Product of Imperial Air Technologies

Imperial Air technologies Inc. reserves the rights to modify a product, without prior notice, whether in price, design, color or codes, in order to offer at all times quality products that are highly competitive.
IMPORTANT - PLEASE READ MANUAL BEFORE INSTALLATION

NOTICE: Prior to installing, serious consideration must be taken to insure this ventilation system will operate properly if integrated to any other type of mechanical system, i.e. a forced air system, or an air handling unit. To insure proper operation & compatibilities of both system, it is required that the airflow's of the LCH Heat Recovery Ventilator (HRV) or Energy Recovery Ventilator (ERV) be balanced, by following the procedures found in this manual.

CAUTION: DO NOT INSTALL IN A COOKING AREA OR CONNECT DIRECTLY TO ANY APPLIANCES

CAUTION: TURN OFF ALL INTEGRAL DISCONNECTS BEFORE SERVICING

TO REDUCE OR AVOID THE HAZARDS OF ELECTRIC SHOCK AND FIRE:

• While servicing of cleaning the ventilation system, always remove the power plug from the AC wall outlet.

• To reduce the chance or avoid the hazards of electric shock and fire, do not perform any service to the ventilation system other than that stated in the operating manual instructions.

• Do not use ventilation system for outdoor application.

• Do not pull or twist electrical connection when disconnecting it from the ventilation system.

• Do not use the ventilation system for removal of flammable fumes or near flammable gases.

• Use a dedicated AC 120V outlet only.

CAUTIONS CONCERNING THE OPERATION AND FULL EFFICIENCY OF THIS PRODUCT:

• Do not obstruct or cover the air intake or air outlet of the ventilation system.

• Do not modify, repair or disassemble this ventilation system. They are to be performed by authorized serviced personnel only. Fire, electrical shock and/or bodily injury may occur if not.

• To prevent injuries, do not operate the ventilation system while servicing or maintaining. There are impeller wheels turning at a very high speed that must fully stop rotating prior to accessing the inside of the unit.

• Always assess the operation of the ventilation system how it may interact with vented combustion equipment (ie. Gas Furnace, Oil Furnace, Combustion, Appliances, etc.)

LIMITED WARRANTY

All our products are backed by the best limited warranty in the industry, for your peace of mind.

You benefit from a 15 year limited warranty on the aluminum and polypropylene core, a 2-year limited warranty on our ventilation motors, a 3-year limited warranty on the enthalpic core, and a 2-year limited warranty on all other components.

APPLICATIONS

• Schools
• Locker Rooms
• Conference Rooms
• Restrooms
• Barber Shops
• Office Buildings
• Bars & Grills

• Classrooms
• Airports
• Floral Shops
• Veterinary Hospitals
• Stores
• Large Homes
• Restaurants
# ABOUT US

Imperial Air Technologies Inc. is the only manufacturer that offers you a complete range of products designed to improve indoor air quality, and that provides a wide selection of accessories to facilitate installation.

**Our vision** — To offer a complete range of products that satisfy environmental concerns.

Whether your needs involve ventilation or filtration, we have the customized solution for you, with our range of quality products backed by the best warranty in the industry.

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**2. DIMENSIONS LCH 30-700 Series**

**LCH 30-700A (HRV)**
Light commercial aluminum core (300 to 700 CFM). Limited 15 years warranty on the aluminum core.

**LCH 30-700B (HRV)**
Light commercial polypropylene core (300 to 700 CFM). Limited 15 years warranty on the polypropylene core.

*Residential application only.

**LCH 30-700 (ERV)**
Light commercial enthalpy core (300 to 700 CFM). Limited 3 years warranty on the enthalpy core.
LCH 70-1200A (HRV)
Light commercial aluminum core (700 to 1200 CFM). Limited 15 years warranty on the aluminum core.

LCH 70-1200B (HRV)
Light commercial polypropylene core (700 to 1200 CFM). Limited 15 years warranty on the polypropylene core. *Residential application only.

LCH 70-1200C (ERV)
Light commercial enthalpy core (700 to 1200 CFM). Limited 3 years warranty on the enthalpy core.
4. INSTALLATION

**SADDLE INSTALLATION**

- Wood or Metal Curb (not included)
- Anchor unit to curb (recommended to anchor curb. Insure there is enough clearance for condensation fitting + drain for ultimate performance of the unit)
- Vibrator Isolators (not included)

**SUSPENDED INSTALLATION**

- Threaded Rod (not included)
- U Channel (included)
- Vibrator Isolators recommended (not included)

**DRAIN INSTALLATION**

Install the condensate line (10 feet included in drain kit). Insert condensate tubing by pushing clear plastic line over drain fittings. With a wrench, tighten the nut another half turn to insure a better seal. (Use a condensate pump if you don’t have access to the floor drain.)

A “P” trap is required to be added to the drain, this will help prevent odors from being drawn back into the unit.

SKU 100770
SKU 101262

“P” trap held with tape or tie wrap.
5. SCHEMATIC WIRING DIAGRAM

FIELD WIRING INTERFACE
LCH 30-700 & LCH 70-1200

A - DPDT Contact with a rated voltage of 24V and coil resistance of 160 ± 10% at 23°C. Power consumption at rated voltage is approximately 1.2VA. CSA Safety Approval Rating of 1/2HP 7.5FLA 125VAC.

B - Class 2 Transformer with Primary Voltage of 120VAC. Secondary Voltage of 24V and 40VA.

6. BENEFITS OF THE DUOTROL™ & BALANCING

MODE SELECTOR
Acts as a mode selector

INTERMITTENT: When the selector switch is in the intermittent position the HRV or ERV will only run when there is a call for ventilation by any control. At that time the unit will run on high speed until the condition is satisfied.

CONTINUOUS: When the selector switch is in the continuous position the HRV or ERV will run continuously on pre set speed except when there is a call for override by any control.

OFF: When the selector switch is in the off position the HRV or ERV will not come on even if there's a call for ventilation by any control.

BALANCING CONTROL
Acts as a balancing control (see instructions)

The Duotrol™ lets contractor set the high speed of the motors for balancing purposes (Exhaust air, Fresh air and Both motors).

INTER.: Selects the exhaust air motor

CONT.: Selects both exhaust and fresh air motors

OFF: Selects the fresh air motor

(+/-) BUTTON: Increase the speed of the selected motor.

(-) BUTTON: Decrease the speed of the selected motor.
7. BALANCING THE UNIT WITH THE DUOTROL™ SYSTEM

The light indicator shows you in which mode the Duotrol™ System is in.

- **GREEN LIGHT** Mode Selector
- **YELLOW LIGHT** Balancing Mode

**USING THE SELECTOR SWITCH**

**NOTE TO INSTALLER**

When on Balancing Mode, the Selector Switch allows you to choose the motor you want to set.

Closed Duotrol Cover
1. **INTER** (Exhaust Motor)
2. **CONT** (Both Motors)
3. **OFF** (Supply Motor)

**Step 1** Press the (+) and (–) buttons simultaneously until you see the yellow light. Once the indicator light turns yellow you are in balancing mode.

**Step 2** When in balancing mode the selector switch becomes the motor selector switch. INTER (Right Motor), CONT (Both Motors) and OFF (Left Motor)

**Step 3** Once the total cfm needed is determined, you can start balancing the HRV/ERV. Set your fresh air supply by selecting the «OFF» position on the Duotrol™. Install your magnehelic gauge and air flow grid in the fresh air duct.

**Step 4** Press the (–) button to decrease the cfm or press the (+) button to increase the cfm.

**Step 5** Then perform the same operation on the stale air side by selecting the «INTER» position on the Duotrol™.

**Step 6** The «CONT» position will allow you to adjust the cfm on both motors proportionately (if necessary).

**Step 7** Once this is completed, you have set the high speed on your HRV/ERV. To lock balancing mode you must press (+) and (–) buttons simultaneously and release. The indicator light will turn green to indicate normal operation mode.

**Step 8** Once high speed is set and locked, switch to continuous on the Duotrol™. By using (+) and (–) buttons continuous speed on the HRV/ERV.

**Step 9** Select the mode of operation. (INTER, or CONT)
8. CONTROLS CONNECTION

RD - 1
Figure 8.1

RD-2, RD-3P, RD-3D, RD-4P & RD-4D,
Figure 8.2

NOTE: RD-3D & RD-4D are for models DH7.15 & SS3.12DD only.

T3 TIMER
Figure 8.3

WARNING: ALWAYS DISCONNECT THE UNIT PRIOR TO MAKING ANY CONNECTIONS. FAILURE TO DISCONNECTING THE POWER COULD RESULT IN ELECTRICAL SHOCK OR CAN DAMAGE THE ELECTRONIC BOARDS, WALL CONTROLS AND/OR UNIT.

CAUTION: MINIMUM WIRE REQUIREMENTS IS LVT18 CSA/UL 4 STRAIN TO INSURE PROPER CONNECTION.
8. CONTROLS CONNECTION

STANDARD FORCED AIR INTERLOCKING WIRING

Figure 8.4
A relay is normally used when tying a ventilation system onto forced air distribution system. Our Duotrol System is equipped with an internal relay that will activate the forced air system ventilator when there is a demand from the HRV/ERV. The Duotrol System will activate the INTERLOCK relay during the following modes: Continuous, Override, Recirculation and Defrost.
See wiring diagram.

ALTERNATE FORCED AIR INTERLOCKING WIRING

Figure 8.5
Some forced air system thermostat will activate the cooling system when tied using the «Standard forced air interlocking wiring».
If you have identify this type of thermostat you must proceed with the «Alternate Forced Air Wiring».

CAUTION: Thermostat that control A/C system must use the Alternate Interlock Wiring Diagram.

WARNING: ALWAYS DISCONNECT THE UNIT PRIOR TO MAKING ANY CONNECTIONS. FAILURE TO DISCONNECTING THE POWER COULD RESULT IN ELECTRICAL SHOCK OR CAN DAMAGE THE ELECTRONIC BOARDS, WALL CONTROLS AND/OR UNIT.

CAUTION: MINIMUM WIRE REQUIREMENTS IS LVT18 CSA/UL 4 STRAIN TO INSURE PROPER CONNECTION.
9. MAINTENANCE

CAUTION: ALWAYS UNPLUG THE VENTILATION SYSTEM DURING SERVICING.

FILTERS
Four times a year or as needed, vacuum the filters. Replace filters once a year.

HEAT RECOVERY CORE UNIT
(Aluminum and/or Polypropylene) Once a year or as needed, vacuum the four (4) surfaces, let soak in warm water for three hours, then spray rinse and let dry.

ENERGY RECOVERY CORE UNIT
(Enthalpy) Once a year or as needed, vacuum the four (4) surfaces.

INSIDE THE UNIT
Once a year or as needed, clean the interior of the unit (walls and drain pan) with a mild and non abrasive soap. It is recommended to use products that are environmentally-friendly.

DRAIN LINE & CONNECTIONS
The drain line and connections should be check at a regular basis.

10. TROUBLESHOOTING

PEACE OF MIND
Ensure your comfort in the years to come by using Imperial systems and accessories to install any ventilation or filtration product.

Need help? You benefit from certified customer service ready to guide you in the installation or operation of your system.

Call Toll free: 1-888-724-5211

“Our team is certified and ready to assist you”

<table>
<thead>
<tr>
<th>PROBLEMS</th>
<th>SOLUTIONS</th>
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<tbody>
<tr>
<td>HRV or ERV not running</td>
<td>• Verify breaker in electrical box</td>
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<tr>
<td></td>
<td>• Verify that dehumidistat or switch on HRV or ERV are activated to supply power to unit.</td>
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<tr>
<td></td>
<td>• Unplug HRV or ERV verify if controller is wired correctly to the connection box on the side of the unit.</td>
</tr>
<tr>
<td>Air is too dry</td>
<td>• Verify low voltage box (DuotrolTM) on the unit</td>
</tr>
<tr>
<td></td>
<td>• Increase humidity level on dehumidistat.</td>
</tr>
<tr>
<td></td>
<td>• Switch ventilation mode from continuous to intermittent</td>
</tr>
<tr>
<td></td>
<td>• Install a Greentek humidifier</td>
</tr>
<tr>
<td>Air too humid</td>
<td>• Reduce the humidity level on the controller.</td>
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<tr>
<td></td>
<td>• Verify if dryer is venting in basement.</td>
</tr>
<tr>
<td></td>
<td>• Verify if heating wood is stored in basement.</td>
</tr>
<tr>
<td></td>
<td>• Wait for outside temperature to change. Ex. Summer can be extremely humid.</td>
</tr>
<tr>
<td></td>
<td>• Verify balancing of the HRV or ERV.</td>
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