INSTALLATION MANUAL



Fully Aboveground Installations





Partially In-Ground Installations





Fully In-Ground Installations





IMPORTANT SAFETY INSTRUCTIONS CONSIGNES DE SÉCURITÉ IMPORTANTES

READ, FOLLOW, AND UNDERSTAND ALL INSTRUCTIONS LIRE, SUIVRE ET COMPRENDRE TOUTES LES INSTRUCTIONS

Manufacturers Safety Instructions

DANGER:	BEFORE INSTALLING OR USING THIS PRODUCT, READ, FOLLOW, AND UNDERSTAND ALL SAFETY INFORMATION. FAILURE TO DO SO CAN RESULT IN DAMAGE, INJURY, OR DEATH.					
DANGER:	SERIOUS BODILY INJURY OR DEATH CAN RESULT IF THIS PRODUCT IS NOT INSTALLED OR USED CORRECTLY.					
WARNING:	This unit should be installed only per the manufacturer's instructions.					
WARNING:	This product must be installed in accordance with any applicable state and local code. Consult the local building and health code for more information.					
WARNING:	Before each use, examine the unit for damage or signs of wear. Do not use the product if found in this condition. Contact Endless Pools Customer Service.					
WARNING:	Never operate the unit without reading and completely understanding the results of any operational change you request from the controller.					
WARNING:	Never use this product alone.					
WARNING:	Keep all breakables, especially glass, away from this product.					
WARNING:	Never insert any objects into any openings.					
WARNING:	Wear appropriate hearing and eye protection while installing this product.					
WARNING:	Consult a physician before using this product. Stop exercising if you feel pain or tightness in your chest, become short of breath, or feel faint. Contact your doctor before using this product again.					
WARNING:	The appliance is not to be used by persons (including children) with reduced physical, sensory or mental capabilities, or lack of experience and knowledge, unless they have been given supervision or instruction.					

Other Important Safety Instructions

WARNING:	To reduce the risk of injury, do not permit children to use this product unless they are closely supervised at all times.				
AVERTISSEMENT:	Pour réduire le risque de blessure, ne permettez pas aux enfants d'utiliser ce produit à moins qu'ils ne soie surveillés de près en tout temps.				
WARNING:	To reduce the risk of injury. AVERTISSEMENT: Pour réduire le risque de blessure:				
	a) The water in a spa should never exceed 104 °F (40 °C). Water temperatures between 100 °F (38 °C) and 104 °F (40 °C) are considered safe for a healthy adult. Lower water temperatures are recommended for young children and when spa use exceeds 10 minutes. L'eau dans un spa ne doit jamais dépasser 40 °C (104 °F). Les températures de l'eau comprises entre 38 °C (100 °F) et 40 °C (104 °F) sont considérées comme sûres pour un adulte en bonne santé. Des températures d'eau plus basses sont recommandées pour les jeunes enfants et lorsque l'utilisation du spa dépasse 10 minutes.				
	b) Since excessive water temperatures have a high potential for causing fetal damage during the early months of pregnancy, pregnant or possibly pregnant women should limit spa water temperatures to 100 °F (38 °C). Étant donné que les températures excessives de l'eau ont un potentiel élevé de causer des dommages au fœtus pendant les premiers mois de la grossesse, les femmes enceintes ou éventuellement enceintes devraient limiter la température de l'eau du spa à 38 °C (100 °F).				
	c) Before entering a spa, the user should measure the water temperature since the tolerance of water tempera- ture-regulating devices varies. Avant d'entrer dans un spa, l'utilisateur doit mesurer la température de l'eau car la tolérance des dispositifs de régulation de la température de l'eau varie.				
	d) The use of alcohol, drugs, or medication before or during spa use may lead to unconsciousness with the possibil- ity of drowning. La consommation d'alcool, de drogues ou de médicaments avant ou pendant l'utilisation du spa peut entraîner une perte de conscience avec possibilité de noyade.				
	e) Obese persons and persons with a history of heart disease, low or high blood pressure, circulatory system prob- lems, or diabetes should consult a physician before using a spa. Les personnes obèses et les personnes ayant des antécédents de maladie cardiaque, d'hypotension ou d'hypertension artérielle, des problèmes de système circulatoire ou de diabète devraient consulter un médecin avant d'utiliser un spa.				
	f) Persons using medication should consult a physician before using a spa since some medication may induce drowsiness while other medication may affect heart rate, blood pressure, and circulation. Les personnes qui prennent des médicaments devraient consulter un médecin avant d'utiliser un spa, car certains médicaments peuvent provoquer de la somnolence tandis que d'autres médicaments peuvent affecter la fréquence cardiaque, la pression artérielle et la circulation.				
DANGER:	RISK OF INJURY: The suction fittings in this spa are sized to match the specific water flow created by the pump. Should the need arise to replace the suction fittings or the pump, be sure that the flow rates are compatible. Never operate spa if the suction fittings are broken or missing. Never replace a suction fitting with one rated less than the flow rate marked on the original suction fitting.				
DANGER:	RISQUE DE BLESSURE: Les raccords d'aspiration de ce spa sont dimensionnés pour correspondre au débit d'eau spécifique créé par la pompe. En cas de besoin de remplacement des raccords d'aspiration ou de la pompe, assurez-vous que les débits sont compatibles. N'utilisez jamais le spa si les raccords d'aspiration sont cassés ou manquants. Ne remplacez jamais un raccord d'aspiration par un autre de moins que le débit indiqué sur le raccord d'aspiration d'origine.				
DANGER:	RISK OF ACCIDENTAL DROWNING: Extreme caution must be exercised to prevent unauthorized access by children. To avoid accidents, ensure that children cannot use this spa unless they are supervised at all times.				
DANGER:	RISQUE DE NOYADE ACCIDENTELLE: Une extrême prudence doit être exercée pour empêcher tout accès non autorisé aux enfants. Pour éviter les accidents, assurez-vous que les enfants ne peuvent pas utiliser ce spa à moins qu'ils ne soient surveillés en tout temps.				
DANGER:	RISK OF ELECTRIC SHOCK: Install at least 5 feet (1,5 m) from all metal surfaces. As an alternative, a spa may be installed within 5 feet (1,5 m) of metal surfaces if each metal surface is permanently connected by a minimum 8 AWG (8.4 mm2) solid copper conductor to the wire connector on the terminal box that is provided for this purpose.				

DANGER:	RISQUE DE CHOC ÉLECTRIQUE: Installez à au moins 1,5 m (5 pieds) de toutes les surfaces métalliques. Com- me alternative, un spa peut être installé à moins de 1,5 m (5 pieds) des surfaces métalliques si chaque surface métallique est connectée en permanence par un conducteur en cuivre massif d'au moins 8,4 mm2 (8 AWG) au connecteur de fil sur la boîte à bornes qui est fourni à cet effet.					
	A wire connector is provided on this unit to connect a minimum 8 AWG (8.4 mm2) solid copper conductor be- tween this unit and any metal equipment, metal enclosures of electrical equipment, metal water pipe, or conduit within 5 feet (1,5 m) of the unit. Un connecteur de fil est fourni sur cette unité pour connecter un conducteur en cuivre solide d'au moins 8,4 mm2 (8 AWG) entre cette unité et tout équipement métallique, les boîtiers métal- liques de l'équipement électrique, la conduite d'eau métallique ou le conduit à moins de 1,5 m (5 pieds) de l'unité.					
DANGER:	RISK OF ELECTRIC SHOCK: Do not permit any electric appliance, such as a light, telephone, radio, or television, within 5 feet (1,5 m) of a spa.					
DANGER:	RISQUE DE CHOC ÉLECTRIQUE: Ne laissez aucun appareil électrique, comme une lampe, un téléphone, une radio ou une télévision, à moins de 1,5 m (5 pieds) d'un spa.					
WARNING:	CHILDREN SHOULD NOT USE SPAS OR HOT TUBS WITHOUT ADULT SUPERVISION.					
AVERTISSEMENT:	NE PAS LAISSER LES ENFANTS UTILISER UNE CUVE DE RELAXATION SANS SURVEILLANCE.					
WARNING:	DO NOT USE SPAS OR HOT TUBS UNLESS ALL SUCTION GUARDS ARE INSTALLED TO PREVENT BODY AND HAIR ENTRAPMENT.					
AVERTISSEMENT:	POUR ÉVITER QUE LES CHEVEUX OU UNE PARTIE DU CORPS PUISSENT ÊTRE ASPIRÉS, NE PAS UTILISER UNE CUVE DE RELAXATION SI LES GRILLES DE PRISE D'ASPIRATION NE SONT PAS TOUTES EN PLACE.					
WARNING:	PEOPLE USING MEDICATIONS AND/OR HAVING AN ADVERSE MEDICAL HISTORY SHOULD CONSULT A PHYSICIAN BEFORE USING A SPA OR HOT TUB.					
AVERTISSEMENT:	LES PERSONNES QUI PRENNENT DES MÉDICAMENTS ET (OU) ONT DES PROBLÈMES DE SANTÉ DEVRAIENT CONSULTER UN MÉDECIN AVANT D'UTILISER UNE CUVE DE RELAXATION.					
WARNING:	PEOPLE WITH INFECTIOUS DISEASES SHOULD NOT USE A SPA OR HOT TUB.					
AVERTISSEMENT:	LES PERSONNES ATTEINTES DE MALADIES INFECTIEUSES NE DEVRAIENT PAS UTILISER UNE CUVE DE RELAXATION.					
WARNING:	TO AVOID INJURY, EXERCISE CARE WHEN ENTERING OR EXITING THE SPA OR HOT TUB.					
AVERTISSEMENT:	POUR ÉVITER DES BLESSURES, USER DE PRUDENCE EN ENTRANT DANS UNE CUVE DE RELAXATION ET EN SORTANT.					
WARNING:	DO NOT USE DRUGS OR ALCOHOL BEFORE OR DURING THE USE OF A SPA OR HOT TUB TO AVOID UN- CONSCIOUSNESS AND POSSIBLE DROWNING.					
AVERTISSEMENT:	POUR ÉVITER L'ÉVANOUISSEMENT ET LA NOYADE ÉVENTUELLE, NE PRENDRE NI DROGUE NI ALCOOL AVANT D'UTILISER UNE CUVE DE RELAXATION NI QUAND ON S'Y TROUVE.					
WARNING:	THE USE OF ALCOHOL OR DRUGS CAN GREATLY INCREASE THE RISK OF FATAL HYPERTHERMIA IN HOT TUBS AND SPAS.					
AVERTISSEMENT:	LA CONSOMMATION D'ALCOOL OU DE DROGUE AUGMENTE CONSIDÉRABLEMENT LES RISQUES D'HY- PERTHERMIE MORTELLE DANS UNE CUVE DE RELAXATION.					
WARNING:	PREGNANT OR POSSIBLY PREGNANT WOMEN SHOULD CONSULT A PHYSICIAN BEFORE USING A SPA OR HOT TUB.					
AVERTISSEMENT:	LES FEMMES ENCEINTES, QUE LEUR GROSSESSE SOIT CONFIRMÉE OU NON, DEVRAIENT CONSULTER UN MÉDECIN AVANT D'UTILISER UNE CUVE DE RELAXATION.					

WARNING:	WATER TEMPERATURE IN EXCESS OF 100 °F (38 °C) CAN BE INJURIOUS TO YOUR HEALTH.				
AVERTISSEMENT:	IL PEUT ÊTRE DANGEREUX POUR LA SANTÉ DE SE PLONGER DANS DE L'EAU À PLUS DE 38 °C (100 °F).				
WARNING:	BEFORE ENTERING THE SPA OR HOT TUB, MEASURE THE WATER TEMPERATURE WITH AN ACCURATE THERMOMETER.				
AVERTISSEMENT:	AVANT D'UTILISER UNE CUVE DE RELAXATION, MESURER LA TEMPÉRATURE DE L'EAU À L'AIDE D'UN THER- MOMÈTRE PRÉCIS.				
WARNING:	do not use a spa or hot tub immediately following strenuous exercise.				
AVERTISSEMENT:	NE PAS UTILISER UNE CUVE DE RELAXATION IMMÉDIATEMENT APRÈS UN EXERCICE FATIGANT.				
WARNING:	PROLONGED IMMERSION IN A SPA OR HOT TUB CAN BE INJURIOUS TO YOUR HEALTH.				
AVERTISSEMENT:	l'UTILISATION PROLONGÉE D'UNE CUVE DE RELAXATION PEUT ÊTRE DANGEREUSE POUR LA SANTÉ.				
WARNING:	DO NOT PERMIT ELECTRIC APPLIANCES (SUCH AS A LIGHT, TELEPHONE, RADIO, OR TELEVISION) WITHIN 5 FEET (1,5 M) OF THIS SPA OR HOT TUB.				
AVERTISSEMENT:	NE PAS PLACER D'APPAREIL ÉLECTRIQUE (LUMINAIRE, TÉLÉPHONE, RADIO, TÉLÉVISEUR, ETC) À MOINS DE 1,5 M (5 PIEDS) DE CETTE CUVE DE RELAXATION.				
CAUTION:	MAINTAIN WATER CHEMISTRY IN ACCORDANCE WITH MANUFACTURER'S INSTRUCTIONS.				
ATTENTION:	LA TENEUR DE L'EAU EN MATIÈRES DISSOUTES DOIT ÊTRE CONFORME AUX DIRECTIVES DU FABRICANT.				

Hyperthermia occurs when the internal temperature of the body reaches a level several degrees above the normal body temperature of 98.6 °F (37 °C). The symptoms of hyperthermia include drowsiness, lethargy, and an increase in the internal temperature of the body. The effects of hyperthermia include.

L'hyperthermie se produit lorsque la température interne du corps atteint un niveau supérieur de plusieurs degrés à la température corporelle normale de 37 °C (98.6 °F). Les symptômes de l'hyperthermie comprennent la somnolence, la léthargie et une augmentation de la température interne du corps. Les effets de l'hyperthermie comprennent.

- a) unawareness of impending hazard/ méconnaissance d'un danger imminent.
- b) failure to perceive heat/incapacité à percevoir la chaleur.
- c) failure to recognize the need to exit spa/ incapacité à reconnaître la nécessité de quitter le spa.
- d) physical inability to exit spa/ incapacité physique de quitter le spa.
- e) fetal damage in pregnant women/ dommages foetaux chez les femmes enceintes.
- f) unconsciousness and danger of drowning/ inconscience et danger de noyade.

SAVE THESE INSTRUCTIONS. CONSERVEZ CES INSTRUCTIONS.

Installation Instruction Booklet Information

The entire Endless Pool system is ETL listed, Ref. #2001779 and conforms to UL Standard #1563. Individually, all electrical components of the Endless Pool are UL and/or CSA approved. As defined by the International Residential Code (IRC), the Endless Pool is considered an aboveground or an in-ground pool depending on the installation. That is to say, customers can install our Endless Pool Kit above-ground on a garage or basement floor or in the backyard or they can sink it partially or fully in-ground. The unit is completely self-supporting. As required by the IRC the Endless Pool meets all the following standards: ANSI/NSPI Standards #3 (Permanently Installed Residential Spas), #4 (Aboveground/On-ground Residential Swimming Pools), #5 (Residential In-ground Swimming Pools), and #6 (Portable Spas). The appropriate governing standard is dependent on the installation method and the requirements and definitions used by the local governing bodies.

All electrical connections should be made by a licensed electrician in accordance with the current national and local electrical codes.

Please read this Installation Manual and all associated Supplemental Guides prior to beginning your project.

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1. Pool Arrival & Inspection

The Standard Endless Pool[®] arrives in three packages: a skid of pool panels weighing approximately 850 lbs. (385,5 kg), a 6' 6"x 4' x 6' (1,98m x 1,22m x 1,83m) high crate weighing about 1,150 lbs (522 kg), and a pair of 6-5/8" (16,6cm) wide steel reinforcing channels. Most shipping companies will lower the containers to the ground with a hydraulic lift gate on their truck. The pool can remain in the containers until you are ready to begin installation. Please contact our shipping department prior to shipment to answer any questions you may have. Since every delivery is slightly different, and depends to a large extent on site conditions, it is important to speak with our shipping department well in advance to reduce the chance of surprises.

Upon arrival, the packages should be inspected for external damage. Should there be visible damage, you must complete a damage-claim report provided by the truck driver. Please call the Endless Pools shipping department immediately at (800) 732-8660. The pool components are not damaged by freezing conditions and may be stored outside under a tarp for an extended period prior to installation.

To begin installation, or to move pool components, begin unpacking the pool. Using a hacksaw or tin snips, remove the steel packing straps encircling the pool panel skid. The wooden top and sides of the crate may be removed with a Phillips head screwdriver.

2. Site Preparation

It is important that your Endless Pool® be installed over a smooth, level concrete slab that is capable of supporting 340 pounds per square foot (1660kg/m2). The thickness and the quality of the concrete slab will affect the anchoring method.

If you are using the anchor bolt kit or you are installing a Custom Deeper Pool, then the floor must contain no voids or bumps and shall be relatively smooth and level. For custom deeper pools, the walls of the deeper section must also contain no voids or bumps. The corners at the depth change should be eased slightly (approx 1/4" (6mm). Custom deeper pools must use the Anchor Bolt Kit. Anchoring the pool is discussed in more detail later in these instructions as well as in a Supplemental Guide. An optional Tension Strap and Floor Leveling Kit is available for out-of-level or non-smooth sites.

If a new slab is poured, consult your local electrical codes regarding grounding and bonding. Many areas require a bonding wire to be attached to the reinforcing bar that is buried in the concrete.

Drainage should be provided at the pool. It is ideal to install a floor drain in the area just outside of the front pool panel, but not directly under the panel or pool itself. In installations where this is not possible, installation of a secondary containment system to help divert water to a more desirable location is recommended. Please call the Customer Service Department if you need any assistance in the design of a containment system.

It is extremely important to ensure that any water that may reach the bottom flange of the pool panel, by splashing, run off, or accidental leakage, be drained away immediately. The bottom of the pool panel will corrode, compromising its structural integrity if standing water is not removed. Ideally, the bottom 6" (15cm) of the panel is treated with a rustinhibiting primer prior to assembly. This will further ensure the panels are protected from corrosion. Every face of the panel (below 6" (15cm), including the bottom face of the bottom flange should be primed with rust-inhibiting primer for this treatment to be effective.

It is worth the time and effort now to install a drainage system rather than be unprepared in the event of a mishap.

3. Documentation Overview

An Endless Pool[®] is usually customized to meet the needs of the end user. Pools of different lengths and widths are selected as well as deeper pools. Naturally, the installation will vary depending on the options selected so it's important to understand exactly what has been supplied. On the day your pool ships, you will receive an email with a customized owner's manual containing the appropriate documentation for the options that were purchased. A hard copy of that same owner's manual will be packaged in the pool crate. **Please review all appropriate Supplemental Guides before proceeding with the installation to ensure that selected options have been considered**.

Additionally, the placement of the Water Quality System Keypad needs to be considered. The majority of our customer's place the keypad in the coping of the pool. However the keypad can be mounted in the skirting or on a nearby wall as an alternative. Please refer to the Keypad Section of these installation instructions for a more detailed description.

4. Assembly of Pool Panels

Provided with this Installation Manual will be the appropriate *Panel Assembly Supplemental Guide* for the panel height and pool model that has been chosen.

This Guide will take you through assembling the panels, anchoring the panels, and drilling the appropriate holes into the panels. It is critical that this Guide be referenced at this point. Any required hole must be drilled before proceeding with the installation.

5. Automatic Retractable Security Cover

If you have purchased a Below Deck Automatic Retractable Security Cover (BDARSC) then the installation must begin at this time. The cover mechanism and bracket will be attached directly to the pool panels.

The BDARSC must be mounted at the front of the pool. A minimum of 24" (61cm) horizontal clearance is required at the front of the pool for the Drive Mechanism. The combination in-wall cover track and liner hanger will raise the coping off the reinforcing channel by 2-1/8" (5,40cm). The coping or other finish material must be constructed in a way that it does not interfere with the operation of the cover. At a minimum, access must be maintained in the finished work for the track end guides at the front corners of the pool. Ideally, there should be access to the entire cover mechanism.

For more detailed information on the assembly and installation of this option, please refer to the *Below Deck Automatic Retractable Security Cover Supplemental Guide*.

6. Optional Insulation (by others)

To conserve heat and reduce operating costs we strongly recommend that the Endless Pool be insulated with rigid foam. Simple 1-1/2" (3,8cm) thick rigid foam insulation boards are usually adequate and are available from any building supply store. Be sure to leave access to all of the panel cutouts when you are installing the insulation. If the pool is to be installed outside in a cold climate, you might consider using two layers. Be sure to consider the danger of freezing for any pipes running outside the insulation (Fig. 1).

NOTE: If the Optional Ascent Skirting has been purchased, refer to the *Ascent Skirting Framing Supplemental Guide* as this guide provides specific instructions for installing the insulation.

NOTE: If the Optional Hydrotherapy Jets have been purchased and your pool is exposed to freezing conditions, please refer to the *Hydrotherapy Jet Supplemental Guide* for additional insulating measures.

7. Liner Hanger

The aluminum liner hanger installs around the perimeter of the pool panel enclosure. The liner hangs from this extrusion using a bead that is heat welded into the top edge of the liner. The liner hanger system is packaged in the pool. Self-drilling fasteners are included in the kit along with a nut driver attachment for your drill (Fig. 2).

Because the height of the two steel reinforcing channels is slightly higher than the surrounding top flange, we provide PVC shims inside the kit to place under the liner hanger and to shim the hanger up to the level of the channels to keep the whole system level. The shims can be cut with a hacksaw or scored with a utility knife and snapped to fit the size of the pool. Over the channels, the fasteners should be drilled through the channel and the flange. You may use a pilot hole if you wish. Elsewhere, the fasteners must be drilled through the shims and the panel flange.

Take the four 8' (2,44m) lengths of liner hanger that have been notched in the center, and bend these pieces so that they will fit and be secured in each corner. Measure to ensure the corner piece is centered in the corner. Use two self drilling fasteners and PVC shims to secure the small corner length first, by drilling through the back corner of the liner hanger flange, then secure the rest of the hanger to the end and side panels, using shims when not securing through the channel. The hanger pieces should be flush with the inside of the reinforcing channel and will protrude into the pool the thickness of the channel everywhere else. Refer to Figure 3 on the following page.

Once the corner lengths are secured, install the remaining two lengths of liner hanger along the side of the pool. These pieces vary in length, depending upon your pool size, so they may need to be trimmed. It is important that the gap at any joint between two liner hanger pieces be no greater than 1/8" (3mm). Refer to Figure 3 on the following page.

Silicone the gap between the liner hanger and the panel to ensure that no water falling on the top flange of the pool panel can work its way down behind the liner. (With the same objective in mind, later silicone the joint between the top of the liner hanger and the coping that you install over the entire top flange of the pool.)



Fig. 1











Optional Bullnose Coping System

Typically used when the pool is installed fully in-ground, the Bullnose Coping System allows the installer to finish with concrete and/or tile right up to the water's edge. The Bullnose Coping System acts as both a liner hanger and a finished edge. Endless Pools supplies precut pieces to fit the specific pool size ordered.

Included in the kit are radius corners and straight pieces to provide a finished look. These aluminum extrusions are fastened down to the top flange of the pool panels through the PVC shims and the reinforcing channels in the same fashion as the regular liner hanger system. The installer is responsible for building a proper perimeter substrate for the concrete or tile (Fig. 4).



Optional Wood Receiver Coping System

Typically used when the pool is installed fully in-ground, the Wood Receiver Coping System allows the installer to finish with wood or synthetic decking right up to the water's edge. The Wood Receiver Coping System acts as both a liner hanger and a finished edge, which can easily accept 2" (5cm) wood coping. Endless Pools supplies precut pieces to fit the specific pool size ordered.

Included in the kit are mitered corners and straight pieces to provide a finished look. These aluminum extrusions are fastened down to the top flange of the pool panels through the PVC shims and the reinforcing channels in the same fashion as the regular liner hanger system. The installer is responsible for building a proper perimeter substrate for the decking material (Fig. 5).

9. Optional Hydrotherapy Jets

It is necessary to begin the installation of the Hydrotherapy Jets prior to installing the pool liner. **Refer to the** *Hydrotherapy Jet Supplemental Guide* for detailed instructions.

10. Optional Ascent Skirting System

Installing the Ascent Skirting is a two part process, framing and then installing the skirting panels. Framing can be done before or after the pool is filled. The skirting panels should be installed AFTER the pool coping is installed. **Refer to the Ascent Skirting Supplemental Guides for detailed instructions.**

11. Liner Underlayment

If it is possible, finish the rest of the pool area, especially the ceiling over the pool, before proceeding. This will help ensure that the liner is not damaged, and also keep the pool water, skimmer, and filter free of construction debris.

Vacuum the pool floor carefully, and make sure there are no sharp bumps that might damage the liner. Take special care to remove any metal chips that may have fallen on the floor.

If you have purchased the Anchor Bolt Kit, then that will come with a roll of closed cell foam. Install the protective foam underlayment on the floor of the pool. The foam kit comes in a box with the four foam corners and a can of spray adhesive. The foam is $3'6'' \ge 32' (1m \ge 9,7m)$. For wider pools cut pieces as appropriate to cover the floor of the pool. Place seams near the walls of the pool, so that they will be covered by the Water Return Channels. Secure the foam to the floor with the spray adhesive provided. With deeper pool installations and larger pools, a second and sometimes even a third box of foam has been provided. Secure the foam to the bottom and walls of the deeper area as well as to the floor of the pool (Fig. 6).

If you have purchased the Floor Leveling Kit, then that will come with loose fill vermiculite and sheets of plastic flooring. The vermiculite will be used to level the floor filling in voids or covering bumps. The plastic floor will be cut to fit and placed over the vermiculite and will be taped to themselves and to the base of the panels.

Do not attach foam to the steel walls of the pool. Secure the foam inserts in the 4 corners at the bottom. Foam corners are not installed in the 4 corners of the deeper section of a custom deep-end pool (Fig. 6).











Fig. 7



Fig. 8

12. Liner

Standard flat bottom pool liners are usually packaged in a cardboard box in the pool crate. Liners for deeper pools and custom-sized pools are sent separately by UPS Ground. Check to see if your liner was back ordered at the time of shipment. If you have any questions call Customer Service about the status of your liner.

All work around your pool should be completed before you install your liner. Prepare for the liner installation. Be sure that the liner hanger, corners, panel joints and panel to base material are sealed with silicone. Tape off all holes in the pool wall (lights, jets and front panel holes) from the outside. Place a vacuum hose through the highest thru-wall cutout or leave a small section of liner bead out of the liner hanger and insert the vacuum hose down from the top. Make sure that the vacuum hose opening is sealed with duct tape. The hose should be 3" (7,6cm) off of the bottom of the pool floor foam (Fig. 7).

Install the liner by starting at the center of the front panel. Spread the liner in the pool enclosure. Shoes should be removed for this and all future work in the pool to avoid damaging the liner. Find the vertical seam in the liner and center it at the front of the pool. Place the four bottom corners of the liner in the four corners of the pool. While standing in one corner, fit the top bead of the liner into the slot in the liner hanger. For easiest install, fit the liner bead at both corners of an end of the pool, then fit the other two corners at the opposite end. Work your way around the pool, fitting the bead evenly into the hanger. We recommend not ending in a corner. Smooth the liner on the floor, pushing any wrinkles toward the walls (Fig. 8). Once the liner bead is fully seated in the track and the liner is relatively smooth, inspect the liner by running a finger along all of the liner seams making sure there are no imperfections.

After verifying that the vacuum hose is off of the bottom, turn the vacuum on. When the liner is drawn back, check to see that the corners are positioned properly. If not, turn the vacuum off and reposition the liner. With the vacuum running, smooth out all of the wrinkles. When you are satisfied with the placement of the liner, start to fill with water.

Keep the vacuum running until there is about 3" (7,62cm) of water in the shallowest portion of the pool. Turn the vacuum off and remove all tape and the vacuum hose. Keep filling until there is 6" (15cm) in the shallowest portion of the pool. Do not fill beyond 6" (15cm) at this time.

Included in the box with the liner are No Diving signs. Please post these in prominent locations around the pool. The Endless Pool is shallow and must never be used for diving. Diving into the pool is a very serious hazard and these stickers are intended to warn children of the risks. Naturally, adult supervision is also critical whenever children use the pool.

NOTE: If the Optional Apex Coping has been purchased, it's recommended to start the installation when the pool is AT LEAST half-way full with water. The hydrostatic load will cause the pool walls to deflect laterally. The deflection can have a significant impact on the coping, resulting in undesirable gaps. For this reason it's recommended to allow the pool to begin to deflect prior to installing the coping.

13. Thru-Wall Connections (Part 1)

This section should only be followed if the Optional Hydraulic Treadmill or Optional Hydrotherapy Jets are being installed.

NOTE: If the Optional Hydraulic Treadmill is being installed in an Endless Pools Elite Model or in front of the left propulsion housing of an Endless Pools Dual Propulsion Model, the holes for the Treadmill will be cut once the water level is within 3" (7,62cm) of the lowest treadmill hole. The holes are higher up on the pool wall for these models.

Optional Hydraulic Treadmill

Continue filling the pool until the water level is within 3" (7,62cm) of the holes cut out in the front pool wall for the Hydraulic Treadmill.

The Treadmill Thru-Wall Fittings need to be installed at this time. Use a sharp utility knife to cut the round holes in the liner, using the holes in the pool wall as a template. Install the Thru-Wall Fittings as shown in Fig. 9.

Optional Hydrotherapy Jets: Suction Thru-Wall Faceplates

Continue filling the pool until the water level is within 3" (7,62cm) of the holes cut out in the rear pool wall for the Hydrotherapy Jet Suction Thru-Wall Fittings.

The Jet Suction Thru-Wall Faceplates should now be installed and holes for the Thru-Wall fittings can be cut in the liner (Fig. 10). Refer to the *Hydrotherapy Jet Supplemental Guide* for detailed instructions for installing the Faceplates and cutting the holes in the liner.

Once the Jet Suction Thru-Wall Faceplates have been installed, the VGB Suction Covers MUST be installed (Fig. 11). Again, **Refer to the** *Hydrotherapy Jet Supplemental Guide* for detailed instructions.

14. Swim Current Component Assembly

Provided with this Installation Manual will be the appropriate Supplemental Guide for the internal swim current components. **Refer to** Swim Current Component Assembly Supplemental Guide at this time to install the internal components of the pool.

15. Thru-Wall Connections (Part 2)

Optional Hydrotherapy Jets: Jet Bulkhead Fittings

Continue filling the pool until the water level is within 3" (7,62cm) of the lower Hydrotherapy Jet holes.

The four holes for the Jets can be cut in the liner and the Jet Bulkhead Fittings can be installed (Fig. 12). **Refer to the** *Hydrotherapy Jet Supplemental Guide* for detailed instructions.







Fig. 10



Fig. 11



Fig. 12



Fig. 13



Fig. 14



Fig. 15



Water Quality System & Swim Current Hydraulic Hoses

Continue filling the pool until the water level is within 3" (7,62cm) of the hole cut out in the pool wall for the Water Quality System Suction.

At this point, the holes for the Water Quality System Suction, Water Quality System Return, and swim current hydraulic hoses can be cut in the liner (Fig. 13).

NOTE: If installing an Endless Pools Elite or Dual Propulsion Model, then there will be two sets (total of four) hydraulic hoses.

Use a sharp utility knife to cut the round holes in the liner, using the holes in the pool wall as a template.

Water Quality System - Install the Water Quality System Suction and Return Thru-Wall Assemblies first. Attach one of the Insert Elbows into the Suction Thru-Wall Assembly and the Eye Ball fitting into the Return Thru-Wall Assembly (Fig. 14).

Install the Thru-Wall Assemblies as shown in Fig. 15 and Fig. 16.

Swim Current Hydraulic Hoses - Use a sharp utility knife to cut the round holes in the liner, using the holes in the pool wall as a template. Remove the locknut and cork gasket from each Thru-Wall Fitting (pre-attached to the hydraulic hose). Feed the hoses through the wall. The hose with the red tape wrapped around the fitting is the low-pressure hose and should be inserted into the lower of the two swim current holes cut out in the pool wall. The high-pressure hose is to be inserted into the upper hole (Fig. 17).

Install the Thru-Wall fittings for the hydraulic hoses as shown in Fig. 18. Make sure there is a rubber gasket between the liner and pool panel and a second rubber gasket between the Thru-Wall Fitting and liner. Once the fitting is installed, tighten the cord grip fittings on the back side of the pool wall.

NOTE: If installing an Endless Pools Elite or Dual Propulsion Model, then the Thru-Wall fittings WILL NOT be pre-attached to the hydraulic hoses and need to be assembled. Glue a bushing reducer into the back of each Thru-Wall Fitting. Apply Teflon tape or thread sealant to the cord grip fitting and then thread the fitting into the bushing reducer. Install the Thru-Wall Fittings as shown in Fig. 18. Feed the two sets of hydraulic hoses into the appropriate Thru-Wall Fittings and then tighten the cord grip fittings on the back side of the pool wall.



Fig. 17





Optional Underwater LED Lights

If the Optional Underwater LED lights are being installed, then the light lens should be installed at this time. Use a sharp utility knife to cut the round holes in the liner, using the holes in the pool wall as a template. Install the light lens as shown in Fig. 19. Make sure the single rib side of the clear gasket is facing the flange of the light lens. **Refer to the Underwater LED Lights Supplemental Guide for detailed installation instructions**.



Fig. 19



Fig. 20



16. Water Quality System

The following instructions apply for the standard Poolside Water Quality System with no options ONLY.

If the Optional UV Sanitizer, Optional EZ50 Water Care System, Optional Gas Heater, or Remote Water Quality System have been purchased, then refer to those Supplemental Guides at this time to install the Water Quality System.

The Water Quality System Thru-Wall assemblies should be installed by this point. Attach the Pre-Plumbed Thru-Wallto-Pump Inlet assembly to the Water Quality System Suction Thru-Wall. Make sure to wrap Teflon tape around the threads of the adapter that is glued into the Thru-Wall. The union of the pre-plumbed assembly can be taken apart to make this step easier (Fig. 20).

Attach the Circulation Pump to the bottom of the pre-plumbed assembly from the previous step. Make sure that the Pump Union O-Ring is seated properly prior to installing the pump (Fig. 21).

Fig. 21



Next, attach the Pre-Plumbed Pump-to-Heater Assembly to the pump. Again, make sure that the Pump Union O-Ring is seated properly prior to installing the assembly (Fig. 22).

Fig. 22



16. Water Quality System (cont.)

The next step is best accomplished with a helper. Align the Heater-Controller with the Pre-Plumbed Pump-to-Heater Assembly. Make sure a T-Gasket is installed between the Heater-Controller and the pre-plumbed assembly prior to tightening the Heater-Controller Union. The raised section of the T-Gasket must sit in the groove of the Tailpiece on the end of the pre-plumbed assembly (Fig. 23).



Once the Heater-Controller is attached to the plumbing, make sure that it is level. Use the provided self-drilling screws to attach the mounting board to the Z-Brace (panel stiffener). Use a minimum of two screws. When the mounting board lands on more than one Z-Brace, attach with two screws along the top through the slotted holes in the mounting board. In the instances when it lands on only one Z-Brace, attach with one screw on the top and one screw on the bottom through the slotted holes in the mounting board (Fig. 24).







Attach the Pre-Plumbed Return Union and Valve Assembly to the Water Quality System Return Thru-Wall Assembly. Make sure to wrap Teflon tape around the threads of the adapter that is glued into the Thru-Wall prior to attaching the pre-plumbed assembly (Fig. 25).

Glue the Heater-Controller Tailpiece onto the length of Flex Pipe. Make sure to apply PVC primer and cement to the faces of the glue joints. Attach this assembly to the outlet of the Heater-Controller. Make sure there is a T-Gasket installed between the Heater-Controller and Tailpiece prior to tightening the Heater-Controller union nut (Fig. 25).







Fig. 26



Fig. 27



Fig. 28

16. Water Quality System (cont.)

The next step is marking and cutting the Flex Pipe that was attached in the previous step. Position a straight edge tool (long level) against the end of the Ball Valve (part of the Pre-Plumbed Return Assembly) and extend it down onto the Flex Pipe below it. Use a marker to mark a cut line on the pipe. The cut line MUST be vertically aligned with the end of the Ball Valve (Fig. 26). Remove the Flex Pipe from the Heater-Controller and cut the pipe along the cut line.

NOTE: If an Endless Pools Dual Propulsion Model is being installed, an additional Plumbing Extension Kit and lengths of flex pipe are included to extend the plumbing from the Heater-Controller to the Pre-Plumbed Return Assembly (See Figure 29 on the following page).

After the Flex Pipe is cut to the appropriate length, glue the Pre-Plumbed Gecko Outlet to Return Assembly onto the pipe. Make sure to apply PVC primer and cement to the faces of the glue joints (Fig. 27).

The next step is best accomplished with two people. Glue the assembly made up in the previous step to the Ball Valve. Attach the other end of the assembly to the outlet of the Heater-Controller. Again, make sure there is a T-Gasket installed between the Heater-Controller and Tailpiece prior to tightening the Heater-Controller Union. The Heater-controller Union can be taken apart by removing the two set screws to make this step easier (Fig. 28).

16. Water Quality System (cont.)

If installing an Endless Pools Dual Propulsion Model, a Plumbing Extension Kit and additional lengths of flexible pipe are included to plumb between the outlet of the Heater-Controller and the Pre-Plumbed Return Assembly. The Plumbing Extension Kit includes PVC Couplings to join the lengths of pipe and Mounting Brackets to support the weight of the plumbing. Space the Mounting Brackets evenly under the plumbing. Use the provided self-drilling screws to attach the brackets to the Z-Braces as shown in Figure 29.

NOTE: Depending on the options purchased and the equipment configuration, the plumbing between the Heater-Controller and Pre-Plumbed Return Assembly may need to be elevated to account for the height of the Hydraulic Power Unit if the Power Unit is to be located at the front of the pool.





17. Skimmer-Filter Installation

Remove the two screws at the rear right of the housing. These holes will be used to attach the PVC angle for the skimmer assembly.

Attach the PVC angle using the 1" (25mm) screws provided in the pool mounting hardware (Fig. 30).



Fig. 30



Fig. 31



Fig. 32





17. Skimmer-Filter Installation (cont.)

Remove the Lock Ring from the Skimmer Housing and place the skimmer body into the opening of the Skimmer Shroud Lid. Re-install the Lock Ring (Fig. 31). The Lock Ring should be tightened to the point where the skimmer body is seated firmly against the shroud lid, but loose enough so that the skimmer body can rotate for any adjustment that may be required once the skimmer is installed in the pool.

Attach the PVC fittings to the bottom of the skimmer assembly as shown in Figure 32. Glue the Bushing Reducer into the "OUT" port at the bottom of the skimmer. Apply Teflon Tape to the threads of the Insert Elbow and then thread the elbow into the Bushing Reducer.

Attach the Skimmer Shroud Body to the Shroud Lid using the provided 1" (25mm) screws (Fig. 33).

17. Skimmer-Filter Installation (cont.)

Connect the Heavy Duty Flex Hose to the Insert Elbow (Fig. 34). Secure the hose to the elbow with the plastic hose clamp.



Fig. 34



Fig. 35





The next step is best accomplished with a helper. Carefully lift and position the skimmer assembly into the pool. Attach the other end of the Heavy Duty Flex Hose to the Insert Elbow that's attached to the suction thru-wall assembly (Fig. 35). The skimmer body may need to be rotated to accomplish this. The excess flex hose should be tucked behind the skimmer shroud body. Make sure there are no kinks in the hose. Secure the hose using the provided plastic hose clamp.

NOTE: If Installing an Endless Pools Dual Propulsion Model, then the skimmer assembly will be attached to the right propulsion housing.

Attach the Skimmer Shroud Body to the Skimmer Mounting bracket using the provided 1" (25mm) screws (Fig. 36).

Attach the Skimmer Shroud Lid to the PVC angle at the top of the housing using the provided 1" (25mm) screws (Fig. 36).



Fig. 37



Fig. 38



Continue filling the pool. Once the water level is just below the housing lid, remove the lid by removing the screws.

Using the drill bit provided in the *Housing Mount Hardware* bag, drill two mounting holes through the pool wall using the two holes in the top of the housing as a template. Machine screws and lock nuts are provided to secure the housing to the pool wall. Wrap the stainless steel bonding wire that exits the top of the housing around one of the machine screws and then install the screws, secure the housing with lock nuts on the backside of the pool wall (Fig. 37).

Continue filling the pool until the top row of the honeycomb grill at the front of the propulsion housing has been covered.

18. Optional Apex Coping System

If haven't done so already, the Apex Coping should be installed at this time. **Refer to the** *Apex Coping Supplemental Guide* for **detailed instructions.**

19. Keypad

The Water Quality System Keypad (Fig. 38). should now be installed. The Keypad can be installed anywhere in the coping (outside the top flange of the pool panel) or outside vertical finish of the pool. The keypad must plug into the Heater-Controller, which is most-often installed on the backside of the front pool wall, therefore the ideal mounting location is the coping at the front of the pool. The only constraint is the length of the keypad cord, which is 10' (3m). If the distance between the desired mounting location and Heater-Controller exceeds 10' (3m), a keypad extension kit can be purchased. If this option was ordered, refer to the *Keypad Extension Supplemental Guide* for detailed information.

Draw the cutting template as shown in Figure 39 onto the mounting surface. Cut out the hole using a saw that's appropriate for the finish material.

Clean the mounting surface and then peel the adhesive gasket from the back of the Keypad. Insert the cord and Keypad into the opening that was cut out. Press gently on the Keypad to adhere to the surface. Secure the Keypad with the provided wing nuts. If the surface (and sub-surface) is deeper than the threaded studs of the Keypad, then the adhesive gasket will be sufficient.

Fig. 39

20. Hydraulic Power Unit

The power unit should be placed on flat and level surface. If the power unit is to be placed outside, we recommend purchasing the Weather Guard to protect it against everyday elements. Whether placed indoors or outdoors, this is an air-cooled unit and must have ample ventilation. Therefore, a minimum of 12" (30,5cm) of air spaced must be provided on all sides of the power unit. In addition, the power unit needs to be check periodically for maintenance and should be accessible.

Hydraulic Hose Connections

Once the power unit is in the desired location, attach the hydraulic hoses between the Power Unit and hydraulic hoses at the front of the pool. These hoses are supplied by Endless Pools to the length specified. Often they are not shipped with the pool as the exact length is unknown at the time of shipment. Please order these hoses a week before they are needed to allow shipment by UPS ground. Two hoses up to 25 feet (7,6m) in length are supplied at no additional charge. It is best to use hoses close to the length you need rather than simply going with the standard 25 (7,6m) feet. There is an additional charge for lengths in excess of 25 (7,6m) feet.

Remove the protective plugs and connect the hydraulic hoses to the appropriate ports on the Power Unit and tighten firmly. Do not over-tighten. The hose connecting to the fill cap on the Power Unit is the return (low pressure) hose, which gets connected to the lowest hydraulic hose at the front panel. The high-pressure hose, which is connected to the fitting on blue high pressure manifold, connects to the higher hose at the front of the pool. Adapters have been provided in the hydraulic hose/electrical whip box to connect the hydraulic run hose to the hoses penetrating the front panel. The hoses that go through the panels are a smaller diameter than your run hose.

Hydraulic Fluid

Endless Pools supplies a special vegetable-based hydraulic fluid created for this application and this equipment. Do not use a substitute hydraulic fluid. Extra hydraulic fluid is provided for longer hose runs. Any excess fluid should be retained for future use.

Make sure that the power is turned off to the power unit. Remove the fill black fill cap and remove the oil filter by lifting it out of fill opening. Use the provided paper funnels and fill the reservoir to with in 2" (5cm) of the top. Once filled, replace the oil filter and ensure that it is seated properly before putting the fill cap back on. If you have selected a longer run hose, we have provided extra fluid. In this case, turn the unit on and let it run for one minute to fill the run hoses. Turn the power off, remove the fill cap and oil filter, and add fluid as needed. Again, you want to fill the reservoir to within 2" (5cm) of the top.

Antenna

Open the front cover of the wireless controller by removing the screws. Remove the wireless transmitters and the antenna.

Attach the antenna to the antenna connection on the side of the wireless controller. Should the power unit be placed far away from your pool, the remote control may not operate efficiently. In order to correct this, you should install the Antenna Extension Kit. Call Endless Pools Customer Service for additional information.



Fig. 40

21. Electrical Wiring - 60Hz (U.S. and countries with a similar power supply)

IMPORTANT NOTE: The following instructions are intended for <u>Single Phase</u> pool equipment. If <u>Three Phase</u> pool equipment was ordered, refer to the *Three Phase Equipment Supplemental Guide* at this time.

ENDLESS POOLS MODEL	HP	ELECTRICAL REQUIREMENTS	MINIMUM WIRE SIZE	RESULTS
ORIGINAL	5 HP	(1) 220V 30A GFCI W/NEUTRAL	10 AWG	If wired as recommended, the Water
PERFORMANCE	5 HP	(1) 220V 30A GFCI W/NEUTRAL	10 AWG	power with the Hydraulic Power
HIGH-PERFORMANCE	7.5 HP	(1) 220V 50A GFCI W/NEUTRAL	6 AWG	Unit for the swim current
ELITE	7.5 HP	(1) 220V 50A GFCI W/NEUTRAL	6 AWG	ON, the WQS & Optional Jets are
DUAL PROPULSION	5 HP	(2) 220V 30A GFCI W/NEUTRAL	10 AWG	ott. The Optional Lights & keypad are not affected
OPTIONAL HYDRAULIC TREADMILL	5 HP	(1) 220V 30A GFCI W/NEUTRAL	10 AWG	The Optional Hydraulic Treadmill operates independently

Refer to the chart below for the electrical requirements for the Endless Pools Model that was purchased.

Hydraulic Power Unit & Heater-Controller Wiring

An electrical shut off MUST be installed within 5' (1,5m) of the intended location of the Hydraulic Power Unit. Connect the preattached electrical whip (on the left side of the Hydraulic Power Unit Controller) to the power supply. The white wire (Neutral) MUST be connected to the load neutral terminal of the GFCI breaker. An additional electrical whip containing 4 wires is provided to supply power from the Hydraulic Power Unit Controller to the Water Quality System Heater-Controller as shown in Figure 41. When wired as recommended, the system will redistribute power as needed so that the Water Quality System and Swim Current System will not consume more amperage then the breaker will allow. Refer to the appropriate wiring instructions for the Endless Pools model that was purchased:

Refer to the wiring instructions on Page 23 if installing the Endless Pools Original, Performance, or Dual Propulsion Model.

Refer to the wiring instructions on Page 24 if installing the Endless Pools High-Performance or Elite Model.



21. Electrical Wiring - 60Hz (U.S. and countries with a similar power supply)

Heater-Controller Wiring for Endless Pools Original, Performance, and Dual Propulsion Model (5HP):

Locate the electrical whip provided in the "*Hydraulic/Electrical Connections Kit.*" Remove one of the unused knockouts at the bottom of the Hydraulic Power Unit Controller enclosure and secure the whip end to the open knockout. Connect the black wire (Line 1) to terminal block T3. Connect the red wire (Line 2) to the 5R3 terminal on the load side of the contactor. Connect the white wire (Neutral) to terminal block T1. Connect the green wire (Ground) to the ground/earth terminal at the base of the enclosure.

Run the opposite end of the whip to the Heater-Controller. Remove the front cover of the controller by removing the screws. Connect the whip to the opening on the left side of the controller. Connect the black wire to the L1 terminal. Connect the red wire to the L2 terminal. Connect the white wire to the N terminal. Connect the green wire to the G terminal.





21. Electrical Wiring - 60Hz (U.S. and countries with a similar power supply)

Heater-Controller Wiring for Endless Pools <u>High-Performance</u> and <u>Elite</u> Model (7.5HP):

Locate the electrical whip provided in the "*Hydraulic/Electrical Connections Kit.*" Remove one of the unused knockouts at the bottom of the Hydraulic Power Unit Controller enclosure and secure the whip end to the open knockout. Connect the black wire (Line 1) to terminal block T3. Connect the red wire (Line 2) to the R3 terminal on the load side of the contactor. Connect the white wire (Neutral) to terminal block T1. Connect the green wire (Ground) to the ground/earth terminal at the base of the enclosure.

Run the opposite end of the whip to the Heater-Controller. Remove the front cover of the controller by removing the screws. Connect the whip to the opening on the left side of the controller. Connect the black wire to the L1 terminal. Connect the red wire to the L2 terminal. Connect the white wire to the N terminal. Connect the green wire to the G terminal.



Proceed to Heater-Controller Accessory Wiring.

Heater-Controller Accessory Wiring

Each high voltage accessory wired into the Heater-Controller has an electrical cord with connectors that correspond with the quick connect terminals OR the AMP connectors inside the Heater-Controller. Route the cords from the accessories to the controller. The cords for the Keypad and Optional LED Light Controller should be routed through the strain relief channel on the bottom right side of the controller. Refer to the printed circuit of the controller and the appropriate accessory table below to determine the location of each connection. **NOTE:** If the Optional UV/EZ50 has been ordered (and has an AMP connector), both the Circulation Pump and UV/EZ50 plug into the A1 AMP connection via splitter cable. Plug the splitter into the A1 connector. Then, plug the Circulation Pump and UV/EZ50 into the ends of the splitter.

The Heater-Controller features a cable clamp system (in.claw). Once all the accessories are attached to the appropriate connections inside the controller, proceed to *Heater-Controller Cable Clamp System* to complete the accessory wiring.



Heater-Controller Cable Clamp System

Remove the empty in.claw from the enclosure (Fig. 42).



Fig. 42

Open the in.claw and place the wire inside. Each in.claw can accept up to 2 cords (Fig. 43)



Fig. 43

Close the in.claw on the wire (Fig. 44)





Reinsert the in.claw in its original position, pressing down on either side of the cord (Fig. 45).





Once all in.claws are installed, reinstall the front cover of the Heater-Controller. The cover screws should be tightened to a max of 8lb.in (0.9 N.m).

22. Electrical Wiring - 50Hz (U.K. and countries with a similar power supply)

IMPORTANT NOTE: The following instructions are intended for <u>Single Phase</u> pool equipment. If <u>Three Phase</u> pool equipment was ordered, refer to the *Three Phase Equipment Supplemental Guide* at this time

Refer to the chart below for the electrical requirements for the Endless Pools Model that was purchased.

ENDLESS POOLS MODEL	HP	ELECTRICAL REQUIREMENTS	MINIMUM WIRE SIZE	RESULTS
ORIGINAL	5 HP	(1) 220V 32A RCD	6mm ²	If wired as recommended, the Water Quality
PERFORMANCE	5 HP	(1) 220V 32A RCD	6mm ²	Power Unit for the swim current
HIGH-PERFORMANCE	7.5 HP	(1) 220V 50A RCD	10mm ²	When the swim current is turned ON, the WQS
ELITE	7.5 HP	(1) 220V 50A RCD	10mm ²	The Optional Hydraulic Treadmill operates
DUAL PROPULSION	5 HP	(2) 220V 32A RCD	6mm ²	independently ´
OPTIONAL HYDRAULIC TREADMILL	5 HP	(1) 220V 32A RCD	6mm ²	

United States wire color-coding is different than international color coding. The following chart identifies the color coding used in the United States as it relates to the wire type. The wires have a colored sleeve to conform to the international color codes.

WIRE COLOR	US WIRE TYPE (60Hz)	INT. WIRE TYPE (50Hz)
BLACK with BROWN SLEEVE	HOT OR LIVE (120V)	HOT OR LIVE (220V)
RED with BLUE SLEEVE	HOT OR LIVE (120V)	NEUTRAL
GREEN with GREEN/YELLOW SLEEVE	GROUND	EARTH

Hydraulic Power Unit & Heater-Controller Wiring

This product MUST be installed with a Residual Current Device (RCD) that has a rated residual operating current not exceeding 30mA. An electrical shut off MUST be installed within 5' (1,5m) of the intended location of the Hydraulic Power Unit. Connect the pre-attached electrical whip (on the left side of the Hydraulic Power Unit Controller) to the power supply. An additional electrical whip is provided to supply power from the Hydraulic Power Unit Controller to the Water Quality System Heater-Controller as shown in Figure 46. When wired as recommended, the system will redistribute power as needed so that the Water Quality System and Swim Current System will not consume more amperage then the breaker will allow. Refer to the appropriate wiring instructions for the Endless Pools model that was purchased:

Refer to the wiring instructions on Page 28 if installing the Endless Pools Original, Performance, or Dual Propulsion Model.

Refer to the wiring instructions on Page 29 if installing the Endless Pools High-Performance or Elite Model.



Heater-Controller Wiring for Endless Pools Original, Performance, and Dual Propulsion Model (5HP):

Locate the electrical whip provided in the "*Hydraulic/Electrical Connections Kit.*" Remove one of the unused knockouts at the bottom of the Hydraulic Power Unit Controller enclosure and secure the whip end to the open knockout. Connect the black wire (Line 1) to terminal block T3. Connect the red wire (Neutral) to terminal block T2. Connect the white wire (Line 1) to the 3R1 terminal on the load side of the contactor. Connect the green wire (Ground) to the ground/earth terminal at the base of the enclosure.

Run the opposite end of the whip to the Heater-Controller. Remove the front cover of the controller by removing the screws. Connect the whip to the opening on the left side of the controller. Connect the black wire to the L1 terminal. Connect the red wire to the N terminal. Connect the white wire to the L2 terminal. Connect the green wire (ground) to the G terminal.



Proceed to Heater-Controller Accessory Wiring.

Heater-Controller Wiring for Endless Pools <u>High-Performance</u> and <u>Elite</u> Model (7.5HP):

Locate the electrical whip provided in the "*Hydraulic/Electrical Connections Kit.*" Remove one of the unused knockouts at the bottom of the Hydraulic Power Unit Controller enclosure and secure the whip end to the open knockout. Connect the black wire (Line 1) to terminal block T3. Connect the red wire (Neutral) to terminal block T2. Connect the white wire (Line 1) to the R1 terminal on the load side of the contactor. Connect the green wire (Ground) to the ground/earth terminal at the base of the enclosure.

Run the opposite end of the whip to the Heater-Controller. Remove the front cover of the controller by removing the screws. Connect the whip to the opening on the left side of the controller. Connect the black wire to the L1 terminal. Connect the red wire to the N terminal. Connect the white wire to the L2 terminal. Connect the green wire (ground) to the G terminal.





Heater-Controller Accessory Wiring

Power Jumper Wires (PJ1 & PJ2) MUST be removed and connected to the appropriate terminals. Each high voltage accessory wired into the Heater-Controller has an electrical cord with connectors that correspond with the quick connect terminals OR the AMP connectors inside the Heater-Controller. Route the cords from the accessories to the controller. The cords for the Keypad and Optional LED Light Controller should be routed through the strain relief channel on the bottom right side of the controller. Refer to the printed circuit of the controller and the appropriate accessory table below to determine the location of each connection. **NOTE:** If the Optional UV/EZ50 has been ordered (and has an AMP connector), both the Circulation Pump and UV/EZ50 plug into the A4 AMP connection via splitter cable. Plug the splitter into the A4 connector. Then, plug the Circulation Pump and UV/EZ50 into the ends of the splitter.

The Heater-Controller features a cable clamp system (in.claw). Once all the accessories are attached to the appropriate connections inside the controller, proceed to *Heater-Controller Cable Clamp System* to complete the accessory wiring.



Heater-Controller Cable Clamp System

Remove the empty in.claw from the enclosure (Fig. 47).



Fig. 47

Open the in.claw and place the wire inside. Each in.claw can accept up to 2 cords (Fig. 48)



Fig. 48

Close the in.claw on the wire (Fig. 49)



Fig. 49

Reinsert the in.claw in its original position, pressing down on either side of the cord (Fig. 50).





Once all in.claws are installed, reinstall the front cover of the Heater-Controller. The cover screws should be tightened to a max of 8lb.in (0.9 N.m).

23. Bonding & Grounding

All of the electrical components supplied by Endless Pools is UL or CSA approved and must be installed in accordance with local electric codes by a licensed local electrician. Bonding and Grounding is an important part of that process. All electrical components have bonding lugs and should be bonded together and to the steel pool panels. A bonding conductor shall be solid copper not smaller than 8 AWG and may be insulated, covered or bare. If new construction is involved where reinforcing rods are installed in the concrete under or adjacent to the pool, this should be included in the bonding circuit.

A #8 AWG bare copper wire and bonding kit is provided in the "*Hydraulic/Electrical Connections Kit*" to bond the equipment. Attach the copper wire to the bonding lug on the Hydraulic Power Unit and route the wire with the hydraulic hoses to the front of the pool. Included in the bonding kit is a drill bit, machine screw and nut, and a bonding lug. Drill a hole through one of the Z-Braces close to the Heater-Controller and then attach the bonding lug to the Z-Brace using the machine screw and nut. Feed the copper wire through the bonding lug on the Z-brace and then attach it to the bonding bar located at the base of the Heater-Controller.

Attach a length of copper wire to the bonding lug located on each piece of equipment (Circulation Pump, Optional Hydrotherapy Jet Pump, Optional Gas Heater, Optional UV Sanitizer, etc). Attach the opposite end of each wire to the bonding bar at the base of the Heater-Controller.



24. Water Quality System Isolation Cover

Included with the Water Quality System is an Isolation Cover designed to protect the equipment from water intrusion. This cover MUST be installed. Failure to install the Isolation Cover voids the warranty.

Position the Isolation Cover over the Heater-Controller mounting board. The tabs of the Isolation Cover nest into the slots at the top of the mounting board. Once the Isolation Cover is in place, use the provided 1/2" (13mm) screws to attach the cover to the Heater-Controller mounting board (Fig. 52)

25. Pool Equipment Start Up

The pool is full when the water level completely covers the honeycomb grills where the current is produced. A water level 1/2" (13mm) or more below the top of the grill can cause air to get pulled through the skimmer-filter and into the plumbing lines. This can lead to problems with the filter, and can also cause your heater to work intermittently. A water level 1" (2,5cm) or more above the top of the grill can lead to water getting splashed out of the pool.

Once the pool is full and all connections are made, the Water Quality System can be started. Make sure ALL ball valves in the plumbing are open (red handle parallel with plumbing).

Programming the Heater-Controller

The Heater-Controller must be programmed for the Water Quality System to function. The programming of the controller is done on the keypad display (Fig. 53).

- 1. Turn on the breaker to supply power to the pool. When power is introduced to the system, the system will go through a boot-up cycle. At the end of the cycle, the keypad will display **LL2**. The **2**, representing the Heater-Controller software (Low-Level), will be blinking.
- 2. Press the button on the keypad to store the setting. The system will go through another boot-up cycle which can last 2-5 minutes. The circulation pump should turn on. At the end of the cycle, the keypad will display the time of day and the water temperature. If the keypad is flashing **FLO**, air may need to be removed from the plumbing lines. Refer to *Removing Air From Water Quality System Plumbing* below.

Removing Air From Water Quality System Plumbing

Turn the power to the pool off. Remove the Isolation Cover. Close the ball valve on the return side of the plumbing. With a towel on hand, partially crack the union open that is at the top of the preplumbed assembly on the suction side of the plumbing. This will allow any air that is trapped in the plumbing to escape. You will hear the air as it's purging from the plumbing. After the air has been removed, tighten the union. Re-supply power to the pool. After the system goes through its boot-up cycle, which can last 2-5 minutes, the keypad should cycle between the time of day and the water temperature.



Fig. 52











Fig. 55



Fig. 56



Fig. 57



Fig. 58

Nature 2 Installation

Sanitation of your pool water is partly accomplished by placing one Nature 2 Silver Ion Sanitizer into the filter-cartridge. The Nature 2 Sanitizer included in your pool kit reduces the amount of chlorine you'll need to use by adding silver ions to the pool, inhibiting bacteria growth. The cartridge should be replaced every four months.

Remove the Inner Pipe & Lid from the Skimmer (Fig. 55)

Remove the Filter Cartridge from the skimmer by unthreading it counter-clockwise (Fig. 56).

Remove the Nature 2 from it's packaging. Attach the Handle to the bottom of the Cartridge. Loop the provided Zip Tie around the Handle and above the Fins and then interlock the strap end into its locking mechanism. Cut the strap of the tie down to approximately 3" (7,6cm) (Fig. 57).

Insert the Nature 2 into the port at the bottom of the Filter Cartridge. Pinch the Zip Tie to fully insert the Handle of the Nature 2 inside the filter (Fig. 58). The Zip Tie is intended to prevent the Nature 2 from falling out the bottom of the filter once it expands. Adjust the Zip Tie if necessary to ensure the Nature 2 doesn't fall out.

Reinstall the Filter Cartridge into the skimmer.

26. User's Guides

Two additional User's Guides will be provided with your pool; the *Water Quality System User's Guide* and the *Swim Current User's Guide*.

The Water Quality System User's Guide includes a detailed description of how the Water Quality System functions, Water Chemistry instructions, and how to provide the proper maintenance for your pool.

The Swim Current User's Guide will explain how to operate and control your swim current.

If the Optional Hydraulic Treadmill was purchased, a *Treadmill User's Guide* will also be included which will explain how to operate and control your treadmill.

Refer to the User's Guides at this time. It is critical that these guides be referenced on a regular basis.

27. Options

Optional Retractable Security Cover Systems

Our most popular option and strongly recommended, the Retractable Security Cover system protects children and pets from the pool while keeping in temperature and humidity. With some installations, suitable access for this roll-up cover system is complex and should be discussed with an Endless Pool design professional during the planning stage. The Supplemental Guide describes the cover installation more fully. If your pool is to be outside, we can provide you with a cover pump to remove any rain water that may accumulate.

The most popular configuration for this system is to have the cover roll off the rear of the pool. Other alternatives are possible if space is limited. These are discussed in more detail in the Supplemental Guide. The kit includes the roller mechanism for the width of pool purchased, appropriate lengths of track, an aluminum leading edge, and the rugged fabric which floats on the water surface suspended between the parallel tracks. Two steel brackets to mount the roller mechanism at one end of the pool are available.

The optional Retractable Security Cover system is manually powered. We believe that this system is optimal for our compact pool and when installed correctly provides a simple means of covering the pool.

The aluminum track on either side of the pool is a requirement of the retractable security cover option. Covering this track is possible but increases complexity and will add to the cost of installation.

Optional Automatic Retractable Security Cover System

Offered in two versions, the Automatic Retractable Security Cover System is one of our most popular options. Operated with the turn of the key, the cover retracts easily making it ideal for people who want the convenience of automation or lack the strength to operate one manually.

The Below Deck version can be fully integrated into any custom finish. The cover mechanism must be mounted at the front of the pool. Please refer to the Supplemental Guide for more information on this option. The Above Deck can be mounted at either the front or the back of the pool and is compatible with any of our coping options. The Above Deck version comes with a convenient bench cover offered in a variety of colors to compliment any decor.

Optional Solar Blanket Roll Up System

Endless Pools supplies a Solar Blanket for all Endless Pool sizes, if the Retractable Security Cover has not been chosen. For those who wish it to serve as a permanent cover, a simple PVC pipe may be used to roll up the blanket for storage when the pool is in use. For this purpose, we supply PVC clips and PVC pipe long enough for your pool width. Depending on the width of the pool the PVC pipe will come in one or two pieces with a coupling attached to one end of the one piece of pipe. Using the PVC cleaner and PVC cement you received in your plumbing kit, glue the second piece of pipe into the open end of the coupling. Alternatively, the roller mechanism from the retractable security cover may be used in conjunction with a length of 3" (7,6cm) diameter PVC pipe to roll up the blanket. This optional solar blanket roll up system is available from the Endless Pools Customer Service Department.

Optional UV Sanitizer

Ultra-violet water purifiers provide a chemical-free method of maintaining your pool by destroying organic pollutants as the water passes through the treatment chamber. This reduces the need for chemical sanitizers such as chlorine. Our UV system is particularly suitable for users who are sensitive to the usual swimming pool disinfectants, heavy metals from ionic purifiers or allergic to chlorine.

UV still needs to be used in conjunction with a sanitizer to "burn off" the dead organic matter killed by the UV system. We recommend simply using trace amounts (0.5 - 1 ppm) of regular household bleach, such as Clorox or other generic brands. This level is lower than the EPA recommended chlorine level for drinking water.

Optional EZ50 Water Care System

The EZ50 Water Care System gives you supplemental, non-chlorine sanitation that's effective and easy to use. The system self-regulates, with simple-to-understand indicator lights. You'll handle less chemicals; the water can stay clear with the same chlorine levels as safe drinking water.

The System's advanced oxidation pool treatment, can reduce your chlorine level to a minimum of 0.5ppm as the Hydroxyl Radicals work to sanitize and oxidize contaminants. With the EZ50

Water Care System, you'll notice the soft feeling of clean, clear water and the revitalizing difference on your skin, eyes, and hair. Without the negative effects of disinfection by-products, you'll be able to breathe deeply without any chlorine scent in your home.

Optional Treadmill

Turn your Endless Pool into a complete home gym with the addition of an Aquatic Treadmill. Use the treadmill with the current on or off to vary the intensity of your walk or jog. Take it to the next step and use the aquatic treadmill to cross-train in the Endless Pool. Alternate between swimming and walking or jogging to get a full body workout! The treadmill offers a spacious 20" (51cm) wide belt for walking or running. The treadmill is typically installed in pools with deeper panels.

Optional Running Pad

The Running Pad allows you to walk, run, or do other exercises while minimizing wear and tear on the pool liner.

For exceptional traction and comfort, the pad is cushioned with SwimDek[®], a high-grip material patented for aquatic environments. The Running Pad attached to the propulsion housing's front base, so that you can use the swim current for additional resistance, core strengthening, and a total body workout.

Optional Rowing Kit

Add Row Bars to your pool for an excellent workout option. With low impact rowing, you can burn calories, develop your cardio and aerobic fitness, and work your arms, abs, and back. You can adjust the tension to suit most fitness levels. Easy to attach and detach for on-demand convenience, the Rowing Kit works on pools up to a maximum width of 9' (2,74m).

Optional Hydrotherapy Jets

By providing a supplementary pump that is operated by the Heater-Controller and using additional suctions and four venturi-type jets through the wall of an Endless Pool, the user can enjoy the therapy benefits of jets in addition to the variable speed swim current. Installation is relatively straightforward but roughly doubles the plumbing work required. The kit provided by Endless Pools includes everything necessary with the exception of the 1-1/2" (3,8cm) schedule 40 PVC pipe. When jets are installed it is important to leave access to the outside of the pool panel for service. The holes for the jets should be cut before installing the liner. If the pool is located outdoors where freezing is an issue, care must be taken with the jet system plumbing. Additional insulation should be considered under these conditions.

Optional Underwater Lights

Underwater Lights are an important aesthetic option. Typically located on the front pool wall, these two lights thread into niches that are installed after the liner is in place. The holes for these niches are cut using the hole saw provided before the foam and the liner are installed. Each light consists of a dry niche which serves as a porthole. The low-voltage light threads into this porthole outside the pool. For outdoor installations a weather resistant can is provided for added protection. A 22' (6,7m) cord connects these lights and plugs directly into the heater controller. The lights are then operated by the pool-side controls.

Optional Corner Step

To assist with access to the Endless Pool, optional Corner Steps are available inside the Endless Pool in any of the four corners. For a more complete discussion about access to an Endless Pool please refer to the Planning Guide. These optional steps are approximately 11" (28cm) high and are secured to the internal Water Return Channel. They are easily installed using a Phillips screwdriver. If you wish to order them after the pool has shipped, contact the Customer Service Department.

Optional Interior Entry Stairs

For those needing an easier route into the pool our Optional Interior Stair provides easy access. Typically installed with fully in-ground Endless Pools, the Interior Stair allows the user to gradually enter the water from deck height. Interior stair configurations depend on the panel height purchased. The Interior Stairs should be ordered with the pool to avoid substantial additional freight charges due to the size and weight of the box needed to ship the steps.

Optional Swim Mirror

The Swim Mirror helps with stroke technique and makes your swimming workout fun. The Swim Mirror is made from durable stainless steel and is attached with three stainless steel screws which are already attached to the housing just below the swim propulsion housing. When a deeper pool is selected, make sure that the shallower area extends at least 13" (33cm) beyond the front Water Return Channel to accommodate the Swim Mirror. Swim Mirrors are easily sent by UPS ground and may be ordered later.

Optional Ascent Skirting System

This durable and stylish laminate skirting system finishes the sides of the pool. The Ascent Skirting system is available in two colors that mimic the look of real wood without the maintenance hassles. The skirting system was designed to make it easy to install on any exposed wall of your above-ground pool; for partially in-ground installations, the skirting panels can be easily trimmed. A solid black kick plate installed at the base of the pool accounts for finished floors that are out of level.

Optional Apex Coping System

An ideal solution for indoor or outdoor installations, the Apex Coping System finishes the top ledge of your Endless Pool quickly and easily. Available in three different colors, the coping system is low maintenance, durable, and UV stabilized to prevent fine cracks and color loss. The system comes with precut coping sections and rounded corners for a modern look. Color matching plugs conceal the mounting fasteners for a clean and finished look.

Digital Pace Display

Easy to read, the pace display presents the pace of the swim current (in minutes:seconds per 100 yards or meters) and Optional underwater Treadmill (in mph or kph). The pace display lets you monitor your progress; it also gives you a precise metric from which to calculate the equivalent distance of your stationary workout.

Fit@Home App

Take your excise to the next level with the Fit@Home app/kit. The app allows you to control the pace and duration of your Endless Pool using any smart device. Fit@Home also acts as a smart display allowing you to see your swim speed and duration while in the pool.



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