

Engler ***Water Circulator Pump***



Engler Engineering Corporation
1099 East 47 Street
Hialeah, Florida 33013
305-688-8581 / 800-445-8581
www.engler411.com / www.dynaxusa.com

TABLE OF CONTENTS

TABLE OF CONTENTS	2
COMPANY PROFILE	3
ENGLER ENGINEERING CORPORATION'S	4
BRAND NAME VETERINARY PRODUCTS	4
WHY USE A WARM WATER CIRCULATOR?	5
CIRCULATOR UNIT AND CIRCULATOR PAD	6
INSTALLATION INSTRUCTIONS.....	6
THE CONTROL PANEL	7
UNDERSTANDING THE CONTROLS.....	8
CONTROL UNIT / REMOTE OPERATION.....	8
USAGE NOTES AND "DO'S AND DON'TS"	10
TROUBLESHOOTING.....	12
PARTS AND ACCESSORIES INCLUDED WITH THIS SHIPMENT.....	13
ENGLER WATER CIRCULATOR WARMING PUMP SPECIFICATIONS	13

COMPANY PROFILE

Engler Engineering Corporation has been in business since 1964 and occupies an 8000 square foot facility in Hialeah, Florida (USA). Engler manufactures high speed and table top ultrasonic dental scalers, polishers and combination units. Other devices include electrosurgery equipment and ultrasonic instruments for the veterinary market as well as a microprocessor controlled anesthesia delivery system and a respiratory monitor for veterinary use.

Engler also manufactures dental equipment for the human market. Please visit our website www.englerusa.com for more detailed information or call us at the numbers shown below.

Engler Engineering Corp. acquired the exclusive manufacturing and marketing rights of Dynax products, including stretchers, gurneys, The Cat Grabber, comfort cots, warm water heater / circulator with pads, and other products. We also acquired the Alpha-Sonic, Ora-Sonic, and Pro-Sonic line of piezo scalers.

Engler manufactures all of the inserts and tips used in the Engler products as well as many others on the market today in the 18K and 25K frequency range.

Our repair department has the technical knowledge to repair and maintain a number of dental devices manufactured by other companies including Shorline.

Engler Engineering Corporation's foreign sales are handled through a large and growing network of dental and veterinary distributors. At the present time we are represented throughout the Middle East, Europe, Central and South America, Canada, Asia, New Zealand, Australia, and most other countries.

If you have any questions or comments, please contact:

Engler Engineering Corporation
1099 East 47th Street, Hialeah, Florida 33013
800-445-8581 – 305-688-8581 – FAX 305-685-7671
Web site: www.englerusa.com Help site: www.engler411.com

ENGLER ENGINEERING CORPORATION'S BRAND NAME VETERINARY PRODUCTS

- ADS 2000, microprocessor controlled anesthesia delivery system / ventilator
- Excelsior, high speed dental air unit with vacuum / electrosurgery / ultrasonic scaler / high speed drill / low speed polisher / air - water syringe, and on demand compressor
- Scale - Aire, high speed dental air unit with ultrasonic scaler / high speed drill / low speed polisher / air - water syringe and on demand compressor
- Scale - Aire Mini, high speed dental air unit with ultrasonic scaler / high speed drill / low speed polisher / air - water syringe
- Drill - Aire Plus, high speed dental air unit, high speed drill / low speed polisher / air - water syringe
- Drill - Aire, high speed dental air unit, high speed drill / air - water syringe
- Son - Mate II, ultrasonic scaler / 35,000 RPM handpiece / low speed polisher
- Piezo - Mate, ultrasonic scaler / 35,000 RPM handpiece / low speed polisher
- Tri - Mate, ultrasonic scaler / 35,000 RPM handpiece / low speed polisher / electrosurge
- Vet II, 25K ultrasonic scaler / 35,000 RPM handpiece / low speed polisher
- Sonus II, ultrasonic dental scaler
- Engler Piezo Ultrasonic Scaler
- Electro - Son, touch screen, mono / bi-polar electrosurgical unit
- Poli - X, 35,000 RPM handpiece / low speed polisher
- Sentinel V.R.M., respiratory monitor
- Engler Veterinary Respiratory Monitor (EVRM)

More coming soon!

WHY USE A WARM WATER CIRCULATOR?

The practice of using a warm water circulator during and after surgery has many benefits. Studies have shown that keeping patients warm during and after medical procedures offers significant and positive medical outcomes.

There are many reasons why veterinary patients are at risk for hypothermia during and after surgery. The list is long, here are a few;

- Loss of physiological peripheral vasomotor tone. Heat normally conserved within the body core is redistributed to the periphery and subsequently lost to the environment through conduction, convection and radiation.
- Premedication, induction drugs and inhalational agents used for maintenance of anesthesia depress thermoregulatory mechanisms and thereby facilitate heat loss.
- The depressed metabolic rate under anesthesia reduces endogenous heat production and delivery of cold dry gases increases the propensity towards hypothermia.
- Surgery also exacerbates heat loss through the application of skin disinfection agents such as 70% ethanol losing heat through evaporation.
- Contact with cold table surfaces increases heat loss via conduction, while opening body cavities increases heat loss through radiation and evaporation.

The core body temperature of non-warmed cats has been shown to drop by 2°C during routine dental procedures

Circulating water through a leak-proof pad, also known as conductive temperature therapy, safely and effectively helps prevent hypothermia by minimizing heat loss and treats a variety of localized conditions including muscle and joint pain, arthritis, and edema.

The Engler Water Heater solves the hypothermia issue by providing a proven circulator that uses digital accuracy to deliver warm water from 82.5 F to 118.5 F (28C to 48C) to keep the patient warm and comfortable. Warm water conductive temperature therapy will prevent body heat loss and hypothermia during veterinary surgery and recovery.

The Engler Warm Water Circulator is easy to set up and operate, just connect the Engler Circulator pad, fill the reservoir with distilled water. Set the temperature on the digital touchpad and know that your patients will be warm and comfortable during and after surgery.

Thank you for your purchase of the Engler Warm Water Circulator!

Important

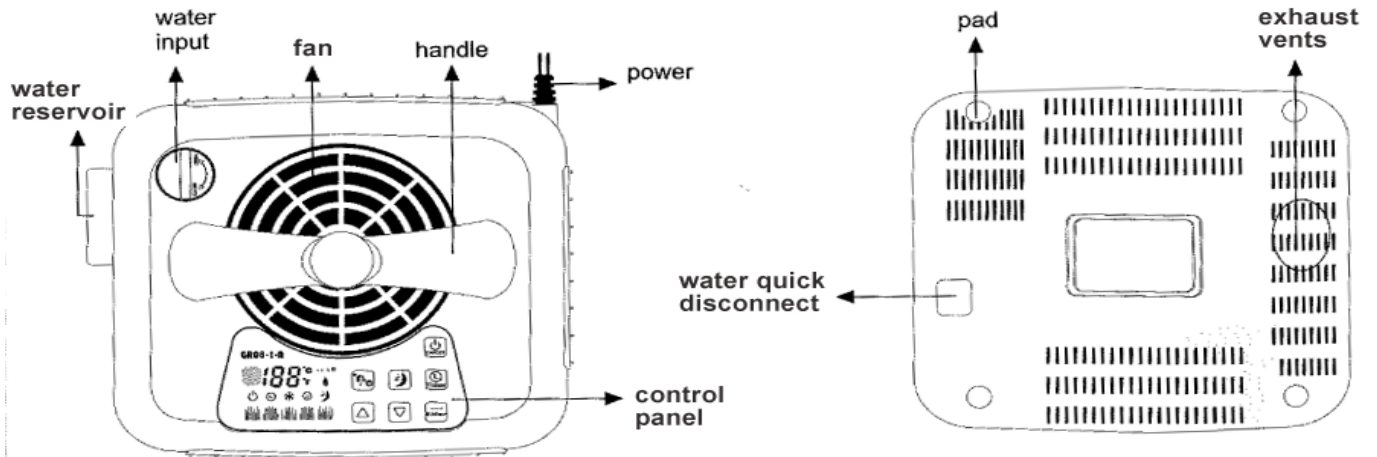
Studies have shown that a heating pad temperature as low as 105F can cause 3rd degree burns if left in direct contact with the pad for as little as 2 hours.

118F can cause 3rd degree burns in as little as 20 minutes!

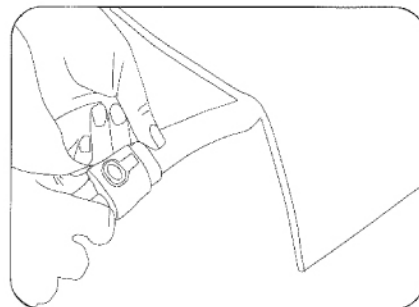
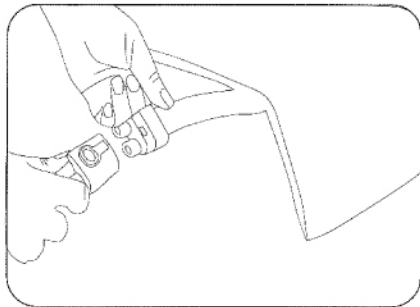
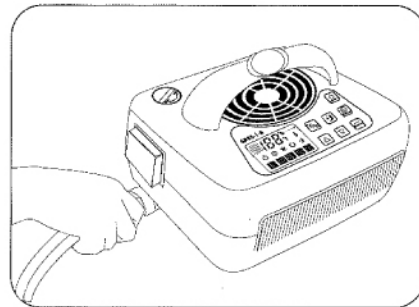
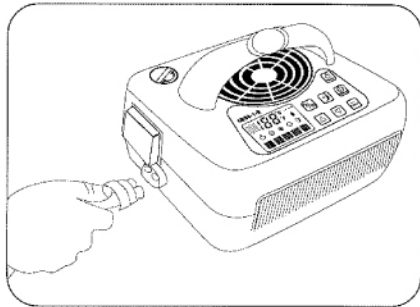
Always use a thick towel or our DYNAX fleece pad to protect the patient.

CIRCULATOR UNIT AND CIRCULATOR PAD INSTALLATION INSTRUCTIONS

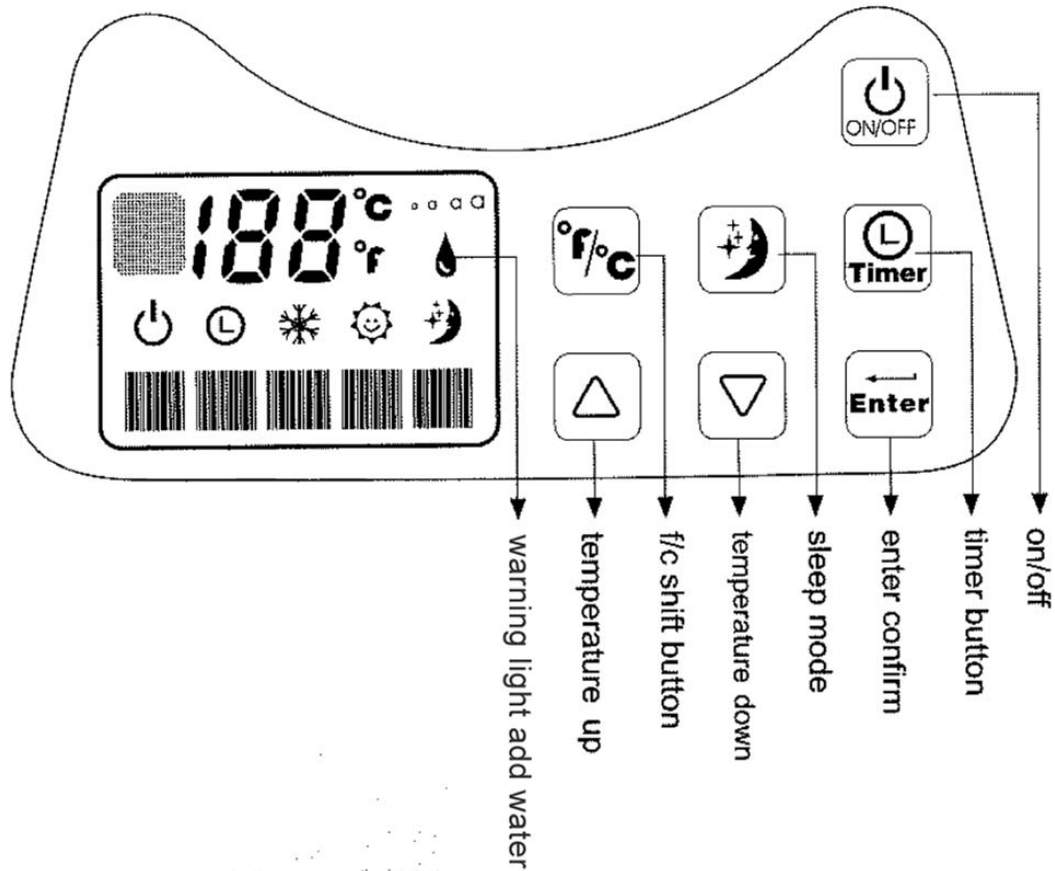
Control unit



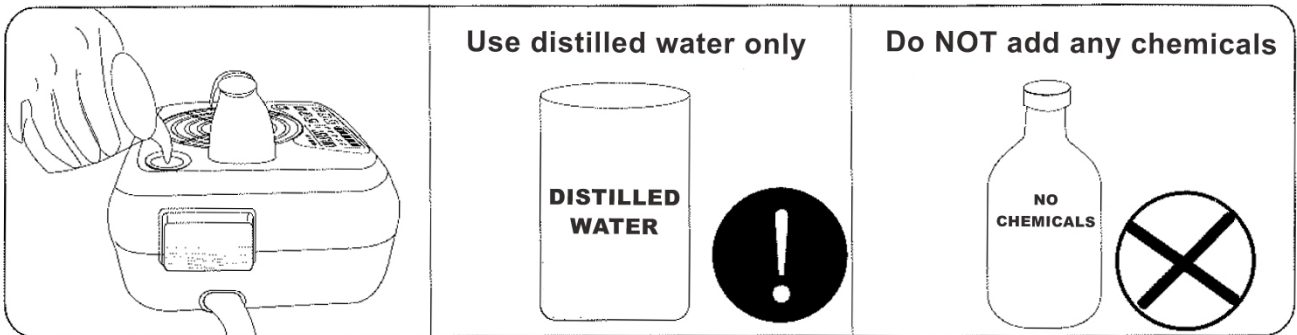
Connecting the water hose to the pump and pad



THE CONTROL PANEL



FILLING THE RESERVOIR



For best results, Engler recommends using only distilled water.

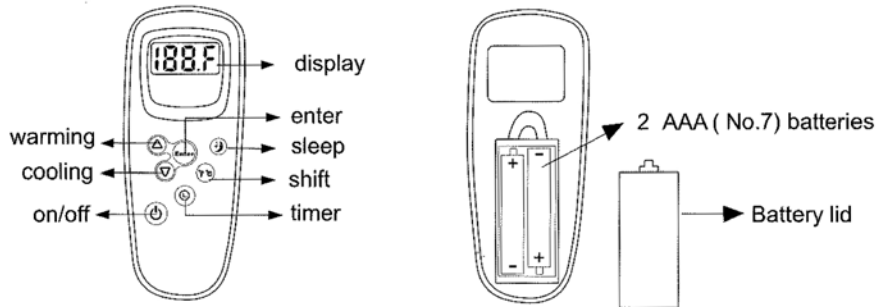
Remove the reservoir cover. Using the sight glass as a guide, fill the reservoir with clean distilled water. Take care not to overfill.

Should the reservoir drop to 2/3, a **WARNING LIGHT** will illuminate on the **CONTROL PANEL**. Refill the reservoir.

NOTE: Do not allow water into the circulator unit. Water in the circulator can damage the pump and void the warranty. **DO NOT** fill the reservoir with anything but water.

UNDERSTANDING THE CONTROLS

CONTROL UNIT / REMOTE OPERATION



Control unit/remote control operation



Control unit marks and light.

Control unit marks and light.							
stop state	water warning	power	timer	warming	cooling	shift	sleeping mode

On / Off - This button turns the circulator on or off.

Up / Down - Confirm the reservoir is full. Turn the circulator on. Press the Up / Down button to set the temperature

Moon – Sleep mode

F / C - Shift between Fahrenheit and Celsius

Timer – When off, use the TIMER button to set the amount of time the circulator will run, from 1 to 12 hours. Set the number of hours then press ENTER. The circulator will sound a beep. To cancel, adjust the TIMER button to 00, then press ENTER to confirm.

When the circulator is running, press the TIMER button to select the amount of time until shutdown. Press the TIMER button, select the number of hours, from 1 to 12. The circulator will sound a beep, then press ENTER. To cancel, adjust the TIMER button to 00, then press ENTER to confirm.

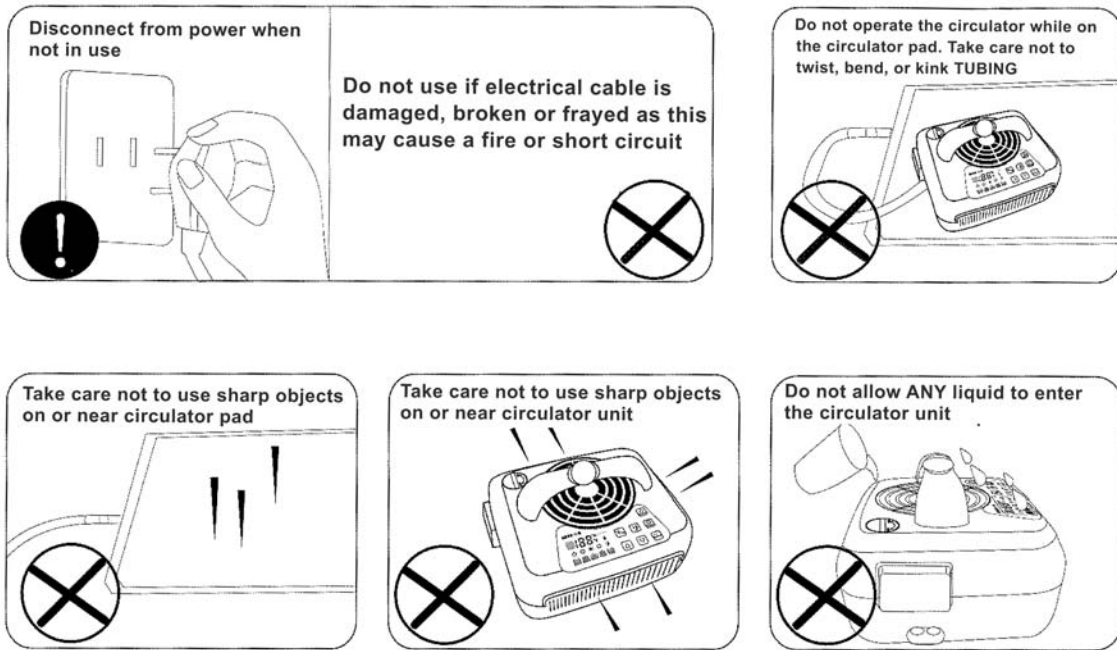
PAIRING THE REMOTE CONTROL TO THE ENGLER WARM WATER CIRCULATOR

Pair the remote control to the Engler Warm Water Circulator as follows:

1. Confirm that the remote control unit has fresh batteries.
2. Unplug the power cord of the Engler Warm Water Circulator from the electric outlet.
3. Plug the Warm Water Circulator unit back in, then press the temperature down button (▼) and hold it until numbers appear on the display. This only takes a few seconds. (These numbers are random and can be ignored.)
4. At the same time press both "Up" and "Down" buttons on the remote control. A temperature value will appear on the remote's display and the "Heating" icon will appear on the screen of the Warm Water Circulator;
5. Press the "ON / OFF" button on the Warm Water Circulator to restart it;
6. Press any key on the remote control.

Each remote control can only be paired with one Circulator. To use the remote for another Circulator, it will be necessary to perform the above steps for that unit as well.

USAGE NOTES AND “DO’S AND DON’TS”



Disengage the **TUBING** from the circulator by pressing the **QUICK DISCONNECT** button under the circulator.

Keep the area around the circulator clear by at least 6” all around for proper air circulation.

Disconnect from power and drain water when not in use.

Do not operate the circulator while placed on the circulator pad.

Take care not to twist, bend, or kink **TUBING**.

Take care not to use sharp objects on or near the circulator or circulator pad. Punctures are NOT covered by the warranty.

Do not fill the reservoir with ANY liquid other than distilled water.

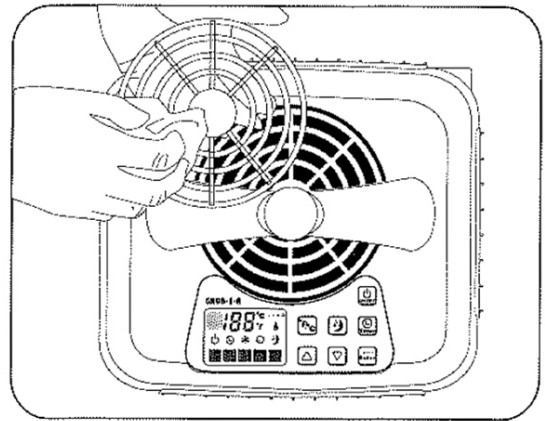
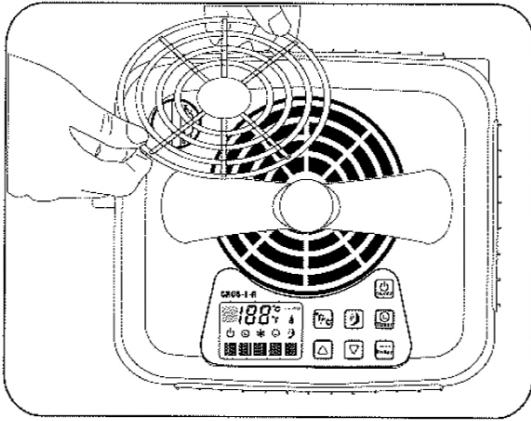
Note:

Temperatures above 100°F can give 3rd degree burns a patient. It is recommended that a thick towel or blanket be used to prevent direct patient contact with the vinyl pad. Engler Engineering offers a **Fleece Bag** in all three sizes to fit the pads. They are designed to prevent direct patient contact with the pad and prevents scratches and punctures due to sharp nails or instruments.

Smaller circulator pads heat up more quickly than larger pads. Larger pads may not achieve maximum temperature due to it's large size. (this is normal and hyperthermia is prevented)

The highest set temperatures (118°) may not be reached due to ambient temperature variations.

MAINTENANCE



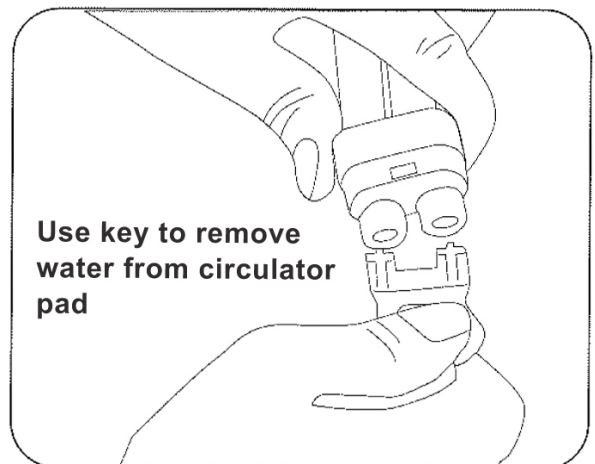
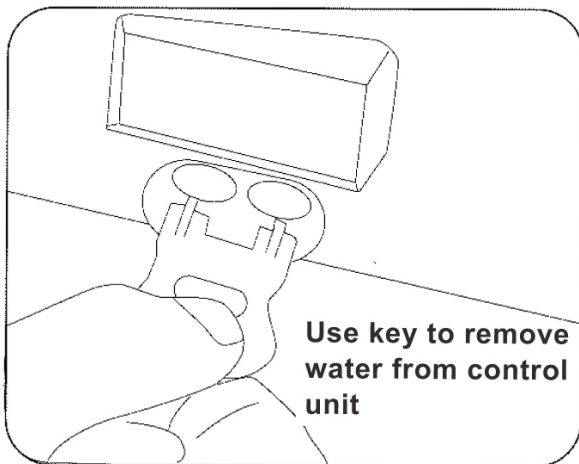
Keep the circulator clean. Wipe down with a clean damp cloth. Do not use strong chemicals to clean the circulator. Chemicals and harsh solutions may damage the finish on the circulator unit / keypad thus voiding the warranty.

Should the circulator accumulate dust or dirt around the fan intake, remove the fan cover to wash, then dry. Replace the fan cover when dry.

Every Engler Warm Water Circulator comes equipped with a special plastic “key” for allowing water to be drained from the circulator unit and / or circulator pad.

It will be necessary to replace the water in the circulator from time to time. If dirt or deposits get into the circulator or if the inside of the sight glass becomes dirty. Use the key to drain the circulator unit. Replace the old water with fresh water and let it circulate (with the pad) for a few minutes. Then drain both using the key. Fill with fresh distilled water. The circulator is ready for use.

The circulator reservoir and pad should always be drained before storage.



TROUBLESHOOTING

<u>PROBLEM</u>	<u>POSSIBLE REASON</u>	<u>SOLUTION</u>
Does not start	Not plugged in Blown fuse	Plug circulator into an active receptacle. Replace fuse
LEDs are on but unit does not run.	Lack of water	Add distilled water.
Remote does not work.	Batteries are dead	Replace batteries in the remote. Pair Remote to Circulator
Not warming properly / making noise	Water level low	Add distilled water if low. Heat exchanger may be dirty. Remove fan cover to clean, the intake or exhaust may be blocked. Pad size (Large pad may not achieve max temp.)

- Blows fuses frequently.
- Water or some other foreign substance got into circulator unit.
- Circulator unit emitting an unusual smell

If these conditions occur, unplug the circulator and call Engler Engineering Corp.
305-688-8581 or 800-445-8581

PARTS AND ACCESSORIES INCLUDED WITH THIS SHIPMENT

- 1 - 110 Volt Circulator Unit
- 1 – Circulator tubing
- 1 - Plastic water release Key
- 1 - Remote Control

ENGLER WATER CIRCULATOR WARMING PUMP SPECIFICATIONS

Dimensions of Circulator:	11”(W) X 9”(D) X 7”(H)
Weight:	7.5 lbs.
Water Line Length:	5'
Voltage / Hz:	110 Volt / 50 ~ 60 Hz
Wattage @ start-up (Heating):	200 Watts ± 10%
Wattage while running (Heating):	180 Watts ± 10%
Wattage @ start-up (Cooling):	180 Watts ± 10%
Wattage while running (Cooling):	80 Watts ± 10%
Noise:	<45db
Temperature Range:	Ambient to approx.118°F
Shipping Weight:	10 lbs.
Shipping Dimensions:	14”(W) X 11.5”(D) X 9”(H)

PLEASE READ VERY CAREFULLY

Engler Engineering Corporation (EEC) makes every effort to verify that all parts for this device including any optional accessories ordered with it are included in this shipment. It is imperative that you inspect the package and if you find any parts damaged or missing, you must notify us immediately. Claims for damaged or missing parts will only be accepted within five days of receipt.

EEC makes every effort to verify that our devices are built and tested to approved standards. Any modification to the device, hoses or power supply initiated by others nullifies all warranty statements. Engler Engineering Corporation will not be held liable in any way, for any damage, injury or death due to non-authorized service, improper installation, or improper use of this device. EEC's liability will not exceed the purchase price of this machine.

The information contained herein is intended only as a guide. Individuals not properly trained should not use this equipment. It is intended for professional use only

Engler Engineering Corporation
1099 East 47 Street Hialeah Florida 33013 USA
305-688-8581 / 800-445-8581
www.engler411.com / www.dynaxusa.com