

**Danniflex 480 CPM**  
Technical & Service Manual

December 1998



*Registered to ISO 9001 for Quality Assurance*

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## 1.0 General Overview

### 1.1 Introduction

The Danniflex 480 Continuous Passive Motion (CPM) system is designed for the rehabilitation of the lower limb. The 480 offers changeable thigh and calf components allowing pediatric use. The purpose of this manual is to provide basic maintenance, repair and service instructions for the Danniflex 480 CPM system.

### 1.2 Safety Precautions

When using your CPM, to reduce the risk of fire, electric shock and injury to persons, basic safety precautions should always be observed, including the following:

1. Read and understand all instructions.
2. Follow all warnings and instructions marked on the product.
3. Use only OrthoLogic parts for repair and/or replacement.
4. Never use parts from other manufacturers' units even though they may seem to fit.
5. Never install the wall transformer in wet locations.
6. Never touch uninsulated transformer wires, or terminals, unless the transformer has been unplugged from the wall.
7. Unplug the 480 product from the wall outlet before cleaning. Do not use liquid cleaners or aerosol cleaners. Use a damp cloth for cleaning.
8. Do not use this product near water.
9. Do not place this product on an unstable cart, stand, or table. The product may fall causing serious injury to the patient or damage to the CPM.
10. This product should be operated only from the type of power source indicated on the marking label. If you are not sure of the type of power supply, consult your OrthoLogic representative or local power company.
11. Do not allow anything to rest on the power cord. Do not locate this product where the cord will become damaged.
12. Do not overload wall outlets or use extension cords as this may result in the risk of fire or electric shock.
13. Never insert objects into the drive unit casing as they may touch dangerous voltage points or short out parts that could result in a risk of fire or electric shock.
14. To reduce the risk of electric shock, do not disassemble this product, but take it to a qualified serviceperson when service or repair work is required. Opening or removing covers may expose you to dangerous voltages or other risks. Incorrect re-assembly can cause electric shock when the unit is subsequently plugged in.

15. If at any time during therapy the patient experiences extreme pain or discomfort, stop therapy and consult their physician.
16. Unplug the product from the wall outlet and refer servicing to qualified personnel under the following conditions:
  - a. If the power supply cord is damaged or frayed.
  - b. If liquid had been spilled into the product.
  - c. If the product has been exposed to rain or water.
  - d. If the product has been dropped or the unit casing has been damaged.
  - e. If the product exhibits a distinct change in performance.
  - f. If the product does not operate normally by following the operating instructions.
17. Adjust only those controls that are covered by the operating instructions.
18. Patient Safety: Patients must be advised to keep clear of moving parts. The unit is designed to force-reverse if an obstruction is under the cradle; however, a patient could experience pain or be injured by the downward pressure of the cradle if a body part is positioned under the cradle.

### 1.3 Specifications and Symbols

Weight	Approximately 24 lbs. (11 kg)	
Range of Motion	-5 degrees extension to 110 degrees flexion	
Safety	UL listed, ECE certified where applicable	
Power Supply	Type 2	
Input	120 VAC 60 Hz or 230 VAC 0.06A-50 Hz	
Output	14 VDC 730 MA or 14 VDC 730 MA	
Pause	0-30 seconds at maximum extension/flexion	
NMES	Compatible with various NMES devices	
Speed	1 to 10 minutes per cycle	
Classification	Class 1 medical device	
Electric shock classification	Type B	
Mode of operation	continuous	
Environmental conditions	-10 <sup>o</sup> to 35 <sup>o</sup> temperature, 90% max. humidity ATM pressure 750 kPa to 1040 kPa	
Limb length	30.5 - 42 in. (77 - 107 cm)	19.5 - 34.5 in. (50 - 88 cm)
Calf length	16.5 - 24 in. (43 - 61 cm)	9.5 - 18.5 in. (24 - 47 cm)
Thigh length	14 - 18 in. (36 - 46 cm)	10 - 16 in. (25 - 41 cm)