

COOLARC-25

OPERATOR'S MANUAL

MANUALE OPERATIVO

BEDIENUNGSANLEITUNG

MANUAL DE INSTRUCCIONES

MANUEL D'UTILISATION

BRUKSANVISNING OG DELELISTE

GEBRUIKSAANWIJZING

BRUKSANVISNING

INSTRUKCJA OBSŁUGI

KÄYTTÖOHJE



LINCOLN[®]
ELECTRIC

Declaration of conformity
Dichiarazione di conformità
Konformitätserklärung
Declaración de conformidad
Déclaration de conformité
Samsvars erklæring
Verklaring van overeenstemming

Försäkran om överensstämmelse
Deklaracja zgodności
Vakuutus yhteensopivuudesta

LINCOLN ELECTRIC BESTER S.A.



Declares that the welding machine:
Dichiara che il generatore per saldatura tipo:
Erklärt, daß die Bauart der Maschine:
Declara que el equipo de soldadura:
Déclare que le poste de soudage:
Bekrefter at denne sveisemaskin:
Verklaart dat de volgende lasmachine:

Försäkrar att svetsomriktaren:
Deklaruje, że spawalnicze źródło energii:
Vakuuttaa, että hitsauskone:

COOLARC-25

conforms to the following directives:
è conforme alle seguenti direttive:
den folgenden Bestimmungen entspricht:
es conforme con las siguientes directivas:
est conforme aux directives suivantes:
er i samsvar med følgende direktiver:
overeenkomt conform de volgende richtlijnen:

överensstämmer med följande direktiv:
spełnia następujące wytyczne:
täyttää seuraavat direktiivit:

73/23/CEE, 89/336/CEE








and has been designed in compliance with the following standards:
ed è stato progettato in conformità alle seguenti norme:
und in Übereinstimmung mit den nachstehenden normen hergestellt wurde:
y ha sido diseñado de acuerdo con las siguientes normas:
et qu'il a été conçu en conformité avec les normes:
og er produsert og testet iht. følgende standarder:

en is ontworpen conform de volgende normen:
och att den konstruerats i överensstämmelse med följande standarder:
i że zostało zaprojektowane zgodnie z wymaganiami następujących norm:
ja on suunniteltu seuraavien standardien mukaan:

EN 60974-2, EN 60974-1, EN 60974-10

(2007)

Paweł Lipiński
Operations Director
LINCOLN ELECTRIC BESTER S.A., ul. Jana III Sobieskiego 19A, 58-260 Bielawa, Poland

English		Do not dispose of electrical equipment together with normal waste! In observance of European Directive 2002/96/EC on Waste Electrical and Electronic Equipment (WEEE) and its implementation in accordance with national law, electrical equipment that has reached the end of its life must be collected separately and returned to an environmentally compatible recycling facility. As the owner of the equipment, you should get information on approved collection systems from our local representative. By applying this European Directive you will protect the environment and human health!
Italiano		Non gettare le apparecchiature elettriche tra i rifiuti domestici! In ottemperanza alla Direttiva Europea 2002/96/CE sui Rifiuti di Apparecchiature Elettriche ed Elettroniche (RAEE) e la sua attuazione in conformità alle norme nazionali, le apparecchiature elettriche esauste devono essere raccolte separatamente e restituite ad una organizzazione di riciclaggio ecocompatibile. Come proprietario dell'apparecchiatura, Lei potrà ricevere informazioni circa il sistema approvato di raccolta, dal nostro rappresentante locale. Applicando questa Direttiva Europea Lei contribuirà a migliorare l'ambiente e la salute!
Deutsch		Werfen Sie Elektrowerkzeuge nicht in den Hausmüll! Gemäss Europäischer Richtlinie 2002/96/EG über Elektro- und Elektronik- Altgeräte (Waste Electrical and Electronic Equipment, WEEE) und Umsetzung in nationales Recht müssen verbrauchte Elektrowerkzeuge getrennt gesammelt und einer umweltgerechten Wiederverwertung zugeführt werden. Als Eigentümer diese Werkzeuges sollten sie sich Informationen über ein lokales autorisiertes Sammel- bzw. Entsorgungssystem einholen. Mit der Anwendung dieser EU Direktive tragen sie wesentlich zur Schonung der Umwelt und ihrer Gesundheit bei!
Español		No tirar nunca los aparatos eléctricos junto con los residuos en general! De conformidad a la Directiva Europea 2002/96/EC relativa a los Residuos de Equipos Eléctricos o Electrónicos (RAEE) y al acuerdo de la legislación nacional, los equipos eléctricos deberán ser recogidos y reciclados respetando el medioambiente. Como propietario del equipo, deberá informar de los sistemas y lugares apropiados para la recogida de los mismos. Aplicar esta Directiva Europea protegerá el medioambiente y su salud!
Français		Ne pas jeter les appareils électriques avec les déchets ordinaires! Conformément à la Directive Européenne 2002/96/EC relative aux Déchets d' Équipements Électriques ou Électroniques (DEEE), et à sa transposition dans la législation nationale, les appareils électriques doivent être collectés à part et être soumis à un recyclage respectueux de l'environnement. En tant que propriétaire de l'équipement, vous devriez vous informer sur les systèmes de collecte approuvés auprès nos représentants locaux. Appliquer cette Directive Européenne améliorera l'environnement et la santé!
Norsk		Kast ikke elektriske artikler sammen med vanlig søppel. I følge det europeiske direktivet for Elektronisk Søppel og Elektriske Artikler 2002/96/EC (Waste Electrical and Electronic Equipment, WEEE) skal alt avfall kildesorteres og leveres på godkjente plasser i følge loven. Godkjente retur plasser gis av lokale myndigheter. Ved å følge det europeiske direktivet bidrar du til å bevare naturen og den menneskelige helse.
Nederlandse		Gooi elektrische apparatuur nooit bij gewoon afval! Met inachtneming van de Europese Richtlijn 2002/96/EC met betrekking tot Afval van Elektrische en Elektronische Apparatuur (Waste Electrical and Electronic Equipment, WEEE) en de uitvoering daarvan in overeenstemming met nationaal recht, moet elektrische apparatuur, waarvan de levensduur ten einde loopt, apart worden verzameld en worden ingeleverd bij een recycling bedrijf, dat overeenkomstig de milieuwetgeving opereert. Als eigenaar van de apparatuur moet u informatie inwinnen over goedgekeurde verzamelssystemen van onze vertegenwoordiger ter plaatse. Door het toepassen van deze Europese Richtlijn beschermt u het milieu en ieders gezondheid!
Svenska		Släng inte uttjänt elektrisk utrustning tillsammans med annat avfall! Enligt Europadirektiv 2002/96/EC ang. Uttjänt Elektrisk och Elektronisk Utrustning (Waste Electrical and Electronic Equipment, WEEE) och dess implementering enligt nationella lagar, ska elektrisk utrustning som tjänat ut sorteras separat och lämnas till en miljögodkänd återvinningsstation. Som ägare till utrustningen, bör du skaffa information om godkända återvinningsssystem från dina lokala myndigheter. Genom att följa detta Europadirektiv bidrar du till att skydda miljö och hälsa!
Polski		Nie wyrzucać sprzętu elektrycznego razem z normalnymi odpadami! Zgodnie z Dyrektywą Europejską 2002/96/EC dotyczącą Pozbywania się zużytego Sprzętu Elektrycznego i Elektronicznego (Waste Electrical and Electronic Equipment, WEEE) i jej wprowadzeniem w życie zgodnie z międzynarodowym prawem, zużyty sprzęt elektryczny musi być składowany oddzielnie i specjalnie utylizowany. Jako właściciel urządzeń powinniście otrzymać informacje o zatwierdzonym systemie składowania od naszego lokalnego przedstawiciela. Stosując te wytyczne bedziesz chronił środowisko i zdrowie człowieka!
Suomi		Älä hävittää sähkölaitteita sekajätteiden mukana! Noudatettaessa Euroopan Unionin Direktiiviä 2002/96/EY Sähkölaite- ja Elektroniikkajätteestä (WEEE) ja toteutettaessa sitä sopusoinnussa kansallisen lain kanssa, sähkölaite, joka on tullut elinkaarensa päähän pitää kerätä erilleen ja toimittaa sähkö- ja elektroniikkaromujen keräyspisteeseen. Lisätietoja tämän tuotteen käsittelystä, keräämisestä ja kierrätyksestä saa kunnan ympäristöviranomaisilta. Noudattamalla tätä Euroopan Unionin direktiiviä, autat torjumaan kielteiset ympäristö- ja terveysvaikutukset!

<p>THANKS! For having chosen the QUALITY of the Lincoln Electric products.</p> <ul style="list-style-type: none"> • Please Examine Package and Equipment for Damage. Claims for material damaged in shipment must be notified immediately to the dealer. • For future reference record in the table below your equipment identification information. Model Name, Code & Serial Number can be found on the machine rating plate.
<p>GRAZIE! Per aver scelto la QUALITÀ dei prodotti Lincoln Electric.</p> <ul style="list-style-type: none"> • Esamini Imballo ed Equipaggiamento per rilevare eventuali danneggiamenti. Le richieste per materiali danneggiati dal trasporto devono essere immediatamente notificate al rivenditore. • Per ogni futuro riferimento, compilare la tabella sottostante con le informazioni di identificazione equipaggiamento. Modello, Codice (Code) e Matricola (Serial Number) sono reperibili sulla targa dati della macchina.
<p>VIELEN DANK! Dass Sie sich für ein QUALITÄTSPRODUKT von Lincoln Electric entschieden haben.</p> <ul style="list-style-type: none"> • Bitte überprüfen Sie die Verpackung und den Inhalt auf Beschädigungen. Transportschäden müssen sofort dem Händler gemeldet werden. • Damit Sie Ihre Gerätedaten im Bedarfsfall schnell zur Hand haben, tragen Sie diese in die untenstehende Tabelle ein. Typenbezeichnung, Code- und Seriennummer finden Sie auf dem Typenschild Ihres Gerätes.
<p>GRACIAS! Por haber escogido los productos de CALIDAD Lincoln Electric.</p> <ul style="list-style-type: none"> • Por favor, examine que el embalaje y el equipo no tengan daños. La reclamación del material dañado en el transporte debe ser notificada inmediatamente al proveedor. • Para un futuro, a continuación encontrará la información que identifica a su equipo. Modelo, Code y Número de Serie los cuales pueden ser localizados en la placa de características de su equipo.
<p>MERCI! Pour avoir choisi la QUALITÉ Lincoln Electric.</p> <ul style="list-style-type: none"> • Vérifiez que ni l'équipement ni son emballage ne sont endommagés. Toute réclamation pour matériel endommagé doit être immédiatement notifiée à votre revendeur. • Notez ci-dessous toutes les informations nécessaires à l'identification de votre équipement. Le nom du Modèle ainsi que les numéros de Code et Série figurent sur la plaque signalétique de la machine.
<p>TAKK! For at du har valgt et KVALITETSPRODUKT fra Lincoln Electric.</p> <ul style="list-style-type: none"> • Kontroller emballsjen og produktet for feil eller skader. Eventuelle feil eller transportskader må umiddelbart rapporteres dit du har kjøpt din maskin. • For fremtidig referanse og for garantier og service, fyll ut den tekniske informasjonen nedenfor i dette avsnittet. Modell navn, Kode & Serie nummer finner du på den tekniske platen på maskinen.
<p>BEDANKT! Dat u gekozen heeft voor de KWALITEITSPRODUCTEN van Lincoln Electric.</p> <ul style="list-style-type: none"> • Controleert u de verpakking en apparatuur op beschadiging. Claims over transportschade moeten direct aan de dealer of aan Lincoln electric gemeld worden. • Voor referentie in de toekomst is het verstandig hieronder u machinegegevens over te nemen. Model Naam, Code & Serienummer staan op het typeplaatje van de machine.
<p>TACK! För att ni har valt en KVALITETSPRODUKT från Lincoln Electric.</p> <ul style="list-style-type: none"> • Vänligen kontrollera förpackning och utrustning m.a.p. skador. Transportskador måste omedelbart anmälas till återförsäljaren eller transportören. • Notera informationen om er utrustnings identitet i tabellen nedan. Modellbeteckning, code- och serienummer hittar ni på maskinens märkplåt.
<p>DZIĘKUJEMY! Za docenienie JASKOŚCI produktów Lincoln Electric.</p> <ul style="list-style-type: none"> • Proszę sprawdzić czy opakownie i sprzęt nie są uszkodzone. Reklamacje uszkodzeń powstałych podczas transportu muszą być natychmiast zgłoszone do dostawcy (dystrybutora). • Dla ułatwienia prosimy o zapisanie na tej stronie danych identyfikacyjnych wyrobów. Nazwa modelu, Kod i Numer Seryjny, które możecie Państwo znaleźć na tabliczce znamionowej wyrobu.
<p>KIITOS! Kiitos, että olet valinnut Lincoln Electric LAATU tuotteita.</p> <ul style="list-style-type: none"> • Tarkista pakkaus ja tuotteet vaurioiden varalta. Vaateet mahdollisista kuljetusvaurioista on ilmoitettava välittömästi jälleenmyyjälle. • Tulevaisuutta varten täytä alla oleva lomake laitteen tunnistusta varten. Mallin, Koodin ja Sarjanumeron voit löytää konekilvestä.

Model Name, Modello, Typenbezeichnung, Modelo, Nom du modèle, Modell navn, Model Naam, Modellbeteckning, Nazwa modelu, Mallinimi:
Code & Serial number, Code (codice) e Matricola, Code- und Seriennummer, Code y Número de Serie, Numéros de Code et Série, Kode & Serie nummer, Code en Serienummer, Code- och Serienummer, Kod i numer Seryjny, Koodi ja Sarjanumero:
Date & Where Purchased, Data e Luogo d'acquisto, Kaufdatum und Händler, Fecha y Nombre del Proveedor, Lieu et Date d'acquisition, Kjøps dato og Sted, Datum en Plaats eerste aankoop, Inköpsdatum och Inköpsställe, Data i Miejsce zakupu, Päiväys ja Ostopaikka:



WARNING

This equipment must be used by qualified personnel. Be sure that all installation, operation, maintenance and repair procedures are performed only by qualified person. Read and understand this manual before operating this equipment. Failure to follow the instructions in this manual could cause serious personal injury, loss of life, or damage to this equipment. Read and understand the following explanations of the warning symbols. Lincoln Electric is not responsible for damages caused by improper installation, improper care or abnormal operation.

	<p>WARNING: This symbol indicates that instructions must be followed to avoid serious personal injury, loss of life, or damage to this equipment. Protect yourself and others from possible serious injury or death.</p>
	<p>READ AND UNDERSTAND INSTRUCTIONS: Read and understand this manual before operating this equipment. Arc welding can be hazardous. Failure to follow the instructions in this manual could cause serious personal injury, loss of life, or damage to this equipment.</p>
	<p>ELECTRIC SHOCK CAN KILL: Welding equipment generates high voltages. Do not touch the electrode, work clamp, or connected work pieces when this equipment is on. Insulate yourself from the electrode, work clamp, and connected work pieces.</p>
	<p>ELECTRICALLY POWERED EQUIPMENT: Turn off input power using the disconnect switch at the fuse box before working on this equipment. Ground this equipment in accordance with local electrical regulations.</p>
	<p>ELECTRICALLY POWERED EQUIPMENT: Regularly inspect the input, electrode, and work clamp cables. If any insulation damage exists replace the cable immediately. Do not place the electrode holder directly on the welding table or any other surface in contact with the work clamp to avoid the risk of accidental arc ignition.</p>
	<p>ELECTRIC AND MAGNETIC FIELDS MAY BE DANGEROUS: Electric current flowing through any conductor creates electric and magnetic fields (EMF). EMF fields may interfere with some pacemakers, and welders having a pacemaker shall consult their physician before operating this equipment.</p>
	<p>CE COMPLIANCE: This equipment complies with the European Community Directives.</p>
	<p>FUMES AND GASES CAN BE DANGEROUS: Welding may produce fumes and gases hazardous to health. Avoid breathing these fumes and gases. To avoid these dangers the operator must use enough ventilation or exhaust to keep fumes and gases away from the breathing zone.</p>
	<p>ARC RAYS CAN BURN: Use a shield with the proper filter and cover plates to protect your eyes from sparks and the rays of the arc when welding or observing. Use suitable clothing made from durable flame-resistant material to protect you skin and that of your helpers. Protect other nearby personnel with suitable, non-flammable screening and warn them not to watch the arc nor expose themselves to the arc.</p>
	<p>WELDING SPARKS CAN CAUSE FIRE OR EXPLOSION: Remove fire hazards from the welding area and have a fire extinguisher readily available. Welding sparks and hot materials from the welding process can easily go through small cracks and openings to adjacent areas. Do not weld on any tanks, drums, containers, or material until the proper steps have been taken to insure that no flammable or toxic vapors will be present. Never operate this equipment when flammable gases, vapors or liquid combustibles are present.</p>
	<p>WELDED MATERIALS CAN BURN: Welding generates a large amount of heat. Hot surfaces and materials in work area can cause serious burns. Use gloves and pliers when touching or moving materials in the work area.</p>
	<p>SAFETY MARK: This equipment is suitable for supplying power for welding operations carried out in an environment with increased hazard of electric shock.</p>



CYLINDER MAY EXPLODE IF DAMAGED: Use only compressed gas cylinders containing the correct shielding gas for the process used and properly operating regulators designed for the gas and pressure used. Always keep cylinders in an upright position securely chained to a fixed support. Do not move or transport gas cylinders with the protection cap removed. Do not allow the electrode, electrode holder, work clamp or any other electrically live part to touch a gas cylinder. Gas cylinders must be located away from areas where they may be subjected to physical damage or the welding process including sparks and heat sources.

Installation and Operator Instructions

Read this entire section before installation or operation of the machine.

Product Description

COOLARC-25 cooler is a stand alone recirculating cooling system designed for use with water cooled TIG, MIG, PAC (Plasma Arc Cutting) and PAW (Plasma Arc Welding). Additional applications include resistance welding, water cooled inductive heating.

The fittings located on the back of the COOLARC-25 are two a female left-hand threaded quick water fittings. (type 21KATS09MPX). Quick Connect Water Adapter converting quick water fitting to a male 5/8"-18 left hand hose fitting is supplied with each COOLARC-25. The cooler is also equipped with a bracket so it can be mounted at the rear of a Lincoln power source, to the dual cylinder undercarriage.

COOLARC-25 cooler is designed for use with all water-cooled TIG and medium duty MIG torches and guns.

The COOLARC-25 coolers bring new technology in the areas of pump, heat exchanger and reservoir designs to the water cooler market. These technologies allow the COOLARC-25 coolers to be lighter in weight, lower in energy consumption.

Warranty

Warranty for this product is 3 year after the date of purchase. For any warranty claim, contact a certified Lincoln service center.

Installation

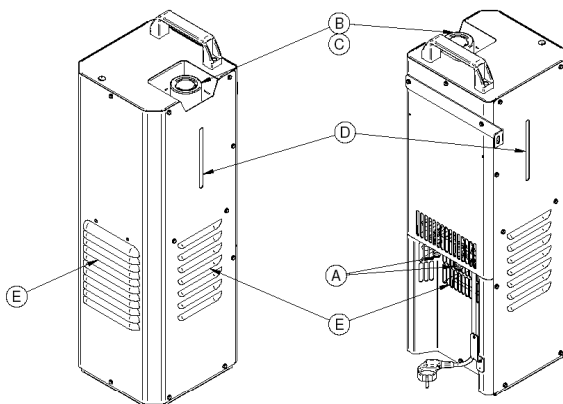


FIGURE 1

Coolant INLET and OUTLET fittings are placed at the rear of the unit (A). The right side fitting is marked "coolant out" (supplies coolant to the welding equipment); the left side one is marked "coolant in" (takes warm coolant from the welding equipment).

The FILL CAP of the coolant reservoir is on the top of the unit (B). Fill Cap can be removed by twisting it off.

The coolant FLOW INDICATOR is accessed by removal of the reservoir fill cap. Actual return flow is directly visible by the fill opening (C) with the unit in the vertical position.

Coolant volume can be monitored through sight window on the front panel (D). The maximum coolant level is indicated by the upper marker, the minimum level by the lower one.

Air flow louvers (E): Design of the front case allows for ease access to internal parts at repairing. Air flow louvers secure adequate air circulation. The louvers on the front of the case allow to suck in cold air from bottom of the unit. Hot air is removed by the side and rear louvers.

Filling The Reservoir Proper Coolant Addition

Acorox is recommended coolant for COOLARC-25.

For use above freezing: Tap, distilled, deionized, mineral water. For use below freezing: water and pure ethylene glycol mixture (10% glycol between at 0°C and 30% at -15°C).

WARNING

DO NOT USE PREPACKAGED WELDING INDUSTRY COOLANTS. These coolants may contain oil-based substances which attack the plastic components in the pump of the COOLARC-25 cooler and severely reduce pump life. Once added to the cooler, the substances are virtually impossible to purge from the water lines and heat exchanger.

To avoid freeze damage and water leakage in shipment, every COOLARC-25 unit is delivered empty with no coolant in the system. To fill the unit, locate the plastic reservoir fill cap at the front middle of the unit.

NOTE: The unit can be filled only vertically.

WARNING

UNPLUG THE COOLER BEFORE FILLING THE RESERVOIR.

Filling:

Tilt the unit backward and pour 8,5 liters of coolant into the reservoir fill hole through a funnel.

or

If 2,5 liter antifreeze fill bottle or fill bottle is available, tilt the unit forward until the bottle mates with the reservoir

fill hole. Then tilt the unit backward until the fill bottle is emptied.

⚠ WARNING

AVOID SPILLING COOLANT INTO THE FRONT CASING OF THE UNIT.

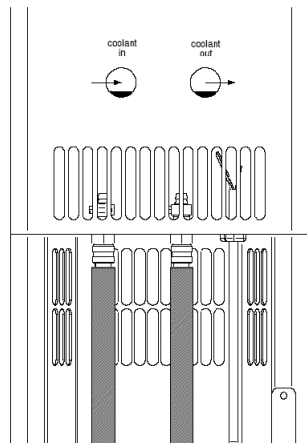
Unit will be full when coolant lies just below the reservoir opening with the unit in its upright position.

NOTE: DO NOT ADD MORE THAN 8.5 LITERS OF COOLANT INTO THE RESERVOIR.

The fill cap contains a pressure release air hole which must not be blocked by overfilling the reservoir with coolant.

Be certain to replace the reservoir fill cap when the reservoir is full. Operation of the COOLARC-25 cooler without the fill cap in place can cause poor cooling efficiency, evaporation loss of coolant, and low product life.

Water Hoses Connection



- A FROM HEAT SOURCE (RED)
- B TO HEAT SOURCE (BLUE)

FIGURE 2: Water Hoses Connection Diagram

Water hoses connection is made with quick water fittings (type 21KATS09MPX). In case of hoses with 5/8"-18 hand nut, you have to use Quick Connect Water Adapter, which is delivered with the unit. In this case, firstly you should connect the adapters to the water hoses and then connect them to the quick water fittings of the cooler.

In case of disconnection water hoses from the cooler, firstly you should disconnect quick water fittings, which are equipped with the automatic outflow blockade.

If you firstly unplug the connection quick water fitting - 5/8"/18 nut, it can cause coolant outflow from the cooler reservoir.

Before water hoses installing to the cooler, you should check if the tread of the connector water hose nut matches the quick water connectors placed in the connector block on the back of the unit.

All Lincoln products have water hoses which are equipped with 5/8"-18 left hand nuts so hose connectors must be matched the quick water fittings on the back of the cooler, in the following way:

- Take the two quick connect water adapters (5/8"-18 left hand hose fitting to quick water fitting) supplied with the cooler and thread hoses nuts into the adapters. Secure the connector nuts of the hoses tightly with a wrench so that leaking does not occur. Then take the INLET hose (colored or tagged blue on most hoses) and attach it into the coolant OUT line located on the right side of the connector block at the back of the cooler. Then take the OUTLET hose (colored or tagged red on most hoses) and attach it into the coolant IN line located on the left side of the connector block.

For products having water hoses equipped with quick water fittings which mate with fittings on the connector block at the back of the cooler, you should:

- Save the two quick water adapters for future use. Take INLET hose (colored or tagged blue on most hoses) and attach it into the coolant OUT line located on the right side of the connector block at the back of the cooler. Then take the OUTLET hose (colored or tagged red on most hoses) and attach it into the coolant IN line located on the left side of the connector block.

⚠ WARNING

BE CERTAIN THAT NO LEAKS EXIST WHEN COOLER IS TURNED ON. A LEAK WILL DEplete RESERVOIR VOLUME, CAUSE POOR OR COOLING PERFORMANCE AND REDUCE GUN, TORCH OR PUMP LIFE.

NOTE: Be certain that only 5/8"-18 left hand male nuts with clean and smooth threads are used on your water hoses. Wrong nuts and bad connections can cause coolant leaking, cooling system efficiency reducing and at last the cooler damaging.

Mounting

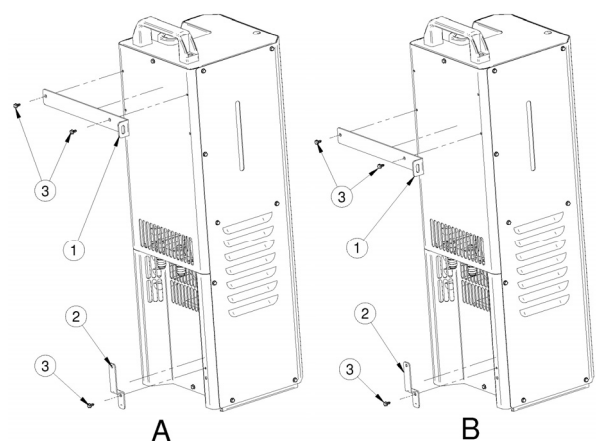


FIGURE 3a: Bracket Mounting Depending on the Power Source Height

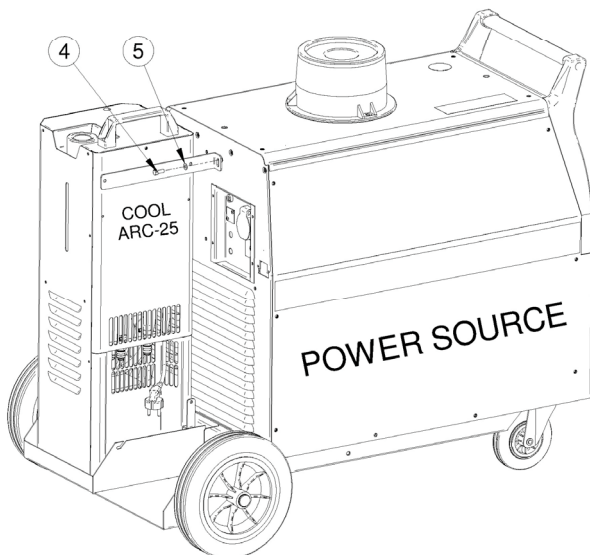


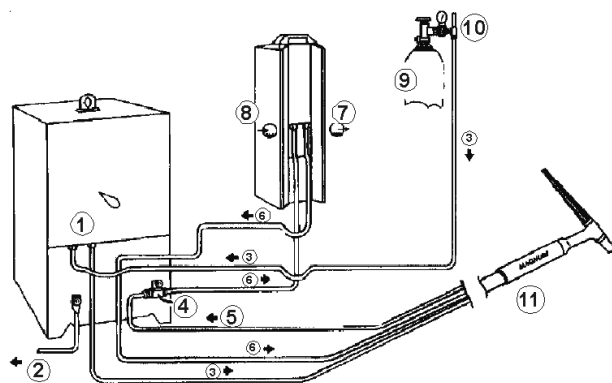
FIGURE 3b:
COOLARC-25 Mounting to the Power Source
Diagram

1. Main Mounting Bracket
2. Water Hoses Bracket
3. Blackened Screw B6P 4,8x13
4. Bolt M6x16 S6K
5. Plain Washer M6 P/M-82005

Before mounting COOLARC-25 to the power source firstly you must mount the water hoses bracket. Use blackened screw B6P 4,8x13 and thread the water hoses bracket to the power source case, paying attention to the bracket stamp which must be fit into the hole below the hole for the blackened screw. After mounting you should hang the water hoses on it. It allows to arrange water hoses without squeezing or sharp bends.

Vertical Installation COOLARC-25 on a Power Source with a Cylinder Undercarriage

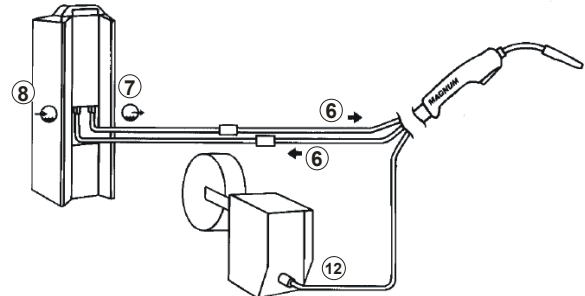
For the COOLARC-25 vertically mounted on a power source with a cylinder undercarriage, you should use the main mounting bracket. For proper installation, you should see Figure 3a and Figure 3b. Using provided blackened screws and proper holes in the cooler case, fasten the bracket to the cooler back. Then place the cooler on the undercarriage on its left side. Align the holes of the cooler bracket with the holes on the rivet nut in the back of the power source. Using provided bolt M6x16 S6K and plain washer M6 PN/M-82005 fasten the cooler bracket to the power source back. After installation you should check if the connection is firm.



1. Gas In/Out

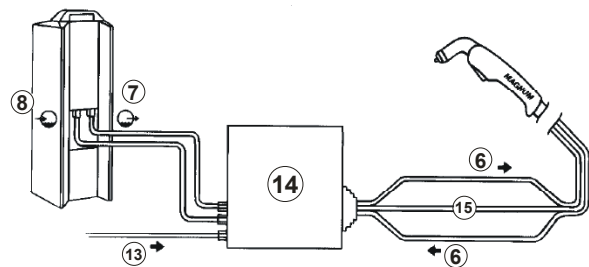
2. to Work
3. Gas
4. Power Cable Adapter
5. Hot Coolant from the Torch
6. Coolant
7. Coolant Out
8. Coolant In
9. Argon Gas Cylinder
10. Regulator Flowmeter
11. TIG Torch

FIGURE 4:
Water Cooled TIG Torch Connection



6. COOLANT
7. COOLANT OUT
8. COOLANT IN
12. GUN CABLE

FIGURE 5:
Water cooled MIG gun connection



6. COOLANT
7. COOLANT OUT
8. COOLANT IN
13. AIR
14. PLASMA, CUTTING, POWER SOURCE
15. ELECTRODE CABLE & AIR

FIGURE 6:
Water cooled Plasma system connection

The following should always be observed when operating the COOLARC-25:

- Never operate the cooler with case off.
- Immersion in water around electrical lines can cause electrical shock.
- Never place fingers into openings of cooler. Moving parts can injure.
- Unplug the cooler before filling the reservoir.
- Never operate the cooler with the reservoir fill cap off.
- Never operate the cooler with the reservoir empty.

Operating Precautions

The following should always be observed when operating any COOLARC-25 cooler:

- Check the reservoir daily.
- Keep the reservoir full especially after changing any water lines.

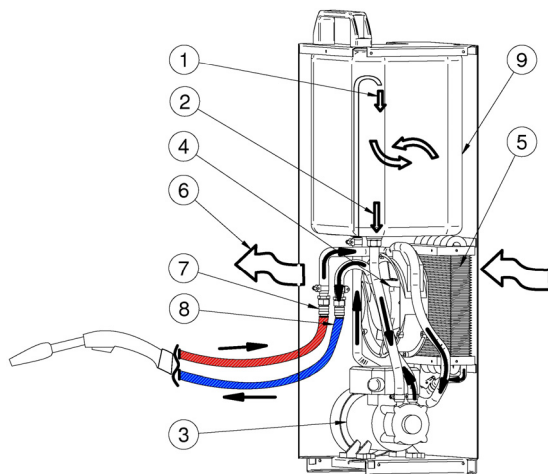
- Never operate the cooler with the reservoir fill cap removed.
- Avoid placing the cooler near areas of extreme heat.
- Avoid placing the cooler near a flux hopper or an area where dust build-up is extreme.
- Avoid kinking or putting sharp bends in any water lines.
- Keep all water lines clean.

Turning The System ON

After filling the reservoir and connecting the coolant hoses to the COOLARC-25 cooler per the Installation Sections, plug the unit into an electrical receptacle for start-up operation. Be certain that the power input into the unit matches the cooler's rated input. COOLARC-25 cooler cordsets contains a 90 angled CEE 7/4, 7/7 Schuko compatible plug. The plug mates with an auxiliary receptacle located at the back of many international Lincoln power sources for power supply to a COOLARC-25 cooler.

You will be able to hear the fan running and feel air flow out of the back of the unit when the cooler is operating. When first starting the unit, check all of the water lines to insure that no water leaks are present. Water leakage causes poor welding performance, poor cooling performance, low welding component and pump life and potential electrical safety hazards.

Cooling Efficiency



1. COOLANT RETURN
2. COOLANT IN TAKE
3. PUMP
4. FAN
5. HEAT EXCHANGER
6. HEATED AIR OUT
7. COOLANT OUT
8. COOLANT IN
9. RESERVOIR

FIGURE 7
Circulation of COOLARC-25.

The high cooling efficiency COOLARC-25 offers a cooler, more comfortable weld than conventional air-cooled procedures as well as leading competitors water cooled systems. The corrugated radiator of the heat exchanger improves heat convection with minimal air flow restriction. This design ensures a durable construction which is able to withstand impact of different objects through air slots. Figure 7 shows work principles of the COOLARC-25.

The COOLARC-25 cooler effectively removes the heat of the arc away from the gun or torch handle and places it into the exiting air flow at the back of the cooler. Ambient air temperature can affect the cooling parameters of the COOLARC-25.

For example:

- COOL day (50°F, 10°C): More HEAT is transferred from the water in the heat exchanger to the air. The water is COOLER and more HEAT is transferred from the gun or torch to the water.

RESULT: THE GUN OR TORCH FEELS COOLER

- HOT day (100°F, 38°C): Less HEAT is transferred from the water in the heat exchanger to the air. The water is HOTTER and less HEAT is transferred from the gun or torch to the water.

RESULT: THE GUN OR TORCH FEELS HOTTER.

Unlike other water coolers that depend on bulky reservoir size, the high efficiency components of COOLARC-25 cooler allows the reservoir size to be small. The result is a lightweight, portable unit.

Cooling Efficiency - Recommended Values

COOLARC-25 ref: K14037	
Max welding current TIG 100% duty cycle	350A
Max welding current MIG 100% duty cycle	350A

Maintenance

WARNING

For any maintenance or repair operations it is recommended to contact the nearest Technical Service Center or Lincoln Electric. Maintenance or repairs performed by unauthorized service centers or personnel will null and void the manufacturer's warranty.

Heat Exchanger Maintenance

To maintain maximum efficiency, the heat exchanger should be kept clean from dust and dirt buildup. Clean the heat exchanger periodically using a vacuum hose or low pressure air line. Avoid placing the unit near a flux hopper or a flux waste container. A clean heat exchanger offers better cooling performance and longer product life. If extremely dirty conditions exist, it may be necessary to remove the heat exchanger completely from the cooler for a thorough soap and water cleaning of the cooling fins. Use care to avoid damaging the fins.

Reservoir Maintenance

The reservoir volume should be checked daily before using the cooler. You can do it by observation the level of the coolant in the sight window on the front panel.. The unit is full when the coolant level reaches upper marker. Keep the reservoir full especially after changing the water lines. The cooler should always be operated with the reservoir fill cap on. In areas where dust can be introduced into the reservoir through water lines or reservoir fill cap removal, periodically flush the unit out. Dump the old coolant and rinse the inside of the reservoir. Add new coolant when finished. A reservoir free from particle buildup and dirt offers better cooling efficiency and longer pump, gun and torch life.

Troubleshooting

This Troubleshooting Guide is designed to be used by the machine Owner/Operator. Unauthorized repairs performed on this equipment may result in danger to the technician and machine operator and will invalidate your factory warranty. For your safety, please observe all safety notes and precautions detailed in the Safety Section of this manual to avoid electrical shock or danger while troubleshooting this equipment.

WARNING

If for any reason you do not understand the test procedures or are unable to perform the tests/repairs safely, contact your local Authorized Field Service Facility for technical troubleshooting assistance before you proceed.

Cooler does not operate with power switch on (Switch pushed to "1" position).	<ul style="list-style-type: none"> Power cord unplugged. No power at outlet. Power cordset damaged. Water lines blocked or crimped. Leak in gun or water hoses. Reservoir empty. Power switch faulty. 	<ul style="list-style-type: none"> Plug in power cord. Check outlet circuit breaker. Repair damaged cord or order new cordset. Clear blockage in hose. Avoid kinking or putting sharp bends in water lines. Repair leak. Fill reservoir. Replace power switch.
Internal water leak.	<ul style="list-style-type: none"> Hose clamp loose on one of internal hoses. Internal hose punctured. Heat exchanger leaking. 	<ul style="list-style-type: none"> Tighten or replace hose clamp. Replace punctured hose with new hose. Replace heat exchanger.
Leak at inlet/outlet connector block.	<ul style="list-style-type: none"> Loose connector fitting. Hose clamp loose. 	<ul style="list-style-type: none"> Tighten connector nut. (5/8-18 left hand thread). Tighten hose clamp onto hose.
Torch or gun runs hot.	<ul style="list-style-type: none"> Unit placed by area of extreme heat. Low coolant flow. No coolant flow. Fan not operating. 	<ul style="list-style-type: none"> Move unit away from hot air. See Low Coolant Flow Section. See No Coolant Flow Section. Reference fan section.
Fan operates but there is low coolant flow.	<ul style="list-style-type: none"> Leak in torch/gun or hoses. Torch/gun or hoses partially obstructed. Reservoir empty or very low. 	<ul style="list-style-type: none"> Repair leak. Clear obstruction. Refill reservoir.
Fan operates but there is no coolant flow.	<ul style="list-style-type: none"> Pump failure. Pump seized. 	<ul style="list-style-type: none"> Replace pump. Replace pump.
Pump operates, but fan does not.	<ul style="list-style-type: none"> Fan blade contacting heat exchanger. Fan motor failure 	<ul style="list-style-type: none"> If fan blades are plastic, replace. Reset fan clearance and secure fan to motor shaft. Replace fan motor with Fan Motor and Mount Assembly.
Cooler trips outlet circuit breaker.	<ul style="list-style-type: none"> Circuit overloaded. Cooler electrical component failure. 	<ul style="list-style-type: none"> Check outlet circuit breaker. Replace suppressor assembly and rectifier bridge inside of cooler.

Electromagnetic Compatibility (EMC)

11/04

This machine has been designed in accordance with all relevant directives and standards. However, it may still generate electromagnetic disturbances that can affect other systems like telecommunications (telephone, radio, and television) or other safety systems. These disturbances can cause safety problems in the affected systems. Read and understand this section to eliminate or reduce the amount of electromagnetic disturbance generated by this machine.



This machine has been designed to operate in an industrial area. To operate in a domestic area it is necessary to observe particular precautions to eliminate possible electromagnetic disturbances. The operator must install and operate this equipment as described in this manual. If any electromagnetic disturbances are detected the operator must put in place corrective actions to eliminate these disturbances with, if necessary, assistance from Lincoln Electric.

Before installing the machine, the operator must check the work area for any devices that may malfunction because of electromagnetic disturbances. Consider the following.

- Input and output cables, control cables, and telephone cables that are in or adjacent to the work area and the machine.
- Radio and/or television transmitters and receivers. Computers or computer controlled equipment.
- Safety and control equipment for industrial processes. Equipment for calibration and measurement.
- Personal medical devices like pacemakers and hearing aids.
- Check the electromagnetic immunity for equipment operating in or near the work area. The operator must be sure that all equipment in the area is compatible. This may require additional protection measures.
- The dimensions of the work area to consider will depend on the construction of the area and other activities that are taking place.

Consider the following guidelines to reduce electromagnetic emissions from the machine.

- Connect the machine to the input supply according to this manual. If disturbances occur it may be necessary to take additional precautions such as filtering the input supply.

- The output cables should be kept as short as possible and should be positioned together. If possible connect the work piece to ground in order to reduce the electromagnetic emissions. The operator must check that connecting the work piece to ground does not cause problems or unsafe operating conditions for personnel and equipment.
- Shielding of cables in the work area can reduce electromagnetic emissions. This may be necessary for special applications.

Technical Specifications

INPUT			
Input Voltage 230 ± 10% single phase	Rated current 0,95A	Frequency 50 Hz	
RATED OUTPUT AT 40°C			
Flow range MIG TIG Open flow	0,5 to 3,3 l/min with torch 4,5m: 1,7 ÷ 1,8 l/min with torch 3,8m: 1,3 ÷ 1,4 l/min 3,3 l/min		
Reservoir size	8,5 l		
Coolant requirement: Do not use prepackaged welding industry coolants. These coolants may contain oil-based substances which attack the plastic components in the pump.	Recommended coolant for COOLARC-25: Acorox Water or water and pure ethylene glycol mixture can be used interchangeably. The glycol % must not exceed 30%.		
PHYSICAL DIMENSIONS			
Height 748 mm	Width 238 mm	Length 248 mm	Weight 17 Kg
Operating Temperature -10°C to +40°C		Storage Temperature -25°C to +55°C	