



## **EBelaire™ [Model 2]**

**Adaptive Air Supply System for Bagpipes**

### **OPERATING INSTRUCTIONS**



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# Product Introduction

## **What is the EBelaire™?**

EBelaire™, by E-Bellow, is an innovative product that enables players of the Highland Bagpipe who have become unable to inflate the instrument due to injury, disease or age, to once again enjoy the thrill and satisfaction of presenting the music they love on the instrument they love.

EBelaire™ is a patented adaptive air supply and control system that replaces the flow of air and pressure to the bagpipe. To operate, the user needs only to provide a gentle 'puff' to start and stop the system.

EBelaire™ is completely portable. It enables normal movement and performance control while in use. It can successfully be used for solo and band performances, in the practice hall, on parade and at other venues.

## **Who needs the EBelaire™?**

The EBelaire™ is intended to allow pipers to overcome the limitation on their practice and performance imposed by their health or mobility challenges. The EBelaire™ assists experienced players regain the ability to stand or march in any formation and perform.

Instructors can use the EBelaire™ as an education tool. The EBelaire™ provides a sanitary way to teach proper reed adjustment and instrument tuning techniques by providing the students a direct experience that correlates to the sound of the instrument when the reeds are sounded optimally.

# List of Accessories

Please ensure the following accessories are in the box before using. If any parts are missing, please contact us at [Info@E-Bellow.com](mailto:Info@E-Bellow.com)

## What is included with the EBelaire™:

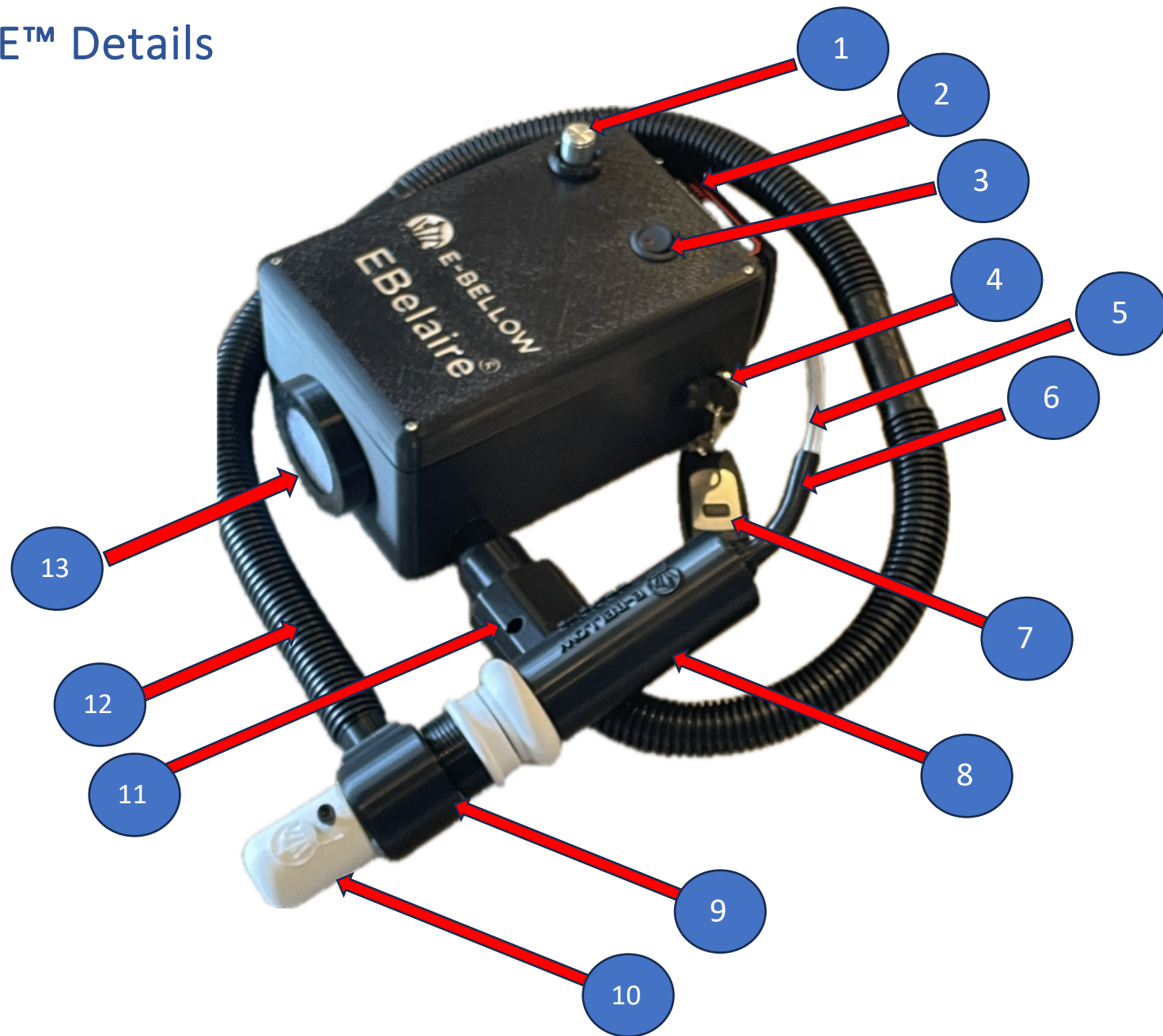
- EBelaire™ Pump
- 1-M12 – Removable, and Rechargeable, 12 Volt 6.0 AH Lithium Battery
- Lithium Ion Battery charger (110v)
- Carry bag w/shoulder strap
- Hose with secure pump connector and GHB Blowpipe stock Adapter with Flap valve
- Patented Wireless Control Unit (WCU) with replacement mouthpiece
- 2 Replacement Wireless Control Unit Airtube guide
- Supplemental Wireless Control Transmitter (FOB)

## Recommended Accessories (not included):

- 1 - Easy or very easy chanter reed rated for 28 Inches of water
- 1- Set of adjustable drone reeds
- 3- Drone top stoppers
- 1- Pressure gauge manometer for the bagpipe (See E-Bellow Product Offering)

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# EBELAIRE™ Details



Token	Description
1	Variable Pressure Control: Rotate Clockwise to increase pressure and Counter Clockwise to Decrease pressure.
2	M12 – Removable, and Rechargeable, 12Volt, 6.0 Ah. Lithium Ion Battery
3	Round Rocker Switch: The EBelaire ON/OFF Control. Lighted when on.
4	D-Ring attachments for performance Carrying Strap (Included) <sup>1</sup>
5	Wireless Control Unit (WCU) puff switch air tube
6	WCU Air Tube Guide for EBelaire 'Puff' switch, on/off wireless control.
7	Supplemental WCU transmitter
8	Wireless Control Unit (WCU) – Used to Start, and Stop, the EBelaire wirelessly.
9	Flexible Air Supply Hose Adapter
10	Blowpipe Adapter with rubber flap valve
11	Threaded Air Outflow Port. Air Intake with filter and threaded Retention Ring.
12	Flexible Air Supply Hose – 3 feet
13	EBelaire™ Air Intake with filter and retention ring.

<sup>1</sup> Extends to allow the EBelaire™ to be carried on the hip while performing.

<sup>2</sup> Puff Switch Remote Starter (On/Off Control).

The Puff Switch Remote Starter resembles the traditional blowstick and requires only a soft puff from the mouth to activate.

***Note: Do not blow into the WCU as if to inflate! Simply 'puff' as though to blow out a single small candle. This action is necessary to engage the sensor that will start, and stop, the EBelaire.***

## Operation

The EBelaire™ is a flexible tool. In order to get the most benefit from it you must understand the EBelaire's basic assembly and installation on the bagpipe. In this section we will discuss each of these important areas. We encourage you to carefully read and follow these instructions.

## Assembling the EBelaire™

1. Unpack the Wireless Control Unit (WCU) assembly and the Universal Blowpipe Adapter, with its attached hose and connector.
2. Position the tenon of the Wireless Control Unit over the EBelaire™ Blowpipe stock adapter.

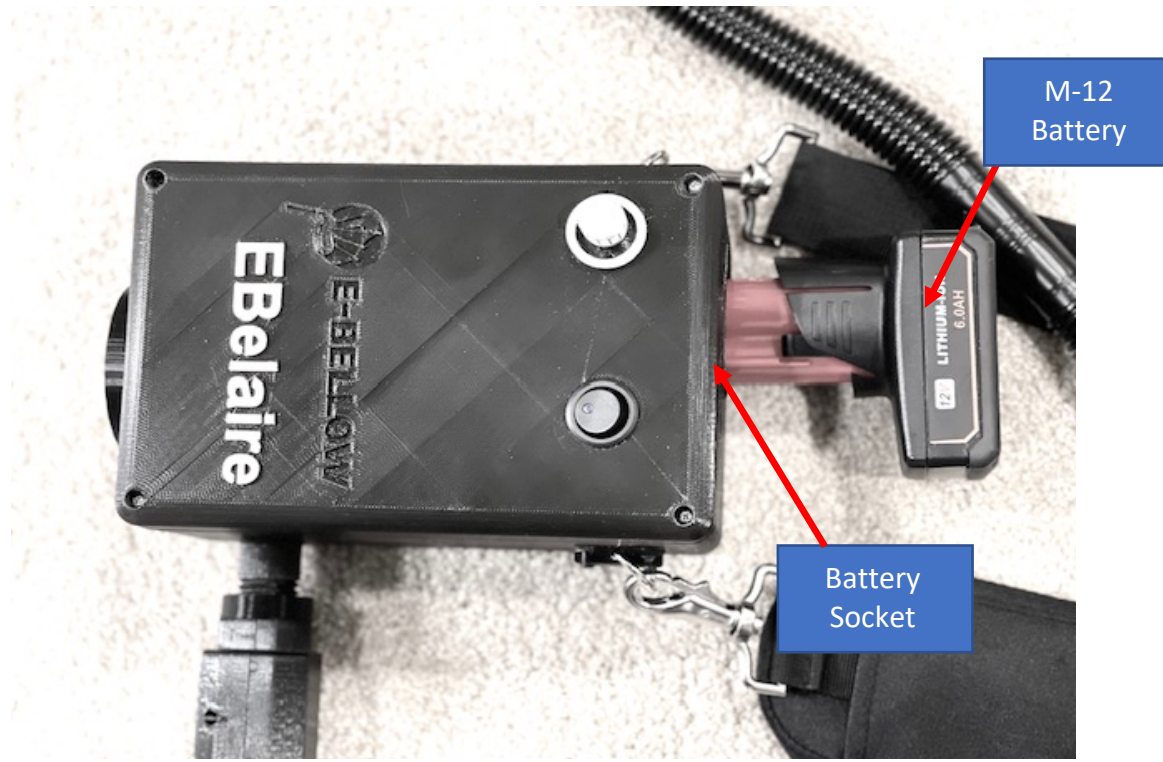


3. Insert the Tenon into the stock. If needed feel free to add some hemp to assure a snug fit.





4. Remove the standard blowpipe from the bagpipe and set it aside.
5. Remove the protective cap and Insert the Universal Blowpipe Adapter into the Blowpipe stock of the bagpipe. Add or remove Hemp to the blowpipe adapter as needed to achieve a snug fit exactly as you would with a normal blowpipe.
6. Attach the supplied strap to the D-Rings on either side of the EBelaire™ case. The Strap can be extended to allow a cross chest carry with the EBelaire resting above the Right Hip.
7. Connect the Hose Adapter to the EBelaire™ Outflow Port by twisting the threaded connector in a clockwise direction until snug. DO NOT OVERTIGHTEN!
8. Slide the M12 Battery into the receptacle on the top of the EBelaire™. Press it firmly into the socket until the base of the battery is flush with the top of the EBelaire™.



9. Insert a chanter reed that is rated as 'Easy' or 'Very Easy' into your chanter.

**Tip:** Select a reed that has been rated at 20-30 inches of water for difficulty if other ratings are unavailable. If the reed is new moisten your finger with water and gently wipe the blades from the staple to the blade tips. This will make the reed a bit more compliant. **Do NOT soak the reed!**

## Using your EBelaire™

1. Set the Round Rocker Switch to ON. The colored LED will glow.
2. Place the EBelaire™ on your shoulder using a cross chest placement with the EBelaire™ resting above your right hip.
3. Place your bagpipe on your left shoulder as normal and place the tube from the WCU between your lips.

4. Using your Lips and Cheeks create a short 'Puff' into the WCU. This will turn the EBelaire™ ON which will inflate your bagpipe. \*
5. To Stop the airflow simply create a Second 'Puff' into the Mouthpiece Tube. This will stop the EBelaire™.
6. When finished playing Set the Rocker Switch back to the 'OFF' position. The colored LED will no longer glow.

*\*The Puff Switch Remote Starter resembles the traditional blowstick and requires only a soft puff from the mouth to activate.*  
**Note: Do not try to blow as if to inflate, but simply puff into it as though to blow out a single small candle using a straw. This action is only necessary to engage the sensor that will start, or stop, the EBelaire.**

## Initial Use and Calibration

The first time the EBelaire™ is used, adjustments to all reeds will be required to achieve optimal performance from your instrument. It is strongly recommended that you take an incremental approach to setup. Begin with your chanter. Once you are satisfied with your chanter sound you can move to introducing, and calibrating, the drones.

### Chanter Setup

1. Place stoppers into each drone top and inspect all joints to ensure they are properly Hemped.
2. Insert the chanter with a seated reed into the bagpipe.
3. Shoulder your bagpipe. With the battery in place and the Rocker ON/Off switch in the on position, give one 'puff' to the mouthpiece to activate the EBelaire™.
4. Adjust the pressure delivered to the chanter using the 'Variable Pressure' control knob.
5. The Chanter should sound and allow you to assess its tone once the bag is filled with air.
6. Use one 'Puff' to turn off the EBelaire™ when satisfied.
  - a. Adjust the reed and any tape to properly balance the sound from the chanter as you would if you were playing without the aid of the EBelaire™.
  - b. Repeat as needed to achieve a balanced sound.

**Note: This is a trial-and-error process. Patience is needed to achieve optimal performance.**  
Reeds that require more than 30 inches of water pressure may not sound properly.

## Drone Calibration

Once the chanter has been setup, the drones will need to be calibrated to take the least amount of air possible AND still allow proper tuning to the chanter. The Process for that is outlined below.

**TIP/Note:** *This process is very important but can be tedious. If you have little experience, or a heightened fear of working with drone reeds, seek help. My trick is a silver marking pen. Before I start moving things I mark where they were so I always have a recovery point. My second rule is move only one thing at a time and then only in small increments. When you have gone too far ... you will know it! Just reverse course and you should recover nicely.*

1. Lay the Bagpipe and EBelaire on a work table that will support both.
2. Remove Stopper from the outside Tenor drone and adjust the slide to the bottom of the Hemp.
3. Start the EBelaire using the mouthpiece of the WCU (or the FOB) and allow the chanter to sound
4. Gently lean on the bag on the table adding pressure until the drone stops.

**Tip/Note:** If you have a manometer, note the pressure needed to sound the chanter and work to set the drone shut off pressure about 2-3 inches of water pressure above that point.

- a. If the drone continues to sound proceed to step 5.
  - b. If you own a manometer, plug it into one of the other drones before starting the calibration. The cut-off pressure we are seeking is about 32 inches of water.
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5. Remove the Drone from the Stock and shorten the bridal on the reed tongue. Small increments are best, then return the drone to the stock and retest (step 3).
  6. Once the drone is calibrated roughly tune the outside drone to the chanter (low-A).
  7. Remove the stopper from the middle tenor drone. Turn on the EBelaire™ and tune the outside drone.
  8. Repeat Step 4 and 5. The middle tenor is calibrated when BOTH Tenor drones stop when gentle causes both drones to stop together.
  9. Repeat steps 3 to 5 until all three drones shut off when pressure is applied and all three drones operate with the chanter sounding when the EBelaire™ is active.

# Troubleshooting

Fault Description	Inspection	Solution
The EBelaire will not start	<ol style="list-style-type: none"> <li>1. Check M-12 Battery if fully seated in Socket</li> <li>2. Check for Low Battery Charge</li> <li>3. Overheating – Warm to touch.</li> <li>4. Round Rocker Switch LED light is not illuminated.</li> </ol>	<ol style="list-style-type: none"> <li>1. Fully seat M-12 Battery in the battery socket</li> <li>2. Charge Battery</li> <li>3. Let unit cool for 30 minutes.</li> <li>4. Verify the Round Rocker switch is in the On position and illuminated.</li> </ol>
Wireless Control Unit (WCU) does not start the EBelaire	<ol style="list-style-type: none"> <li>1. Use Wireless Fob to turn on the EBelaire.</li> </ol>	<ol style="list-style-type: none"> <li>1. Check/replace battery in WCU (see below if Fob does not start EBelaire )</li> </ol>
Bagpipe does not inflate	<ol style="list-style-type: none"> <li>1. Check for kinks, blockages or holes in Hose and Universal Blowpipe Adapter</li> <li>2. Verify Check Valve is installed at bottom of Blowpipe stock adapter.</li> <li>3. EBelaire is running</li> <li>4. Check Bagpipe is airtight.</li> </ol>	<ol style="list-style-type: none"> <li>1. Clear blockages or kinks in hose. Repair or replace hose.</li> <li>2. Replace or Adjust the flapper valve</li> <li>3. Use the WCU to start the EBelaire</li> <li>4. Check for missing reeds, leaking stocks and bag.</li> </ol>

# Maintenance and Storage

- Store the EBelaire in a dry ventilated place when not in use.
- Prevent the unit from coming in contact with metal objects for fear of short circuiting.
- Avoid keeping the EBelaire in strong sunlight or a hot automobile. This will damage the product and void our warranty.
- Clean the EBelaire using a damp cloth and gentle soap cleaners. **DO NOT IMMERSE ANY PART OF THIS PRODUCT IN WATER!**
- DO NOT use or store this product in extreme temperatures
- DO NOT store this product in a high-humidity environment, doing so may cause damage to the product.
- DO NOT Dispose of the EBelaire in the trash. **The EBelaire contains a Lithium-Ion Battery that must be disposed in accordance with local laws and ordinances.**

# Charging the EBelaire M12 Battery

The supplied M12 Lithium Ion Battery is recharged using the supplied Charger.

1. Place the charger (cube) securely onto the top of the M12 battery.
2. Plug the charger into a 110-120 Volt outlet. The LED on the charger glows 'Red' initially.
3. When the battery is fully charged the LED color changes to 'Green'. Remove Battery from Charger.
4. Store Charger in a cool and dry environment.

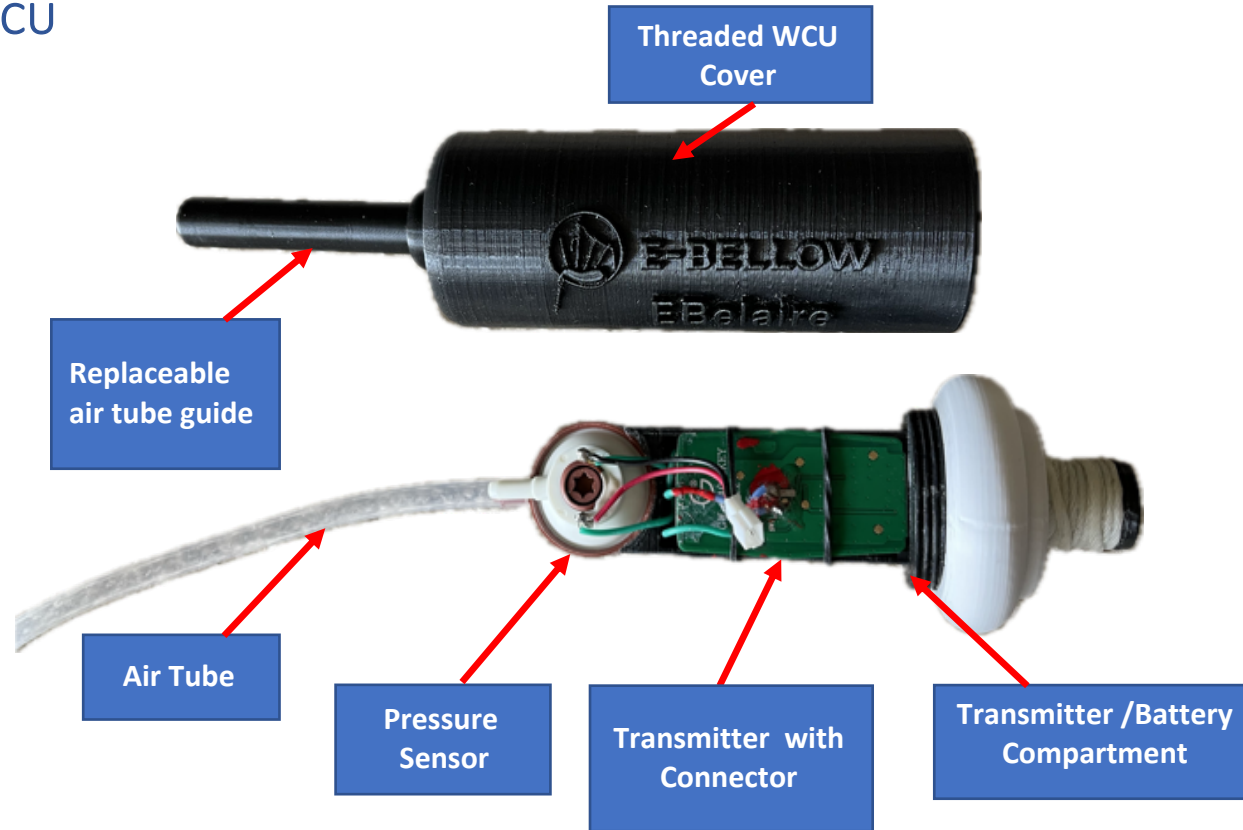




# Wireless Control Unit Servicing

The Following section describes the procedures for cleaning the air tube and replacing the battery in the Wireless Control Unit for the EBelaire Adaptive Air Supply for the Bagpipe.

## Disassemble the WCU



1. Hold the barrel of the WCU and unscrew the mouthpiece by turning it *counter clockwise*. Remove the Air Tube for cleaning. The Air Tube should be washed in soapy water and left to completely air dry before reassembling. Only reinstall after it is full dry.
2. Hold the WCU by the narrow part of the base and carefully rotate the threaded cover *counter clockwise* to unscrew.
3. Gently pull the Threaded Cover off to expose the circuit board.
4. To change the transmitter battery, very carefully lift the circuit board out of its receptacle. Two CR2016 battery cells are required. **IMPORTANT: DO NOT PULL ON THE WIRES CONNECTED TO THE TRANSMITTER CIRCUIT BOARD!**

## Reassemble the WCU



1. Insert the **clean and dry Air Tube**. Use the Brown Nipple for 'Puff' configuration or White for 'Sip' configuration. Press the air tube carefully onto the selected nipple.
2. Carefully guide the Threaded WCU Cover over the base until the control top is resting on the top of the threads of the base. Apply a small amount of silicone lubricant to the threads to facilitate assembly if needed.
3. Carefully rotate the Threaded Cover *clockwise* making certain the base threads are properly engaged. **DO NOT CROSS THREAD! DO NOT FORCE!** If you encounter resistance rotate counter clockwise to disengage and retry.
4. Complete the reassembly by making sure the cover is snugged to the base.
5. Slide the Air Tube Guide over the Air Tube and screw it onto the WCU Cover. Tighten the threads by rotating the tube clockwise.

## Safety Instructions / Warnings

*The following actions invalidate the Warranty.*

- Connect the supplied charger to 110-120 Volt outlets only.
- Keep children away from this product and plug/wires.
- DO NOT allow children to operate the EBelaire™.
- DO NOT submerge pump in water or expose to rain.
- DO NOT disassemble the pump or attempt to open the hard plastic pump casing. This may cause damage to the product and invalidate the warranty.



- DO NOT place this product in a high-humidity environment, to do so may cause the product to be short-circuited causing damage to the product.
- DO NOT put this product near fire as it may explode or cause other damage.
- DO NOT leave this product in strong sunlight or a hot automobile as this will damage the product.
- DO NOT use or store this product in extreme temperatures (>35° Celsius)
- If product (battery) is swelling or leaking, STOP using this product and contact E-Bellow LLC immediately.
- The purpose of this product is limited to the description set forth in the User Manual.
- Charge the battery in an open area and under direct supervision. Remove from charger when fully charged.
- Detach the battery if the tool is not being used for long periods of time and fully recharge the battery at least once every 3 months.
- Store the Battery between 20°C – 30°C.

## Usage Precautions

- DO NOT leave pump alone while running
- DO NOT run the pump for more than 20 minutes at a time due to overheating which may cause internal product damage. *The pump needs 30 minutes to cool down if run for its design maximum of 20 minutes*
- DO NOT use this product with a damaged hose
- DO NOT disconnect the hose while the pump is running
- DO NOT place air hose or intake port near ears or eyes.
- DO NOT force the battery into the EBelaire™.
- DO NOT Store the battery in the EBelaire™ when not in use.
- DO NOT ever place the battery in water or fire or allow contamination with chemicals or iron filings.
- Pay attention to heat dissipation and ventilation during use to avoid danger of overheating.

# EBelaire™ Limited Warranty

## EBelaire™ by E-Bellow, LLC Limited Warranty

### What is Covered

This limited warranty covers defects in materials and workmanship in **The EBelaire™** product.

### What is Not Covered

This limited warranty does not cover:

- Damage caused by the owner modifying, attempting to repair or otherwise altering the product.
- Damage caused by power sources other than 110-115 Volt for the supplied battery charger or 12V DC automobile power source.
- Damage caused by water or excessive humidity.
- Damage caused by an impact or other misuse.
- Damage caused by excessive heat from running the unit for more than 20 minutes continuously or from excessive environmental heat.

### How Long Does this Coverage Last

This limited warranty lasts for **ONE (1) year** from the date of original purchase of this product.

### Who is Covered

This limited warranty covers only **the original purchaser** of the product. This limited warranty is not transferable to subsequent owners or purchasers of this product.

### What E-Bellow Will Do

At E-Bellow's discretion, we will do one of the following, whichever is deemed most appropriate:

- Repair the item.
- Replace the item if it can't be repaired within a reasonable amount of time.
- Issue a refund for the item.

### What E-Bellow Will Not Do under this Limited Warranty

- This limited warranty does not assume the risk of loss or damage during shipment.
- Any condition resulting from incorrect or inadequate maintenance or care
- Resolve damage resulting from incorrect or inadequate maintenance or care
- Issue a refund due to buyer's remorse.
- Resolve damage due to normal wear and tear
- Repair damage resulting from misuse, abuse, negligence or accident.

## **No Other Express Warranty Applies**

This warranty is the sole and exclusive warranty. No employee, agent, dealer, or other person is authorized to alter this warranty or make any other warranty on behalf of E-Bellow, LLC.

The Company makes no express warranty or condition whether written or oral and the company expressly disclaims all warranties and conditions not stated in this limited warranty. To the extent allowed by the local law of jurisdictions outside the United States, the Company disclaims all implied warranties or conditions, including any implied warranties of merchantability and fitness for a particular purpose. For all transactions occurring in the United States, any implied warranty of condition of merchantability, satisfactory quality, or fitness for a particular purpose is limited to the duration of the express warranty set forth above. Some states or countries do not allow a limitation on how long an implied warranty lasts or the exclusion of limitation of incidental or consequential damages for consumer products. In such states or countries, some exclusions or limitations of this limited warranty may not apply to the Purchaser. For consumer transaction, the limited warranty terms contained in this statement, except to the extent lawfully permitted, do not exclude, restrict, or modify but are in addition to the mandatory statutory rights applicable to the sale of this Product to the Purchaser.

## **Limitation of Liability**

E-Bellow, LLC shall not be responsible for any incidental or consequential damages, to persons or property, related to the use of its products.

## **How to Obtain Services**

To obtain the benefit of this warranty, deliver the complete product via prepaid transportation to E-Bellow, LLC.

Arrange for warranty service by emailing [Support@E-Bellow.com](mailto:Support@E-Bellow.com)

Claim Procedures:

- Claims for defective merchandise must be made within ONE year from invoice date. Claims for missing parts must be made within 60 calendar days after the merchandise is received.
- We reserve the right to specify that items to be returned be inspected by our representative.
- Pictures are required to claim defective merchandise, along with a copy of the original invoice.

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

EBelaire is a product of E-Bellow LLC

Assembled in the USA

Patent Pending

Updated:03/24/2024