med certifierad utrustning. Alla gällande bestämmelser måste följas.

Installations-, drift- eller underhållsprocedurer, förutom de som beskrivs i handboken, kan resultera i riskfyllda situationer och upphäver tillverkarens garanti.

Badet är inte avsett för att användas med uttag med personlig jordfelsbrytare (GFI) med en märkström på 10 mAmp eller mindre.

Om GFI-uttag krävs vid installationsplatsen så rekommenderas GFI-uttag för skydd av utrustning med en märkström över 10 mAmp.

För att undvika frysning så ska man aldrig använda badet vid en temperatur under 5°C med endast vatten i behållare.

Användning med silikonolja över 25°C och 35°C rumstemperatur kräver ett utrymme på minst 30 cm på en sida, att den är öppen på andra sidan och 15 cm på baksidan.

Justera badets programvara för kompatibilitet med den valda vätskan.

Installation för VersaCool cirkulerande bad:

Avloppsanslutningarna för extern cirkulation sitter på badets baksida.  är returflödet från den externa applikationen.  är utloppsflödet till den externa applikationen (matningssida). Anslutningarna är hankopplingar 16M x 1. Avlägsna förbandets muttrar och plattor för att installera de medföljande ¼″, ½″, 8 mm eller 12 mm slanghullingarna. Det medföljer även ¼″ MNPT och ½″ MNPT slanghullingar för att användas med snabbkopplingar.

För att förebygga skador på badets rör så ska man använda en 19 mm nyckel när man tar bort/installerar de externa anslutningarna. Se figur 1.

Notering: När man inte använder extern cirkulation så måste rören pluggas.

Fyll behållaren långsamt mellan MIN- och MAX-linjerna.

När nätsladden har anslutits så ställer man kretsbrytaren på badet front till positionen **I**. Se figur 2.

Figur 1

Figur 2

Pekskärmen visar kort:

Sedan visas Inställningsguiden.

Setup Wizard

⚠ CAUTION

This Setup Wizard is intended for initial start up only. For all other procedures, or if these steps are not clear, you must refer to the manual.
Read Safety Factors in Chapter 1 before starting.

Approved Fluids:	**What you need to get started:**
Filtered/single distilled water (pH 7-8)	Adjustable wrenches
Deionized water (Maximum 1 MΩ-cm, compensated)	Appropriate hose or plumbing
Distilled water with Nalco biocide and inhibitor	Appropriate size hose clamps
Distilled water with chlorine (5 ppm)	Approved fluid
50/50 Laboratory Grade EG/Water	
50/50 Laboratory Grade PG/Water	
SIL 180 SIL 200	

Leave baths in an upright position at room temperature for 24 hours before starting. This ensures the lubrication oil drains back into the compressor.

- The plumbing connections for external circulation are located on the rear of the bath. ⇦ is the return flow from the external application. ⇨ is the outlet flow to the external application (supply side). The connections are male M16 x 1. Remove the union nuts and plates to install the supplied ¼″, ½″, 8 mm or 12 mm hose barbs. Also supplied are ¼″ MNPT and ½″ MNPT hose barbs used primarily with quick disconnects.

To prevent damage to the bath's plumbing, use a 19 mm backing wrench when removing/installing the external connections.

- Ensure the reservoir drain port is closed and that the process discharge and return fittings are plumbed or capped. Ensure any residue is thoroughly removed from the reservoir before filling.

- To avoid spilling, place your samples/trays into the bath before filling.

- Slowly fill the reservoir to between the **MIN** and the water or oil **MAX** fill lines.

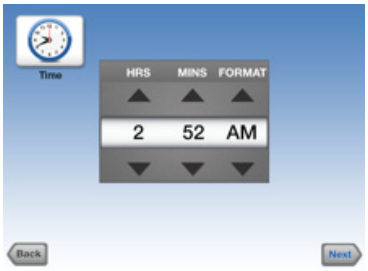
- After the power cord is connected place the circuit protector located on the rear of the bath to the **I** position.

- The touchscreen momentarily displays:

- Then the Setup Wizard Display appears.

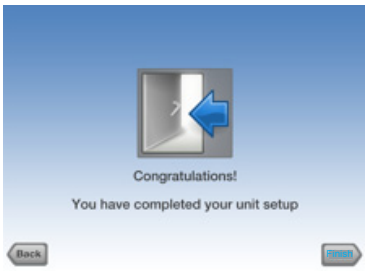
• Touch Setup Wizard to display Language. Touch the up/down arrow until the desired setting appears and then touch Next to save the selection and to sequence through the other touchscreens or Back to return ti the previous screen.

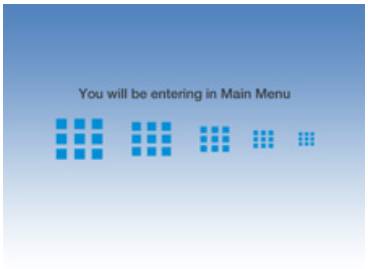
- Chinese
- English
- French
- German
- Italian
- Japanese
- Spanish



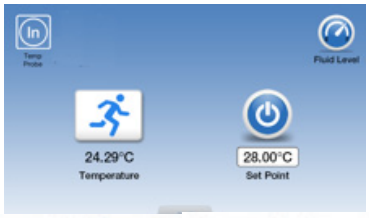
Name your bath There is a 20 character limit.

The name identifies the bath when downloading files.





• After several seconds the Power touchscreen appears.



Main Menu

• If desired, touch to start the bath or refer to the manual to adjust the bath's settings.

• is replaced by . Touch when you are ready to stop the bath.

• After starting check all plumbing connections for leaks.

• Adjust the High Temperature Cutout (HTC) safety device, refer to the manual.

Einrichtungs-Assistent

⚠ VORSICHT

Dieser Einrichtungs-Assistent ist nur für die erste Inbetriebnahme vorgesehen. Sehen Sie im Handbuch nach, wenn Sie weitere Verfahren durchführen möchten oder wenn diese Schritte unklar sind.
Bevor Sie anfangen, lesen Sie sich bitte die sicherheitsrelevanten Punkte in Kapitel 1 durch.

Genehmigte Flüssigkeiten:

- Filtriertes/einfach destilliertes Wasser (pH 7 bis 8)
- Deionisiertes Wasser (maximal 1 MΩ-cm, kompensiert)
- Destilliertes Wasser mit Nalco Biozid und Inhibitor
- Destilliertes Wasser mit Chlor (5 ppm)
- 50/50 EG/Wasser in Laborqualität
- 50/50 PG/Wasser in Laborqualität
- SIL 180 SIL 200

Sie benötigen für die Inbetriebnahme:

- Verstellbare Schraubenschlüssel
- Passende Schläuche bzw. Leitungen
- Schlauchklemmen in geeigneter Größe
- Genehmigte Flüssigkeit

Bäder müssen vor Beginn 24 Stunden bei Raumtemperatur aufrecht stehen. Dadurch wird gewährleistet, dass das Schmieröl in den Kompressor zurückfließt.

- Die Wasseranschlüsse für die externe Umwälzung befinden sich auf der Rückseite des Bads. ⇦ ist der Rückfluss von der externen Anwendung. ⇨ ist der Zufluss zur externen Anwendung (Einlassseite). Die Verbindungen sind männliche M16 x 1-Stecker. Entfernen Sie die Überwurfmuttern und Platten, um die mit dem Gerät mitgelieferten ¼ Zoll-, ½ Zoll-, 8 mm- bzw. 12 mm-Schlauchtüllen zu montieren. Im Lieferumfang sind auch ¼ Zoll-MNPT- und ½ Zoll-MNPT-Schlauchtüllen enthalten, die v. a. mit Schnellkupplungen verwendet werden.

Um Beschädigungen am Wasseranschluss des Bads zu vermeiden, sollte beim Entfernen/Anbringen der externen Anschlüsse ein 19 mm-Schraubenschlüssel verwendet werden.

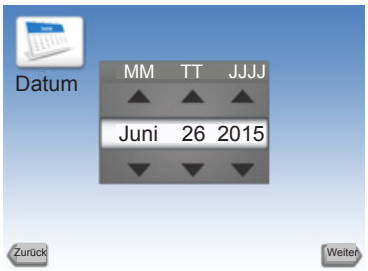
- Achten Sie darauf, dass der Ablaufhahn des Behälters an der Vorderseite des Bads geschlossen ist und alle Wasseranschlüsse fest sitzen. Achten Sie außerdem darauf, dass vor dem Befüllen alle Rückstände gründlich entfernt wurden.

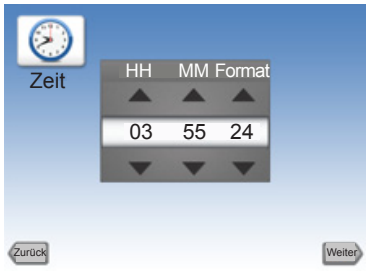
- Um ein Überlaufen zu vermeiden, stellen Sie die Behälter vor dem Befüllen in das Bad.
- Befüllen Sie den Behälter langsam auf eine Höhe zwischen den Markierungen **MIN** und **MAX**.
- Wenn das Stromkabel angeschlossen ist, stellen Sie den Stromkreisschutz auf der Rückseite des Bads auf die Position **I**.
- Auf dem Touchscreen erscheint kurz:

- Anschließend wird der Einrichtungs-Assistent eingeblendet.

- Berühren Sie das Fenster „Einrichtungs-Assistent“, um die Spracheinstellung anzuzeigen. Drücken Sie die Auf/Ab-Pfeiltasten bis die gewünschte Einstellung erscheint und drücken Sie dann auf Next (Weiter), um die Einstellung zu speichern und um zu den anderen Bildschirmen zu gelangen oder auf Back (Zurück), um zum vorherigen Bildschirm zurückzukehren.

- Chinesisch
- Englisch
- Französisch
- Deutsch
- Italienisch
- Japanisch
- Spanisch





Benennen Sie das Bad. Die Zeichenanzahl ist auf 20 beschränkt. Der Name identifiziert das Bad, wenn Daten heruntergeladen werden.

- Nach ein paar Sekunden erscheint der Bildschirm mit der Energieanzeige.

Energieanzeige Einstellungen Home Service

- Wenn gewünscht, berühren Sie  , um das Bad zu starten, oder sehen Sie im Handbuch nach, wenn Sie die Einstellungen des Bads anpassen möchten.
-  wird durch  ersetzt. Berühren Sie  , wenn Sie das Bad anhalten wollen.
- Überprüfen Sie nach dem Starten alle Wasseranschlüsse auf undichte Stellen.
- Stellen Sie den Übertemperaturschutz (HTC) ein; siehe Handbuch.

Assistant de configuration

AVERTISSEMENT

Cet assistant de configuration est destiné à la mise en marche initiale uniquement. Pour toutes les autres procédures, ou si les étapes décrites ne sont pas claires, reportez-vous au manuel. Consultez les facteurs de sécurité au Chapitre 1 avant de commencer.

Liquides approuvés :	**Matériel nécessaire pour commencer :**
Eau filtrée/mono-distillée (pH 7-8)	Clés à molette
Eau désionisée (maximum 1 MΩ-cm, compensée)	Tuyau et accessoires de plomberie appropriés
Eau distillée avec biocide Nalco et ses inhibiteurs	Colliers de serrage de dimension appropriée
Eau distillée avec chlore (5 ppm)	Liquides approuvés
EG/eau 50/50, qualité laboratoire	
PG/eau 50/50, qualité laboratoire	
SIL 180 SIL 200	

Laissez les bains à la verticale et à température ambiante pendant 24 heures avant de mettre le système en marche afin de garantir l'écoulement du lubrifiant dans le compresseur.

• Les raccordements du circuit externe se trouvent à l'arrière du bain.  correspond au flux de retour de l'application externe.  correspond au flux de sortie vers l'application externe (alimentation). Il s'agit de connecteurs mâles M16 x 1. Retirez les écrous-raccords et les plaques pour installer les embouts cannelés de ¼″, ½″, 8 mm ou 12 mm. Des embouts cannelés MNPT ¼″ et MNPT ½″, utilisés généralement avec déconnexion rapide, sont également fournis.

Afin d'éviter d'endommager la tuyauterie du bain, utilisez une clé de maintien de 19 mm pour retirer/installer les connexions externes.

• Assurez-vous que l'orifice de vidange du réservoir, situé à l'avant du bain, est fermé et que tous les raccordements de tuyauterie sont sécurisés (verrouillés et étanches). Vérifiez qu'il ne reste plus aucun résidu avant de procéder au remplissage.

• Pour éviter les éclaboussures, placez les conteneurs dans le bain avant de remplir ce dernier.

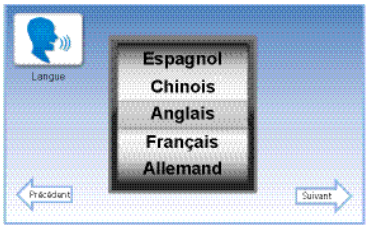
• Remplissez doucement le réservoir jusqu'à ce que le niveau soit compris entre les lignes de remplissage **MIN** et **MAX**.

• Après connexion du câble électrique, placez le dispositif de protection des circuits sur la position **I**.

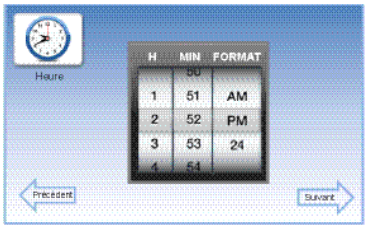
• L'écran tactile affiche temporairement :

• Puis l'écran de l'Assistant de configuration apparaît.

• Appuyez sur l'Assistant de configuration pour afficher la langue. Appuyez sur la touche fléchée haut/bas jusqu'au réglage souhaité, puis appuyez sur Next pour enregistrer la sélection et faire défiler les autres écrans, ou sur Back pour revenir à l'écran précédent.

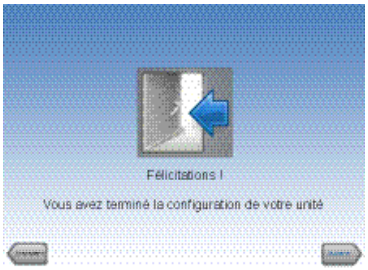


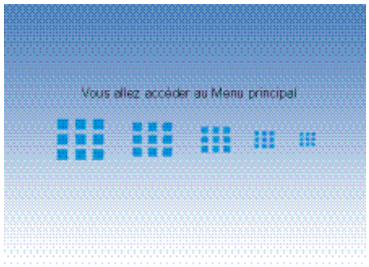
- Chinois
- Anglais
- Français
- Allemand
- Italien
- Japonais
- Espagnol



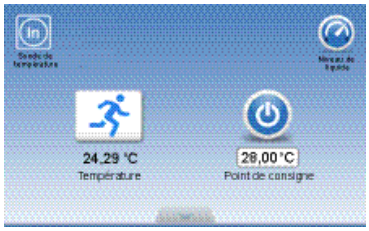
Choisissez un nom pour votre bain (20 caractères maximum).

Le nom sert à identifier le bain lors de l'utilisation de téléchargement de fichiers.





• Après quelques secondes, l'écran Alimentation s'affiche.



Alimentation Réglages Accueil Maintenance

• Si vous le souhaitez, vous pouvez appuyer sur pour lancer le bain, ou vous reporter au manuel pour en ajuster les réglages.

• est remplacé par . Appuyez sur lorsque vous souhaitez arrêter le bain.

• Après le démarrage, vérifier tous les raccordements de tuyauterie à la recherche d'éventuelles fuites.

• Régler le dispositif de sécurité du point de coupure haute température (HTC). Se reporter au manuel d'utilisation.

Asistente de instalación

PRECAUCIÓN

Este asistente de instalación se ha elaborado únicamente para el arranque inicial. Para el resto de procedimientos, o en caso de que no queden claros estos pasos, debe consultar el manual. Consulte los factores de seguridad del capítulo 1 antes de continuar.

Líquidos aprobados:	**Materiales necesarios:**
Agua filtrada/destilada (pH 7 - 8)	Llaves ajustables
Agua desionizada (11 MΩ-cm como máximo, compensada)	Manguera o elementos de fontanería apropiados
Agua destilada con inhibidor y biocida Nalco	Abrazaderas de manguera de tamaño adecuado
Agua destilada con cloro (5 ppm)	Líquido aprobado
Agua/EG 50/50 para laboratorio	
Agua/PG 50/50 para laboratorio	
SIL 180 SIL 200	

Los baños deben mantenerse durante 24 horas en posición vertical y a temperatura ambiente antes de su puesta en marcha. Es la forma de garantizar que el aceite lubricante ha sido drenado hacia el compresor.

• Las conexiones de fontanería para la circulación externa se encuentran en la parte posterior del baño. ⇦ representa el flujo de retorno procedente de la aplicación externa. ⇨ representa el flujo de salida hacia la aplicación externa (lado de suministro). Las conexiones son macho M16 x 1. Retire las placas y tuercas de unión para instalar las conexiones dentadas de 0,25″, 0,5″, 8 mm o 12 mm que se suministran. También se suministran conexiones dentadas MNPT de 0,25″ y 0,5″ que se utilizan principalmente con las desconexiones rápidas.

Para evitar que se produzcan daños en la fontanería del baño, utilice una llave inglesa fija de 19 mm para retirar o instalar las conexiones externas.

• Asegúrese de que el orificio de desagüe del depósito, situado en la parte delantera del baño, esté cerrado y de que todas las conexiones de fontanería estén bien apretadas. Asegúrese también de que se han eliminado todos los residuos antes de proceder al llenado.

• Para evitar salpicaduras, introduzca los recipientes en el baño antes de llenarlo.

• Llene lentamente el depósito de modo que el líquido se encuentre entre las líneas de llenado **MIN** y **MAX**.

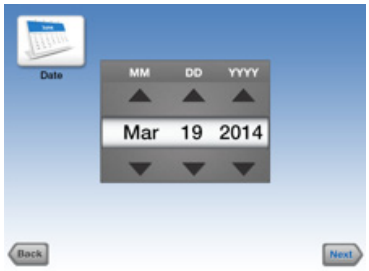
• Después de conectar el cable de alimentación, coloque el protector de circuito, situado en la parte trasera del baño, en la posición de encendido **I**.

• En la pantalla táctil se mostrará brevemente:

• Después, aparecerá el asistente de instalación.

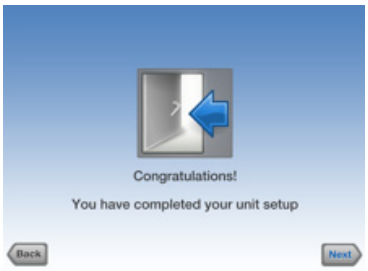
• Toque el asistente de instalación para elegir el idioma. Desplácese con la tecla de flecha arriba/abajo hasta que aparezca el ajuste deseado en pantalla y toque Next para guardar la selección y para desplazarse por las otras pantallas táctiles o Back para volver a la versión anterior.

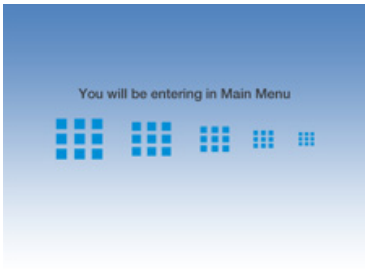
- Chino
- Inglés
- Francés
- Alemán
- Italiano
- Japonés
- Español



Elija un nombre para el baño (20 caracteres como máximo).

El nombre sirve para identificar el baño cuando al descargar archivos.





• Después de unos segundos, se muestra la pantalla táctil de encendido.

• Si lo desea, toque el botón para iniciar el baño o consulte el manual para modificar los ajustes del baño.

• se sustituye por . Toque cuando esté listo para detener el baño.

• Una vez puesta en marcha la unidad, revise todas las conexiones de fontanería para detectar posibles fugas.

• Ajuste el corte de temperatura alta (HTC) del dispositivo de seguridad; consulte el manual.

Configurazione guidata

ATTENZIONE

Lo scopo di questa configurazione guidata è esclusivamente quello di facilitare la messa in funzione iniziale. Per qualsiasi altra procedura, o se i passaggi qui esposti non dovessero risultare chiari, fare riferimento al manuale.
Prima di iniziare, leggere le indicazioni sui fattori di sicurezza riportate nel Capitolo 1.

Liquidi approvati:

- Acqua distillata/filtrata (pH 7-8)
- Acqua deionizzata (massimo 1 MΩ-cm, compensata)
- Acqua distillata con biocida o inibitore Nalco
- Acqua distillata con cloro (5 ppm)
- 50/50 etilenglicole/acqua per laboratorio
- 50/50 propilenglicole/acqua per laboratorio
- SIL 180 SIL 200

Elementi necessari per la messa in funzione:

- Chiavi regolabili
- Tubazioni rigide o flessibili idonee
- Fascette per tubi di dimensioni adeguate
- Liquido approvato

Lasciare i bagni in posizione verticale a temperatura ambiente per 24 ore prima dell'avvio. Questa operazione garantisce il rientro dell'olio lubrificante nel compressore.

- I collegamenti dei tubi per la circolazione esterna si trovano sul lato posteriore del bagno. indica il flusso di ritorno dall'applicazione esterna. indica il flusso di uscita verso l'applicazione esterna (lato alimentazione). I collegamenti sono di tipo maschio M16 x 1. Rimuovere i dadi e le piastre di raccordo e installare le fascette da ¼″, ½″, 8 mm o 12 mm forniti. Nella dotazione, vi sono inoltre delle fascette da ¼″ MNPT e ½″ MNPT utilizzate principalmente per gli scollegamenti rapidi.

Onde evitare danni alle tubature del bagno, usare una controchiave da 19 mm per la rimozione/l'installazione dei collegamenti esterni.

- Assicurarsi che la portella di scarico del serbatoio posta sul lato anteriore del bagno sia chiusa e che tutti i collegamenti dei tubi siano fissati. Assicurarsi inoltre di aver accuratamente rimosso eventuali residui presenti prima di procedere al riempimento.

- Onde evitare riversamenti, posizionare i contenitori nel bagno prima di procedere al riempimento.

- Riempire lentamente il serbatoio fino ad un livello compreso tra la tacca **MIN** e l'opportuna tacca **MAX**.

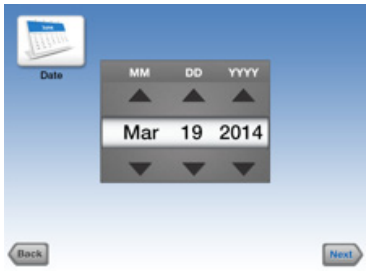
- Dopo aver collegato il cavo di alimentazione, portare la protezione di circuito posta sul lato posteriore del bagno in posizione **I**.

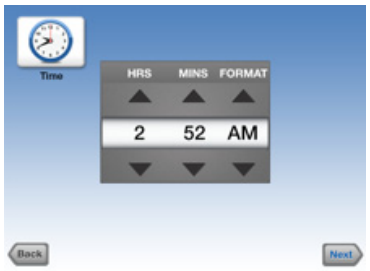
- Sullo schermo touchscreen compare per qualche secondo:

- Viene dunque visualizzata la schermata della configurazione guidata.

• Toccare Configurazione guidata per visualizzare Lingua. Toccare la freccia su/giù fino a raggiungere l'impostazione desiderata; toccare Next per salvare la selezione e passare alle schermate successive oppure Back per tornare alla schermata precedente.

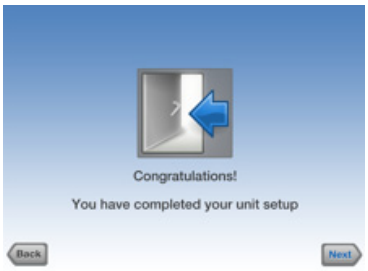
- Cinese
- Inglese
- Francese
- Tedesco
- Italiano
- Giapponese
- Spagnolo

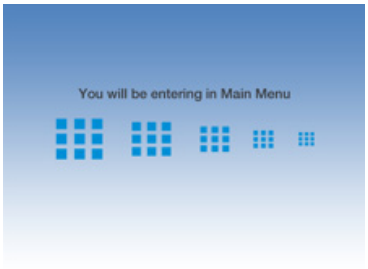




Assegnare un nome al bagno (sono ammessi al massimo 20 caratteri).

Il nome identifica il bagno durante il download dei file.





• Dopo qualche secondo compare la schermata Alimentazione.

Alimentazione Impostazioni Home Assistenza

• Se lo si desidera, toccare per avviare il bagno oppure fare riferimento al manuale per regolarne le impostazioni.

• viene sostituito da . Toccare quando si è pronti per arrestare il bagno.

• Dopo l'avvio, controllare tutti i collegamenti dei tubi per escludere eventuali perdite.

• Regolare il dispositivo di sicurezza HTC (High Temperature Cutout). Fare riferimento al manuale.

Installatiewizard

⚠ CAUTION

Deze installatiewizard is alleen bedoeld voor de eerste keer opstarten. Raadpleeg de handleiding voor alle andere procedures of als deze stappen niet duidelijk zijn. Lees Veiligheidsfactoren in hoofdstuk 1 voordat u begint.

Goedgekeurde vloeistoffen:	**Benodigdheden om te beginnen:**
Gefilterd/enkelvoudig gedestilleerd water (pH 7-8)	Verstelbare steeksleutels
Gedeïoniseerd water (maximaal 1 MΩ-cm, gecompenseerd)	Geschikte slang of leiding
Gedestilleerd water met biocide en inhibitor van Nalco	Slangklemmen van de juiste grootte
Gedestilleerd water met chloor (5 ppm)	Goedgekeurde vloeistof
50/50 laboratoriumkwaliteit EG/water	
50/50 laboratoriumkwaliteit PG/water	
SIL 180 SIL 200	

Laat baden gedurende 24 uur bij kamertemperatuur rechtop staan voordat u begint. Op die manier kan de smeerolie teruglopen in de compressor.

• De leidingaansluitingen voor externe circulatie zitten op de achterkant van het bad. ⇦ is de retourstroom van de externe toepassing. ⇨ is de uitlaatstroom naar de externe toepassing (toevoerzijde). De aansluitingen zijn mannelijk, M16 x 1. Verwijder de moeren en platen om de meegeleverde slangadapters van ¼ inch, ½ inch, 8 mm of 12 mm te installeren. Ook zijn er slangadapters van ¼ inch MNPT en ½ inch MNPT meegeleverd. Deze worden voornamelijk gebruikt voor snelkoppelingen.

Om schade aan de leidingen van het bad te voorkomen, dient een back-upsleutel van 19 mm te worden gebruikt bij het verwijderen/installeren van de externe aansluitingen.

• Zorg ervoor dat de afvoerpoort van het reservoir aan de voorkant van het bad is gesloten en dat alle leidingaansluitingen goed zijn aangesloten. Zorg er ook voor dat alle resten grondig zijn verwijderd voorafgaand aan het vullen.

• Plaats de containers in het bad voordat u gaat vullen, om morsen te voorkomen.

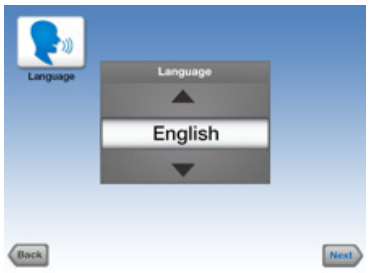
• Vul het reservoir langzaam tot een niveau tussen de vullijn **MIN** en de juiste vullijn **MAX**.

• Plaats de circuitbeveiliging aan de achterkant van het bad in de **I**-positie als de voedingskabel is aangesloten.

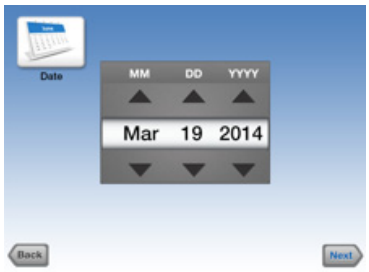
• Op het scherm ziet u nu:

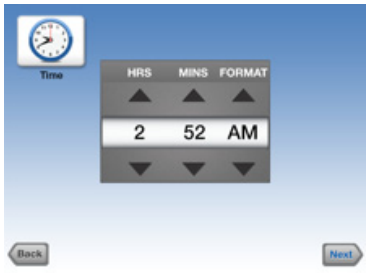
• Daarna verschijnt het display voor de installatiewizard.

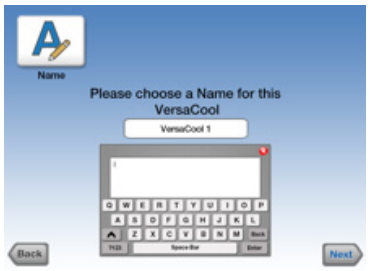
• Raak de installatiewizard aan om de taal weer te geven. Raak de pijl naar boven/beneden aan tot de gewenste instelling wordt weergegeven en raak daarna Next aan om de selectie op te slaan en verder te gaan naar de andere schermen of raak Back aan om terug te gaan naar het vorige scherm.



- Chinees
- Engels
- Frans
- Duits
- Italiaans
- Japans
- Spaans

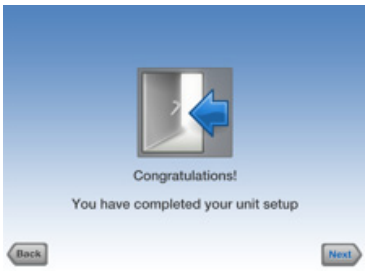


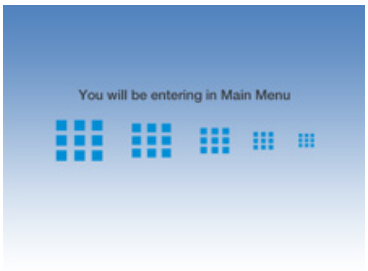




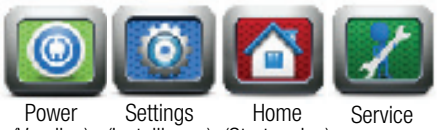
Geef uw bad een naam van maximaal 20 tekens.

De naam identificeert het bad als bestanden downloadt.





• Na een paar seconden wordt het scherm Power (Voeding) weergegeven.



Power (Voeding) | Settings (Instellingen) | Home (Startpagina) | Service

• Raak aan, indien gewenst, om het bad te starten of raadpleeg de handleiding om de instellingen van het bad aan te passen.

• wordt vervangen door . Raak aan als u het bad wilt stoppen.

• Controleer na de start alle leidingaansluitingen op lekken.

• Pas het HTC-veiligheidsapparaat (Uitschakeling bij Hoge Temperaturen) aan, raadpleeg hiervoor de handleiding.

2

Chapter 2 General Information

Description

All Thermo Scientific VersaCool™ Refrigerated Bath Circulators can pump to an external system. All have a digital display and easy-to-use touchscreen, five programmable set point temperatures, acoustic and optical alarms, and offer adjustable high temperature protection.

Intended Use

Intended use is to provide heating, cooling or constant temperature to applications placed into the reservoir and/or pumped to an external application in accordance with all the procedures and requirements stated in this manual.

Intended for use in a laboratory environment, on a bench top only.

Typical lab applications include:

Analytical Instrumentation	Lasers
General Laboratory Cooling	Condensers
Rotary Evaporators	Bio-reactors
Microscopes	Histology

The serial tag on the rear identifies the bath, its electrical requirements and the refrigeration data.

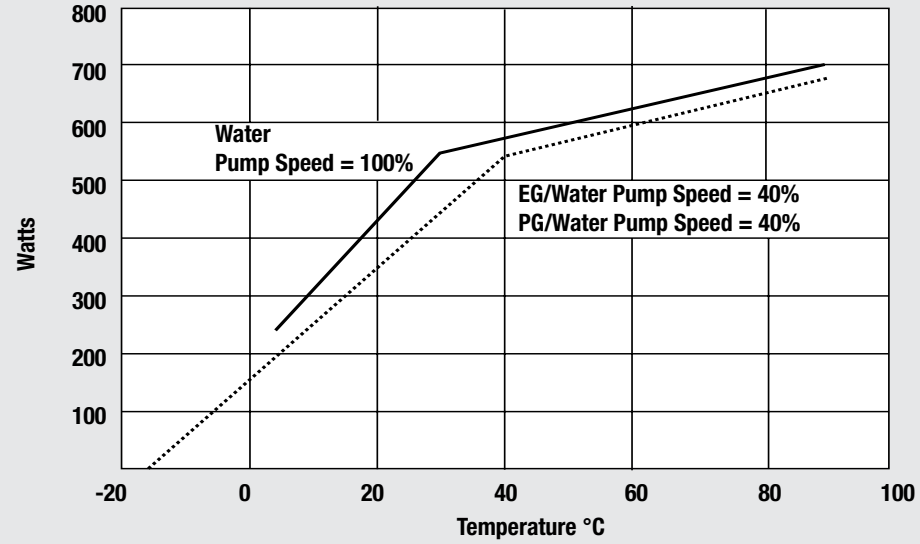
Specifications

	VersaCool	
Process Fluid Temperature °C **Range** °F	-20 to 150 -4 to 302	
Ambient Temperature °C **Range** °F	10 to 40 50 to 104	
Internal Bath Stability °C Water EG/Water PG/Water	 ±0.03 ±0.06 ±0.05	
Cooling Capacity watts	425	
Heating Capacity watts 115V 230V	 1200 2000	
Bath Volume liters gallons	7.0 1.8	
Bath Work Area Dimensions (D x W x L) cm inches	 15.5 x 17.3 x 29.9 6.0 x 6.8 x 11.7	
Net Weight kg lb	36 80	
Pumping Capacity Max flow rate (lpm/gpm) Max pressure (mbar/psi)	 14.5/3.8 1200/17.40	
Electrical Requirements (VAC/Hz) (Voltage ±10%)	100-120 /50 or 60 or 200-240 /50 or 60	
Interfaces	Remote Sensor Port Micro USB USB RS232 RS485	Bluetooth Ethernet Smart-Vue Multifunction I/O Port
Compliance	CE RoHS	cULus WEEE
Maximum Relative Humidity °C (Non Condensing)°F	80% for temperatures up to 31°(88°F) decreasing linearly to 50% relative humidity at 40°C (104°F)	
Operating Altitude meters feet	Sea Level to 2000 Sea Level to 6560	
Overvoltage Category	II	
Pollution Degree	2	
Degree of Protection	IP20	
R134A Refrigerant kilograms ounces	0.18 6.35	
Storage Temperature Range °C °F	-25 to +60 -13 to +140	
Location of Use	Indoor only	

Specifications obtained at sea level using water (above +5°C to +90°C) or a fluid with a specific heat of 2.3 kJ/kg-K or 0.55 Btu/lb-F (less than 5°C) as the recirculating fluid at a +20°C to +24°C (unless otherwise specified) ambient condition, at nominal operating voltage. Other fluids, process or ambient temperatures, altitude or operating voltage will affect performance. Pump specifications are nominal values of ±10%. Reduce work area depth to 10.3 cm (4 inches) when using silicon oil.

• Thermo Fisher Scientific reserves the right to change specifications without notice.

Cooling Capacity

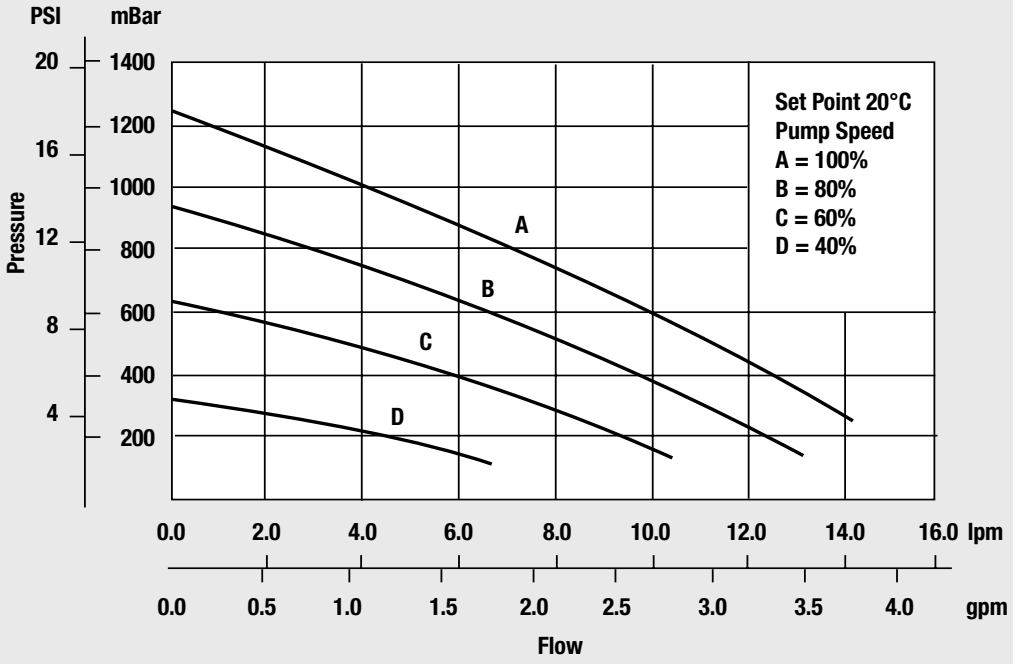


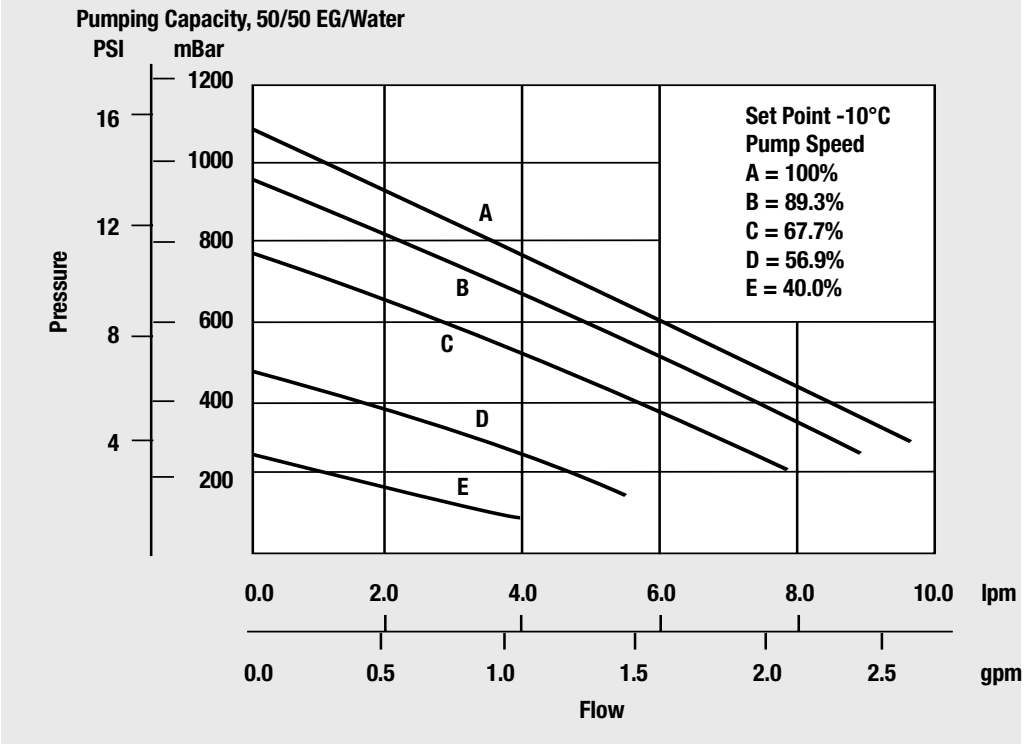
Specifications at sea level using at a +20°C ambient condition, at nominal operating voltage. Other fluids, process or ambient temperatures, altitude or operating voltage will affect performance. The bath was operating with the lid closed and no heat load lid or any external circulation.

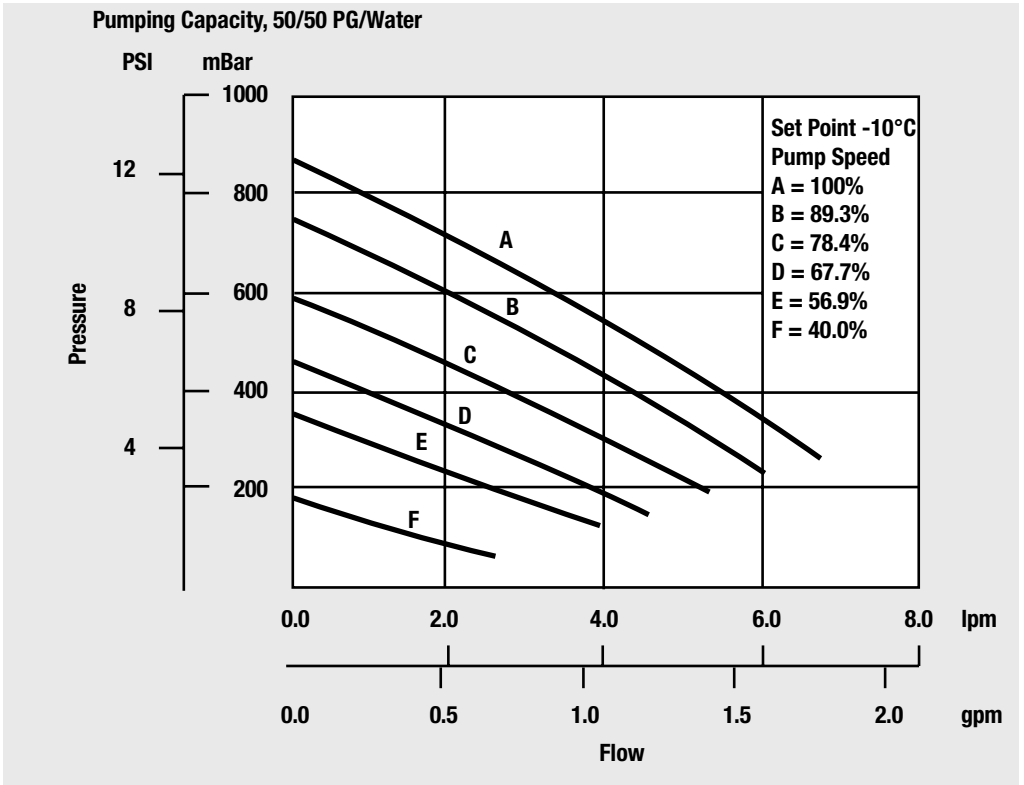
Minimum temperatures are only achieved with the above conditions. If your conditions vary from above, minimum temperature will most likely not be achieved.

• Thermo Fisher Scientific reserves the right to change specifications without notice.

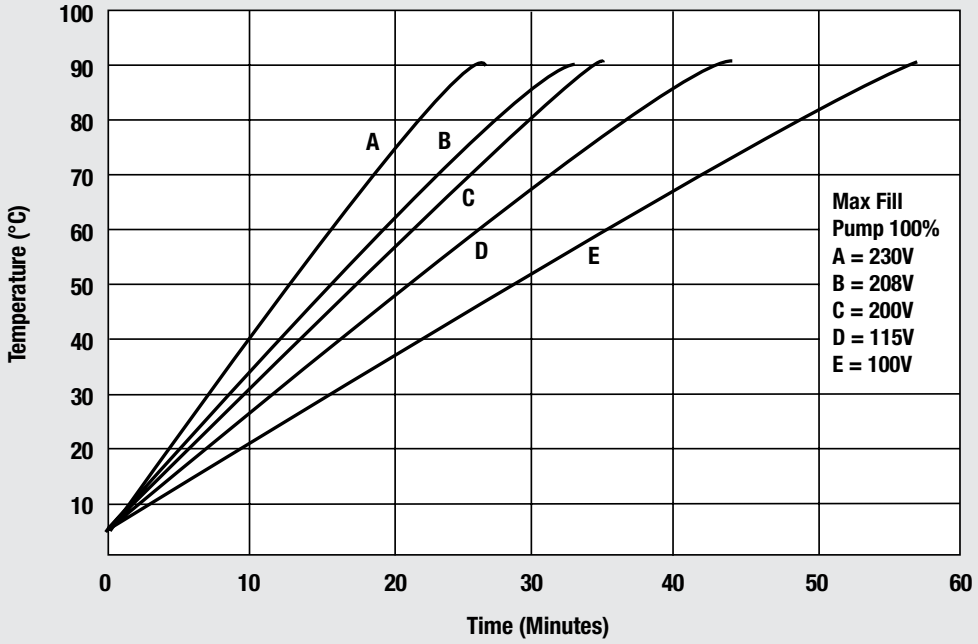
Pumping Capacity, Water



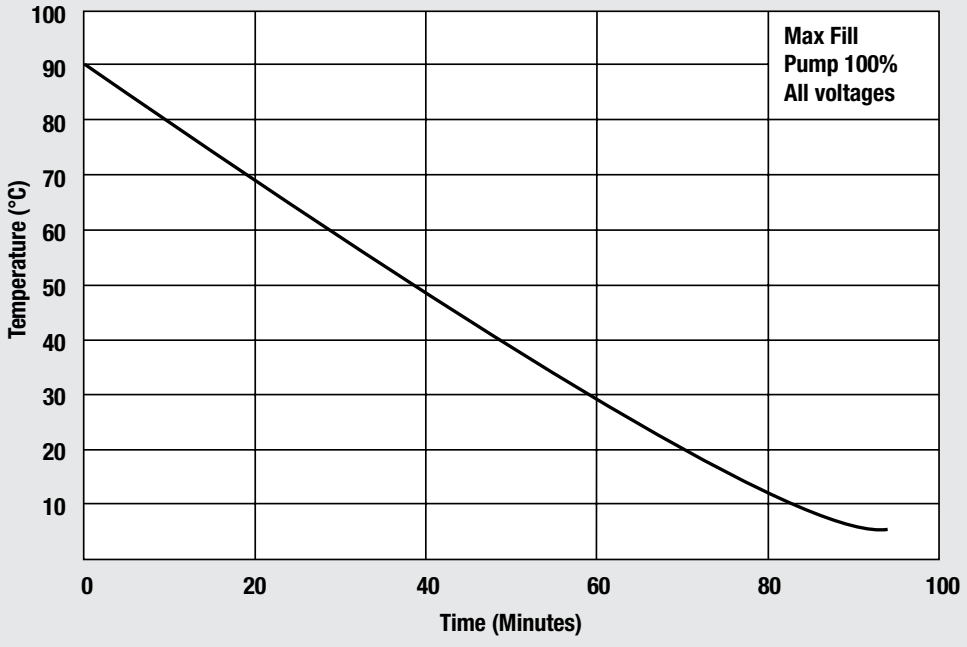

Pumping Capacity, 50/50 EG/Water
PSI
mBar
1200
1000
800
600
400
200
16
12
8
4
Pressure
A
B
C
D
E
Set Point -10°C
Pump Speed
A = 100%
B = 89.3%
C = 67.7%
D = 56.9%
E = 40.0%
0.0
2.0
4.0
6.0
8.0
10.0
lpm
0.0
0.5
1.0
1.5
2.0
2.5
gpm
Flow


Pumping Capacity, 50/50 PG/Water
PSI
mBar
1000
800
600
400
200
12
8
4
Pressure
A
B
C
D
E
F
Set Point -10°C
Pump Speed
A = 100%
B = 89.3%
C = 78.4%
D = 67.7%
E = 56.9%
F = 40.0%
0.0
2.0
4.0
6.0
8.0
lpm
0.0
0.5
1.0
1.5
2.0
gpm
Flow

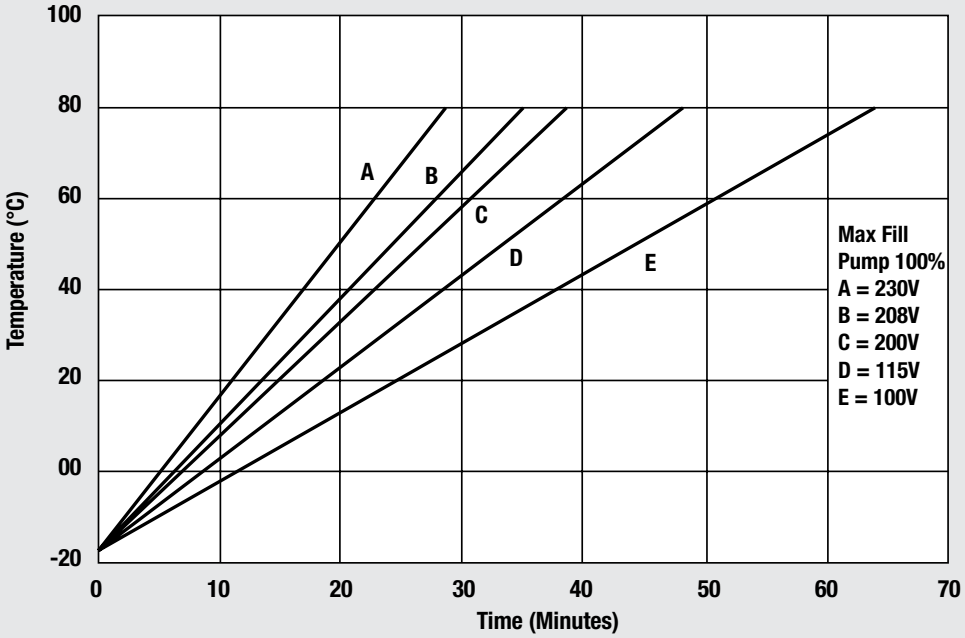
Time to Temperature, Water



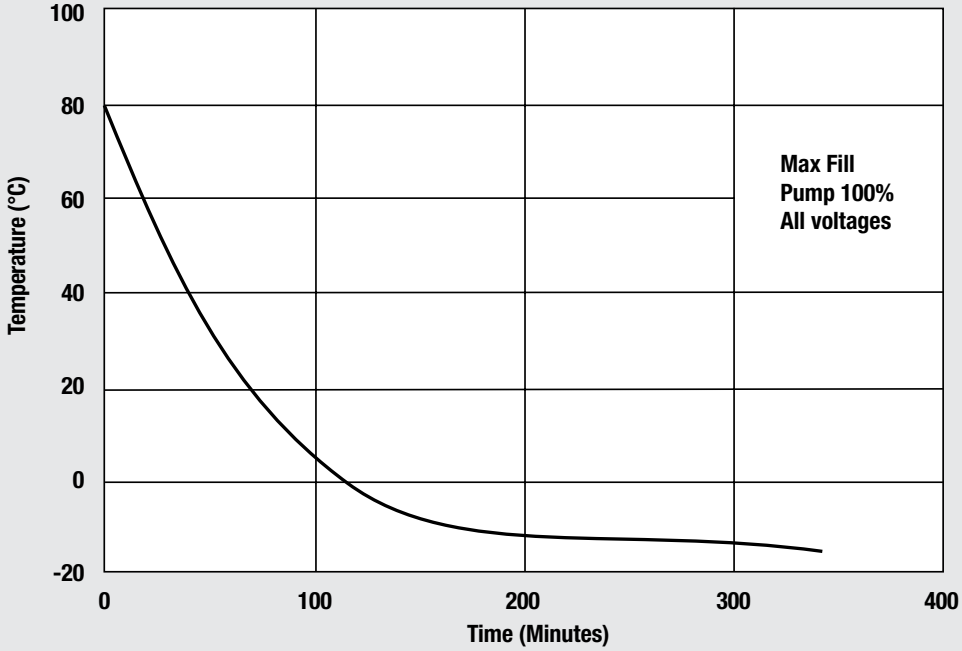
Time to Temperature, Water



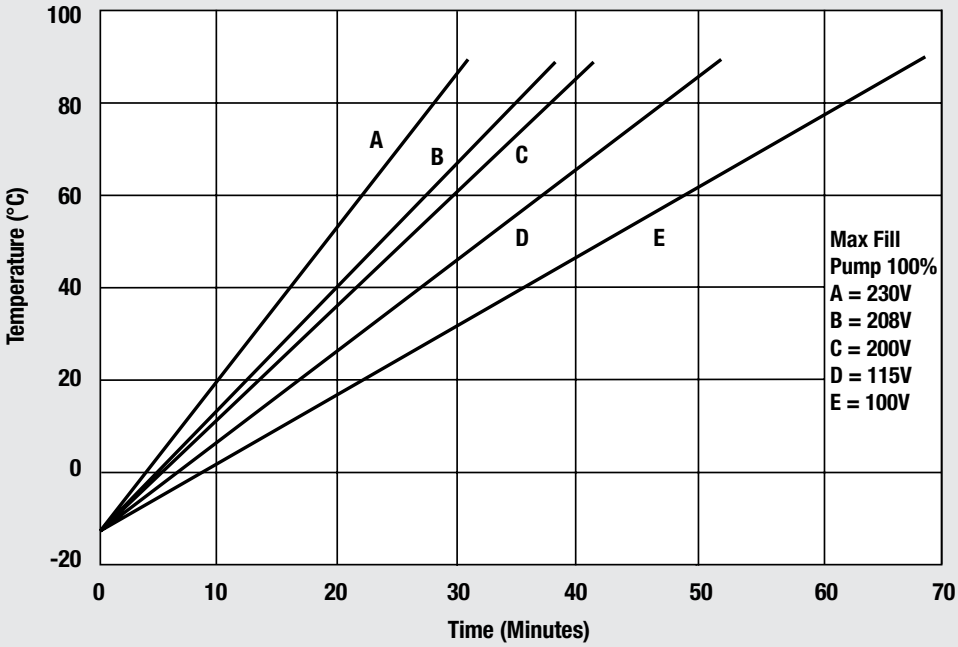
Time to Temperature, EG/Water 50/50



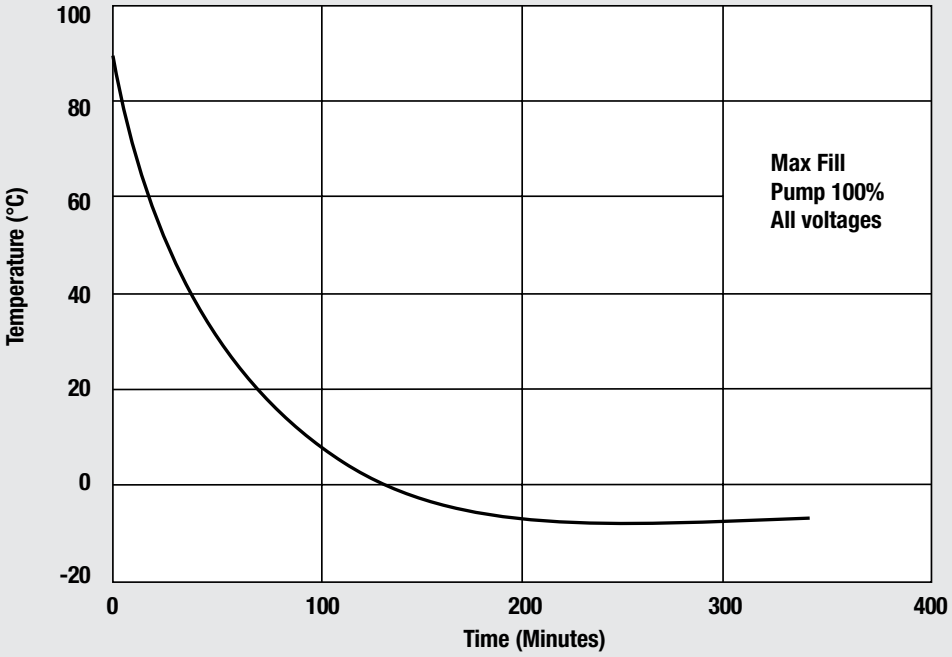
Time to Temperature, EG/Water 50/50



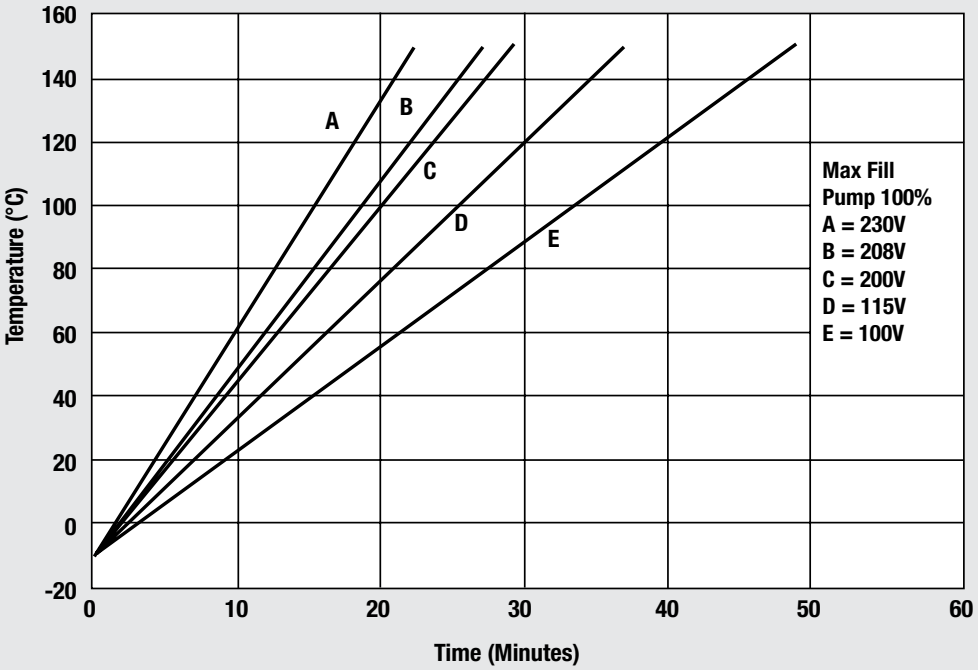
Time to Temperature, PG/Water 50/50



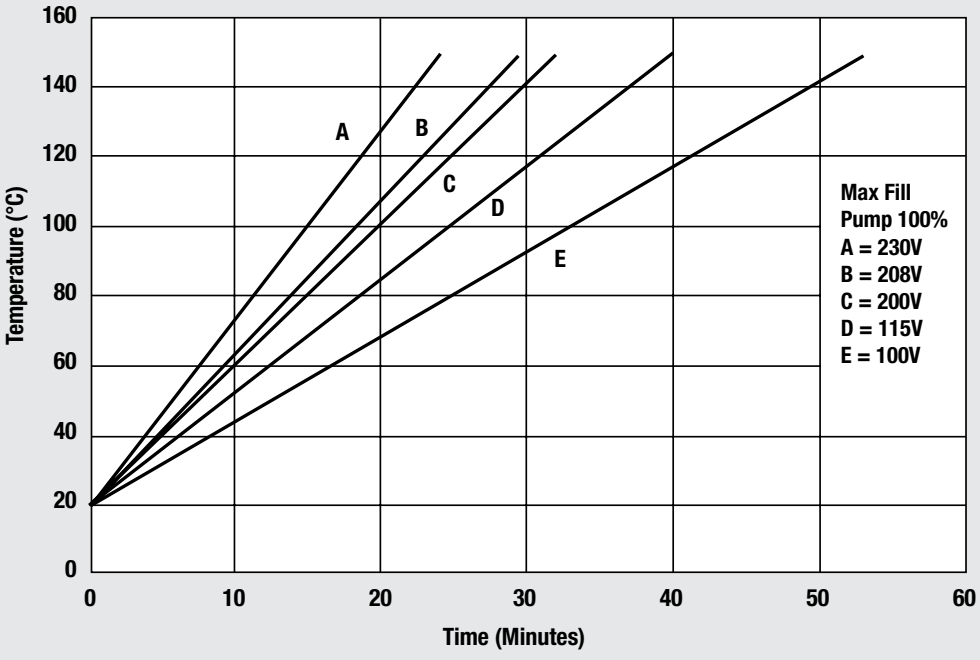
Time to Temperature, PG/Water 50/50



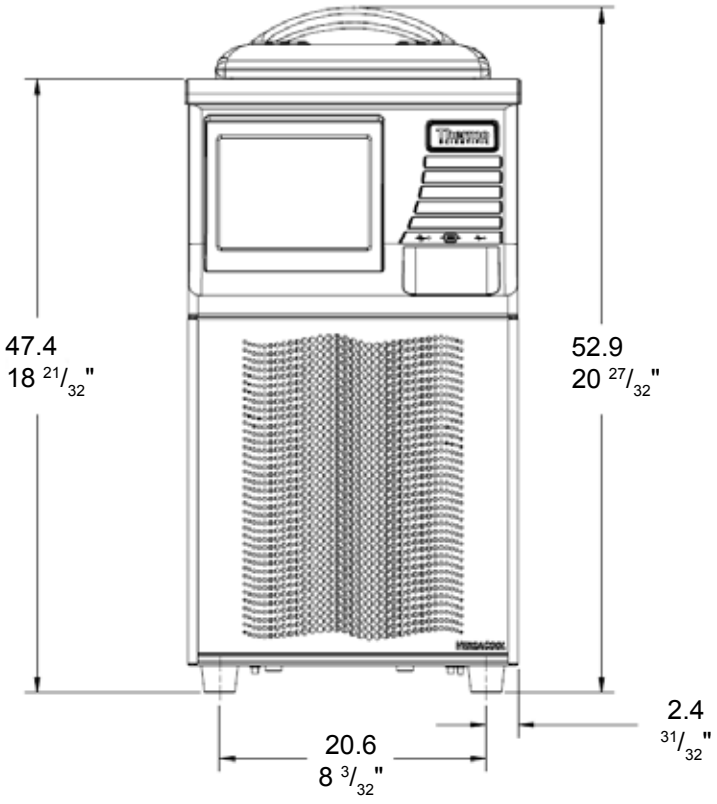
Time to Temperature, Sil 180

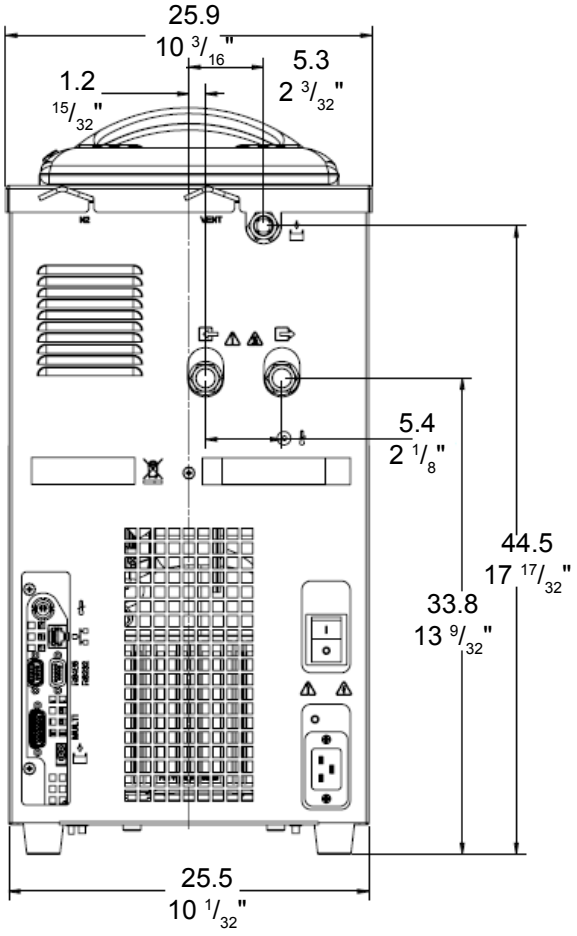


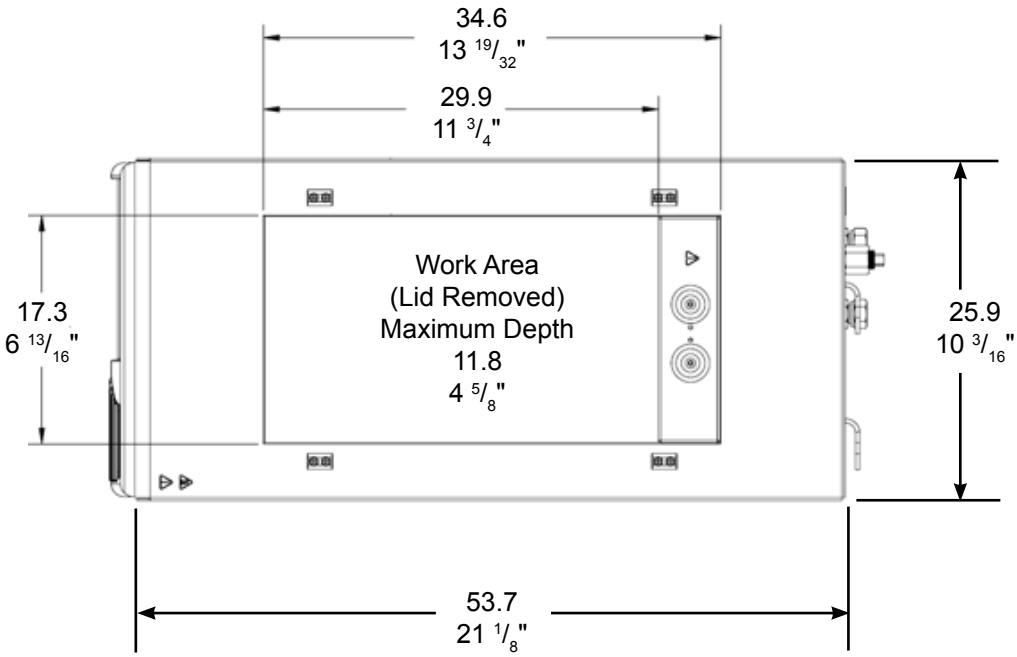
Time to Temperature, Sil 200

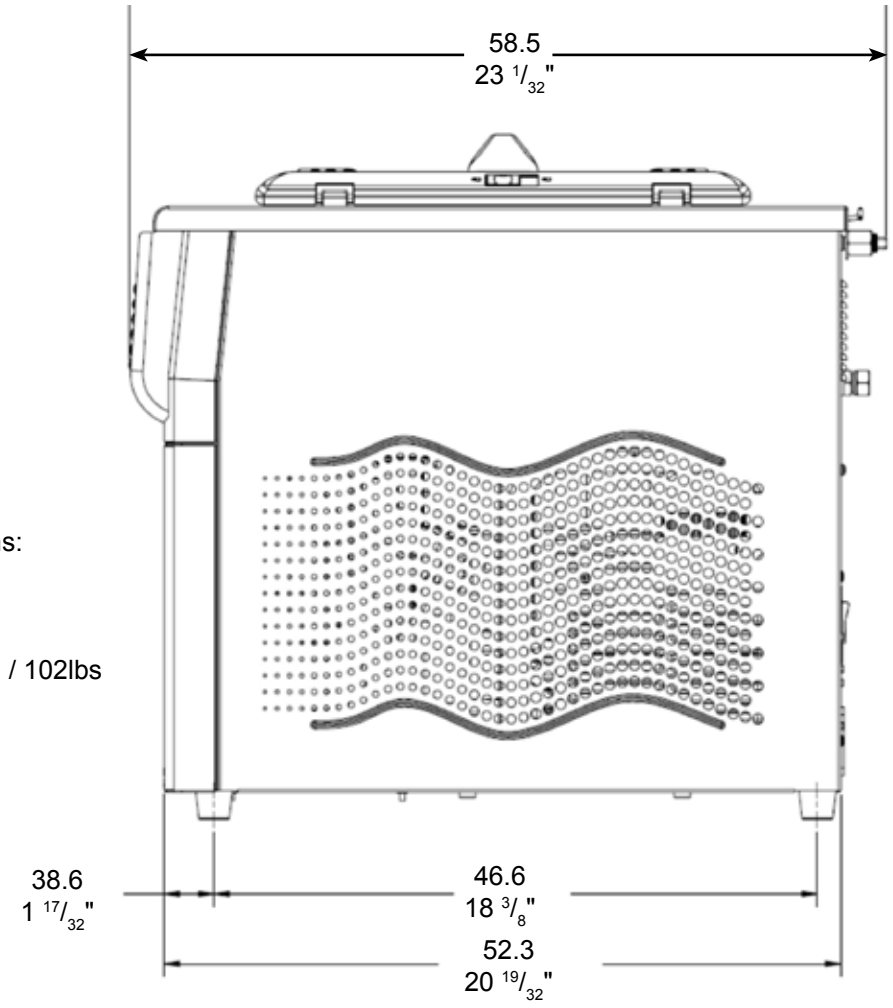


centimeters
inches









Shipping crate dimensions:
H = 78.11cm / 30.75”
W = 38.74cm / 15.25”
D = 78.11cm / 30.75”
Shipping weight = 46.3kg / 102lbs

3

Chapter 3 Installation

Bath Installation

The bath is designed for continuous operation and for indoor use.

CAUTION **Never place the bath in a location where excessive heat, moisture, inadequate ventilation, or corrosive materials are present.**

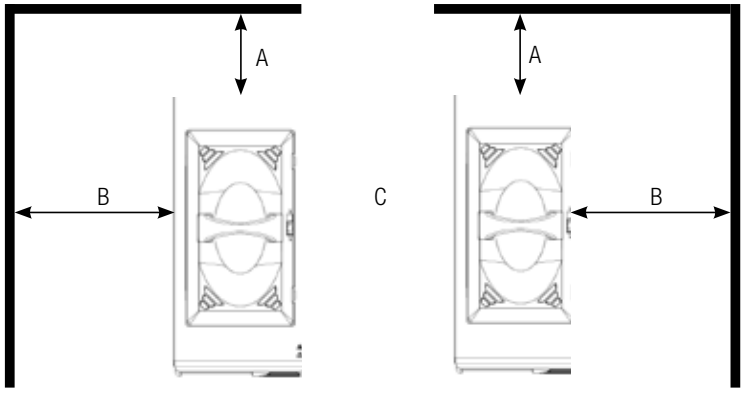
CAUTION **Baths should be left in an upright position for 24 hours at room temperature before starting. This will ensure the lubrication oil has drained back into the compressor.**

Ventilation

Inadequate ventilation will result in excessive internal bath temperatures that may result in system shutdown and component failures.

Operating with water up to 90°C and up to 40°C ambient, or Silicon Oil up to 150° and up to 35°C ambient, requires a minimum clearance of 0 inches on one side, open on the other side and 6 inches on the rear.

CAUTION **Operating with Silicon Oil above 125°C and 35°C ambient or above requires a minimum clearance on one side of 12”, open on the other side and 6” in the rear.**



Minimum Clearance

A = 6" (15.2 cm)
B = 0"
B = 12" (30.5 cm) for Sil Oil above 125°C and 35°C ambient or above
C = Must be open

Electrical Requirements

Refer to the nameplate on the rear of the bath for specific electrical requirements.

The bath is intended for use on a dedicated outlet.

DANGER

The bath construction provides protection against the risk of electrical shock by grounding appropriate metal parts. The protection will not function unless the power cord is connected to a properly grounded outlet. It is the user's responsibility to assure a proper ground connection is provided.

EN 61000-3-11 Compliance: This equipment complies with EN/IEC 61000-3-11 provided that main power system impedance (Zmax) is less than or equal to 0.10Ω + j0.06Ω at the interface point between the user's supply connection and the public system. Consult with the local supply authority if necessary for system Zmax determination.

The circuit protector on the rear of the bath is designed to protect the bath's internal components.

Note If the circuit protector activates allow the temperature to cool before resetting. Restart the bath. Contact us if the circuit protector activates again.

CAUTION

The bath's electrical power cord is used as the disconnecting device, it must be easily accessible at all times.

CAUTION

Ensure the cord does not come in contact with any of the plumbing connections, reservoir contents or tubing.

Note Before inserting the electrical cord into the connection ensure the circuit protector is in the **O** (off) position.

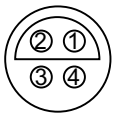
Once the cord is connected to the bath, connect the other end to the main power source.

Connectivity

WARNING

Never apply line voltage to any of these connections.

This connection located on the rear of the bath is used to accommodate a temperature monitoring probe including the optional Smart-Vue system probe.



Remote Temperature Sensor

The remote temperature sensor on the rear of the bath requires a 4-pin connector that must mate to a LEMO # ECP.1S.304.CLL. The bath uses a 3 wire sensor, but a 4 wire sensor can be used (pins 3 and 4 are interconnected in the control head). The pin-out is:

Pin 1 and 2 = Pt100 + Pin 3 and 4 = Pt100 -

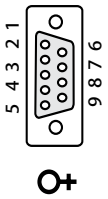
See Chapter 4 for instructions to enable the remote sensor.

Ethernet

Indicates the location of the standard RJ45 Ethernet connection for use with future communication/control protocols.

Serial Communications

The RS232 9-pin connector on the front and rear of the bath are used to select and activate serial communications. There is also a RS485 9-pin connector on the rear of the bath for use with future communication/control protocols. See Appendix A for additional information.

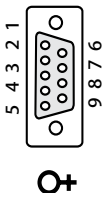


RS232

Pin #	Function
1, 4, 6-9	No connection
2	TX
3	RX
5	GND = Signal ground

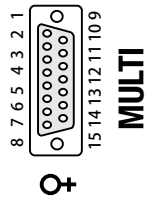
TX = Transmitted data from bath

RX = Received data to bath



RS485

Pin #	Function
1-7	No connection
8	T+
9	T-



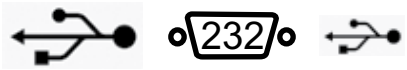
Multifunction Port

The 15-pin Multifunction port on the rear of the bath has contacts for fault/warnings detection, remote on/off and can set and report temperature to your PLC. See Appendix B for additional information.

Auto Refill

Indicates the location of the connection for the optional auto refill accessory.

In addition there are USB, RS232 and MicroUSB connections located on the front of the bath.



The USB connection is used for data upload, e.g., firmware upgrades, user ramping programs, and data download, e.g., data logging and user defined ramping programs. It will be used with future communication/control protocols.

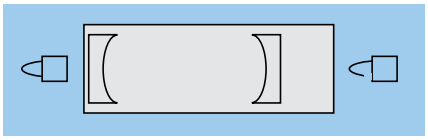
The RS232 and MicroUSB connections will also be used with future communication/control protocols.

Mobile Communications

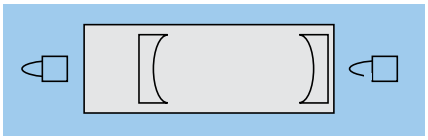
The VersaCool Mobile App can use any iOS or Android smart phone or tablet to control and monitor up to seven VersaCool baths. Mobile communications is enabled when the circuit protector on the rear of the bath is in the **I** position. See Appendix C for additional information.

Lid Reversal/Removal

To remove or reverse the lid slide the tab on the side of the lid to the unlocked position and then lift the lid. Once reversed and properly positioned use the tab to lock the lid into place.



Locked



Unlocked

External Circulation

The plumbing connections for external circulation are located on the rear of the bath. is the return flow from the external application. is the outlet flow to the external application (supply side). The connections are male M16 x 1. Remove the union nuts and plates to install the supplied ¼″, ½″, 8 mm or 12 mm hose barbs. Also supplied are ¼″ MNPT and ½″ MNPT hose barbs used primarily with quick disconnects.

Note When not using external circulation the plumbing connections must be capped.

Note To prevent damage to the bath's plumbing, use a 19 mm backing wrench when removing/ installing the external connections.

Approved Fluids

WARNING **Only use the approved fluids listed in this manual.**

Thermo Fisher Scientific takes no responsibility for damages caused by the selection of an unapproved fluid.

WARNING **Ensure, when selecting the heat transfer fluid, that no toxic gases are generated. Inflammable gases can build up over the fluid during usage. Other than water, handle and dispose of approved fluids in accordance with the fluid manufacturer's specification and/or the fluid's Safety Data Sheet (SDS).**

CAUTION **To set the fluid temperature alarms, use the bath's menu selection to identify the fluid, see Chapter 4.**

CAUTION **When using water above 80°C closely monitor the fluid level, frequent top-offs will be required. It will also create steam.**

CAUTION **Glycol/Water mixtures require top-offs with pure water, otherwise the percentage of glycol will increase resulting in high viscosity and poor performance.**

CAUTION **Ensure the over temperature cut-off point is set lower than the fire point for the heat transfer fluid selected.**

CAUTION **The highest working temperature, as defined by the EN 61010 (IEC 1010), must be limited to 25°C below the fire point of the fluid.**

Refer to Chapter 4 for fluid set point ranges.

Water, Distilled Water or Deionized Water (1 MΩ-cm maximum)

Normal tap water leads to calcareous deposits necessitating frequent bath decalcification.

Calcium tends to deposit itself on the heating element. The heating capacity is reduced and service life shortened.

Well or municipal water should not be used unless it has been tested by a lab to meet the minimum requirements shown on the next page. The primary risks of using untested and untreated tap water are corrosion caused by an out of range pH value and/or the concentration of dissolved solids, and those dissolved solids precipitating out of solution and forming scale.

Water Quality and Standards		
Process Fluid	**Permissible (PPM)**	**Desirable (PPM)**
Microbiologicals (algae, bacteria, fungi)	0	0
Inorganic Chemicals		
Calcium	<25	<0.6
Chloride	<25	<100
Copper	<13	<10
	0.020 ppm if fluid in contact with aluminum	
Iron	<0.3	<0.1
Lead	<0.015	0
Magnesium	<12	<0.1
Manganese	<0.05	<0.03
Nitrates\Nitrites	<10 as N	0
Potassium	<20	<0.3
Silicate	<25	<1.0
Sodium	<20	<0.3
Sulfate	<25	<1
Hardness	<17	<0.05
Total Dissolved Solids	<50	<10
Other Parameters		
pH	6.5-8.5	7-8
Resistivity	0.01*	0.05-0.1*

* MΩ-cm (compensated to 25°C)

Unfavorably high total ionized solids (TIS) can accelerate the rate of galvanic corrosion. These contaminants can function as electrolytes which increase the potential for galvanic cell corrosion and lead to localized corrosion such as pitting. Eventually, the pitting may become so extensive that refrigerant will leak into the reservoir.

As an example, raw water in the United States averages 171 ppm (of NaCl). The recommended level for use in a water system is between 0.5 to 5.0 ppm (of NaCl).

Recommendation: Initially fill the reservoir with distilled or deionized water. Do not use untreated tap water as the total ionized solids level may be too high. This reduces the electrolytic potential of the water and prevent or reduce the galvanic corrosion observed.

Advantages	Disadvantages
Readily available	Can support bio-growth
Great capacity to carry heat	Evaporates readily at top of temperature range
Low viscosity	Corrosive to ferrous metals
Compatible with many materials	pH needs to be maintained
Distilled water is sterile	Distilled and DI water need to be tested
-	Distilled and DI water must be purchased or require specialized equipment to produce on site
-	Deionizing does not guarantee sterility

Chlorine

Short term usage of tap water may not cause any adverse affects on the bath or your application, but in the long term problems may arise. To help alleviate these problems Thermo Fisher Scientific recommends the use of chlorine.

The duration of time that chlorine remains in solution depends on factors such as water temperature, pH and availability of direct sunlight. We recommend maintaining chlorine levels at proper levels using chlorine test strips, generally 1 to 5 ppm is adequate.

For best results, maintain the pH of the fluid between 6.5 and 7.5. Do not add additional chlorine without first determining the concentration ratio that already exists in the fluid supply. Corrosion and degradation of the circulation components can result from concentration ratios that are too high. Contact our customer support for additional information.

Nalco

We recommend Nalco algaecide/corrosion inhibitor for applications with aluminum and/or where biological growth is a concern.

50/50 Laboratory Grade Ethylene Glycol with Water, by volume
50/50 Laboratory Grade Propylene Glycol with Water, by volume

Glycols are the most common freeze-point suppressant. **Note** Low-end temperatures using 50/50 EG/Water or 50/50 PG/Water were achieved using lower pump speeds.

Excess glycol deteriorates the temperature accuracy due to its high viscosity.

Advantages	Disadvantages
Wider temperature range than water alone	Does not remove heat as well as water alone
Low cost and readily available	The viscosity goes up as the temperature goes down (PG is more viscous than EG at lower temperatures)
Good capacity to carry heat	Can support bio-growth
Low viscosity	Evaporates readily at top of temperature range
Compatible with many materials	Can become corrosive without inhibitor
Sterile (PG is Less toxic/safer to use, easier to dispose of than EG)	pH needs to be maintained to prevent corrosion
-	Toxic - needs to be handled and disposed of with care

Silicon Oil (Sil 180, Sil 200)

Silicone oil comes in a variety of viscosities and temperature ranges. The higher-viscosity silicone oils typically also have a higher fire point and work well at temperatures that cannot be achieved with water (> 95°C). The lower viscosity silicone oils are intended for use below 0°C, where their lower viscosity allows them to still be effectively pumped or circulated. Silicone oil can also be used between 5 °C and 95 °C for applications that cannot use water.

Advantages	Disadvantages
Wide temperature range	Expensive
Low rate of evaporation	Messy – fumes can create oil film
No bio-growth	Disposal
Non-corrosive	Can become corrosive without inhibitor
Widely compatible	Not compatible with silicone hose or ABS plastic
Long life span (over 1 year) and negligible smell	Immiscible in water (does not mix)

Additional Fluid Information

- Other than water, do not use any approved fluid until you have read and understood the manufacturer's instruction for use and the Safety Data Sheet (SDS).
- Ensure any fluid residue or any other material is thoroughly removed before filling the reservoir with a different fluid.
- Always wear protective clothing, especially a face shield and gloves.
- Avoid spattering on any of the circulating bath's components, always slowly add fluid. When adding, point the opening of a container away from yourself.
- For proper ventilation, use a fume hood.
- Do not allow any ignition sources in the vicinity.
- When using oil:

  Oil contaminated with water may effervesce when oil is heated above 100°C causing the reservoir to overflow. In order to dry the oil, operate the bath at 100°C for one hour and then at 105°C for another hour.

  Clean and dry the reservoir and covers, especially gable covers. Any item placed in the reservoir must also be dry.

  Vacuum out reservoir, drain line and process lines.

Tubing Requirements

CAUTION

Ensure none of the tubing comes in contact with the power cord.

Tubing is normally used to connect the pump to an external application.

Note The maximum allowable length of tube depends largely on the size, form and material of the external reservoir. The length of tube and its diameter, combined with the circulating capacity, have a large affect on the temperature stability. Whenever possible, use a wider tube diameter and place the application as close as possible to the bath.

CAUTION

Operating the bath at either the high or low end temperature limits will lead to similar temperatures on the tube surface, this is even more critical with metal tubing.

- The required tube material depends on the heat transfer liquid used
- Tubes must not be folded or bent
- After prolonged use, tubes may become brittle or they may get very soft, check them on a daily basis and replace if necessary
- Secure all tube connections using clamps

When using the internal reservoir only, the plumbing connections must be closed with the supplied plate and union nuts.

CAUTION

Ensure the tubing you select meets your maximum temperature and pressure requirements.

Plastic and rubber tubing

If plastic and rubber tubes are used, ensure that the tubes selected are fully suitable for the particular application, i.e., that they will not split, crack or become disengaged from their connections.

Connect the tubing using the supplied tube fittings. They are attached to the plumbing connections with a supplied coupling nut.

Supplied Fittings:

M16 - to - 1/4" NPT (M)	M16 - to - 1/2" NPT (M)
8mm Hose Barb	12mm Hose Barb
1/4" Hose Barb	1/2" Hose Barb

We highly recommend using foam rubber insulation on the tubing and the fittings.

Metal tubing

Thermo Scientific metal tubing (stainless steel insulated) offers a particularly high degree of safety and is suitable for both low and high temperatures/liquids.

The metal tubing is attached directly to the plumbing connections, gaskets are not required.

Note Do not subject tubing to mechanical strain and ensure any specified bend radius is not exceeded.

Tubing is available in lengths of 0.5, 1.0 and 1.5 meters. Couplings for connecting tubes are also available.

The smallest opening inside the metal tubes is 10 mm. The metal tubing is provided with coupling nuts (M16 x 1, DIN 12 879, part 2) at either end.

Optional Auto Refill Accessory

The auto refill accessory attaches to the  connections on the rear of the bath. The auto refill provides make-up fluid to replace bath fluid lost to evaporation, etc. It will require a pressurized fluid source.

When make-up fluid is available and the bath is turned on, for normal operation the auto refill will keep the reservoir fluid at the levels set using the bath's touchscreen, see Chapter 4. The auto refill shuts off when the fluid reaches those levels, or if the bath is turned off.

Note The maximum input pressure rating is 150 psi.

Nitrogen Purge

Baths are equipped with nitrogen purge line and vent designed to accept a constant flow of dry nitrogen into the reservoir. The nitrogen blankets the cooling fluid reducing fluid evaporation.

Connect your nitrogen line to the N2 1/8" OD tube on the rear of the bath.

Note Limit the pressure to no more than 3 PSI.

Filling Requirements

Ensure the reservoir drain port on the front of the bath is closed and that all plumbing connections are securely plumbed or capped. Also ensure any residue is thoroughly removed from the reservoir before filling.

CAUTION

Before using any fluid refer to the manufacturer's MSDS and EC safety data sheets for handling precautions.

To avoid spilling, consider fluid displacement when objects are placed in the reservoir.

Slowly fill the reservoir until the fluid is between the MIN and the water or oil MAX fill lines.
Note Operating the bath with the fluid below the MAX fill line will reduce cooling capacity.

CAUTION

Avoid overfilling, oil-based fluids expand when heated. The maximum fill when using Silicon Oil is 6 liters (1.65 gallons).

When pumping to an external system, keep extra fluid on hand to maintain the proper level in the circulating lines and the external system.

Note Monitor the fluid level whenever heating the fluid.

Draining

CAUTION

Always drain the bath before moving or storing.

CAUTION

Before draining any fluid refer to the manufacturer's MSDS and EC safety data sheets for handling precautions.

Ensure the fluid is at a safe handling temperature, ~40 °C. Wear protective clothing.

- Remove the lower front panel to expose the drain.
- If desired, attach an 8 mm id tube on the drain.
- Place a suitable receptacle underneath the drain.
- Slowly turn the drain plug until flow is observed.

Note When the reservoir empties there is still 1/3 liter of fluid in the bath lines. To ensure all the fluid is removed ensure the flow has totally stopped from the drain plug before closing.

- Use a wet-vac on the drain connection to remove 100% of the process fluid.
- When the flow stops close the drain plug.

Chapter 4 Operation

Initial Start Up

For initial start up refer to the Setup Wizard in the front portion of this manual.

Daily Start Up

CAUTION

Before starting, double check all connectivity, electrical and plumbing connections.

Do not run the bath until fluid is added to the reservoir. Have extra fluid on hand. If the bath does not start refer to Chapter 6 Troubleshooting.

- Place the circuit protector located on the rear of the bath to the **I** position.

- The touchscreen momentarily displays:

Note The bath may “click” as it loads.

When loading is complete the **Power** touchscreen will appear.

This icon indicates the bath is using the internal temperature sensor. The procedure to switch to the remote, 

, or outlet sensor, 

, is addressed later in this chapter.

This icon indicates the approximate reservoir fluid level.

• Touch  to place the bath into the sleep mode, this causes the screen to go blank. Touch any part of the blank screen to come out of the sleep mode.

The display also shows the process fluid temperature as well as the set point. The set point is the desired process fluid temperature.

• Touch  to start the bath. The  icon becomes  , touch it to stop the bath.

Additional icons can be displayed but they are on only when that component is running/enabled.

This icon indicates the pump is running, it is always on when the bath is running.

This icon indicates the heater is on, it flashes when the heater is cycling on and off.

This icon indicates the refrigeration is on.

This icon indicates the timer, used to start/stop the bath at a specific time, is enabled.

This icon indicates a connectivity option is enabled.

Touch one of the four icons on the bottom of the screen to operate and configure the bath.

Note The bottom boarder of the selected icon is highlighted with a green glow.

Power is used to bring up the screen needed to start and shut down the bath. It also displays the process fluid temperature, set point (program name if a program is running), temperature sensor and reservoir fluid level.

Settings is primarily used to configure the bath's displays, e.g., date, time and language.

Home is primarily used to configure the bath's operating values, e.g., set points, alarms, fluid type and pump speed.

Service is primarily used to maintain/troubleshoot the bath, e.g., perform a calibration, display error messages and reset factory values.

The screen can also display a keypad and keyboard.

The keypad automatically appears when a numerical value needs changing. Touch the keys to enter the desired setting and then touch **OK** to accept the value and close the keypad. Touching X before touching **OK** also closes the keypad but ignores the change.

Invalid entries turn red when **OK** is touched.

Touch here for capital letters
Touch here for numerals

The keyboard automatically appears to enter/edit text. Touch the keys to enter the desired text and then touch **Enter** to accept the change and close the keyboard. Touching X before touching **Enter** also closes the keyboard but ignores the change.

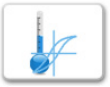
When keypad and keyboard are used  and  always appear at the bottom of the display. You must touch either  to save the change, or touch  to not save the change, in order to return to the previous screen.

Except for Full Screen Charting, if any screen is not touched for 60 seconds a status screen appears. This screen displays the selected process fluid and the process fluid temperature. Touching the status screen returns you to the previous display.

Changing the Set Point

Touch 28.00°C to bring up the set point selection display.

Set Point

Either touch XX.X°C to bring up the keypad to make changes or touch  next to the desired preset set point to select it.

Touch  or  to return to the **Power** touchscreen.

For set point ranges and how to change the five preset set points refer to Viewing/Changing a Home Screen in this chapter.

Touchscreen Displays

Touching any one of the four icons at the bottom of the screen brings up access to a lower level of displays used to operate the bath. Some of the displays have additional lower levels.

Power

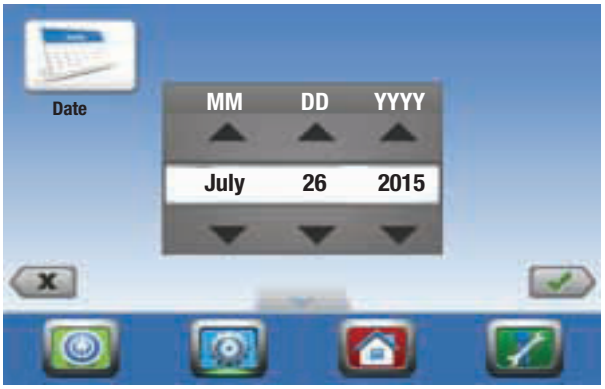
Settings

Home

Service

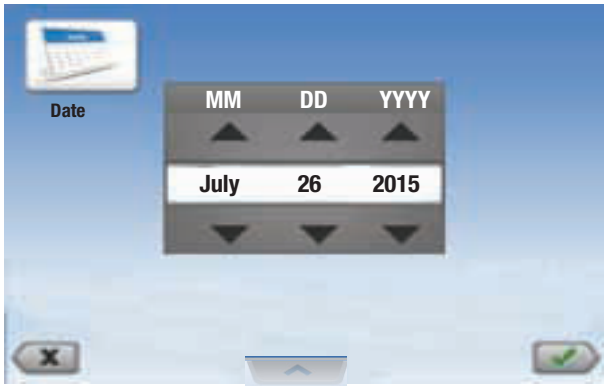
Viewing/Changing a Settings Screen

Viewing/changing a Settings screen requires you touch  or  to exit the screen. Save the change by touching  . To not save the change touch  .

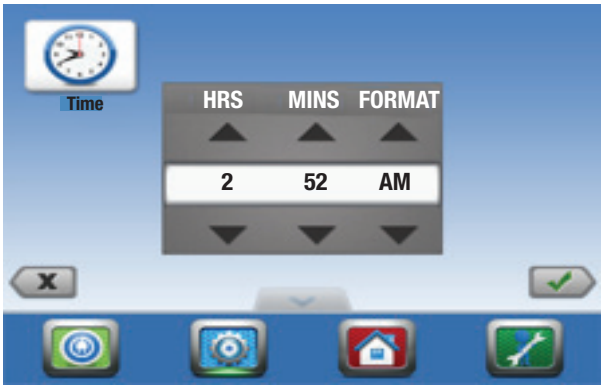


Use the **Date** screen to view/change the date.

If a screen has a down arrow,  , touch it to remove the four icons.



If desired, touch the up arrow,  , to display the four icons.



Use the **Time** screen to view/change the time and format.

Use the **Display** screen to adjust the screen intensity. Touch and drag to the desired intensity. Touch to bring up the keypad to enter the exact desired value.

The factory default is **Max**.

Note Low-end temperatures using 50/50 EG/Water or 50/50 PG/Water were achieved using lower pump speeds.

Use the **Units** screen to change the displayed temperature scale,°C or °F. The selected scale is highlighted in green.

The factory default is **°C**.

Use the **Language** screen to change the language displayed on the touchscreen.

- Chinese
- English
- French
- German
- Italian
- Japanese
- Spanish

The factory default is **English**.

Use the **Resolution** screen to change the displayed temperature resolution, 0.1 or 0.01. The selected resolution is highlighted in green.

The factory default is **0.1**.

Use the **User Access** screen to open or lock user access. **Open** allows full access to all functionality.

Locked allows partial access to only select a program or a pre-determined set point. You cannot change alarms, warnings or faults.

The factory default is **Open**.

To create a password and lock the bath touch **Set/Reset** and use the keypad to create a five digit password and then touch **OK**. Reenter the password to confirm and then touch **OK** again.

To open the bath touch **Open** and enter the password. To re-lock the bath touch **Locked** and enter the password. If you forget your password call us with the VersaCool's serial number.

Use the **Timer** screen to set and enable/disable the timer. Use it to set the desired time for the bath to turn on. The screen also displays the current time.

When enabled the On indication is green, when disabled the Off indication is red.

The factory default is **Off**.

Use the **Auto Restart** screen to enable/disable auto restart.

When auto restart is enabled and the bath shuts down as a result of a power failure, when power is restored the bath automatically restarts and operates at the saved values. **Consider any possible risks before enabling.**

The factory default is **Off**.

Use the **Sleep Mode** screen to enable/disable the sleep mode. Once enabled, if the Status Screen is showing and no icon is touched for 60 seconds the screen will enter Sleep Mode and powers down. Touching the screen in Sleep Mode returns it to the Status Screen.

The default is **Off**.

Use the **PID** screen to view/adjust the bath's heat PID values.

Thermo Fisher recommends that only a qualified technician adjust the PID values. Incorrect values will hamper bath performance.

Factory preset values for water: **P** = 5.0, **I** = 0.30 and **D** = 0.00

Use the **Name** screen to name your bath. There is a 20 character limit.

The name identifies the bath when downloading files.

The default is **VersaCool 1**.

Viewing/Changing a Home Screen

Making a change requires you to save the change by touching  . To return to the previous screen and not save the change touch  .

Use the **Set Points** screen to verify/adjust the set points and RTA. The set point is the desired process fluid temperature. Touch the desired SP icon and then touch its value window to bring up the keypad.

The factory default values are:
SP1 = 20°C, **SP2** = 40°C,
SP3 = 50°C, **SP4** = 70°C
SP5 = 95°C.

You cannot adjust the set point closer than 0.1° to either of the fluid's system limits shown below.

The fluid is selected using the **Fluid Type** screen, see next page.

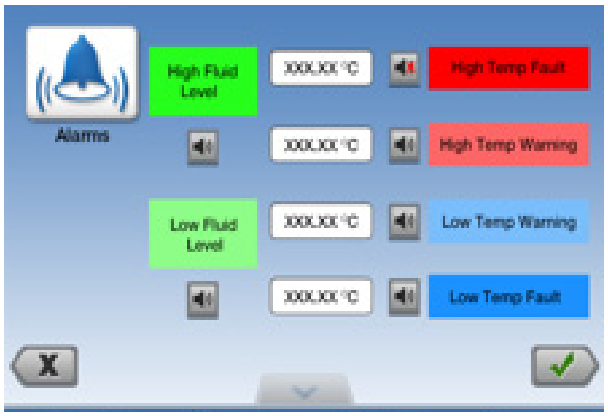
Set Point Temperature Range*		
Approved Fluid	**Altitude (meters/feet)**	**Range**
Water	<610/2000	+5°C to +90°C (+41°F to +194°F)
Water	>610/2000	+5°C to +85°C (+41°F to +185°F)
Water	>1370/4500	+5°C to +80°C (+41°F to +176°F)
PG/Water	<1070/3500	-16°C to +90°C (3°F to +194°F)
PG/Water	>1070/3500	-16°C to +85°C (3°F to +185°F)
EG/Water	All	-18°C to +80°C (0°F to +176°F)
Sil 200	All	+20°C to +135°C (+68°F to +275°F)
Sil 180	All	-10°C to +150°C (14°F to +302°F)

*Maximum process fluid temperatures are limited based on altitude.

If the displayed temperature does not accurately reflect the actual temperature in the reservoir a Real Time Adjustment (RTA) is required. The RTA can be set ±10°C (±18°F).

Each set point has its own RTA.

As an example, if the temperature is stabilized and displaying 20°C but a calibrated reference thermometer reads 20.5°C, set the RTA to -0.5°C. After you enter an RTA value allow the display to stabilize before verifying the bath temperature. If display accuracy is required, we recommend repeating this procedure at various set point temperatures and on a regular basis.



Use the **Alarms** screen to set the temperature warning and fault limits and to enable/disable the temperature and fluid level audible alarms.

The speaker icon, , is visible when the alarm is enabled. The mute speaker icon, , is visible when disabled.

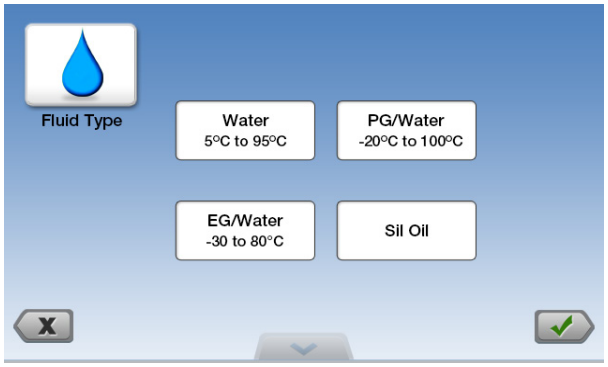
Alarm default settings are determined by the fluid type, see **Fluid Type** screen.

High Temp Fault = +3 above maximum fluid temperature

High Temp Warning = +3 maximum fluid temperature

Low Temp Warning = -3 below minimum fluid temperature

Low Temp Fault = -3 below minimum fluid temperature



Use the **Fluid Type** screen to select the desired fluid. The screen also displays each fluid's temperature limits.

The factory default is **Water**.

If you change fluid type and the current set point is outside one of the new fluid type temperature limits, a warning will appear asking **"Do you want to change Fluid Type?"**

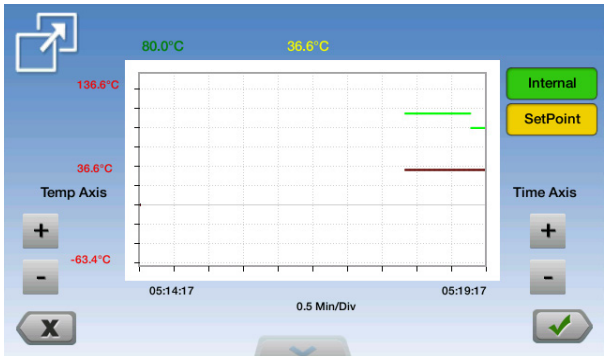
Touching **Yes** brings up the current set point screen with a keypad to input the new set point.

Touching **No** returns the **Fluid Type** screen.

Note With Sil 200, heater power is reduced to 60% when connected to 230V.

Use the **Pump Speed** screen to set the desired pump speed percentage, 40% - 100%. Slide the button along the bar or touch the button to type in an exact speed percentage using the keypad.

Note When Sil 180 or Sil 200 is the selected fluid the pump speed range is limited to 90% - 100%.



Use the **Charting** screen to view a graphical display of the bath's performance.

Touch the temperature sensor and/or **Set Point** window to display them. Touch **+** and **-** to adjust the displayed temperature range and/or time interval.

Note The current time is displayed on the right side of the display.

Note When running a program the set point value changes in order to meet the program's step time to temperature parameters.

Touch the **Full Screen** icon  to enlarge the screen.

Touch  to return to the above display.

Use the **Program** screen to **CREATE** a program or **DELETE**, **VIEW** or **RUN** a previously created program. (There may be a screen delay while the programs load.)

Touch the desired program's name to delete, view or run it.

Define your program as a series of set points with a known period of time between each. Each interval is one step of the program. Pay careful attention to the first part of your program. What conditions must exist at the beginning of your process? For example, at the starting set point you may wish to program an initial period of constant temperature to allow for thermal stabilization.

Also consider the bath's limitations when designing programs. Temperature or time parameters which exceed the bath's performance capabilities will result in unsatisfactory operation. If reaching the ramp set point temperatures is important, you will have to operate the bath between the desired set points and note the duration before programming the ramp.

It is possible to create a program calling for very rapid changes in temperature. Although the bath may not be capable of producing such changes, it may be practical to program such steps as a way to cause the fastest possible temperature change.

Touch **CREATE** to start building a new program. There can be up to 10 Programs, each with up to 30 Steps.

Touch **NEW** to define a **STEP**.

For **STEP 1** touch the vacant window below **START TEMP** and enter the desired value and then touch the vacant window below **END TEMP**. By default, the end temp for any step becomes the start temp for the following step. Changing the start temp for the following step will result in an error message when the program is saved.

Next enter the **TIME**. The maximum duration for each **STEP** is 999 minutes (~16.5 hours).

 # OF LOOPS and **LOOP TO STEP** enables program step repetition. For example, after STEP 4 set the # OF LOOPS to 3 and LOOP TO STEP to 1. Once the program initially reaches the end of STEP 4, it will loop back to STEP 1 (LOOP TO STEP) and run through STEPS 1 through 4 again. In this instance the program will loop back three times. The entire sequence of steps will run a total of four times. After the fourth time the program will sequence to STEP 5. The maximum number of loops is 100. Enter 0 in both fields if looping is not required.

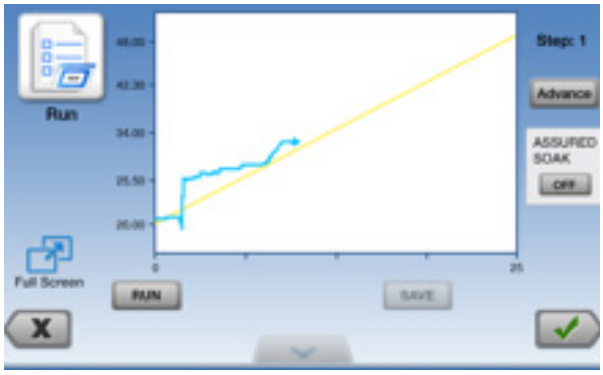
Note When using this feature ensure the loop end temperature agrees with the start temperature. In this example, ensure the end temperature for Step 4 is the same as the start temperature for Step 1 or you will receive a step error message when trying to save the program.

Touch **NEW** to create additional steps. Touch a **STEP** row to edit/delete it.

Variance is used to set a starting temperature range, the program starts when the fluid temperature is within this range. For example, if the desired **Start Temp** is 25°C and the **Variance** is set to 0.5°C, the program automatically starts only when the temperature is between 24.5°C to 25.5°C.

The program has an optional **Soak** feature. When enabled, this feature pauses the program timer until the temperature reaches set point, ± variance. This assures the temperature reaches set point for all the steps before the program continues to the next step.

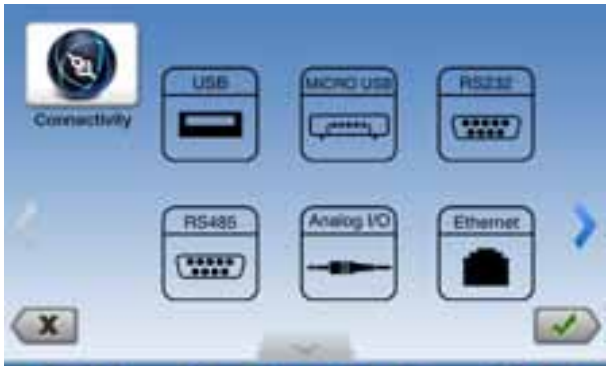
Touch **SAVE** to save the program into the bath's non-volatile memory.



Touch **RUN** to start the program and bring up the Program Display.

Note The program *will not start* until the process fluid temperature is at the **START TEMP** ± the **Variance**.

Touch **Full Screen** to enlarge the display.



Use the **Connectivity** screen to select the desired option. The respective icon will highlight.

Mobile communications is always activated, see Appendix C.

Note You cannot save changes using the touchscreen when Analog IO is enabled.

Touch the desired option in order to configure its settings.

Baud Rate: 300, 600, 1200, 2400, 4800, 9600, 19200, 38400

Parity: Odd or Even

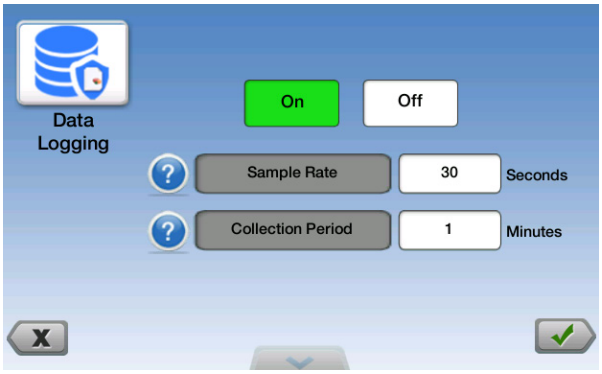
Data Bits: 7 or 8

Stop Bits: 1 or 2

Addresses: 1 to 99 (RS 485 only)

Refer to Appendix A for serial communication protocol information.

Refer to Appendix B for details on Analog IO.



Use the **Data Log** screen to view/adjust the data logging settings.

The factory default is **Off**.

On Off = User wants to start/stop Data Logging

Sample Rate = Time between data points (in seconds)

Collection Period = Total time the user wants Data Logging to run (in minutes)

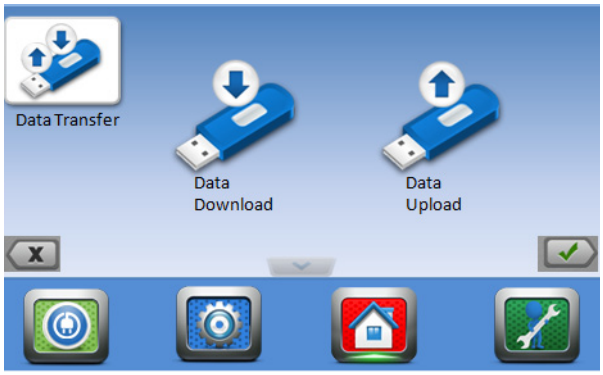
Example:

Sample Rate = 30 seconds

Collection Period = 60 minutes

When the Data Logging is complete, the user will have 121 Data Points.

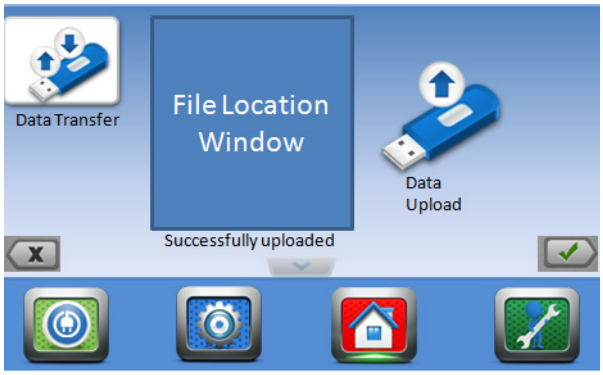
(121 includes the Data Point at "Time = Zero")



Use the **Data Transfer** screen to upload/download data files between the bath and a storage device.

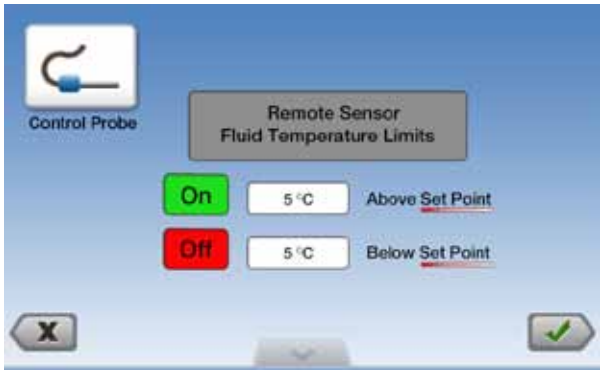
Uploading/downloading includes data recording, error logs, charting data and ramp data.

Touchscreen firmware upgrades can also be uploaded.



Use the **Control Probe** screen to select which temperature probe monitors/controls the bath. **Internal** is located in the bath, **Outlet** is located on the external circulation fluid out port. **Remote** is the sensor at the application.

The factory default is **Internal**.



Selecting **Remote** allows you to set fluid temperature limits **Above** and **Below** the set point.

With limit on the VersaCool will only operate within the set range regardless of what is happening at the external application. This is a safety function and protects the bath from trying to achieve undesirable temperatures.

The factory default is **5°C**.

Use the **Auto Refill** screen to enable and configure the optional auto refill.

Touch **Time Out (minutes)** to set the maximum time the option will operate. Setting the time to 0 disables the option.

Note Turn the auto refill off before adding or removing objects into the bath's reservoir.

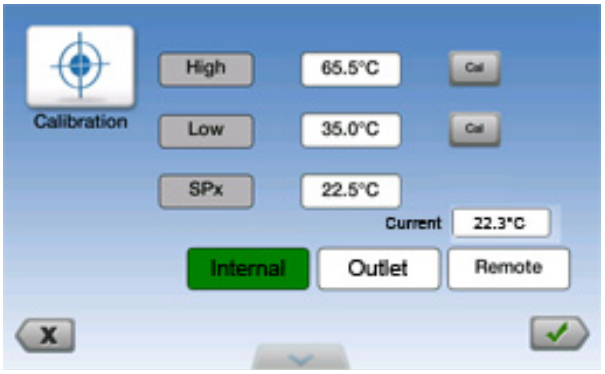
Touch **Level Selection** for the auto refill range of operation.

Note The auto refill uses the selected fluid to determine the **Full** level. **Empty** does not let the reservoir run dry, there will still be fluid in the reservoir.

Viewing/Changing a Service Screen

Making a change requires you to save the change by touching  . To return to the previous screen and not save the change touch  .

Use the **Configuration** screen to view the bath's configuration. This information cannot be changed.



Use the **Calibration** screen to calibrate the **Internal**, **Outlet** and/or **Remote** temperature sensor.

This procedure requires a calibrated reference thermometer.

Before starting ensure the selected sensor is controlling the temperature and that its RTAs is set to 0.

Touch the desired sensor.

Note To speed up the **Internal** calibration procedure drain the reservoir to the **MIN** fill level. For accuracy place your reference thermometer at the rear of the reservoir, as close to the screen as possible.

To calibrate the **Internal** or **Remote** sensor:

- Touch the **Sp x** value window to bring up the keypad and enter either the desired high or desired low calibration temperature. Keep in mind the selected fluid temperature limits.
- Allow the **Current** temperature to stabilize near the calibration temperature.
- Once stabilized, for three to five minutes, touch either **High** or **Low** value window and enter the temperature displayed on your reference thermometer and then touch **Cal** on the right of **High** or **Low**.
- Touch **Sp x** again and enter the other calibration temperature, repeat the procedure.
- Once both points are entered, touch  to complete the calibration.

Contact us if you need to calibrate the **Outlet** temperature sensor.

Use the **Run Times** screen to view component total running time. This information cannot be changed.

Use the **Diagnostics** screen to view component status. This information cannot be changed.

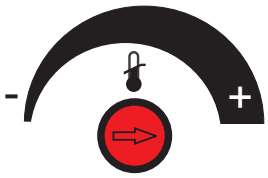
Use the **Error Messages** screen to view component error messages. This information cannot be changed although you can clear all the messages by touching **Clear Screen**.

Use the **Factory Reset** screen to return the five stored set points, all the alarms, the PID values and the pump speed back to their factory settings.

Touch **RESET** and then **Confirm** or **Cancel** the procedure.

This screen appears once the reset is complete.

High Temperature Cutout



To protect your application, the adjustable High Temperature Cutout (HTC) ensures the heater will not exceed temperatures that can cause serious damage. A High Temperature fault occurs when the temperature of the sensor exceeds the set temperature limit.

In the event of a fault the bath shuts down and displays a fault message, see Chapter 6. Identify and correct he cause of the fault must before restarting the bath. A primary reason for the HTC to trip is a low reservoir fluid level.

The HTC is factory preset fully clockwise to the highest possible setting. To set the cutout start the circulator and adjust the set point a few degrees higher than the highest desired fluid temperature. Allow the circulator to stabilize at the temperature set point. Then, using a flathead screwdriver, slowly turn the red dial counterclockwise until the circulator shuts down and the fault message appears.

Before you can restart the bath it has to cool down a few degrees.

To restart the bath press the black reset ring surrounding the red dial. If Auto Restart is enabled the bath restarts, if disabled use the Daily Start Up procedure.

Note We recommend periodically rechecking operation or if the bath is moved.

5

Chapter 5 Preventive Maintenance

Laboratory Grade Ethylene Glycol (EG) is poisonous and flammable. Before performing any preventive maintenance refer to the manufacturer's most current SDS and EC Safety Data sheet for handling precautions.

Disconnect the power cord prior to performing any maintenance.

Handle the bath with care, sudden jolts or drops can damage its components.

There are no user serviceable components within the bath's panels.

Condenser Fins

In order to maintain cooling capacity, clean the condenser fins two to four times per year, depending on the operating environment.

Switch off the bath circulator and unplug the power cord.

Clean the fins with compressed air.

Hoses

Inspect and tighten the external hoses and clamps daily.

Electrical Power Cord

Ensure any replacement cord is properly rated.

Cleaning

Wear protective clothing and take appropriate measures when handling the cleaning agent.

Before cleaning the bath's surfaces, to protect labels, the nameplate, electrical connections, painted and plastic surfaces and to prevent the cleaning agent from entering through any vent openings, mask off all areas except the reservoir.

Clean the bath's surface only with a soft cloth and warm water.

After time, the circulating bath's stainless steel surfaces may show spots and become tarnished. Normal stainless steel cleaners can be used.

Clean the reservoir and built-in components at least every time the bath liquid is changed. Use only water and a soft cloth.

Do not use scouring powder or any substance containing solvents.

The inside of the bath circulator must be kept clean in order to ensure a long service life. Quickly remove substances containing acidic or alkaline substances and metal shavings as they could harm the surfaces causing corrosion. If corrosion (e.g., small rust marks) occur in spite of this, cleaning with stainless steel caustic agents has proved to be suitable. Apply these substances according to the manufacturer's recommendations.

To clean the touchscreen use a microfiber cloth. For dirtier screens add a small amount of plain water (soap is not necessary).

6

Chapter 6 Troubleshooting

Error Messages

An error message indicates an unusual condition. WARNING and FAULT error messages are a result of exceeding one of the bath's Alarm limit settings (see Chapter 4), exceeding a sensor factory preset safety value or a safety switch is activated. With either message the alarm, if enabled, will sound.

In the case of a WARNING the bath, if running, will continue to run. Touch X to see if the message clears and, if enabled, silence the alarm. If the limit was only temporarily exceeded the message will not reappear.

In the case of a FAULT the bath will shut down but the screen will continue to flash the message. Touch X to clear the screen and, if enabled, silence the alarm. Once the cause of the shut down is identified and corrected, restart the bath. If the cause of the fault was not corrected the message will reappear.

Error Messages	
Message	**Cause/Action**
HTC Fault	high temp protection limit exceeded turn red dial full clockwise allow bath to cool down reset HTC by pressing black ring restart the bath reset HTC to desired setting, see Chapter 4 when operating at high temperatures ensure pump is in a high-speed range if the HTC fault cannot be cleared, the bath must be serviced by an authorized Thermo Scientific Temperature Control Service Technician.
High Temp Fault	adjustable high temp fault protection limit exceeded check limit setting check fluid selection ensure bath has adequate ventilation
High Temp Warning	adjustable high temp warning protection limit exceeded check limit setting check fluid selection ensure bath has adequate ventilation
Low Temp Warning	adjustable low temp warning protection limit exceeded check limit setting check fluid selection
Low Temp Fault	adjustable low temp fault protection limit exceeded check limit setting check fluid selection
High Fluid Level	high level protection limit exceeded check fluid level drain fluid, if required
Low Fluid Level	low level protection limit exceeded check fluid level check for leaks
Internal RTD Open	open internal temp sensor
Internal RTD Short	internal temp sensor short
Remote RTD Open	open remote temp sensor
Remote RTD Short	remote temp sensor short
RA RTD Open	open refrigeration temp sensor
RA RTD Short	refrigeration temp sensor short
RA RTD Temp Fault	check voltage supply the refrigeration may need servicing
HPC Fault	high pressure protection limit exceeded check for obstructions to air flow the refrigeration may need servicing

Known HMI Software Issues (Version 3D)	
Issue	**Action**
Unable to update internal and external RTA values	Manually adjust set point until fluid temperature matches the reference thermometer.
Temperature alarm values do not update when fluid type is changed	Wait 15 seconds after changing fluid before accessing the Alarm screen.
Pump speed goes to 100% whenever fluid type is changed.	Manually reset pump speed.
Programs start immediately (doesn't wait to get to the start temp value)	Reprogram the start of the program to include time to get to the desired starting temperature.
Long programs do no complete	Split into smaller programs.
HMI locks up if error message displayed for greater than three minutes	Recycle circuit protector on the rear of the bath.
Analog-IO calibration does not work	None

Checklist

Bath will not start or shuts down

- Check display for error codes, see Error Displays in this chapter.
- Ensure stop wasn't accidently pressed.
- Ensure the circuit protector is in the on (I) position.
- Check the line cord connection to your power supply and at the bath.
- Make sure supply voltage is connected and matches the bath's nameplate rating ±10%.
- Restart the bath.

No display

- Touch the screen, it may be in the Sleep Mode.
- Cycle the bath's circuit protector.

Temperature display reads 320°C

- Remote temperature probe selected but there is no probe attached to the bath.
- Attach a remote probe or select the internal temperature sensor.

All set points display 0°C

- Cycle the bath's circuit protector.

continued on next page

Bath will not circulate process fluid

- Check the reservoir level. Fill, if necessary.
- Check the application for restrictions in the cooling lines.
- The pump motor overloaded. The pump's internal overtemperature overcurrent device shuts off the pump causing the flow to stop. Possible causes are low fluid, debris in system, operating bath in a high ambient temperature condition or excessively confined space.
- Allow time for the motor to cool down.
- Make sure supply voltage matches the bath's nameplate rating ±10%.

Inadequate temperature control

- Verify the set point.
- Make sure the condenser is free of dust and debris.
- Check the fluid concentration.
- Ensure bath installation complies with the site requirements in Chapter 3.
- Make sure supply voltage matches bath's nameplate rating ±10%.
- If the temperature continues to rise, make sure your application's heat load does not exceed the rated specifications.
- Check for high thermal gradients (e.g., the application load turning on and off or rapidly changing).
- Low-end temperatures using 50/50 EG/Water or 50/50 PG/Water were achieved using lower pump speeds.

Program will not advance

- If **Soak** is enabled the program *will not advance* until the process fluid temperature is at the **END TEMP** ± the **Variance**.

Unable to save a changes using the touchscreen

- Check the start up screen to see if the if the communication icon is on,  .
- If it is on ensure Analog IO is not enabled,  . You cannot save a changes using the touchscreen if Analog IO is enabled.

Please contact Thermo Fisher Scientific Sales Service and Customer Support if you need any additional information, see inside cover for contact instructions.

Testing the Safety Features

The safety features for high temperature protection and low liquid level protection must be checked at regular intervals. We recommend checking at least twice a year or if the bath circulator is moved.

High temperature protection

Note the pretest position of the arrow on the red dial.

Start the bath and, using a flathead screwdriver, turn the red dial counterclockwise until the bath shuts down and an error message appears.

If the message does not appear or the bath does not shut down, or the message does not clear, have the bath checked by a qualified technician.

Turn the red dial clockwise back to the pretest position.

Allow the bath to cool down before restarting.

To restart the bath press the black reset ring surrounding the red dial. If Auto Restart is enabled the bath restarts, if disabled use the Daily Start Up procedure.

Low liquid level protection

With the bath on, insert a 1/16" diameter tool, approximately 6" long, into one of the small round openings located at the rear of the reservoir. Slowly push down until the low level error message appears and the bath shuts down. Remove the tool and then clear the error message.

Repeat the procedure using the other round opening.

If the message does not appear or the bath does not shut down, or the message does not clear, have the bath checked by a qualified technician.

High liquid level protection

With the bath on, slowly fill the reservoir above the max level mark until the high level error message appears and the bath shuts down. Drain the reservoir to below the max level mark and then clear the error message.

If the message does not appear or the bath does not shut down, or the message does not clear, have the bath checked by a qualified technician.

A

Appendix A AC Serial Communications Protocol

Note Currently serial communications is sent using only the connections on the rear of the bath.

Note This appendix assumes you have a basic understanding of communications protocols. Information on the NC, STANDARD and NAMUR protocols is available upon request.

Note NC protocol is required to use RS485 device addressing.

All commands must be entered in the exact format shown in the tables on the following pages. The tables show all commands available, their format and responses. Bath responses are either the requested data or an error message. The bath response must be received before the host sends the next command.

The host sends a command embedded in a single communications packet, then waits for the bath's response. If the command is not understood, the bath responds with an error command. Otherwise, the bath responds with the requested data.

Commands are not case sensitive. Upper or lower case letters may be used. Commands are listed in the Commands Table, error responses are given in the Errors Table, and symbols are shown in the Key Table.

Key	
Symbol	Meaning
[B]	A binary value 0 or 1 (0 = Off, FALSE or Disable(d); 1 = On, TRUE or Enable(d)).
[CR]	Carriage return – used as the termination character.
[U]	Text representing the units associated with a value.
[V]	A value that can be requested in a read command or sent as part of a set command.

Value: Read commands return analog [V] or bit [B] values or settings, set commands send analog or bit settings. Read commands return values in the same displayed precision. Set command messages missing the space character between the command and the setting are rejected, as the user's intent is unclear.

Units: A read command returning an analog [V] value or setting, will include the units [U] associated with that value or setting. A set command sending an analog value will not include the units. The units returned by the complementary read command are assumed.

Termination character: A carriage return [CR] is used to terminate command and response messages. (Typically the "Enter" key on the keyboard.)

Note The inter-character time out (time between transmitted characters) is set to 15 seconds. Exceeding the time out will clear the receiver buffer and require the message to re retransmitted.

Note Special characters (backspace, delete, insert, etc.) are not recognized and generate error responses.

Commands Table

Commands
All messages from master and slave are terminated with a carriage return [CR]

Command Description	Master Sends	Sample Slave Response (echo off)*
Read Control Temperature with RTA	RT	[V]C or F
Read Remote Temperature with RTA	RT2	[V]C or F
Read Internal Temperature with RTA	RT3	[V]C or F
Read Outlet Temperature with RTA	RT4	[V]C or F
Read Set Point	RS	[V]C or F
Read Set Point Preset 1	RS1	[V]C or F
Read Set Point Preset 2	RS2	[V]C or F
Read Set Point Preset 3	RS3	[V]C or F
Read Set Point Preset 4	RS4	[V]C or F
Read Set Point Preset 5	RS5	[V]C or F
Read Internal RTA	RIRTA	[V]C or F
Read Internal RTA Preset 1	RIRTA1	[V]C or F
Read Internal RTA Preset 2	RIRTA2	[V]C or F
Read Internal RTA Preset 3	RIRTA3	[V]C or F
Read Internal RTA Preset 4	RIRTA4	[V]C or F
Read Internal RTA Preset 5	RIRTA5	[V]C or F
Read External RTA	RERTA	[V]C or F
Read External RTA Preset 1	RERTA1	[V]C or F
Read External RTA Preset 2	RERTA2	[V]C or F
Read External RTA Preset 3	RERTA3	[V]C or F
Read External RTA Preset 4	RERTA4	[V]C or F
Read External RTA Preset 5	RERTA5	[V]C or F

* see Possible Response Messages on page A-5.

Command Description	Master Sends	Sample Slave Response (echo off)*
Read Temperature Units	RTU	[V]C or F
Read Temperature Resolution	RTR	[V]
Read High Temperature Limit	RHT	[V]C or F
Read High Temperature Fault	RHTF	[V]C or F
Read High Temperature Warning	RHTW	[V]C or F
Read Low Temperature Warning	RLTW	[V]C or F
Read Low Temperature Fault	RLTF	[V]C or F
Read Low Temperature Limit	RLT	[V]C or F
Read Proportional Heat Band Setting	RPH	[V]
Read Integral Heat Band Setting	RIH	[V]
Read Derivative Heat Band Setting	RDH	[V]
Read Bath On Status	RO	[B]
Read Internal Control on Outlet Sensor	RINTCTL	[V] V=1 Internal Sensor, V=2 Outlet Sensor
Read External Sensor Enabled	RE	[B]
Read Auto Restart Enabled	RAR	[B]
Read Pump Speed	RPS	[V] (V is 40 to 100 in %)
Read Fluid Selection	RFLUIDTYP	[V] V is 0=H_2O, 1=EG/H_2O, 2=PG/H_2O, 3=SIL 180, 4=SIL200
Read Firmware Version	RVER	[V]
Read Firmware Checksum	RSUM	[V]
Read Unit Fault Status	RUFS	[V1, V2 , V3, V4] See page A-4

* see Possible Response Messages on page A-5.

Commands Table		
Commands All messages from master and slave are terminated with a carriage return [CR]		
Command Description	Master Sends	Sample Slave Response (echo off)
Set Set Point	SS [V]	OK
Set Set Point Preset 1	SS1 [V]	OK
Set Set Point Preset 2	SS2 [V]	OK
Set Set Point Preset 3	SS3 [V]	OK
Set Set Point Preset 4	SS4 [V]	OK
Set Set Point Preset 5	SS5 [V]	OK
Set Internal RTA	SIRTA	OK
Set Internal RTA Preset 1	SIRTA1 [V]	OK
Set Internal RTA Preset 2	SIRTA2 [V]	OK
Set Internal RTA Preset 3	SIRTA3 [V]	OK
Set Internal RTA Preset 4	SIRTA4 [V]	OK
Set Internal RTA Preset 5	SIRTA5 [V]	OK
Set External RTA	SERTA	OK
Set External RTA Preset 1	SERTA1 [V]	OK
Set External RTA Preset 2	SERTA2 [V]	OK
Set External RTA Preset 3	SERTA3 [V]	OK
Set External RTA Preset 4	SERTA4 [V]	OK
Set External RTA Preset 5	SERTA5 [V]	OK
Set High Temperature Fault	SHTF [V]	OK
Set High Temperature Warning	SHTW [V]	OK
Set Low Temperature Fault	SLTF [V]	OK
Set Low Temperature Warning	SLTW [V]	OK
Set Proportional Heat Band Setting	SPH [V]	OK
Set Integral Heat Band Setting	SIH [V]	OK
Set Derivative Heat Band Setting	SDH [V]	OK
Set Temperature Resolution	STR [V]	OK
Set Temperature Units	STU [V] V is C or F	OK
Set Bath On Status	SO [B]	OK
Set Internal Control on Outlet Sensor V=1 Internal Sensor, V=2 Outlet Sensor	SINTCTL [V]	OK
Set External Sensor Enabled	SE [B]	OK
Set Auto Restart Enabled	SAR [B]	OK
Set Pump Speed	SPS [V]	OK
Set Unit Fault Status (clear errors)	SUFS	OK

RUFS (Read Unit Fault Status)

This command returns 4 hex values (e.g., 00 00 00 B8) – bath on with pump, compressor and heater running.

hex	B7	B6	B5	B4	B3	B2	B1	B0
1	0	0	0	0	0	0	0	1
2	0	0	0	0	0	0	1	0
4	0	0	0	0	0	1	0	0
8	0	0	0	0	1	0	0	0
10	0	0	0	1	0	0	0	0
20	0	0	1	0	0	0	0	0
40	0	1	0	0	0	0	0	0
80	1	0	0	0	0	0	0	0

Value	Description of bits	
V1	B7	rtd1 open
	B6	rtd1 shorted
	B5	rtd2 open
	B4	rtd2 shorted
	B3	rtd3 open
	B2	rtd3 shorted
	B1	remote rtd open
	B0	remote rtd shorted
V2	B7	high temp fixed fault
	B6	low temp fixed fault
	B5	high temp fault
	B4	low temp fault
	B3	high ra temp fixed fault
	B2	HTC fault
	B1	HPC fault
	B0	LLC fault
V3	B7	low level warning
	B6	high temp warning
	B5	low temp warning
	B4	Auto Refill Timeout warning
	B3	min step out of range warning
	B2 - B0	0 (reserved)
V4	B7	Bath on
	B6	Bath Faulted
	B5	Pump Relay on
	B4	Compressor Relay on
	B3	Heating
	B2 - B0	0 (reserved)

Refer to Key table on page 1 for explanation of symbols and their meanings.

Examples:

Read Temperature:

Host

R	T	**CR**
Command		[CR]

Bath:

2	0	.	0	C	**CR**
[V]				[U]	[CR]

Set Set point:

Host

S	S		2	0	**CR**
Command			[V]		[CR]

Bath:

O	K	**CR**
Command Accepted		[CR]

Read Temperature 2:

Host:	R	T	2	**CR**		
Bath:	2	0	.	0	C	[CR]

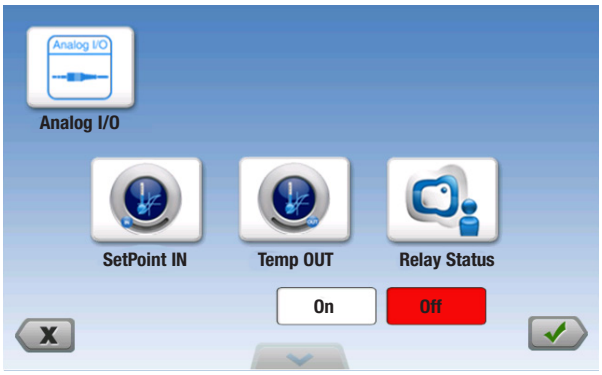
Set Set point to -22°C when minimum allowed is -20°C: Minimum allowed is [VMIN]

Host:	S	S		-	2	2	**CR**													
Bath:	F	A	I	L		-		O	u	t		o	f		R	a	n	g	e	**CR**

Possible Response Messages	
"OK"	Command accepted OK
"FAIL"	Service: Calibration failed
"FAIL - Invalid Setting"	For a small set of discrete values like 1/0 (on/off); C/F
"FAIL - Out of Range"	For continuous settings such as a set point
"FAIL - Password Required"	Service: Must enter a password to use (e.g., set fan speed)
"?"	Unknown command or not implemented

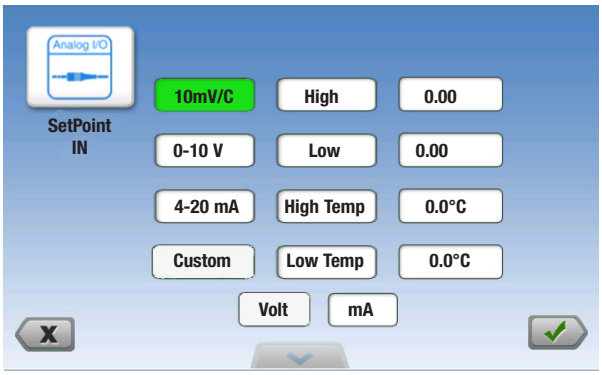
B

Appendix B Analog I/O



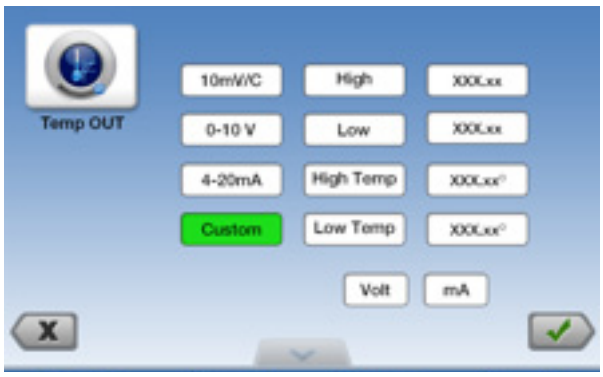
Install your analog input/output device to the 15-pin female connector on the rear of the bath. It is activated using the touchscreen.

Note You cannot save changes using the touchscreen when Analog I/O is enabled.

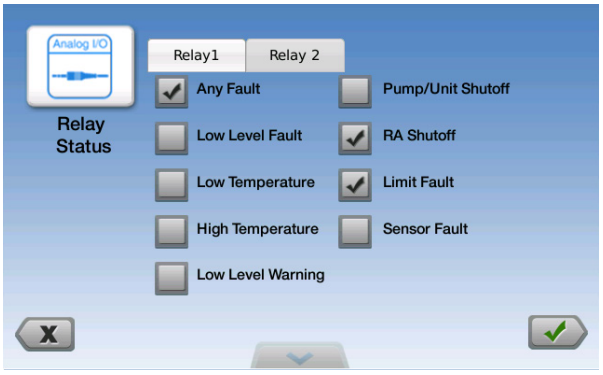


Use the **SetPoint IN** and **Temp OUT** screens to select the analog input and DAC output scaling to meet the application's needs.

The VersaCool supports three standard analog interface types and defaults using the following scaling:
mV 10mv/°C where 0V = 0°C, e.g., 50mV = +5°C, -100mV = -10°C
Volt where 0v – 10v = the bath's operating range (-20°C to +150°C)
mA where 4ma – 20ma = the bath's operating range (-20°C to +150°C)



Use **Custom** to change the factory defaults and enter your own ranges for any of the three options. The factory defaults are:
mA where 4ma – 20ma = the bath's operating range (-20°C to +150°C)
Volt where 0v – 10v = the bath's operating range (-20°C to +150°C)
mV 10mv/°C where 0V = 0°C, e.g., 50mV = +5°C, -100mV = -10°C

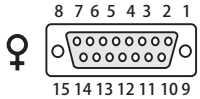


Use the **Relay Status** screen to select the desired error(s).

Relay 1
Any Fault
Low Level Fault
Low Temperature
High Temperature
Low Level Warning
Pump/Unit Shutdown
RA Shutdown
Limit Fault
Sensor Fault

Relay 2
Any Fault
Low Level Fault
Low Temperature
High Temperature
Low Level Warning
Pump/Unit Shutdown
RA Shutdown
Limit Fault
Sensor Fault

WARNING **Never apply line voltage to any of the connections.**



Analog IO Connector Pinout

Pin	Name	Notes	Definition
1	Digital ground		Common round connection for pins 12, 13 and 14
2	Not used		
3	Low level	1	Dry Relay Contact: Reference to pin 11. Closes if either level switch is in the “low” position for more than 1 second.
4	Configurable relay 2	1	Dry Relay Contact: Reference to pin 11. Closes when any configured fault or warning occurs.
5	Pump on	1	Dry Relay Contact: Reference to pin 11. Closes when pump is turned on. opens when pump is off
6	Analog ground		Common for analog signals (pins 2, 7 and 15)
7	Reservoir temp out **or** remote sensor temp if remote temp sensor enabled	2	Analog Voltage Output: Reference to pin 6.
8	High level	1	Dry Relay Contact: Reference to pin 11 Closes if level switch is in the high position for approximately 1 second or more.
9	Configurable relay 1 (normally open)	1	Dry Relay Contact: Reference to pin 11 Closes when any of the configured faults occur.
10	Configurable relay 1 (normally closed)	1	Dry Relay Contact: Reference to pin 11 Complement of pin 9 (open when pin 9 is closed).
11	Relay common		Common for all relay contacts (pins 3, 4, 5, 8, 9, 10).
12	Not used		
13	Remote set point enabled	3	Connect to pin 1 to allow the set point to be changed remotely through pin 15 Remote set point.
14	Remote start	3	Connect to pin 1 to turn bath on. Disconnect to turn bath off. Note: Pins 1 and 12 must be connected to allow operation from this pin.
15	Remote set point	2, 4	Analog Voltage Input: Reference to pin 6.

Note 1: All relay contacts (except for Pin 10) are normally OPEN when power is off. Pin 10 contacts are normally CLOSED when power is off. Relay contacts are rated: 24V AC/DC, 2A, <= 0.08 Ohm maximum each or 5A total for all relays combined, 1mA minimum, switching capacity: 48VA/48W (resistive load only).

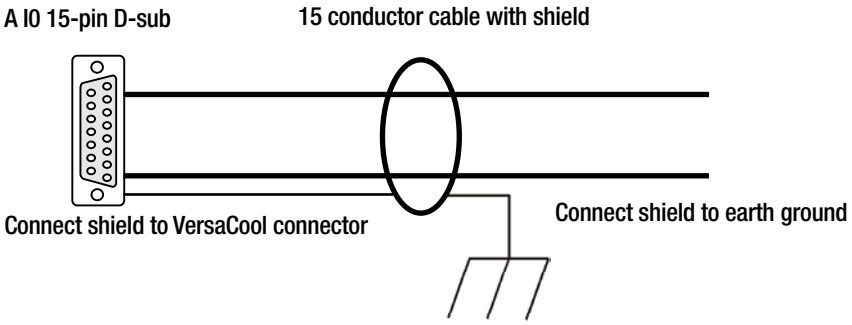
Note 2: Default = 0-10VDC. These ranges are set by the user.

Note 3: Connect to digital ground (pin 1) using a low resistance connection (gold contact relay).

Note 4: Remote set point must be enabled, pin 13

When making your connection to the VersaCool Analog I/O connector, in order to comply with the EMC directive:

- Use a shielded IO cable
- Connect the remote end of the cable shield to earth ground.
- Connect cable shield to VersaCool end connector.



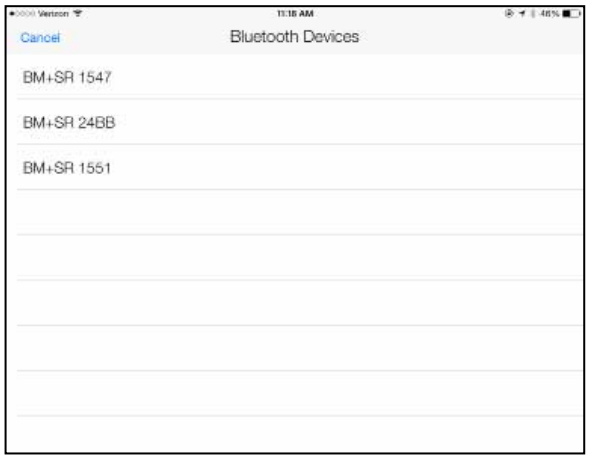
C

Appendix C Mobile Communications

The VersaCool Mobile App can use any iOS™ or Android™ smart phone or tablet to control and monitor up to seven VersaCool baths. Mobile communications is enabled when the circuit protector on the rear of the bath is in the **I** position.

The Mobile App allows you to turn multiple VersaCools on/off, view their fluid temperature at the bath's selected probe, enter custom set points, select preset set points, view alarm statuses, turn alarm audio on/off, and monitor a chart for up to seven baths.

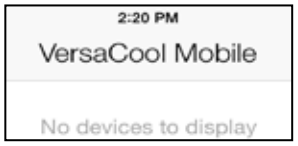
After start up touch the red dot and the mobile app will locate any powered VersaCools within range. A spinning circle appears when the search is underway.



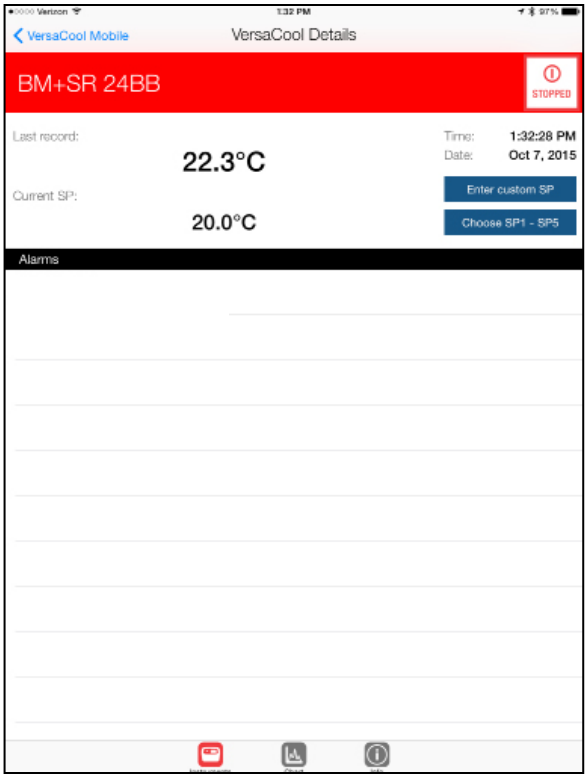
Once activated the mobile app will search for and then list all found Bluetooth Devices. The list includes the VersaCool's Bluetooth address.

Note A VersaCool cannot be selected by more than one mobile device at a time.

A message appears if no bath is found.



If you are not sure which baths are on the list refer to the VersaCool's **Configuration** display to identify its **Bluetooth MAC** address.



Touch the desired bath's name to display a drop down showing the bath's address, pump status, last recorded reservoir fluid temperature, current set point and current time and date, bath reservoir fluid temperature, set point and alarm history.

This display will also indicate any alarms. Touch the alarm to remove it from the display.

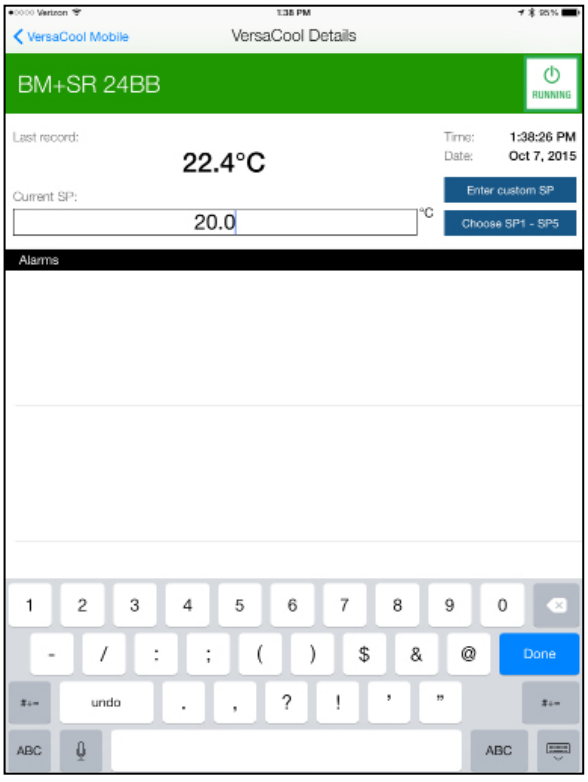
Note You cannot clear the alarm using the device. For safety, the alarm can only be cleared at the bath.

Touch 

to start the bath.

The red bar will turn green and now display 

, see below .



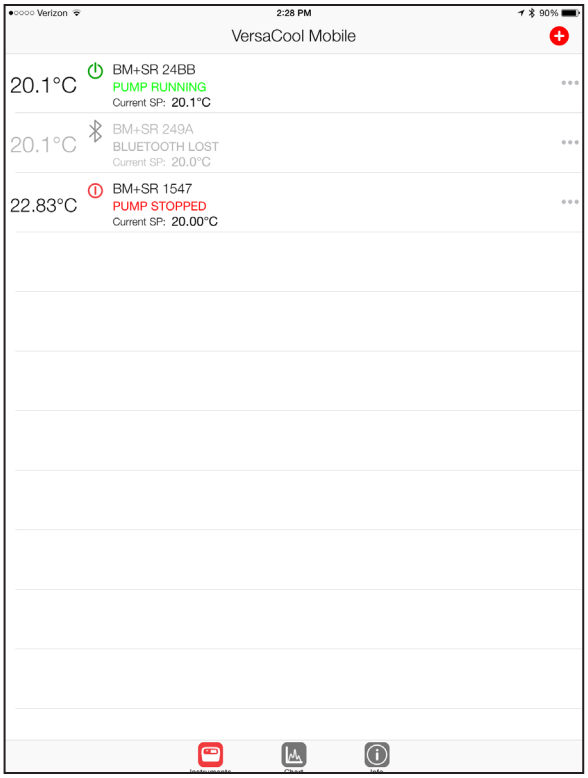
Touch **Enter custom SP** to bring up the keypad used to change the set point. Touch **Choose SP1 - SP5** to select a preset set point. SP 1– 5 are the same set points stored on the displayed VersaCool.

Note These preset set points can only be selected, not changed, using the mobile app.

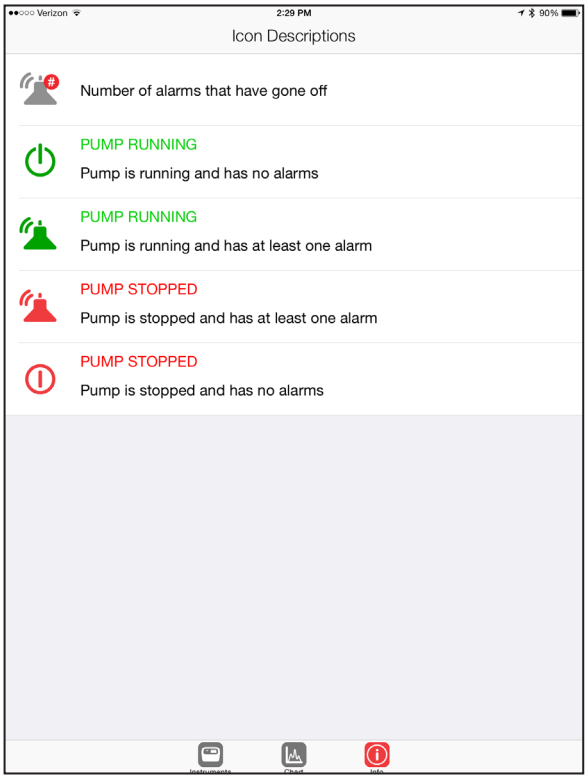
Touching 

stops the bath.

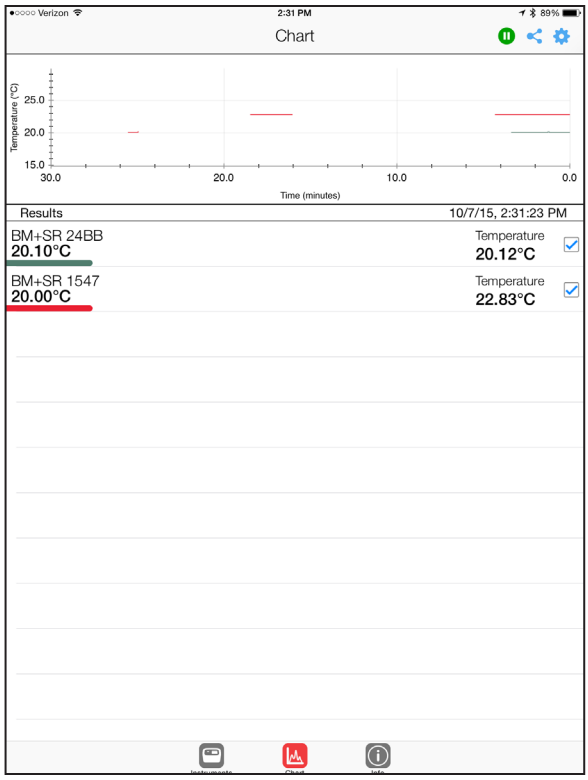
Touch **< VersaCool Mobile** at the top-left of the display to return to the list of available baths. Use this list to activate/deactivate any of the displayed baths. See next page.



Touch Instruments to bring up a list of all the baths currently connected to your mobile device, their reservoir fluid temperatures and their statuses.



Touch Info to bring up a list of Icon Descriptions.



Touch Chart to bring up a graphical display of the bath's performance.

The chart feature displays up to 30 minutes of past performance. 0 minutes is on the right, 30 minutes is on the left.

Each bath is identified with a different color.

Touch to toggle between displaying that bath or not.

Note Any break in the chart indicates where connectivity was lost.

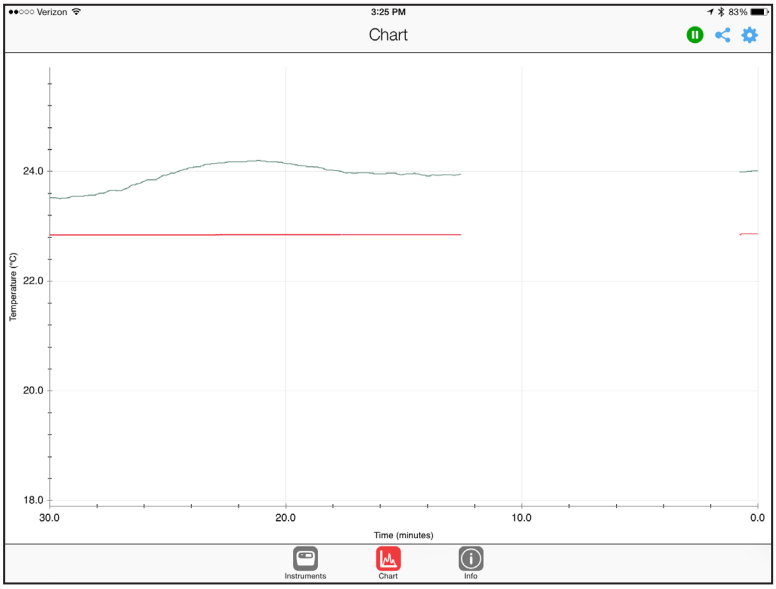
Touch to pause charting.

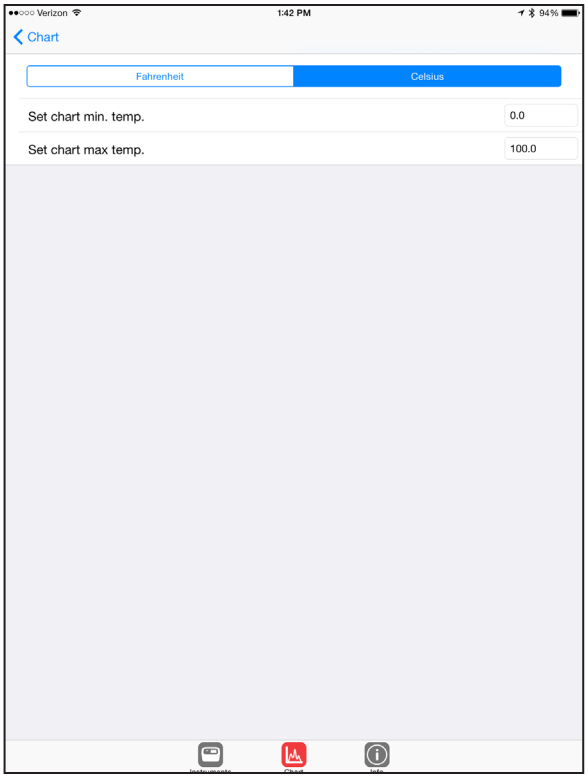
Touch to send the displayed image as a screen shot over e-mail or as a text message (as long as the device is connected to your network).

Rotate your mobile device to bring up a full screen display, see below.

Pinch and drag any portion of the chart to zoom in.

Note The chart data is for display purposes only, it is not permanently stored on the mobile device. If you wish to access historical data you must download the data directly from the VersaCool (e.g. USB stick, communication port).





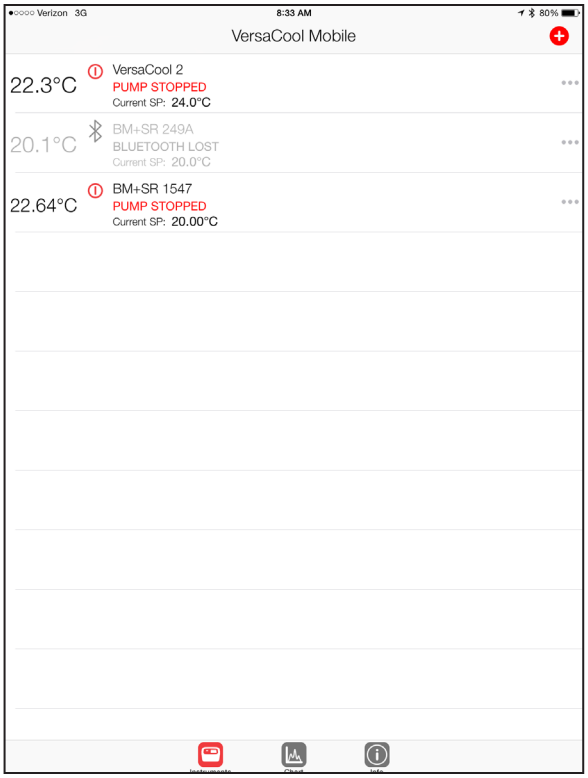
Touch  to display the chart's temperature settings.

You can select the desired temperature scale, Fahrenheit or Celsius.

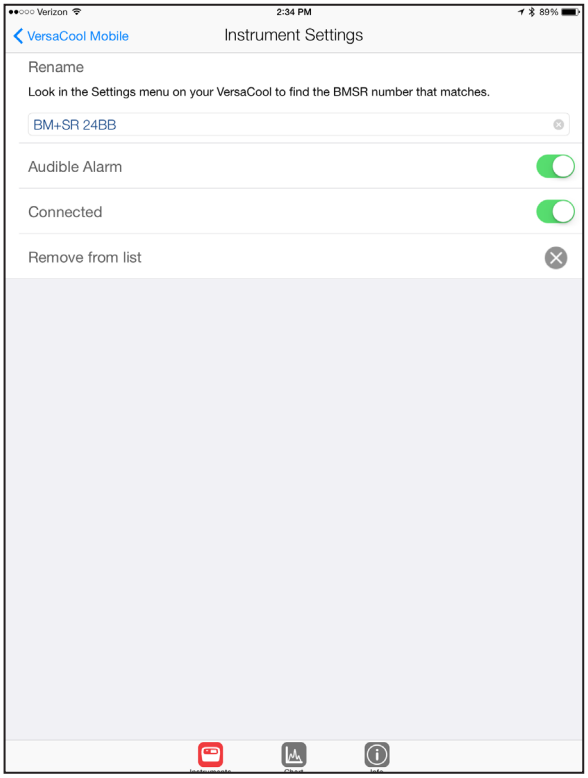
Touch the displayed min or max temp value to bring up the keypad you use to make changes.

If desired, touch and hold the bath's name to bring up the swatch used to change its color. Touch the desired color.

Cancel or Ok your selection.



Touch ••• on the right of the desired bath to display its Instrument Settings.



Use this display to rename the bath, enable/disable its audible alarms, connect/disconnect the bath and/or remove it from the active list.

Note Changing the name only affects how it appears on your mobile device. It does not change the name at the bath itself.

D

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