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ESAB®

CC-11

Instruction manual

0558 007 523 US 100910

Valid for serial no. 015-xxx-xxxx

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Be sure this information reaches the operator.
You can get extra copies through your supplier.

CAUTION

These INSTRUCTIONS are for experienced operators. If you are not fully familiar with the principles of operation and safe practices for arc welding equipment, we urge you to read our booklet, "Precations and Safe Practices for Arc, Cutting and Gouging, "Form 52-529. Do NOT permit untrained persons to install, operate, or maintain this equipment. Do NOT attempt to install or operate this equipment until you have read and fully understand these instructions. If you do not fully understand these instructions, contact your supplier for further information. Be sure to read the Safety Precautions before installing or operating this equipment.

1 USER RESPONSIBILITY

This equipment will perform in conformity with the description thereof contained in this manual and accompanying labels and/or insert when installed, operated, maintained and repaired in accordance with the instruction provided. This equipment must be checked periodically. Malfunctioning or poorly maintained equipment should not be used. Parts that are broken, missing, worn, distorted or contaminated should be replaced immediately. Should such repair or replacement become necessary, the manufacturer recommends that a telephone or written request for service advice be made to the Authorized Distributor from whom it was purchased.

This equipment or any of its parts should not be altered without the prior written approval of the manufacturer. The user of this equipment shall have the sole responsibility for any malfunction which results from improper use, faulty maintenance, damage improper repair or alteration by anyone other than the manufacturer or a service facility designated by the manufacturer.

2 SAFETY PRECAUTIONS - English

WARNING: These Safety Precautions are for your protection. They summarize precautionary information from the references listed in Additional Safety Information section. Before performing any installation or operating procedures, be sure to read and follow the safety precautions listed below as well as all other manuals, material safety data sheets, labels, etc. Failure to observe Safety Precautions can result in injury or death.

PROTECT YOURSELF AND OTHERS
Some welding, cutting and gouging precesses are noisy and require ear protection. The arc, like the sun, emits ultraviolet (UV) and other radiation and can injure skin and eyes. Hot metal can cause burns. Training in the proper use of the processes and equipment is essential to prevent accidents. Therefore:

1. Always wear safety glasses with side shields in any work area, even if welding helmets face shields and goggles are also required.
2. Use a face shield fitted with the correct filter and cover plates to protect your eyes, face, neck and ears from sparks and rays of the arc when operating or observing operations. Warn bystanders not to watch the arc and not to expose themselves to the rays of the electric-arc or hot metal.
3. Wear flameproof gauntlet type gloves, heavy long-sleeve shirt, cuffless trousers, high-topped shoes and a welding helmet or cap for protection, to protect against arc rays and hot sparks or hot metal. A flameproof apron may also be desirable as protection against radiated heat and sparks.

4. Hot sparks or metal can lodge in rolled up sleeves, trouser cuffs, or pockets. Sleeves and collars should be kept buttoned and open pockets eliminated from the front of clothing.
5. Protect other personnel from arc rays and hot sparks with a suitable nonflammable partition or curtains.
6. Use goggles over safety glasses when chipping slag or grinding. Chipped slag may be hot and can fly far. Bystanders should also wear goggles over safety glasses.

FIRES AND EXPLOSIONS
Heat from flames and arcs can start fires. Hot slag or sparks can also cause fires and explosions. Therefore:

1. Remove all combustible materials well away from the work area or cover the materials with a protective nonflammable covering. Combusible materials include wood, clot, sawdust, liquid and gas fuels, solvents, pants and coatings papper, etc.
2. Hot sparks or hot metal can fall through cracks or crevices in floors or wall openings and cause a hidden smoldering fire or fires on the floor below. Make certain that such openings are protected from hot sparks and metal.
3. Do not weld, cut or perform other hot work until the workpiece has been completely cleaned so that there are no substances on the workpiece which might produce flammable or toxic vapors. Do not do hot work on closed containers. They may explode.
4. Have fire extinguishing equipment handy for instant use, such as a garden hose, water pail, sand bucket, or portable fire extinguisher. Be sure you are trained in its use.
5. Do not use equipment beyond its ratings. For example, overloaded welding cable can overheat and create a fire hazard.
6. After completing operations, inspect the work area to make certain there are no hot sparks or hot metal which could cause a later fire. Use fire watchers when necessary.
7. For additional information refer to NFPA Standard 51B, “Fire Prevention in Use of Cutting and Welding Processes”, available from the National Fire Protection Association, Batterymarch Park, Quincy, MA 02269.

ELECTRICAL SHOCK
Contact with live electrical parts and ground can cause severe injury or death. DO NOT use AC welding current in damp areas, if movement is confined, or if there is danger of falling. Therefore:

1. Be sure the power source frame (chassis) is connected to the ground system of the input power.
2. Connect the workpiece to a good electrical ground.
3. Connect the work cable to the workpiece. A poor or missing connection can expose you or others to a fatal shock.
4. Use well-maintained equipment. Replace worn or damaged cables.
5. Keep everything dry, including clothing, work area, cables, torch/electrode holder and power source.
6. Make sure that all parts of your bady are insulated from work and from ground.
7. Do not stand directly on metal or the earth while working in tight quarters or a damp area; stand on dry boards or an insulating platform and wear rubber-soled shoes.
8. Put on dry, hole-free gloves before turning on the power.
9. Turn off the power before removing your gloves.
10. Refer to ANSI/ASC Standard Z49.1 (listed on next page) for specific grounding recommendations. Do not mistake the work lead for a ground cable.

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ELECTRIC AND MAGNETIC FIELDS
May be dangerous. Electric current flowing through any conductor causes localized Electric and Magnetic Fields (EMF). Welding and cutting current creates EMF around welding cables and welding machines.
Therefore:

1. Welders having pacemakers should consult their physician before welding. EMF may interfere with some pacemakers.
2. Exposure to EMF may have other health effects which are unknown.
3. Welders should use the following procedures to minimize exposure to EMF:
   a. Route the electrode and work cables together. Secure them with tape when possible.
   b. Never coil the torch or work cable around your body.
   c. Do not place your body between the torch and work cables. Route cables on the same side of your body.
   d. Connect the work cable to the workpiece as close as possible to the area being welded.
   e. Keep welding power source and cables as far away from your body as possible.

FUMES AND GASES
Fumes and gases, can cause discomfort or harm, particularly in confined spaces. Do not breathe fumes and gases. Shielding gases can cause asphyxiation.
Therfore:

1. Always provide adequate ventilation in the work area by natural or mechanical means. Do not weld, cut or gouge on materials such as galvanized steel, stainless steel, cooper, zinc, lead beryllium or cadmium unless positive mechanical ventilation is provided. Do not breathe fumes from these materials.
2. Do not operate near degreasing and spraying operations. The heat or arc can react with chlorinated hydrocarbon vapors to form phosgene, a highly toxic gas and other irritant gases.
3. If you develop momentary eye, nose or throat irritation while operating, this is an indication that ventilation is not adequate. Stop work and take necessary steps to improve ventilation in the work area. Do not continue to operate if physical discomfort persists.
4. Refer to ANSI/ASC Standard Z49.1 (see listing below) for specific ventilation recommendations.
5. WARNING: This product when used for welding or cutting, produces fumes or gases which contain chemicals known to the State of Californa to cause birth defects and in some cases cancer (California Health & Safety Code §25249.5 et seq.)

CYLINDER HANDLING
Cylinders, if mishandled, can rupture and violently release gas. Sudden rupture of cylinder valve or relief device can injure or kill.
Therefore:

1. Use the proper gas for the process and use the proper pressure reducing regulator designed to operate from the compressed gas cylinder. Do not use adaptors. Maintain hoses and fittings in good condition. Follow manufacturer's operating instructions for mounting regulator to a compressed gas cylinder.
2. Always secure cylinders in an upright position by chain or strap to suitable hand trucks, undercarriages, benches, wall, post or racks. Never secure cylinders to work tables or fixtures where they may become part of an electrical circuit.
3. When not in use, keep cylinder valves closed. Have valve protection cap in place if regulator is not connected. Secure and move cylinders by using suitable hand trucks.
4. Locate cylinders away from heat, sparks and flames. Never strike an arc on a cylinder.
5. For additional information, refer to CGA Standard P-1, “Precations for Safe Handling of Comporessed Gases in Cylinders”, which is available from Compressed Gas Association, 1235 Jefferson Davis Highway, Arlington, VA 22202.

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EQUIPMENT MAINTENANCE
Faulty or improperly maintained equipment can cause injury or death. Therefore:

1. Always have qualified personnel perform the installaion, troubleshooting and maintenance work. Do not perform any electrical work unless you are qualified to perform such work.
2. Before performing any maintenance work inside a power source, disconnect the power source from the incoming electrical power.
3. Maintain cables, grounding wire, connections, power cord and power supply in safe working order. Do not operate any equipment in faulty condition.
4. Do not abuse any equipment or accessories. Keep equipment away from heat sources such as furnaces, wet conditions such as water puddles, oil or grease, corrosive atmospheres and inclement weather.
5. Keep all safety devices and cabinet covers in position and in good repair.
6. Use equipment only for its intended purpose. Do not modify it in any manner.

ADDITIONAL SAFETY INFORMATION
For more information on safe practices for electric arc welding and cutting equipment, ask your supplier for a copy of "Precautions and Safe Practices for Arc Welding, Cutting and Gouging", Form 52-529.

The following publications, which are available from the American Welding Society, 550 N.W. LeJuene Road, Miami, FL 33126, are recommended to you:

1. ANSI/ASC Z49.1 - "Safety in Welding and Cutting"
2. AWS C5.1 . "Recommended Practices for Plasma Arc Welding"
3. AWS C5.2 - "Recommended Practices for Plasma Arc Cutting"
4. AWS C5.3 - "Recommended Practices for Air Carbon, Arc Gouging and Cutting"
5. AWS C5.5 - "Recommended Practices for Gas Tungsten Arc Welding"
6. AWS C5.6 - "Recommended Practices for Gas Metal Arc welding"
7. AWS SP - "Safe practices" - Reprint, Welding Handbook
8. ANSI/AWS F4.1 - "Recommended Safe Practices for Welding and Cutting of Containers That Have Held Hazardous Substances"

MEANING OF SYMBOLS
As used throughout this manual: Means Attention! Be Alert!

DANGER **Means immediate hazards which, if not avoided, will result in immediate, serious personal injury or loss of life.**

WARNING **Means potential hazards which could result in personal injury or loss of life.**

CAUTION **Means hazards which could result in minor personal injury.**

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3 PRECAUCION DE SEGURIDAD - Spanish

ADVERTENCIA: Estas Precauciones de Seguridad son para su protección. Ellas hacen resumen de información proveniente de las referencias listadas en la sección ”Información Adicional Sobre La Seguridad”. Antes de hacer cualquier instalación o procedimiento de operación, asegúrese de leer y seguir las precauciones de seguridad listadas a continuación así como también todo manual, hoja de datos de seguridad del material, calcomanias, etc. El no observar las Precauciones de Seguridad puede resultar en daño a la persona o muerte.

PROTEJASE USTED Y A LOS DEMAS
Algunos procesos de soldadura, corte y ranurado son ruidosos y requiren protección para los oídos. El arco, como el sol , emite rayos ultravioleta (UV) y otras radiaciones que pueden dañar la piel y los ojos. El metal caliente causa quemaduras. EL entrenamiento en el uso propio de los equipos y sus procesos es esencial para prevenir accidentes.
Por lo tanto:

1. Utilice gafas de seguridad con protección a los lados siempre que esté en el área de trabajo, aún cuando esté usando careta de soldar, protector para su cara u otro tipo de protección.
2. Use una careta que tenga el filtro correcto y lente para proteger sus ojos, cara, cuello, y oídos de las chispas y rayos del arco cuando se esté operando y observando las operaciones. Alerte a todas las personas cercanas de no mirar el arco y no exponerse a los rayos del arco eléctrico o el metal fundido.
3. Use guantes de cuero a prueba de fuego, camisa pesada de mangas largas, pantalón de ruedo liso, zapato alto al tobillo, y careta de soldar con capucha para el pelo, para proteger el cuerpo de los rayos y chispas calientes provenientes del metal fundido. En ocaciones un delantal a prueba de fuego es necesario para protegerse del calor radiado y las chispas.
4. Chispas y partículas de metal caliente puede alojarse en las mangas enrolladas de la camisa, el ruedo del pantalón o los bolsillos. Mangas y cuellos deberán mantenerse abotonados, bolsillos al frente de la camisa deberán ser cerrados o eliminados.
5. Proteja a otras personas de los rayos del arco y chispas calientes con una cortina adecuada no-flamable como división.
6. Use careta protectora además de sus gafas de seguridad cuando esté removiendo escoria o puliendo. La escoria puede estar caliente y desprenderse con velocidad. Personas cercanas deberán usar gafas de seguridad y careta protectora.

FUEGO Y EXPLOSIONES
El calor de las flamas y el arco pueden ocacionar fuegos. Escoria caliente y las chispas pueden causar fuegos y explosiones.
Por lo tanto:

1. Remueva todo material combustible lejos del área de trabajo o cubra los materiales con una cobija a prueba de fuego. Materiales combustibles incluyen madera, ropa, líquidos y gases flamables, solventes, pinturas, papel, etc.
2. Chispas y partículas de metal pueden introducirse en las grietas y agujeros de pisos y paredes causando fuegos escondidos en otros niveles o espacios. Asegúrese de que toda grieta y agujero esté cubierto para proteger lugares adyacentes contra fuegos.
3. No corte, suelde o haga cualquier otro trabajo relacionado hasta que la pieza de trabajo esté totalmente limpia y libre de substancias que puedan producir gases inflamables o vapores tóxicos. No trabaje dentro o fuera de contenedores o tanques cerrados. Estos pueden explotar si contienen vapores inflamables.
4. Tenga siempre a la mano equipo extintor de fuego para uso instantáneo, como por ejemplo una manguera con agua, cubeta con agua, cubeta con arena, o extintor portátil. Asegúrese que usted esta entrenado para su uso.
5. No use el equipo fuera de su rango de operación. Por ejemplo, el calor causado por cable sobrecarga en los cables de soldar pueden ocasionar un fuego.
6. Después de termirar la operación del equipo, inspeccione el área de trabajo para cerciorarse de que las chispas o metal caliente ocasionen un fuego más tarde. Tenga personal asignado para vigilar si es necesario.

7. Para información adicional , haga referencia a la publicación NFPA Standard 51B, “Fire Prevention in Use of Cutting and Welding Processes”, available from the National Fire Protection Association, Batterymarch Park, Quincy, MA 02269.

CHOQUE ELECTRICO
El contacto con las partes eléctricas energizadas y tierra puede causar daño severo o muerte. NO use soldadura de corriente alterna (AC) en áreas húmedas, de movimiento confinado en lugares estrechos o si hay posibilidad de caer al suelo.
Por lo tanto:

1. Asegúrese de que el chasis de la fuente de poder esté conectado a tierra através del sistema de electricidad primario.
2. Conecte la pieza de trabajo a un buen sistema de tierra física.
3. Conecte el cable de retorno a la pieza de trabajo. Cables y conductores expuestos o con malas conexiones pueden exponer al operador u otras personas a un choque eléctrico fatal.
4. Use el equipo solamente si está en buenas condiciones. Reemplaze cables rotos, dañados o con conductores expuestos.
5. Mantenga todo seco, incluyendo su ropa, el área de trabajo, los cables, antorchas, pinza del electrodo, y la fuente de poder.
6. Asegúrese que todas las partes de su cuerpo están insuladas de ambos, la pieza de trabajo y tierra.
7. No se pare directamente sobre metal o tierra mientras trabaja en lugares estrechos o áreas húmedas; trabaje sobre un pedazo de madera seco o una plataforma insulada y use zapatos con suela de goma.
8. Use guantes secos y sin agujeros antes de energizar el equipo.
9. Apage el equipo antes de quitarse sus guantes.
10. RUse como referencia la publicación ANSI/ASC Standard Z49.1 (listado en la próxima página) para recomendaciones específicas de como conectar el equipo a tierra. No confunda el cable de soldar a la pieza de trabajo con el cable a tierra.

CAMPOS ELECTRICOS Y MAGNETICOS
Son peligrosos. La corriente eléctrica fluye através de cualquier conductor causando a nivel local Campos Eléctricos y Magnéticos (EMF). Las corrientes en el área de corte y soldadura, crean EMF alrrededor de los cables de soldar y las maquinas.
Por lo tanto:

1. Soldadores u Operadores que use marca-pasos para el corazón deberán consultar a su médico antes de soldar. El Campo Electromagnético (EMF) puede interferir con algunos marcapasos.
2. Exponerse a campos electromagnéticos (EMF) puede causar otros efectos de salud aún desconocidos.
3. Los soldadores deberán usar los siguientes procedimientos para minimizar exponerse al EMF:
   a. Mantenga el electrodo y el cable a la pieza de trabajo juntos, hasta llegar a la pieza que usted quiere soldar. Asegúrelos uno junto al otro con cinta adhesiva cuando sea posible.
   b. Nunca envuelva los cables de soldar alrededor de su cuerpo.
   c. Nunca ubique su cuerpo entre la antorcha y el cable, a la pieza de trabajo. Mantega los cables a un sólo lado de su cuerpo.
   d. Conecte el cable de trabajo a la pieza de trabajo lo más cercano posible al área de la soldadura.
   e. Mantenga la fuente de poder y los cables de soldar lo más lejos posible de su cuerpo.

HUMO Y GASES
El humo y los gases, pueden causar malestar o daño, particularmente en espacios sin ventilación. No inhale el humo o gases. El gas de protección puede causar falta de oxígeno.
Por lo tanto:

1. Siempre provea ventilación adecuada en el área de trabajo por medio natural o mecánico. No solde, corte, o trabajo por medio natural o mecánico. No solde, corte, o ranure materiales con hierro galvanizado, acero inoxidable, cobre, zinc, plomo, berílio, o cadmio a menos que provea ventilación mecánica positiva. No respire los gases producidos por estos materiales.
2. No opere cerca de lugares donde se aplique substancias químicas en aerosol. El calor de los rayos del arco pueden reaccionar con los vapores de hidrocarburo clorinado para formar un fosfógeno, o gas tóxico, y otros irritant es.
3. Si momentáneamente desarrolla inrritación de ojos, nariz o garganta mientras est á operando, es indicación de que la ventilación no es apropiada. Pare de trabajar y tome las medidas necesarias para mejorar la ventilación en el área de trabajo. No continúe operando si el malestar físico persiste.
4. Haga referencia a la publicación ANSI/ASC Standard Z49.1 (Vea la lista a continuación) para recomendaciones específicas en la ventilación.
5. ADVERTENCIA-Este producto cuando se utiliza para soldaduras o cortes, produce humos o gases, los cuales contienen químicos conocidos por el Estado de California de causar defectos en el nacimiento, o en algunos casos, Cancer. (California Health & Safety Code §25249.5 et seq.)

MANEJO DE CILINDROS
Los cilindros, si no son manejados correctamente, pueden romperse y liberar violentamente gases. Rotura repentina del cilindro, válvula, o válvula de escape puede causar daño o muerte.
Por lo tanto:

1. Utilize el gas apropiado para el proceso y utilize un regulador diseñado para operar y reducir la presión del cilindro de gas. No utilice adaptadores. Mantenga las mangueras y las conexiones en buenas condiciones. Observe las instrucciones de operación del manufacturero para montar el regulador en el cilindro de gas comprimido.
2. Asegure siempre los cilindros en posición vertical y amárrelos con una correa o cadena adecuada para asegurar el cilindro al carro, transportes, tablilleros, paredes, postes, o armazón. Nunca asegure los cilindros a la mesa de trabajo o las piezas que son parte del circuito de soldadura. Este puede ser parte del circuito elélectrico.
3. Cuando el cilindro no está en uso, mantenga la válvula del cilindro cerrada. Ponga el capote de protección sobre la válvula si el regulador no está conectado. Asegure y mueva los cilindros utilizando un carro o transporte adecuado. Evite el manejo brusco de los
4. Localize los cilindros lejos del calor, chispas, y flamas. Nunca establezca un arco en el cilindro.
5. Para información adicional, haga referncia a la publicación CGA Standard P-1, “Precations for Safe Handling of Comporessed Gases in Cylinders”, disponible através del Compressed Gas Association, 1235 Jefferson Davis Highway, Arlington, VA 22202.

MANTENIMIENTO DEL EQUIPO
Equipo defectuoso o mal mantenido puede causar daño o muerte.
Por lo tanto:

1. Siempre tenga personal cualificado para efectuar la instalación, diagnóstico, y mantenimiento del equipo. No ejecute ningún trabajo eléctrico a menos que usted esté cualificado para hacer el trabajo.
2. Antes de dar mantenimiento en el interior de la fuente de poder, desconecte la fuente de poder del suministro de electricidad primaria.
3. Mantenga los cables, cable a tierra, conexciones, cable primario, y cualquier otra fuente de poder en buen estado operacional. No opere ningún equipo en malas condiciones.
4. No abuse del equipo y sus accesorios. Mantenga el equipo lejos de cosas que generen calor como hornos, también lugares húmedos como charcos de agua, aceite o grasa, atmósferas corrosivas y las inclemencias del tiempo.
5. Mantenga todos los artículos de seguridad y coverturas del equipo en su posición y en buenas condiciones.

6. Use el equipo sólo para el propósito que fue diseñado. No modifique el equipo en ninguna manera.

INFORMACION ADICIONAL DE SEGURIDAD
Para más información sobre las prácticas de seguridad de los equipos de arco eléctrico para soldar y cortar, pregunte a su suplidor por una copia de "Precautions and Safe Practices for Arc Welding, Cutting and Gouging", Form 52-529.

Las siguientes publicaciones, disponibles através de la American Welding Society, 550 N.W. LeJuene Road, Miami, FL 33126, son recomendadas para usted:

1. ANSI/ASC Z49.1 - "Safety in Welding and Cutting"
2. AWS C5.1 . "Recommended Practices for Plasma Arc Welding"
3. AWS C5.2 - "Recommended Practices for Plasma Arc Cutting"
4. AWS C5.3 - "Recommended Practices for Air Carbon, Arc Gouging and Cutting"
5. AWS C5.5 - "Recommended Practices for Gas Tungsten Arc Welding"
6. AWS C5.6 - "Recommended Practices for Gas Metal Arc welding"
7. AWS SP - "Safe practices" - Reprint, Welding Handbook
8. ANSI/AWS F4.1 - "Recommended Safe Practices for Welding and Cutting of Containers That Have Held Hazardous Substances"

SIGNIFICADO DE LOS SIMBOLOS
Según usted avanza en la lectura de este folleto: Los Símbolos Significan ¡Atención! ¡Esté Alerta! Se trata de su seguridad.

PELIGRO **Significa riesgo inmediato que, de no ser evadido, puede resultar inmediatamente en serio daño personal o la muerte.**

ADVERTENCIA **Significa el riesgo de un peligro potencial que puede resultar en serio daño personal o la muerte.**

CUIDADO **Significa el posible riesgo que puede resultar en menores daños a la persona.**

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4 MESURES DE SECURITE - French

ATTENTION : ces règles de sécurité ont pour objet d'assurer votre protection. Elles constituent une synthèse des mesures de sécurité contenues dans les ouvrages de référence repris au chapitre Informations complémentaires relatives à la Sécurité. Avant toute installation ou utilisation du matériel, veillez à lire et à respecter les règles de sécurité énoncées ci-dessous ainsi que dans les divers manuels, fiches de sécurité du matériel, étiquettes, etc. Le non-respect de ces précautions risque d'entraîner des blessures graves ou mortelles.

PROTECTION INDIVIDUELLE ET DE L'ENTOURAGE

Certains procédés de soudage, découpage et gougeage sont bruyants et requièrent le port de protections auditives. L'arc, tout comme le soleil, émet des ultraviolets (UV) et d'autres rayonnements susceptibles de provoquer des lésions oculaires et dermatologiques. Le métal chaud peut être à l'origine de brûlures. Une formation à l'utilisation correcte des procédés et équipements est essentielle pour prévenir les accidents. En conséquence :

1. Porter impérativement des lunettes avec écrans latéraux dans les zones de travail, même lorsque le port du casque de soudage, de l'écran facial et des lunettes de protection est obligatoire
2. Tant pour exécuter les travaux que pour y assister, porter un écran facial muni de plaques protectrices et de verres filtrants appropriés pour protéger les yeux, le visage, le cou et les oreilles des étincelles et du rayonnement de l'arc. Avertir les personnes se trouvant à proximité qu'elles ne doivent pas regarder l'arc, ni s'exposer à son rayonnement ou à celui du métal incandescent.
3. Porter des gants ignifuges à crispins, une tunique épaisse à longues manches, des pantalons sans rebord, des chaussures à embout d'acier et un casque de soudage ou une casquette pour se protéger du rayonnement de l'arc, des étincelles et du métal incandescent. Le port d'un tablier ininflammable est également recommandé afin de se protéger des étincelles et du rayonnement thermique.
4. Les étincelles ou projections de métal en fusion risquent de se loger dans les manches retroussées, les bords relevés de pantalons ou dans les poches. Il convient donc de boutonner complètement les manches et le col, et de porter des vêtements sans poches à l'avant.
5. Protéger du rayonnement de l'arc et des étincelles les personnes se trouvant à proximité à l'aide d'un écran ou d'un rideau ininflammable approprié.
6. Porter des oculaires et des lunettes de protection pendant le meulage du laitier. Les particules meulées, souvent brûlantes, peuvent être projetées à des distances importantes, de sorte que les personnes se trouvant à proximité doivent également porter des lunettes de protection.

INCENDIES ET EXPLOSIONS

La chaleur dégagée par les flammes et les arcs peuvent être à l'origine d'incendies. Le laitier incandescent et les étincelles peuvent également provoquer incendies et explosions. En conséquence :

1. Éloigner suffisamment tous les matériaux combustibles de la zone de travail ou les recouvrir complètement d'une bâche ignifuge. Ce type de matériaux comprend le bois, les vêtements, la sciure, les carburants sous forme liquide et gazeuse, les peintures, les enduits, le papier, etc.
2. Les étincelles ou projections de métal en fusion peuvent tomber dans les fissures du sol ou des murs et déclencher une combustion lente dans les planchers ou à l'étage inférieur. Veiller à protéger ces ouvertures pour que les étincelles et projections n'y pénètrent pas.
3. Ne pas procéder à des travaux de soudage, de découpage et autres travaux à chaud tant que la surface n'est pas complètement nettoyée et débarrassée des substances susceptibles de produire des vapeurs inflammables ou toxiques. Ne pas effectuer de travaux à chaud sur des conteneurs fermés pour éviter tout risque d'explosion.
4. Conserver à portée de main un équipement d'extinction – tuyau d'arrosage, seau d'eau ou de sable, extincteur portatif, etc. et s'assurer d'en connaître l'utilisation.
5. Ne pas utiliser l'équipement au-delà de ses spécifications. Par exemple, un câble de soudage surchargé est susceptible de surchauffer et d'être à l'origine d'un incendie.

6. Une fois le travail terminé, inspecter la zone de travail pour s'assurer qu'aucune étincelle ou projection de métal ne risque de déclencher un incendie. Le cas échéant, utiliser des systèmes de détection d'incendie.
7. Pour toute information supplémentaire, voir la norme NFPA 51B relative à la prévention des incendies lors de travaux de découpage et de soudage, disponible auprès de la National Fire Protection Association, Batterymarch Park, Quincy, MA 02269 – USA.

CHOC ELECTRIQUE
Tout contact avec des éléments sous tension et la masse peut provoquer des blessures graves ou mortelles. NE PAS utiliser de courant de soudage CA dans des zones humides, des lieux exigus ou lorsqu'il existe un risque de chute. En conséquence :

1. Vérifier que le châssis du générateur est bien relié au dispositif de mise à la masse de l'alimentation.
2. Assurer une mise à la masse correcte de la pièce à souder.
3. Connecter le câble de soudage à la pièce à souder. Un raccordement médiocre ou inexistant constitue un risque mortel pour l'utilisateur et son entourage.
4. Utiliser du matériel correctement entretenu. Remplacer les câbles usés ou endommagés.
5. Empêcher l'apparition de toute humidité, notamment sur les vêtements, dans la zone de travail, sur les câbles, la torche de soudage, le porte-électrode et le générateur.
6. S'assurer que le corps est totalement isolé de la pièce à souder et de la masse.
7. Éviter tout contact direct avec du métal ou la masse lors de travaux dans des endroits exigus et en zone humide ; se tenir sur des panneaux ou sur une plate-forme isolante et porter des chaussures à semelles en caoutchouc.
8. Enfiler des gants secs et sans trous avant de mettre l'équipement sous tension.
9. Mettre l'équipement hors tension avant de retirer les gants.
10. Voir la norme ANSI/ASC Z49.1 (voir page suivante) pour les recommandations de mise à la masse. Ne pas confondre le câble de soudage et le câble de masse.

CHAMPS ELECTRIQUES ET MAGNETIQUES
Danger. Le courant électrique parcourant les conducteurs génère localement des champs électriques et magnétiques (EMF). Le courant de soudage et de découpe crée des EMF autour des câbles de soudage et des postes à souder.

En conséquence :

1. Les porteurs de stimulateurs cardiaques consulteront leur médecin avant d'effectuer des travaux de soudage. Les EMF peuvent en effet provoquer des interférences.
2. L'exposition aux EMF peut également avoir des effets méconnus sur la santé.
3. Les soudeurs respecteront les procédures suivantes pour réduire l'exposition aux EMF :
   a. Rassembler en faisceau les câbles de soudage et d'électrode. Si possible, les attacher avec du ruban adhésif.
   b. Ne jamais enrouler le câble de la torche ou le câble de soudage autour du corps.
   c. L'utilisateur ne doit jamais se trouver entre le câble de la torche et le câble de soudage. Faire passer tous les câbles du même côté du corps.
   d. Connecter le câble de soudage à la pièce à souder, au plus près de l'endroit du soudage.
   e. S'éloigner au maximum du générateur et des câbles.

US

FUMEES ET GAZ
L'inhalation des fumées et gaz peut provoquer des malaises et des dommages corporels, surtout lors de travaux dans les espaces confinés. Ne pas les respirer. Les gaz inertes peuvent causer l'asphyxie.
En conséquence :

1. Assurer une aération adéquate de la zone de travail par une ventilation naturelle ou mécanique. Ne pas effectuer de travaux de soudage, découpage ou gougeage sur des matériaux tels que l'acier galvanisé, le cuivre, le zinc, le plomb, le béryllium et le cadmium en l'absence d'une ventilation mécanique adéquate. Ne pas inhaler les fumées dégagées par ces matériaux.
2. Ne pas travailler à proximité d'opérations de dégraissage et de pulvérisation étant donné que la chaleur dégagée et l'arc peut réagir avec les hydrocarbures chlorés pour former du phosgène – un gaz particulièrement toxique – et d'autres gaz irritants.
3. Une irritation momentanée des yeux, du nez ou de la gorge provoquée par les travaux est le signe d'une ventilation inappropriée. Dans ce cas, il convient d'arrêter le travail et de prendre les mesures nécessaires pour améliorer l'aération. Ne pas poursuivre le travail si le malaise persiste.
4. Voir la norme ANSI/ASC Z49.1 (voir ci-dessous) pour les recommandations de ventilation.
5. ATTENTION : utilisé dans des opérations de soudage et de découpage, ce produit dégage des fumées et gaz qui contiennent des substances chimiques reconnues par l'État de Californie comme pouvant être à l'origine de malformations congénitales et de cancers (California Health & Safety Code §25249.5 et seq.).

MANIPULATION DES BOUTEILLES DE GAZ
Une erreur de manutention des bouteilles de gaz peut les endommager et entraîner une libération violente du gaz. La rupture soudaine de la soupape ou du détendeur peut provoquer des blessures graves ou mortelles.
En conséquence :

1. Utiliser le gaz approprié à la pression adéquate, celle-ci étant réglée par un détendeur adapté au type de bouteille utilisée. Ne pas utiliser d'adaptateurs. Garder les tuyaux et accessoires en bon état. Pour le montage du détendeur sur une bouteille de gaz comprimé, suivre les instructions du fabricant.
2. Fixer les bouteilles verticalement – au moyen d'une chaîne ou d'une sangle – à un chariot à bras, un châssis de roulement, un banc, un mur, un piquet ou un rack. Ne jamais attacher les bouteilles aux établis et éléments susceptibles de les intégrer à un circuit électrique.
3. Conserver les bouteilles fermées lorsqu'elles ne sont pas utilisées. Les fermer par un bouchon lorsqu'elles ne sont pas raccordées. Attacher et déplacer les bouteilles à l'aide de chariots adéquats.
4. Éloigner les bouteilles des sources de chaleur, d'étincelles et de flammes nues. Ne jamais déclencher d'arc sur une bouteille de gaz.
5. Pour plus d'informations sur les précautions d'utilisation des bouteilles de gaz comprimé, voir la norme CGA P-1, disponible auprès de la Compressed Gas Association, 1235 Jefferson Davis Highway, Arlington, VA 22202 – USA.

ENTRETIEN DE L'EQUIPEMENT
Un équipement mal entretenu peut provoquer des blessures graves ou mortelles. En conséquence :

1. Confier l'installation, les dépannages et l'entretien à du personnel qualifié. Ne pas effectuer de travaux électriques si vous ne possédez pas les compétences requises.
2. Mettre l'équipement hors tension avant toute intervention d'entretien sur le générateur.
3. Maintenir en bon état de fonctionnement les câbles, câbles de masse, connexions, cordons d'alimentation et générateurs. Ne jamais utiliser d'équipements défectueux.
4. Ne jamais surcharger les équipements et accessoires. Conserver les équipements à l'écart des sources de chaleur – notamment des fours –, des flaques d'eau, des traces d'huile ou de graisse, des atmosphères corrosives et des intempéries.
5. Laisser en place tous les dispositifs de sécurité et tous les panneaux du tableau de commande en veillant à les garder en bon état.
6. Utiliser l'équipement conformément à l'usage prévu ; n'y apporter aucune modification quelconque.

US

INFORMATIONS COMPLEMENTAIRES RELATIVES A LA SECURITE Pour plus d'informations relatives aux règles de sécurité pour les travaux de gougeage, de découpage et de soudage à l'arc électrique, demander au fournisseur une copie du formulaire 52/529.

L'American Welding Society, 550 N.W. LeJuene Road, Miami, FL 33126 – USA, publie les documents suivants dont la lecture est également recommandée :

1. ANSI/ASC Z49.1 - ”Safety in Welding and Cutting”
2. AWS C5.1 . ”Recommended Practices for Plasma Arc Welding”
3. AWS C5.2 - ”Recommended Practices for Plasma Arc Cutting”
4. AWS C5.3 - ”Recommended Practices for Air Carbon, Arc Gouging and Cutting”
5. AWS C5.5 - ”Recommended Practices for Gas Tungsten Arc Welding”
6. AWS C5.6 - ”Recommended Practices for Gas Metal Arc welding”
7. AWS SP - ”Safe practices” - Réédition, Manuel de soudage
8. ANSI/AWS F4.1 - ”Recommended Safe Practices for Welding and Cutting of Containers That Have Held Hazardous Substances”

SYMBOLES
Signification des symboles utilisés dans ce manuel : = Attention ! Rester prudent !

DANGER **= danger immédiat ; risque de blessures graves ou mortelles.**

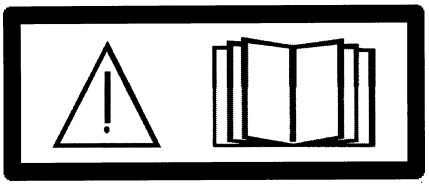
ADVERTISSEMENT **= danger potentiel ; risque de blessures graves ou mortelles.**

ATTENTION **= danger ; risque de blessures légères.**

US

CAUTION

Read and understand the instruction manual before installing or operating.



5 DESCRIPTION

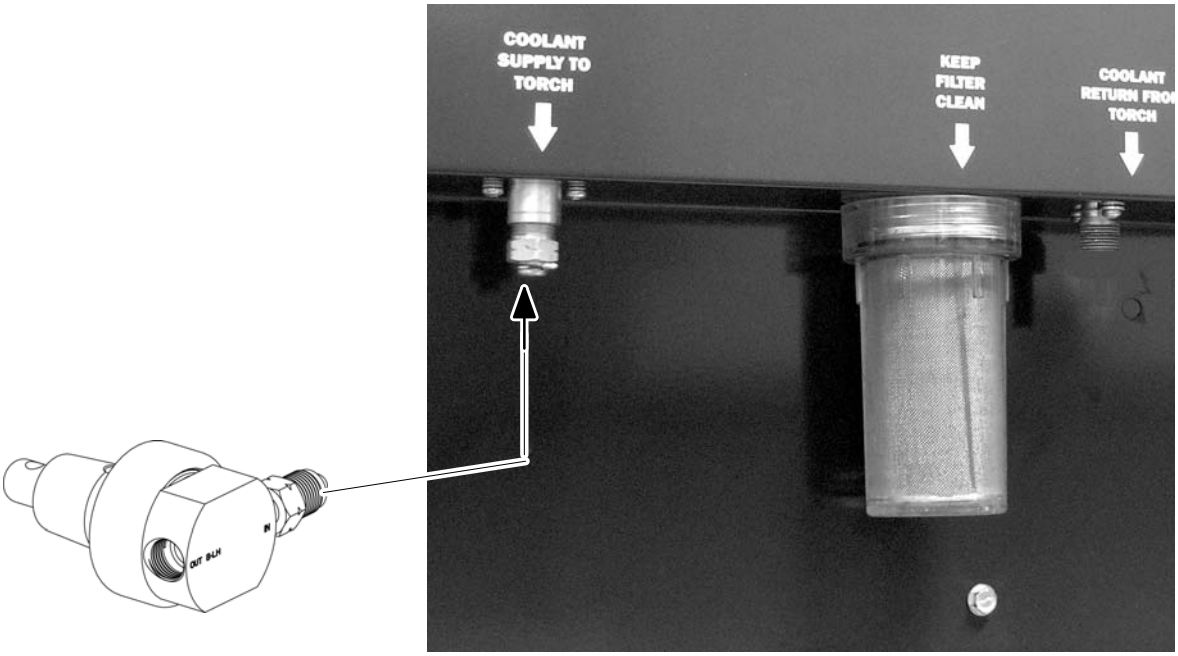
These instructions provide installation, operation, service and parts information for the **CC-11** Plasma Coolant Circulator. This unit recirculates coolant to cool electric arc cutting and welding equipment.

5.1 Specifications

Dimensions:	34.00" high (864 mm) x 21.75" wide (552 mm) x 28.00 deep (711 mm)	
Weight:	215 lb. dry (97.5 kg) / 249 lb. wet (113 kg)	
Pump Type:	Positive displacement, rotary vane type with adjustable by-pass valve (200 psi / 13.8 bars max.), CW rotation as viewed from nameplate.	
Radiator Type:	Copper tubing, aluminum □nned air-to-water type with galvanized steel frame.	
	50Hz, 1 Phase Input Power	**60Hz, 1 Phase Input Power**
AC Input Voltages	200 / 230 / 400 / 460 / 575 V., + / - 10%	
AC Input Amperage	9 / 8 / 5 / 4 / 3 Amperes	
Pump Capacity	1.60 gpm at 175 psi (6.0 l/min at 12 bars)	1.60 gpm at 175 psi (6.0 l/min at 12 bars)
Cooling Capacity @ 1.60 gpm (6.0 l/min)	16,830 BTU / hr. (4900 watts)	20,200 BTU / hr. (5900 watts)
at 45° F (25° C) temperature di□erence between high coolant temperature and ambient air tempera-ture using ESAB coolant P/N 0558004297 (25% propylene glycol / 75% distilled water).		
Max. Delivery Pressure	175 psig (12 bars)	
Reservoir Capacity	4 gallons (15.2 liters)	

5.2 Optional equipment

When the CC-11 unit is installed above the plasma torch location, Shut-off Valve (0558008364) should be ordered and installed. It is connected to the CC-11 using the “Coolant Supply To Torch” fitting located on the rear panel. The shut-off valve closes when delivery pressure falls below approximately 25 psig. This will insure that water does not drain from the unit when changing consumables.



CC-11 rear panel

6 INSTALLATION

Install the CC-11 in an appropriate location so as to maintain adequate and unrestricted airflow into and out of the cabinetry. For permanent mounting refer to Figure 3.1 for mounting hole dimensions in the base of this unit.

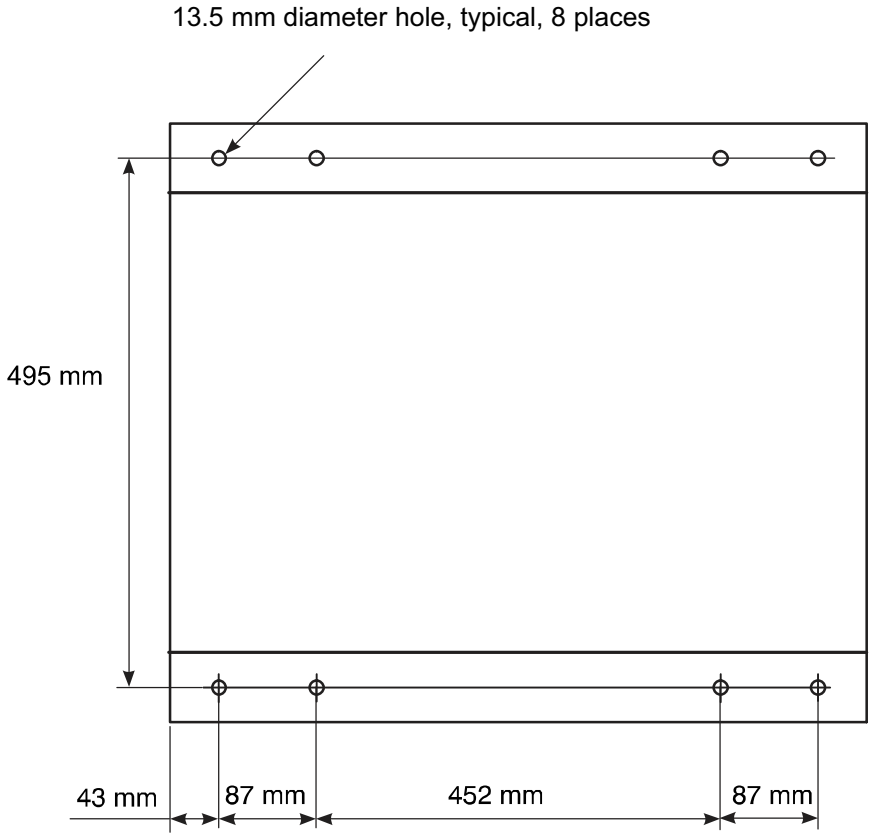


Fig 3.1 Mounting dimenstions

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6.1 Input power connections

A 3-conductor power cable suitable to meet the required input power must be installed. The cable must have 0.25" (6.4 mm) ring lugs installed on the machine end. Connect the power leads to the L1 and L2 terminals on TB1 Input Power Terminal Board and the ground lead to the ground lug on the back of the fan support panel. A strain relief fitting is provided to feed a power cable through the rear panel of the cabinet. Refer to Figure 3.2 for proper Input Voltage Link placement, Figure 3.2 shows link in place for 460 volt input. Electrical installation must be in accordance with local electrical codes for this type of equipment.

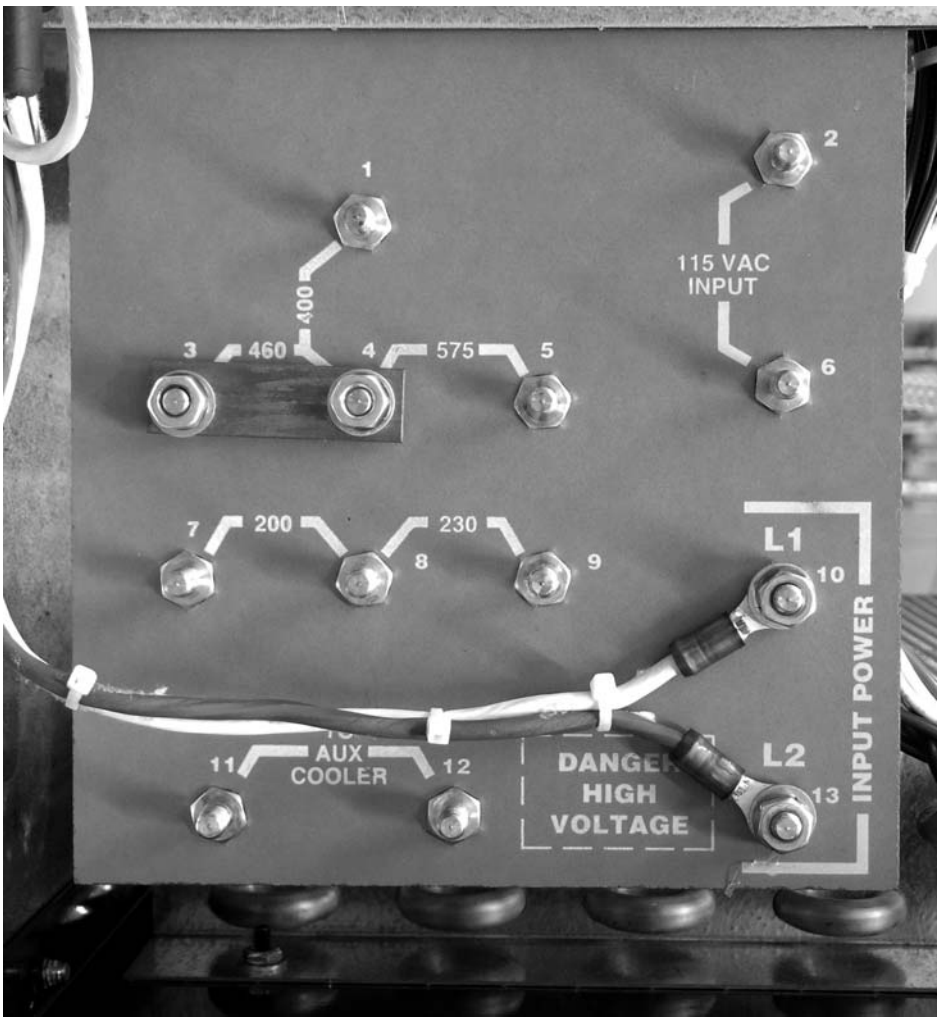
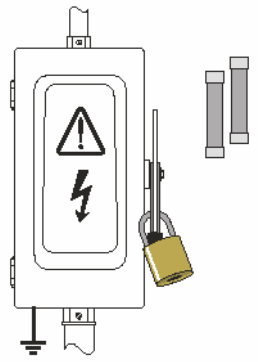


Fig 3.2. Voltage links



WARNING

ELECTRIC SHOCK CAN KILL ! BEFORE MAKING ELECTRICAL INPUT CONNECTIONS TO THE POWER SOURCE, "MACHINERY LOCKOUT PROCEDURES" SHOULD BE EMPLOYED. IF THE CONNECTIONS ARE TO BE MADE FROM A LINE DISCONNECT SWITCH, PLACE THE SWITCH IN THE OFF POSITION AND PADLOCK IT TO PREVENT IN ADVERTENT TRIPPING. IF THE CONNECTION IS MADE FROM A FUSE BOX, REMOVE THE CORRESPONDING FUSES AND PADLOCK THE BOX COVER. IF IT IS NOT POSSIBLE TO USE PADLOCKS, ATTACH A RED TAG TO THE LINE DISCONNECT SWITCH (OR FUSE

BOX) WARNING OTHERS THAT THE CIRCUIT IS BEING WORKED ON.

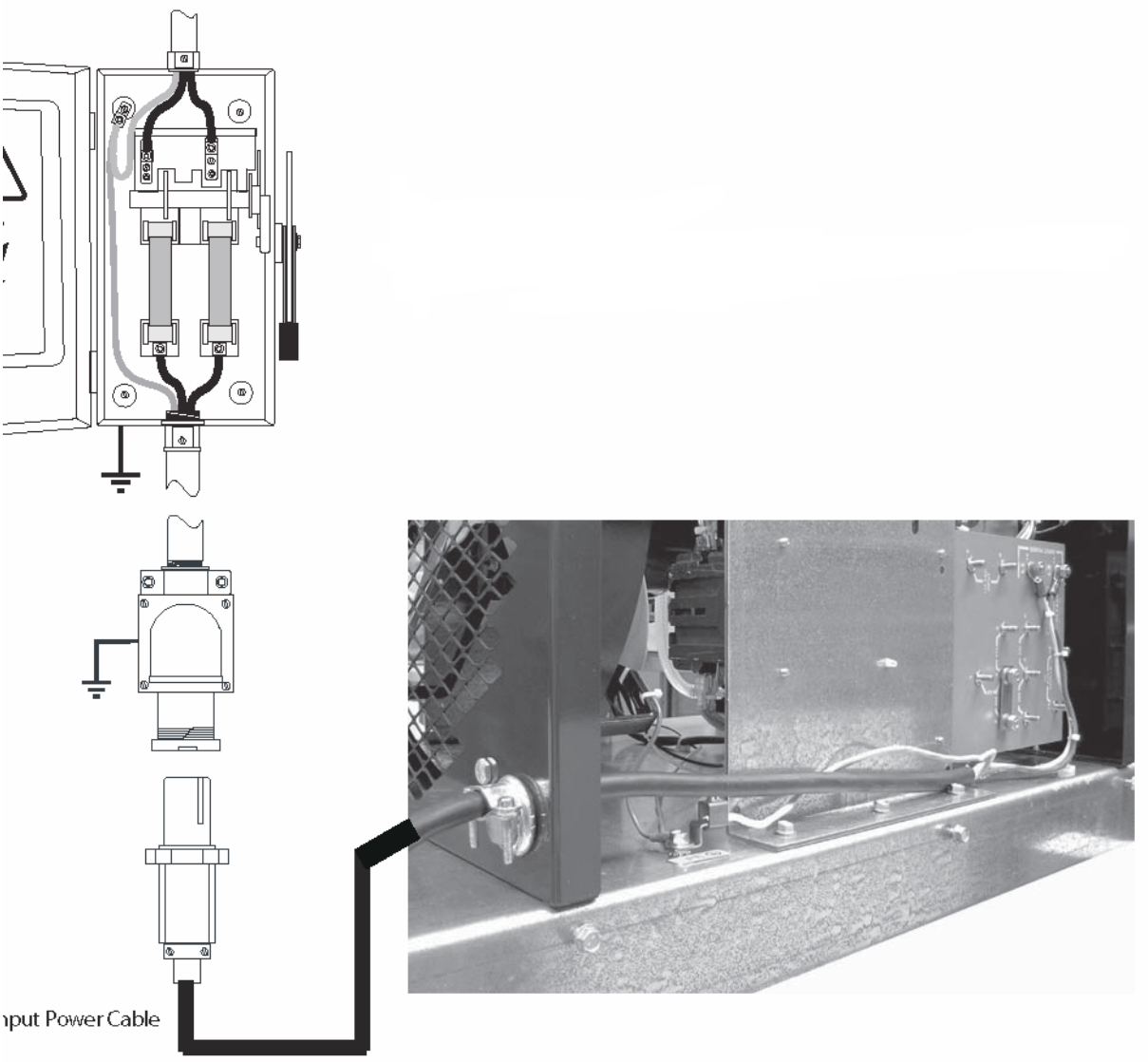


Fig 3.3 Input connection diagram

Typical Installation - User-supplied single phase fused power disconnect box with receptacle and plug

US

6.2 Control connections

An 8-pin receptacle J1 is provided on the rear panel to supply the CC-11 with 115 Vac control voltage for pump motor contactor control. The CC-11 is normally supplied with this control voltage in order for the pump and fan to operate. J-1 also provides contact closure signals for a satisfied 1.00 gpm (3.8 l/min) flow switch (pins D and E) and coolant level switch satisfied (pins E and H).

8-pin female plug

CAUTION

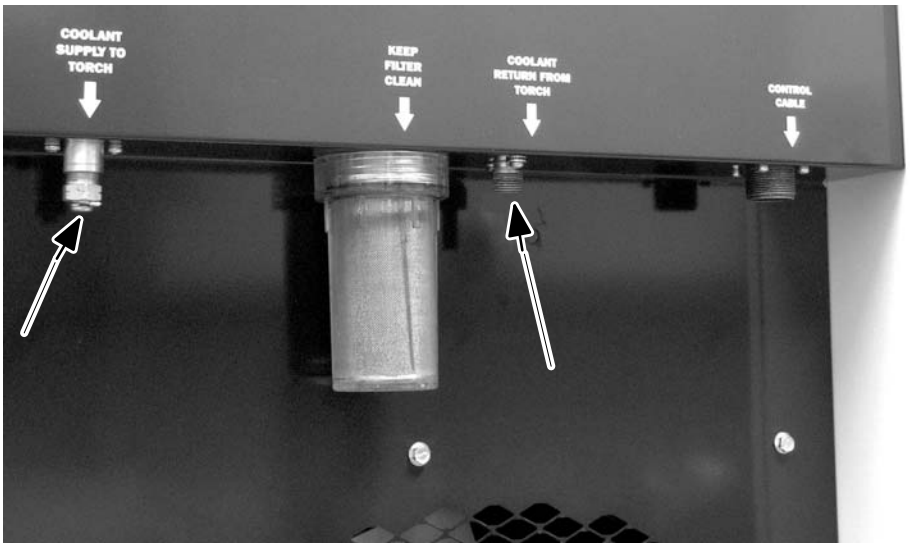
Do not intermittently operate the pump motor as this will cause needless wear to the pump.

US

6.3 Coolant connections

These connectors are located on the back of the unit. Connect the hoses to the CC-11 accordingly. The torch hose ends should be fitted with one 5/8"-18 male left-hand air / water hose and one 5/8"-18 female right-hand air / water hose connector.

With the torch and the CC-11 connected, fill the reservoir with the specially formulated torch coolant. Do not use regular anti-freeze solutions, such as for an automobile, as the additives will harm the pump and torch. ESAB P/N 0558004297 is recommended for service down to 12° F (-11° C). ESAB P/N 156F05 is recommended for service below 12° F (-11° C) to -34° F (-36° C).



Coolant connections

After filling the reservoir, run the pump with its cap removed in order to purge air from the radiator, hoses, and torch. Re-check coolant level to ensure reservoir is filled. Replace reservoir cap after purging and checking coolant level.

CAUTION

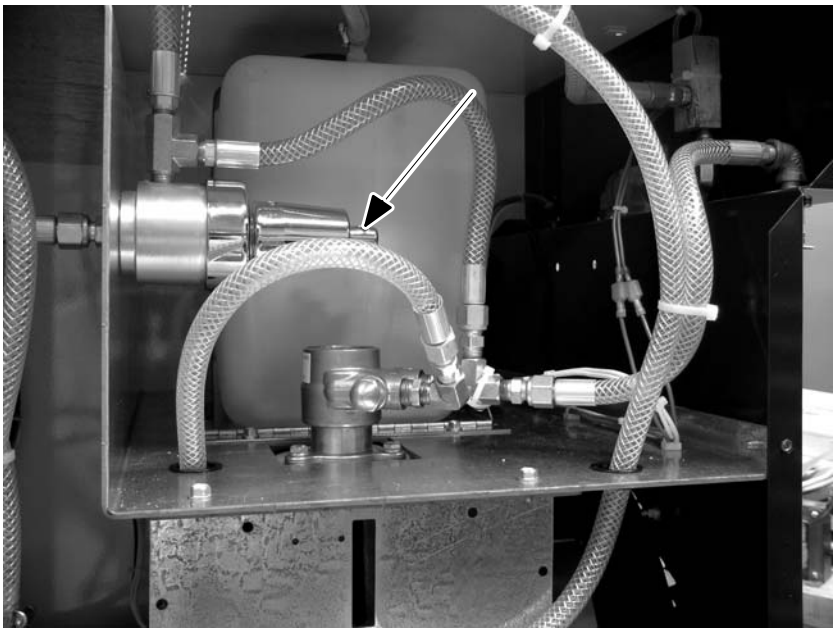
Do not connect hoses to a solenoid valve that can be closed when the pump is operating as damage to pump can result.

6.4 Delivery pressure adjustment

Delivery pressure is controlled by the relief valve mounted next to the pump in the tank compartment. Turning the pressure adjustment screw clockwise increases pressure on the spring and raises the delivery pressure. Turning it counterclockwise reduces pressure on the spring and reduces the delivery pressure. The pressure is adjusted at the factory to deliver about 175 psig (12 bar) at 1.5 gallons per minute (5.7 l/min). This is an appropriate setting for the PT-36 on an M3 system. Ordinarily, this should not require further adjustment unless the CC-11 is used in a different application.

This relief valve sends bypassed coolant through the radiators and back into the tank. Consequently, a closed discharge line should not damage the pump.

The pump also has a relief valve built in. This valve is set to be fully open at 250 psig (17.3 bar) by the pump manufacturer. Its sole purpose is to protect the pump should the external relief valve fail closed. **This relief valve should not be adjusted in the field.** In the unlikely event that the external relief valve fails closed and the discharge line is closed, a thermostat will stop the pump motor if the pump temperature goes over 131° F (55° C).



Pressure adjustment screw

US

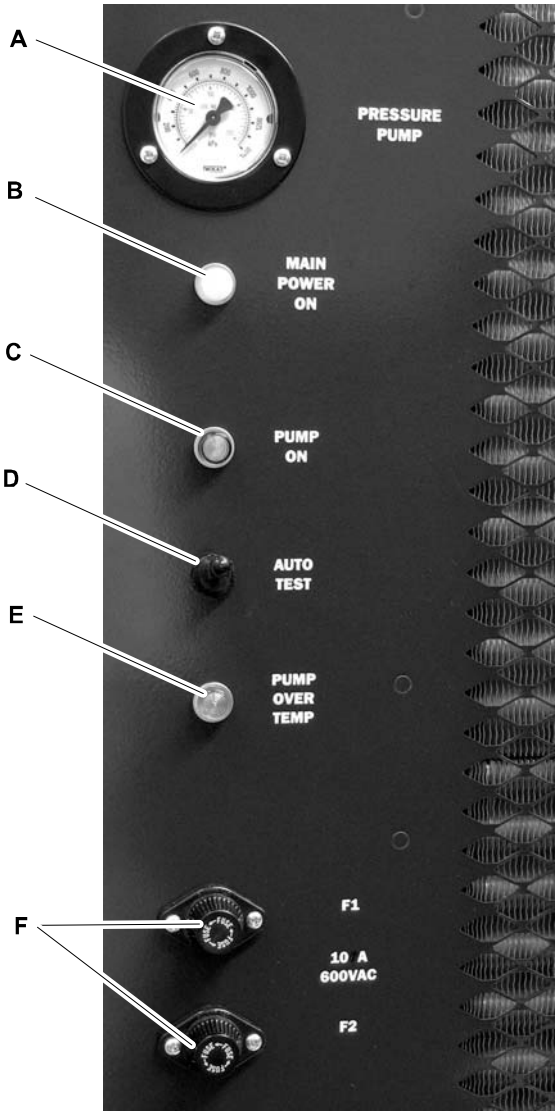
6.5 CC-11 front panel controls / functions

A. Pump pressure gage:

This is the delivery pressure at the supply fitting. The delivery pressure is set at the factory in the range of 170 to 175 psig at 1.5 gpm (11.7 to 12.1 bar at 5.7 l/min.). Lower flows will result in higher pressure readings; higher flows will result in lower pressure readings.

The pressure is set with a back pressure regulator located near the coolant reservoir. It should not be necessary to readjust the pressure setting in the field, unless the back pressure regulator is replaced or unless the CC-11 is used in an application requiring lower delivery pressure.

The pump also has a factory preset relief valve for pump protection only. This setting should not be tampered with.



B. Main power on lamp:

This lamp indicates that the main input supply voltage is present.

WARNING

ELECTRIC SHOCK CAN KILL . DO NOT RELY ON THIS LAMP TO DETERMINE WHETHER LETHAL VOLTAGE ARE PRESENT BEFORE REMOVING A SIDE PANEL OR SERVICING THIS UNIT. DISCONNECT THE UNIT FROM ITS POWER SOURCE AND DISCONNET THE CABLE AT THE AMPHENOL CONNECTOR. THIS CONNECTOR IS USED TO SUPPLY 115 VAC TO A RELAY IN THE CC-11

C. Pump on lamp

This lamp indicates that power is being supplied to the pump and fan motors.

D. Auto/test switch:

When toggled to the auto position the CC-11 pump and fan motors are energized when a 115 VAC signal is received from the plasma process controller. The plasma process controller should supply this signal whenever input power is supplied to the plasma cutting power source.

When placed in the test position the CC-11 pump and fan motors are energized without receiving a signal from the process controller.

E. Pump over temperature lamp:

If coolant flow through the CC-11 is substantially blocked, and the back pressure regulator fails to operate properly, the pump will temporarily be protected by its internal relief valve. After a few minutes of such operation, however, the pump will reach temperatures which will cause it to fail. A thermal switch is mounted near the pump which will sense an over temperature condition and shut the pump motor off before damage occurs. If this thermal switch is activated, this lamp will also be lit.

F. Fuse1 & fuse2:

Each of these fuses is on one leg of the 230 VAC supplied by the CC-11 to the fan and pump motors.

7 MAINTENANCE

WARNING

ELECTRIC SHOCK CAN KILL. PRECAUTIONARY MEASURES SHOULD BE TAKEN TO PROVIDE MAXIMUM PROTECTION AGAINST ELECTRICAL SHOCK . BE SURE THAT ALL PRIMARY POWER TO THE MACHINE HAS BEEN EXTERNALLY DISCONNECTED. OPEN WALL DISCONNECT SWITCH OR CIRCUIT BREAKER BEFORE ATTEMPTING INSPECTION OR WORK IN SIDE THE CIRCULATOR. INSTALL ALL COVERS AFTER COMPLETING SERVICE. DO NOT OPERATE UNIT WITHOUT COVERS.

IF THIS EQUIPMENT DOES NOT OPERATE PROPERLY, STOP WORK IMMEDIATELY AND INVESTIGATE THE CAUSE OF THE MALFUNCTION. MAINTENANCE WORK MUST BE PERFORMED BY AN EXPERIENCED PERSON, AND ELECTRICAL WORK BY A TRAINED ELECTRICIAN. DO NOT PERMIT UNTRAINED PERSONS TO INSPECT, CLEAN, OR REPAIR THIS EQUIPMENT . USE ONLY RECOMMENDED REPLACEMENT PARTS.

1. Maintain the coolant level in the reservoir at over half full.
2. Periodically check the coolant pressure and flow through the system.
3. Periodically inspect the radiators for build-up of airborne dust or other residues that may hinder the cooling capacity of the CC-11.
4. When draining old coolant, dispose of it according to your local applicable rules and ordinances.
5. Visually inspect the strainer from time to time and clean it if significant amounts of debris have accumulated. Greasing the strainer's rubber gasket with silicone o-ring lubricant will help ensure a good seal.

8 TROUBLESHOOTING

1. **Pump Below Capacity** - Can be caused by restricted inlet, wrong direction of rotation, low motor R.P.M., and the relief valve improperly adjusted.
2. **Pump Noisy** - Can be caused by restricted inlet, discharge pressure over 200 psi (13.8 bar), loose acorn nut or damaged acorn nut gasket, air getting into lines, loose couplings, misalignment between pump and motor, and loose mounting bolts or clamping ring.
3. **Leakage** - Is caused by failing mechanical shaft seal or rubber o-rings. Have pump rebuilt.
4. **Pump Turns Hard** - Can be caused by misalignment between pump and motor or by lime and mineral deposits in the pump. Deposits in pump would necessitate a pump rebuild, have pump rebuilt at pump service center. Do not disassemble pump! Any attempt at field repair will void the warranty.
5. **Fan or Pump Motor Not Turning** - If PL2 not lit, 115VAC may not be supplied to P1, or TS1 is over 131°F (55° C) if PL3 is lit. If PL1 and PL2 are lit, check F1 and F2.
6. **Pump/Motor Vibration** - Indicates wear on coupling.

NOTE!

A slot is provided in the motor mounting plate to provide access to the coupling adjustment screws.

8.1 Test Procedure

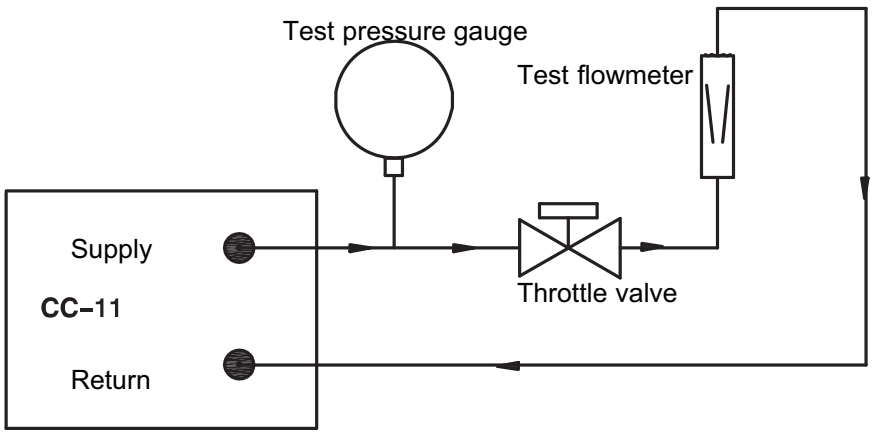


Fig 4.1. Field test procedure

1. Connect as shown above u 1. sing 0.38” (9.5 mm) ID hose.
2. Open throttle valve completely.
3. Fill CC-11 with Plasmarc torch coolant.
4. Power on the CC-11.
5. Adjust throttle valve until test flowmeter reads 1.5 gpm (5.7 l/min)
6. 'Read pressure on test pressure gauge. It should be between 160 - 185 psig (11.0 - 12.8 bar). The gauge on the CC-11 should agree within +/- 10 psig (0.7 bar).
7. Check interior of CC-11 for leaks.

NOTE:

Schematics and Wiring Diagrams on 279.4 mm x 431.8 mm (11" x 17") paper are included inside the back cover of this manual.

8.2 Pump service centers

Have the pump serviced, when necessary, at one of the following service centers. Rebuilt and exchange pumps, as well as new pumps, carry a one year manufacturer's warranty. (Pump: Procon Model 102E125F11BA250)

In the U.S.A.:	
PROCON PRODUCTS (Manufacturer)	
910 Ridgely Road Murfreesboro, TN 37130 Phone: (615) 890-5710	Chudnow Mfg. Co. Inc. 3055 New Street Oceanside, NY 11572 Phone: (516) 593-4222
Halsted & Hoggan Inc. 935 Santa Fe Ave. Los Angeles, CA90021 Phone: (213) 623-1248	Northlake Supply Co. 1347 Manufacturing Street Dallas, TX 75207 Phone: (214) 653-8381
Foxx Equipment Co. 955 Decatur, Unit B Denver, CO 80204 Phone: (303) 573-1766	Southwest Bottlers 1360 Presidential Drive Suite 120 Richardson, TX 75081 Phone: (214) 235-8768
American Beverage Equipment Co. 27560 Groesbeck Hwy. Roseville, MI 48066 Phone: (313) 773-0094	Restaurant Appliance Service 7219 Roosevelt Way NE Seattle, WA 98115 Phone: (206) 524-8200
Foxx Equipment Co. 421 Southwest Blvd. Kansas City, MO 64108 Phone: (816) 421-3600	
In AUSTRALIA	**In JAPAN**
Roehlen Industries Pty. Ltd. P.O. Box 354 Mordialloc, Victoria 3195 Phone: 61 (3) 580-4155 Fax: 61 (3) 580-2954	Nippon Oil Pump Co. Ltd. 1 Chorne No. 8-2, Horinouchi Suginami-Ku, Tokyo Phone: 81-03 (313) 7521 Fax: 81-03 (313) 2188
In GERMANY	
Standex International GmbH Postfach 130665 4150 Krefeld (formerly W. Germany) Phone: 49 (2151) 371224 Fax: 49 (2151) 371258	

US

9 REPLACEMENT PARTS

Always provide the serial number of the unit on which the parts will be used. The serial number is stamped on the unit nameplate.

9.1 Ordering

To ensure proper operation, it is recommended that only genuine ESAB parts and products be used with this equipment. The use of non-ESAB parts may void your warranty.

Replacement parts may be ordered from your ESAB Distributor.

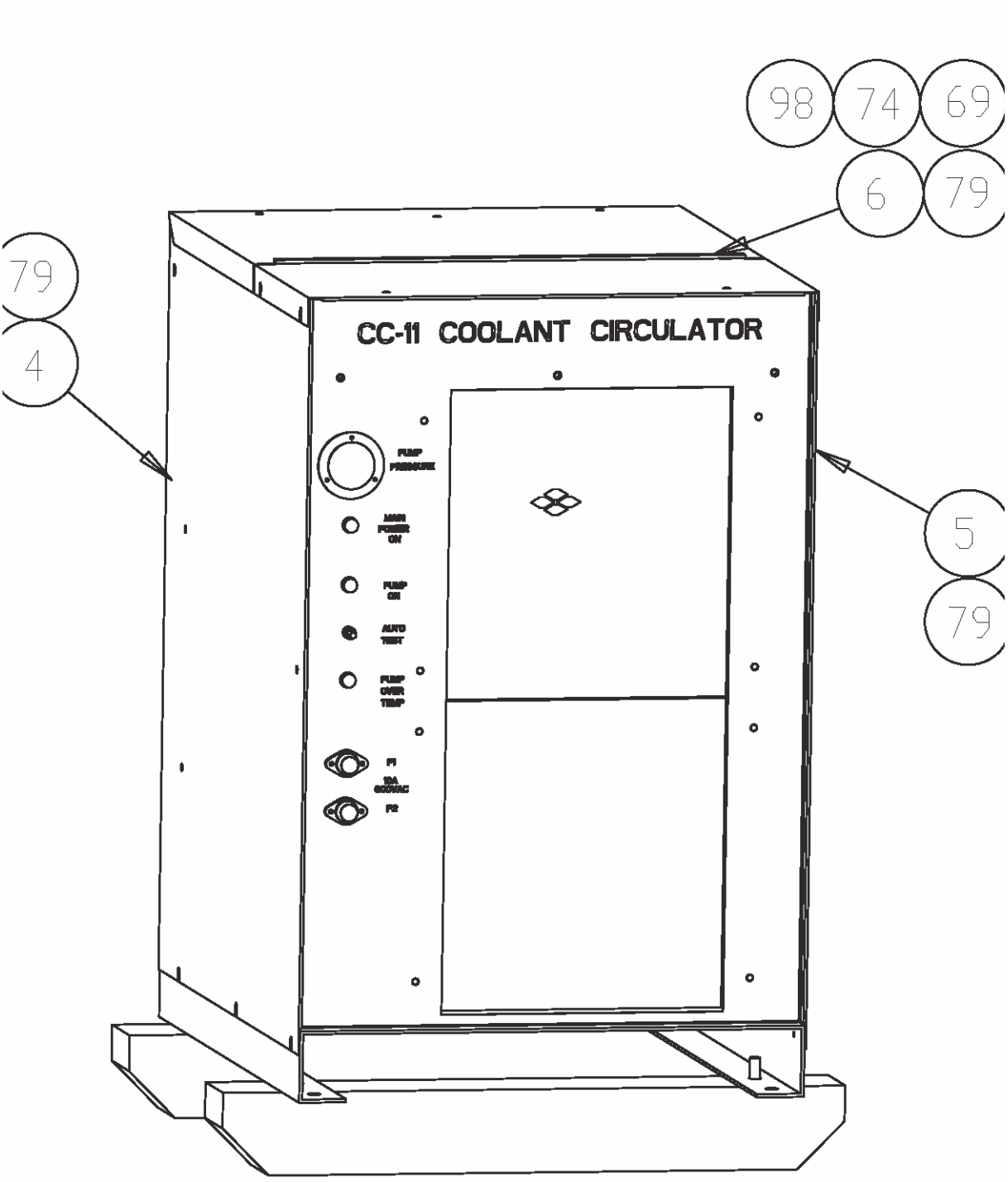
Be sure to indicate any special shipping instructions when ordering replacement parts.

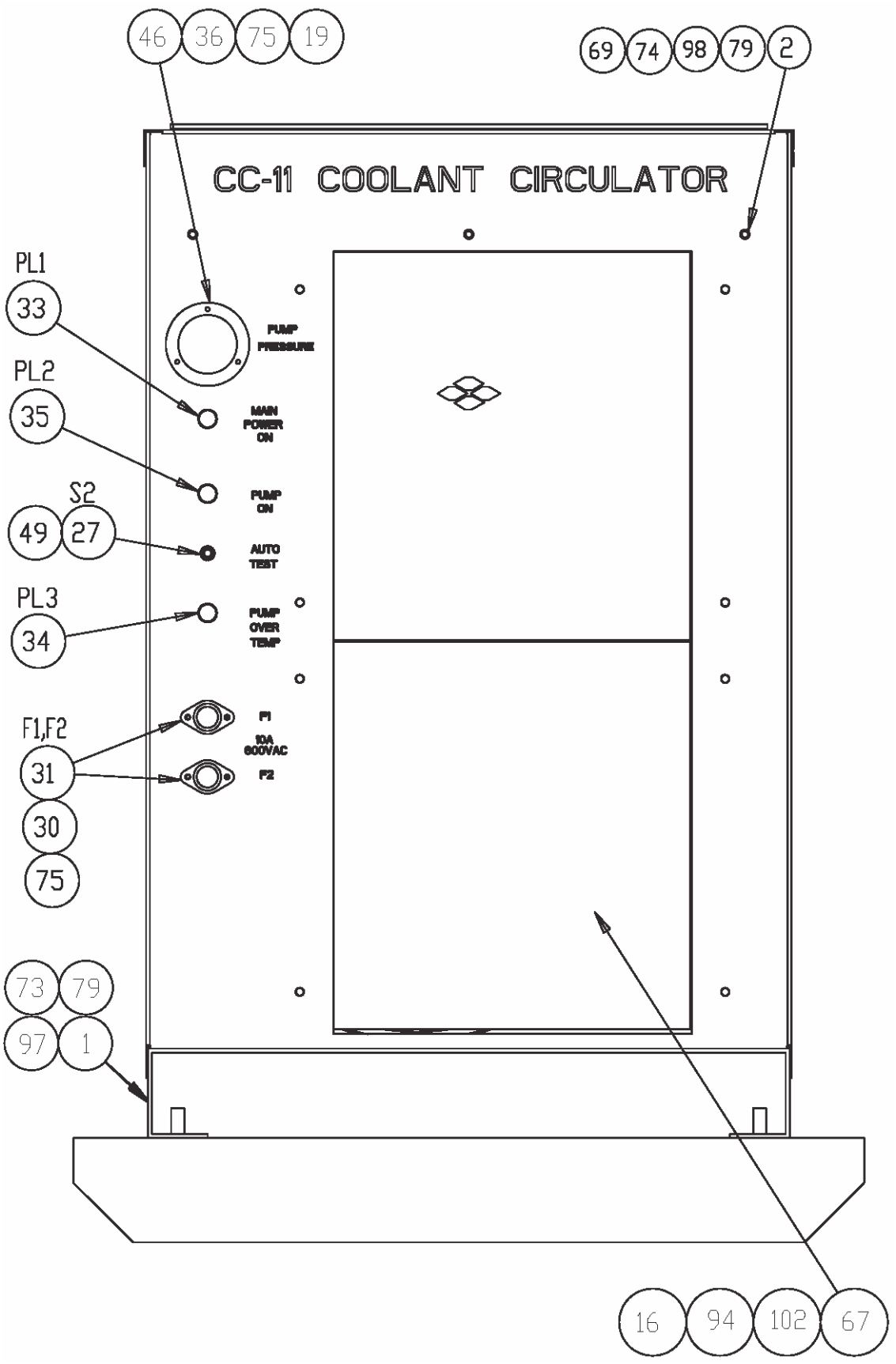
Refer to the Communications Guide located on the back page of this manual for a list of customer service phone numbers.

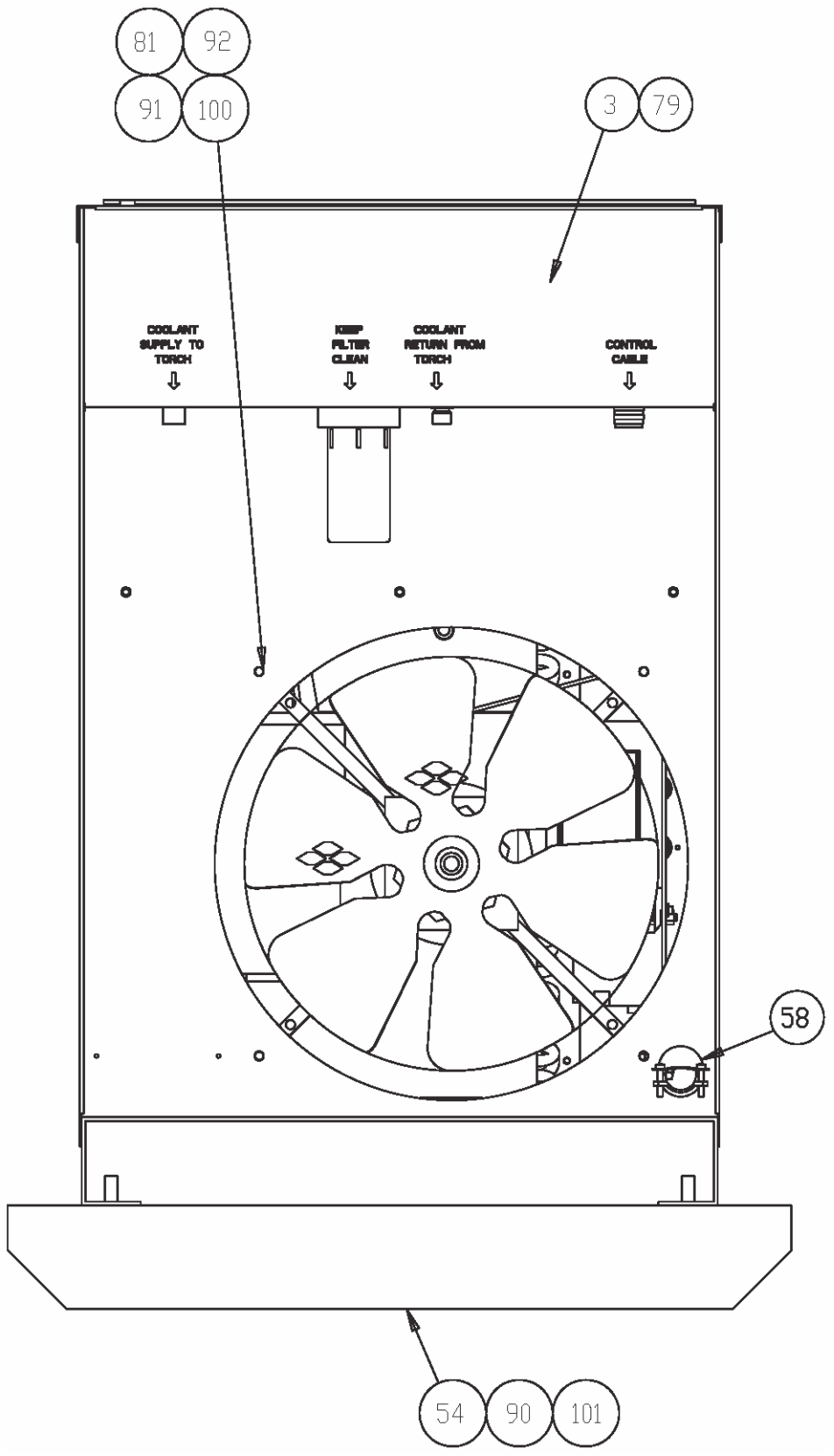
10 REVISION HISTORY

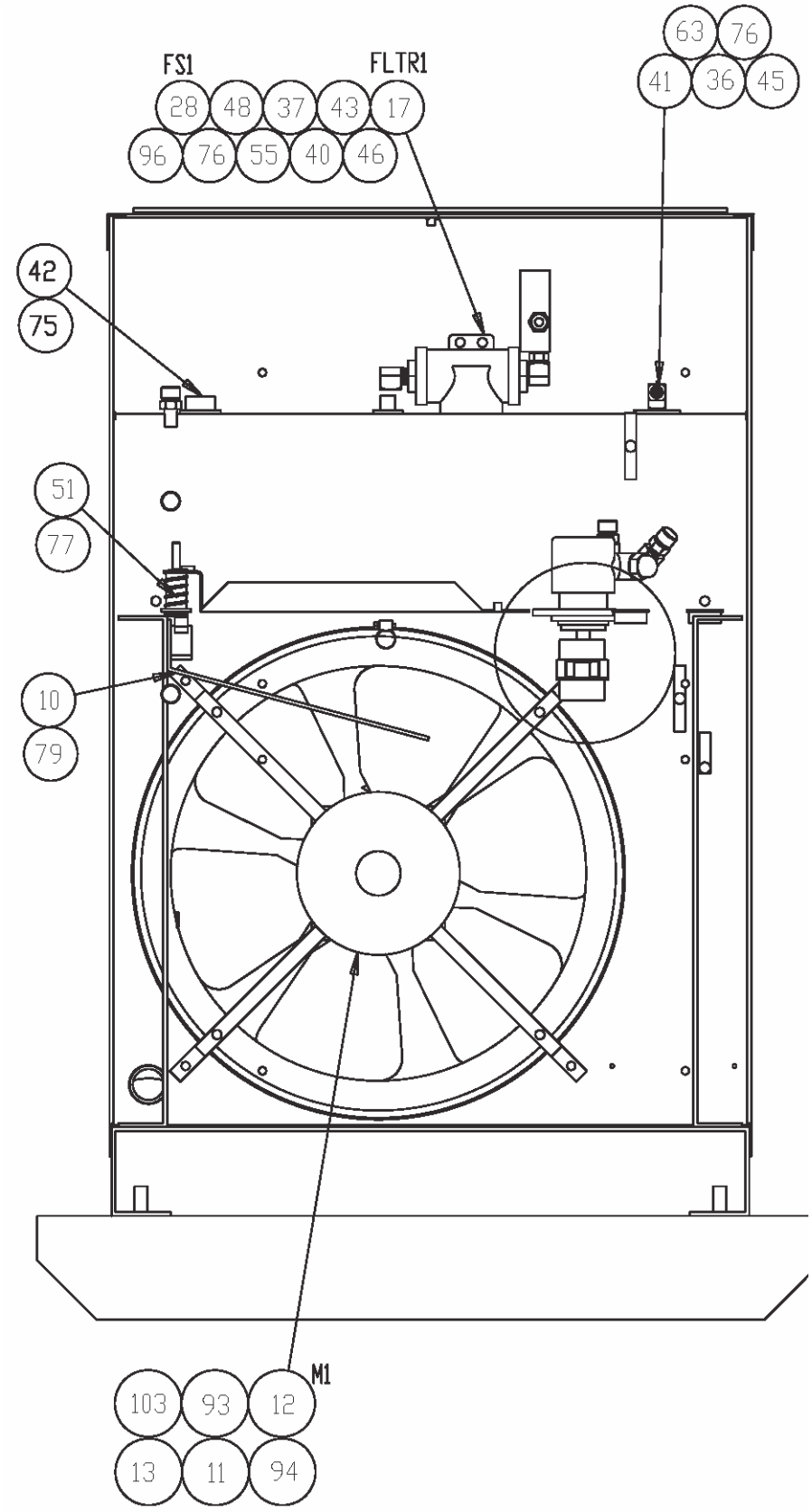
1. Original release - 09 / 2007
2. 02 / 2009 - added information about availability and use of Shut-off Valve (0558008364) in Subsection 5.2, Optional Equipment.
3. Revision 06/2010 - added ground lug to pic on page 18, minor text editing.
4. Revision 08/2010 - Changed serial number.

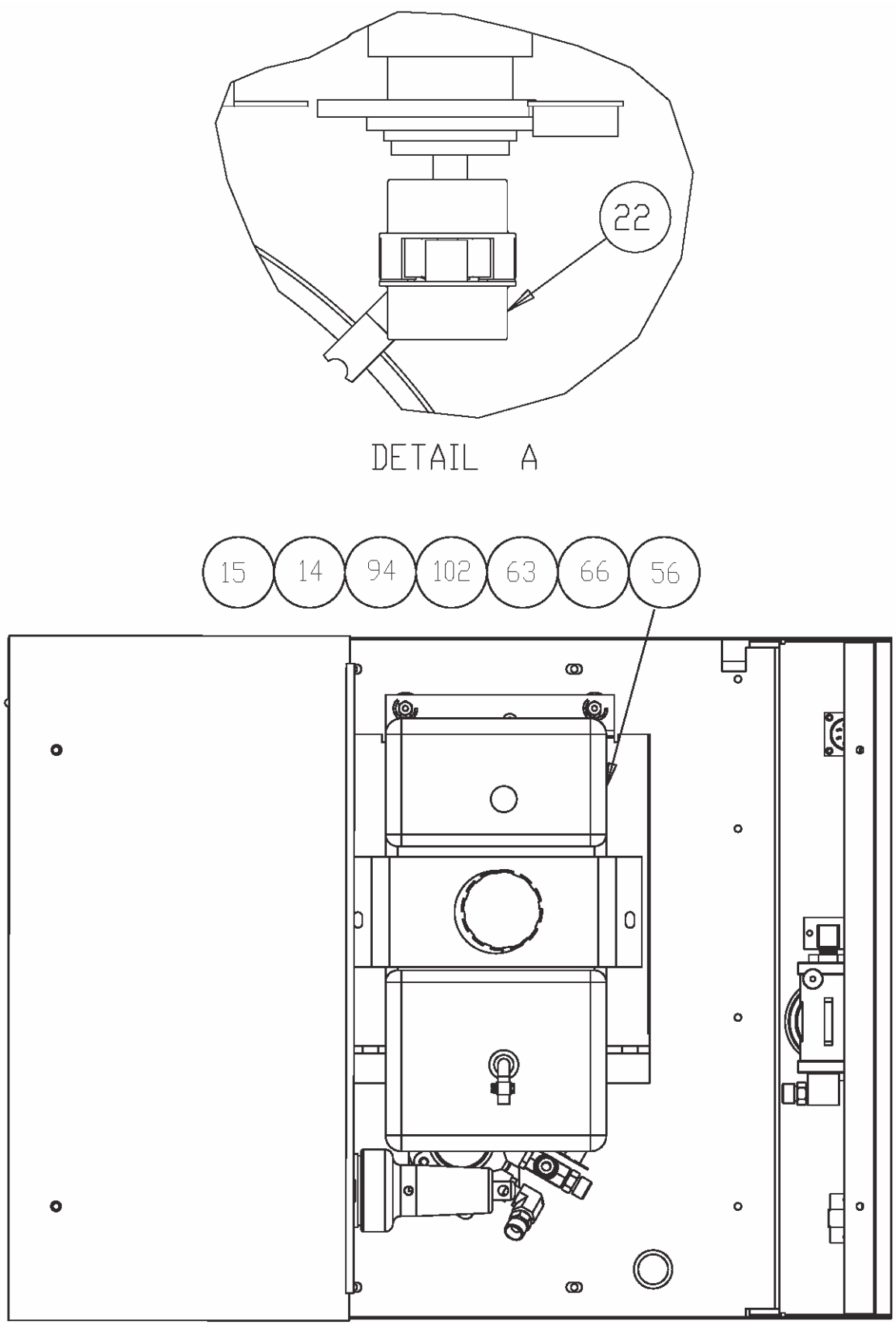
Replacement parts

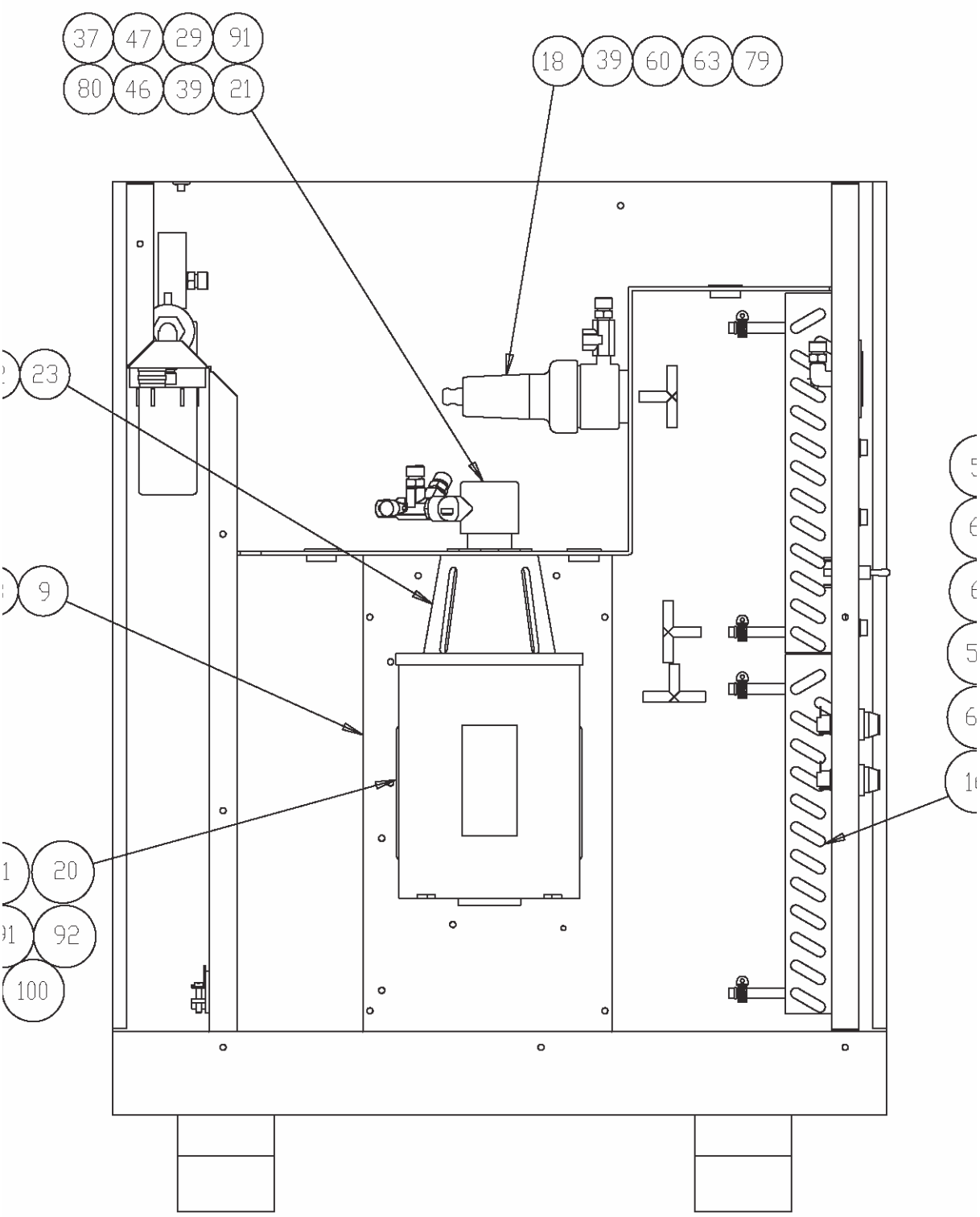



46
36
75
19
69
74
98
79
2
CC-11 COOLANT CIRCULATOR
PL1
33
PUMP PRESSURE
PL2
35
MAIN POWER ON
PUMP ON
S2
49
27
AUTO TEST
PL3
34
PUMP OVER TEMP
F1,F2
31
30
75
F1
10A 600VAC
F2
73
79
97
1
16
94
102
67


81
92
91
100
3
79
COOLANT SUPPLY TO TORCH
KEEP FILTER CLEAN
COOLANT RETURN FROM TORCH
CONTROL CABLE
58
54
90
101


FS1
FLTR1
28
48
37
43
17
96
76
55
40
46
63
76
41
36
45
42
75
51
77
10
79
M1
103
93
12
13
11
94


22
DETAIL A
15
14
94
102
63
66
56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29
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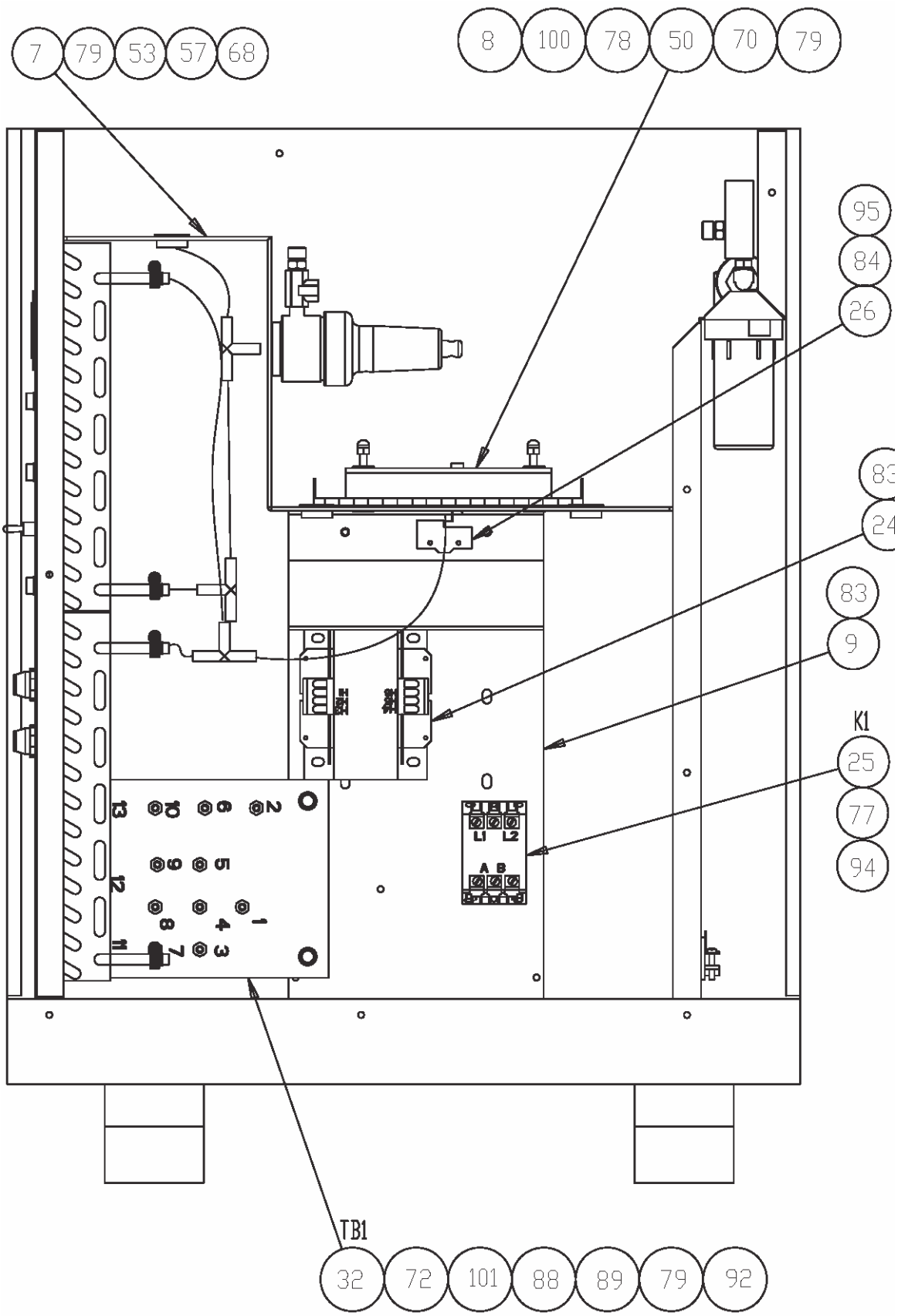
20
92
100


7
79
53
57
68
8
100
78
50
70
79
95
84
26
83
24
83
9
K1
25
77
94
TB1
32
72
101
88
89
79
92
L1
L2
A
B

BILL OF MATERIALS

QUANTITIES ARE IN U/M ESTABLISHED BY INVENTORY

SYMBOL	ITEM NO.	PART OR CODE NO.	QTY.	DESCRIPTION
	1	0558007474	1	BASE GALVANIZED
	2	0558007475M	1	PANEL FRONT SILKSCREENED
	3	0558007476M	1	PANEL REAR SILKSCREENED
	4	0558007477Y	1	PANEL LEFT SIDE
	5	0558007478Y	1	PANEL RIGHT SIDE
	6	0558007479Y	1	COVER TOP
	7	0558007480	1	SHELF (BAFFLE) GALVANIZED
	8	0558007481	1	BRACKET HINGED GALVANIZED
	9	0558007482	2	BRACKET MOUNTING
	10	0558007483	1	DEFLECTOR KYDEX
	11	672330M	1	FAN SHROUD
	12	673676	1	BLADE FAN
M1	13	2062334	1	MOTOR FAN 1/3 HP 230 VAC
	14	0558004731M	1	STRAP TANK
	15	951478	1	TANK WATER 4 GAL
	16	0558003078	2	HEATER CORE 13 X 12 X 2.59
FLTR1	17	0558007486	1	FILTER
	18	0558006740	1	REGULATOR BACK PRESSURE
	19	0558004488	1	GAUGE 2.00" 200 PSI CBM/FF STL
M2	20	0558007484	1	MOTOR 1/2 HP 115/208-230 VAC
	21	0558007485	1	PUMP
	22	0558007501	1	COUPLING LOVEJOY
	23	0558007502	1	ADAPTOR 56C FRAME
T1	24	33927	1	TRANSFORMER AUTO
K1	25	672162	1	CONTACTOR 3 POLE 30 AMP
S1	26	673085	1	SW MICRO SPDT 25A 250V
S2	27	634518	1	SW TGGL DPDT 2POS 15A
FS1	28	636383	1	SW FLOW 1.00GPM 1000 PSI
TS1	29	950710	1	SW THERMAL 131°F
F1,F2	30	951201	2	FUSE 10 AMP 600V
	31	952136	2	FUSE HOLDER
TB1	32	0558002312	1	TERMINAL BOARD ASSY
PL1	33	0558007488	1	LIGHT PILOT WHITE 125V
PL3	34	0558007489	1	LIGHT PILOT AMBER 125V
PL2	35	0558007490	1	LIGHT PILOT GREEN 230V

BILL OF MATERIALS

QUANTITIES ARE IN U/M ESTABLISHED BY INVENTORY

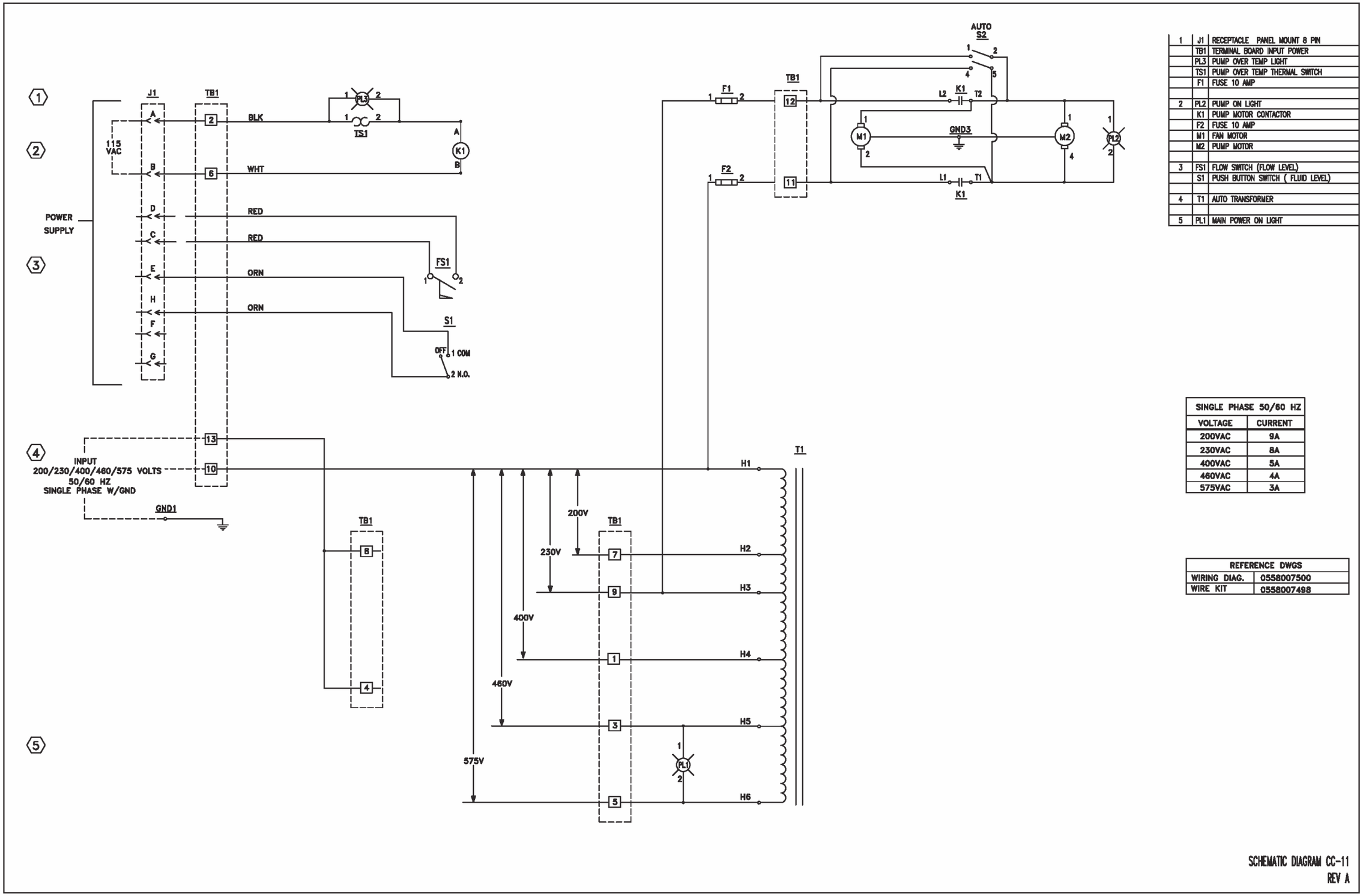
SYMBOL	ITEM NO.	PART OR CODE NO.	QTY.	DESCRIPTION
	36	0558006262	2	ELBOW UNION 90 DEG 1/4 NPT
	37	0558006292	3	ELBOW 90 DEG ST 1/4NPTF
	38			
	39	461107	2	TEE PIPE STREET 1/4 BRASS
	40	33033	1	ADAPT B/A-W*N 1/4 NPT
	41	58V75	1	ADAPT B/A-W*F 1/4 NPTM
	42	2062106	1	CONNECTOR BOX RCPT *8MP SHELL 18
	43	68100276	2	BUSHING 3/4" X 1/4" BRASS
	44	950905		TERM IL/M .250 TS X 14-16 GA
	45	951568	1	PLUG LH W.NIT 5/8-18
	46	10Z30	6	ADAPTOR 1/4-18 MNPT TP 5/8-18MNPT
	47	68100126	2	BSHG PIPE HEX **3/8X**1/4BRS
	48	2226715	1	NIPPLE HEX 1/4X1/4 NPT
	49	951474	1	BOOT SEAL TOGGLE SWITCH
	50	0558007215	1	NUT CAP ACORN 1/4-20
	51	0558007473	2	SPRING RETAINER
	52	0558004647	3	TEE NYLON 3/8X3/8X3/8 BARBED
	53	639533	4	BUSHING SNAP .88 ID
	54	680539	2	SKID 26.5 X 4 X 4
	55	2060366	1	AIR H20 DUST CAP
	56	13734871	15	CLAMP HOSE W/D .25
	57	99511578		SNAP-IN TIE BASE .218
	58	97W63	1	STRAIN RELIEF 1.38 MT
	59	73185271		ADH LOCTITE THDLKR #2
	60	0558007491	1	ASSY HOSE GAUGE 31.00"
	61	0558007492	1	ASSY HOSE 29.00"
	62	0558007493	1	ASSY HOSE 24.00"
	63	0558007494	2	ASSY HOSE 12.00"
	64			
	65	0558007496	1	ASSY HOSE 6.00"
	66	0558007497	1	KIT HOSE CC-11
	67	2234503	1	STRIP RUBBER 50 FT.
	68	92W57	1	GROMMET RUB .63 ID .88GD .06W
	69	0558002595	5	FINISHING CAP
	70	0558003689	2	SPRING PRESSURE

BILL OF MATERIALS

QUANTITIES ARE IN U/M ESTABLISHED BY INVENTORY

SYMBOL	ITEM NO.	PART OR CODE NO.	QTY.	DESCRIPTION
	71			
	72	672065	2	STRAP TERMINAL
	73	2091558	1	LABEL GROUND
	74	61325087	AR	SCR 24006 STLZPC .250 -20 X .50
	75	61325851	AR	SCR 24006 STLZPC .138-32 X .38
	76	61325878	AR	SCR 24006 STLZPC .164-32 X .38
	77	61325900	AR	SCR 24006 STLZPC .190-24 X .375
	78	61328091	AR	SCR 22502 STLZPC .250 -20 X 1.75
	79	61328087	AR	SCR 22501 STLZPC .250-20 X.50
	80	61341088	AR	SCR 10001 STLZPC .250-20 X .62
	81	61341089	AR	SCR 10001 STLZPC .250-20 X .75
	82	61609108	AR	SCR 12030 SST 1/4-20 X 1.88
	83	61949087	AR	SCR HEX SER WSR HD .250-20 X.50
	84	0558006683	2	SCR PH .138 *32 X 1.25
	85	61341133	AR	SCR 10001 STLZPC .375-16 X 1.00
	86			
	87			
	88	64102996	AR	WSR 52002 BRZ .250
	89	64104075	AR	WSR 53001 BRX .250
	90	64302175	AR	WSR 52002 STLZPC .500
	91	64302996	AR	WSR 52002 STLZPC .250
	92	64304075	AR	WSR PLAIN STLZPC .250
	93	64307004	AR	WSR 52010 STLZPC .190
	94	64304050	AR	WSR 53001 STLZPC .190
	95	64304860	AR	WSR 53001 STLZPC .138
	96	64304887	AR	WSR 53001 STLZPC .164
	97	64307996	AR	WSR EXT TOOTH .250
	98	0558002596	5	WSR FLANGED
	99			
	100	63300100	AR	NUT 30001 STLZPC .250-20
	101	63300183	AR	NUT 30001 STLZPC .500-13
	102	63300916	AR	NUT 30024 STLZPC .190-24
	103	63310916	AR	NUT 32504 STLZPC .190-24
	104	63100100	AR	NUT 30001 BRS .250-20
	105			

Schematic diagram

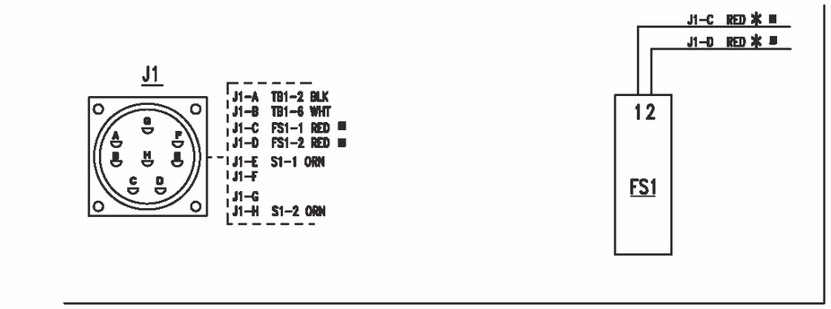


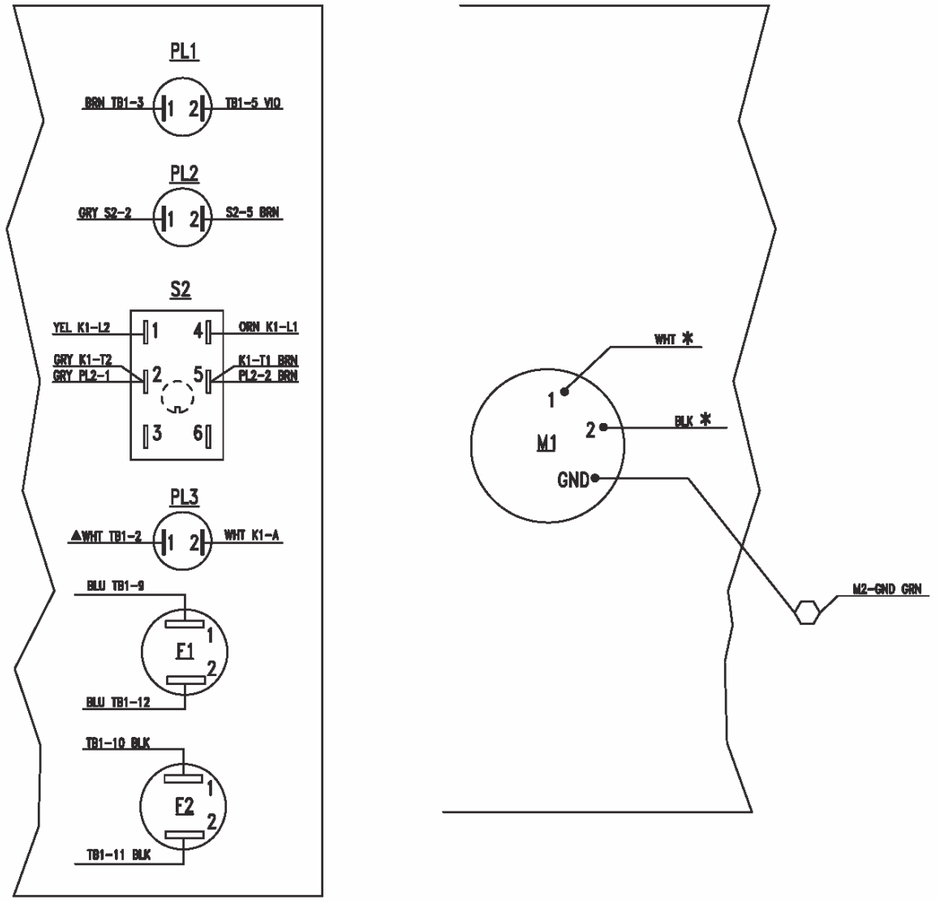
1	J1	RECEPTACLE PANEL MOUNT 8 PIN
	TB1	TERMINAL BOARD INPUT POWER
	PL3	PUMP OVER TEMP LIGHT
	TS1	PUMP OVER TEMP THERMAL SWITCH
	F1	FUSE 10 AMP
2	PL2	PUMP ON LIGHT
	K1	PUMP MOTOR CONTACTOR
	F2	FUSE 10 AMP
	M1	FAN MOTOR
	M2	PUMP MOTOR
3	FS1	FLOW SWITCH (FLOW LEVEL)
	S1	PUSH BUTTON SWITCH (FLUID LEVEL)
4	T1	AUTO TRANSFORMER
5	PL1	MAIN POWER ON LIGHT

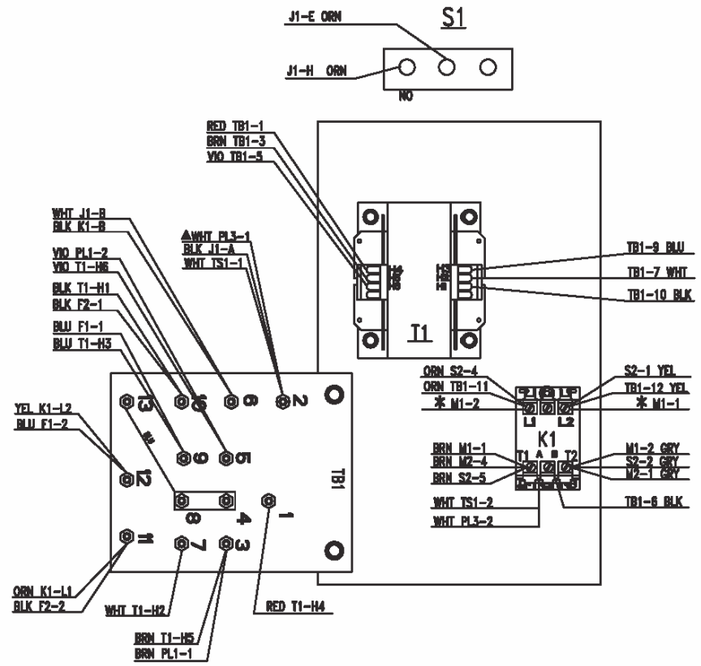
SINGLE PHASE 50/60 HZ	
VOLTAGE	CURRENT
200VAC	9A
230VAC	8A
400VAC	5A
460VAC	4A
575VAC	3A

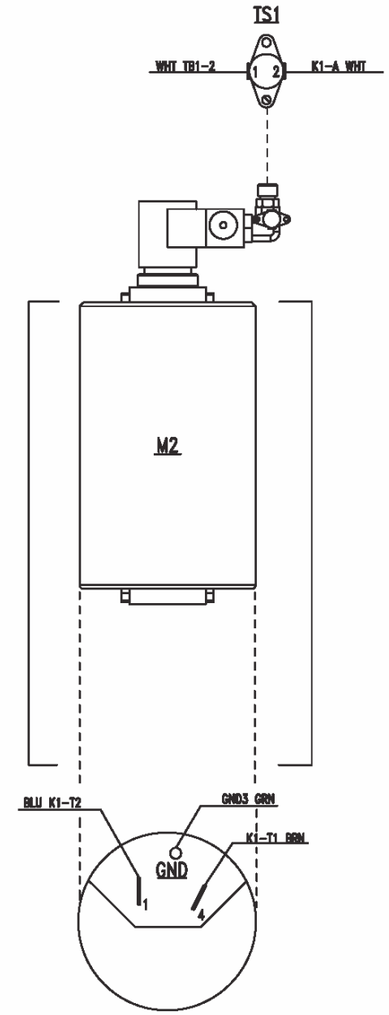
REFERENCE DWGS	
WIRING DIAG.	0558007500
WIRE KIT	0558007498

SCHEMATIC DIAGRAM CC-11
REV A







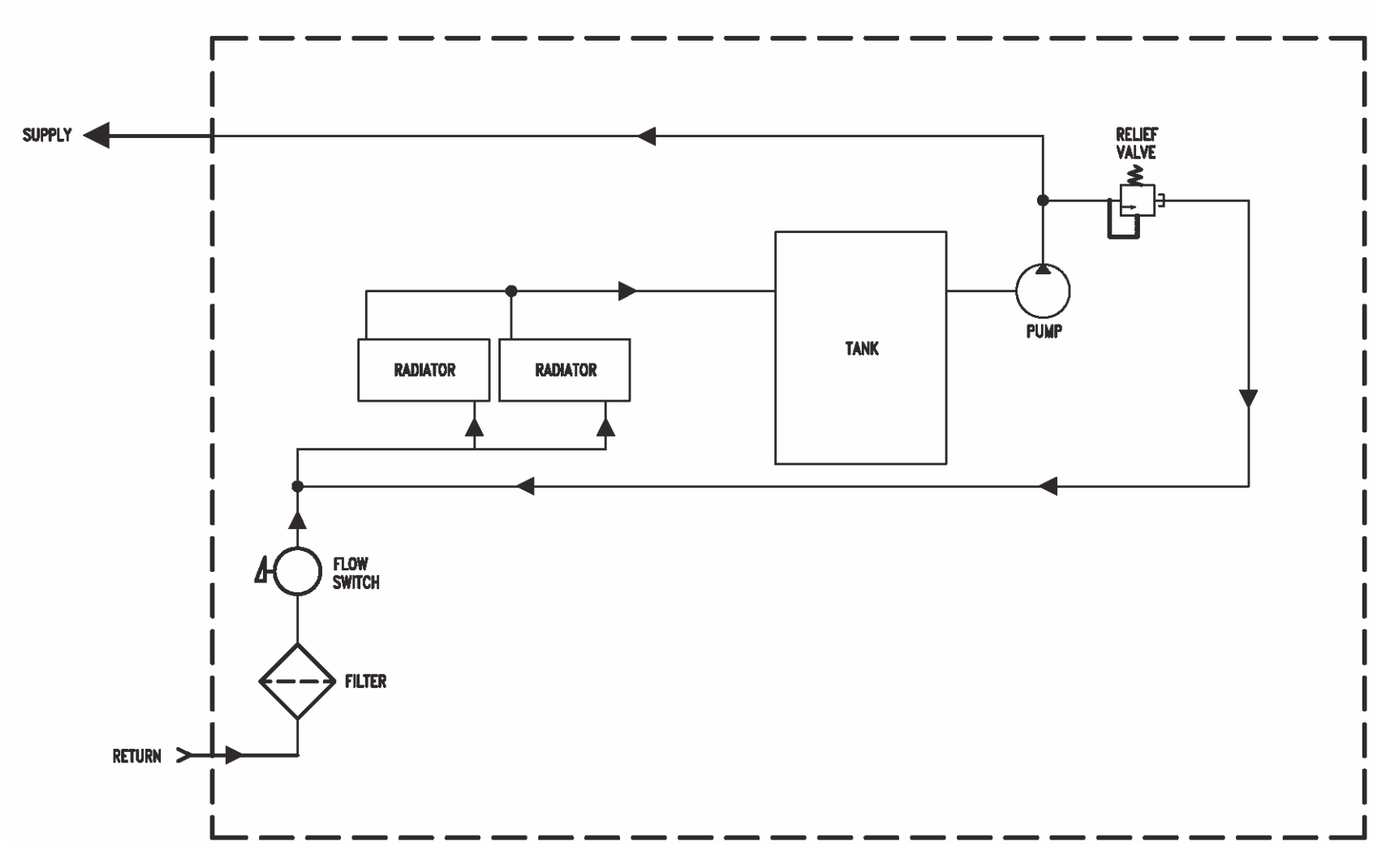


SINGLE PHASE 50/60HZ	
VOLTAGE	CURRENT
200 VAC	9 A
230 VAC	8 A
400 VAC	5 A
460 VAC	4 A
575 VAC	3 A

NOTES:
1. ALL WIRES ARE 16 AWG 600V UNLESS DENOTED OTHERWISE.
2. ● DENOTES 14 AWG WIRE 600V.
3. ▲ DENOTES CONNECTION USING IN-LINE CONNECTION.
4. * DENOTES SELF LEAD.
5. ■ DENOTES CAP SPLICE CONNECTION.

REFERENCE DWGS:
SCHEMATIC DIAGRAM: 0558007499
WIRE KIT: 0558007498

WIRING DIAGRAM CC-11
REV A


SUPPLY
RELIEF VALVE
PUMP
TANK
RADIATOR
RADIATOR
FLOW SWITCH
FILTER
RETURN

NOTES

ESAB Welding & Cutting Products, Florence, SC Welding Equipment
COMMUNICATION GUIDE - CUSTOMER SERVICES

A CUSTOMER SERVICE QUESTIONS:
Telephone: (800) 362-7080 / Fax: (800) 634-7548 **Hours: 8.00 AM to 7:00 PM EST**
Order Entry Product Availability Pricing Order Information Returns

B ENGINEERING SERVICE:
Telephone: (834) 664-4416 / Fax: (800) 446-5693 **Hours: 7.30 AM to 5:00 PM EST**
Warranty Returns Authorized Repair Stations Welding Equipment Troubleshooting

C TECHNICAL SERVICE:
Telephone: (800) ESAB-123 / Fax: (843) 664-4452 **Hours: 8.00 AM to 5:00 PM EST**
Part Numbers Technical Applications Specifications Equipment Recommendations

D LITERATURE REQUESTS:
Telephone: (843) 664-5562 / Fax: (843) 664-5548 **Hours: 7.30 AM to 4:00 PM EST**

E WELDING EQUIPMENT REPAIRS:
Telephone: (843) 664-4487 / Fax: (843) 664-5557 **Hours: 7.30 AM to 3:30 PM EST**
Repair Estimates Repair Status

F WELDING EQUIPMENT TRAINING:
Telephone: (843) 664-4428 / Fax: (843) 679-5864 **Hours: 7.30 AM to 4:00 PM EST**
Training School Information and Registrations

G WELDING PROCESS ASSISTANCE:
Telephone: (800) ESAB-123 **Hours: 7.30 AM to 4:00 PM EST**

H TECHNICAL ASST. CONSUMABLES:
Telephone: (800) 933-7070 **Hours: 7.30 AM to 5:00 PM EST**

IF YOU DO NOT KNOW WHOM TO CALL

Telephone: (800) ESAB-123
Fax: (843) 664-4452
Hours: 7:30 AM to 5:00 PM EST

or

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