

New MAU specifications:

Awarded contractor shall obtain and deliver each of the following to the Institution Warehouse within 120 days of contract award; factory assembled complete Make-Up Air Units with all components indicated and all necessary accessories to result in a complete and operable air handling unit. All electrical components are to be prewired, and with a single terminal box to accept three phase power source. The equipment must also meet or exceed the following additional characteristics. Please note all four units are slightly different:

MAU #1

Direct Gas Fired Heated Make Up Air Unit with 20" Mixed Flow Direct Drive Fan Supply Fan handles 2500 CFM@ 1.000" we ESP, Fan runs at 1289 RPM. Heater supplies 242646 BTUs. 90°F Temperature Rise. [Fuel: Natural Gas] Supply Motor: 2.000 HP, 3 Phs, 208 V, 60 Hz, 8.3 FLA, ODP, Premium (E-Plus3) Eff. Down Discharge - Air Flow Left-> Right
V-Bank with EZ filters for Size# 2 Modular Heater. EZ Metal Mesh Filters. Includes screened intake. For outdoor installation. VB-I-02MDF V-Bank with EZ filters for Size# 2 Modular Heater. EZ Metal Mesh Filters. For outdoor installation.
Screen Intake for Size 2 Commercial Fans.
RTC Solutions • 40-90°F Discharge Temp Control • 401M Remote
Gas Manifold for DF2 GM - BTU O - 825001 - 1 lb. - 5 lb., No Insurance Requirement (ANSI), BV250-88
Gas Pressure Gauge, 0-35", 2.5" Diameter, 1/4" Thread Size
Gas Pressure Gauge, -5 to +15 Inches We., 2.5" Diameter, 1/4" Thread Size
Low Fire Start. Allows the burner circuit to energize when the modulation control is in a low fire position
Cooling Interlock Relay. 24VAC Coil. 120V Contacts. Locks out burner circuit when AC is energized
Motorized Back Draft Damper 22.75" X 24" for Size 2 Standard & Modular Heater Units w/Extended Shaft, Standard Galvanized Construction, 3/4" Rear Flange, Low Leakage, LF120S Actuator Included
Mount motor and controls on opposite side of heater
Gas regulator - 1" diameter thread size, 10 PSI Inlet Gas Pressure. 1180 CFH, 6-14" w.c. Outlet Pressure. Includes 173-62-021-17 "Green" spring and 5/8" 10 PSI orifice.
Commercial Smoke Detector Interlock
Field Wired Exhaust Contactor After Airflow Switch. Rated 23 Amps. Starts up to (2) Single Phase Motors. 2HP max. 115V, 3HP max. 240V. Starts one Three Phase Motor. 5HP max. 208V, 7.5HP 230v, 15HP max. 460V, 15HP max. 575V or (4) Dry Interlocks. Overload not Included
Freezestat With 10' Sensor and Low Temp Light on Remote Panel. Factory set at 35°F and 10 minutes
VAV (Variable-Air-Volume) Wiring Package for Commercial Fans. Manual Speed Control Variable Frequency Drive Included
ESV222N02YXB - Variable Frequency Drive - 3 HP Max., 200/240 V, Single or Three Phase Input, 9.6 A Max., NEMA 1 Enclosure
Profile Plate Configuration for size 2 Direct Fired Unit for low cfm applications.
VFD factory mounted and wired in unit control vestibule.
Butterfly Mod Valve Option for Mod Size 2 (1" Mod Valve).
Down Discharge Construction for Size 2 Direct Drive AHUs

MAU #2

<p>CAH 20 Horizontal Industrial Heater with a 24" burner and a 20" blower. Supply Fan handles 9600 CFM@ 1.000" we ESP, Fan runs at 677 RPM. Heater supplies 933120 BTUs. 90°F Temperature Rise. [Fuel: Natural Gas] Supply Motor: 7.500 HP, 3 Phs, 208 V, 60Hz, 21.1 FLA, ODP, Premium (E-Plus3) Eff. Down Discharge - Air Flow Left-&gt; Right</p>
<p>V-BANK - 56.25" Width X 96.50" Length X 40.75" With Standard 2" EZ Filter And Intake Hood w/ No Filters IH2-I-VB2"EZ V-BANK - 56.20" Width X 28" Length X 40.75" for Industrial Horizontal With Standard 2" EZ Filter</p>
<p>Intake Hood - 56.25" Width X 69.50" Length X 40.75" Height</p>
<p>401M • Series 14 Remote Panel with On-Auto Switch, Lights &amp;40-80°F Dial</p>
<p>Gas Manifold for Industrial GM - BTU 1000001 - 1374999 - 1 lb. - 5 lb., No Insurance x1 Requirement (ANSI), BV250-66, 0.75" connection</p>
<p>Gas Pressure Gauge, 0-15#, 2.5" Diameter, 1/4" Thread Size</p>
<p>Gas Pressure Gauge, -5 to +15 Inches We., 2.5" Diameter, 1/4" Thread Size</p>
<p>Ship Loose Gas Strainer. To be installed upstream of unit connection. 3/4" Connection</p>
<p>Low Fire Start. Allows the burner circuit to energize when the modulation control is in a low fire position.</p>
<p>No starter/overloads installed in unit, no vav profile package, includes VFD for soft start operation (ship loose is default).</p>
<p>ESV552N02TXB - Variable Frequency Drive - 7-1/2 HP Max., 200/240 V, Three Phase, 23.0 A Max., NEMA 1 Enclosure</p>
<p>Detector/Alarm Interlock (By Others)</p>
<p>Field Wired Exhaust Contactor After Airflow Switch. Rated 23 Amps. Starts up to (2) Single Phase Motors. 2HP max. 115V, 3HP max. 240V. Starts one Three Phase Motor. 5HP max. 208V, 7.5HP 230v, 15HP max. 460V, 15HP max. 575V or (4) Dry Interlocks.</p>
<p>Size 2 Horizontal Industrial Heater Intake Damper. Includes Actuator.</p>
<p>Freezestat With 20' Sensor and Low Temp Light on Remote Panel. Factory set at 35°F and 10 minutes</p>
<p>VFD factory mounted and wired on unit control panel.</p>
<p>Down Discharge Construction Size 2 Horizontal Industrial With 20-18 Blowers Left to Right Discharge</p>
<p>Fused Disconnect Switch - 30 Amp, 250V, 3 Phase, Outdoor.</p>
<p>FRN 30 Fuse installed in 30amp 250volt disconnects</p>

MAU #3

Direct Gas Fired Heated Make Up Air Unit with 15" Mixed Flow Direct Drive Supply Fan handles 1500 CFM@ 1.000" we ESP, Fan runs at 1971 RPM. Heater supplies 145800 BTUs. 90°F Temperature Rise. [Fuel: Natural Gas]
Fan Supply Motor: 2.000 HP, 3 Phs, 208 V, 60 Hz, 6.1 FLA, ODP, Premium (E-Plus3) Eff. Down Discharge - Air Flow Right-> Left
V-Bank for Size #1 Modular Heater. EZ Metal Mesh Filters. Includes screened intake. For outdoor installation. VB-I-01MDF V-Bank for Size# 1 Modular Heater. EZ Metal Mesh Filters. For outdoor installation.
Screen Intake for Size 1 Commercial Fans.
RTC Solutions• 40-90°F Discharge Temp Control• 401M Remote
Gas Manifold for DF1 GM - BTU O - 550001 - 1 lb. - 5 lb., No Insurance Requirement (ANSI), BV250-66
Gas Pressure Gauge, 0-35", 2.5" Diameter, 1/4" Thread Size
Gas Pressure Gauge, -5 to +15 Inches We., 2.5" Diameter, 1/4" Thread Size
Low Fire Start. Allows the burner circuit to energize when the modulation control is in a low position.
Cooling Interlock Relay. 24VAC Coil. 120V Contacts. Locks out burner circuit when AC is energized.
Motorized Back Draft Damper 16" X 18" for Size 1 Standard & Modular Heater Units w/Extended Shaft, Standard Galvanized Construction, 3/4" Rear Flange, Low Leakage, TFB120S Actuator Included
Gas regulator - 3/4" diameter thread size, 10 PSI Inlet Gas Pressure. 1020 CFH, 6" - 14" Outlet Pressure. Includes 143-62-021-17 "Green" spring and 5/8" 10 PSI orifice.
Commercial Smoke Detector Interlock (Detector By Others)
Field Wired Exhaust Contactor After Airflow Switch. Rated 23 Amps. Starts up to (2) Single Phase Motors. 2HP max. 115V, 3HP max. 240V. Starts one Three Phase Motor. 5HP max. 208V, 7.5HP 230v, 15HP max. 460V, 15HP max. 575V or (4) Dry Interlocks.
Freezestat With 10' Sensor and Low Temp Light on Remote Panel. Factory set at 35°F and x1 10 minutes
VAV (Variable-Air-Volume) Wiring Package for Commercial Fans.
Speed Control Variable Frequency Drive Included
ESV152N02YXB - Variable Frequency Drive - 2 HP Max., 200/240 V, Single or Three Phase Input, 7.0 A Max., NEMA 1 Enclosure
VFD factory mounted and wired in unit control vestibule.
Down Discharge Construction for Size 1 Direct Drive AHUs

MAU #4

<p>Direct Gas Fired Heated Make Up Air Unit with 15" Mixed Flow Direct Drive Fan  Supply Fan handles 1360 CFM@ 1.000" we ESP, Fan runs at 1881 RPM.  Heater supplies 132192 BTUs. 90°F Temperature Rise. [Fuel: Natural Gas]  Supply Motor: 1.500 HP, 3 Phs, 208 V, 60 Hz, 4.4 FLA, ODP, Premium (E-Plus3) Eff.  Down Discharge - Air Flow Right-&gt; Left</p>
<p>V-Bank for Size #1 Modular Heater. EZ Metal Mesh Filters with screened intake. For outdoor installation</p>
<p>VB-I-01MDF V-Bank for Size # 1 Modular Heater. EZ Metal Mesh Filters. For outdoor installation</p>
<p>Screen Intake for Size 1 Commercial Fans.</p>
<p>RTC Solutions • 40-90°F Discharge Temp Control • 401M Remote</p>
<p>Gas Manifold for DF1 GM - BTU O - 550001 - 1 lb. - 5 lb., No Insurance Requirement (ANSI), BV250-66</p>
<p>Gas Pressure Gauge, 0-35", 2.5" Diameter, 1/4" Thread Size</p>
<p>Gas Pressure Gauge, -5 to +15 Inches We., 2.5" Diameter, 1/4" Thread Size</p>
<p>Low Fire Start. Allows the burner circuit to energize when the modulation control is in a low fire position.</p>
<p>Cooling Interlock Relay. 24VAC Coil. 120V Contacts. Locks out burner circuit when AC is energized</p>
<p>Motorized Back Draft Damper 16" X 18" for Size 1 Standard &amp; Modular Heater Units w/Extended Shafi, Standard Galvanized Construction, 3/4" Rear Flange, Low Leakage, TFB120S Actuator Included</p>
<p>Gas regulator - 3/4" diameter thread size, 10 PSI Inlet Gas Pressure. 1020 CFH, 6" - 14" Outlet Pressure. Includes 143-62-021-17 "Green" spring and 5/8" 10 PSI orifice.</p>
<p>Commercial Smoke Detector Interlock (Detector By Others)</p>
<p>Field Wired Exhaust Contactor After Airflow Switch. Rated 23 Amps. Starts up to (2) Single Phase Motors. 2HP max. 115V, 3HP max. 240V. Starts one Three Phase Motor. 5HP max. 208V, 7.5HP 230v, 15HP max. 460V, 15HP max. 575V or (4) Dry Interlocks.</p>
<p>Freezestat With 10' Sensor and Low Temp Light on Remote Panel. Factory set at 35°F and 10 minutes</p>
<p>VAV (Variable-Air-Volume) Wiring Package for Commercial Fans.</p>
<p>Manual Speed Control Variable Frequency Drive Included</p>
<p>ESV112N02YXB - Variable Frequency Drive -1-1/2 HP Max., 200/240 V, Single or Three Phase Input, 6.0 A Max., NEMA 1 Enclosure PART NEEDS PROGRAMMING</p>
<p>VFD factory mounted and wired in unit control vestibule.</p>
<p>Down Discharge Construction for Size 1 Direct Drive AHUs</p>