

## Heat Recovery Units

<b>AIR HANDLING UNIT No.</b>	<b>HRU-3 &amp; 4</b>			
<b>SERVICE AREA</b>	Maintenance and Repair Building - Centre High Bay			
<b>MANUFACTURER</b>	Tempeff			
<b>MODEL</b>	RG 15000			
<b>SUPPLY FILTER TYPE</b>	<b>2" Merv-10</b>			
<b>EXHAUST FILTER TYPE</b>	<b>None</b>			
<b>BALANCED AIRFLOW CONDITION</b>				
<b>SUPPLY FAN - SIZE/TYPE</b>	ANPA 22			
<b>AIRFLOW RATE (cfm) (l/s)</b>	<b>18190</b>		8585	
<b>TOTAL STATIC REQUIRED (in.H<sub>2</sub>O) (Pa)</b>	<b>2.85</b>		712.50	
<b>EXTERNAL STATIC REQUIRED (in.H<sub>2</sub>O) (Pa)</b>	<b>1.50</b>		375.00	
<b>MOTOR (Bhp/Hp) (bkW/kW)</b>	<b>7.31</b>	<b>10.00</b>	5.45	7.46
<b>SPEED (rpm)</b>	1617			
<b>EXHAUST FAN - SIZE/TYPE</b>	ANPA 22			
<b>AIRFLOW RATE (cfm) (l/s)</b>	<b>18051</b>		8519	
<b>TOTAL STATIC REQUIRED (in.H<sub>2</sub>O) (Pa)</b>	<b>2.80</b>		700.00	
<b>EXTERNAL STATIC REQUIRED (in.H<sub>2</sub>O) (Pa)</b>	<b>2.00</b>		500.00	
<b>MOTOR (Bhp/Hp) (bkW/kW)</b>	<b>7.19</b>	<b>10.00</b>	5.36	7.46
<b>SPEED (rpm)</b>	1604			
<b>HEAT RECOVERY SECTION</b>				
<b>SUPPLY AIRFLOW (cfm) (l/s)</b>	<b>18051</b>		8519	
<b>EXHAUST AIRFLOW (cfm) (l/s)</b>	<b>18051</b>		8519	
<b>WINTER ENERGY RECOVERY (MBH) (kW)</b>	<b>1682.71</b>		493.2	
<b>WINTER RECOVERY FACTOR (%)</b>	<b>86.30</b>			
<b>WINTER SUPPLY AIR TEMP. AFTER UNIT (°F) (°C)</b>	<b>56.31</b>		13.51	
<b>HEATING EXCHANGER</b>				
<b>MAX GAS HEATING INPUT (MBH)</b>	<b>1200</b>			
<b>MAX GAS HEATING OUTPUT (MBH)</b>	<b>960</b>			
<b>ENTERING AIR TEMP (°F) (°C)</b>	<b>55.70</b>		13.17	
<b>LEAVING AIR TEMP (°F) (°C)</b>	<b>104.30</b>		40.17	
<b>INBALANCED AIRFLOW CONDITION (TAILPIPE EXHAUST SYSTEM FULL OPERATION)</b>				
<b>SUPPLY FAN - SIZE/TYPE</b>	ANPA 22			
<b>AIRFLOW RATE (cfm) (l/s)</b>	<b>18190</b>		8585	
<b>TOTAL STATIC REQUIRED (in.H<sub>2</sub>O) (Pa)</b>	<b>2.65</b>		662.50	
<b>EXTERNAL STATIC REQUIRED (in.H<sub>2</sub>O) (Pa)</b>	<b>1.50</b>		375.00	
<b>MOTOR (Bhp/Hp) (bkW/kW)</b>	<b>7.31</b>	<b>10.00</b>	5.45	7.46
<b>SPEED (rpm)</b>	1617			
<b>EXHAUST FAN - SIZE/TYPE</b>	ANPA 22			
<b>AIRFLOW RATE (cfm) (l/s)</b>	<b>11731</b>		5536	
<b>TOTAL STATIC REQUIRED (in.H<sub>2</sub>O) (Pa)</b>	<b>2.42</b>		605.00	
<b>EXTERNAL STATIC REQUIRED (in.H<sub>2</sub>O) (Pa)</b>	<b>2.00</b>		500.00	
<b>MOTOR (Bhp/Hp) (bkW/kW)</b>	<b>7.19</b>	<b>10.00</b>	5.36	7.46
<b>SPEED (rpm)</b>	1604			
<b>HEAT RECOVERY SECTION</b>				
<b>SUPPLY AIRFLOW (cfm) (l/s)</b>	<b>14650</b>		6914	
<b>EXHAUST AIRFLOW (cfm) (l/s)</b>	<b>11731</b>		5536	
<b>WINTER ENERGY RECOVERY (MBH) (kW)</b>	<b>1200.31</b>		351.8	
<b>WINTER RECOVERY FACTOR (%)</b>	<b>75.90</b>			

WINTER SUPPLY AIR TEMP. AFTER UNIT (°F) (°C)	45.86	7.70
BYPASS AIRFLOW (cfm) (l/s)	3540	1671
<b>HEATING EXCHANGER</b>		
MAX GAS HEATING INPUT (MBH)	1200	
MAX GAS HEATING OUTPUT (MBH)	960	
ENTERING AIR TEMP (°F) (°C)	28.30	-2.06
LEAVING AIR TEMP (°F) (°C)	76.30	24.61
UNIT TOTAL LENGTH (in.) (mm)	357.25	9074.15
UNIT TOTAL WIDTH (in.) (mm)	114.13	2898.78
UNIT TOTAL HEIGHT (in.) (mm)	106.25	2698.75
UNIT WEIGHT (lbs) (kg)	21930	9947
Notes:	<b>2" Foam Injected Panels</b> <b>All Sections c/w Hinged Access Doors and Locking Latches</b> <b>Multi-Damper Switchover Section c/w Actuators</b> <b>SS Drain Pans under Heat Exchanger(s) w/ 1" NPT Connections</b> <b>Galvanized Heat Exchanger Frames</b> <b>Galvanized Damper Blades, Damper Rods and Axles</b> <b>Exterior/ Interior Casing: 24 Ga G90 Galv</b> <b>10 HP WEG ODP Premium Eff. 4 Pole 215T Frame</b> <b>SA Drive: ACH580-022A-6; RA Drive: ACH580-01-022A-6</b> <b>1in. Seismic Spring Isolation; Single Point Power 600V/3Ø; Low Limit</b> <b>SA Pre-Filter: Dafco Merv 10 (2") 400 HC; Quick Connect;</b> <b>Heatco HDB-HPP-400-1200 Indirect Gas Burner 15:1 Turndown;</b> <b>8" 10 Ga Baseframe; Dwyer DH3 Digihelic</b> <b>Dwyer Magnehelic 605 Series (4-20mA Out)</b> <b>External Enclosure w/ Hood; Enclosure Dampers w/ Actuators</b> <b>Enclosure Temperature Controls; Enclosure Transformer</b> <b>Enclosure Cooler; Enclosure Heater</b> <b>SA Insulated Bypass Dampers with Modulate Belimo Actuator</b>	

**Heat Recovery Unit Schedule**



Project: **Transit Maintenance and Repair Building  
Mechanical Upgrade - Centre High Bay**  
File: 24-256-01 Designer: AJ  
Date: Nov-24 Sheet: **MS-1**