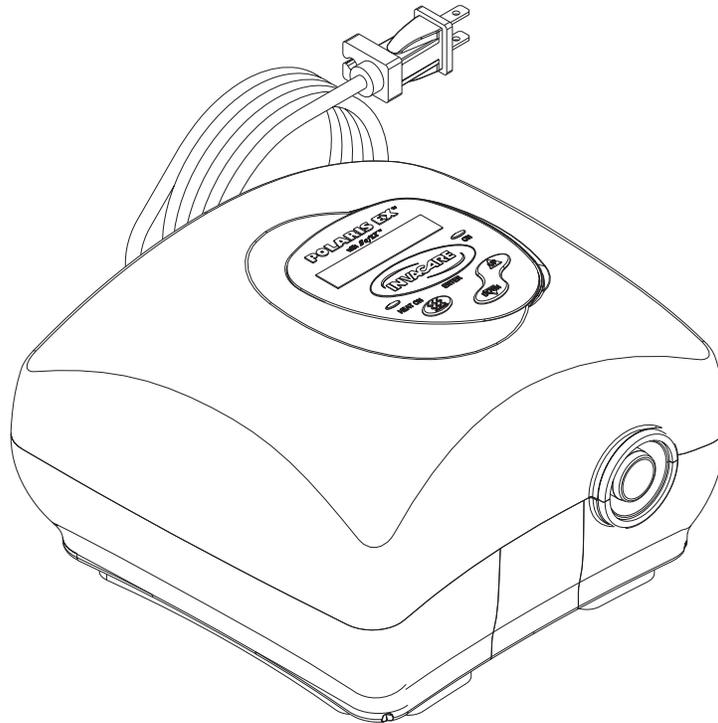


# Operator's Manual

**Invacare<sup>®</sup> Polaris<sup>™</sup> EX<sup>™</sup>**

**CPAP with SoftX<sup>™</sup>**

**Model number: ISP3000**



**USER:** Before using the CPAP, read this manual and save for future reference.

**DEALER:** This manual must be given to the end user.

**For more information regarding  
Invacare products, parts, and services,  
please visit [www.invacare.com](http://www.invacare.com)**



**Yes, you can.<sup>®</sup>**

## SPECIAL NOTES

SIGNAL WORD	MEANING
DANGER	Danger indicates an imminently hazardous situation which, if not avoided, will result in death or serious injury.
WARNING	Warning indicates a potentially hazardous situation which, if not avoided, could result in death or serious injury.
CAUTION	Caution indicates a potentially hazardous situation which, if not avoided, may result in property damage.

---

### NOTICE

The information contained in this document is subject to change without notice.

---

### **WARNING**

**DO NOT OPERATE THIS EQUIPMENT WITHOUT FIRST READING AND UNDERSTANDING THIS MANUAL. IF YOU ARE UNABLE TO UNDERSTAND THE WARNINGS, CAUTIONS, AND INSTRUCTIONS, CONTACT YOUR HOME HEALTHCARE PROVIDER OR INVACARE TECHNICAL SERVICES BEFORE ATTEMPTING TO USE THIS EQUIPMENT - OTHERWISE SERIOUS INJURY OR PROPERTY DAMAGE MAY RESULT.**

**Invacare products are specifically designed and manufactured for use in conjunction with invacare accessories. accessories designed by other manufacturers have not been tested by invacare and are not recommended for use with invacare products.**

---

*NOTE: Updated versions of this manual are available on [www.invacare.com](http://www.invacare.com).*

---

# TABLE OF CONTENTS

<b>SPECIAL NOTES .....</b>	<b>2</b>
<b>SECTION 1—GENERAL GUIDELINES .....</b>	<b>5</b>
Oxygen Use Warnings .....	6
Humidifier Use Warnings.....	6
Temperature Warnings .....	7
Radio Frequency Interference.....	7
<b>SECTION 2—FEATURES .....</b>	<b>12</b>
<b>SECTION 3—TYPICAL PRODUCT PARAMETERS .....</b>	<b>13</b>
<b>SECTION 4—INTRODUCTION .....</b>	<b>15</b>
Indications For Use.....	15
How CPAP Treatment Works .....	15
How SoftX Works.....	16
How To Increase Comfort During CPAP Treatment.....	17
Contra-indications.....	18
<b>SECTION 5—INITIAL SETUP .....</b>	<b>20</b>
<b>SECTION 6—CONTROL PANEL .....</b>	<b>25</b>
<b>SECTION 7—OPERATION .....</b>	<b>26</b>
Preparing for Treatment.....	26
Taking the Treatment.....	27
Treatment Using Therapy Mode.....	27
Optional Ramp Therapy Delay Time Feature.....	28
Changing the RAMP Timer.....	29
Changing the SoftX Setting.....	30
Treatment Using Supplemental Oxygen.....	31
After the Treatment.....	32
<b>SECTION 8—TRAVELING INFORMATION .....</b>	<b>33</b>
Adjusting the Altitude Setting.....	33

---

# TABLE OF CONTENTS

<b>SECTION 9—MAINTENANCE .....</b>	<b>35</b>
Daily Cleaning .....	35
Periodic Cleaning.....	36
Cleaning/Replacing the Air Filter .....	36
<b>SECTION 10—ACCESSORIES .....</b>	<b>38</b>
<b>SECTION 11—TROUBLESHOOTING .....</b>	<b>39</b>
<b>LIMITED WARRANTY .....</b>	<b>42</b>

## SECTION I—GENERAL GUIDELINES

To ensure the safe operation of the Invacare Polaris EX, the instructions in this manual **MUST** be followed.

---

### **⚠ WARNING**

**SECTION I - GENERAL GUIDELINES** contains important information for the safe operation and use of this product. **DO NOT** use this product or any available optional equipment without first completely reading and understanding these instructions and any additional instructional material such as **Owner's Manuals, Service Manuals or Instruction Sheets** supplied with this product or optional equipment. If you are unable to understand the **Warnings, Cautions or Instructions**, contact a healthcare professional, dealer or technical personnel before attempting to use this equipment - otherwise, injury or damage may occur.

---

THIS IS NOT A LIFE SUPPORT DEVICE. It may stop operating with a power interruption or if a fault occurs in the product.

A mask **MUST** be worn during treatment.

The entire mask system, including the air tubing, is intended for single patient use. **NEVER** share a mask system with another patient.

U.S. federal law restricts this device to sale by or on the order of a physician.

The Invacare Polaris EX CPAP system with SoftX **MUST** be set up and adjusted by an appropriate professional before it can be used.

This device is intended for adult use only.

**DO NOT** expose the air tubing to direct sunlight as the tubing may harden over time and eventually crack.

Exposure to tobacco smoke may result in malfunction due to tar accumulating in the unit.

NEVER block the inlet filter. Be sure that all curtains, bedclothes, sheets, etc., remain clear of the inlet filter.

The power cord should be inspected regularly for damage. If damaged, call qualified service personnel for examination and repair before using the device.

DO NOT pinch or kink the power cord between furniture.

DO NOT use the Polaris EX CPAP unit if the LCD window display is erratic. If faulty, contact your home healthcare provider IMMEDIATELY.

If any signs of malfunction are present, such as a change in sound, reduction in air flow, odor accompanying air flow, limited or lack of response to breathing effort, etc., discontinue use and contact your home healthcare provider.

EXPLOSION HAZARD - This equipment is not suitable for use in the presence of a flammable anesthetic mixture with air or with oxygen or nitrous oxide.

### **Oxygen Use Warnings**

Oxygen is a prescription gas and should be used under the supervision/direction of a physician. Oxygen can be administered if ordered by a physician. Your home healthcare provider can adapt your system for oxygen administration. Refer to the oxygen system user manual and observe all cautions, warnings, and instructions regarding safe use of oxygen.

DO NOT smoke or have an open flame in any room where oxygen is used.

To prevent oxygen accumulation within the device and tubing which may create a risk of fire, the oxygen flow MUST be turned off when the device is not operating.

## Humidifier Use Warnings

Invacare recommends using the Polaris EX Heated Humidifier or the Poseidon™ Passover Humidifier. If using the Poseidon Passover Humidifier or a humidifier not manufactured by Invacare, it **MUST** be placed at a level below the level of the Polaris EX CPAP unit. This will prevent accidental drainage of water into the unit, which could result in electrical shock or unit malfunction.

When not in use, water reservoirs should be disconnected from the unit. Refer to recommended cleaning instructions in the cleaning procedure in this manual.

If a heated humidifier is used, **DO NOT** use high temperature settings which may result in water accumulation in the tubing. This condition may cause improper operation of the equipment.

If a humidifier, other than those recommended by Invacare, is connected to the Polaris EX CPAP unit, the patient circuit pressure may be different from the therapeutic pressure, consequently, reducing the effectiveness of treatment.

## Temperature Warnings

**DO NOT** operate the Polaris EX CPAP unit if it has been exposed to very hot or very cold temperatures. Allow the unit to adjust to room temperature before using.

**DO NOT** place the unit near heating or cooling sources such as radiators, forced air vents, electric heaters, or air conditioning outlets.

The breathing air flow temperature produced by this device can be as much as 11°F (6°C) higher than the room temperature. **DO NOT** use this product if the room temperature is warmer than 95°F (35°C).

## Radio Frequency Interference

Most electronic equipment is influenced by Radio Frequency Interference (RFI). CAUTION should be exercised with regard to the use of portable communication equipment in the area around such equipment.

DO NOT use outdoors or operate where aerosol (spray) products are being used.

NEVER block the air openings of the product or place it on a soft surface, such as a bed or couch, where the air openings may be blocked. Keep the air openings free from lint, hair, and the like. Blocked openings may cause the unit to shut down. If the unit shuts down, contact your home healthcare provider IMMEDIATELY.

---

### **⚠ WARNING**

#### **TO REDUCE THE RISK OF FIRE, BURNS, ELECTROCUTION, OR INJURY TO PERSONS:**

NEVER use attachments other than those recommended by the manufacturer. Use this product only for its intended use as described in this manual. Use this product only under a physician's direction.

NEVER immerse the unit in water or any other liquid.

NEVER operate this product with a damaged cord or plug. If it is not working properly, if it has been dropped or damaged, or dropped in water, return the product to a service center for examination and repair.

NEVER place the power cord near or in contact with HEATED or HOT surfaces.

ALWAYS disconnect the power cord plug before cleaning.

NEVER drop or insert any object into any opening or hose.

NEVER lubricate. This unit is oil-less.

**⚠ DANGER**

**TO REDUCE THE RISK OF ELECTROCUTION:**

NEVER use while bathing.

NEVER place or store product where it can fall or be pulled into a tub or sink.

NEVER place or drop into water or other liquid.

NEVER reach for product that has fallen into water. UNPLUG IMMEDIATELY.

NEVER disassemble. Risk of electric shock. Refer servicing to qualified service personnel.

---

**⚠ SPECIFIC TREATMENT WARNINGS**

The use of aromatic additives such as eucalyptus oil, tea tree oil, or mentholated ointments may cause deterioration of the mask system. NEVER use ointments when oxygen is in use.

If any of the symptoms of Obstructive Sleep Apnea (OSA) reoccur during the course of your CPAP treatment, consult your physician.

If you are admitted to a hospital or are prescribed any other form of medical treatment, ALWAYS inform the medical staff that you are being treated for Obstructive Sleep Apnea (OSA) with a nasal CPAP system. Make sure that your Obstructive Sleep Apnea (OSA) treatment physician is contacted.

DO NOT stop your CPAP treatment without consulting your physician.

If you experience any of the following symptoms during the course of your CPAP treatment, consult your physician IMMEDIATELY:

- Headache
- Chest pain

## SECTION I—GENERAL GUIDELINES

---

- Middle ear or sinus discomfort
- Air continually leaking out of the mouth while sleeping.
- Feeling slightly bloated. Using the delay timer may help, but contact your physician if symptoms persist.
- Dryness of the nose, mouth, or throat. The use of a humidifier may help. Contact your physician or home healthcare provider regarding the types of humidifiers that can be used with the Polaris EX CPAP unit.

If you experience an infection of the upper respiratory tract, middle ear, or sinus, you should consult your physician before continuing your CPAP treatment.

You may experience sneezing, a runny nose or nasal obstruction, especially during the first few weeks of using your nasal CPAP system. Consult your physician for advice.

Skin irritation may occur from sensitivity to the material in the mask or from too much tension in the headgear straps. A correctly fitted mask and headgear straps will often prevent skin irritation. If problems persist, contact your physician or home healthcare provider for advice.

Explanation of the Warning: This CPAP machine is intended to be used with special masks (or connectors)\* which have vent holes to allow continuous flow of air out of the mask. When the CPAP machine is turned on and functioning properly, new air from the CPAP machine flushes the exhaled air out through the mask vent hole. However, when the CPAP machine is not operating, enough fresh air will not be provided through the mask, and exhaled air may be rebreathed. Rebreathing of exhaled air for longer than several minutes can in some circumstances lead to suffocation. This warning applies to most models of CPAP machines.

\* Ports may be incorporated in the mask or in connectors that are near the mask.

At low pressures, the flow through the exhalation ports may be inadequate to clear all exhaled air from the tubing. Some rebreathing may occur.

Positive airway pressure devices may allow rebreathing of exhaled air. To avoid rebreathing, the following should be observed:

- The mask should only be worn when it is connected to the CPAP unit and the unit is turned on with the therapy mode activated.
- DO NOT block, seal, or cover the exhalation ports of your mask.

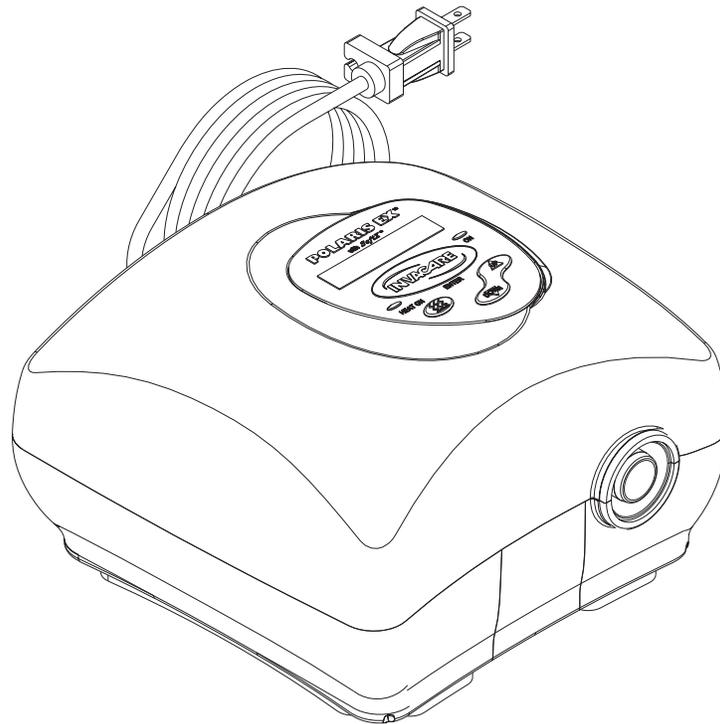
## SECTION 2—FEATURES

*NOTE: For this procedure, refer to FIGURE 2.1.*

*NOTE: Check all parts and components for shipping damage. If the device or any of the system components are missing or damaged, DO NOT use. Contact your home healthcare provider for further instructions.*

Refer to Accessories on page 38, for details, accessories and replacement parts available for use with the Polaris EX CPAP system.

*NOTE: A mask and headgear are needed in order to use this system.*



**FIGURE 2.1 Polaris EX CPAP Unit**

## SECTION 3—TYPICAL PRODUCT PARAMETERS

SYMBOL IDENTIFICATION	
	Attention – Consult accompanying documents
	Class II equipment, Double Insulation
	Alternating Current (AC)
	Ramp (Therapy Delay Timer) indicator
PERFORMANCE Operating Pressure Range: RAMP (Therapy Delay Time):	4–20cm H <sub>2</sub> O 0, 5, 10, 20, and 30 minutes
DIMENSIONS:	5.2”H x 9”W x 8.5”L
WEIGHT:	4.2 lbs
POWER REQUIREMENTS:	120 VAC (60 Hz) 0.4A ISP3000
AIR FILTER Standard Filter:	45–60 ppi foam, reusable
ENVIRONMENTAL LIMITATIONS	
Temperature:	Operating: 50 to 95°F (10 to 35°C) Storage: –4 to 158°F (–20 to 70°C)
Humidity:	Operating: up to 95% RH (non-condensing) Storage: up to 95% RH (non-condensing)
Altitude:	–300 to 6,000ft. (–91 to 1830m)
AIR TUBING Construction: Length:	Smooth bore flexible plastic 6ft. (2m approx.) (22mm ID)

## SECTION 3—TYPICAL PRODUCT PARAMETERS

---

REGULATORY COMPLIANCE	ETL approval as complying with: USA UL1431 Personal Hygiene and Health Care appliances UL1097
-----------------------	---

*NOTE: The manufacturer reserves the right to change these specifications without notice*

## SECTION 4—INTRODUCTION

### Indications For Use

---

#### **WARNING**

**THIS IS NOT A LIFE SUPPORT DEVICE.** It may stop operating with a power interruption or if a fault occurs in the product.

---

The intended use of the Polaris EX CPAP system is for continuous positive airway pressure treatment of Obstructive Sleep Apnea (OSA) in adults. Your home healthcare provider or clinician will adjust your unit to the correct pressure settings based upon your specific condition and system accessories.

### How CPAP Treatment Works

Obstructive Sleep Apnea, or OSA, is a condition in which the airways become blocked during sleep, reducing the brain's supply of oxygen.

CPAP therapy is a form of positive airway pressure therapy used to treat Obstructive Sleep Apnea (OSA). CPAP therapy uses constant pressure levels to keep the airway open. During CPAP treatment, a flow generator provides air through a mask at a slightly raised pressure which keeps the airway open. An air filter traps dust and airborne particles to provide air that is cleaner than the air in the room to breathe.

The air pressure varies according to individual needs. Your physician will prescribe your set pressure which is determined during a sleep study and set by the sleep center staff or your home healthcare provider.

If you find the initial sensation of pressure uncomfortable while trying to fall asleep you may use the RAMP therapy delay timer. The Polaris EX CPAP system has an adjustable RAMP therapy delay timer feature that allows the air pressure in your mask to gradually increase (ramp) until the set therapy pressure is delivered. If your physician prescribes RAMP therapy, your home healthcare provider will initially set the adjustable RAMP timer either for 0, 5, 10, 20 or 30 minutes.

If you feel that you are no longer getting relief from your initial symptoms of Obstructive Sleep Apnea (OSA), consult your physician.

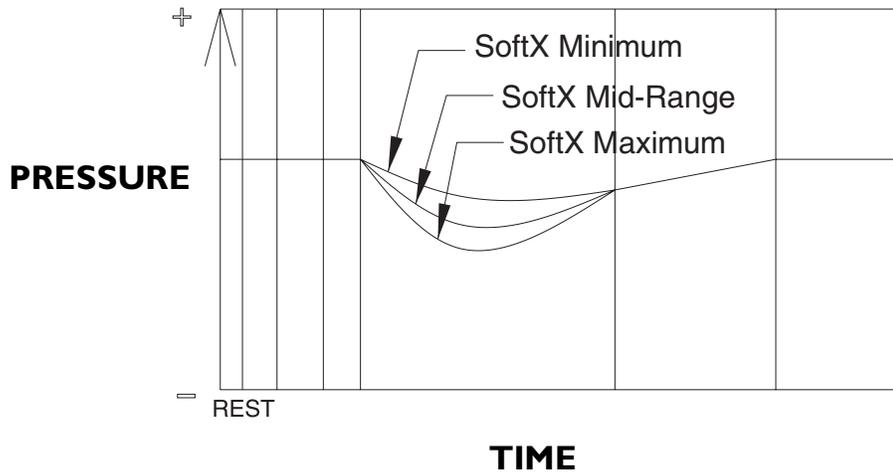
### **How SoftX Works**

*NOTE: For this procedure, refer to FIGURE 4.1.*

SoftX is an innovative technology that makes breathing easier and more comfortable for the user by decreasing the pressure that the patient **MUST** exhale against, while maintaining a substantially constant positive airway pressure (CPAP). By tracking the user's breathing, SoftX is able to determine the end of inhalation. As the user stops breathing in, the flow of air from the Polaris EX CPAP is redirected away from the breathing circuit and mask. The duration of expiratory pressure rise is minimized with SoftX, allowing the user to exhale in a more natural, comfortable fashion. Pressure returns to set therapy and stabilizes prior to the beginning of the next breath.

The Polaris EX CPAP has three (3) SoftX comfort settings. These three (3) settings allow the user to adjust the extent of the pressure drops, with the highest setting resulting in the greatest drop in pressure. This allows the user to choose the amount of pressure relief that offers them the greatest level of comfort.

In addition, the Polaris EX CPAP can be set for standard CPAP operation (no SoftX).



**FIGURE 4.1 Breath Cycle Waveforms with Available SoftX Settings**

## How To Increase Comfort During CPAP Treatment

Some people experience a continuing dryness of the nose, mouth, or throat when using nasal CPAP therapy, particularly during the winter months. Invacare recommends the Invacare Polaris EX Heated Humidifier or the Invacare Poseidon Passover Humidifier to be used with Polaris EX CPAP to relieve these symptoms. You should contact your physician or home healthcare provider for specific advice as to whether or not these are suitable for you.

If you are having continuing problems obtaining a comfortable and secure fit of the mask, you should contact your home healthcare provider.

When nasal CPAP therapy is used for the first time, you will notice an unusual sense of pressure when breathing. Taking a few deep breaths when you start treatment may help you adjust to the sensation.

For proper therapy while wearing the mask, you should keep your mouth closed to prevent air from leaving your mouth. Otherwise, the CPAP unit will increase the air pressure and flow being delivered. This may result in dryness of the nose, mouth, and throat. If you sleep with your mouth open, a chin strap may be used to help keep your mouth closed.

### **Contra-indications**

Nasal continuous positive airway pressure therapy should be used only under the supervision of a licensed physician. The following conditions may contraindicate the use of nasal continuous positive airway pressure therapy for some patients:

1. Pneumothorax
2. Pneumoencephalus
3. Pneumomediastinum
4. Bullous lung disease
5. Untreated cardiac failure
6. Severe hypotension (low blood pressure)
7. Acute sinusitis, otitis media, or perforated ear drum
8. Massive epistaxis or previous history of massive epistaxis (nose bleed)
9. Recent trauma or surgery that may have produced cranionasopharyngeal fistula
10. Existing respiratory failure or insufficiency resulting in potential risk of rebreathing
11. The use of CPAP therapy may be contraindicated when sinus or inner ear infections are present. If these conditions are present, contact your physician regarding the use of CPAP therapy.

The clinician should assess, on a case-by-case basis, the relative risks and benefits of nasal CPAP positive airway pressure therapy for each individual patient. When assessing the relative risks and benefits, the clinician should understand that the Polaris EX CPAP system can deliver pressures up to 20cm H<sub>2</sub>O. Also, in the unlikely event of certain fault conditions, a maximum static pressure of 25cm H<sub>2</sub>O is possible. If this pressure could present risk to a patient, discontinue use of device with patient.

## SECTION 5—INITIAL SETUP

1. Place the unit and accessories in a stable, clean, dry location near a 120 VAC (60 Hz) electric outlet.

---

### **⚠ WARNING**

**DO NOT** leave long lengths of tubing around the top of the bed or pillow. This tubing could twist around your head or neck while sleeping.

---

2. Ensure the Polaris EX CPAP unit is positioned close enough to allow slack in the tubing and that the air filter intake vent at the rear of the unit is not obstructed.
3. Connect one end of the air tubing to the Polaris EX CPAP unit air outlet.

*NOTE: Refer to the mask and headgear instructions for their assembly.*

*NOTE: If a humidifier is prescribed for use, refer to the humidifier manual for assembly instructions.*

4. Plug the Polaris EX CPAP unit power cord into a nearby 120 VAC (60 Hz) power outlet.

*NOTE: DO NOT use extension cords.*

---

### **⚠ WARNING**

**To ensure proper operation of the compliance clock, the Invacare Polaris EX CPAP should be left plugged in for 12 hours after initial programming.**

---

5. If no button has been pressed for 30 seconds, the display intensity will diminish. Pressing any button after the display dims will reactivate the brighter display.

*NOTE: Heated humidifier on/off button reactivates the brighter display only if the heated humidifier is installed.*

Please Seal with  
Tape Before Mailing



## **REGISTER YOUR PRODUCT!**

### **The benefits of registering:**

1. Safeguard your investment.
2. Ensure long term maintenance and servicing of your purchase.
3. Receive updates with product information, maintenance tips, and industry news.
4. Invacare can contact you or your provider, if servicing is needed on your product.
5. It will enable Invacare to improve product designs based on your input and needs.

**Register ONLINE at [www.invacare.com](http://www.invacare.com)**

**- or -**

**Complete form and mail.**

Any registration information you submit will be used by Invacare Corporation only, and protected as required by applicable laws and regulations.

## **PRODUCT REGISTRATION FORM**

---

NAME \_\_\_\_\_

ADDRESS \_\_\_\_\_

CITY \_\_\_\_\_ STATE/PROVINCE \_\_\_\_\_

ZIP/POSTAL CODE \_\_\_\_\_

EMAIL \_\_\_\_\_ PHONE NO. \_\_\_\_\_

INVACARE MODEL NO. \_\_\_\_\_

SERIAL NO. \_\_\_\_\_

PURCHASED FROM \_\_\_\_\_

DATE OF PURCHASE: \_\_\_\_\_

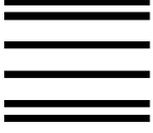
---

1. Method of purchase: (check all that apply)  
 Medicare       Insurance       Medicaid       Other
2. This product was purchased for use by: (check one)  
 Self       Parent       Spouse       Other
3. Product was purchased for use at:  
 Home       Facility       Other
4. I purchased an Invacare product because:  
 Price       Features (list features)
5. Who referred you to Invacare products? (check all that apply)  
 Doctor     Therapist     Friend     Relative     Dealer/Provider     Other  
 Advertisement (circle one): TV, Radio, Magazine, Newspaper       No Referral
6. What additional features, if any, would you like to see on this product?  
\_\_\_\_\_
7. Would you like information sent to you about Invacare products that may be available for a particular medical condition?  Yes  No  
If yes, please list any condition(s) here and we will send you information by email and/or mail about any available Invacare products that may help treat, care for or manage such condition(s):  
\_\_\_\_\_
8. Would you like to receive updated information via email or regular mail about the Invacare home medical products sold by Invacare's dealers?  Yes  No  
\_\_\_\_\_
9. What would you like to see on the Invacare website?  
\_\_\_\_\_
10. Would you like to be part of future online surveys for Invacare products?  Yes  
 No
11. User's Year of birth: \_\_\_\_\_

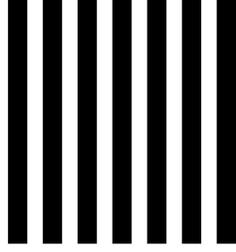
If at any time you wish not to receive future mailings from us, please contact us at Invacare Corporation, CRM Department, 39400 Taylor Parkway, Elyria, OH 44035, or fax to 877-619-7996 and we will remove you from our mailing list.

---

TO FIND MORE INFORMATION ABOUT OUR PRODUCTS, VISIT  
[WWW.INVACARE.COM](http://WWW.INVACARE.COM)



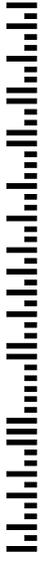
NO POSTAGE  
NECESSARY  
IF MAILED  
IN THE  
UNITED STATES



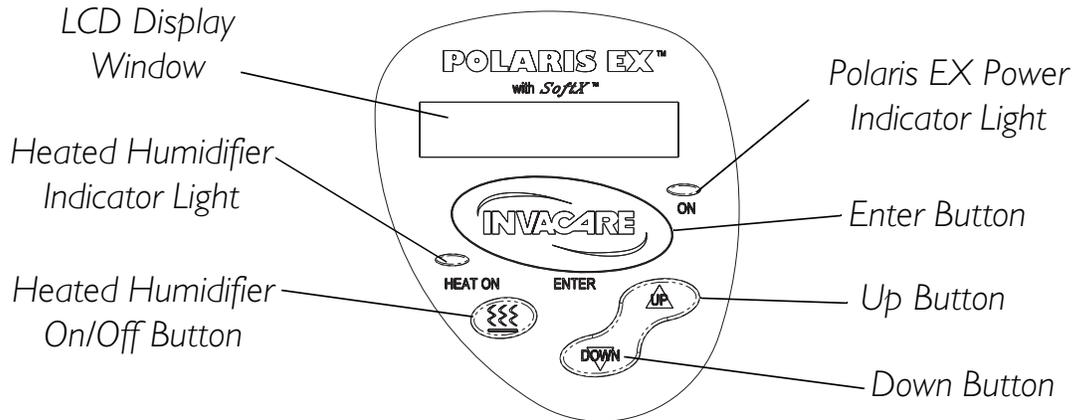
**BUSINESS REPLY MAIL**  
FIRST-CLASS MAIL PERMIT NO. 196 ELYRIA OH

POSTAGE WILL BE PAID BY ADDRESSEE

INVACARE CORPORATION  
CRM DEPARTMENT  
**39400 TAYLOR PARKWAY**  
**ELYRIA OH 44035-9836**



# SECTION 6—CONTROL PANEL



ITEM	SYMBOL	INDICATED FUNCTION
ENTER Button		ENTER OR SELECTION
HEATED HUMIDIFIER Button		HEATED HUMIDIFIER ON/OFF
UP Button		UP OR INCREASE OR YES
DOWN Button		DOWN OR DECREASE OR NO
CPAP Power ON Light	ON	CPAP POWER ON INDICATOR
Heat ON Light	HEAT ON	HEATED HUMIDIFIER ON INDICATOR

## SECTION 7—OPERATION

### Preparing for Treatment

*NOTE: Prior to each use, inspect the CPAP unit, air tubing, and mask for damage, failure, or worn parts. Contact your home healthcare provider if evidence of such is present.*

1. Ensure that the Polaris EX CPAP unit power cord is plugged into a 120 VAC (60 Hz) power outlet.
2. When the Polaris EX CPAP unit is first plugged in:
  - A. The software version number will be displayed on the LCD display window for approximately one (1) second.
  - B. The CPAP will display the current CPAP pressure setting and RAMP Start Pressure for approximately two (2) seconds (display shows pressure units in cm H<sub>2</sub>O).
  - C. “STANDBY” will then appear on the LCD display window.

*NOTE: The CPAP power indicator light will be lit whenever there is power to the CPAP.*

3. If no button has been pressed for 30 seconds, the display intensity will diminish.

---

### **WARNING**

**A mask should NEVER be fully connected to the unit and worn while the CPAP unit is in the STANDBY mode.**

**DO NOT attach the air tubing to the mask before treatment.**

---

---

**⚠ WARNING**

**All masks are equipped with exhalation ports which **MUST NEVER** be blocked. Refer to the mask instructions or your home healthcare provider for further information.**

---

4. Secure the mask with headgear to your face and adjust as needed to ensure a comfortable yet secure fit.

*NOTE: To prolong the life of your particular mask cushion, it is recommended that you wash your face to remove excess facial oils prior to fitting the mask.*

*NOTE: A minor leak around the lower part of the face is sometimes preferable to overtightening the mask. However, any air leaks blowing in the direction of the eyes should be eliminated as this may cause eye irritation.*

5. Rest comfortably in bed and adjust the air tubing by running the air tubing either over the top of the headboard, across your shoulders, or over your chest.
6. Set the final tension of the headgear straps while lying down.

## Taking the Treatment

Proceed to one (1) of the following sections:

- Treatment Using Therapy Mode on page 28.
- Treatment with Optional Ramp Therapy Delay Time Feature on page 28.
- Changing the RAMP Timer on page 29.
- Changing the SoftX Setting on page 30.
- Treatment Using Supplemental Oxygen on page 31.

## Treatment Using Therapy Mode

1. Press the Enter button to enable therapy mode.

*NOTE: The pressure will rise quickly to the set CPAP pressures as prescribed by your physician and set by your home healthcare provider or clinician.*

*NOTE: Pressing the Enter button will alternate "THERAPY" and "STANDBY" modes.*

*NOTE: If a ramp delay other than zero has been previously programmed, pressing the Enter button will change to ramp therapy mode.*

2. Connect the air tubing to the mask and begin therapy.
3. Proceed to the After the Treatment on page 32.

## Optional Ramp Therapy Delay Time Feature

If your physician prescribed a therapy delay (a gradual build up of air pressure while falling asleep) your home healthcare provider will have set the RAMP feature on the Polaris EX CPAP unit. The delay timer can be set to 0, 5, 10, 20 or 30 minutes.

1. While in standby mode press the Enter button to enable the RAMP therapy mode.
2. Upon RAMP therapy mode activation:
  - A. The current CPAP air pressure settings are displayed in the LCD window.
  - B. The RAMP icon ( $\triangle$ ) will be displayed in the LCD window.
  - C. The air pressure delivered by the Polaris EX CPAP unit is reduced and will gradually increase over the duration of the set delay time.
3. Connect the air tubing to the mask and begin therapy.

4. Proceed to the After the Treatment on page 32.

*NOTE: Press the Enter button during treatment to cancel the remaining RAMP therapy delay time and enable therapy mode.*

## Changing the RAMP Timer

---

### **⚠ WARNING**

**NEVER connect and wear a mask system to the CPAP unit while the unit is in STANDBY mode.**

---

*NOTE: Pressing the Enter button while in therapy mode will enable the STANDBY mode.*

*NOTE: If a power loss occurs during the therapy mode, the elapsed RAMP therapy delay time is not saved or stored, and the timer resets to the original full delay time setting (0, 5, 10, 20, or 30 minutes) upon power restoration.*

1. While in STANDBY mode, press the up (  ) button for approximately four (4) seconds.
2. Press the up (  ) button to select “User Settings”.
3. Repeatedly press the Enter button until RAMP Time is displayed.
4. Press the up (  ) or down (  ) button to increase/decrease RAMP timer setting as desired. Press the Enter button to accept the new setting.
5. Continue to press the Enter button to scroll through the other menu items, if changes have been made, a confirmation screen will appear.
6. Press the up (  ) button to confirm the changes. The following message will be displayed for two (2) seconds, “CHANGES CONFIRMED!”, and the unit will exit to Standby mode.

7. Press the down (**DOWN**) button to cancel the changes. The following message will be displayed for two (2) seconds, “CHANGES IGNORED!”, and the unit will exit to Standby mode.

### **Changing the SoftX Setting**

*NOTE: Refer to How SoftX Works on page 16 for more information about the SoftX feature.*

1. While in Standby mode, press the up (**UP**) button for approximately four (4) seconds.
2. Press the up (**UP**) button to select the “User Settings”.
3. Press the Enter button until SoftX is displayed.
4. Press the up (**UP**) or down (**DOWN**) buttons to scroll through the available SoftX settings.
5. Press the Enter button to accept the new SoftX setting.
6. Continue to press the Enter button to scroll through the other menu items, if changes have been made, a confirmation screen will appear.
7. Press the up (**UP**) button to confirm the changes. The following message will be displayed for two (2) seconds, “CHANGES CONFIRMED!”, and the unit will exit to Standby mode.
8. Press the down (**DOWN**) button to cancel the changes. The following message will be displayed for two (2) seconds, “CHANGES IGNORED!”, and the unit will exit to Standby mode.

*NOTE: If no button is pressed for two (2) minutes or more, the unit automatically exits to Standby mode and no changes will be saved.*

## Treatment Using Supplemental Oxygen

---

### **WARNING**

**DO NOT** smoke or have an open flame in any room where oxygen is used.

**Oxygen is a prescription gas and should only be used under the supervision/direction of a physician. Should you require oxygen during CPAP therapy, refer to your oxygen system user manual and observe all cautions, warnings, and instructions regarding the safe use of oxygen.**

**The oxygen flow **MUST** be turned off when the device is not operating. This prevents oxygen accumulation within the device and tubing which may cause a fire.**

---

1. Ensure the oxygen gas supply valve is closed.
2. Connect the oxygen adaptor to the Polaris EX CPAP unit air outlet.
3. Connect the CPAP hose to the oxygen adaptor.
4. Connect the oxygen tubing to the oxygen adaptor.
5. Connect the oxygen supply tubing to the oxygen source.
6. Press the Enter button to activate therapy and start the blower.
7. Turn on the oxygen source supply to the setting prescribed by your physician.
8. Attach the smooth bore tube to the mask and begin treatment.
9. Proceed to the After the Treatment on page 32.

*NOTE: At a fixed flow rate of supplemental oxygen gas flow, the inhaled oxygen concentration will vary, depending upon the pressure settings, patient breathing pattern, mask selection, and the leak rate.*

## After the Treatment

1. Remove the mask and press the Enter button to return to Standby mode.
2. Remove the air tubing from the mask.
3. Proceed to Daily Cleaning in Maintenance on page 35.

## SECTION 8—TRAVELING INFORMATION

The Polaris EX CPAP unit requires a domestic 120VAC, 60Hz electrical power supply.

Standard commercial travel power adapter kits that allow connecting to different style power outlets can be used with the Polaris EX.

Kits that provide transformers **MUST** be capable of providing 0.4 amps at 120 VAC.

In locations where AC line voltage is unavailable, the use of an electrical power supply inverter allows the unit to operate using the DC voltage of a battery. The electrical power supply inverter (DC to AC) requires a capacity of 100W or more to ensure proper unit operation.

No adjustments are necessary for operation at different altitude levels within the range specified in the typical product parameters.

*NOTE: If you are traveling to a location with a high altitude, defined as an altitude above 1,500 feet above sea level, you will need to adjust the Polaris EX CPAP's altitude setting.*

### Adjusting the Altitude Setting

1. While in Standby mode, press the up (▲) button for approximately four (4) seconds.
2. Press the up (▲) button to select “User Settings”.
3. The current altitude setting will appear on the display, use the up (▲) and down (▼) buttons to change the setting to either “YES” or “NO”.
4. Press the Enter button to accept the new setting.

## SECTION 8—TRAVELING INFORMATION

---

5. Continue to press the Enter button to toggle through the additional settings.
6. If changes have been made, a confirmation screen will appear.
7. Press the up (  ) button to confirm the changes. The following message will be displayed for two (2) seconds, “CHANGES CONFIRMED!”, and the unit will exit to Standby mode.
8. Press the down (  ) button to cancel the changes. The following message will be displayed for two (2) seconds, “CHANGES IGNORED!”, and the unit will exit to Standby mode.

## SECTION 9—MAINTENANCE

---

### **WARNING**

**Disconnect the Polaris EX CPAP unit power cord plug before cleaning the unit, then allow the unit to dry completely before plugging it in or operating it.**

**NEVER submerge the unit in any cleaning solution or water.**

**DO NOT use bleach, chlorine-based, alcohol-based, or aromatic-based solutions to clean the cushion, mask, air tubing, or air filter. These solutions may cause material hardening and reduce the life of the product.**

---

If the Polaris EX CPAP unit is not functioning properly, refer to General Guidelines on page 5 or Troubleshooting on page 39.

Your Polaris EX CPAP unit is designed to provide several years of trouble-free operation. Regular routine servicing should not be necessary if you follow these maintenance recommendations.

*NOTE: Refer to manuals provided with headgear and mask for cleaning recommendations and instructions.*

### **Daily Cleaning**

1. After daily use, wipe the inside and outside of the mask frame and nasal cushion with a clean, damp cloth.
2. Disconnect the air tubing from the Polaris EX CPAP unit and hang the tubing and mask in a clean, dry location, avoiding exposure to direct sunlight, until the next use.

*NOTE: If the Poseidon Passover humidifier or any other stand-alone humidifier is used, remove the short air tubing between the humidifier and the CPAP unit and the long tube between the humidifier and mask after each use and follow the manufacturer's cleaning and maintenance procedures.*

*NOTE: If the Invacare Polaris EX Heated Humidifier is used, remove the water reservoir and follow the cleaning and maintenance procedures outlined in the user's manual.*

### **Periodic Cleaning**

All the mask and air tubing system components are subject to normal wear and tear and will eventually need to be replaced. Check periodically for excessive wear of all these items and replace as required.

1. Wash the headgear, mask frame, cushion, and air tubing in warm water using a mild detergent. Rinse thoroughly (particularly the air tubing) and allow to drip dry completely.
2. Check to ensure that the air outlet vent on the mask frame is not blocked.
3. Clean the exterior of the CPAP unit whenever necessary with a clean, damp cloth and mild dishwashing detergent.

### **Cleaning/Replacing the Air Filter**

The Polaris EX CPAP unit is supplied with a reusable air filter. Thoroughly wash the air filter monthly, or more often if necessary.

1. Remove the air filter from the rear of the unit by pulling it directly out of the air filter receptacle.
2. With a mild soap and water solution, rinse thoroughly, and allow to dry completely before use.

*NOTE: Dry the air filter on a dish rack or squeeze between paper towels.*

3. Gently, but firmly, insert the dry air filter into the air filter receptacle at the rear of the unit by tucking the edges into place.

*NOTE: The air filter is subject to normal wear and tear and should be replaced every six (6) months. Check periodically for excessive wear and replace as necessary.*

## SECTION 10—ACCESSORIES

Invacare offers a wide range of accessories and replacement component parts for use with the Polaris EX CPAP system, including the following:

- Invacare Twilight™ Mask, Small Size (ISP2000SM), Standard Size (ISP2000) or Large Size (ISP2000L).
- Replacement Twilight Nasal Cushions, Small Size (ISP2010SM), Standard Size (ISP2010) or Large Size (ISP2010L).
- Replacement Twilight Headgear (1122733).
- Invacare Twilight Chin Strap (1122734).
- Invacare Polaris EX Heated Humidifier (ISP4000).
- Replacement filter kit (PS1124211)
- Ultra Fine Filter Kit (PS1141773)
- Invacare Poseidon Passover Humidifier (ISP9700).

Contact your home healthcare provider for further information.

---

### **WARNING**

**Invacare products are specifically designed and manufactured for use in conjunction with Invacare accessories. Accessories designed by other manufacturers have not been tested by Invacare and are not recommended for use with Invacare products.**

**If patient interfaces, other than those recommended by Invacare, are connected to the Polaris EX CPAP unit, the patient circuit pressure may be different from the therapeutic pressure, consequently, reducing the effectiveness of treatment.**

---

## SECTION 11—TROUBLESHOOTING

If you have any problems with your Polaris EX CPAP system, try the following suggested solutions. If the problem persists, contact your home healthcare provider or qualified service personnel for examination and repair. **DO NOT** attempt to open or otherwise repair the CPAP unit.

SYMPTOM	PROBABLE CAUSE	SOLUTION
Display lights DO NOT illuminate (Unit does not function).	Power cord not connected firmly.	Unplug power cord and reconnect firmly.
	Power outlet may be faulty.	Try using another power outlet.
	Unit malfunction.	Unplug power cord, wait several seconds, and reconnect firmly. If unit does not operate, contact your home healthcare provider.
	LCD display is in “dim” mode.	Press any button for full brightness
Blower not running.	Power cord is unplugged.	Make sure the power cord is plugged into a working outlet.
	Therapy has not been initiated.	Press the Enter button to activate therapy. Refer to <u>Treatment Using Therapy Mode</u> on page 28.
	Unit is malfunctioning	Contact your home healthcare provider <b>IMMEDIATELY</b> .

## SECTION II—TROUBLESHOOTING

SYMPTOM	PROBABLE CAUSE	SOLUTION
Insufficient air delivered from CPAP unit.	Therapy Delay function is in use.	Wait for air pressure to come on gradually, according to the selected delay period. (Refer to <u>Operation</u> on page 26). Or from Standby mode press the Enter button twice.
	Blocked or dirty air filter.	Remove blockage, clean or replace if dirty. (Refer to <u>Maintenance</u> on page 35.)
	Air tubing is kinked or punctured.	Straighten or replace air tubing.
	Air tubing is not connected properly.	Tighten air tubing connectors at both ends.
RAMP (therapy delay time) not functioning	Your clinician may not have provided a therapy delay time greater than zero.	If unit operates only in Standby or Normal therapy modes, call physician and request delay time.
		See how to adjust the ramp timer setting. Refer to <u>Changing the RAMP Timer</u> on page 29.
Error code “xxx” is displayed in LCD window and device is inoperative.	Internal device error.	Unplug power cord, wait several seconds and reconnect firmly.
		If error message is still displayed, contact your home healthcare provider IMMEDIATELY.

# NOTES

## LIMITED WARRANTY

**PLEASE NOTE: THE WARRANTY BELOW HAS BEEN DRAFTED TO COMPLY WITH FEDERAL LAW APPLICABLE TO PRODUCTS MANUFACTURED AFTER JULY 4, 1975.**

This warranty is extended only to the original purchaser/user of our products.

This warranty gives you specific legal rights and you may also have other legal rights which vary from state to state.

Invacare warrants this product to be free from defects in materials and workmanship for a period of two (2) years from date of purchase. If within such warranty period any such product shall be proven to Invacare's satisfaction to be defective, such product shall be repaired or replaced, at Invacare's option. This warranty does not apply to problems arising from normal wear and tear or failure to adhere to these instructions, nor does it include shipping charges incurred in replacement part installation or repair of any such product. Invacare's sole obligation and your exclusive remedy under this warranty shall be limited to such repair and/or replacement.

For warranty service, please contact the Invacare service department during normal business hours at the toll-free telephone number identified on the back cover of this manual.

Upon receiving notice of an alleged defect in a product, Invacare will issue a serialized return authorization. It shall be the responsibility of the purchaser to pack the product(s) or part(s) in an appropriate manner to avoid shipping damage and return the product(s) or part(s), at the purchaser's expense, to either Invacare's plant or service center as specified by Invacare in advance. The defective product(s) or component part(s) **MUST** be returned for warranty inspection using the serial number as identification within 30 days of the return authorization date. **DO NOT** return any product(s) or part(s) to our factory or service center without prior consent. **C.O.D.** shipments will be refused – please pre-pay shipping charges.

**LIMITATIONS AND EXCLUSIONS: THE FOREGOING WARRANTY SHALL NOT APPLY TO SERIAL NUMBERED PRODUCTS IF THE SERIAL NUMBER HAS BEEN REMOVED OR DEFACED; PRODUCTS SUBJECTED TO NEGLIGENCE, ACCIDENT, IMPROPER OPERATION, MAINTENANCE, OR STORAGE; PRODUCTS MODIFIED WITHOUT INVACARE'S EXPRESS WRITTEN CONSENT (INCLUDING, BUT NOT LIMITED TO, MODIFICATION THROUGH THE USE OF UNAUTHORIZED PARTS OR ATTACHMENTS); PRODUCTS DAMAGED BY REASON OF REPAIRS MADE TO ANY COMPONENT WITHOUT THE SPECIFIC CONSENT OF INVACARE; PRODUCTS DAMAGED BY CIRCUMSTANCES BEYOND INVACARE'S CONTROL; OR PRODUCTS REPAIRED BY ANYONE OTHER THAN INVACARE OR AN AUTHORIZED INVACARE SERVICE CENTER. SUCH EVALUATION SHALL BE SOLELY DETERMINED BY INVACARE.**

**THE FOREGOING EXPRESS WARRANTY IS EXCLUSIVE AND IN LIEU OF ANY OTHER WARRANTIES WHATSOEVER, WHETHER EXPRESSED OR IMPLIED, INCLUDING THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE, AND THE SOLE REMEDY FOR VIOLATIONS OF ANY WARRANTY WHATSOEVER, SHALL BE LIMITED TO REPAIR OR REPLACEMENT OF THE DEFECTIVE PRODUCT PURSUANT TO THE TERMS CONTAINED HEREIN. THE APPLICATION OF ANY IMPLIED WARRANTY WHATSOEVER SHALL NOT EXTEND BEYOND THE DURATION OF THE EXPRESS WARRANTY PROVIDED HEREIN. INVACARE SHALL NOT BE LIABLE FOR ANY CONSEQUENTIAL OR INCIDENTAL DAMAGES WHATSOEVER.**

**SOME STATES DO NOT ALLOW THE EXCLUSION OR LIMITATION OF INCIDENTAL OR CONSEQUENTIAL DAMAGE, OR LIMITATION OF HOW LONG AN IMPLIED WARRANTY LASTS, SO THE ABOVE EXCLUSION AND LIMITATION MAY NOT BE APPLICABLE.**

**THIS WARRANTY SHALL BE EXTENDED TO COMPLY WITH STATE/PROVINCIAL LAWS AND REQUIREMENTS.**



**Invacare Corporation**

[www.invacare.com](http://www.invacare.com)

**USA**  
One Invacare Way  
Elyria, Ohio USA  
44036-2125  
800-333-6900

Invacare, Yes, you can. and the  
Medallion Design are registered  
trademarks of Invacare Corporation.  
Polaris, EX, Poseidon, and SoftX are  
trademarks of Invacare Corporation  
© 2005 Invacare Corporation

In Florida  
2101 E. Lake Mary Blvd.  
Sanford, Florida  
32773  
800-832-4707

Part No 1110559 Rev E - 12/13/05