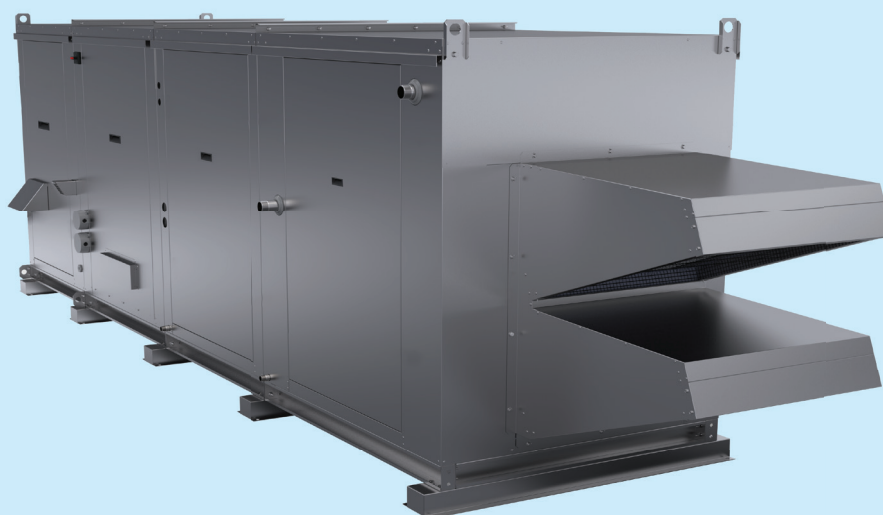


MUA-IF

Indirect Fired Make-Up Air Unit



Form#: SS200_MUA-IF-Indirect Fired Make-up Air Unit
Date: 08-2022 - Rev1

Features & Benefits

- Meets U.S. and Canadian Standards and Codes
- Listed to Ansi standard Z83.8 and UL 1995
- Natural Gas
- Gas Supply Pressure: 7 in. w.c./14 in. w.c.
- Maximum External Static Pressure 1.5" w.c.
- Maximum Temperature rise: 100°F
- Maximum Discharge Temperature: 90°F
- Belt Drive, Forward Curve Blower
- Unit Mounted Controls
- Horizontal or down discharge
- Heat Recovery (HRU) Module available.

Specification

Halton's MUA-IF units provide filtered and tempered make up air where ever the need arises to maintain a balanced space. The unit can be utilized for constant volume or work in conjunction with Halton's M.A.R.V.E.L. demand control variable volume system.

Performance Data

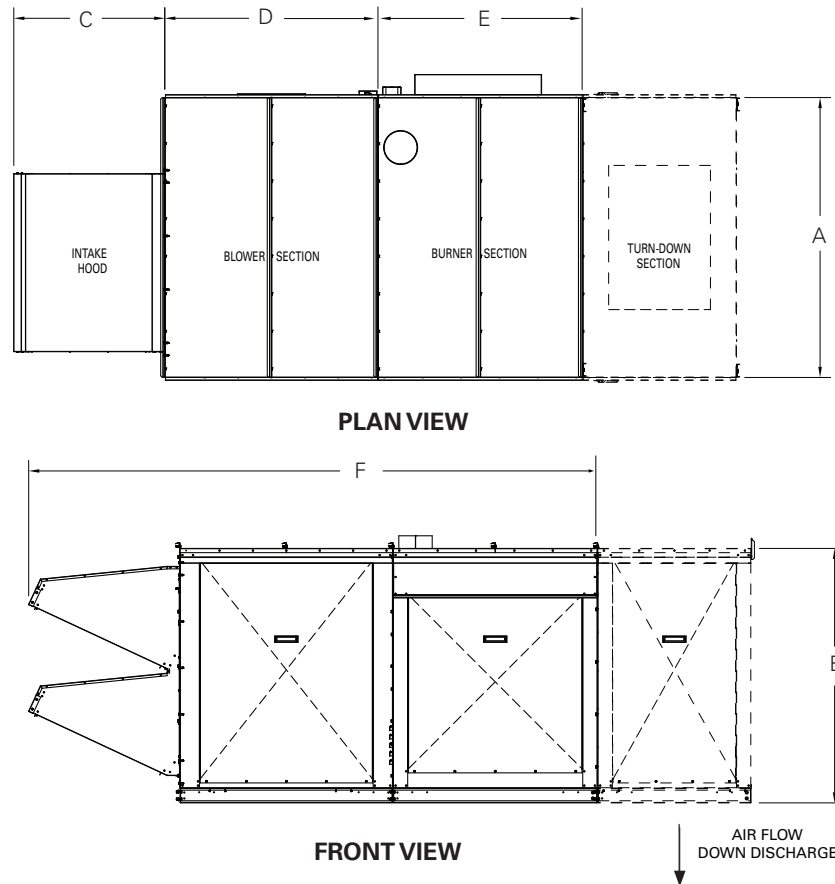
Model	Airflow Ranges (CFM)	Max. Temp. Rise	Max. Heat Input (Btu/hr)	Voltage				HP	
MUA-IF-1800	Up to 1,800	100	250,000	115,208, 230	/	1	/	60	0.5-20HP
MUA-IF-2800	Up to 2,800		425,000						
MUA-IF-4600	Up to 4,600		625,000						
MUA-IF-8500	Up to 8,500		1,200,000	208,230 460,575	/	3	/	60	
MUA-IF-12600	Up to 12,600		1,800,000						

MUA-IF Make-Up Air Unit

Indirect Fired Make-Up Air Unit

Dimensional Data

Indirect Fired Make-Up Air Units without Heat Recovery



Note: Downward or horizontal discharge opening dimensions will depend on the fan type and size selected. Please refer to the job-specific submittal drawings for these dimensions.

Turn Down Section is optional, please consult factory for module dimension and total lengths.

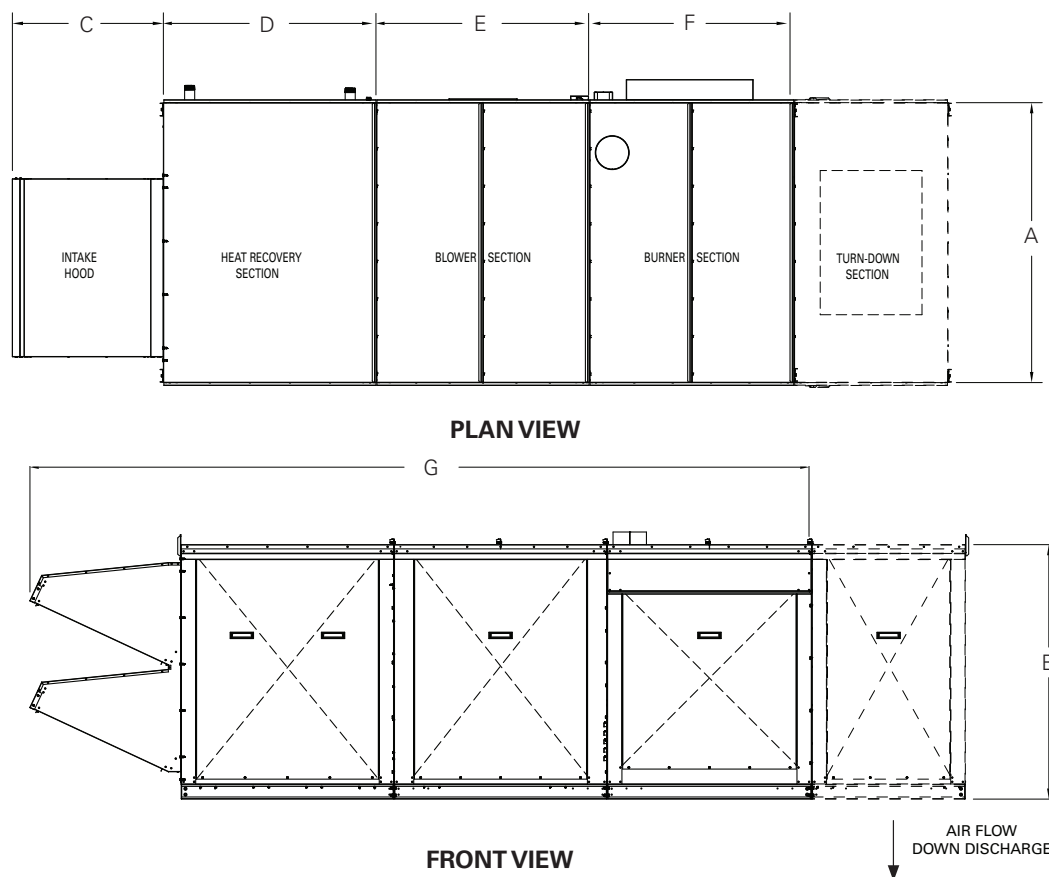
	Width (A)		Height (B)		Intake Hood (C)		Blower (Fan) (D)				Burner (E)		Total Lengths (F)	
	inch	mm	inch	mm	inch	mm	Direct Drive	inch	mm	Belt Drive	inch	mm	inch	mm
MUA-IF-1800-100M	44	1118	50	1270	23	579	36	921	36	921	36	921	95	2421
MUA-IF-1800-175M	44	1118	50	1270	23	579	36	921	36	921	36	921	95	2421
MUA-IF-1800-250M	44	1118	50	1270	23	579	36	921	36	921	36	921	95	2421
MUA-IF-2800-250M	44	1118	50	1270	22	565	38	972	38	972	73	1842	133	3378
MUA-IF-2800-175M	44	1118	50	1270	22	565	38	972	38	972	36	921	97	2458
MUA-IF-2800-250M-175S	44	1118	50	1270	22	565	38	972	38	972	36	921	97	2458
MUA-IF-4600-375M-250S	44	1118	60	1524	33	840	42	1073	42	1073	73	1842	148	3755
MUA-IF-4600-375M	44	1118	60	1524	33	840	42	1073	42	1073	36	921	112	2834
MUA-IF-4600-250M	44	1118	60	1524	33	840	42	1073	42	1073	36	921	112	2834
MUA-IF-8500-600M-600S	66	1676	60	1524	36	905	50	1276	50	1276	97	2451	182	4632
MUA-IF-8500-600M	66	1676	60	1524	36	905	50	1276	50	1276	48	1226	134	3407
MUA-IF-12600-600M-600S-600s	66	1676	75	1905	43	1092	52	1327	52	1327	145	3677	240	6096
MUA-IF-12600-600M-600S	66	1676	75	1905	43	1092	52	1327	52	1327	97	2451	192	4870
MUA-IF-12600-600M	66	1676	75	1905	43	1092	52	1327	52	1327	48	1226	144	3645

MUA-IF Make-Up Air Unit

Indirect Fired Make-Up Air Unit

Dimensional Data

Indirect Fired Make-Up Air Units with Heat Recovery



Note: Downward or horizontal discharge opening dimensions will depend on the fan type and size selected. Please refer to the job-specific submittal drawings for these dimensions.

Turn Down Section is optional, please consult factory for module dimension and total lengths.

	Width (A)		Height (B)		Intake Hood (C)		Heat Recovery (D)		Blower Fan (E)				Burner (F)		Total Lengths (G)	
	inch	mm	inch	mm	inch	mm	inch	mm	Direct Drive		Belt Drive				inch	mm
MUA-IF-1800-100M	44	1118	50	1270	23	579	-	-	36	921	36	921	36	921	-	-
MUA-IF-1800-175M	44	1118	50	1270	23	579	-	-	36	921	36	921	36	921	-	-
MUA-IF-1800-250M	44	1118	50	1270	23	579	-	-	36	921	36	921	36	921	-	-
MUA-IF-2800-250M	44	1118	50	1270	22	565	50	1276	38	972	38	972	73	1842	183	4648
MUA-IF-2800-175M	44	1118	50	1270	22	565	50	1276	38	972	38	972	36	921	147	3734
MUA-IF-2800-250M-175S	44	1118	50	1270	22	565	50	1276	38	972	38	972	36	921	147	3734
MUA-IF-4600-375M-250S	44	1118	60	1524	33	840	50	1276	42	1073	42	1073	73	1842	198	5029
MUA-IF-4600-375M	44	1118	60	1524	33	840	50	1276	42	1073	42	1073	36	921	162	4115
MUA-IF-4600-250M	44	1118	60	1524	33	840	50	1276	42	1073	42	1073	36	921	162	4115
MUA-IF-8500-600M-600S	66	1676	60	1524	36	905	50	1276	50	1276	50	1276	97	2451	233	5918
MUA-IF-8500-600M	66	1676	60	1524	36	905	50	1276	50	1276	50	1276	48	1226	184	4674
MUA-IF-12600-600M-600S-600S	66	1676	75	1905	43	1092	50	1276	52	1327	52	1327	145	3677	290	7366
MUA-IF-12600-600M-600S	66	1676	75	1905	43	1092	50	1276	52	1327	52	1327	97	2451	242	6147
MUA-IF-12600-600M	66	1676	75	1905	43	1092	50	1276	52	1327	52	1327	48	1226	194	4928

MUA-IF Make-Up Air Unit

Indirect Fired Make-Up Air Unit

Standard Features

- Belt Drive, forward curved blower
- Rolled Steel, ODP Blower motor
- Motorized intake damper
- Unit Mounted Discharge Temp. Controls
- Unit Mounted Call for Heat
- Remote Start/Stop
- Constant volume
- Unit mounted Non-Fused Disconnect
- Neoprene Fan Isolators
- End or Bottom discharge
- 1" Insulation, double wall
- G90 Galvanized, unpainted
- Lift Off Doors
- 10:1 Gas Turn Down

Options Available

- Direct Drive, Plenum Fan
- TEFC Blower Motor (Rolled Steel or Cast Iron)
- Intake Hood w/ 2" Alum. Mesh Filters & Bird Screen
- MERV 8 Dust Filters
- Gravity Intake Damper
- Remote DAT (Discharge Air Temp.) or Space Temp. Controls
- Freeze Stat
- Variable Volume (Halton provides VFD)
- Heat Recovery (HRU) Module
- Up to 30:1 Gas Turn Down
- Air Turn Down up to 30:1
- Seismic Blower Isolators
- Roof Curb (Optional Insulation & Nailer)
- Uninsulated
- Gas Pressure Gauges
- High and Low Gas Pressure Switches
- Gas Regulator (Field Installed)
- Paint

Specification

Supply a Halton model MUA-IF-_____ non-recirculating direct fired gas, heat only make-up air unit ETL listed to ANSI Z83.4/CSA 3.7 for indoor and outdoor installation and constant airflow (variable is an option) The unit shall be supplied complete with a Burner and Blower module factory assembled and tested along with components, options, and field installed accessories as follows:

The unit shall deliver _____ CFM at _____ in. w.c. external static pressure at a discharge air temperature of _____ °F. The unit shall have a natural gas input rate of _____ Btu/hr.

The unit shall be provided with the controls cabinet on the _____ hand side when facing the intake opening of the unit.

Burner Module

The Burner Module shall have a 20 ga. G90 galvanized steel exterior shell, 14 ga. G90 galvanized steel base frame, burner supports, and lifting lugs. The module construction shall be suitable for outdoor installation. The Burner system shall contain a modulating burner and controls system to optimize performance. The module shall include an integral controls cabinet with a factory installed main electrical power disconnect and optional factory mounted exterior weatherproof junction box for main power connection. The module shall include removable access doors with hinges and gasket seals to allow access to the controls cabinet and burner.

Option: The Burner Module shall have 1" insulation covered with an interior steel shell.

Option: The Burner Module shall have a motorized intake air damper with leakage rates complying with ASHRAE 90.1.

Burner

The Burner shall be a indirect fired gas burner. Where the combustion system is separated from the make up air stream. The burner shall be at minimum 80% efficient. Each burner in the system shall have a factory installed control board to optimize burner fire rate and efficiency while maintaining desired discharge air temperature. The burner will be factory piped with a inlet gas connection on the exterior of the unit. For indoor units a collar shall be factory installed for easy connection to b-vent for venting flue to the outdoors.

Blower Module

The Blower Module shall have a 20 ga. G90 galvanized steel exterior shell, 14 ga. G90 galvanized steel base frame, blower supports, and lifting lugs. The module construction shall be suitable for outdoor installation. The module shall include at least one removable access door with hinges and gasket seals to allow access to the blower. The module shall have a discharge opening on either the end or bottom of the module.

Option: The module shall include a factory mounted junction box on the bottom exterior for main power connection from the inside of a roof curb.

Option: The Blower Module shall have 1" insulation covered with an interior steel shell.

Blower

The Blower shall be either a belt driven double inlet forward curved centrifugal fan or direct driven backward curved airfoil plenum fan. The Blower shall be AMCA certified, shall be installed on neoprene isolators and shall be powered by a listed or recognized electric ODP or TEFC motor with rolled steel or cast iron construction.

The Blower for a variable airflow unit shall have a pressure port for measuring airflow rate. The blower motor for a variable airflow unit shall be controlled by either a factory installed or externally supplied and installed VFD.

Option: Blower seismic isolators

Electrical Power

The unit shall have a single point power connection rated for one of the following voltages: 115/1/60, 208/1/60, 230/1/60, 208/3/60, 230/3/60, 460/3/60, 575/3/60.

Controls

The unit shall have a unit or remote mounted control for setting discharge air temperature and call for heat. The unit will also have a PLC on board to automatically maintain discharge air temperature.

Clearance to Combustible Materials

The unit shall be listed for a minimum, without Burner and Blower module insulation, of 0 inches of clearance to combustible materials on the top and bottom of the Burner and Blower modules. A 42" controls access clearance, and 18" burner side access with minimum clearance of 1 inch to combustible materials on the inlet and outlet end of the unit.

Intake Hood (Optional)

A unit for outdoor installation shall be provided with a factory built intake hood constructed of 20 ga. G90 galvanized steel with bird screen and removable, washable 2" aluminum mesh filters.

Filter Section (Optional)

The unit shall be provided with an inlet Filter section constructed of 20 ga. G90 galvanized steel with replaceable MERV 8 filters.

Gravity Damper Section (Optional)

The shall be provided with a gravity intake damper section constructed of 20 ga. G90 galvanized steel.

Heat Reclaim Module (Optional)

The Heat Reclaim module in the MUA unit shall be installed after the intake hood and before the fan cabinet to use heat reclaimed from a Pollution Control Unit to pre heat air before the main burner section. The heat reclaim coil shall have copper tubes with aluminum fins, with a inlet and outlet connection on the outside of the cabinet. All components for the heat reclaim closed loop system reside Inside the heat reclaim cabinet of the MUA unit. This system includes a variable volume in-line pump (either EC or VFD controlled), a water filter, air separator and expansion tank. In addition to these items a glycol pump is used to maintain a steady water to glycol concentration in the closed loop system.

Turn Down Section (Optional)

As an option a turn down section shall be provided for down discharge units. The turn down section shall be made of 20ga G90 galvanized steel. A 20ga G90 galvanized collar inside and integral to the cabinet of the turndown section shall be provided to connect to existing ductwork.

Roof Curb (Optional)

The unit shall be capable of being installed on a factory or field provided roof curb. The factory provided roof curb shall be constructed of 18 ga. aluminized steel with optional insulation and/or wood nailer.

Paint (Optional)

The Burner module, Blower module, Intake Hood, Filter section, and Gravity Damper section exterior shall be pre-treated and fully powder coated with thermoset polyester paint.

The company has a policy of continuous product development, therefore we reserve the right to modify design and specifications without notice.

For more information, please contact your nearest Halton agency. To find it: www.halton.com