



RANGERPAK

Thru-The-Wall Cooling With Multi-Position Gas Heating Replacement System

The **RANGERPAK** is a thru-the-wall packaged heating and cooling system designed for retrofit and replacement applications, including direct replacement of legacy SKYMARK and FEDDERS systems.

Gas Heating / Electric Cooling Units (R410A)

<u>Cooling Capacities</u>	<u>Heating Input (95+ AFUE)</u>
• 12,000 BTU/hr	• 15,000 BTU/hr
• 18,000 BTU/hr	• 30,000 BTU/hr
• 24,000 BTU/hr	• 45,000 BTU/hr
• 28,000 BTU/hr	• 60,000 BTU/hr
• 36,000 BTU/hr	

IMPORTANT: Not all heating capacities are available with all cooling capacities. Verify system compatibility before installation.

NOTE: If the furnace is supplied by others, installation, operation, and warranty requirements must follow the furnace manufacturer's instructions.

2.1 SAFETY INFORMATION

IMPORTANT – READ BEFORE PROCEEDING

GENERAL SAFETY

During installation, operation, maintenance, or service, personnel may be exposed to hazardous conditions including, but not limited to:

- Refrigerants and oils
- Pressurized systems
- Rotating components
- High and low voltage electrical circuits

Improper handling of these hazards can result in property damage, serious injury, or death.

All personnel are responsible for:

- Recognizing potential hazards
- Following appropriate safety procedures
- Performing all work in a safe and controlled manner

Failure to comply may result in equipment damage, personal injury, or death.

QUALIFIED PERSONNEL

This equipment must be installed and serviced by trained and qualified personnel only.

- Personnel must be trained in HVAC systems and electrical safety
- All individuals must read and understand this document before performing any work
- Work must comply with all applicable local, provincial/state, and federal codes and regulations

ELECTRICAL SAFETY

All electrical work must be performed by qualified personnel and in accordance with all applicable codes and specifications.

Consult the local electrical authority for applicable wiring regulations prior to installation.

Improper wiring or control connections may result in:

- Equipment damage
- System malfunction
- Fire or electrical hazard

Ranger Heating & Air Conditioning Products Inc. is not responsible for damages resulting from improper installation or wiring.

Failure to comply with these requirements may void the manufacturer's warranty.

ADDITIONAL REQUIREMENTS

- All work must be performed by personnel experienced with HVAC and refrigeration systems
- Personnel must be:
 - Certified in refrigerant handling and recovery procedures
 - Familiar with electrical lockout/tagout practices
 - Trained in applicable safety procedures
- All installation and service work must comply with:
 - Local codes
 - Provincial/state requirements
 - Federal regulations
- Before performing any work, personnel must:
 - Read and understand all applicable documentation
 - Be familiar with the equipment and system configuration

If documentation is not available, it may be obtained from:

- Ranger Heating & Air Conditioning Products Inc.
- Your local manufacturer's representative or distributor
- www.rangerhvac.com

If there are any questions regarding installation or service procedures, contact a Ranger service office before proceeding.

2.2 SAFETY SYMBOLS

DANGER Indicates an imminently hazardous situation which will result in death or serious injury.



WARNING Indicates a potentially hazardous situation which could result in death or serious injury.



CAUTION Indicates a situation which could result in equipment damage or minor injury.



NOTE Indicates helpful or important information.

2.3 Document Control and Applicability

In accordance with Ranger Heating & Air Conditioning Products Inc.'s policy of continuous product improvement, specifications and information in this document are subject to change without notice.

Obtaining Current Documentation

The latest revision of this document may be obtained by:

- Contacting Ranger Heating & Air Conditioning Products Inc.
- Contacting your local manufacturer's representative or distributor
- Visiting: www.rangerhvac.com

Responsibility of Personnel

It is the responsibility of all operating and service personnel to ensure that this document applies to the specific equipment being installed or serviced.

If there is any uncertainty regarding document applicability:

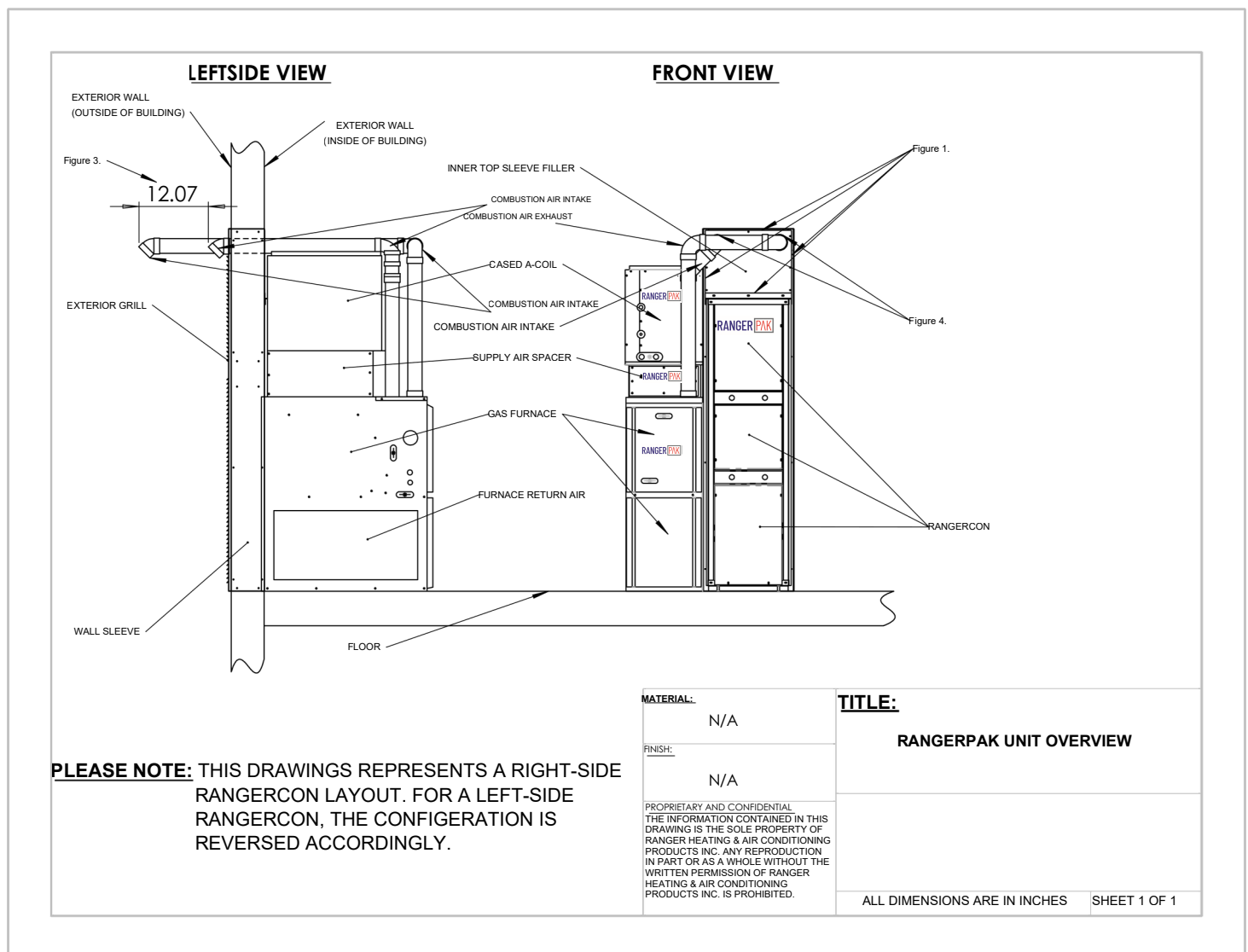
- Verify with the equipment owner whether modifications have been made
- Confirm that the latest revision of this document is being used
- Obtain updated documentation before performing any work

Failure to verify document applicability may result in improper installation, service errors, equipment damage, or unsafe operation.

3.0 UNIT OVERVIEW

The **RANGERPAK** is a thru-the-wall packaged heating and cooling system designed for retrofit and replacement applications, including direct replacement of legacy SKYMARK and FEDDERS systems.

The unit integrates cooling, heating, and air movement components into a compact assembly designed for ease of installation and service.



The **RANGERPAK** system is supplied as an assembly of individual components that must be properly installed and sealed to ensure correct operation and system performance.

Key Components:

- Wall Sleeve – Structural housing installed through the wall to create airflow through the condensor.
- Exterior Grille – Provides protection and allows airflow to and from the outdoor environment.
- Floor – Building / Suite Floor.
- Combustion Air Intake – Draws outside air required for combustion.
- Combustion Air Exhaust – Vents combustion gases safely to the exterior.
- Gas Furnace Section – Provides heating via natural gas.
- Cased A-Coil (Evaporator Coil) – Absorbs heat from indoor air during cooling operation.
- Supply Air Spacer – A spacer between the Furnace & A Coil provided for heat exchanger and drain pan spacing with built in inspection door
- Furnace Return Air – Pathway for return air entering the heating section.
- Inner Top Sleeve Filler – Seals and directs airflow within the sleeve assembly.

Figure 1 – Sealing Requirement All mating surfaces must be sealed using an approved silicone sealant to achieve a continuous airtight seal.

Figure 2 – Unit-to-Sleeve Installation Ensure the RANGERCON is securely fastened against the wall sleeve to properly compress the factory-supplied gasket, creating a continuous airtight seal between the unit and the wall sleeve.

Figure 3 – Combustion Air Clearance Requirements **ATTENTION INSTALLER:** For Dettson furnaces only, maintain a minimum termination separation of 12 in. and a minimum 12 in. center-to-center spacing between the combustion air intake and combustion air exhaust. If the furnace is supplied by others, consult the furnace manufacturer and all applicable local, provincial/state, and federal codes for combustion air requirements, and adjust the installation accordingly.

Figure 4 – Intake/Exhaust Sealing Ensure all air gaps between the combustion air intake, combustion air exhaust, and inner top sleeve filler are sealed using an approved silicone sealant to maintain an airtight seal.

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5.0 INSTALLATION

5.1 Preparing to Remove Existing Equipment



CAUTION: Existing equipment may be heavy. Use proper lifting methods and adequate personnel to avoid injury.

1. Shut off main electrical power at the disconnect and apply lockout/tagout procedures.
2. Disconnect all high-voltage and low-voltage wiring from the unit.
3. Shut off the gas supply and disconnect all gas piping from the furnace section.
4. Disconnect supply and return air duct connections.
5. Disconnect the condensate drain line.
6. Remove all fasteners securing the unit to the wall sleeve or enclosure.
7. Carefully remove the existing unit from the wall sleeve.

5.2 Preparing to Install RANGERPAK

Review all documentation prior to installation and ensure the unit is suitable for the application.

The installer is responsible for ensuring compliance with:

- Manufacturer instructions
- Applicable local, provincial/state, and federal codes

5.3 Installation Safety Rules



WARNING: Use only the specified gas type for the furnace. Do not use natural gas units with propane (LP), or propane units with natural gas. Do not use butane. Incorrect gas application may result in equipment damage, serious injury, or death.

The installer must ensure the following:

- Use only refrigerant specified on the rating plate
- Install furnace per manufacturer's instructions
- Provide adequate combustion and ventilation air
- Vent combustion products outdoors
- Use approved vent termination components
- Follow all applicable codes and regulations

5.4 Gas and Combustion Safety

- Never test for gas leaks using an open flame
- Use an approved leak detection solution
- Ensure all gas piping complies with applicable codes

5.5 Airflow and Ducting Requirements

- Install system within specified temperature rise range
- Ensure ductwork maintains allowable external static pressure

When supplying air outside the furnace space:

- Return air must be fully ducted
- Return duct must be sealed to furnace casing

5.6 Installation Limitations

- Do not use this system for temporary heating or cooling during construction
- Do not operate outside specified conditions

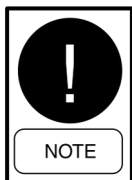
5.7 Installer Responsibilities (Completion)

After installation is complete:

- Show the user how to shut off power
- Identify all control and disconnect locations
- Review system operation and safety precautions

Provide the following documentation to the user:

- Installation Manual
- User Information Manual
- Maintenance & Service Information
- Warranty documentation
- Parts list



NOTE: Ensure the user understands proper operation and maintenance requirements.

5.8 Equipment Inspection



NOTE: Rough handling during shipment may dislodge internal components.

1. Inspect the unit for any signs of shipping damage. Notify Ranger Heating & Air Conditioning Products Inc. of any damage and record it on the shipping receipt.
2. Rotate blower assemblies to ensure free movement.
3. Verify that the compressor is properly mounted:
 - Compressor must be secured on neoprene isolators
 - Nuts must be snug against metal spacer sleeves
4. Inspect all refrigeration tubing:
 - Ensure tubing is not rubbing against other components
 - Verify adequate clearance to prevent damage during operation
5. Report any damage immediately prior to installation.

5.9 Installation Environment



WARNING: Do not install the unit in corrosive or contaminated environments.

- Avoid atmospheres containing chlorinated hydrocarbons or corrosive vapours • Do not store chemicals such as chlorine, bleach, or cleaning agents near the unit Exposure to corrosive vapours may result in premature component failure or unsafe operation.

5.10 Code Compliance

The furnace must comply with all applicable national, provincial/state, and local codes and standards for gas-fired equipment.

- This unit is certified for operation with natural gas (NG) or propane (LP), when properly configured
- The furnace is equipped with a 100% shutoff gas control system

Before installation:

- Verify all applicable codes and regulations
- Confirm local requirements with authorities having jurisdiction
- Refer to local electrical authorities for wiring requirements



NOTE: Applicable codes may take precedence over the instructions in this manual.

5.11 Installation Location Requirements



CAUTION: Improper installation location may result in unit failure or water infiltration.

- Do not install where the unit or wall sleeve is below exterior grade
- Prevent exposure to standing water, rain, or snow accumulation
- Do not install outdoors
- Do not install in mobile homes, trailers, or recreational vehicles

This unit is approved for:

- Indoor installations only
- Site-built structures
- Manufactured homes at final installation location

5.12 Combustion Air Requirements

Combustion air must be properly routed to ensure safe operation.

- Combustion air intake must draw from an appropriate outdoor source
- Exhaust must discharge directly to the outdoors
- Exhaust must be located to prevent recirculation of combustion gases

5.13 Clearance Requirements

The unit is certified for installation with minimum clearances to combustible materials as defined by the furnace manufacturer.

- Minimum clearance to front of unit: 1 inch
- Combustible door may be installed at 1 inch clearance

Service access requirements:

- Minimum 30 inches clearance required when access door is open
- Ensure adequate access for service and component replacement

Additional requirements:

- Do not install directly on carpet, tile, or combustible materials
- Installation on wood flooring is permitted

5.14 Special Installation Conditions



When installed in a residential garage:

- The burner and heat exchanger must be at least 18 inches above the floor
- The unit must be protected from vehicle impact

5.15 Regulatory Notes



NOTE: In the Commonwealth of Massachusetts, this product must be installed by a licensed plumber or gas fitter in accordance with applicable state and local codes.

5.16 Unpacking

Carefully unpack the unit and verify all components are present.

- Inspect all parts prior to installation
- Do not install damaged components

Retain packaging materials as required for inspection or return purposes.

5.17 Venting Requirements

The furnace is approved as a direct vent appliance.

- Combustion air is drawn from outside
- Flue gases must be discharged directly outdoors through the wall sleeve
- Do NOT connect this furnace to any flue pipe or chimney

All venting installations must comply with:

- ANSI Z223.1 / NFPA 54 (U.S.)
- CSA B149.1 (Canada)
- All applicable local codes and regulations

5.18 Vent Terminal Location

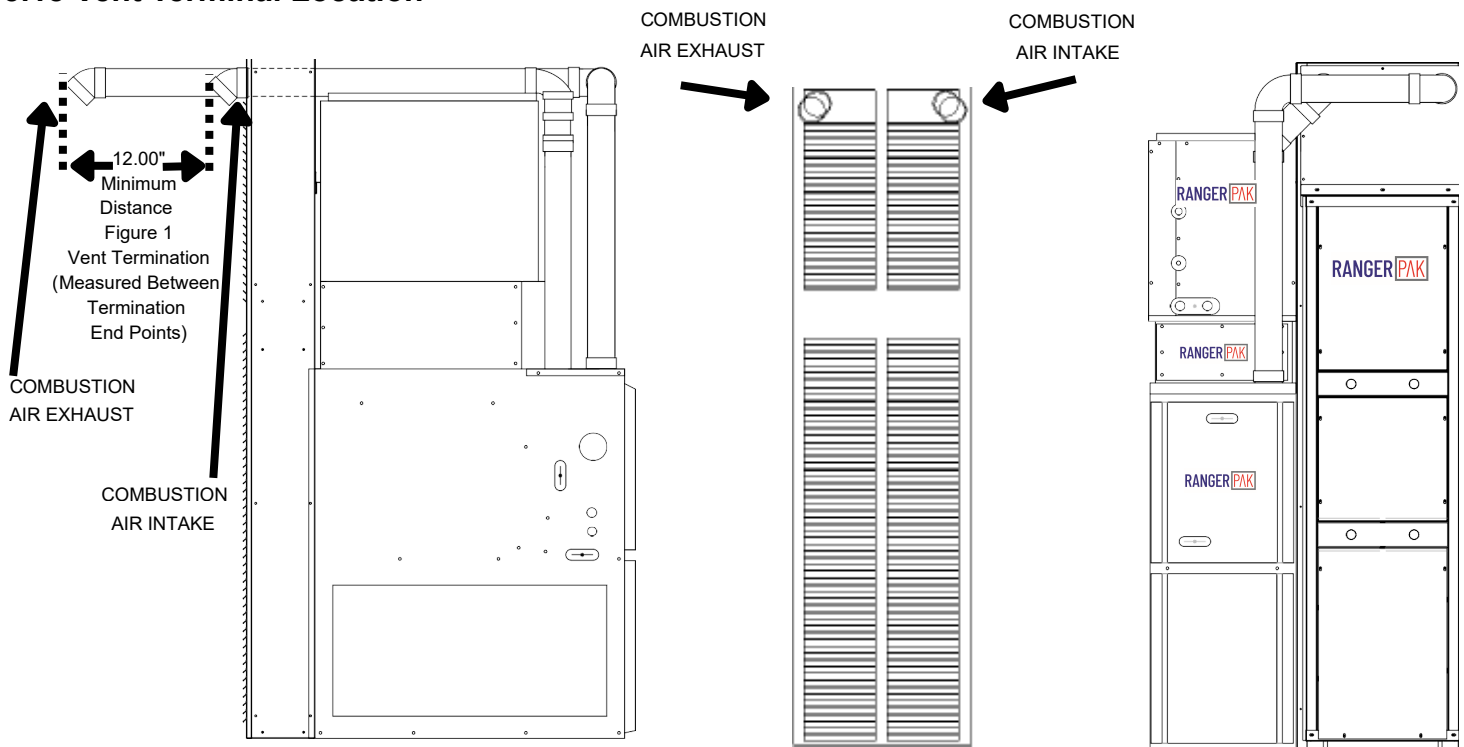


Figure 1 – Minimum Combustion Intake and Exhaust Separation (Measurement taken between termination end points)

The location of the vent termination must comply with the furnace manufacturer's requirements under:

“Direct Vent Terminal Clearances”

Review this information before determining the final unit location to ensure safe operation and code compliance.

5.19 Wall Opening Requirements

A finished opening through the exterior wall is required for:

- Exhausting flue products
- Providing condenser airflow The wall opening must:
 - Be aligned with the unit
 - Be flush with the finished floor Consult local building codes for framing and structural requirements.

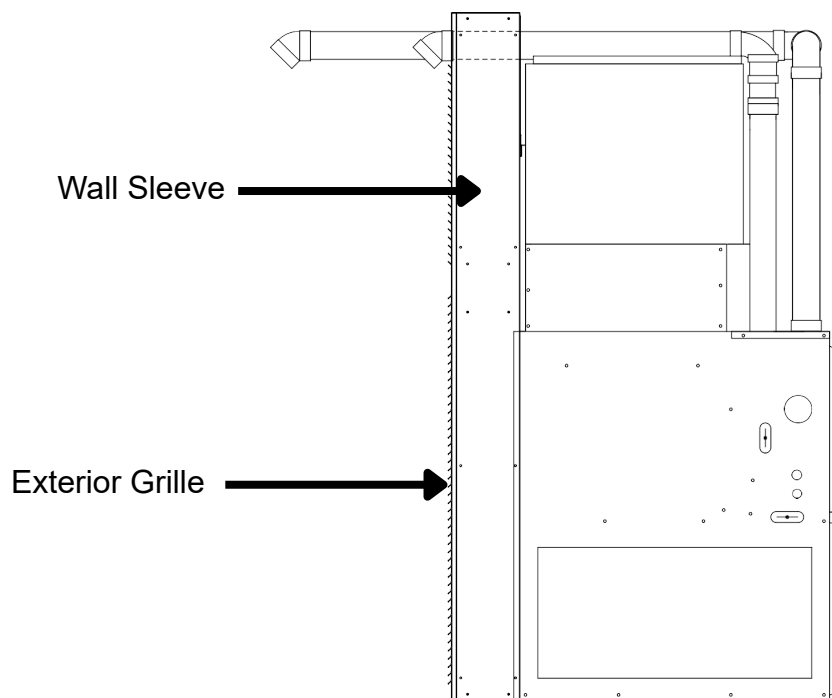


Figure 2 – Installation with Wall Sleeve and Exterior Grille (Standard left-side return configuration shown)

5.20 Wall Sleeve and Grille Configuration

The installation may utilize:

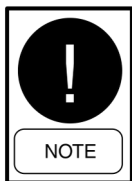
- Factory-supplied grille adapter
- Existing wall grille (if compatible)
- Existing wall sleeve (if structurally sound and properly sized)

All components must be securely installed and sealed to prevent air leakage and water penetration and air leakage.

5.21 Airflow Separation Requirements

The intake and discharge divider plate must be installed between the condenser intake and discharge sections.

- Ensure proper separation between intake and exhaust airflow
- Divider plate must make full contact with the wall or grille surface
- Prevent recirculation of discharge air into the intake



NOTE: The divider plate may require repositioning to align with the top of the coil and bottom of the blower.

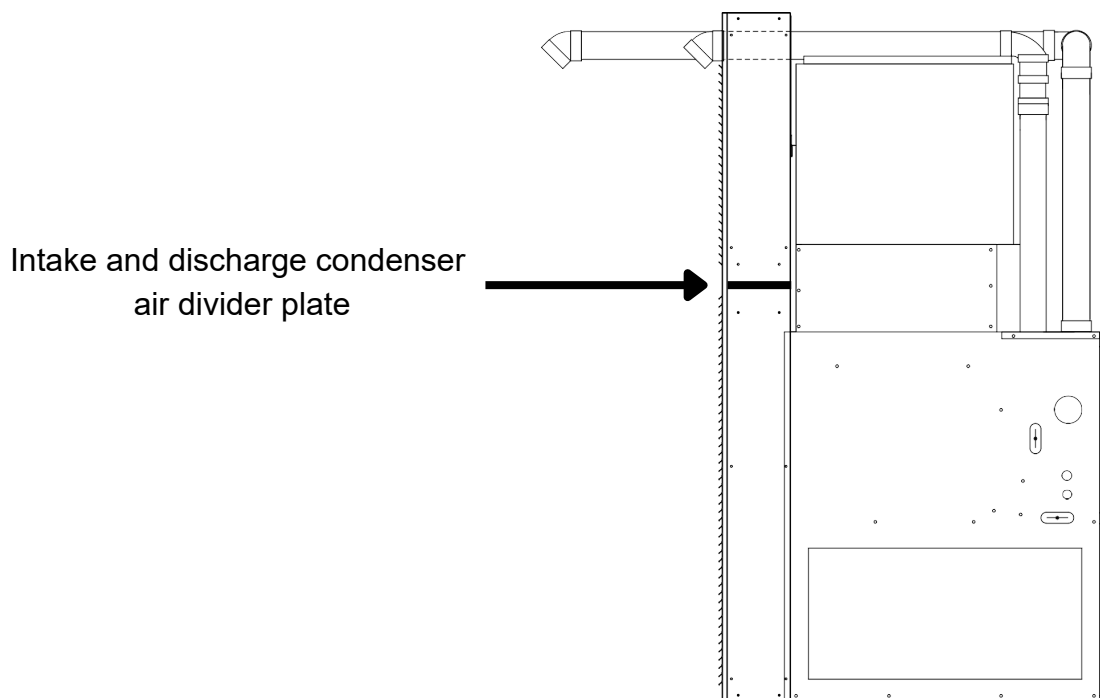


Figure 3 – Intake and discharge condenser air divider plate location (Standard left-side return configuration shown)

5.22 Alternate Exterior Wall Applications

A perforated brick wall opening may be used in place of a louvered metal grille, provided sufficient airflow is maintained.

- Openings must allow adequate intake and discharge airflow
- Divider plate must seal tightly against the brick surface
- Prevent recirculation between intake and discharge air

5.22 Alternate Exterior Wall Applications

A perforated brick wall opening may be used in place of a louvered metal grille, provided sufficient airflow is maintained.

- Openings must allow adequate intake and discharge airflow
- Divider plate must seal tightly against the brick surface
- Prevent recirculation between intake and discharge air

5.23 Vent Piping Requirements

All vent piping must:

- Be certified for the application
- Be installed in accordance with the furnace manufacturer's instructions
- Comply with all applicable codes and regulations

5.24 Combustion Intake and Exhaust Clearance Requirements



WARNING: Improper venting configuration may result in unsafe operation, recirculation of combustion gases, equipment failure, or serious injury.

All combustion air intake and exhaust venting must be installed in accordance with the furnace manufacturer's instructions and all applicable governing codes.

The installer is responsible for ensuring that all venting configurations, clearances, and terminations comply with:

- Furnace manufacturer requirements
- Local, provincial/state, and federal codes

RANGERPAK Supplied Furnace:

- A minimum separation of 12 inches (305 mm) must be maintained between the combustion air intake and combustion air exhaust
- Separation must be measured between the nearest termination end points of each opening

This clearance is required to:

- Prevent recirculation of exhaust gases
- Ensure proper combustion air supply
- Maintain safe and reliable system operation

Furnace Supplied by Others:

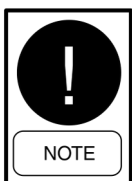
- Venting configuration and termination requirements must follow the furnace manufacturer's instructions
- Any differences in required spacing or venting configuration must be adhered to by the installer

Responsibility and Liability:

Failure to comply with furnace manufacturer venting requirements and applicable codes:

- May result in unsafe operation, equipment damage, or system failure
- Is not the responsibility of:
 - Ranger Heating & Air Conditioning Products Inc.
 - The furnace manufacturer

The installer is solely responsible for ensuring proper venting configuration, termination spacing, and code compliance.



NOTE: Separation distance must be measured at the termination end points, not from pipe centerlines or mounting locations.

5.25 Wall Sleeve Installation

A wall sleeve is required to complete the wall opening.

- A factory-supplied wall sleeve is available as an optional accessory
- Retrofit models are designed to mate with existing FEDDERS or SKYMARK sleeves

Ensure the wall sleeve is properly installed:

- Use a spirit level or plumb line to confirm vertical alignment of sleeve flanges
- Flanges must be perfectly vertical to ensure proper sealing against the unit



NOTE: Completely seal all gaps around the wall sleeve using exterior-grade caulking or expanding foam to prevent air leakage and weather penetration.

5.26 Exterior Grille Installation

Finish the exterior of the sleeve using the approved grille.

- Existing grille may be used if compatible
- Factory-supplied grille and vent terminal are available if required

Ensure the grille is securely installed and properly aligned.

5.27 Airflow Divider Plate (Retrofit Applications)

In retrofit installations:

- Install or reposition the divider plate between:
 - Top of the coil
 - Bottom of the blower

This ensures proper separation between intake and discharge air.

Refer to the airflow separation diagram in Section 5.21 for correct positioning.

Failure to properly install the divider plate may result in:

- Short-cycling of condenser air
- Reduced system performance

5.28 Installing Ductwork



CAUTION: Install all ductwork in accordance with applicable standards.

- Size ductwork based on heat loss and heat gain calculations
- Ensure proper airflow delivery for heating and cooling

Duct systems must be designed within the allowable external static pressure range specified by the furnace manufacturer.

Refer to:

- ASHRAE / NFPA 90
- Applicable local, provincial/state, and federal codes

5.29 Vent Pipe Installation

Before positioning the unit:

1. Remove existing grille louvers as required to accommodate vent openings
2. If installing a new RANGERPAK High Efficiency Grille:
 - Remove the existing exterior grille completely
 - Install the factory-supplied RANGERPAK High Efficiency Grille
 - Grille installation must comply with Section 5.26 – Exterior Grille Installation
 - Ensure intake and exhaust combustion openings are properly aligned with vent piping
3. Install vent piping through the adapter opening:
 - Use short pipe section with 45° elbow
 - Connect using approved coupling
4. Cut vent pipe extension to required length based on wall sleeve depth
5. Install vent extension:
 - Connect inside the unit enclosure
 - Connect to 45° coupling at sleeve finish plate
6. Secure vent pipe extension to sleeve cover plate

Combustion Intake and Exhaust Separation



WARNING: The combustion air intake and combustion air exhaust must maintain a minimum separation of 12.00 inches (305 mm) at the termination end points.

- Separation must be measured between the nearest termination end points of each opening
- Do NOT measure from pipe centerlines or mounting locations

Failure to maintain this minimum separation may result in:

- Recirculation of combustion gases • Improper combustion air supply
- Reduced system performance
- Unsafe operating conditions

IMPORTANT INSTALLATION RESPONSIBILITY

This separation requirement applies to all installations:

- RANGERPAK-supplied furnaces
- Furnaces supplied by others

When a furnace is supplied by others:

- The installer must verify and confirm that all venting meets the furnace manufacturer's requirements prior to installation
- The installer must perform due diligence to ensure proper venting configuration, termination placement, and clearances.

RESPONSIBILITY AND COMPLIANCE

The installer is solely responsible for:

- Verifying proper venting configuration
- Ensuring all combustion air and exhaust requirements are met
- Confirming compliance with applicable codes and manufacturer specifications

Failure to follow furnace manufacturer venting requirements:

- May result in unsafe operation, equipment damage, or system failure
- Is not the responsibility of:
 - Ranger Heating & Air Conditioning Products Inc.
 - The furnace manufacturer

INSTALLATION SEQUENCE NOTE

Vent pipe installation, grille configuration, termination spacing, and positioning must be completed and verified before the furnace is placed in its final position and secured to the wall sleeve.

5.30 Unit to Sleeve Attachment

Before installation:

- Ensure factory gasket is properly applied to condensing section flanges
- Confirm gasket alignment with wall sleeve flanges

Installation steps:

1. Move unit carefully into position
2. Align unit with sleeve opening
3. Slide unit forward until gasket compresses and seals

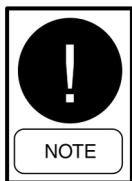
Ensure:

- Bottom flange of unit is above wall sleeve flange
- Unit is level using front leveling screws only
- Use two (2) #10 x 1/2" self-drilling sheet metal screws
- Attach to sleeve flange using provided angle

5.31 Securing Unit with Mounting Angle

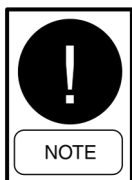
- Use 1-3/8" x 1-3/8" x 16" angle (supplied with unit)
- Position at rear top of condensing unit
- One flange facing upward, flush with back of unit
- Secure using two #10 x 1/2" self-drilling screws

5.32 Installation Notes



NOTE: If unit is installed off-center:

- Field-fabricated flanges may be required on one side



NOTE: Unit may be installed off-center to accommodate furnace space

Failure to properly install and seal the unit may result in:

- Air leakage
- Reduced airflow
- Reduced system performance
- Possible equipment damage

5.33 Supply Air Duct Work



WARNING: Do not store materials or equipment in front of the furnace or service access areas. Adequate clearance must be maintained at all times.

The supply air duct (plenum) connection must:

- Be at least the same size as the furnace supply air opening
- Be securely fastened to the 1" flange on the cased coil
- Be sealed to the furnace casing and all penetrations through walls, ceilings, or floors

All supply air ductwork must terminate outside of the furnace space.



NOTE: The unit is approved as a direct vent application.

5.34 Airflow Balancing

To ensure proper system performance:

- Install dampers in branch ducts for airflow balancing
- Adjust dampers to maintain even temperature distribution

Verify the following:

- Supply air registers and return air grilles are open
- No obstructions (furniture, rugs, curtains) block airflow
- Supply air plenum is correctly sized and shaped
- Adequate number of supply air outlets are installed

5.35 Filter Rack Installation (Side Return)



CAUTION: Air filters are required to keep the system clean. Dirty filters may lead to equipment damage or reduced performance.

- Remove the pre-punched opening in the side of the furnace
- Install the filter frame (field-supplied or as specified)
- Follow all furnace manufacturer instructions

Proper filtration is required to protect:

- Evaporator coil
- Blower motor
- Heat exchanger

5.36 Refrigeration Connections



WARNING: Access ports are shipped pushed inside the unit to prevent damage. Push ports outward through the provided grommets prior to use.

IMPORTANT:

- DO NOT use access ports for evacuation
- Use only factory service valve ports prior to opening the system

The RANGERPAK is factory charged.

Access ports are used only during:

- Final start-up
- Superheat or sub-cooling adjustment

5.37 Evacuation and Charging Procedure

Once all refrigeration connections are complete and pressure tested:

- Evacuate system to a minimum of 200 microns
- Record vacuum level on installation checklist

After evacuation:

1. Remove service valve caps
2. Open service valves:
 - Turn valve stem 1/4 turn counter-clockwise
 - Ensure stem flats align with valve body



CAUTION: Improper valve position may restrict refrigerant flow.

3. Replace valve caps and tighten hand-tight

5.38 Leak Testing

If leakage is detected:

- Tighten (snug) packing nut
- Reinstall valve cap
- Perform leak test using approved soap solution
- Repeat until no leaks are detected

Repeat procedure for all service valves.

5.39 Refrigeration Line Installation



CAUTION: Refrigeration tubing is routed through the top panel of the condensing unit.

- Do NOT drill or fasten screws into this area
- Avoid damaging internal tubing

Installation requirements:

- Install line sets between condensing unit and evaporator coil
- Ensure piston is located at liquid line connection
- Remove liquid line fitting before connecting tubing
- Install the supplied filter drier in the liquid line
- Ensure proper orientation (flow direction)
- Install as close to the evaporator coil as practical



WARNING: Failure to install the supplied filter drier may result in reduced system reliability and premature component failure.

Routing requirements:

- Do not block access panels
- Ensure service accessibility is maintained

5.40 Coil and Supply Assembly

Install components in the following order:

1. Install supply air spacer on top of furnace
2. Install cased evaporator coil on top of spacer
3. Connect supply air duct to coil flange

Ensure airtight connections between all components.

5.41 Combustion Air Requirements

The furnace is designed to draw combustion air from outdoors.

- No additional indoor combustion air openings are required
- Follow all local code requirements for combustion air

For mid-efficiency applications:

- Follow furnace manufacturer instructions
- Comply with all applicable codes

5.42 Alternative Filter Arrangements – Bottom Return Plenum

When a bottom return plenum is used:

- Remove the pre-punched opening in the bottom of the furnace cabinet



NOTE: Proper filtration is required to protect system components and ensure proper airflow.

- No filters are supplied with this unit
- The installing contractor must provide and install filters of the correct size

5.43 Furnace Gas Entry Piping

A connection point is provided for gas piping:

- A hole and rubber grommet are provided in the side of the cabinet
- Designed to accept 1/2 inch gas piping to the gas control

Alternate routing:

- Gas piping may enter through the top of the cabinet if required
- Knockouts are provided for this purpose

All gas piping installation must:

- Follow furnace manufacturer instructions
- Comply with all applicable local and national codes

Plan routing carefully:

- Do NOT obstruct service access doors
- Maintain accessibility for servicing burner assembly and controls

5.44 Installing Gas Piping



WARNING: FIRE OR EXPLOSION HAZARD

Failure to follow these instructions could result in serious injury, death, or property damage.

- Never test for gas leaks with an open flame
- Use an approved leak detection solution to check all connections

Failure to follow proper procedures may result in:

- Fire or explosion
- Property damage
- Personal injury or loss of life

5.45 Gas Piping Requirements

Gas piping must comply with:

- ANSI Z223.1 (U.S. National Fuel Gas Code)
- CSA B149 (Canada)
- All applicable local codes

Pipe sizing depends on:

- Length of piping
- Number of fittings
- Specific gravity of gas
- Total input (Btuh) of connected appliances

Installation requirements:

- Route piping to avoid interference with:
 - Burner assembly removal
 - Blower access
 - Service panels
- Do not obstruct any access doors

5.46 Pipe Preparation

- Use pipe thread sealant approved for propane (LP) gas
- Apply sealant to male threads only
- Start application a minimum of two threads back from pipe end



CAUTION: Prevent contamination of gas system components

- Do not overapply sealant

5.47 Gas Piping Installation

Install the following components in the gas supply line:

1. Manual Shut-Off Valve
 - Install upstream of the furnace
 - Must be A.G.A./C.G.A. listed
2. Drip Leg (Sediment Trap)
 - Install at furnace inlet connection
 - Located downstream of shut-off valve
3. Ground Joint Union (if using black iron pipe)
 - Install between drip leg and furnace gas control
 - Must be A.G.A./C.G.A. listed
 - Locate downstream of shut-off valve for serviceability

5.48 Installation Guidelines

Ensure proper installation by verifying:

- All connections are properly tightened
- Piping is supported and properly aligned
- No strain is applied to furnace gas control valve

Check for:

- Accessibility of shut-off valve
- Proper alignment with furnace inlet
- Clearance for future servicing

5.49 Final Checks

After installation:

- Perform a complete leak test using approved solution
- Verify system is free of leaks before operation
- Confirm all components are installed correctly

DO NOT proceed with furnace operation until all gas connections have been verified and tested.

5.50 Gas Leak Testing and Verification



WARNING: FIRE OR EXPLOSION HAZARD

Improper gas testing procedures may result in fire, explosion, property damage, serious injury, or death.

During gas supply line testing:

- 1) Isolate the gas control from the gas supply line pressure
 - For test pressures ≤ 14 " W.C. (1/2 PSI):
 - Place furnace gas control switch in the OFF position
 - For test pressures > 14 " W.C. (1/2 PSI):
 - Completely disconnect the gas control from the gas supply line
- 2) After testing, check all gas piping for leaks:
 - Use a commercially available soap solution
 - Never use an open flame



NOTE: IMPORTANT GAS CONNECTION

- Use only new UL-listed flexible connectors (if permitted by local codes)
- Do not reuse previously installed connectors
- Install gas piping to the inlet side of the furnace gas control



WARNING: Do not thread gas piping too far into the control valve.

- Over-threading may crack or damage the valve body
- May result in gas leak, fire, or explosion

5.51 Electrical Requirements

Before installation:

- Verify voltage and phase on condensing unit and furnace rating plates
- Ensure power supply matches nameplate ratings

Failure to operate within specified voltage range:

- May damage compressor or electrical components
- Will void manufacturer warranty

Ensure installation provides:

- Protection of all electrical components from water exposure

5.52 Electrical Connections – High Voltage



WARNING: Refer to local electrical codes for wiring requirements.

Installation steps:

1. Remove electrical access and blower access panels
2. Route conduit or armored cable:
 - Use provided entry knockouts
 - Install connectors appropriate for wire size
3. Install field-supplied fused disconnect:
 - Must be within sight of the unit

4. Connect grounding:

- Use factory-installed ground lug
- Connect:
 - Supply ground
 - Gas pipe ground



NOTE: The RANGERPAK includes a dedicated grounding lug for bonding the gas piping.

5. Connect line voltage wiring:

- Connect to compressor contactor “K1” at terminals L1 and L2
- Ensure proper polarity is maintained

6. Secure and verify wiring:

- No exposed conductors
- Tighten all terminals to specification
- Pull-test all connections to verify tightness

7. Reinstall all access panels after connections are complete

5.53 Aluminum Wire Connections (If Applicable)



WARNING: Improper aluminum wire connections may cause overheating or failure.

When connecting aluminum conductors:

- Clean wire using a wire brush to remove oxidation
- Apply approved oxide inhibitor / joint compound
- Ensure secure, corrosion-resistant connections

5.54 Condensate Drain Piping

The condensate drain pan is provided with 3/4" NPT female connection.

Installation requirements:

- Use 3/4" drain piping
- Routing piping horizontally until clear of the unit casing
- Do not route piping across access panels

Install condensate trap:

- Minimum 2" trap depth
- Outlet must be at least 1/2" below inlet

Drain piping after trap:

- Pitch at minimum 1/4" per foot downward
- Terminate at an approved open drain

Serviceability:

- Install unions:
 - Between unit and trap
 - On outlet side of trap

For furnace drain connections:

- Follow furnace manufacturer instructions

5.55 Transformer Line Voltage Adjustment (Q2 2026 Configuration)



CAUTION: Line voltage must be verified prior to energizing or adjusting the unit. Failure to confirm supply voltage may result in improper operation, equipment damage, or personal injury.



NOTE: The transformer primary wiring is factory preset for 230V input. Adjustment is required when the incoming supply voltage is 208V to ensure proper transformer performance and correct 24V control voltage to the furnace. Proper input selection is required to maintain furnace supply voltage as close as possible to 120V.

1. Remove Access Panel
Remove the electrical access door on the condensing unit.
2. Verify Supply Voltage and Determine Requirement
 - Measure incoming line voltage to confirm whether supply is 208V class (197–216V) or 230V class (220–240V)
 - Ensure voltage selection will maintain furnace input voltage as close as possible to 120V
 - Note: A typical difference of approximately 10V may be observed between the 208V and 230V transformer tap outputs
 - If measured voltage falls within the 230V range, no adjustment is required and factory wiring should remain unchanged

3. De-energize and Lock Out Unit

- De-energize the unit at the main disconnect
- Apply lockout/ tag-out (LOTO) procedures in accordance with site safety requirements
- Verify absence of voltage prior to proceeding

4. Set Transformer Primary Voltage

- Identify terminal blocks labeled “230V A & B” (factory connection) and “208V A & B”
- Confirm conductor identification prior to relocation
- Loosen terminal screws at 230V A & B and remove the supply conductors
- Loosen terminal screws at 208V A & B
- Relocate the supply conductors from 230V A & B to 208V A & B, ensuring correct placement and phase alignment

5. Secure Electrical Connections

- Ensure conductors and ferrules are fully seated within terminal clamps
- Tighten 208V A & B terminal screws to specified torque
- Tighten unused 230V A & B terminal screws to maintain terminal integrity

6. Connection Verification

- Perform a pull test on all conductors to confirm secure termination

7. Restore Power and Verify Operation

- Remove lockout/ tag-out devices and re-energize the unit
- Measure voltage between “X1” and “X2” to verify transformer output
- Confirm output meets required control voltage (nominal 24V)
- Verify stable operation of control components (e.g., contactor engagement) to ensure proper voltage selection

8. Reinstall Access Panel

Reinstall the electrical access door



WARNING: Incorrect voltage configuration may result in equipment damage or improper operation.

5.56 Furnace Section Start-Up



WARNING: ELECTRICAL HAZARD

- Furnace is supplied with a separate electrical circuit
- A 115V fused circuit is provided within the condensing unit

Failure to follow electrical requirements may result in:

- Electrical shock
- Fire
- Property damage
- Personal injury or death

All electrical work must comply with:

- ANSI/NFPA 70 (National Electrical Code)
- CSA C22.1 (Canadian Electrical Code)
- All local and provincial/state codes

Ensure:

- A disconnect is installed (if not factory-provided)
- Furnace is properly grounded at all times

5.57 Low Voltage (24V) Control Wiring

1. Remove electrical access door
2. Complete 24V wiring to furnace:
 - Follow furnace manufacturer instructions
 - Match wiring to thermostat connections
3. Connect control wires:
 - Loosen terminals labeled “C” and “Y”
 - Insert wires and tighten securely
4. Verify wiring:
 - No exposed conductors
 - Secure connections at all terminals
5. Pull-test all wires to confirm secure installation
6. Reinstall access door

5.58 Furnace Power Connections

1. Remove electrical access door
2. Route conduit or armored cable:
 - Use factory knockouts
 - Install proper connectors
3. Connect grounding:
 - Connect ground wire to terminal block
 - Ensure secure bonding
4. Connect power wiring:
 - Terminals marked “X1” and “X2”
 - Verify correct polarity

5. Secure all connections:

- No exposed conductors
- Tighten all screws to specification
- Pull-test wires for secure connection

6. Verify supply voltage:

- Adjust transformer if required (refer to Section 5.55)

7. Reinstall access door

5.59 Wiring Requirements

All field wiring must:

- Be rated for minimum 95°F (35°C) temperature rise
- Be installed in accordance with applicable codes

Ensure:

- All electrical connections are checked for tightness
- Wiring is installed per provided diagrams



NOTE: Wiring diagrams are located on the inside of the electrical access door

5.60 Thermostat Installation

Install thermostat in a suitable location:

- On an interior wall
- Away from drafts
- Away from supply air registers
- Not near heat sources (lights, TVs, sunlight)

Install thermostat according to field wiring diagram and manufacturer instructions.

5.61 Related Information and Publications

The following standards and publications may be referenced:

Gas-Fired Central Furnaces:

- AGA/ANSI Z21.47 / CAN/CGA-2.3

Heating & Cooling Equipment:

- UL 1995 / CAN/CSA-C22.2 No. 236 Gas

Installation Codes:

- CAN/CGA-B149.1 / B149.2
- ANSI Z223.1 / NFPA 54

Electrical Codes:

- ANSI/NFPA 70
- CSA C22.1 (Canadian Electrical Code, Part I)

Duct Systems:

- ASHRAE / NFPA 90



NOTE: Always use the latest edition of all referenced codes



NOTE: Local and provincial/state codes take precedence over all publications

5.62 Final Notes

- Refer to furnace manufacturer installation instructions and checklists
- Ensure all installation steps are completed before system start-up

For all wiring regulations:

- Consult the local electrical authority

5.63 Pre-Start Electrical Verification

Before energizing the system:

- Inspect all electrical connections for tightness
- Verify all terminals, lugs, and contactor connections are secure
- Retighten all field and factory connections as required to specification

Failure to properly secure electrical connections may result in:

- Equipment damage
- Overheating
- Electrical failure
- Reduced system reliability

5.64 Pre-Start Operational Safety Checks

Before starting the RANGERPAK system, ensure the following:

- All access panels and doors are fully installed and secured
- Blower section access door is properly installed
- Condensing unit access door is properly installed



WARNING: EQUIPMENT DAMAGE / IMPROPER OPERATION

Do NOT operate the RANGERPAK condensing unit with blower or condenser access doors removed.

Operating the unit without panels installed may:

- Cause airflow bypass across the condenser coil
- Result in improper system performance
- Lead to equipment damage and reduced efficiency

5.65 System Readiness Checklist

Prior to system start-up, verify the following:

- ☐ Electrical connections checked and tightened
- ☐ Refrigeration system evacuated and charged
- ☐ Gas piping leak tested and verified
- ☐ Venting and termination clearances confirmed
- ☐ Supply air ductwork installed and sealed
- ☐ Filters installed and properly positioned
- ☐ All access panels and doors installed



NOTE: Failure to complete all pre-start checks may result in improper operation or equipment damage.

5.66 Maintenance Reference – Condenser Coil Cleaning

Proper maintenance of the condenser coil is essential for long-term system performance and reliability.

- The condenser coil must be kept clean and free of debris
- Accumulation of dirt or blockage may reduce airflow and efficiency

Refer to:

Section 6.1 – Condenser Coil Cleaning Procedure for detailed cleaning instructions and recommended tools.

5.67 Final Start-Up Preparation

- Confirm all installation steps have been completed
- Ensure the system is clear of tools, debris, and obstructions
- Verify system is ready for safe operation

Only proceed with start-up once all checks have been completed.

6.1 COMPLETE MAINTENANCE PROCEDURE (CONDENSING UNIT)

Applies To: RANGERPAK Condensing Units (Gas or Electric) All generations and cooling capacities

6.1.1 Safety Requirements

- Follow all site safety requirements and wear appropriate PPE
- Lock out and tag out all power sources before service
- Do not bypass safety devices or interlocks



WARNING: Do not operate the unit with any access panels or doors removed. Operating without panels installed may cause airflow bypass across the condenser coil and result in improper operation or equipment damage.

6.1.2 Do Not Use

- Water, pressure washers, or steam
- Coil cleaning chemicals unless approved
- Air blown from outside inward • Air nozzle contacting coil fins

6.1.3 Recommended Tools

- Regulated compressed air or nitrogen
- High-pressure air blow gun
- 24" rigid or extendable nozzle

Optional:

- Shop vacuum for debris control

6.1.4 Pressure Guidance

- Use regulated low-to-moderate pressure
- Increase only as required
- Excessive pressure may damage coil fins

6.1.5 Condenser Coil Cleaning Procedure (Detailed)



NOTE: Cleaning must always be performed from inside the unit outward. Failure to follow this direction will force debris into the coil and reduce system performance.

1. Disconnect, lock out, and tag out the unit
2. Remove blower access panel
3. OPTIONAL – Remove blower assembly for improved access
 - Removal depends on technician preference and unit layout
 - If removed: - Insert shop vacuum hose through blower opening
 - Position hose near cleaning area
 - Run continuously to capture debris and improve results
4. Connect air blow gun to regulated compressed air or nitrogen
 - Verify pressure is properly set before proceeding
5. Clean condenser coil from **INSIDE** outward
 - From fan side toward exterior sleeve
 - Use controlled up-and-down motion
 - Work methodically to avoid missed areas
6. Divide coil into manageable sections
 - Clean one section at a time
 - Ensure complete coverage before moving on
7. Maintain proper nozzle distance
 - Keep nozzle close without contacting fins
 - Do not bend or damage coil
8. Work carefully around internal components
 - Avoid refrigerant tubing, wiring, and electrical components
 - Adjust nozzle angle as required
9. Continue until entire coil is clean and free of debris

10. Reassemble unit

- Reinstall blower assembly (if removed)
- Reinstall all access panels and doors
- Remove lockout/tagout devices
- Restore power



WARNING: Do not operate the unit unless all panels are installed and secured.

6.1.6 Filter Maintenance

- Inspect air filters regularly
- Replace or clean as required

Typical intervals:

- Residential: every 1–3 months
- High dust environments: more frequent

Dirty filters may result in:

- Reduced airflow
- Coil icing or overheating
- Reduced efficiency
- Premature equipment failure

6.1.7 Electrical Inspection

Before each heating and cooling season:

- Inspect all electrical connections for tightness
- Verify terminals, lugs, and contactor connections are secure

Before each heating and cooling season:

- Loose wiring
- Overheating or discoloration
- Corrosion



WARNING: Loose electrical connections may result in overheating, equipment failure, or fire hazard.

6.1.8 Condensate Drain Inspection

- Verify drain piping is clear and unobstructed
- Ensure trap is properly installed and primed

Check:

- Minimum slope of 1/4" per foot
- No leaks or standing water

Failure to maintain drain system may result in:

- Water damage
- Equipment malfunction

6.1.9 General System Inspection

At the start of each season:

- Verify all panels and doors are installed
- Ensure unit is free of debris and obstructions
- Confirm airflow paths are unobstructed

Inspect for:

- Unusual noise or vibration
- Signs of refrigerant leaks
- Damaged or worn components

6.1.10 Final Check

- Coil clean and unobstructed
- Filters clean and properly installed
- Electrical connections tight
- Drain system functioning
- Unit fully reassembled

DO NOT operate unit until all checks are complete.

6.1.11 Maintenance Interval

- Inspect periodically under normal operation
- Increase frequency in high dust or contaminated environments

Failure to perform routine maintenance may result in:

- Reduced system performance
- Increased energy consumption
- Premature component failure

7.0 COMMISSIONING & SUPPORT DOCUMENTATION

NOTE:

This section contains required documentation and procedures for:

- System commissioning
- Performance verification
- Warranty validation
- Product support

All installers and service personnel must complete and reference these documents following installation.

PURPOSE

This section provides the documentation framework required to:

- Verify proper system installation and operation
- Record commissioning data
- Validate warranty eligibility
- Standardize support and RGA processes

7.1 RANGERPAK START-UP SHEET

This document must be completed at the time of installation.

Used to:

- Record installation details
- Verify system operation
- Validate warranty eligibility

IMPORTANT:

This document must be submitted within (7) days of installation.

Refer to: Section 7.6 (Page 48)

7.2 PERFORMANCE VERIFICATION CHECKLIST

Used to verify system performance under operating conditions.

Includes:

- Voltage and amperage measurements
- Refrigeration pressures and temperatures
- Airflow and system performance checks

Refer to: Section 7.7 (Page 49)

7.3 RGA & WARRANTY PROCESS

This document outlines the process for:

- Submitting warranty claims
- Obtaining RGA authorization
- Returning parts and equipment

IMPORTANT:

All warranty claims must follow the defined process.

Refer to: Section 7.8 (Page 50, 51, 50)

7.4 WARRANTY REQUEST FORM

This form must be completed to initiate any warranty claim.

Incomplete submissions will not be processed.

Submit to:

warranty@rangerhvac.com

Refer to: Section 7.9 (Page 53)

7.5 ADDITIONAL DOCUMENTATION

The following documents support system validation:

- Installation checklists
- Maintenance records
- Service documentation

These documents may be required to support warranty claims.

IMPORTANT NOTES

- All commissioning documentation must be completed and retained
- Documentation may be required for warranty validation
- Failure to complete required documentation may result in denial of warranty

Ranger Heating & Air Conditioning Products Inc.

RANGERPAK START-UP SHEET (Section 7.6)

Job Name: _____
 Date of Install: _____
 Job Address: _____
 Tech. Arrival Time: _____ Tech. Departure Time: _____

Company Name: _____
 Company Address: _____
 Tech. Name: _____
 Length of Unit Run Time: _____ Tech. Certificate #: _____
 Has The Installation / Commissioning Video Been Watched: Yes No

Physical Inspection		
Is there shipping damage?	Yes	No
If Yes, Where?		
Will this damage effect the units operation?	Yes	No
Is the unit level?	Yes	No

Electrical		
What is the measured incoming voltage?		
What is the measured furnace supply voltage?		
What is the measured control voltage?		
Have circuits been grounded?	Yes	No
Have electrical connections been checked for tightness?	Yes	No
Have the circuits been checked for shorts & ground faults?	Yes	No
Is there a disconnect switch connected?	Yes	No
What is the circuit breaker size in Amps?		
Is the breaker correctly sized?	Yes	No
Are the wires sized correctly?	Yes	No
Are necessary grommets secured and in place?	Yes	No

Please Note: If Supply Voltage Is Less Than 208 Volts Or More Than 230 Volts Contact Your Supplier Immediately For Support As This May Cause Faults.

Piping		
Have leak checks have been preformed?	Yes	No
Has the condensate tube been routed correctly?	Yes	No
Has a P-Trap been installed?	Yes	No

RANGERCON		
Brand:		
Model:		
Serial:		
Date of Installation:		
Type:	Gas	Elec
Evap Coil Orientation:	Vert	Horiz
Duct Size:		
Motor CFM Setting:		
<i>(Motor CFM Setting Cooling 400 CFM per ton)</i>		
Air filter Size:		
Air filter condition:	New	☐ Good ☐ Replace ☐
Has The Divider Bracket Been Installed/ Moved:	Yes	No

Before Leaving Job & Sign Off		
Has the RANGERCON installation checklist been completed?	Yes	No
Has the RANGERCON installation checklist been emailed to startup@rangerhvac.com?	Yes	No
Owners Manual given /emailed to Customer?	Yes	No
Is the Thermostat operating correctly?	Yes	No
Has the customer been informed how to operate unit?	Yes	No

Refrigeration		
Refrigerant Type:		
Has a filter drier installed?	Yes	No
Factory charge (oz)?		
Added or subtracted charge (oz)?	+ or -	
Adjusted total charge (lbs / oz)?		
Have the service valve been opened? (Quarter turn anti clock-wise)	Yes	No
Have leak checks have been made?	Yes	No
Super-heat / Sub-cooling?		
(CHARGING INFORMATION: IF REQUIRED AJUST CHARGE IN UNIT AS FOLLOWS 9° - 12° SUPERHEAT (FOR PISTON SYSTEMS) OR 9° - 12° SUB COOLING (FOR TX-VALVE SYSTEMS)		
Air entering outdoor temp. F°?		
Air entering indoor temp. F°?		
Air exiting indoor temp. F°?		
Evaporator Delta T F°?		
Discharge gas temp. F°?		
Vapor line gas temp. F°?		
Discharge line pressure PSIG?		
Suction line pressure PSIG?		
A2L refrigerant?	Yes	No
Have appropriate warning labels been installed?	Yes	No
Has evaporator coil & line set been evacuated to minimum 200 microns?	Yes	No
Has a vacuum gauge leak test preformed?	Yes	No
Has a A2L refrigerant detection system been installed (where applicable)?	Yes	No
Notes:		

Technician / Installer Signature: _____
 Customer Signature: _____

PLEASE SUBMIT COMPLETED SO WARRANTY / SUPPORT CAN PROCEED.
IN ORDER TO VAILATE MANUFACTURERS WARRANTY THE RANGERPAK START-UP SHEET MUST BE COMPLETED & SUBMITTED TO startup@rangerhvac.com WITHIN (7) DAYS OF INSTALLATION.

Failure to submit completed start-up package may result in a default to Rangers Standard warranty (1 Year Compressor 1 Year covered components).

Ranger Heating Air Conditioning Products Inc.

PERFORMANCE VERIFICATION CHECKLIST (Section 7.7)

JOB NAME: _____	COMPANY NAME: _____
DATE: _____	COMPANY ADDRESS: _____
JOB ADDRESS: _____ _____	TECHNICIAN NAME: _____
	TECH. CERTIFICATE #: _____
UNIT MODEL : _____	UNIT SERIAL: _____
NAME PLATE VOLTAGE: _____	NAME PLATE AMPERAGE: _____
OUTDOOR AMBIENT AIR TEMP. AT START-UP _____	LENGTH OF RUN TIME OF UNIT _____
ARRIVAL TIME: _____ DEPARTURE TIME: _____	
ELECTRICAL	ELECTRIC HEAT
SUPPLY VOLTAGE UNIT OFF: 1 & 2 _____ 1 & 3 _____ 2 & 3 _____	# OF KW: STAGE #1 _____ KW #2 _____ KW
ACTUAL CONTROL VOLTAGE: _____	#3 _____ KW #4 _____ KW
DISCONNECT: YES ☐ NO ☐ SIZE: _____	ACTUAL VOLTAGE: L1 _____ L2 _____
DISCONNECT FUSE SIZE: _____ AMPS	ACTUAL AMPS: L1 _____ L2 _____
CONNECTIONS CHECKED FOR TIGHTNESS: ☐	TEMP RISE: _____ °F RETURN AIR: _____ °F SUPPLY AIR: _____ °F
CIRCUIT CHECKED FOR SHORTS & GROUND FAULT ☐	GAS HEAT
Please Note: If Supply Voltage Is <i>Less Than 208 Volts Or More Than 230 Volts</i> Contact Your Supplier Immediately For Support As This May Cause Faults.	SAFETY CONTROLS CHECKED ☐
REFRIGERATION CIRCUIT	INDUCED DRAFT BLOWER FREE ☐
CHARGING INFORMATION: IF REQUIRED ADJUST CHARGE IN UNIT AS FOLLOWS	FUEL TYPE: _____
9° - 12° SUPERHEAT (FOR PISTON SYSTEMS) OR 9° - 12° SUB COOLING (FOR TX-VALVE SYSTEMS)	GAS PIPE LENGTH: _____ GAS PIPE SIZE: _____
DISCHARGE PRESSURE: _____ PSIG _____ PSIG	LINE PRESSURE: _____ IN WC
SUCTION PRESSURE: _____ PSIG _____ PSIG	MANIFOLD PRESSURE: _____ IN WC
REFRIGERANT CHARGE OK: YES ☐ NO ☐ (if NO see below)	TEMP. RISE: AIR ON: _____ AIR OFF: _____ TD: _____
REF. CHARGE ADJUSTMENT: ☐ NO ☐ YES + / - _____ oz.	VENTING SIZE: _____ VENTING LENGTH: _____
AIR INTO COIL: _____ °F AIR OFF COIL: _____ °F	FURNACE MAKE: _____
SUPERHEAT: #1: _____ #2: _____ (PISTON)	FURNACE MODEL _____
SUBCOOLING: #1: _____ #2: _____ (TX VALVE)	RETURN AIR
LEAK TEST: SYSTEM #1 ☐ SYSTEM #2 ☐	SIZE: _____
AMPS: COMPRESSOR 1 _____	EVAP/COND FAN
REF. TYPE : _____ 2 _____	COND. MOTOR SPEED: 1 _____ 2 _____
CONTROLS	COND. MOTOR AMPS: 1 _____ 2 _____
THERMOSTAT SETTING CHECKED: YES ☐ NO ☐	FILTERS IN PLACE: ☐ CORRECT FAN ROTATION: ☐
THERMOSTAT WIRING CHECKED: YES ☐ NO ☐	EVAP. MOTOR SPEED: 1 _____ 2 _____
SWITCHES OPERATE SYSTEM: ☐ COOLING ☐ HEATING	EVAP. MOTOR AMPS: 1 _____ 2 _____
ANTICIPATOR SETTING: W1 ☐	BLOWER RPM: _____ CFM: _____ ESP: _____ IN WC: _____
TRAPPED CONDENSATE DRAIN ☐ SECURED ALL PANELS ☐ CHECKED VIBRATION ☐ CLEANED DEBRIS ☐	
BEFORE LEAVING JOB	SERVICE TECHNICIAN SIGNATURE: _____
1. WARRANTY CERTIFICATE FILLED OUT & GIVEN TO OWNER? YES ☐ NO ☐	EQUIPMENT OWNER SIGNATURE: _____
2. HAS SYSTEM BEEN AIR BALANCED? YES ☐ NO ☐	
3. OPERATING & MAINTENANCE INSTRUCTIONS GIVEN TO OWNER? YES ☐ NO ☐	
4. OPERATOR INSTRUCTED ON SYSTEM OPERATION? YES ☐ NO ☐	DATE: _____
EQUIPMENT OWNER NAME: _____	

THE COMPLETION OF THE PERFORMANCE CHECKLIST IS SUGGESTED AT THE TIME OF INSTALLATION.

THIS FORM IS TO BE COMPLETED BEFORE CONTACTING RANGER TECHNICAL SERVICE / SUPPORT.

WARRANTY PROCESS REQUIREMENT (SECTION 7.3)

All warranty claims must follow this process exactly.

Failure to comply with the required submission, documentation, and return procedures may result in:

- Refusal of warranty claim
- Rejection of returned materials
- Delay or denial of warranty resolution

IMPORTANT REQUIREMENT

An RGA (Return Goods Authorization) number must be issued by Ranger prior to any return.

Returns without an approved RGA number will be refused.

GENERAL WARRANTY PROCESS

To initiate a warranty claim:

1) Complete the RGA Warranty Request Form in full (Found on Page 53)

2) Submit completed form to: warranty@rangerhvac.com

3) Include all required documentation:

- Model and serial number
- Description of issue
- Supporting photos
- Installation / operating details
- Start-Up Sheet (if applicable)

IMPORTANT:

- Warranty claims without proper documentation will not be processed
- Returned material without documentation will be refused

SHIPPING REQUIREMENTS

- Customer is responsible for all shipping costs
- Ranger will NOT accept collect shipments

Products returned without approved RGA:

- Will be refused at receiving

PARTS WARRANTY PROCESS

- 1) Submit completed RGA Request Form
- 2) Upon review:
 - RGA number will be issued
 - Quotation for replacement parts may be provided (if required)
- 3) If applicable:
 - Replacement parts must be paid for prior to shipment
- 4) Once payment is received:
 - Parts will be shipped or made available for pick-up
- 5) Returned warranty parts:
 - Must be received within 30 days of RGA issuance
 - Failure to return within 30 days may VOID warranty
 - Exceptions must be approved in writing by Ranger
- 6) Inspection & outcome:
 - If approved under warranty:
 - Credit issued per invoice
 - If NOT approved:
 - Parts available for customer pick-up

EQUIPMENT WARRANTY PROCESS

- 1) Submit completed RGA Request Form to:

warranty@rangerhvac.com
- 2) Upon review:
 - RGA number will be issued
 - Internal team notified for assessment scheduling
- 3) Equipment evaluation:
 - Unit must be returned to Ranger facility
 - Full inspection and findings will be documented
 - Report will be provided to customer

4) If non-warranty repairs are required:

- Quote will be provided
- Approval required before work proceeds

5) After repairs:

- Invoice must be paid (if applicable)
- Customer must arrange pickup or shipping

SPECIAL WARRANTY NOTES

- Ranger processes warranty claims for Ranger products only
- For furnace-related warranty:
- Contact furnace manufacturer directly
- EXCEPTION:
 - Dettson furnaces installed with RANGERPAK
 - Contact Ranger for support:

warranty@rangerhvac.com

IMPORTANT CONDITIONS

Failure to comply with the following may result in denial of warranty:

- Missing or incomplete RGA form
- No RGA number issued prior to return
- Missing supporting documentation
- Failure to return parts within 30 days
- Improper installation or operation

CONTACT INFORMATION

Warranty Submissions:

warranty@rangerhvac.com

Ranger Heating & Air Conditioning Products Inc.



Date:	R.G.A Number:	Authorized By:

R.G.A. / WARRANTY REQUEST (SECTION 7.9)

R.G.A Number must be obtained from Ranger Heating & Air Conditioning Products Inc. prior to email. Complete from and email to stephanie@rangerhvac.com & jim@rangerhvac.com. Warranty parts **must** be received by Ranger within **30 days** from RGA# issue date, if "defective" part is not received by Ranger **warranty claim will be voided**. *Customer is to assume all in & outbound shipping costs relating to warranty claims.*

Customer:		Unit Model #:	
Original P.O #:		Unit Serial #:	
Ranger Invoice Number:		Date of Failure:	
Date Purchased:		Part Model #:	
Date Installed:		Part Serial #:	
Site:		Technicians Name:	

REASON FOR RETURN

☐ Defective	☐ Damaged	☐ Other (Specify Below)

NATURE OF DEFECT

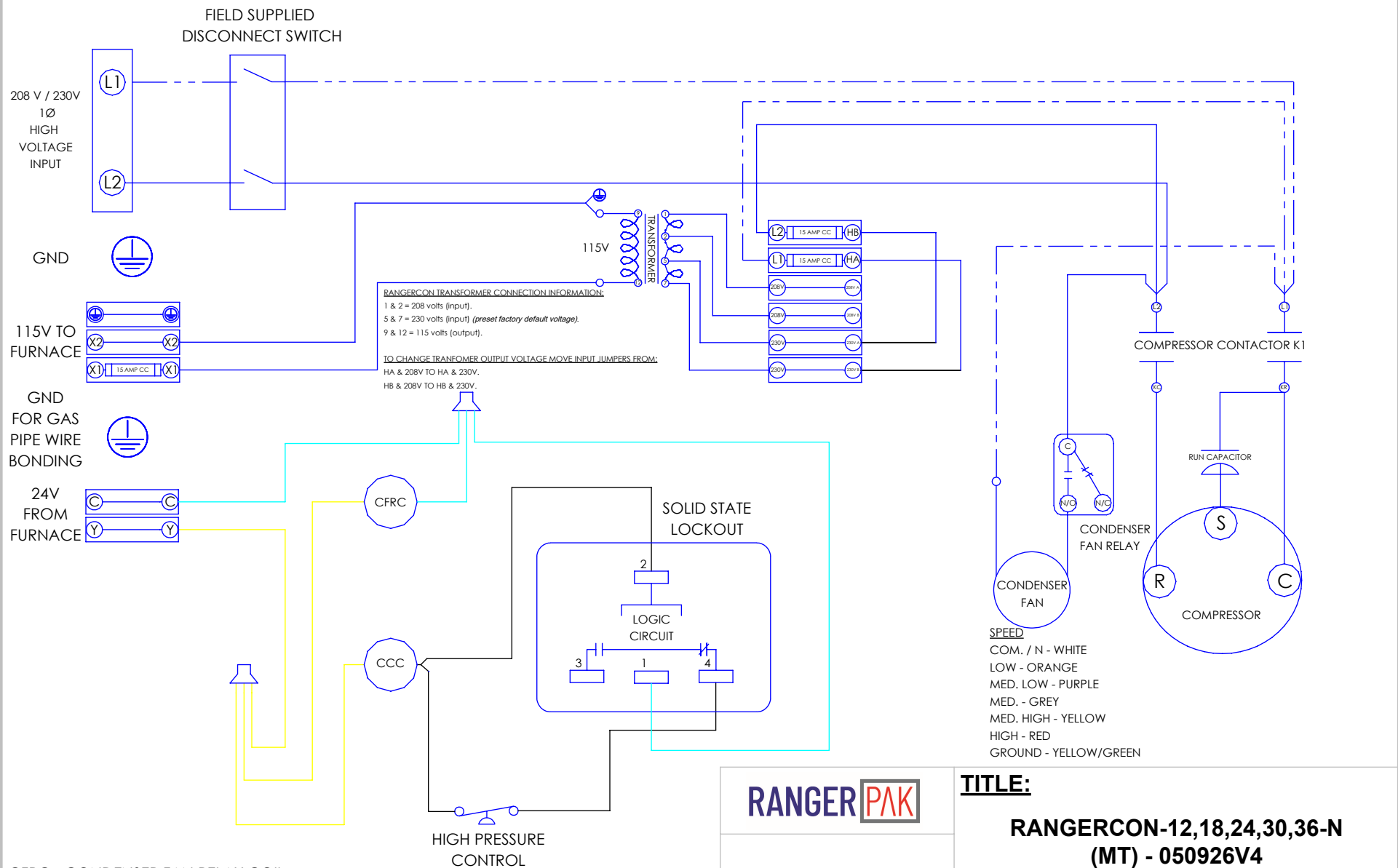
☐ Will Not Start	☐ Overheats	☐ Leaks	☐ Stays Open
☐ Starts & Stops	☐ Grounded	☐ Non-Adjustable	☐ Stays Closed
☐ Will Not Pump	☐ Blows Fuses	☐ Noisy	☐ Burnout

Provide Details of Defect: _____

Technicians Comments: _____

Claim Submitted By: _____ Phone Number: _____ Date: _____

RANGER HEATING & AIR CONDITIONING PRODUCTS INC.
401 DISSETTE STREET UNITS 4, 5 & 6 BRADFORD, ONTARIO L3Z 3G9
T: 905.778.8600 F: 1.855.399.4378



CFRC - CONDENSER FAN RELAY COIL
CCC - COMPRESSOR CONTACTOR COIL

ATTENTION: ALL WIRING TO BE COMPLETED TO LOCAL ELECTRICAL AUTHORITIES REGULATIONS.

DANGER: DISCONNECT SUPPLY BEFORE SERVICING.

WARNING: SERVICE TO BE COMPLETED BY LICENSED TECHNICIAN(S).

FAILURE TO COMPLY MAY RESULT IN LOSS OF WARRANTY, INJURY OR DEATH.

RANGER PAK

PROPRIETARY AND CONFIDENTIAL

THE INFORMATION CONTAINED IN THIS DRAWING IS THE SOLE PROPERTY OF RANGER HEATING & AIR CONDITIONING PRODUCTS INC. ANY REPRODUCTION IN PART OR AS A WHOLE WITHOUT THE WRITTEN PERMISSION OF RANGER HEATING & AIR CONDITIONING PRODUCTS INC. IS PROHIBITED.

TITLE:

**RANGERCON-12,18,24,30,36-N
(MT) - 050926V4**



ALL DIMENSIONS ARE IN INCHES

SHEET 1 OF 1

LIMITED PARTS WARRANTY – RANGERPAK / RANGERCON

This Limited Parts Warranty is the written warranty provided by Ranger Heating & Air Conditioning Products Inc. ("Ranger") in respect of the HVAC equipment supplied by Ranger and identified by model and serial number on the applicable invoice, warranty certificate, start-up documentation, commissioning documentation or product rating plate, as applicable (the "Equipment").

This Limited Parts Warranty applies subject to the terms, conditions, limitations and exclusions set out below. It is intended to describe Ranger's warranty obligations for covered Ranger equipment and is not an installation warranty, service warranty, maintenance contract or insurance policy.

1. Definitions and Application

In this Limited Parts Warranty:

"Covered Component" means a Ranger-manufactured or Ranger factory-installed component of the Equipment, including a Ranger-supplied compressor, but excluding OEM Components unless Ranger expressly states otherwise in writing.

"OEM Component" means any separately branded, separately warranted or third-party component, accessory or equipment supplied, installed, packaged, recommended or used with the Equipment, including any furnace, air handler, coil, thermostat, control, accessory or similar component manufactured by a third party.

"Original End-User Purchaser" means the first person or entity that purchases or receives the Equipment for installation and use at the original installation site, and not for resale.

This Limited Parts Warranty applies only to the Original End-User Purchaser and only in respect of Covered Components.

2. Limited Parts Warranty

Subject to this Limited Parts Warranty, Ranger warrants to the Original End-User Purchaser that each Covered Component will be free from defects in materials and workmanship under normal use and service during the applicable warranty period, provided that the Equipment has been selected, installed, commissioned, operated, serviced and maintained in accordance with:

- (a) Ranger's written installation, operation and maintenance instructions;
- (b) the written instructions of any applicable OEM or third-party manufacturer;
- (c) all applicable laws, codes, standards, regulations, by-laws and requirements of authorities having jurisdiction; and
- (d) generally accepted HVAC industry practices applicable to the Equipment.

This Limited Parts Warranty is a parts warranty only. It does not cover labour, service, installation, diagnosis, removal, reinstallation, maintenance, start-up, commissioning or related costs unless Ranger expressly agrees otherwise in writing.

3. Warranty Period

Unless a different written warranty is issued by Ranger for a specific model, component or application, the applicable warranty periods are as follows:

- (a) Covered Components, other than the compressor, are warranted for one (2) year from the date of original installation; and
- (b) the compressor is warranted for five (5) years from the date of original installation.

Compressor & Evaporator / Condenser Coil coverage is limited to the compressor & evaporator / condenser itself and does not include refrigerant, labour, line sets, coils, filters, driers, electrical components, diagnostic costs, removal, reinstallation, evacuation, charging, start-up, shipping or other related costs unless Ranger expressly agrees otherwise in writing.

Proof of the original installation date must be provided with any warranty claim. If proof of the original installation date is not available, the warranty period will be deemed to commence thirty (30) days after the date of manufacture or shipment of the Equipment, as determined by Ranger from its records.

No repair, replacement, credit, inspection, assessment or attempted repair will extend, restart or renew the applicable warranty period. Any replacement, refurbished, remanufactured or repaired part supplied under this Limited Parts Warranty will be warranted only for the balance of the original applicable warranty period.

4. Conditions of Warranty Coverage

As conditions of coverage under this Limited Parts Warranty, the Equipment must:

- (a) be installed and commissioned by personnel who are properly trained, licensed, certified and qualified to perform the applicable HVAC, gas, refrigeration and electrical work;
- (b) be installed, commissioned, operated, serviced and maintained in accordance with the documents and requirements described in Section 2;
- (c) be used only for the application, environment, refrigerant, fuel, voltage, phase, airflow and operating conditions for which the Equipment is rated and approved;
- (d) remain at the original installation site, unless Ranger approves relocation in writing;
- (e) be provided with proper access for inspection, service, repair, removal and replacement; and
- (f) be supported by reasonable installation, start-up, commissioning, maintenance and service records when requested by Ranger.

5. Third-Party and OEM Components

The Equipment may be supplied, installed or used together with OEM Components. Unless Ranger expressly states otherwise in writing, OEM Components are covered only by the applicable third-party manufacturer's warranty, if any, and are not covered by this Limited Parts Warranty. Ranger does not enlarge, modify, guarantee or assume responsibility for any third-party manufacturer's warranty. Ranger may, at its discretion, assist with the processing or administration of an OEM warranty claim, including where an OEM warranty policy is included with Ranger materials or where Ranger directs claims for particular OEM components to be submitted through Ranger. Any such assistance does not make Ranger responsible for the obligations of the OEM or third-party manufacturer. For clarity, a cross-reference table, model comparison, product summary, installation manual, sales sheet, quotation, invoice, catalogue, website listing or other document referring to an OEM Component or third-party warranty does not create a Ranger warranty for that OEM Component unless Ranger expressly states otherwise in a written warranty issued by Ranger.

6. Exclusive Remedy Under this Limited Parts Warranty

If Ranger determines, after inspection, assessment or testing, that a Covered Component has failed during the applicable warranty period due to a defect in materials or workmanship, Ranger will, at its option:

- (a) repair the defective Covered Component;
- (b) replace the defective Covered Component with a new, refurbished, remanufactured, equivalent or functionally comparable component; or
- (c) issue a credit in respect of the defective Covered Component.

Ranger is not required to replace the entire unit or system where repair, replacement or credit for the defective Covered Component is available. The remedy described in this Section is the sole and exclusive remedy available under this Limited Parts Warranty, subject always to any rights or remedies that cannot be excluded or limited under applicable law.

7. Items Not Covered

This Limited Parts Warranty does not cover:

- (a) labour, diagnostic time, service calls, travel time, mileage, overtime, removal, reinstallation, start-up, commissioning, testing, balancing, adjustment, troubleshooting, evacuation, charging or maintenance costs;
- (b) shipping, freight, handling, customs, brokerage, storage, crane, hoisting, rigging, access, disposal, administrative or other incidental costs;
- (c) refrigerant, filters, belts, fuses, batteries, contactors, capacitors, lubricants, cleaning materials, consumables, maintenance items, wear items or items requiring routine replacement, unless Ranger expressly confirms in writing that a particular item is covered;
- (d) damage to the Equipment, surrounding property, building finishes, ductwork, piping, wiring, fixtures, controls, accessories or other equipment caused by improper installation, improper service, misuse, lack of maintenance, water intrusion, freezing, electrical irregularities, unauthorized modification, non-approved parts or any other cause excluded under this Limited Parts Warranty;
- (e) loss of use, loss of comfort, loss of revenue, loss of profit, loss of business opportunity, business interruption, increased utility costs, increased operating costs, substitute equipment costs, downtime, delay or other indirect, incidental, special, consequential or economic loss; or
- (f) any product, equipment, component, accessory, material or service not manufactured, factory-installed or expressly warranted by Ranger.



8. Exclusions from Warranty Coverage

This Limited Parts Warranty does not apply to any defect, failure, damage or loss caused by or resulting from:

- (a) improper selection, sizing, design, application, installation, commissioning, operation, maintenance, service, repair, removal, relocation or storage;
- (b) failure to comply with Ranger's written instructions, applicable OEM or third-party manufacturer instructions, or applicable laws, codes, standards, regulations, by-laws or requirements of authorities having jurisdiction;
- (c) installation, service or repair by any person who is not properly trained, licensed, certified or qualified to perform the applicable work;
- (d) accident, abuse, misuse, negligence, lack of maintenance, improper maintenance, abnormal use, temporary heating or cooling during construction, or operation outside the Equipment's rated specifications;
- (e) improper or insufficient airflow, ductwork, venting, wall sleeve installation, return air configuration, condenser air separation, condensate drainage, gas piping, combustion air, refrigerant piping, refrigerant charging, leak testing, evacuation, wiring, grounding, controls or electrical protection;
- (f) improper gas supply, improper fuel, improper or contaminated refrigerant, improper voltage, electrical surges, brownouts, phase imbalance, inadequate or improper electrical supply, lightning, water intrusion, flooding, freezing, fire, wind, weather, acts of God, acts of war, terrorism or other external causes;
- (g) corrosive, contaminated or damaging environments, including exposure to chlorine, fluorine, acids, salts, solvents, cleaning chemicals, construction dust, chemical vapours or other corrosive or harmful substances;
- (h) improper matching or combination of the Equipment with any non-Ranger product, equipment, component, accessory, control, furnace, air handler, coil or other material;
- (i) alteration, modification, tampering, unauthorized repair, use of non-approved replacement parts, or removal, alteration or defacement of any serial number, rating plate or safety label;
- (j) failure to provide adequate access for service, repair, inspection, removal or replacement;
- (k) damage in shipment, handling or storage after risk of loss has passed from Ranger, unless Ranger expressly accepts responsibility in writing;
- (l) cosmetic damage, ordinary wear and tear, noise, vibration or performance issues not caused by a defect in materials or workmanship in a Covered Component; or
- (m) any cause other than a defect in materials or workmanship in a Covered Component.

9. Warranty Claim Procedure

A warranty claim must be submitted within the applicable warranty period and promptly after the alleged defect is discovered. Before returning any part, component or Equipment to Ranger, the claimant must obtain a return goods authorization number, warranty claim number or other written authorization from Ranger.

A completed warranty claim form, proof of purchase, proof of installation date, model number, serial number, installation information, start-up or commissioning documentation, maintenance and service records reasonably requested by Ranger, and a reasonably detailed description of the alleged defect must be provided to Ranger.

Ranger may require the allegedly defective part, component or Equipment to be returned for inspection, assessment and testing. Unless Ranger agrees otherwise in writing, the claimant is responsible for all inbound and outbound shipping, freight and handling costs. Ranger will not accept collect shipments.

Where Ranger provides an advance replacement part before completing its warranty assessment, Ranger may require payment, a purchase order, deposit or other security for the advance replacement. If Ranger subsequently determines that the claim is covered by this Limited Parts Warranty, Ranger will issue the applicable credit or refund in accordance with Ranger's warranty claim process. If the allegedly defective part, component or Equipment is not returned to Ranger within thirty (30) days after issuance of the applicable authorization, replacement invoice or request for return, Ranger may deny the warranty claim where the failure to return the item prevents Ranger from verifying whether the claim is covered by this Limited Parts Warranty, unless Ranger has approved a different timeline or different evidence of failure in writing. For compressors or other components that Ranger determines are impractical to return, Ranger may require return of the nameplate, serial label, photographs, service records or other evidence reasonably required to assess the claim.



10. Start-Up and Commissioning Documentation

The Equipment must be installed and commissioned by properly qualified personnel. The start-up sheet, commissioning report and applicable performance checklist should be completed and submitted to Ranger within seven (7) business days following installation, or within such other period as Ranger may designate in writing.

Failure to submit complete start-up or commissioning documentation may delay warranty processing and may result in denial of warranty coverage where Ranger cannot verify the installation date, commissioning, operating conditions, maintenance history, cause of failure, or whether the alleged defect is covered by this Limited Parts Warranty.

Nothing in this Section limits any right or remedy that cannot be excluded or limited under applicable law.

11. Replaced Parts

Any part, component or Equipment replaced under this Limited Parts Warranty becomes the property of Ranger upon replacement, unless Ranger agrees otherwise in writing.

Ranger reserves the right to inspect, test, retain, refurbish, dispose of or otherwise deal with any returned part, component or Equipment in connection with the administration of this Limited Parts Warranty.

12. Dealers, Contractors and Installers

Ranger may sell Equipment to distributors, dealers, contractors or other purchasers who may resell, install, service or maintain the Equipment. Distributors, dealers, contractors, installers and service providers are independent parties and are not agents of Ranger unless Ranger expressly appoints them as such in writing.

No distributor, dealer, contractor, installer, service provider, representative, employee or agent is authorized to enlarge, modify or extend this Limited Parts Warranty, or to make any representation, warranty or promise on behalf of Ranger, unless such enlargement, modification, extension, representation, warranty or promise is in writing and signed by an authorized officer of Ranger.

Ranger is not responsible for:

- (a) any representation, warranty, promise or statement made by any distributor, dealer, contractor, installer or service provider;
- (b) the selection, sizing, application, design, installation, commissioning, service, repair, removal, relocation or maintenance of the Equipment by any distributor, dealer, contractor, installer or service provider; or
- (c) any separate warranty, service commitment or obligation provided by any distributor, dealer, contractor, installer or service provider.

13. Limitation of Warranties and Liability

Except for the express warranty set out in this Limited Parts Warranty, and to the fullest extent permitted by applicable law, Ranger disclaims all other warranties, conditions, obligations and liabilities, whether express, implied, statutory or otherwise, including any implied warranty or condition of merchantable quality, fitness for a particular purpose, durability, performance, non-infringement or suitability.

To the fullest extent permitted by applicable law, Ranger's liability under this Limited Parts Warranty is limited to the repair, replacement or credit remedy expressly described in this Limited Parts Warranty.

To the fullest extent permitted by applicable law, Ranger will not be liable under this Limited Parts Warranty for any indirect, incidental, special, consequential, exemplary, punitive or economic damages or losses, including loss of revenue, loss of profit, loss of business, loss of use, loss of comfort, increased utility costs, substitute equipment costs, delay, downtime or business interruption, whether arising in contract, warranty, tort, negligence or otherwise, even if Ranger knew or ought to have known of the possibility of such damages or losses. Nothing in this Limited Parts Warranty limits or excludes any warranty, condition, right, remedy or liability that cannot be limited or excluded under applicable law, including any non-waivable rights or remedies available under applicable consumer protection legislation, sale of goods legislation, product liability law or other applicable law.

14. Consistency with Other Ranger Materials

This Limited Parts Warranty is intended to be the controlling written warranty for the Equipment. In the event of any inconsistency between this Limited Parts Warranty and any warranty summary, claim form, start-up sheet, commissioning document, cross-reference table, installation manual, sales literature, quotation, invoice, website listing or other document supplied by or on behalf of Ranger, this Limited Parts Warranty governs the scope of Ranger's warranty obligations, unless the other document is a model-specific written warranty issued by Ranger that expressly states it supersedes this Limited Parts Warranty.

This Section does not limit or modify any safety, installation, operation, maintenance, service or code-compliance instruction contained in any manual, label or other technical document.



15. Non-Transferability, Original Site and Territory

This Limited Parts Warranty applies only to the Original End-User Purchaser and is not transferable, unless Ranger agrees otherwise in writing.

This Limited Parts Warranty applies only while the Equipment remains at the original installation site, unless Ranger approves relocation in writing.

Unless Ranger issues a separate written warranty for another jurisdiction, this Limited Parts Warranty applies only to Equipment sold by Ranger in Canada and installed and used in Canada.

16. Governing Law

This Limited Parts Warranty is governed by the laws of the Province of Ontario and the federal laws of Canada applicable therein, subject to any mandatory rights or remedies that may apply under the laws of another jurisdiction and that cannot be excluded or limited by agreement.

17. Severability

If any provision of this Limited Parts Warranty is held to be invalid, illegal or unenforceable in any jurisdiction, that provision will be severed or limited to the minimum extent necessary, and the remaining provisions will remain in full force and effect.

18. Contact Information

Warranty claims and warranty-related inquiries should be submitted through Ranger's then-current RGA/warranty claim process, including by email to warranty@rangerhvac.com or to such other address as Ranger designates in writing from time to time, together with all required claim documentation.

Ranger Heating & Air Conditioning Products Inc.
401 Dissette Street, Units 4, 5 & 6
Bradford, Ontario L3Z 3G9



Warranty Policy

General Warranty

Dettson Industries Inc., subject to the limitations described in this Equipment Warranty Policy Certificate, warrants that each and every appliance product by Dettson Industries Inc. is, under normal operating conditions, free of defect in material and workmanship for a specific period of time from the date of original installation (as described in the "Summary of Warranty Programs" section below).

This warranty covers the appliance only and does not include labour costs, freight costs or other indirect expenses related to routine maintenance or the replacement of parts. If a part fails during the applicable warranty period, Dettson Industries Inc. will provide, at its sole discretion, a new or remanufactured part to replace the defective part at no charge. Alternatively, and at its sole discretion, Dettson Industries Inc. will allow a credit in the amount of the then factory price for a new equivalent part toward the retail purchase price of a new Dettson Industries Inc. product.

Summary of Warranty Programs

PRODUCT	PARTS (RESIDENTIAL/COMMERCIAL)	HEAT EXCHANGERS, TANKS AND COILS (RESIDENTIAL/COMMERCIAL)
Oil fired furnaces *		
- AMP, AMT series - RHB, RLB series	5 years / 1 year	20 years / 10 years
- AMP 3, AMT 3, AMT 4	1 year / 1 year	10 years / 5 years
Electric boilers		
- HYDRA	5 years / 1 year	10 years / 5 years
Electric furnaces / Air Handlers		
- SUP series (Modulating)	10 years / 1 year	N/A
- SUP series (Advantage & Comfort) - Nortron series - AHB, AHF, AHV (Duotec)	5 years / 1 year	N/A
Gas furnaces *		
- Series C15 to C120 (Chinook) - Chinook Compact CC15	10 years / 5 years	Limited Lifetime warranty / 10 years
Oil water heater		
- CMO-32, CMO-50 series	5 years / 1 year	5 years / 1 year
Alizé and Atmos Central Heat Pump		
- COND-xx & MHD-xx	10 years / 1 year	N/A
Hydronic Air handler		
- DCAH-36 & DCAH-55	5 years / 1 year	2 years / 1 year
Venting systems		
- SMH, VTK, IFV series	1 year / 1 year	N/A
Burners	5 years / 1 year	N/A
Cooling Coil	5 years / 1 year	N/A
Thermostats	5 years / 1 year	N/A
Smart Duct System®	10 years / 1 year	N/A
Zoning	5 years / 1 year	N/A

* Limited Warranty on Heat Exchanger or Tank

Dettson Industries Inc. warrants heat exchangers against defects in materials or workmanship. Dettson Industries Inc. will grant a credit in the amount of the list price for the replacement of the heat exchanger based on the following table:

Years	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25
Limited lifetime warranty		100%				90%			80%			70%		60%		50%		40%		30%		20%		10%	
20 years warranty	100%	90%	80%	70%	60%	50%	40%	30%	20%	10%															
10 years warranty	100%	90%	80%	70%	60%	50%	40%	30%	20%	10%															
5 years warranty	100%	80%	60%	40%	20%																				

Limitations

This warranty does not cover defects or damages on equipment without serial number or whose serial number has been erased or modified.

A) Consumable Items: This warranty does not apply to fan belts, filters, oil nozzles or other materials which must be replaced in the course of routine maintenance.

B) Corrosive Atmosphere: The operation of a heat exchanger in the presence of corrosive elements such as acids, chlorine, fluorine or other damaging chemicals voids this warranty. The warranty will not be applicable for boilers if the heat exchanger is subject to corrosion produced by the presence of air or oxygen in water coming from new incoming water, inadequate design of the system or the use of plastic piping without oxygen barrier.

C) External Factors: This warranty does not apply to damages to the product caused by misuse, failure to provide proper maintenance, accidents, Acts of God, improper fuel or inadequate electrical supply. All electrical appliances installed in regions where electrical distribution networks cause power surges, such as Atlantic Provinces, must be equipped with a power surge protector.

D) Unauthorized Alteration: Unauthorized alteration or repair of the appliance affecting product reliability or performance voids this warranty.

E) Installation by a qualified person: The product must be installed by a qualified fitter in accordance with Dettson Industries Inc.'s installation instructions, applicable local and national codes, the industry standards and those of professional organizations such as the Heating, Refrigeration and Air Conditioning Institute of Canada and the Air Conditioning Contractors of America. Failure to do so voids this warranty.

F) Unauthorized Installation of Accessory Equipment: Dettson Industries Inc. authorizes the application of accessory equipment which will operate in conjunction with its products provided that the following conditions are met:

- The function or performance of the Dettson Industries Inc. appliance is not altered.
- The accessory is installed in accordance with its manufacturer's installation instructions.
- The environment in which the appliance is supposed to operate is not modified.
- Furnaces cannot be installed with a one hundred per cent (100%) outdoors return air.

G) Lost or Stolen Products: This warranty does not apply to products reported as lost or stolen.

H) Original Installation Site: This warranty does not apply to products no longer at the site of original installation.

I) Improper Application: This warranty does not include damages caused by improper matching or misuse of the product or its components.

J) Routine Maintenance: The warranty is valid only if the instructions specified in the Installation and Operating Instructions are strictly observed. Failure to do so may void any and all warranties, at Dettson Industries Inc.'s discretion.

Consequential Damages

Dettson Industries Inc. shall not be responsible for any consequential damages caused by any defect in the product.

Exclusive Warranty

The warranty provided by Dettson Industries Inc. is exclusive; all other representations, warranties or conditions, expressed, implied or statutory, required by law or otherwise, are hereby excluded.

Beginning of the Warranty Period

If the original sales invoice cannot be provided to establish the date of original installation, it is determined that the warranty comes into effect ninety (90) days after the product was shipped from the manufacturing plant.

Replacement Parts Warranties

All replacement parts obtained directly from Dettson Industries Inc. and used for routine maintenance of Dettson Industries Inc. products are warranted for a period of twelve (12) months from the date of repair. Dettson Industries Inc. reserves the right to require proof of repair before granting any credit. Replacement parts are shipped at the expense of the consumer. Should we request that the defective parts or components be shipped back for further investigation, a return authorization number will be issued and return freight arrangements will be specified by Dettson Industries Inc.

Warranty Execution

Dettson Industries Inc. shall not be liable for any default or delay in execution of this warranty caused by any contingency beyond our control, including wars, government restrictions or restraints, strikes, fires, floods or short or reduced supplies of raw material.

Version française au verso.