

**TOWN OF PETERBOROUGH  
CAPITAL IMPROVEMENT PROGRAM  
PROJECT PROPOSAL**

**FY 2023 – 2028**

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**DEPARTMENT:** Fire & Rescue

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**I. Year Proposed for Construction or Purchase:** FY2023

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**II. Project Cost:** \$9,600.00

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**III. Title of Project:** Turnout Gear Dryer

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**IV. Description of Project:** Purchase of a turnout gear dryer

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**V. Location of Project:** Peterborough Fire Station

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**VI. Justification/Need/Vision:** (Use a separate sheet if necessary)

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Occupational cancer has become one of the most significant risks that firefighters face. The easiest way to combat this is through regular, thorough, cleaning of turnout gear. The department currently has an extractor washer that is capable of cleaning three (3) sets of turnout gear in two (2) hours and a single drying rack that takes roughly 12 hours to dry the same three (3) sets. This second turnout gear dryer will allow us to have six (6) sets of gear washed and dried within a day of them getting dirty. This increased ability will allow our firefighters to be back in service quicker.

One important note is that this dryer will be serviceable for many years and it is intended to move this to, and install it in, the new facility. The requested funds include the anticipated costs for electrical wiring.

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**VII. Cost Summary (Ensuing Years):**

<i>Project/Activity</i>	<i>Appr. to Date</i>	<i>FY23</i>	<i>FY24</i>	<i>FY25</i>	<i>FY26</i>	<i>FY27</i>	<i>FY28</i>
Turnout Gear Dryer		\$9,600					
Capital Reserve Fund							
<i>Subtotal</i>							
Anticipated Revenues							
<i>Total</i>		<b>\$9,600</b>					

**VIII. Needs Criteria (Check as many as apply):**

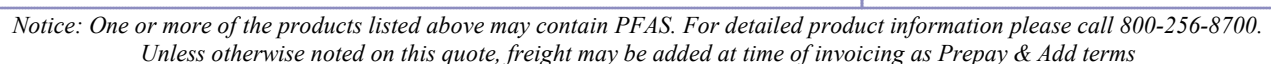
<b>X</b>	1. Improving existing services.	<b>X</b>	8. Coordinating facilities development.
	2. Complying with legal mandates of state or federal government.		9. Meeting demands for service resulting from Town growth.
	3. Improving existing environment.		10. Guiding future town growth and development.
	4. Protecting the health and safety of the populace.		11. Improving the basis for intergovernmental and regional cooperation.
	5. Achieving optimum and efficient use of municipal funds through cost savings, or avoidance of costs, or coordination of projects.		12. Enhancing opportunities for participation in federal or state grant-in-aid programs.
	6. Meeting demands for service resulting from population growth.		13. Maintaining a sound and stable financial program.
	7. Preserving existing facilities through repair.		

**IX. Project Ranking (Check only one):**

	<b>URGENT PROJECTS</b> <ul style="list-style-type: none"> <li>▫ Meet emergencies threatening life, health, and safety</li> <li>▫ Perform work required by state or federal law</li> </ul>
	<b>NECESSARY PROJECTS</b> <ul style="list-style-type: none"> <li>▫ Eliminate safety hazards</li> <li>▫ Correct code violations</li> <li>▫ Meet contractual obligations</li> <li>▫ Perform required renovations, repair, or replacement</li> </ul>
<b>X</b>	<b>DESIRED PROJECTS</b> <ul style="list-style-type: none"> <li>▫ Improve equipment and efficiency</li> <li>▫ Enhance service</li> <li>▫ Match state or federal funds</li> </ul>
	<b>ON-GOING PROJECTS</b> <ul style="list-style-type: none"> <li>▫ Continue work in progress</li> </ul>
	<b>NEW SERVICE</b> <ul style="list-style-type: none"> <li>▫ Expand a public facility service to a new area</li> <li>▫ Provide a new public service</li> </ul>

**X. Possible Alternatives:** Continue to use the current dryer with the reduced capacity to clean and dry turnout gear.

**XI. Impact, If Disapproved:** If disapproved we will continue to utilize our current turnout gear dryer with the continued lag time for returning firefighters to service.

A circular gold-colored seal with a serrated edge. The word "ANNIVERSARY" is written in a semi-circle at the top and bottom. In the center, a red ribbon banner displays "35 YEARS" in large, bold, white letters.



**FH6G EXPRESS 6 GEAR DRYER**  
**INSTALLATION, OPERATION AND MAINTENANCE MANUAL**

**REVISION 1 • 2019**

**[www.ReadyRack.com](http://www.ReadyRack.com)**

**(800)-991-2120**



### Features of the 6 Gear Dryer Cabinet

- Simple to use, NFPA 1851 compliant controls.
- Rugged and durable galvanized steel components.
- Drying with ambient or heated air, up to 900 CFM and 6000W of heating capacity.
- Four heavy duty slide out galvanized wire racks, with adjustable positions.



### **WARNING**

**DISCONNECT POWER TO DRYING CABINET BEFORE SERVICING TO  
PREVENT ELECTRICAL SHOCK OR BODILY INJURY**

### Unpacking the Express Dryer – FH6G (Six Gear)

- Remove shipping crate sides and set aside, taking care not to damage dryer when removing steel corners.
- Carefully inspect dryer for shipping damages prior to proceeding.
- Open cabinet and remove shelves and hangers.
- Remove ¼-20 lag bolts and washers connecting cabinet to base.
- Carefully remove the dryer from the pallet and locate near installation area.
- Remove cardboard from bottom of inside.



Figure – Uncrating Dryer

### Selecting a Location

- The six gear dryer should not be located in basements, outdoors or unheated rooms. If adequate air circulation in the space is not available, the unit should be converted to ducted operation. **Placement in unvented or sub-grade internal rooms with limited air movement can create mold or mildew conditions.**
- The drying cabinet can be located within 1-2" of a wall, provided that 10-12" of clearance is available on the sides to open the door fully.
- Position the dryer on a level floor.

### Levelling the Dryer

- The dryer is provided with (4) adjustable feet. These feet can be adjusted using a standard adjustable wrench. If the foot retaining nut or top nut have loosened, they can be re-secured using a 15/16" wrench and 15/16" deep socket.
- The cabinet will "twist" during levelling. Confirm the proper alignment of the door in the frame during levelling. The door should not bind or swing on its own when the cabinet is properly levelled.



- Door alignment will vary from the pallet to the floor and small adjustments in the feet will affect the final level of the door.

## Understanding the Model Number

The drying cabinet is shipped pre-configured for the expected power supply. Look for the placard inside the door of the cabinet to determine the configuration of the cabinet.

The image shows an electrical placard for a Ready Rack FH6G Express Dryer. It contains fields for Model No., Serial No., Total Electrical Specifications (AMPS, VOLTS, PHASE, HERTZ), and Electrical Requirements (VOLTS, WIRE, PHASE, HERTZ, AMP FUSE). Below these fields are instructions for installation, ventilation, draining, coiling, operation, and service. The placard also features the Ready Rack logo and the number 25100239.

**DIRECTIONS FOR INSTALLATION & USE OF  
FPE EXPRESS DRYER**

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

**TOTAL ELECTRICAL SPECIFICATIONS**

AMPS \_\_\_\_\_ VOLTS \_\_\_\_\_ PHASE \_\_\_\_\_ HERTZ \_\_\_\_\_

**ELECTRICAL REQUIREMENTS:**

\_\_\_\_\_ VOLTS \_\_\_\_\_ WIRE \_\_\_\_\_ PHASE \_\_\_\_\_ HERTZ \_\_\_\_\_ AMP FUSE

If wiring is connected to a circuit disconnect switch with steel conduit, this serves as ground; if connected with cable, a ground wire must be used.

**VENTILATE ..** Dryer **MUST** be properly vented to exhaust moist laden air. This is the most critical factor of the installation. Attach duct to shroud at top of dryer. Duct should be of equal size or greater to the outlet on top of dryer and should discharge through exterior wall or roof. A void long ducts; long ducts may require a booster fan to maintain proper airflow.

**DRAIN HOSE ..** Drain fire hose as thoroughly as possible to reduce drying time. The Tilt Top Hose Turntable by Circul Air provides the easiest, and quickest way of draining and re-rolling fire hose.

**COIL HOSE LOOSELY ..** Allow at least 1" spacing between coils. This will assure free air circulation and will shorten drying times. Tightly rolled hose will not dry.

**TO OPERATE ..** Latch doors tightly. Press and hold the MODE / SELECT button for .5 seconds. This will turn on the ON ENABLE light. Press button again to FAN ON ONLY to operate the fan and timer only, or press the MODE/SELECT button to FAN & HEATER ON to operate the timer and heater elements. Next set the timer to the time desired for what you want to dry by pressing the appropriate button for what you want dry (HOSE button for 10 hours, GEAR button for 3 hours). After entering the time required for the drying process push the START/STOP button to start the drying cycle. The timer will shut off the unit automatically at the end of this period. If more drying time is required, repeat the above procedure. While unit is on, the time remaining will be displayed on the time window and the temperature inside the drying cabinet will be displayed in the temperature window. (For more info on timer refer to the Owners Manual)

**SERVICE ..** When required, heaters and thermostats can be checked by removing access panel at back of dryer cabinet. ALWAYS DISCONNECT POWER BEFORE SERVICING.

If you have any questions about this Dryer, need parts, or would like information on other Ready Rack products, please call 1-800-991-2120.

**Ready Rack**

25100239

Figure: Electrical Placard

It is important to correctly match the power supply to cabinet specifications otherwise damage or injury may result.

RR-240-1 → 240V / 1 PH / 60 hz

The FH6G dryer has a standard configuration as a 240, single phase supplied unit. For alternative 208 or 240 applications contact Ready Rack for information on FH6G, models RR2401, RR2083 or RR2081 units.



## Wiring

- The six gear dryer is shipped with a standard 240/1/60 panel on the top of the machine which is pre-wired. The customer is required to connect this panel to a suitable electrical disconnect using a licenced electrician.
  - Following the electrical diagram at the rear of this document, connect supply line and ground to the panel on the top of the machine. A proper flexible conduit with sufficient length to move the dryer from the wall is required.
  - The box is provided with a ¾" access hole, suitable for standard EMT or Liquid tight connections.

## Connecting to Exterior Ducting

Drying cabinets work best when the moisture laden air is moved away from the vicinity of the unit. This can be to an external wall or into a larger apparatus bay with suitable air make-up or dehumidification.

- Lock-out the unit or unplug from the power supply.
- Remove the (4) #12 self tapping screws and take the cover off the unit dryer roof.
- The venturi outlet for the fan is 12 3/8" diameter. A standard 14" to 12" or 14" to 10" collar transition may be used. The collar should be fixed vertically into the roof of the cabinet, avoiding the fan blade inside the cabinet.

Failure to properly duct a drying cabinet, or to ensure proper air removal will result in poor or limited drying of the equipment in the dryer.





Figure – Ducting from Top of Cabinet

- The diameter of the ducted tube should not be restricted to less than 10" in diameter.
- Runs longer than 10' may require the use of a booster fan (not included) to ensure pressure losses are overcome.
- An external self-closing louver should be utilized to keep out pests and rain water.
- The use of legacy "square or rectangle" ducting is permitted, considering a minimum dimension of 8" x 16".



## OPERATING THE DRYING CABINET

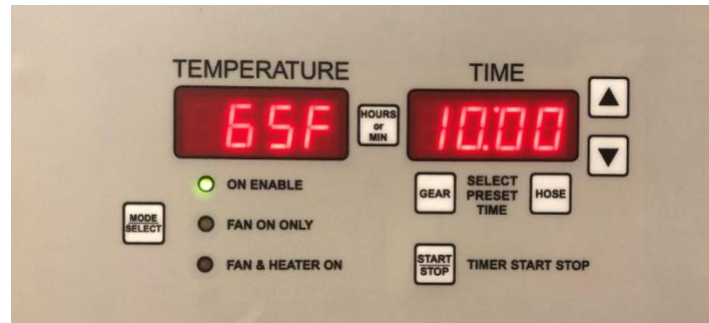


FIGURE: CONTROL PANEL

### STEP ONE

- Load gear or hose into the dryer.
- Close door(s) and secure latch.

### STEP TWO

- Hold MODE/SELECT for up to 5 seconds to turn on panel. ON ENABLE light will turn Green.
- Press MODE/SELECT once to turn FAN ON ONLY. FAN ON ONLY light will turn Yellow.
- Press MODE/SELECT once more to turn FAN & HEATER ON. FAN & HEATER light will turn Red.
- Pressing one final time will turn panel OFF.

### STEP THREE

- Select the desired equipment to be dried.
  - HOSE comes with a pre-set time of 10 Hours.
  - GEAR comes with a pre-set time of 3 Hours.

### STEP FOUR

- Adjust time (if necessary) by pressing HOURS of MIN button.
- Use ARROW UP or ARROW DOWN to adjust time.



## STEP FIVE

- Start drying by pressing START/STOP BUTTON.
- Unit will automatically turn off at end of cycle.

## MAINTAINING DUTY GEAR

Your new drying cabinet is a key part in meeting the NFPA 1851: Standard on Selection Care and Maintenance of Structural Firefighting Protective Ensembles.

Proper drying is critical for the maintenance and longevity and safety of duty gear. By properly preparing and utilizing the Firehouse Express Dryer, it is possible to return gear to service quicker and in better condition than other methods.

### Preparation:

- Ensure that the gear has been properly cleaned of all contaminants through the proper selection and use of detergent and PPE washing systems. Contact Ready Rack for more information regarding total cleaning cycle products.
- Boots, gloves and hoods can be placed on either hangers or directly on the mesh shelving units. Ensure each item is straightened and not twisted.
- For simple drying activities where the gear has not been soaked or rinsed, pants, jackets and liners can be hung as a set. The Firehouse Express Dryer will process the equipment as-is. Examples of this can include non-hazardous response calls where simple sweat or humidity is introduced to the gear. Allowing moisture to remain can cause steam burns should a rapid heat up of the gear occur.
- Where equipment is very wet or has been separated for mechanical washing, hang the pants and jackets, with the liners separate. For single or double sets of gear, separating will reduce the overall cycle time to complete drying.





#### Drying:

Proper drying relies on a number of conditions, many of which are under the user's control. The dryer controls will ensure that the equipment is not overheated, the operator can choose to use ambient or heated air depending on the conditions within the firehouse.

- Ensure the gear is organized in the cabinet when loading.
- Check that the doors are correctly closed and the seals are in good working condition.
- Balance the amount of gear to be dried to the conditions. A warm humid station will take longer to dry than a dry station.
- Using a proper extractor will require less moisture to be removed by the cabinet.



#### Post-Drying:

- Ensuring that the gear is properly stored is important to maintaining clean and dry and protected. Utilizing a duty gear hanger or locker will ensure the gear is protected from dirt and debris, as well as preventing mildew build-up.



## MONTHLY INSPECTION

- Clean and remove all debris and dust from inside the cabinet. Remove plenum from floor and clean underneath.
- Check for missing screws or guards.
- Check unit for level and adjust feet as necessary.
- Check the shelves and sliders for burrs and wear. Check that the sliders are secure.
- Check all hanging rails supports for security.
- Check the door operation for latching and sealing as well as free motion.
- Test the heating and cooling cycle. Recommend 15 min FAN AND HEATING (+8-10 F) and 10 min FAN ONLY (-8-10F drop).
- Wipe down the interior with a non-caustic solution to remove any residue from washed equipment.
- Check the power connections for frays for damages.

## ANNUAL INSPECTION FOR HIGHER VOLUME OPERATIONS (QUALIFIED PERSONNEL)



Properly lock out / tag out power supply.

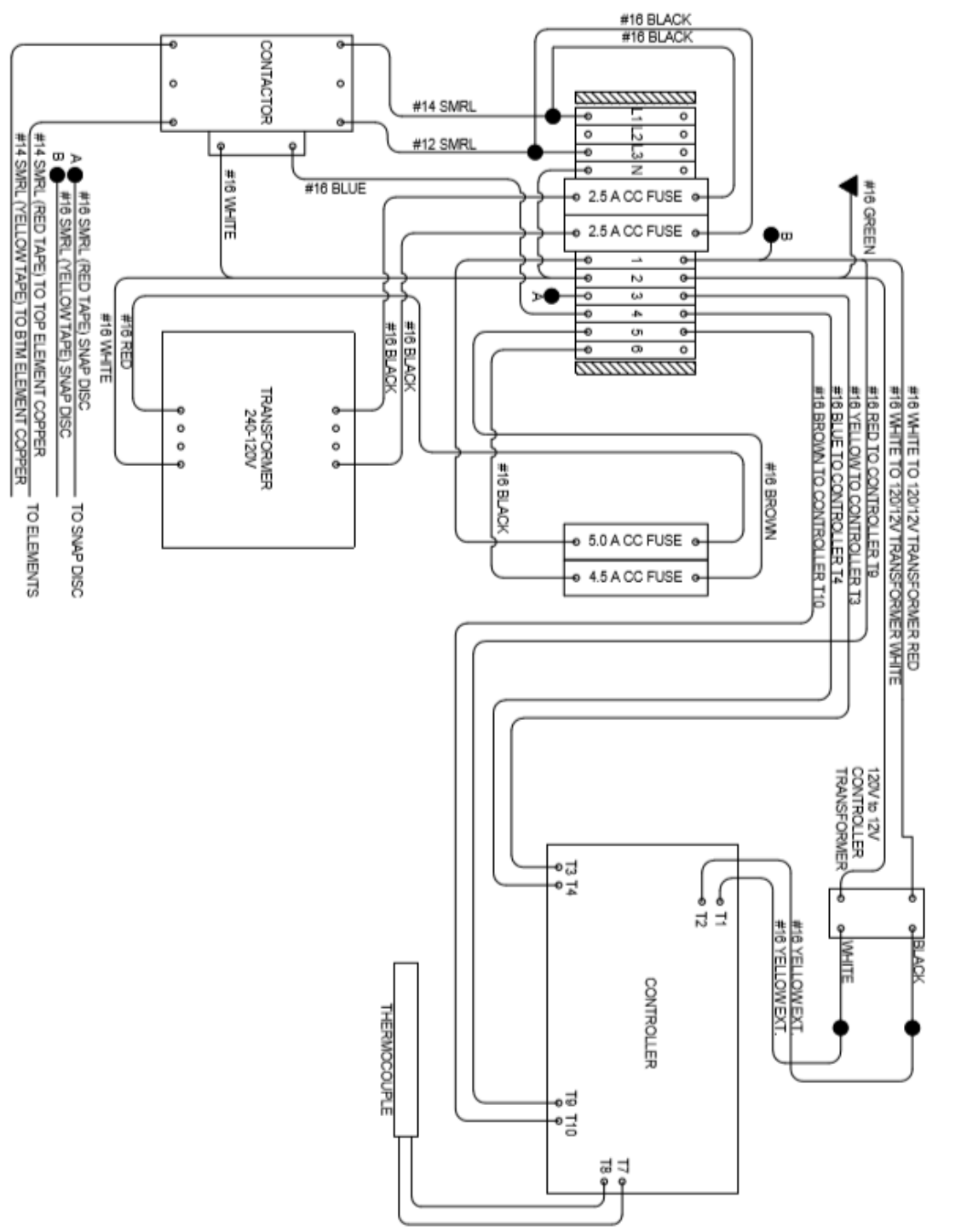


- Disconnect duct and move unit away from the wall.
- Remove and inspect inlet covers and heating duct covers.
- Clean and remove all debris, dust or cobweb build-up from the heating tunnels.
- Check for tightness of all electrical components and fittings. DO NOT OVERTIGHTEN HEATING STRIP TERMINAL STUDS.
- Check unit for level and adjust feet as necessary.
- Check the shelves for damage or burrs from wear. Confirm sliders are secure.
- Check hanging rail supports for security.
- Wipe down the interior with a non-caustic solution to remove any residue from washed equipment.



FH6G – Express Dryer  
Installation, Operation and Maintenance Manual

REFERENCE SCHEMATICS





Reference Fuses:

Bussman CC Fuses

LP-CC-2.5 – 2.5 AMP 600V

LP-CC-4.5 – 4.5 AMP 600V

LP-CC-5.0 – 5.0 AMP 600V

## TROUBLESHOOTING

ISSUE	
<b>Panel will not power-up</b>	Check connection plug / disconnect for damage and connection.
	Ensure MODE/START button is being held for at least 3-5 seconds.
	Check cord termination point inside rear access cover.
	Check 5.0A Fuse behind main control panel.
<b>No Heating</b>	Ensure that FAN and HEATING is selected.
	If ambient is >90F, unit may self limit heating operations to ensure total heat is <105F.
	Check for “Thump” of heating contactor pulling in when START/STOP is pressed indicating contactor is closed. (See Contactor).
	Open rear tunnel cover and check for damaged wiring or damaged copper strips.
	Check continuity of snap disc. “OL” indicates break.
<b>Limited Heating / Excessive Dry Time</b>	Unit may have high ambient temperature.
	Unit may have gear loaded unevenly or with very high water content. Check that cleaning process or extractor is working correctly.
	Check rear panel with IR Gun to determine if cold spots exist across elements. May indicate burnt or damaged element.
	Remove rear panel and individual check resistance reading (ohms) of each element. Original reading is marked on element. Should be between 48-58 ohm.
	Check ducting, plenums and inlets for blockages.
<b>Contactor Not Closing</b>	Check connection (Blue and White Wires) to pull down and check for +12V between terminals when active. May indicate control board relay failure.





	Press contactor button to determine is circuit will close manually. May indicate either control board relay or if the contactor will not manually close, a failure of the contactor.
<b>No Fan</b>	Check that FAN ONLY or FAN AND HEATING are selected. Check that fan is not jammed. If jammed look for screws in venturi touching fan. Look for debris in fan housing. Check the 4.5A fuse behind the main control panel. This fuse can fail due to impact to fan blades or resistance. Check wire tightness behind main control panel. Advanced: Check motor continuity by electrician.

[illegible]