

		<b>Title:</b> Mechanical Facility Equipment Operation & Maintenance	<b>Effective Date:</b> [REDACTED]
<b>Document Number:</b> [REDACTED]			<b>Version:</b> [REDACTED]

Attachment 1: PM Checklist – Twenty (20) Ton RTU				Equipment Identification: _____			
<b>Type of PM:</b> <input type="checkbox"/> Quarterly (Q) <input type="checkbox"/> Semi-Annual Pre-Cool months (SAC) <input type="checkbox"/> Semi-Annual Pre-Heat Months (SAH) <input type="checkbox"/> Annual (A)							
<b>PM Frequency</b>				<b>Results</b>		<b>Performed by (initials)</b>	<b>Performed by Date</b>
<b>Q</b>	<b>SAC</b>	<b>SAH</b>	<b>A</b>	<b>As Expected</b>	<b>Not As Expected</b>		
X				Inspect return filters. Clean or replace as necessary			
X				Inspect the smoke detector for proper operation.			
	X			Check Drain Pans and Condensate piping for damage and/or blockages			
	X			Inspect evaporator and condenser coils for dirt blockage, damaged/bent fins, etc. Clean coils, as necessary			
	X			Inspect the fresh-air and return-air damper hinges, pins and linkages for binding or resistance to movement. Clean/lubricate damper blades and linkages, as necessary.			
	X			Check supply fan motor bearings			
	X			Check the fan shaft and shaft bearings for wear or visible misalignment. Repair or replace, as necessary			
	X			Check the fan supply belt tension and condition. Retension or replace, as necessary			
	X			Check Sheaves grooves for excess wear. Replace, as necessary			
	X			Verify control wiring/terminals are tight. Tighten, as necessary			
	X			Remove corrosion on exterior of unit; touch-up paint as required			

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## Attachment 1: PM Checklist – Twenty (20) Ton RTU

Equipment Identification: \_\_\_\_\_

**Type of PM:**  Quarterly (Q)  Semi-Annual Pre-Cool months (SAC)  Semi-Annual Pre-Heat Months (SAH)  Annual (A)

PM Frequency				Preventive Maintenance Check	Results		Performed by (initials)	Performed by Date
Q	SAC	SAH	A		As Expected	Not As Expected		
	X			Verify access panels are secure				
	X			With unit operating, record ambient temperature, compressor suction/discharge pressures in equipment log. Refill with refrigerant, as necessary				
		X		Check supply fan motor bearings				
		X		Inspect main unit control panel and heat section control box for loose electrical connections. Tighten, as necessary				
		X		Clean condenser coil				

Performed By: \_\_\_\_\_

Date: \_\_\_\_\_

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Title:

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	<b>Document Number:</b> <span style="background-color: black; color: black;">[REDACTED]</span>	<b>Version:</b> <span style="background-color: black; color: black;">[REDACTED]</span>

Attachment 2: PM Checklist – Exhaust Fans		Equipment Identification: _____			
<b>Type of PM:</b> <input type="checkbox"/> Quarterly (Q) <input type="checkbox"/> Semi-Annual Pre-Cool months (SAC) <input type="checkbox"/> Semi-Annual Pre-Heat Months (SAH) <input type="checkbox"/> Annual (A)					
PM Frequency		Preventive Maintenance Check		Results	
Q	A			As Expected	Not As Expected
X		Check motor for cleanliness and lubrication. Clean, lubricate, and/or replace, as necessary			
X		Check tightness of mounting bolts to ensure the motor is not loose			
X		Check Belt tension and for signs of wear. Re-tension and replace, as necessary			
X		Check Sheaves grooves for excess wear. Replace, as necessary			
	X	Lubricate the pillow-block bearings. Only one or two shots of lubrication with a <span style="background-color: black; color: black;">[REDACTED]</span> psi max handgun. Wipe grease fitting clean after lubrication			

Performed By: \_\_\_\_\_

Date: \_\_\_\_\_

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Printed Name: \_\_\_\_\_

Title: \_\_\_\_\_

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Attachment 3: PM Checklist – Fan-powered HEPA Filter Units		Equipment Identification: _____			
<b>Type of PM:</b> <input type="checkbox"/> Semi-Annual (SA)   <input type="checkbox"/> Annual (A)					
PM Frequency		Preventive Maintenance Check		Results	
SA	A			As Expected	Not As Expected
	X	Replace the pleated pre-filter			

Performed By: \_\_\_\_\_ Date: \_\_\_\_\_

Printed Name: \_\_\_\_\_ Title: \_\_\_\_\_

Reviewed By: \_\_\_\_\_ Date: \_\_\_\_\_

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Attachment 4: PM Checklist – Gas Fired Humidifier		Equipment Identification: _____					
<b>Type of PM:</b> <input type="checkbox"/> Semi-Annual (SA)   <input type="checkbox"/> Annual (A)							
PM Frequency		Preventive Maintenance Check		Results			
SA	A			As Expected	Not As Expected	Performed by (initials)	Performed by Date
X		Verify vent adapter and flue gas inspection port are in place. Verify vent pipe is seated/secured properly.					
X		Verify the unit and support frame are in good condition and no signs of corrosion or other types of damage.					
X		Check burner flame color: primarily orange. under low demand; primarily blue under high demand.					
X		Inspect control panel alarm and messages through the alert log. Troubleshoot and repair, as necessary.					
X		Check the ignition sequence					
		Perform system operational inspection:					
	X	<ul style="list-style-type: none"> <li>• Measure CO, CO<sub>2</sub>%, O<sub>2</sub>%, flue temperature and burner efficiency at 100% demand with the tank at a boil.</li> </ul>					
	X	<ul style="list-style-type: none"> <li>• CO: Must be less than [REDACTED] ppm ([REDACTED] ppm typical)</li> </ul>					
	X	<ul style="list-style-type: none"> <li>• CO<sub>2</sub>: [REDACTED] % is typical for Natural Gas Fired Units</li> </ul>					
	X	<ul style="list-style-type: none"> <li>• O<sub>2</sub>: [REDACTED] ± [REDACTED] %</li> </ul>					
	X	<ul style="list-style-type: none"> <li>• Flue Temperature: Less than [REDACTED] °F ([REDACTED] °C)</li> </ul>					
	X	<ul style="list-style-type: none"> <li>• Thermal Efficiency: Greater than [REDACTED] %</li> </ul>					
	X	<ul style="list-style-type: none"> <li>• NOx: [REDACTED] ppm max</li> </ul>					

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Attachment 4: PM Checklist – Gas Fired Humidifier

Equipment Identification: \_\_\_\_\_

**Type of PM:**  Semi-Annual (SA) |  Annual (A)

<b>PM Frequency</b>		<b>Preventive Maintenance Check</b>	<b>Results</b>		<b>Performed by (initials)</b>	<b>Performed by Date</b>
<b>SA</b>	<b>A</b>		<b>As Expected</b>	<b>Not As Expected</b>		
	X	Verify flue passageway is sealed and free of any obstructions.				
	X	Upgrade <span style="background-color: black; color: black;">[REDACTED]</span> -logic Software to latest version.				
	X	Inspect the ventilation apparatus and ensure vent connector is in place and sloped upward				

Performed By: \_\_\_\_\_ Date: \_\_\_\_\_

Printed Name: \_\_\_\_\_ Title: \_\_\_\_\_

Reviewed By: \_\_\_\_\_ Date: \_\_\_\_\_

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	<b>Document Number:</b> [REDACTED]	<b>Version:</b> [REDACTED]

Attachment 5: PM Checklist – Electric Fired Humidifier

Equipment Identification: \_\_\_\_\_

**Type of PM:**  Semi-Annual (SA) |  Annual (A)

<b>PM Frequency</b>		<b>Preventive Maintenance Check</b>	<b>Results</b>		<b>Performed by (initials)</b>	<b>Performed by Date</b>
			<b>As Expected</b>	<b>Not As Expected</b>		
<b>SA</b>	<b>A</b>					
X		Inspect the Cylinder for Lime Scale build up, or any damage/anomalies				
X		<ul style="list-style-type: none"> <li>Replace cylinder if excess lime-scale, dark color appearing through the plastic tank, or another anomaly as indicated in the operations manual (section [REDACTED] ) is identified during the inspection.</li> </ul>				
X		Remove the solenoid valve and inspect the inlet filter for cleanliness. Clean with water and soft brush, as necessary.				
X		Inspect the manifold with drain pump for signs of damage to the hose, O-ring, or pump. Replace the O-ring or hose, as necessary				
X		Inspect the pump for cleanliness. Clean with water or a solution of [REDACTED] % acetic acid, as necessary.				
X		Inspect the tank for cleanliness. Clean with water or a solution of [REDACTED] % acetic acid, as necessary.				
X		Inspect the internal tubing kit (pipes and hoses) for cleanliness. Clean with water or a solution of [REDACTED] % acetic acid, as necessary.				
X		Inspect all connections for security and tightness.				

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Attachment 5: PM Checklist – Electric Fired Humidifier

Equipment Identification: \_\_\_\_\_

**Type of PM:**  Semi-Annual (SA) |  Annual (A)

<b>PM Frequency</b>		<b>Preventive Maintenance Check</b>	<b>Results</b>		<b>Performed by (initials)</b>	<b>Performed by Date</b>
SA	A		<b>As Expected</b>	<b>Not As Expected</b>		
X		Once reassembled, run <span style="background-color: black; color: black;">[REDACTED]</span> to <span style="background-color: black; color: black;">[REDACTED]</span> fill/drain cycles to ensure proper function of humidification unit; verify there are no leaks from the tank or component assembly of the fluid path.				
X		Inspect the <span style="background-color: black; color: black;">[REDACTED]</span> Fan Pack (Room <span style="background-color: black; color: black;">[REDACTED]</span> ) to ensure proper operation; verify air-flow path is clear of obstructions and fan/motor operating without excessive noise (Excessive noise is a sign of unusual bearing/bushing wear)				
	X	Replace the cylinder				

Performed By: \_\_\_\_\_

Date: \_\_\_\_\_

Printed Name: \_\_\_\_\_

Title: \_\_\_\_\_

Reviewed By: \_\_\_\_\_

Date: \_\_\_\_\_

Printed Name: \_\_\_\_\_

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