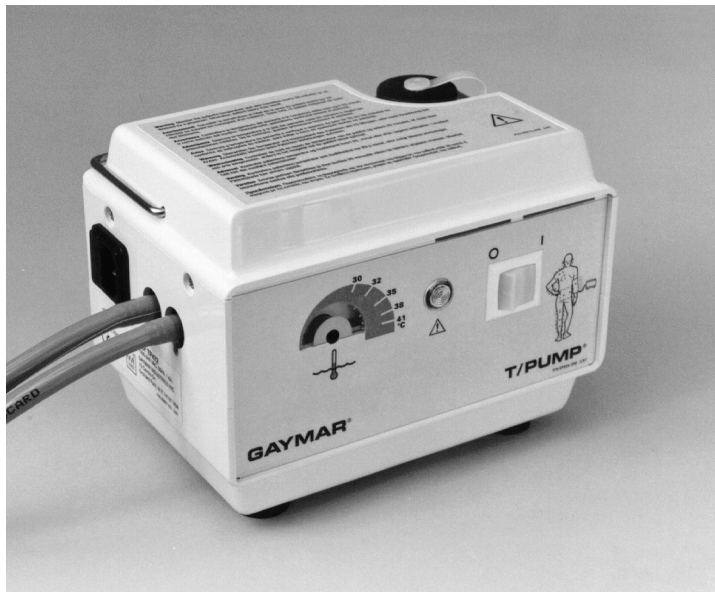


# **T/PUMP®**

**REFTP472—Heat Therapy System**  
**RÉFTP472—Système de thermothérapie**  
**REFTP472—Sistema di terapia a calore**  
**REFTP472—Sistema de terapia por calor**  
**REFTP472—Sistema de Tratamento Térmico**  
**REFTP472—Wärmetherapiesystem**  
**REFTP472—Warmtetherapiesysteem**  
**REFTP472—Varmeterapisystem**  
**REFTP472—Värmeterapisystem**  
**REFTP472—Lämpöhoitojärjestelmä**  
**REFTP472—Σύστημα Θεραπείας με Θερμότητα**



**Operator's Manual**  
**Manuel d'utilisation**  
**Manuale dell'operatore**  
**Manual del operador**  
**Manual de operação**  
**Bedienungshandbuch**  
**Bedieningshandboek**  
**Betjeningsvejledning**  
**Innehållsförteckning**  
**Käyttäjän käsikirja**  
**Εγχειρίδιο Λειτουργίας**

**CE**  
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### Before you begin ...

Read and understand this *T/PUMP OPERATOR'S MANUAL* and all *PRECAUTIONS* (see page 3) prior to using the T/Pump.

Only qualified medical service personnel should repair the T/Pump, in accordance with the *TP472 T/Pump Service Manual*. Contact your local dealer or Gaymar's Technical Service Department for assistance:

Telephone: (716) 662-8636  
FAX: (716) 662-0730

### Receiving Inspection

Upon receipt, unpack the T/Pump. Save all packing material. Perform a visual and mechanical inspection for concealed damage. If any damage is found, notify the carrier at once and ask for a written inspection. Photograph any damage and prepare a written record. Failure to do so within 15 days may result in loss of claim.

Contact your local dealer for assistance.

### Symbols used within this manual:



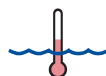
Attention: consult accompanying documents



Dangerous voltage



Recommended operating level (water)



Temperature setting control



Type B equipment

**I.0 Indications for Use**

This physiotherapy device is intended for the treatment of aches and pains in joints and muscles.



**I.1 Safety Precautions**

**DANGER**

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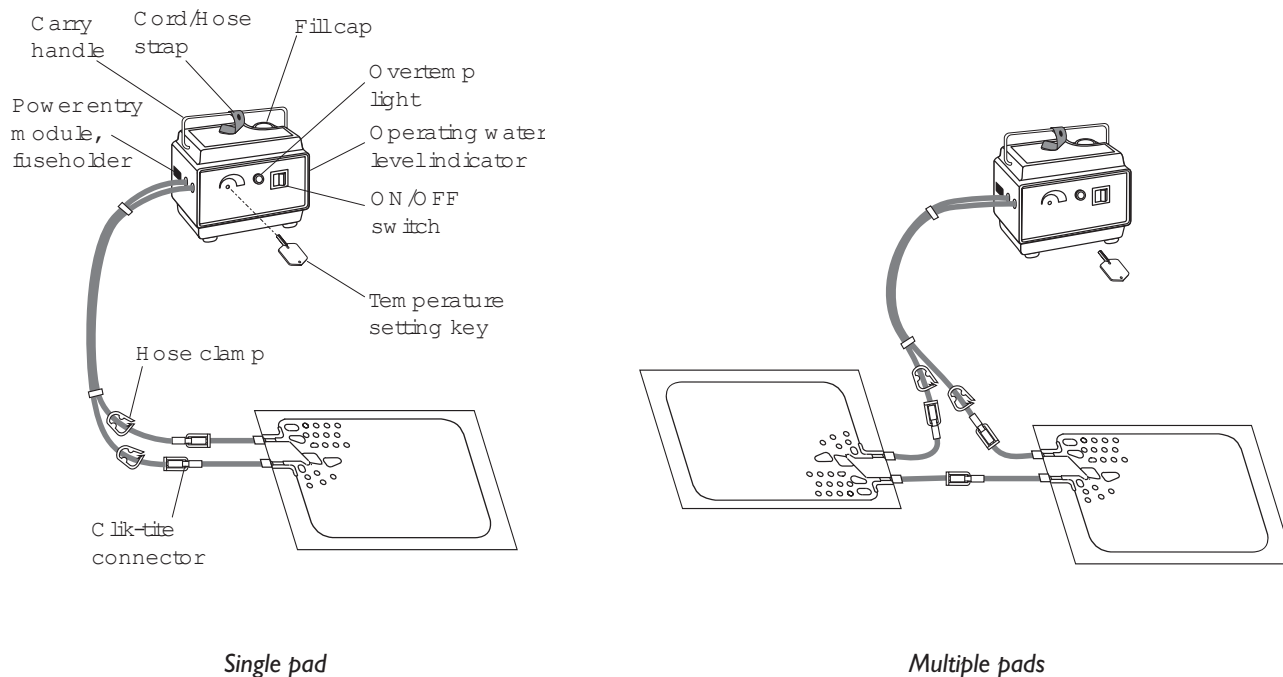
Risk of electric shock.  
No user serviceable parts are inside.

**WARNING**

This device pumps warmed water through a pad. Set pad temperature only as prescribed by and under the guidance of a physician. Monitor the patient's temperature and skin condition every 20 minutes or as directed by a physician. Failure to adhere to these warnings could result in patient injury. The following Groups/Conditions require additional surveillance:

Group/Condition at risk	Potential injury
Pediatric patients	Hyperthermia/ Hypothermia
Patients with impaired circulation	Ischemia
Areas of application are under pressure	Ischemia
In combination with topical solutions whose toxicity may be affected by the application of heat	Chemical injury
In combination with other heat sources	Thermal injury

Repairs should be performed only by qualified medical service personnel in accordance with the *TP472 Service Manual*. Improper repair may result in death or serious injury, equipment damage, or malfunction.



*Figure 1—T/Pump Heat Therapy System*

**2.0 Description**

The Gaymar T/Pump Heat Therapy System provides a means of applying heat therapy by supplying temperature-controlled water through a connector hose to a Gaymar T/Pad. The hose is terminated in easy-to-use Clik-Tite connectors.

The T/Pad provides the interface for delivering the heat therapy. The unique button design allows water to flow and provides trouble-free operation when the pad is folded. The pads are applied to the part of the body requiring heat therapy, and the circulating water maintains the pad at the set point temperature.

The T/Pads can be interconnected to provide therapy to more than one body site at a time.

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### 3.0 Features

Temperature Setpoint	30–41°C; controls the temperature of the water entering the T/Pad; accuracy, $\pm 1^\circ\text{C}$ at 41°C. Key-operated to prevent tampering.
Tip-over Switch	Turns heater off if pump is tipped. NOTE: This does not activate the <i>OVERTEMP</i> light.
<i>OVERTEMP</i> Light	Indicates the pump and heater have been turned off. This light is activated by either of two <i>OVERTEMP</i> safety thermostats. Refer to the <i>TROUBLESHOOTING</i> section.
<i>OVERTEMP</i> Safety Thermostats	Either of two limit thermostats will shut off pump and heater if the water temperature exceeds a safe limit. Refer to <i>TROUBLESHOOTING</i> section.
Water Level Window	Clear window allows viewing of the water level.

### 3.1 Optional Accessories

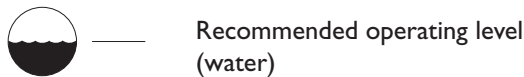
Bed Bracket (model REF TP20A)	Mounts the T/Pump on the footboard of the bed.
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**4.0 Operating Instructions—Start-up**

Use the TP472 T/Pump only with Gaymar T/Pads or Mul•T•Pads. Contact your dealer for a list of available Gaymar pads.

1. Before filling, always attach a T/Pad to the connector hose on the T/Pump or connect ends of the T/Pump hose together (see fig. 2). Unkink pad and hose. Open hose clamps.
2. Fill the pump with room temperature (i.e., not hot) **distilled water** to the operating level indicated on the side of the pump:



**NOTE: Using tap water will decrease the life of the pump.**



3. Insert temperature setting key. Set temperature as prescribed by the physician. Remove key to prevent tampering.
4. Plug T/Pump into a properly grounded outlet.
5. Turn on the power switch. The selected water temperature will be reached in approximately 20 minutes.
6. If the water level drops below the operating level, add water. **Do not overfill. Overfilling can result in reduced pump motor life.**
7. Apply T/Pad to the patient. Follow T/Pad instructions.
8. For specified performance, keep the pump at or above the level of the pad.
9. If the pump is placed below the pad(s), water will drain into the pump when it is shut off. If the pump has been overfilled or if multiple pads are connected, excess water can leak out onto the floor or fill the reservoir and cause reduced motor life.

**4.1 Operating Instructions—Shutdown**

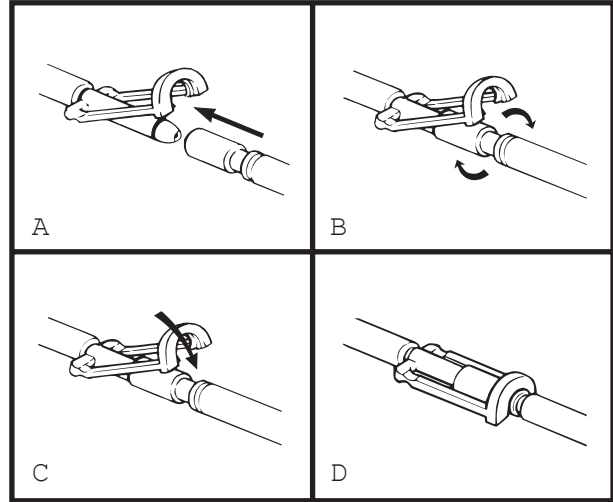


Figure 2—Clik-Tite® Connectors

1. Turn off pump before disconnecting pad. Close hose clamps.  
To prevent water spillage, always disconnect pad from pump with connectors raised above the level of the pad and pump.
2. Connect the T/Pad Clik-Tite connectors together.
3. Connect the ends of the connector hose together.

## 5.0 Cleaning

Clean outer surfaces of the T/Pump with a damp cloth and soapy water.

To clean the fluid system, prepare a germicidal solution according to the manufacturer's instructions. Use GAYMAR catalog REF MTA33. Drain the pump. Fill the reservoir to the operating level indicated on the side of the pump. Set the temperature indicator to its lowest setting (fully counterclockwise), start the T/Pump, and circulate the solution for one hour. Drain the solution and refill the pump with distilled water.

Change the distilled water monthly or more often depending upon use.

## 6.0 Storage (Short term)

Disconnect pad. Connect ends of the connector hose together. Open hose clamps. Leave water in the reservoir. To prevent hose kinks, coil the hose rather than folding it. Fasten the hose and cord with strap.

### 6.1 Storage (Long term)

Disconnect pad. Connect ends of the connector hose together. Open hose clamps. Add  $\frac{1}{4}$  ounce GAYMAR MTA33 germicidal concentrate to water already in reservoir. Run for two (2) minutes. Drain pump. To prevent hose kinks, coil the hose rather than folding it. Fasten the hose and cord with strap and store pump.

### 6.2 Draining


Disconnect the T/Pump from power source. Disconnect the pad or hoses from one another, keeping hoses at or above the level of the T/Pump. Remove the fill cap and invert the T/Pump over a sink. When all fluid has drained from the hoses and reservoir, replace the fill cap and connect the hose ends together.

**7.0 Troubleshooting/Maintenance**

PROBLEM	POSSIBLE CAUSE	REMEDY
"OVER TEMP" light is on.	1- Pad or hose is kinked. Hose clamps are closed.	Unkink pad or hose. Turn switch off, unplug pump, and empty water. Open hose clamps. Refill with room temperature distilled water to proper level. Plug T/Pump in, turn switch on, and wait 40 minutes.
	2- Water level is low, or reservoir is empty.	
	3- T/Pump is filled with water that is too hot (it must be below 24°C).	
T/Pump will not heat.	T/Pump is tipped.	Place T/Pump on level surface.
T/Pump will not pump.	Water level is low, or reservoir is empty.	Fill with room temperature distilled water to proper level.
T/Pump will not turn on.	Fuse blown.	Remove T/Pump from use. Refer to qualified medical equipment service personnel.
Water leaks from Clik-Tite connector on pump.	The T/Pump must always be connected to a T/Pad or the hose ends must be joined together to prevent water leakage. If the connector leaks, check for:	
	1- Damaged O ring.	If defective, replace Clik-Tite connector.
	2- Locking ring on Clik-Tite connector is not snapped into place (see fig. 2).	Snap Clik-Tite locking ring shut.

If problem persists, remove pump for servicing.

**8.0 Preventive Maintenance/Service**

 <b>CAUTION</b>
<p>Only qualified medical equipment service personnel should repair the T/Pump. Improper repair may result in death or serious injury, equipment damage, or malfunction.</p>


Perform the following Preventive Maintenance and Service procedures as described in the *T/PUMP SERVICE MANUAL*\*:

- Oil the pump motor every 6 months.
- Perform the *FUNCTIONAL CHECK AND SAFETY INSPECTION* every 6 months and after making repairs.

\* Contact your local dealer for a copy of the *T/PUMP SERVICE MANUAL*.



## 9.0 Technical Specifications

Reservoir capacity	1500 ml maximum
Detachable power cord	Use only an international (harmonized) 3-wire cordset using cordage approved to HD-21 conductor size 1.00 mm <sup>2</sup> (H05VVf3G1.00)
Fuses	5 x 20 mm, 1.6 A, 250 V, time lag, low break capacity
Voltage	~220–240 V
Frequency	50 Hz
Current	1.6 A
Capacity	250 W
Ambient operating temperature	15.6°C to 32.2°C
Storage temperature	-35°C to +71°C
Classification	Type B, Class I, grounded equipment suitable for continuous operation. Not classified for protection against harmful ingress of liquid.
 IPXO	

## 10.0 Warranty

The TP472 T/Pump is warranted free of defects in material and workmanship for a period of one (1) year. The pump and pads are warranted under the terms and conditions of the Gaymar warranty in place at the time of purchase. A copy of the warranty is available upon request. Gaymar disclaims all implied warranties including, but not limited to, the implied warranties of merchantability and of fitness for a particular purpose.



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T/PUMPS® AND T/PADS®  
ARE MADE IN THE USA