Marvair®
An ACS Brand

PRODUCT DATA SHEET

# 10EER 7.5, 10, 12.5 & 15 Ton Vertical Wall Mount Air Conditioners

## Models MGH3090A, MGH3120A, MGH3150A & MGH3180A (Dual Compressors)



MGH3090A Center Supply/Top Return w/Economizer

AHRI CERTIFIED www.ahridirectory.org · CE · cPSus CERTIFIED ELECTRICAL SAFETY · Designed, Engineered & Assembled In the USA

## General Description

Marvair's wall mount air conditioners are used primarily to cool electronic and mechanical equipment shelters (E-Houses). Due to the high internal heat load, these shelters require cooling even when outside temperatures are 60°F (15°C) and below. Marvair air conditioners have the necessary controls and components for operation during these temperatures. All models feature dual compressors and have a minimum 10 EER and use next generation non-ozone depleting R-454B refrigerant with a 78% lower GWP than R-410A.

Marvair wall mount air conditioners are installed on the exterior of the building – no interior space is required. Two openings in the wall allow for the conditioned (supply) air to be discharged into the building and for the indoor air to return to the air conditioner in top or center supply configurations.

A sealed condenser fan motor permits operation in hot, dusty environments.

The direct drive evaporator motor provides high aerodynamic efficiency in a compact design. The optimized blade geometry provides excellent air flow at a minimum sound level. Direct drive eliminates all belts and pulleys. Scroll compressors ensure years of efficient and dependable service, even in the harshest of operating conditions. When outside air is required to provide pressurization or cooling, an economizer or fresh air dampers can be used.

## Safety Listed and Energy Certified

All Marvair air conditioners conform to UL/CSA standard 60335-1 and 60335-2-40 and CAN/CSA C22.2, No. 236-11 Ed.4. For energy efficiency and performance, the units are tested and rated in accordance to the ANSI/ARI (Air-Conditioning and Refrigeration Institute) Standard 390- 2003 (Single Package Vertical Units). All units meet or exceed the efficiency requirements of ANSI/ASHRAE/IESNA 90.1.2016. Marvair air conditioners are commercial units and are not intended for use in residential applications.

## Features and Benefits

### High Efficiency

- *2 Compressors to Better Match Heat Loads*
- *Available Top or Center Supply Configurations*
- *Thermal Expansion Valve Improves Efficiency*
- *High Efficiency Scroll Compressor*

### Built-In Reliability

- *High Pressure Switch Protection*
- *Liquid Line Temperature Monitoring & Control*
- *Suction Line Temperature monitoring & Control*
- *Adjustable Short Cycle Protection*
- *Phase Monitor*
- *High Compressor Temperature Switch*
- *Internal Motor Overload Protection*

### Rugged Construction

- *Copper Tube, Aluminum Fin Evaporator & Condenser Coil*
- *Field Or Factory Installed Heaters On Discharge Side of Evaporator Coil*
- *Baked On Finish Over Galvanneal Steel*

## Standard Features

➤ **Dual Compressors**
Factory wired for maximum cooling operation utilizing both compressors.

➤ **Designed for Operation in High and Low Ambient Conditions**
- Low ambient control cycles the condenser fan to maintain proper refrigerant pressures.
- Three minute by-pass of the low pressure sensor for start-up of compressor when outdoor temperatures are below 55°F (13°C).
- Designed for operation up to 131°F (55°C).

➤ **High Efficiency**
- A Thermal Expansion Valve improves efficiency and cooling capacity at both high and low ambient temperatures.
- High efficiency scroll compressor.
- Lanced fins on the evaporator and condenser coils improve heat transfer.

➤ **Remote Alarm Capability**
- Dry contacts can be used for remote alarm or notification upon air conditioner lockout.

➤ **Rugged Construction**
- Copper tube, aluminum fin evaporator & condenser coils.
- Field or factory installed heaters on discharge side of evaporator coil (optional)
- Baked on neutral gray finish over galvanneal steel for maximum cabinet life. (Other finishes are available.)

➤ **Ease of Installation**
- Sloped top with flashing eliminates need of rainhood.
- Built-in mounting flanges facilitate installation and minimize chance of water leaks.
- Supply and air return openings match many competitive models.
- Factory installed disconnect on all units.
- Single Point Power Entry complies with latest edition of U.L. Standard 60335-2-40.
- Available Stainless Steel side plates with lifting eyes provide safe and secure method for moving the unit.

➤ **Built-in Reliability**
- High pressure switch and low pressure sensor with lockout protects refrigerant circuit.
- Adjustable .03 to ten minute delay on make for short cycle protection.
- Phase Monitor - Continuously measures the voltage of each of the three phases. The monitor separately senses low and high voltage, voltage unbalance including phase loss and phase reversal. A red LED glows to indicate a fault. When all voltages are acceptable, a green LED glows. Automatically resets when voltages and phases are within operating tolerances.
  ***Note:*** Not required on 1ø units.
- High temperature switch on the compressor discharge line protects the compressor in the event of a complete loss of refrigerant.
- Internal motor overloads on the evaporator motor, the condenser motor and the compressor

➤ **Designed for Operation on Generator Power**
- All Marvair single & three phase air conditioners are designed to operate on Generator Power. See *Summary Electrical Ratings* for your specific model

➤ **Ease of Service**
- The upper panel opens to the left or the right to facilitate access to the control box and the evaporator motor and coil. This panel can also be easily removed. As an option, these panels can be locked. Stainless steel hinges on the right side of the lower panel allow access to the compressor compartment.
- Service access valves are standard.
- Standard 2" (50 mm) pleated filter with a MERV rating of 8 changeable from outside.
- All major components are readily accessible.
- Front Control Panel allows easy access and complies with NEC clearance codes on redundant side-by-side systems.
- LEDs indicate operational status and fault conditions.

## A Marvair® First – Factory Installed Economizer

Marvair air conditioners have been the industry standard since introduced in 1986. Tens of thousands of Marvair air conditioners are in operation from the metropolitan areas of North America to the deserts of the Mid-East to the Siberian tundra. Here's how the economizer works:

On a signal from the wall mounted indoor thermostat that cooling is required, either mechanical cooling with the compressor or free cooling with the economizer is provided. A factory installed enthalpy controller determines whether the outside air is sufficiently cool and dry to be used for cooling. If suitable, the compressor is locked out and the economizer damper opens to bring in outside air. Integral pressure relief allows the interior air to exit the shelter, permitting outside air to enter the shelter. The temperature at which the economizer opens is factory set to 70ºF (21ºC) but is adjustable from 35°F (1.6°C) to 86ºF (30ºC).

After the dry bulb control has activated and outside air is being brought into the building, the supply air sensor measures the temperature of the air entering the building and then modulates the economizer damper to mix the right proportion of cool outside air with warm indoor air to maintain the factory setting of 55°F (12.7°C) air being delivered to the

building. The supply air temperature is adjustable from 38ºF - 70ºF (3.3ºC - 21ºC). This prevents shocking the electronic components with cold outside air. The compressor is not permitted to operate when the economizer is functioning.

If the outside air becomes too hot or humid, the economizer damper closes completely, or to a field selectable minimum open position, and mechanical cooling is activated.

The "full flow" economizer reduces electrical costs by maximizing the use of outside air for cooling.

## Savings with an Economizer

The following table shows the annual electrical cost of cooling a 10 ft. x 20 ft. x 9 ft. (3m x 6m x 2.7m) shelter in twelve cities in the US. Costs are shown for an air conditioner without an economizer, for an air conditioner with an economizer (and the savings). The savings do not include any demand charges. The savings are based on the electrical usage of a five ton air conditioner and an electric rate of 10¢ per kilowatt-hour, the approximate average commercial rate in the US.

| Hours of Operation | Atlanta, GA | Boston, MA | Chicago, IL | Dallas, TX | Denver, CO | Houston, TX |
|---|---|---|---|---|---|---|
| Annual Compressor & Condenser Motor Run Time without Economizer (Hrs.) | 4,032 | 3,916 | 3,914 | 4,110 | 3,921 | 4,133 |
| Annual Compressor & Condenser Motor Run Time with Economizer (Hrs.) | 2,487 | 1,509 | 1,688 | 2,895 | 1654 | 3,243 |
| Run Time Savings with the Economimizer (Hrs.) | 1,544 | 2,407 | 2,227 | 1,215 | 2,268 | 890 |
| **Annual Costs Saving ($) of 10.0 EER unit with an Economizer)** | | | | | | |
| Annual Operating Cost 10.0 EER Unit without Economizer ($) | $4,437.98 | $4,141.35 | $4,192.64 | $4,867.57 | $4,312.37 | $4,732.07 |
| Annual Operating Cost 10.0 EER with Economizer | $2,893.65 | $1,813.19 | $1,994.74 | $3,553.41 | $2,016.03 | $3,810.12 |
| Annual Savings using 10.0 EER Unit with Economizer | $1,544.33 | $2,328.16 | $2,197.90 | $1,314.16 | $2,296.34 | $921.95 |

| Hours of Operation | Los Angeles, CA | Miami, FL | Phoenix, AZ | Pittsburgh, PA | Kellog, ID | St. Louis, MO |
|---|---|---|---|---|---|---|
| Annual Compressor & Condenser Motor Run Time without Economizer (Hrs.) | 4,047 | 4,225 | 4,200 | 3,907 | 3,849 | 3,960 |
| Annual Compressor & Condenser Motor Run Time with Economizer (Hrs.) | 2,859 | 4,099 | 2,431 | 1,566 | 862 | 2,004 |
| Run Time Savings with the Economimizer (Hrs.) | 1,189 | 126 | 1,768 | 2,341 | 2,987 | 1,956 |
| **Annual Costs Saving ($) of 10.0 EER unit with an Economizer** | | | | | | |
| Annual Operating Cost 10.0 EER Unit without Economizer ($) | $4,423.32 | $4,617.36 | $5,365.92 | $4,040.71 | $3,923.75 | $4,359.32 |
| Annual Operating Cost 10.0 EER with Economizer | $3,273.85 | $4,495.30 | $3,389.47 | $1,825.68 | $1,132.29 | $2,378.18 |
| Annual Savings using 10.0 EER Unit with Economizer | $1,149.47 | $122.06 | $1,976.45 | $2,215.03 | $2,791.46 | $1,981.14 |

**Shelter Metrics:**
- 10' x 20' x 9' building
- Internal heat gain (electronics load): 12,000 watts.
- Building surface area (excluding floor area): 740 ft²
- R-Value of walls and ceiling: R-12
- Internal shelter temperature (Thermostat set point): 75ºF

**Air Conditioner Metrics:**
- Economizer setting: 57ºF (dry bulb or enthalpy sensor)
- A/C unit capacity: 60,000 BTUH (5 tons) with 1-stage compressor
- Nominal EER (unit efficiency): 10.0
- Cost of power: 10¢ per KWH

## Options for Outside Air for Ventilation

➤ **Configuration "C": Up to 100% Modulating Economizer**

The economizer reduces the cost of air conditioning by using outside air when acceptable to cool the room (Free Cooling). The factory installed Marvair® economizer has integral pressure relief.

Control Board Logic: Upon a "Call for Cooling", the economizer control board calculates whether the HVAC operates in economizer mode or mechanical cooling mode based on outdoor temperature (dry bulb) or temperature/humidity (enthalpy). When outdoor conditions are favorable for economizer cooling , the damper drives open and modulates to maintain a 55ºF mixed air temperature through the supply grille. When outdoor conditions are not favorable for economizer cooling, the economizer damper remains closed, and the HVAC unit will operate in mechanical cooling mode.

***Features Designed for Telecommunication applications:***

*Hydrogen Fault Input:* When 24VAC is applied to the H_FLT input, the economizer board forces the damper to open 100% for emergency ventilation. The compressor does not operate during Hydrogen Fault/Emergency Ventilation. Thermostat must provide the fan "G" signal to HVAC to activate the indoor blower.

*Forced Mechanical Cooling:* When 24VAC is applied to the FC input of the economizer board, the economizer damper is forced closed, and the HVAC will operate in mechanical cooling mode. This is considered as economizer override in the event economizer cooling is not sufficient for the heat load. Thermostat must provide the fan "G" signal to HVAC to activate the indoor blower.

*Economizer Status:* The economizer board has contacts that when used with the Marvair CommStat 4 Telecom HVAC Controller, change state to provide feedback to the CommStat 4 to indicate when the HVAC is in economizer mode verses mechanical cooling mode. This feedback allows the CommStat 4 to initiate the forced cooling feature to override economizer cooling and force mechanical cooling.

When used with minimum position potentiometer (optional), the Marvair® economizer can meet requirements of ASHRAE Std. 62.

➤ **Configuration "D": Two-Position Motorized Fresh Air Damper w/Pressure Relief Ventilation**
Factory Installed Relay Logic: Upon a "Call for indoor blower" via a 24V signal (G), the motorized damper opens to a maximum of 50% of the fully open position. The open position can be decreased from 50% by adjusting the rod position on the drive linkage. In this case, the damper will not open unless there's a call for the indoor blower.
***Note:*** This circuit does not interrupt the compressor or heater operation.

➤ **Configuration "E": Two-Position Motorized Fresh Air Damper w/Pressure Relief Ventilation & Independent Control**
Factory Installed Relay Logic: Upon a "Call for Motorized damper" via a 24V signal from an external user-installed device, the motorized damper opens to a maximum of 50% of the fully open position. The open position can be decreased from 50% by adjusting the rod position on the drive linkage.

The motorized damper Does NOT open when there is a call for the indoor fan (G). A 24VAC signal {sourced from LVTB pin 10 and supplied through a user-provided Normally Open (NO) contact} activates (opens) the Motorized Damper and connected Relief Damper. When the 24VAC signal is removed, the Motorized Damper and connected Relief Damper close (spring return).
***Note:*** This circuit does not interrupt the compressor or heater operation.

➤ **Configuration "F": No Free Cooling, 100%- Damper Opening, Emergency Ventilation Only w/Pressure Relief and Independent Control**
Factory Installed Relay Logic: Upon a "Call for emergency ventilation", from an external user-provided device; the motorized damper opens to 100% open position and the indoor blower is forced to operate. During "Emergency Ventilation mode", the compressor and heater do not operate. The relay has a wire lead extended for the installer to connect their emergency ventilation control signal.
***Note:*** This circuit interrupts the compressor and heater operation and forces the indoor blower and damper to operate during emergency ventilation mode.

## Controllers and Thermostats

➤ **Thermostats and Controllers for Single Stage and 2-Stage Air Conditioners**
See the *Marvair Thermostats and Controllers Product Data Sheet* for the thermostats and controllers for use with Marvair air conditioners.

## Accessories

➤ **Supply Grille**
For MGH3090A/3120A/3150A..... *P/N 93189*
*42½" x 15¼" (1,080 mm x 387 mm)*
For MGH3180A..... *P/N 93190*
*54½" x 15½" (1,384 mm x 394 mm)*

➤ **Return Grille**
For MGH3090A/3120A/3150A..... *P/N 93188*
*42½" x 21½" (1,080 mm x 546 mm)*
For MGH3180A..... *P/N 93191*
*54½" x 21½" (1,384 mm x 546 mm)*

➤ **Lifting Eye Kit**
For MGH3090A/3120A/3150A.....*P/N K/40025*
For MGH3180A.....*P/N K/40026*

## Options

Marvair air conditioners are designed and are built to stringent requirements of the communications/electronic shelter. Applications occur that have special requirements. Numerous options are available for Marvair air conditioners that meet these special needs.

➤ **Protective Coating Packages**
**Coated Coils:** Either the condenser or evaporator coil can be coated. For harsh conditions, e.g., power plants, paper mills or sites were the unit will be exposed to salt water, the coils should be coated. ***Note:*** Cooling capacity may be reduced by up to 5% on units with coated coils.

**Coastal Environmental Package:** This package includes:
- Corrosion resistant fasteners,
- Sealed or partially sealed condenser fan motor,
- Insitu coating applied to all exposed internal copper and metal in the in the condenser section, and
- A protective coating on the condenser coil.

**All Coat Package:** Includes the same features as the Coastal Environmental Package and adds an impregnated polyurethane on the evaporator coil and the Insitu coating on all exterior and interior components and sheet metal.
**Note 1:** The insulated internal sheet metal and the internal control box are not coated.
**Note 2:** The corrosion prevention coating can not be applied to stainless steel.

### ➤ Cabinet Color

Marvair air conditioners are available in six different cabinet colors. The standard colors are Marvair® beige, white, gray and Carlsbad Canyon (brown). The standard cabinet's sides, top and front panels are constructed of 20 gauge painted steel. Contact your Marvair representative for color chips. Custom colors are also available; contact Marvair for details.

Two stainless steel cabinet constructions are available:

**Stainless Steel Exterior (Option "5"):** This option replaces all standard exterior painted surfaces with stainless steel. This option also replaces the standard unpainted compressor base of the unit and exterior cabinet screws with stainless steel. No other standard construction surfaces are stainless steel in this option, unless listed in this description. Back panel is not stainless steel with this option. This option is designed to give a more economical alternative to full stainless steel, and still offer an enhanced level of protection. For further corrosion protection, please see our "A" offering at full stainless on all metal components.

**Stainless Steel Unit (Option "A"):** This option replaces all interior and exterior steel sheet metal parts with stainless steel. All galvanized and painted steel surfaces found in the standard unit are stainless steel with this option. All cabinet screws are stainless steel. No other standard construction surfaces are stainless steel, unless listed in this description. This option is designed to give our most robust protection against steel corrosion.

### ➤ Dirty Filter Indicator

A factory installed option that measures the difference in pressure across the internal air filter and illuminates an LED and activates a form "C" relay when the pressure exceeds the desired difference.

### ➤ Fresh Air Damper

*Fresh Air Damper..... P/N K/04657-xxx*

Allows introduction of outside air into the building to provide positive pressurization. Field installed on either the left or right hand side of the unit. "xxx" designates the color (200 = Grey (standard). 100 = Beige. 500 = Stainless Steel)

### ➤ Filter Access From Return Air Opening

Factory installed filter bracket allows access to the filters from the return air opening. See model ID, special option code "I".

### ➤ Freeze Sensor

Prevents frost on the indoor coil caused by a loss of air flow or restrictive duct work.

### ➤ Center Supply/Top Return Configuration

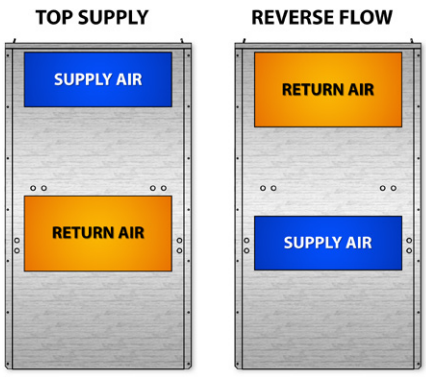
Location of Supply and Return openings are reversed. See dimensional drawings.

### ➤ Optional Hot Gas By-Pass

Provides coil protection from freeze-up during low load conditions.

### ➤ Economizer

The factory installed economizer saves energy and reduces the run time on the compressor and condenser fan motor by using outside air – when suitable – to cool the shelter.




## Standard Programmable Logic Controller

A Programmable Logic Controller (PLC) is standard equipment for all MGH3120A, MGH3150A and MGH3180A models to control the operation of the HVAC system. A display screen on the PLC shows operational status and provide assistance with diagnosis if troubleshooting is ever required. Various control functions are field selectable and programmable. The PLC is also capable of communicating to other PLCs to allow run time leveling and does not require additional equipment to be installed. The PLC provides improved reliability because of the reduction of components. The components utilized are more durable and the control box wiring has been simplified. Pertinent statistical data about the life of the refrigeration system can be accessed through the PLC.

All Marvair MGH air conditioners include built in head pressure control.

- Advanced PID algorithm to ensure accurate automatic adjustment of condenser airflow.
- Quick-Safe prevention of low and high discharge pressures ensure the system operates well under any conditions.
- Modulating of the condenser fan reduces cycling, improving reliability.
- Energy efficient, achieving the most efficient use of the condenser fan.

The PLC is factory installed and tested, requires no adjustments or changes when the air conditioning system is installed.

## Remote Access Data Points

Through the Ethernet connection, the network operations center can monitor and change various data points in the HVAC system and the shelter.

Data Points which can be monitored **and** changed:

- Cooling Set Point*
- Heating Set Point*
- Continuous Blower On/Off
- Cooling Stage Differential*
- Heating Stage Differential*
- Low Temperature Alarm Set Point*
- High Temperature Alarm Set Point*
- Y Fan Purge Time
- W Fan Purge Time
- Thermostat Offset*
- AC Unit Remote Shutdown
- And more!

* Not available when using an external thermostat

Data points which can only be monitored:

- Room Temperature*
- Room Humidity*
- High Pressure Switch Refrigeration Circuit A Fault
- Low Pressure Switch Refrigeration Circuit A Fault
- High Pressure Switch Refrigeration Circuit B Fault
- Low Pressure Switch Refrigeration Circuit B Fault
- Phase Fault
- Emergency Shutdown
- High Temperature Cut-Off
- High Temperature Alarm*
- Low Temperature Alarm*

### ➤ Modes of Operation

***Normal Start-up:*** On a call for cooling, and with the high pressure switch closed, the cooling system (compressor, indoor blower motor and outdoor fan motor) will be energized. (Note: See the Delay on Make feature). The cooling system will remain energized during the three minute low pressure switch bypass cycle. If the low pressure is closed, the cooling system will continue to operate after the three-minute bypass. If the low pressure switch is open after the three-minute bypass, the cooling system will be de-energized.

***Lockout Mode:*** If either the high or low pressure switch opens on the same call for cooling, the PLC system enters into and indicates the lockout mode. In the lockout mode, the compressor is turned off, the alarm output is energized and the status LED's will blink to indicate which fault has occurred. If there is a call for air flow, the indoor blower will remain energized. When the lockout condition has cleared, the unit will reset if the demand of the thermostat is removed or when power is reset. The lockout circuit has a 3-second delay to prevent premature activation and is factory wired for normally open contacts. The user can select either normally closed or normally open remote alarm dry contacts.

### ➤ Ambient Temperature Operating Ranges

| Basic Model | Special Option | TEMPERATURE RANGES |
|---|---|---|
| Non-Economizer | Base Unit | 0ºF - 131ºF (-18ºC - 55ºC) |
| Economizer-Equipped | Base Unit | -40ºF - 131ºF (-40ºC - 55ºC) |

### ➤ SCFM @ Various External Static Pressures

| Model Number | IWG Static Pressure | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 0 | 0.2 | 0.4 | 0.6 | 0.8 | 1 | 1.2 | 1.4 | 1.6 | 1.8 | 2 | 2.2 |
| MGH3090A | 3,846 | 3,570 | 3,286 | 3,003 | 2,722[1] | 2,515[1] | 2,164[1] | 1,888[1] | 1,612[1] | 1,338[1] | 1,065[1] | 794[1] |
| MGH3120A | 4,301 | 4,064 | 3,808 | 3,533 | 3,238 | 2,924[1] | 2,590[1] | 2,237[1] | 1,865[1] | 1,472[1] | 1,061[1] | 630[1] |
| MGH3150A | 4,801 | 4,564 | 4,308 | 4,033 | 3,738 | 3,424 | 3,090 | 2,737 | 2,365 | 1,972 | 1,561 | 1,130 |
| MGH3180A | 6,876 | 6,622 | 6,378 | 6,143 | 5,916 | 5,686 | 5,487 | 5,285 | 5,090 | 4,902 | 4,721 | 4,547 |

[1]Operation in the shaded area is not recommended

### ➤ Room Size Limitations

| | | MGH3090A | MGH3120A | MGH3150A | MGH3180A |
|---|---|---|---|---|---|
| Minimum Room Size (ft²) | Top Supply | 143.3 | 125.7 | 143.3 | 235.6 |
| | Center Supply | 281.3 | 246.7 | 281.3 | 462.5 |
| Minimum Supply Height (ft) | Top Supply | 6.9 | 6.9 | 6.9 | 6.9 |
| | Center Supply | 3.5 | 3.5 | 3.5 | 3.5 |

## Marvair 5-Stage Control Scheme

Marvair's 5-Stage Control Scheme utilizes two 2-Stage compressors to provide better temperature control and reduced energy consumption. With the use of this unique controlling scheme, the HVAC system can accomplish 5 discreet cooling stages (see figure 1). The additional stages allow the unit to stage up and down in smaller increments; keeping power consumption lower than traditional dual compressor units (see figure 2). Contact your sales representative for more details.

### ➤ Benefits

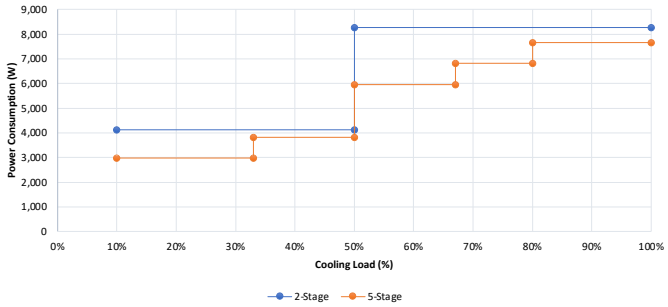
- Improved Part-Load Performance
- Improved IEER
- Better Temperature Control
- Better Load Matching
- 5 Stages of Unloading

### ➤ Features

- Two (2) 2-Stage Compressors
- Independent Refrigerant Circuits

| Compressor | Stage 1 | Stage 2 | Stage 3 | Stage 4 | Stage 5 |
|---|---|---|---|---|---|
| #1 Part Load | ✓ | - | ✓ | - | - |
| #1 Full Load | - | ✓ | - | ✓ | ✓ |
| #2 Part Load | - | - | ✓ | ✓ | - |
| #2 Full Load | - | - | - | - | ✓ |
| Multipliers | 0.33 | 0.50 | 0.67 | 0.83 | 1.00 |

*Figure 1: Control Scheme for 5-Stage Unit with Multipliers*




Power consumption is based solely on the compressors in a 10 ton 480v unit at a 115°F condensing temperature and a 50°F evaporator temperature. Power consumption will vary based on application.

*Figure 2: Power Consumption Vs. Cooling Demand*

# Model Identification

| Example | M | G | H | 3 | 0 | 9 | 0 | A | D | 1 | 5 | 0 | C | + | + | + | + | 1 | C | A | + | A | 2 | 1 | + | + | + | + | + | + |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Position | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 |

| | | |
|---|---|---|
| 1 | Unit Designation/Family | **M** = Marvair Wall Mount |
| 2 | Energy Efficiency Ratio (EER) | **G** = 10 |
| 3 | Refrigerant Type | **H** = R-454B |
| 4 | Compressor Type/ Quantity | **3** = Dual Compressors |
| 5<br>6<br>7 | Unit Capacity/Nominal Cooling (BTUH) | **090** = 90,000 \| **150** = 150,000<br>**120** = 120,000 \| **180** = 180,000 |
| 8 | System Type | **A** = Air Conditioner |
| 9 | Power Supply (Volts-Phase-Hz) | **A** = 208/230-60-1<br>**C** = 208/230-60-3<br>**D** = 460-60-3<br>**Z** = 575-60-3<br>**$** = Special |
| 10<br>11<br>12 | Heat Designation @ Rated Voltage **KW** = Kilowatt | **000** = No Heat \| **090** = 9KW<br>**050** = 5KW \| **150** = 15KW<br>**060** = 6KW \| **180** = 18KW |
| 13 | Ventilation Configuration | **A** = Solid Front Door<br>**C** = Economizer<br>**D** = Motorized Damper w/Pressure Relief<br>**E** = Motorized Damper w/Pressure Relief & Independent Motorized Damper Control<br>**F** = No Free Cooling, 100% Emergency Ventilation Only w/Independent Control |
| 14 | Dehumidification | **R** = Electric Reheat<br>**T** = Electric Reheat w/Humidity Control<br>**+** = None |
| 15 | Controls | **A** = Power Fail Alarm w/Additional Lockouts<br>**C** = 24V EMS Relay Kit<br>**F** = PLC w/Summed Alarms<br>**H** = PLC w/2-Stage Control<br>**K** = Summed Alarms<br>**N** = Relay Logic Controls<br>**2** = PLC w/5-Stage Control<br>**+** = None<br>**$** = Special |
| 16 | Operating Condition | **A** = Evaporator Freeze Sensor (EFS)<br>**C** = EFS w/Hot Gas Bypass<br>**N** = Hard Start<br>**P** = Hard Start w/Low Ambient & CCH<br>**Q** = Hard Start w/Low Ambient & Fan Cycle Control (FCC)<br>**R** = Crank Case Heater (CCH)<br>**T** = Hard Start w/EFS<br>**U** = Hard Start w/Hot Gas Bypass<br>**V** = Hard Start w/Low Ambient & CCH & EFS<br>**W** = Low Ambient w/CCH<br>**Y** = Low Ambient w/CCH & FCC<br>**Z** = Low Ambient w/CCH & EFS<br>**1** = Low Ambient w/FCC<br>**2** = Low Ambient w/FCC & EFS<br>**3** = CCH w/Hot Gas Bypass<br>**+** = None |
| 17 | Indoor Air Quality Features | **D** = Dry Bulb Sensor<br>**E** = Dry Bulb Sensor w/Dirty Filter<br>**G** = Dirty Filter Sensor<br>**+** = None |
| 18 | Air Flow | **1** = Top Supply/Center Return (STD)<br>**2** = Center Supply/Top Return |
| 19 | Compressor Location | **C** = Center |
| 20 | Filter Option | **A** = 2" Pleated (MERV 8, AC/HP-C)<br>**C** = 2" Charcoal<br>**D** = MERV 11 High Filtration Package<br>**E** = MERV 13 High Filtration Package<br>**F** = Filter Access Through Return Air Grille<br>**W** = Aluminum Washable<br>**+** = None |
| 21 | Corrosion Protection | **A** = Condenser Coil Only<br>**C** = Evaporator Coil Only<br>**D** = Both Coils Condenser & Evaporator<br>**E** = All Coils Cond/Evap/Reheat<br>**F** = Coat All<br>**G** = Coastal Environmental Package & Evap Coil<br>**K** = Coastal Package<br>**+** = None<br>**$** = Special |
| 22<br>23 | Engineering Revision Level | A2<br>B2 C2 |
| 24 | Cabinet Color | **1** = Marvair Beige (STD)<br>**2** = Gray (STD)<br>**3** = Carlsbad Canyon (STD)<br>**4** = White (STD)<br>**5** = Stainless Steel Exterior<br>**9** = Pebble Gray<br>**A** = Stainless Steel - Unit<br>**$** = Custom Color (Powder Coat) |
| 25 | Sound Attenuation | **2** = Compressor Blanket<br>**+** = None |
| 26 | Security Option | **A** = Lockable Access Plate/Tamper Proof<br>**+** = None |
| 27 | Fastener/Drain Pan Option | **A** = Stainless Steel Fasteners<br>**C** = Stainless Steel Drain Pan<br>**D** = Stainless Steel Fasteners & Drain Pan<br>**E** = IP55 Ingress<br>**+** = None |
| 28 | Unused | **+** = None<br>**$** = Special |
| 29 | Unused | **+** = None<br>**$** = Special |
| 30 | Special Variation | **+** = None<br>**$** = Special Configuration Not Covered by Model Nomenclature |

**Note:** Not all options are available with all configurations. Contact your Marvair sales representative for configuration details and feature compatibility.

# Marvair Wall Mount Air Conditioner Dual 1-Stage Compressor Performance Data

## Certified Efficiency and Capacity Ratings at ANSI/AHRI Standard 390

| Model Number | MGH3090A | | | | MGH3120A | | | | MGH3150A | | | MGH3180A | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | A | C | D | Z | A | C | D | Z | C | D | Z | C | D | Z |
| **Cooling BTUH[1]** | 89,000 | | | | 118,000 | | | | 146,000 | | | 182,000 | | |
| **EER[2]** | 10 | | | | 10 | | | | 10 | | | 10 | | |
| **Rated Air Flow (CFM[3])** | 3,500 | | | | 4,000 | | | | 4,500 | | | 6,000 | | |

[1]Cooling rated at 95°F (35°C) outdoor and 80°F DB / 67°F WB (26.5°C DB / 19.5°C WB) return air. [2]EER = Energy Efficiency Ratio
[3]CFM = Cubic Feet per Minute
Ratings are with no outside air. Performance will be affected by altitude.
Ratings are at 230 volts for 208/230 volt units ("A" & "C" models) and 460 volts for "D" models. Operation of units at different voltage from that of the rating point will affect performance and air flow.

## Sensible Total Heat Ratio @ 95°F (35°F) Outside Air Dry Bulb: MGH Air Conditioners (Dual Compressors)

| Model Number | MGH3090A | | | | MGH3120A | | | | MGH3150A | | | MGH3180A | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | A | C | D | Z | A | C | D | Z | C | D | Z | C | D | Z |
| **Total Capacity** | 89,000 | | | | 118,000 | | | | 146,000 | | | 182,000 | | |
| **Sensible Capacity** | 69,092 | | | | 91,706 | | | | 106,434 | | | 136,830 | | |
| **Sensible Heat Ratio** | 0.8 | | | | 0.8 | | | | 0.7 | | | 0.8 | | |

Sensible heat ratios based upon outdoor air conditions of 80°F DB/67°F WB (26.5°C DB/19.5°C WB) return air.
Derate performance by 17% for "E" (380v 3ø, 50Hz) models.

## Cooling Performance (BTUH) at Various Outdoor Temperatures - Single Compressor Operation

| Model Number | Return Air DB/WB °F (°C) | Outdoor Temperature | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Cooling Capacity BTUH | 75°F (24°C) | 80°F (27°C) | 85°F (30°C) | 90°F (32°C) | 95°F (35°C) | 100°F (38°C) | 105°F (41°C) | 110°F (43°C) | 115°F (46°C) | 120°F (49°C) | 125°F (52°C) | 130°F (54°C) |
| MGH3090A | 72/61 (22/16) | Total | 42,039 | 40,581 | 39,164 | 37,706 | 36,248 | 34,790 | 33,332 | 31,914 | 31,185 | 30,456 | 29,727 | 28,998 |
| | | Sensible | 37,564 | 37,021 | 36,494 | 35,953 | 35,414 | 34,790 | 33,332 | 31,914 | 31,185 | 30,456 | 29,727 | 28,998 |
| | 76/63 (24/17) | Total | 43,700 | 42,201 | 40,662 | 39,164 | 37,665 | 36,167 | 34,668 | 33,129 | 32,400 | 31,671 | 30,942 | 30,213 |
| | | Sensible | 41,395 | 40,856 | 40,305 | 39,164 | 37,665 | 36,167 | 34,668 | 33,129 | 32,400 | 31,671 | 30,942 | 30,213 |
| | 80/67 (27/19) | Total | 46,980 | 45,360 | 43,740 | 42,120 | 40,500 | 38,192 | 37,260 | 35,640 | 34,830 | 34,101 | 33,372 | 32,643 |
| | | Sensible | 40,841 | 40,300 | 39,761 | 39,224 | 38,688 | 37,926 | 37,260 | 35,640 | 34,830 | 34,101 | 33,372 | 32,643 |
| | 84/71 (29/22) | Total | 50,261 | 48,519 | 46,818 | 45,077 | 43,335 | 41,594 | 39,852 | 38,151 | 37,260 | 36,531 | 35,802 | 35,073 |
| | | Sensible | 40,097 | 39,560 | 39,037 | 38,503 | 37,970 | 37,438 | 36,908 | 36,392 | 36,122 | 35,901 | 35,681 | 35,073 |
| MGH3120A | 72/61 (22/16) | Total | 61,242 | 59,118 | 57,053 | 54,929 | 52,805 | 50,681 | 48,557 | 46,492 | 45,430 | 44,368 | 43,306 | 42,244 |
| | | Sensible | 45,306 | 44,418 | 43,560 | 42,684 | 41,813 | 40,948 | 40,089 | 39,259 | 38,835 | 38,411 | 37,990 | 37,569 |
| | 76/63 (24/17) | Total | 63,661 | 61,478 | 59,236 | 57,053 | 54,870 | 52,687 | 50,504 | 48,262 | 47,200 | 46,138 | 45,076 | 44,014 |
| | | Sensible | 49,214 | 48,332 | 47,431 | 46,560 | 45,695 | 44,836 | 43,983 | 43,112 | 42,702 | 42,293 | 41,886 | 41,479 |
| | 80/67 (27/19) | Total | 68,440 | 66,080 | 63,720 | 61,360 | 59,000 | 56,640 | 54,280 | 51,920 | 50,740 | 49,678 | 48,616 | 47,554 |
| | | Sensible | 48,910 | 48,020 | 47,137 | 46,260 | 45,389 | 44,524 | 43,665 | 42,812 | 42,388 | 42,008 | 41,628 | 41,250 |
| | 84/71 (29/22) | Total | 73,219 | 70,682 | 68,204 | 65,667 | 63,130 | 60,593 | 58,056 | 55,578 | 54,280 | 53,218 | 52,156 | 51,094 |
| | | Sensible | 48,364 | 47,477 | 46,616 | 45,742 | 44,873 | 44,012 | 43,156 | 42,326 | 41,894 | 41,541 | 41,190 | 40,839 |
| MGH3150A | 72/61 (22/16) | Total | 75,809 | 73,180 | 70,623 | 67,994 | 65,365 | 62,736 | 60,107 | 57,550 | 56,236 | 54,921 | 53,607 | 52,292 |
| | | Sensible | 53,631 | 52,510 | 51,428 | 50,324 | 49,228 | 48,139 | 47,059 | 46,017 | 45,483 | 44,952 | 44,422 | 43,895 |
| | 76/63 (24/17) | Total | 78,803 | 76,101 | 73,326 | 70,623 | 67,921 | 65,219 | 62,517 | 59,741 | 58,427 | 57,112 | 55,798 | 54,483 |
| | | Sensible | 57,995 | 56,881 | 55,745 | 54,647 | 53,558 | 52,476 | 51,403 | 50,309 | 49,793 | 49,280 | 48,768 | 48,258 |
| | 80/67 (27/19) | Total | 84,719 | 81,798 | 78,876 | 75,955 | 73,034 | 70,112 | 67,191 | 64,269 | 62,809 | 61,494 | 60,180 | 58,865 |
| | | Sensible | 57,660 | 56,536 | 55,421 | 54,315 | 53,217 | 52,128 | 51,047 | 49,974 | 49,441 | 48,963 | 48,487 | 48,012 |
| | 84/71 (29/22) | Total | 90,635 | 87,494 | 84,427 | 81,286 | 78,146 | 75,005 | 71,865 | 68,798 | 67,191 | 65,876 | 64,562 | 63,247 |
| | | Sensible | 57,026 | 55,904 | 54,817 | 53,713 | 52,618 | 51,532 | 50,455 | 49,411 | 48,867 | 48,424 | 47,982 | 47,542 |
| MGH3180A | 72/61 (22/16) | Total | 94,458 | 91,182 | 87,997 | 84,721 | 81,445 | 78,169 | 74,893 | 71,708 | 70,070 | 68,432 | 66,794 | 65,156 |
| | | Sensible | 81,262 | 80,011 | 78,799 | 77,556 | 76,317 | 75,082 | 73,851 | 71,708 | 70,070 | 68,432 | 66,794 | 65,156 |
| | 76/63 (24/17) | Total | 98,189 | 94,822 | 91,364 | 87,997 | 84,630 | 81,263 | 77,896 | 74,438 | 72,800 | 71,162 | 69,524 | 67,886 |
| | | Sensible | 89,395 | 88,154 | 86,884 | 85,651 | 84,422 | 81,263 | 77,896 | 74,438 | 72,800 | 71,162 | 69,524 | 67,886 |
| | 80/67 (27/19) | Total | 105,560 | 101,920 | 98,280 | 94,640 | 91,000 | 87,360 | 83,720 | 80,080 | 78,260 | 76,622 | 74,984 | 73,346 |
| | | Sensible | 88,465 | 87,218 | 85,976 | 84,739 | 83,505 | 82,276 | 81,051 | 79,831 | 78,260 | 76,622 | 74,984 | 73,346 |
| | 84/71 (29/22) | Total | 112,931 | 109,018 | 105,196 | 101,283 | 97,370 | 93,457 | 89,544 | 85,722 | 83,720 | 82,082 | 80,444 | 78,806 |
| | | Sensible | 87,139 | 85,899 | 84,693 | 83,462 | 82,236 | 81,014 | 79,796 | 78,611 | 77,992 | 77,486 | 76,981 | 76,477 |

Based upon ANSI/AHRI std. 390 return air conditions of 80°F DB/67°F WB (26.5°C DB/19.5°C WB) at various outdoor temperatures.

## Cooling Performance (BTUH) at Various Outdoor Temperatures - Dual Compressor Operation

| BASIC MODEL | Return Air DB/WB °F (°C) | Outdoor Temperature | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Cooling Capacity BTUH | 75°F (24°C) | 80°F (27°C) | 85°F (30°C) | 90°F (32°C) | 95°F (35°C) | 100°F (38°C) | 105°F (41°C) | 110°F (43°C) | 115°F (46°C) | 120°F (49°C) | 125°F (52°C) | 130°F (54°C) |
| MGH3090A | 72/61 (22/16) | Total | 92,382 | 89,178 | 86,063 | 82,859 | 79,655 | 76,451 | 73,247 | 70,132 | 68,530 | 66,928 | 65,326 | 63,724 |
| | | Sensible | 68,795 | 67,490 | 66,228 | 64,938 | 63,655 | 62,379 | 61,110 | 59,883 | 59,255 | 58,629 | 58,004 | 57,381 |
| | 76/63 (24/17) | Total | 96,031 | 92,738 | 89,356 | 86,063 | 82,770 | 79,477 | 76,184 | 72,802 | 71,200 | 69,598 | 67,996 | 66,394 |
| | | Sensible | 74,809 | 73,513 | 72,189 | 70,907 | 69,633 | 68,366 | 67,107 | 65,821 | 65,214 | 64,609 | 64,006 | 63,404 |
| | 80/67 (27/19) | Total | 103,240 | 99,680 | 96,120 | 92,560 | 89,000 | 83,927 | 81,880 | 78,320 | 76,540 | 74,938 | 73,336 | 71,734 |
| | | Sensible | 74,266 | 72,960 | 71,663 | 70,374 | 69,092 | 67,278 | 66,551 | 65,292 | 64,665 | 64,103 | 63,542 | 62,982 |
| | 84/71 (29/22) | Total | 110,449 | 106,622 | 102,884 | 99,057 | 95,230 | 91,403 | 87,576 | 83,838 | 81,880 | 80,278 | 78,676 | 77,074 |
| | | Sensible | 73,358 | 72,057 | 70,794 | 69,509 | 68,233 | 66,964 | 65,702 | 64,478 | 63,840 | 63,319 | 62,799 | 62,281 |
| MGH3120A | 72/61 (22/16) | Total | 125,101 | 120,762 | 116,544 | 112,205 | 107,866 | 103,528 | 99,189 | 94,971 | 92,801 | 90,632 | 88,462 | 86,293 |
| | | Sensible | 91,713 | 89,891 | 88,132 | 86,335 | 84,550 | 82,777 | 81,016 | 79,316 | 78,446 | 77,578 | 76,714 | 75,853 |
| | 76/63 (24/17) | Total | 130,042 | 125,583 | 121,003 | 116,544 | 112,085 | 107,625 | 103,166 | 98,586 | 96,417 | 94,247 | 92,078 | 89,909 |
| | | Sensible | 99,535 | 97,724 | 95,877 | 94,092 | 92,318 | 90,557 | 88,808 | 87,024 | 86,183 | 85,346 | 84,510 | 83,678 |
| | 80/67 (27/19) | Total | 139,804 | 134,984 | 130,163 | 125,342 | 120,521 | 115,700 | 110,879 | 106,058 | 103,648 | 101,479 | 99,309 | 97,140 |
| | | Sensible | 98,928 | 97,103 | 95,291 | 93,492 | 91,706 | 89,933 | 88,173 | 86,425 | 85,556 | 84,776 | 83,999 | 83,224 |
| | 84/71 (29/22) | Total | 149,567 | 144,384 | 139,322 | 134,140 | 128,957 | 123,775 | 118,593 | 113,531 | 110,879 | 108,710 | 106,541 | 104,371 |
| | | Sensible | 97,829 | 96,008 | 94,243 | 92,449 | 90,669 | 88,901 | 87,147 | 85,446 | 84,560 | 83,837 | 83,117 | 82,399 |
| MGH3150A | 72/61 (22/16) | Total | 151,618 | 146,359 | 141,247 | 135,988 | 130,730 | 125,472 | 120,213 | 115,101 | 112,472 | 109,842 | 107,213 | 104,584 |
| | | Sensible | 107,262 | 105,020 | 102,857 | 100,648 | 98,455 | 96,279 | 94,118 | 92,033 | 90,966 | 89,904 | 88,845 | 87,790 |
| | 76/63 (24/17) | Total | 157,606 | 152,202 | 146,651 | 141,247 | 135,842 | 130,438 | 125,033 | 119,483 | 116,854 | 114,224 | 111,595 | 108,966 |
| | | Sensible | 115,990 | 113,761 | 111,489 | 109,294 | 107,115 | 104,952 | 102,806 | 100,617 | 99,587 | 98,560 | 97,536 | 96,517 |
| | 80/67 (27/19) | Total | 169,438 | 163,595 | 157,752 | 151,910 | 146,067 | 140,224 | 134,382 | 128,539 | 125,618 | 122,988 | 120,359 | 117,730 |
| | | Sensible | 115,320 | 113,072 | 110,842 | 108,629 | 106,434 | 104,255 | 102,093 | 99,949 | 98,882 | 97,926 | 96,973 | 96,024 |
| | 84/71 (29/22) | Total | 181,269 | 174,988 | 168,853 | 162,573 | 156,292 | 150,011 | 143,730 | 137,595 | 134,382 | 131,752 | 129,123 | 126,494 |
| | | Sensible | 114,052 | 111,808 | 109,634 | 107,426 | 105,237 | 103,064 | 100,909 | 98,821 | 97,734 | 96,848 | 95,964 | 95,084 |
| MGH3180A | 72/61 (22/16) | Total | 188,916 | 182,364 | 175,994 | 169,442 | 162,890 | 156,338 | 149,786 | 143,416 | 140,140 | 136,864 | 133,588 | 130,312 |
| | | Sensible | 137,105 | 134,350 | 131,690 | 128,973 | 126,274 | 123,594 | 120,932 | 118,362 | 117,046 | 115,735 | 114,429 | 113,127 |
| | 76/63 (24/17) | Total | 196,378 | 189,644 | 182,728 | 175,994 | 169,260 | 162,526 | 155,792 | 148,876 | 145,600 | 142,324 | 139,048 | 135,772 |
| | | Sensible | 148,659 | 145,921 | 143,128 | 140,428 | 137,747 | 135,085 | 132,440 | 129,744 | 128,473 | 127,206 | 125,944 | 124,686 |
| | 80/67 (27/19) | Total | 211,120 | 203,840 | 196,560 | 189,280 | 182,000 | 174,720 | 167,440 | 160,160 | 156,520 | 153,244 | 149,968 | 146,692 |
| | | Sensible | 147,750 | 144,990 | 142,250 | 139,530 | 136,830 | 134,149 | 131,488 | 128,845 | 127,531 | 126,352 | 125,178 | 124,006 |
| | 84/71 (29/22) | Total | 225,862 | 218,036 | 210,392 | 202,566 | 194,740 | 186,914 | 179,088 | 171,444 | 167,440 | 164,164 | 160,888 | 157,612 |
| | | Sensible | 146,097 | 143,344 | 140,675 | 137,962 | 135,270 | 132,597 | 129,945 | 127,374 | 126,034 | 124,942 | 123,853 | 122,767 |

Based upon ANSI/AHRI std. 390 return air conditions of 80°F DB/67°F WB (26.5°C DB/19.5°C WB) at various outdoor temperatures.

## Electrical Characteristics - Compressor, Fan & Blower Motors

| Basic Model | Compressor | | | | Outdoor Fan Motor | | | Indoor Blower Motor | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | Type | Volts-Hz-Ph | RLA[1] | LRA[2] | Volts-Hz-PH | FLA[3] | HP[4] | Volts-Hz-PH | FLA[3] | HP[4] |
| MGH3090AA | Scroll | 208/230-60-1 | 18.3 (36.6) | 138.0 | 208/230-60-1 | 2.7 (5.4) | 1/3 | 208/230-60-1 | 3.3 | 1 |
| MGH3120AA | | 208/230-60-1 | 25.2 (50.4) | 147.3 | 208/230-60-1 | 6.3 (12.6) | 3/4 | 208/230-60-1 | 6.7 | 2 |
| MGH3090AC | Scroll | 208/230-60-3 | 11.9 (23.8) | 112.0 | 208/230-60-1 | 2.7 (5.4) | 1/3 | 208/230-60-1 | 3.3 | 1 |
| MGH3120AC | | 208/230-60-3 | 13.8 (27.6) | 150.0 | 208/230-60-1 | 6.3 (12.6) | 3/4 | 460-60-3 | 5.2 | 4 |
| MGH3150AC | | 208/230-60-3 | 23.2 (46.4) | 142.0 | 208/230-60-1 | 6.3 (12.6) | 3/4 | 460-60-3 | 5.2 | 4 |
| MGH3180AC | | 208/230-60-3 | 26.8 (53.6) | 190.7 | 208/230-60-1 | 6.3 (12.6) | 3/4 | 460-60-3 | 5.2 (10.4) | 4 |
| MGH3090AD | Scroll | 460-60-3 | 6.8 (13.6) | 61.8 | 208/230-60-1 | 2.7 (5.4) | 1/3 | 208/230-60-1 | 3.3 | 1 |
| MGH3120AD | | 460-60-3 | 6.9 (13.8) | 58.0 | 460-60-1 | 3.0 (6.0) | 3/4 | 460-60-3 | 5.2 | 4 |
| MGH3150AD | | 460-60-3 | 9.5 (19) | 73.1 | 460-60-1 | 3.0 (6.0) | 3/4 | 460-60-3 | 5.2 | 4 |
| MGH3180AD | | 460-60-3 | 12.5 (25.0) | 100.2 | 460-60-1 | 3.0 (6.0) | 3/4 | 460-60-3 | 5.2 (10.4) | 4 |
| MGH3090AZ | Scroll | 575-60-3 | 4.8 (9.6) | 39.0 | 208/230-60-1 | 2.7 (5.4) | 1/3 | 208/230-60-1 | 3.3 | 1 |
| MGH3120AZ | | 575-60-3 | 5.8 (11.6) | 47.8 | 208/230-60-1 | 6.3 (12.6) | 3/4 | 460-60-3 | 5.2 | 4 |
| MGH3150AZ | | 575-60-3 | 7.8 (15.6) | 55.0 | 208/230-60-1 | 6.3 (12.6) | 3/4 | 460-60-3 | 5.2 | 4 |
| MGH3180AZ | | 575-60-3 | 9.4 (18.8) | 65.0 | 208/230-60-1 | 6.3 (12.6) | 3/4 | 460-60-3 | 5.2 (10.4) | 4 |

[1]RLA = Rated Load Amps [2]LRA = Locked Rotor Amps [3]FLA = Full Load Amps 4HP = Horsepower

## Summary Electrical Ratings (Wire and Circuit Breaker Sizing)

| Electric Heat | | 0 kW | | 5.0 kW | | 6.0 kW | | 9.0 kW | | 10.0 kW | | 15.0 kW | | 18.0 kW | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Basic Model | Volts-Hz-Ph | SPPE[3] | | SPPE[3] | | SPPE[3] | | SPPE[3] | | SPPE[3] | | SPPE[3] | | SPPE[3] | |
| | | MCA[1] | MFS[2] | MCA[1] | MFS[2] | MCA[1] | MFS[2] | MCA[1] | MFS[2] | MCA[1] | MFS[2] | MCA[1] | MFS[2] | MCA[1] | MFS[2] |
| MGH3090AA | 208/230-60-1 | 54.5 | 60 | 54.5 | 60 | | | | | 56.2 | 60 | 82.3 | 90 | | |
| MGH3120AA | 208/230-60-1 | 82.3 | 100 | 82.3 | 100 | | | | | 82.3 | 100 | 86.5 | 100 | | |
| MGH3090AC | 208/230-60-3 | 38.5 | 45 | | | | | 38.5 | 45 | | | 49.2 | 50 | 58.3 | 60 |
| MGH3120AC | 208/230-60-3 | 57.5 | 60 | | | | | 57.5 | 60 | | | 58.1 | 60 | 67.1 | 70 |
| MGH3150AC | 208/230-60-3 | 81.0 | 90 | | | | | 81.0 | 90 | | | 81.0 | 90 | 81.0 | 90 |
| MGH3180AC | 208/230-60-3 | 100.4 | 110 | | | | | 100.4 | 110 | | | 100.4 | 110 | 100.4 | 110 |
| MGH3090AD | 460-60-3 | 21.4 | 25 | | | | | 21.4 | 25 | | | 24.6 | 25 | 29.1 | 30 |
| MGH3120AD | 460-60-3 | 28.5 | 30 | | | | | 28.5 | 30 | | | 29.1 | 30 | 33.6 | 35 |
| MGH3150AD | 460-60-3 | 35.0 | 40 | | | | | 35.0 | 40 | | | 35.0 | 40 | 35.0 | 40 |
| MGH3180AD | 460-60-3 | 47.7 | 50 | | | | | 47.7 | 50 | | | 47.7 | 50 | 47.7 | 50 |
| MGH3090AZ | 575-60-3 | 15.5 | 20 | | | | | 15.5 | 20 | | | 20.5 | 25 | 24.2 | 25 |
| MGH3120AZ | 575-60-3 | 23.7 | 25 | | | | | 23.7 | 25 | | | 24.0 | 25 | 27.8 | 30 |
| MGH3150AZ | 575-60-3 | 28.7 | 30 | | | | | 28.7 | 30 | | | 28.7 | 30 | 28.7 | 30 |
| MGH3180AZ | 575-60-3 | 36.9 | 40 | | | | | 36.9 | 40 | | | 36.9 | 40 | 36.9 | 40 |

[1]MCA = Minimum Circuit Ampacity (Wiring Size Amps) [2]MFS = Maximum Fuse or HACR Breaker Size [3]SPPE = Single Point Power Entry

MCA & MFS are calculated at 230 volts on the “A” & “C” models and 460v on the “D” models. This chart should only be used as a guideline for estimating conductor size and overcurrent protection. For the requirements of specific units, always refer to the data label on the unit.

1. MFS (Maximum Fuses Size) value listed is the maximum value as per UL 60335-2-40 calculations for MOCP (branch-circuit conductor sizes in this chart are based on this MOCP). The actual factory installed Overcurrent Protective Device (Circuit Breaker) in the models may be lower than the maximum UL 60335-2-40 allowable MOCP value, but still above the UL 60335-2-40 minimum calculated value or Minimum Circuit Ampacity (MCA) listed.
2. The end user shall size conductors based on the Single Point Power Entry (SPPE) - Minimum Circuit Ampacity. The service circuit breaker shall not be sized less than the minimum circuit ampacity associated to Single Point Power Entry value provided. The service circuit breaker shall also not be sized greater than the Maximum Fuse size associated to the Single Point Power Entry Value Provided.
3. While this electrical data is presented as a guide, it is important to electrically connect properly sized fuses and conductor wires in accordance with the National Electrical Code and all local codes

## Summary Electrical Ratings w/Electric Re-Heat (Wire and Circuit Breaker Sizing)

| Electric Heat | | 0 kW | | 5.0 kW | | 6.0 kW | | 9.0 kW | | 10.0 kW | | 15.0 kW | | 18.0 kW | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Basic Model | Volts-Hz-Ph | SPPE[3] | | SPPE[3] | | SPPE[3] | | SPPE[3] | | SPPE[3] | | SPPE[3] | | SPPE[3] | |
| | | MCA[1] | MFS[2] | MCA[1] | MFS[2] | MCA[1] | MFS[2] | MCA[1] | MFS[2] | MCA[1] | MFS[2] | MCA[1] | MFS[2] | MCA[1] | MFS[2] |
| MGH3090AA | 208/230-60-1 | 54.5 | 60 | 57.6 | 70 | | | | | 83.7 | 90 | 109.7 | 110 | | |
| MGH3120AA | 208/230-60-1 | 82.3 | 90 | 82.3 | 90 | | | | | 102.9 | 110 | 128.9 | 150 | | |
| MGH3090AC | 208/230-60-3 | 38.5 | 40 | | | | | 50.6 | 60 | | | 68.7 | 70 | 77.7 | 80 |
| MGH3120AC | 208/230-60-3 | 57.5 | 60 | | | | | 67.3 | 70 | | | 85.4 | 90 | 94.4 | 100 |
| MGH3150AC | 208/230-60-3 | 81.0 | 90 | | | | | 81.0 | 90 | | | 97.1 | 110 | 106.1 | 110 |
| MGH3180AC | 208/230-60-3 | 100.4 | 110 | | | | | 100.4 | 110 | | | 112.0 | 125 | 121.0 | 125 |
| MGH3090AD | 460-60-3 | 21.4 | 25 | | | | | 26.4 | 30 | | | 35.4 | 40 | 39.9 | 40 |
| MGH3120AD | 460-60-3 | 28.5 | 30 | | | | | 33.4 | 35 | | | 42.4 | 45 | 46.9 | 50 |
| MGH3150AD | 460-60-3 | 35.0 | 35 | | | | | 36.6 | 40 | | | 45.6 | 50 | 50.1 | 60 |
| MGH3180AD | 460-60-3 | 47.7 | 50 | | | | | 47.7 | 50 | | | 54.6 | 60 | 59.1 | 60 |
| MGH3090AZ | 575-60-3 | 15.5 | 20 | | | | | 20.8 | 25 | | | 28.3 | 30 | 32.1 | 35 |
| MGH3120AZ | 575-60-3 | 23.7 | 25 | | | | | 27.7 | 30 | | | 35.3 | 40 | 39.0 | 40 |
| MGH3150AZ | 575-60-3 | 28.7 | 30 | | | | | 30.2 | 35 | | | 37.8 | 40 | 41.5 | 45 |
| MGH3180AZ | 575-60-3 | 36.9 | 40 | | | | | 36.9 | 40 | | | 43.9 | 45 | 47.7 | 50 |

[1]MCA = Minimum Circuit Ampacity (Wiring Size Amps) [2]MFS = Maximum Fuse or HACR Breaker Size [3]SPPE = Single Point Power Entry

MCA & MFS are calculated at 230 volts on the "A" & "C" models and 460v on the "D" models. This chart should only be used as a guideline for estimating conductor size and overcurrent protection. For the requirements of specific units, always refer to the data label on the unit.

1. MFS (Maximum Fuses Size) value listed is the maximum value as per UL 60335-2-40 calculations for MOCP (branch-circuit conductor sizes in this chart are based on this MOCP). The actual factory installed Overcurrent Protective Device (Circuit Breaker) in the models may be lower than the maximum UL 60335-2-40 allowable MOCP value, but still above the UL 60335-2-40 minimum calculated value or Minimum Circuit Ampacity (MCA) listed.
2. The end user shall size conductors based on the Single Point Power Entry (SPPE) - Minimum Circuit Ampacity. The service circuit breaker shall not be sized less than the minimum circuit ampacity associated to Single Point Power Entry value provided. The service circuit breaker shall also not be sized greater than the Maximum Fuse size associated to the Single Point Power Entry Value Provided.
3. While this electrical data is presented as a guide, it is important to electrically connect properly sized fuses and conductor wires in accordance with the National Electrical Code and all local codes

## Unit Load Amps

| Basic Model | Volts-Hz-Ph | CURRENT AMPS | | LOAD OF RESISTIVE HEATING - ELEMENTS ONLY (AMPS) *(1) ALL HEATING ELEMENTS ARE ON A SEPARATE CIRCUIT* | | | | | | TOTAL MAXIMUM HEATING AMPS *INCLUDES AMPS FROM MOTOR(S) THAT ARE LOCATED ON AN ELECTRICAL CIRCUIT THAT DOES NOT HAVE HEATERS* | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | AC[1] | IBM[2] | 5.0 kW | 6.0 kW | 9.0 kW | 10.0 kW | 15.0 kW | 18.0 kW | 5.0 kW | 5.0 kW | 9.0 kW | 10.0 kW | 15.0 kW | 18.0 kW |
| MGH3090AA | 208/230-60-1 | 45.3 | 3.3 | 20.8 | | | 41.7 | 62.5 | | 24.1 | | | 45.0 | 65.8 | |
| MGH3120AA | 208/230-60-1 | 69.7 | 6.7 | 20.8 | | | 41.7 | 62.5 | | 27.5 | | | 48.4 | 69.2 | |
| MGH3090AC | 208/230-60-3 | 32.5 | 3.3 | | | 21.7 | | 36.1 | 43.3 | | | 25.0 | | 39.4 | 46.6 |
| MGH3120AC | 208/230-60-3 | 50.6 | 10.4 | | | 21.7 | | 36.1 | 43.3 | | | 32.1 | | 46.5 | 53.7 |
| MGH3150AC | 208/230-60-3 | 69.4 | 10.4 | | | 21.7 | | 36.1 | 43.3 | | | 32.1 | | 46.5 | 53.7 |
| MGH3180AC | 208/230-60-3 | 87.0 | 10.4 | | | 21.7 | | 36.1 | 43.3 | | | 32.1 | | 46.5 | 53.7 |
| MGH3090AD | 460-60-3 | 18.0 | 1.65 | | | 10.8 | | 18.0 | 21.7 | | | 12.5 | | 19.7 | 23.3 |
| MGH3120AD | 460-60-3 | 25.0 | 5.2 | | | 10.8 | | 18.0 | 21.7 | | | 16.0 | | 23.2 | 26.9 |
| MGH3150AD | 460-60-3 | 30.2 | 5.2 | | | 10.8 | | 18.0 | 21.7 | | | 16.0 | | 23.2 | 26.9 |
| MGH3180AD | 460-60-3 | 41.4 | 5.2 | | | 10.8 | | 18.0 | 21.7 | | | 16.0 | | 23.2 | 26.9 |
| MGH3090AZ | 575-60-3 | 13.1 | 1.32 | | | 9.0 | | 15.1 | 18.1 | | | 10.4 | | 16.4 | 19.4 |
| MGH3120AZ | 575-60-3 | 20.8 | 4.16 | | | 9.0 | | 15.1 | 18.1 | | | 13.2 | | 19.2 | 22.2 |
| MGH3150AZ | 575-60-3 | 24.8 | 4.16 | | | 9.0 | | 15.1 | 18.1 | | | 13.2 | | 19.2 | 22.2 |
| MGH3180AZ | 575-60-3 | 32.2 | 4.16 | | | 9.0 | | 15.1 | 18.1 | | | 13.2 | | 19.2 | 22.2 |

[1]AC = Air Conditioner Unit Amps [2]IBM = Indoor Blower Motor

Heating kW is rated at 240 volts on the ACA & ACC models. Derate heater output by 25% for operation at 208 volts. Heating kW is rated at 480 volts on the ACD models. Total heating and cooling amps includes all motors. Three phase models contain single phase motor loads. Loads are not equally balanced on each phase and values shown are maximum phase loads.

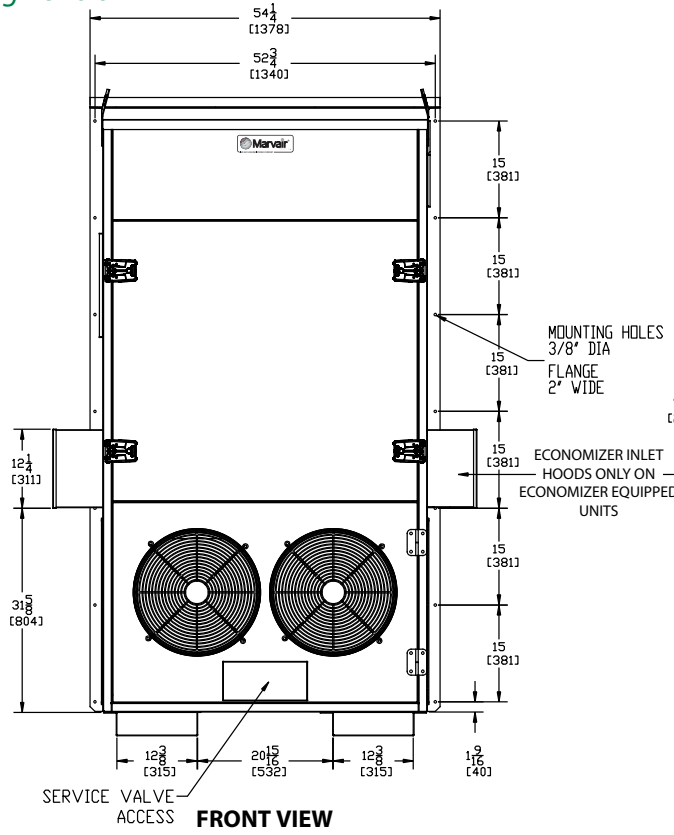
# Marvair Wall Mount Air Conditioner Dual 2-Stage Compressors Performance Data

## 5-Stage Control Scheme IEER Ratings

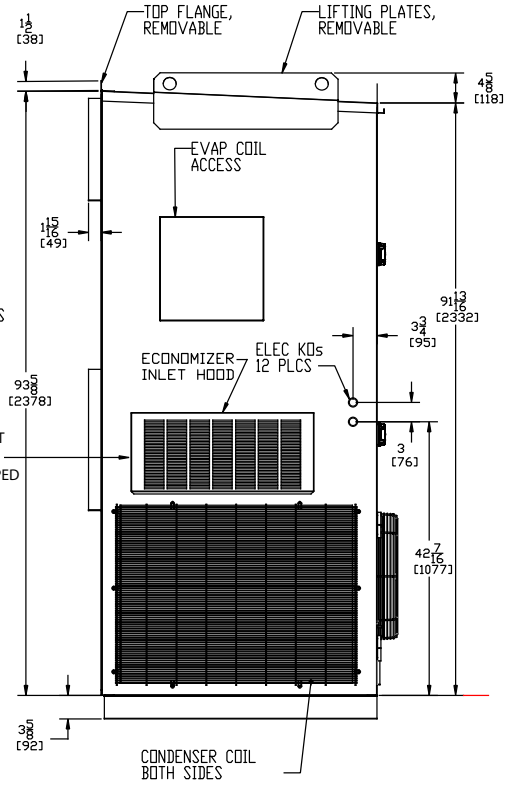
| Model | MGH3090A | | | MGH3120A | | | MGH3150A | | | MGH3180A | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Outdoor Temp (°F) | Capacity (BTUH) | Standard EER | Adjusted EER | Capacity (BTUH) | Standard EER | Adjusted EER | Capacity (BTUH) | Standard EER | Adjusted EER | Capacity (BTUH) | Standard EER | Adjusted EER |
| **95** | 88,814 | 11.2 | 11.2 | 118,698 | 11.6 | 11.6 | 144,894 | 10.2 | 10.2 | 180,301 | 9.8 | 9.8 |
| **82.5** | 66,995 | 14.2 | 14.2 | 89,681 | 14.1 | 14.1 | 102,604 | 13.3 | 13.4 | 131,928 | 12.9 | 12.9 |
| | | | | | | | 128,718 | 13.2 | 12.7 | | | |
| **72** | 36,313 | 10.4 | 10.7 | 48,610 | 10.4 | 10.8 | 58,417 | 9.8 | 10.2 | 132,924 | 13.3 | 12.4 |
| | 67,485 | 14.7 | 13.7 | 90,172 | 14.4 | 13.4 | 103,318 | 13.3 | 12.8 | 74,968 | 10.2 | 9.5 |
| **67** | 29,800 | 11 | 10.5 | 39,746 | 10.3 | 9.4 | 45,529 | 10 | 9 | 59,353 | 10.2 | 9.8 |
| | **Total IEER** | **11.8** | | **Total IEER** | **11.5** | | **Total IEER** | **10.9** | | **Total IEER** | **11.1** | |

# Dimensional Data - MGH3090A Air Conditioners - Top Supply with or without Economizer

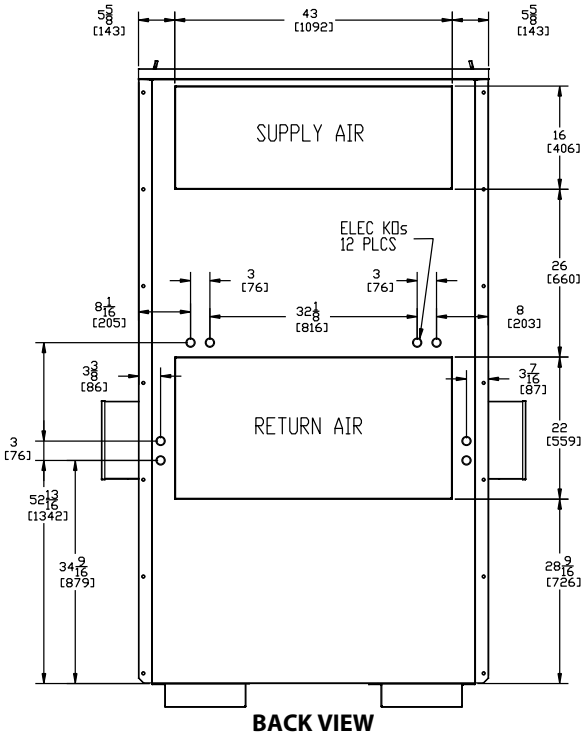
*Engineering Revision "A"*



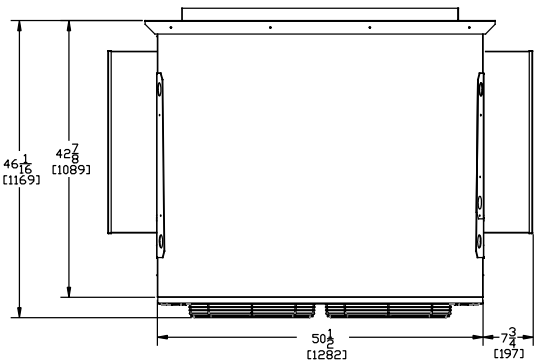

**FRONT VIEW**




**LH SIDE VIEW**




**BACK VIEW**



**TOP VIEW**

## Weight (pounds/kg)

| | LBS/KGS |
|---|---|
| **MGH3090A Top Supply** | 1160/527.3 |

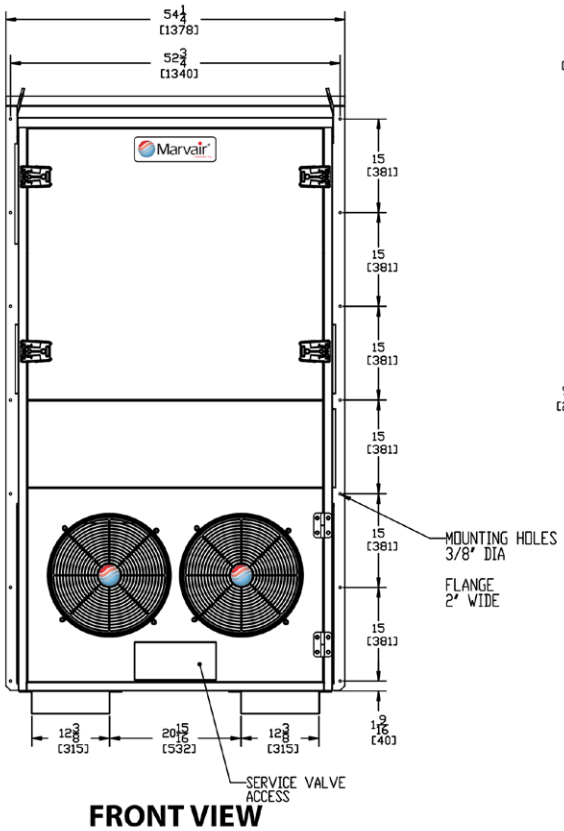
## Filter Size

| MGH3090A | INCHES | MILLIMETERS | PART NUMBER | FILTERS PER UNIT | MERV RATING |
|---|---|---|---|---|---|
| Exterior Access Return Air Filter | 25" x 16" x 2" | 635 x 406 x 51 | 80137 | 3 | 8 (STD) |
| Economizer Pre-filter (Economizer Only) | 12" X 26" X 1" | 305 x 660 x 25 | 92526 | 2 | N/A |

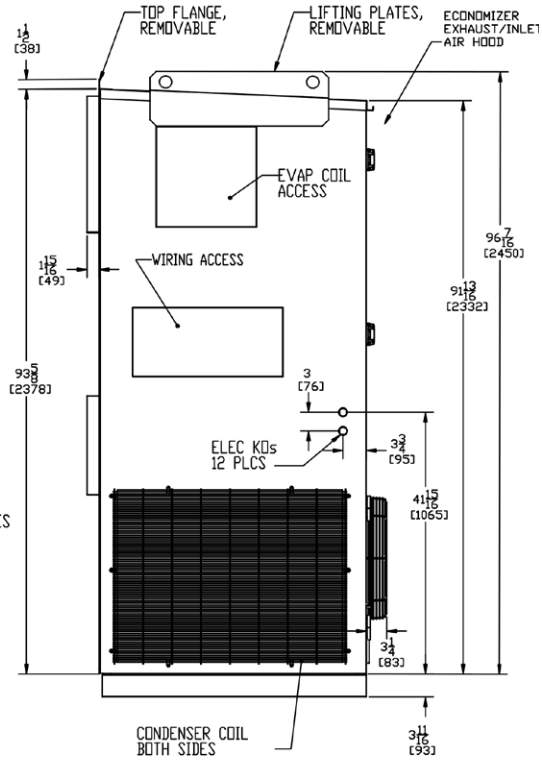
***Note:*** All overall outside dimensions are given with +/- .250" (6mm) tolerance.

# Dimensional Data - MGH3090A Air Conditioners - Center Supply/Top Return

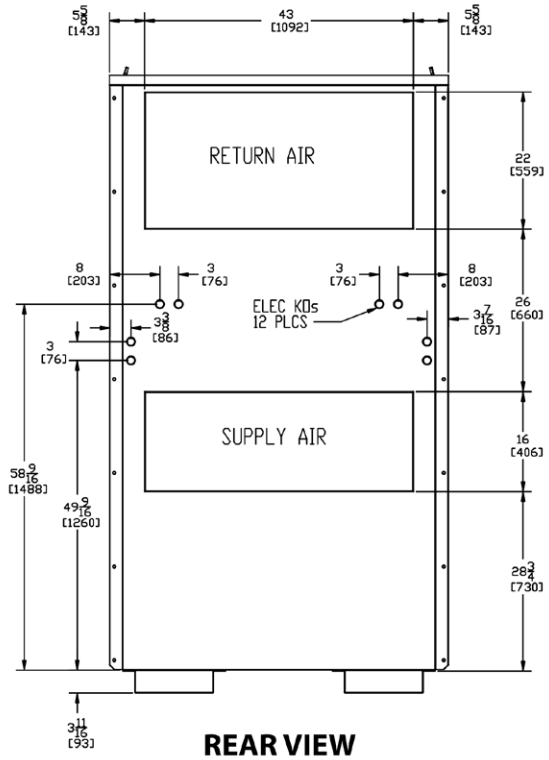
*Engineering Revision "A"*



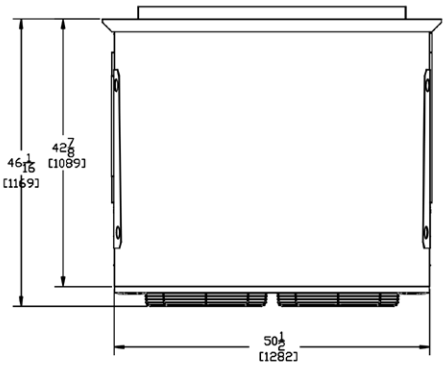

FRONT VIEW




LEFT VIEW




REAR VIEW



TOP VIEW

## Weight (pounds/kg)

| | LBS/KGS |
|---|---|
| **MGH3090A Center Supply/ Top Return** | 1160/527.3 |

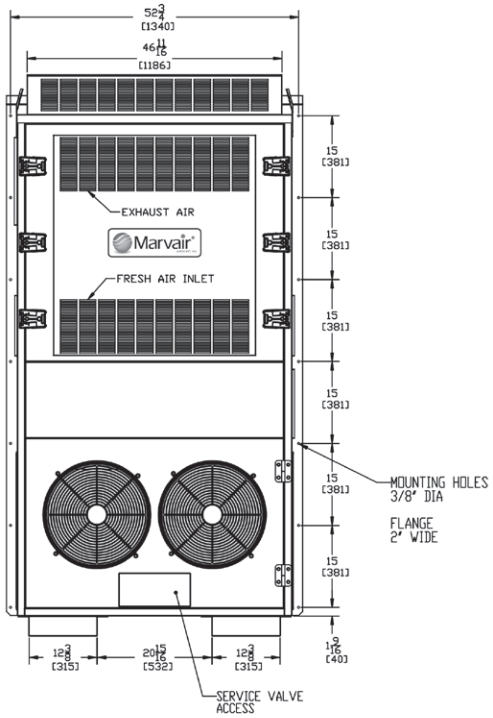
## Filter Size

| MGH3090A | INCHES | MILLIMETERS | PART NUMBER | FILTERS PER UNIT | MERV RATING |
|---|---|---|---|---|---|
| Interior Access Return Air Filter | 15" x 20" x 2" | 381 x 508 x 51 | 92365 | 3 | 8 (STD) |
| Mist Eliminator Filter | 15 5/8" x 25 5/8" x 2" | 397 x 625 x 51 | 92971 | 3 | N/A |

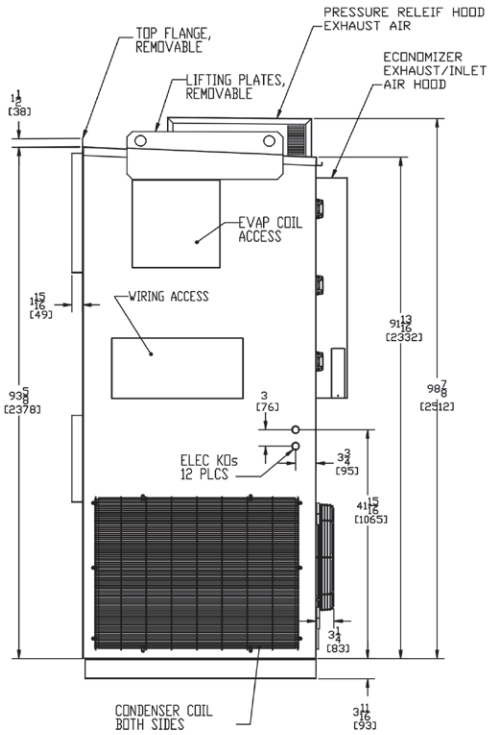
***Note:*** All overall outside dimensions are given with +/- .250" (6mm) tolerance.

# Dimensional Data - MGH3090A Air Conditioners -Center Supply/Top Return w/Economizer

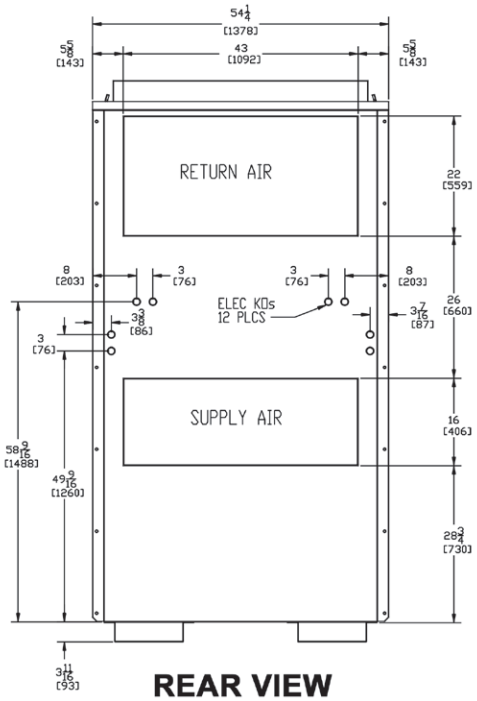
*Engineering Revision "A"*



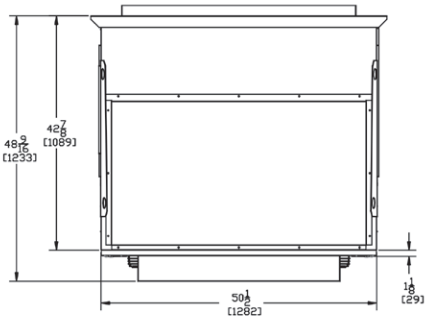

FRONT VIEW




LEFT VIEW




REAR VIEW



TOP VIEW

## Weight (pounds/kilograms)

| | LBS/KGS |
|---|---|
| **MGH3090A Center Supply/Top Return with Economizer** | 1210/550 |

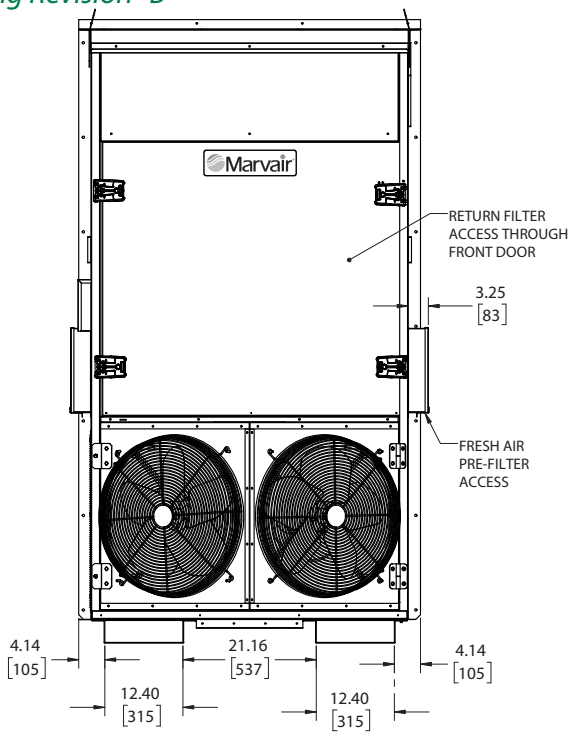
## Filter Size

| MGH3090A | INCHES | MILLIMETERS | PART NUMBER | FILTERS PER UNIT | MERV RATING |
|---|---|---|---|---|---|
| Interior Access Return Air Filter | 15" X 15" X 1" | 381 x 381 x 25 | 93584 | 3 | 8 (STD) |
| Mist Eliminator Filter | 15 5/8" x 25 5/8" x 2" | 397 x 625 x 51 | 92971 | 3 | N/A |
| Economizer Pre-filter | 37" X 9 1/4" X 5/16" | 940 x 235 x 8 | 93283 | 1 | N/A |

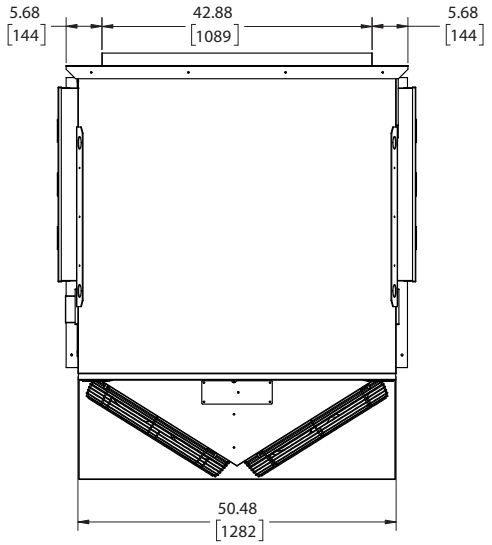
***Note:*** All overall outside dimensions are given with +/- .250" (6mm) tolerance.

# Dimensional Data - MGH3120A/3150A Air Conditioners - Top Supply

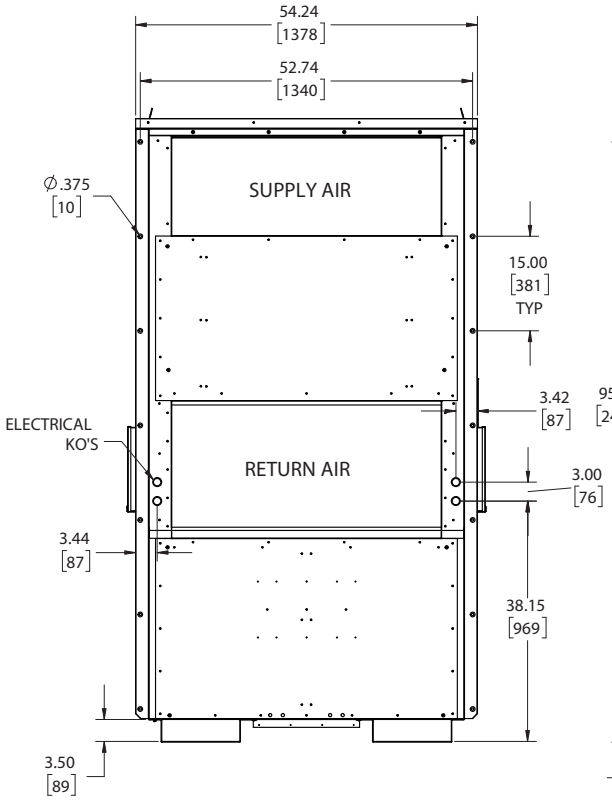
*Engineering Revision "B"*



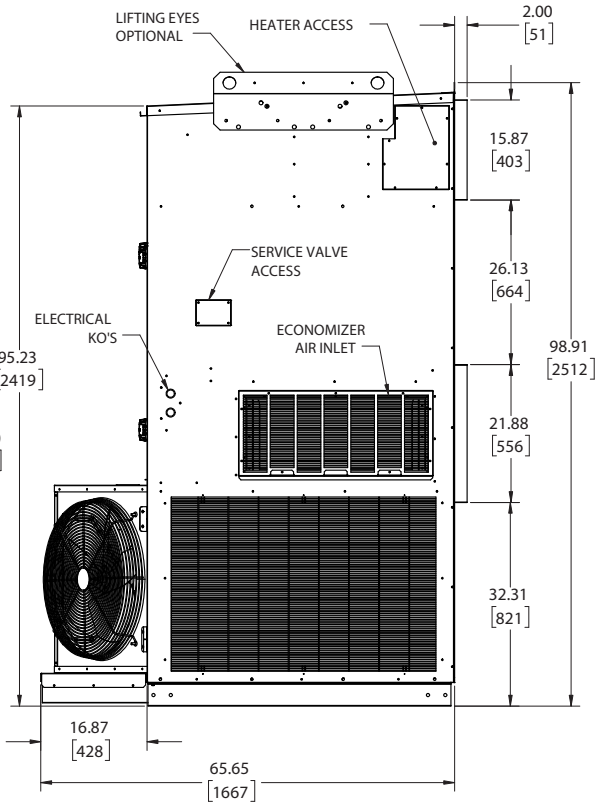

**FRONT VIEW**




**TOP VIEW**




**REAR VIEW**




**RIGHT VIEW**

## Weight (pounds/kgs)

| | LBS/KGS |
|---|---|
| **MGH3120A/3150A** | 1160/527.3 |

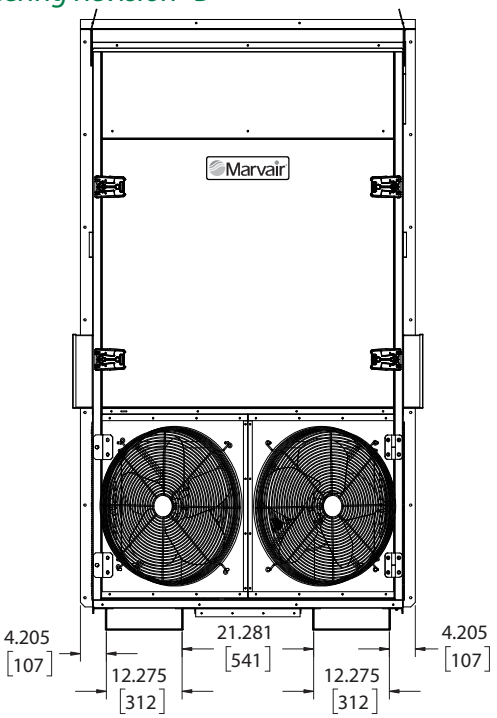
***Note:*** All overall outside dimensions are given with +/- .250" (6mm) tolerance.

## Filter Size

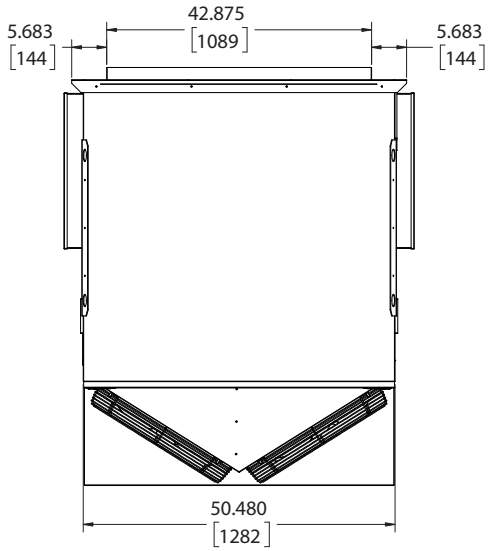
| MGH3120A/3150A | INCHES | MILLIMETERS | PART NUMBER | FILTERS PER UNIT | MERV RATING |
|---|---|---|---|---|---|
| Exterior Access Return Air Filter | 18" x 24" x 2" | 457 x 607 x 51 | 81257 | 4 | 8 (STD) |
| Interior Access Return Air Filter | 15" x 20" x 2" | 381 x 508 x 51 | 92365 | 3 | 8 (STD) |
| For Optional Fresh Air Hood, #K/04657 | 11" x 22" x 1" | 279 x 559 x 25 | 80119 | 2 | N/A |

# Dimensional Data - MGH3120A/3150A Air Conditioners - with Economizer

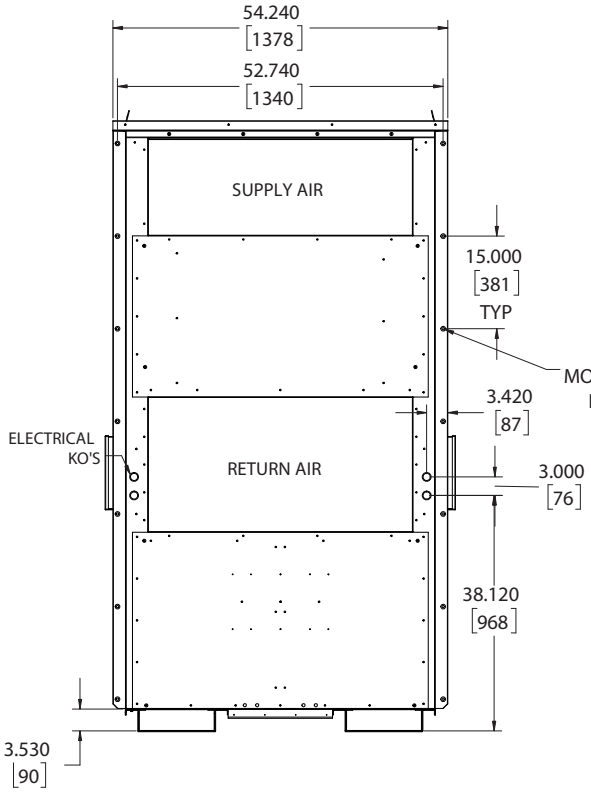
*Engineering Revision "B"*



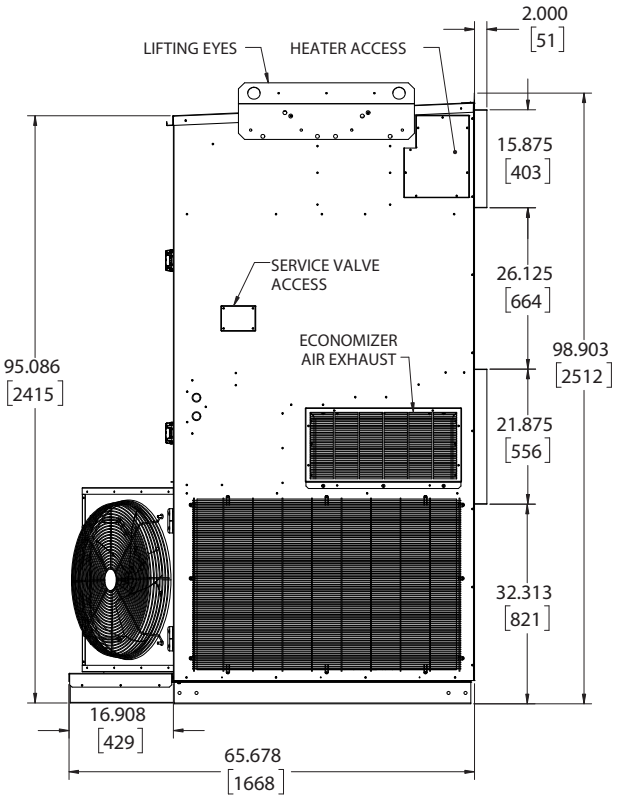

**FRONT VIEW**




**TOP VIEW**




**REAR VIEW**




**RIGHT VIEW**

## Weight (pounds/kgs)

| | LBS/KGS |
|---|---|
| **MGH3120A/3150A with Economizer** | 1210/550 |

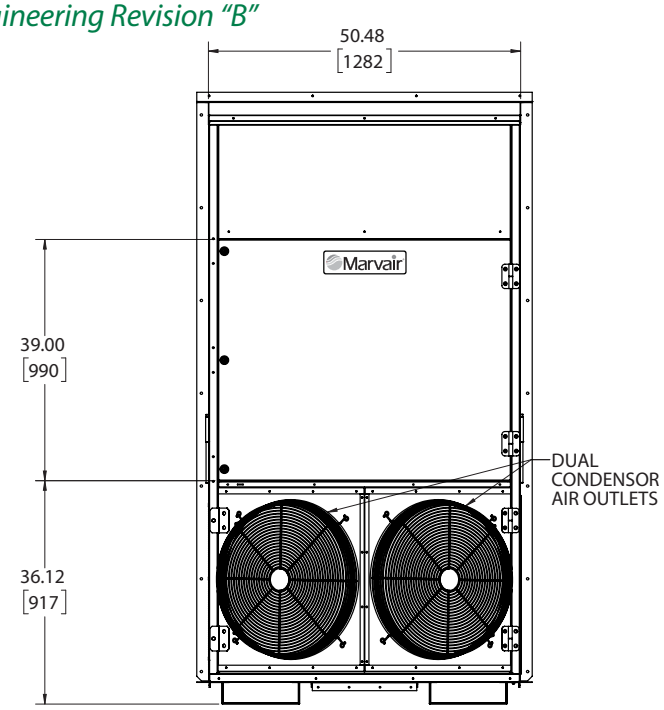
## Filter Size

| MGH3120A/3150A | INCHES | MILLIMETERS | PART NUMBER | FILTERS PER UNIT | MERV RATING |
|---|---|---|---|---|---|
| Exterior Access Return Air Filter | 25" x 16" x 2" | 635 x 406 x 51 | 80137 | 3 | 8 (STD) |
| Interior Access Return Air Filter | 15" x 20" x 2" | 381 x 508 x 51 | 92365 | 3 | 8 (STD) |

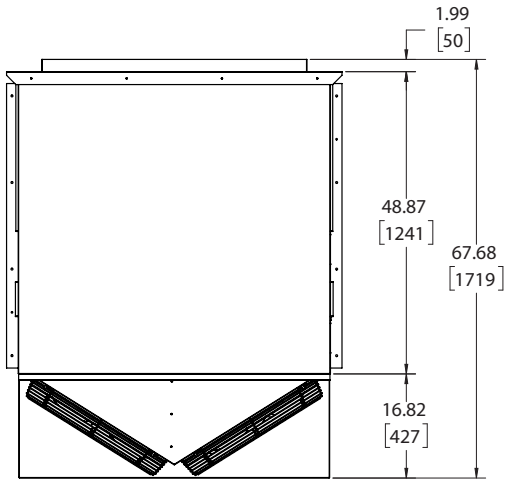
***Note:*** All overall outside dimensions are given with +/- .250" (6mm) tolerance.

# Dimensional Data - MGH3120A/3150A Air Conditioners" - Center Supply/Top Return

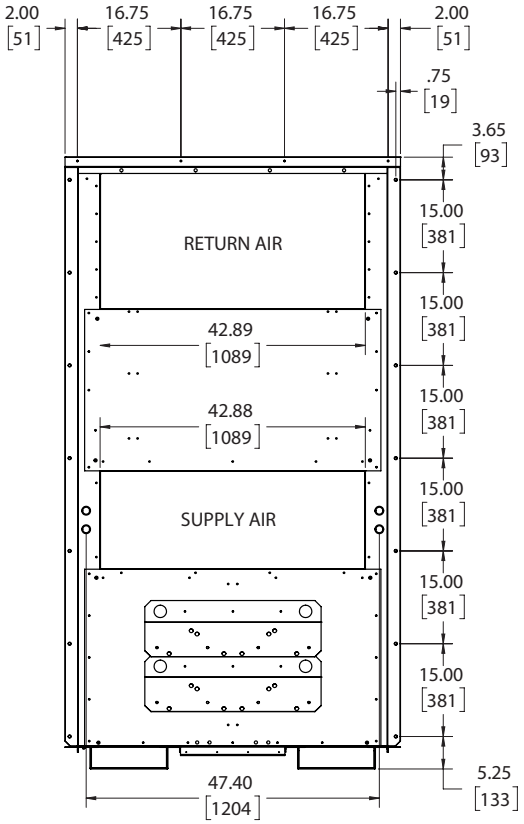
*Engineering Revision "B"*



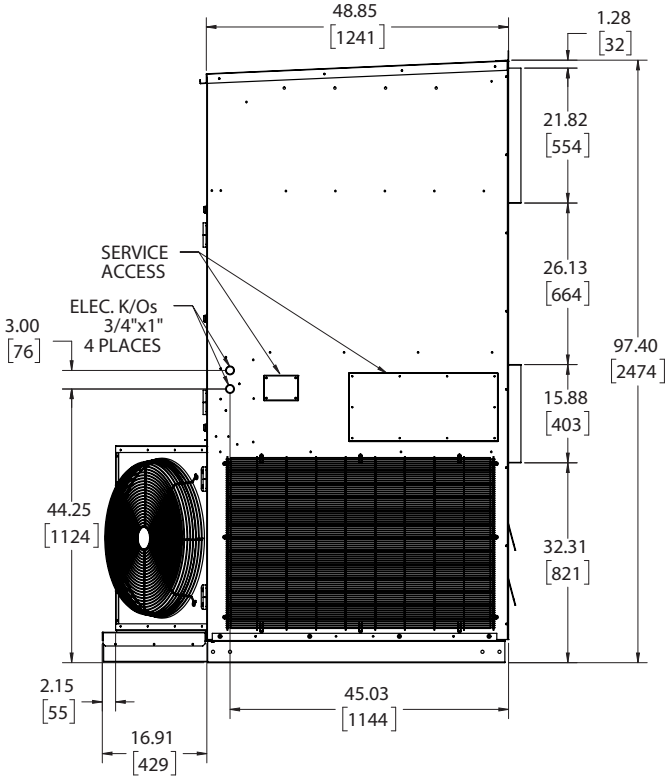

**FRONT VIEW**




**TOP VIEW**




**REAR VIEW**




**RIGHT VIEW**

## Weight (pounds/kgs) Filter Size

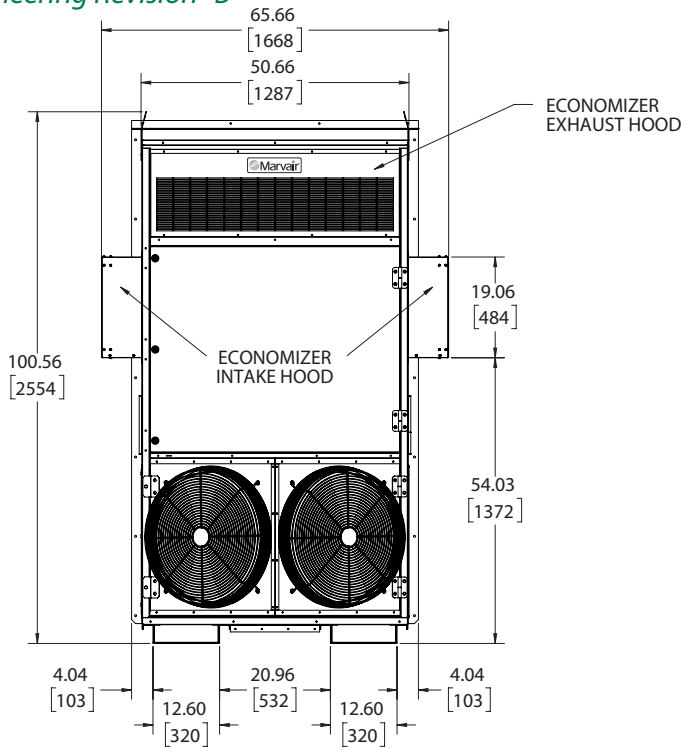
| | LBS/KGS |
|---|---|
| **MGH3120A/3150A** | 1160/527.3 |

| MGH3120A/3150A | INCHES | MILLIMETERS | PART NUMBER | FILTERS PER UNIT | MERV RATING |
|---|---|---|---|---|---|
| Exterior Access Return Air Filter (Optional) | 18" x 24" x 2" | 457 x 607 x 51 | 81257 | 4 | 8 (STD) |
| Interior Access Return Air Filter | 15" x 20" x 2" | 381 x 508 x 51 | 92365 | 3 | 8 (STD) |

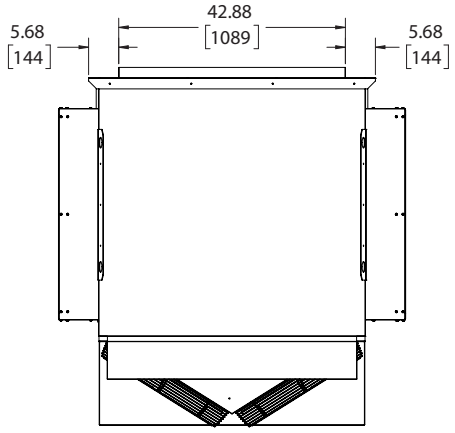
***Note:*** All overall outside dimensions are given with +/- .250" (6mm) tolerance.

# Dimensional Data - MGH3120A/3150A Air Conditioners - Center Supply/Top Return w/Econ

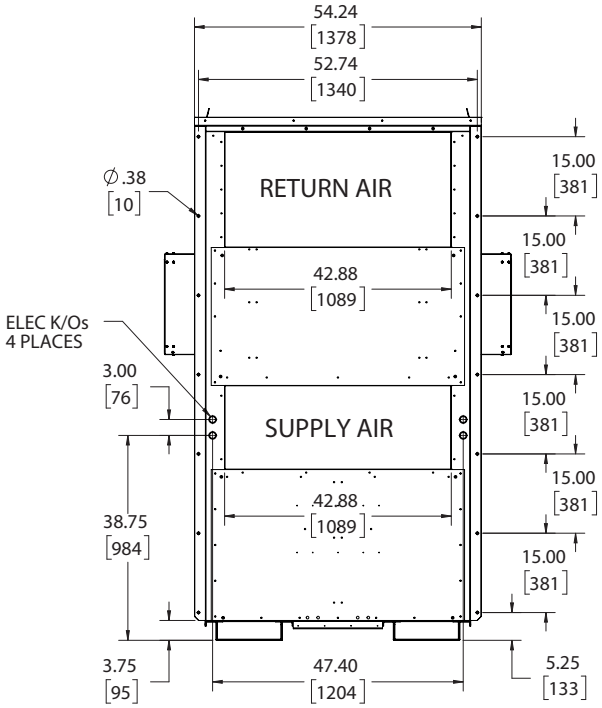
*Engineering Revision "B"*



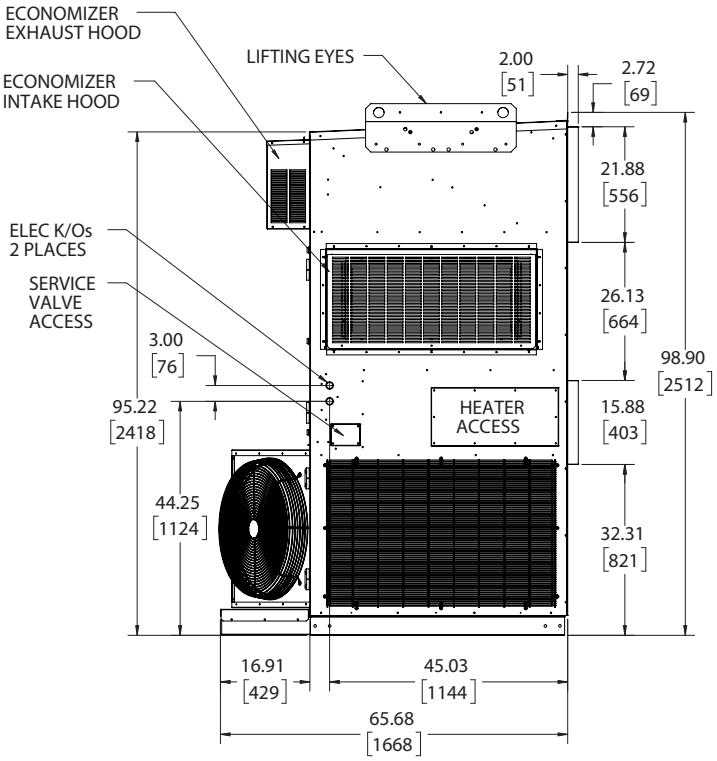

FRONT VIEW




TOP VIEW




REAR VIEW




RIGHT VIEW

## Weight (pounds/kgs) Filter Size

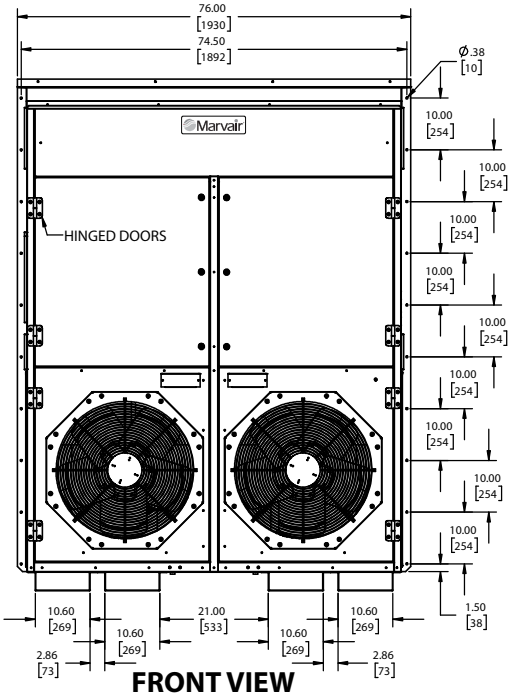
| | LBS/KGS |
|---|---|
| **MGH3120A**<br>**MGH3150A** | 1360/617 |

| MGH3120A/3150A Center Supply/Top Return w/Economizer | INCHES | MILLIMETERS | PART NUMBER | FILTERS PER UNIT | MERV RATING |
|---|---|---|---|---|---|
| Exterior Access Return Air Filter | 18" x 24" x 2" | 457 x 607 x 51 | 81257 | 4 | 8 (STD) |
| Economizer Pre-filter | 14" x 32" x 1" | 356 x 813 x 25 | 93187 | 2 | N/A |

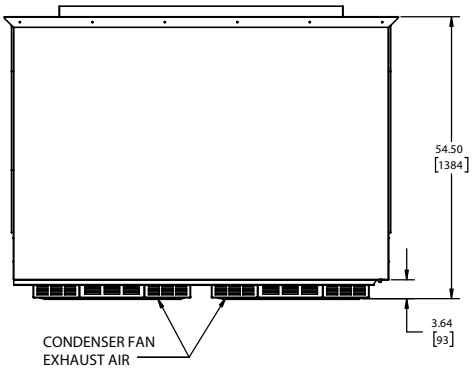
***Note:*** All overall outside dimensions are given with +/- .250" (6mm) tolerance.

# Dimensional Data: MGH3180A - Top Supply

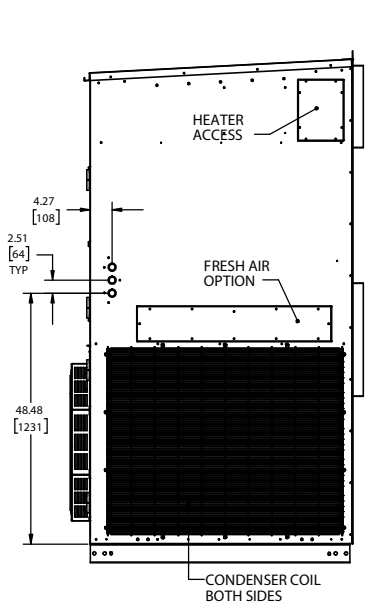
*Engineering Revision "B"*



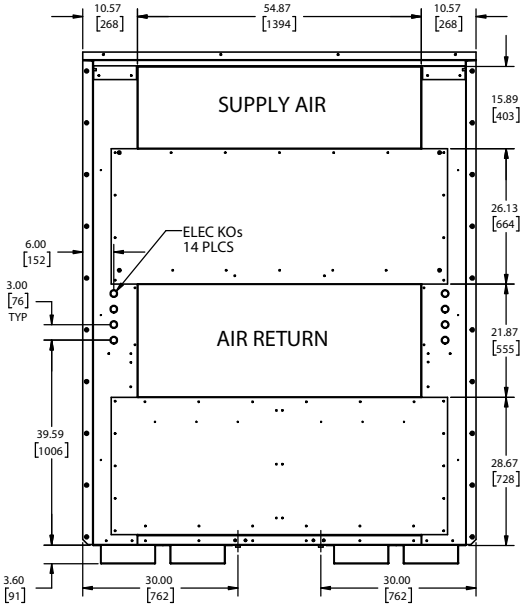

**FRONT VIEW**



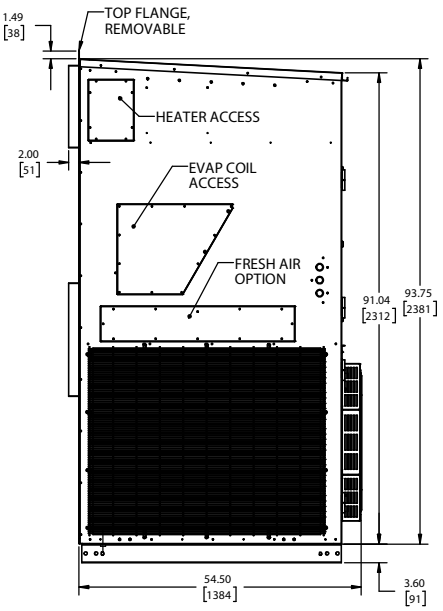

**TOP VIEW**




**RIGHT VIEW**




**REAR VIEW**




**LEFT VIEW**

## Weight

| | LBS/KGS |
|---|---|
| **MGH3180A** | 2523/1148 |

**MGH3180A units require additional support if wall mounted. The mounting flanges alone are not adequate.**

## Filter Size

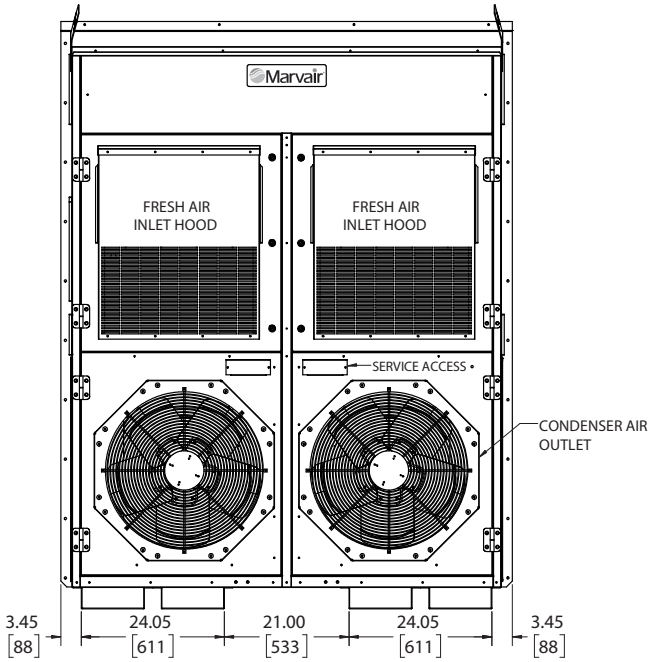
| MGH3180A | INCHES | MILLIMETERS | PART NUMBER | FILTERS PER UNIT | MERV RATING |
|---|---|---|---|---|---|
| [1]Exterior Access Return Air Filter | 25" x 16" x 2" | 635 x 406 x 51 | 80137 | 4 | 8 (STD) |
| [2]Interior Access Return Air Filter | 24" x 18" x 2" | 610 x 457 x 51 | 81257 | 3 | 8 (STD) |

[1]Standard Configuration [2]Optional (can not be combined)

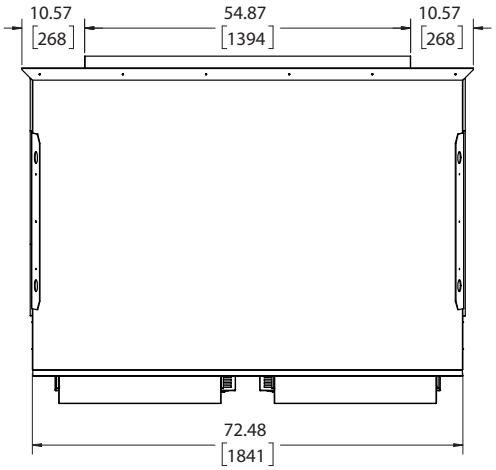
***Note:*** All overall outside dimensions are given with +/- .250" (6mm) tolerance.

# Dimensional Data: MGH3180A - Top Supply w/Economizer

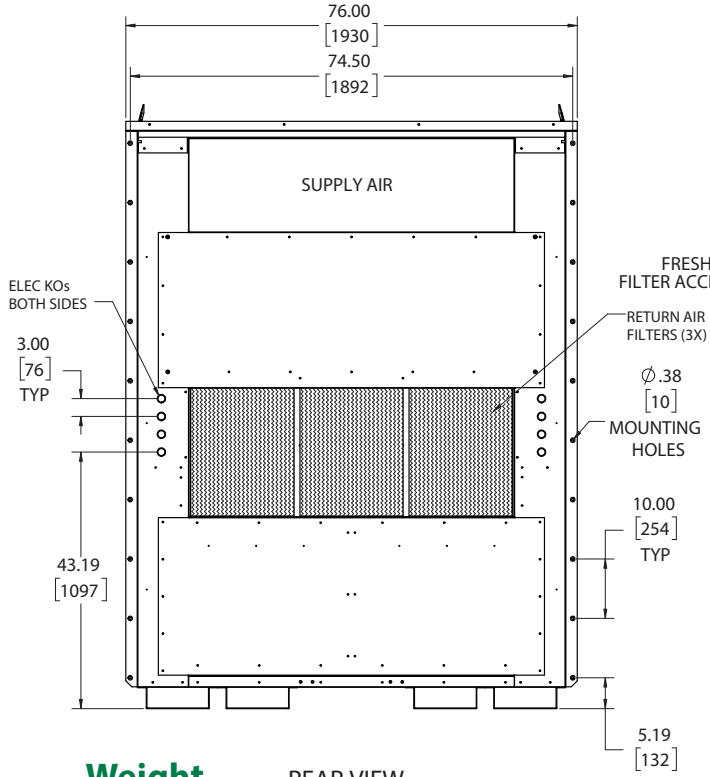
*Engineering Revision "B"*



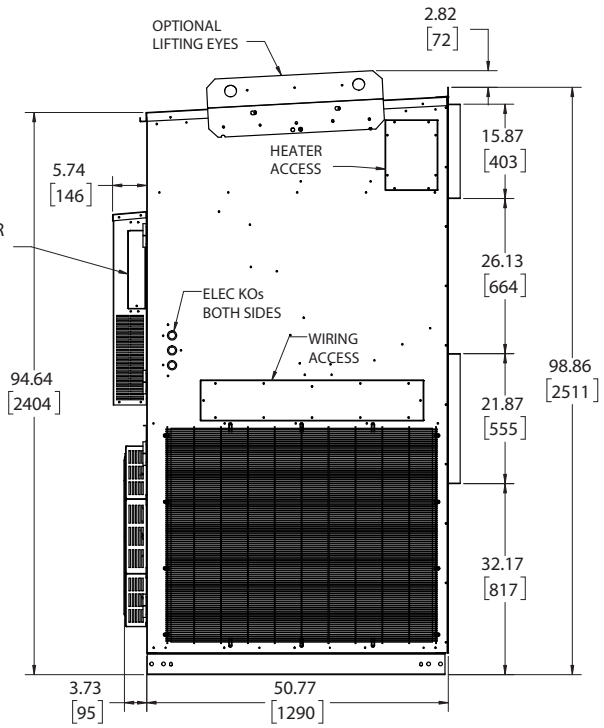

FRONT VIEW




TOP VIEW




REAR VIEW




RIGHT VIEW

## Weight

| | LBS/KGS |
|---|---|
| MGH3180A | 2663/1208 |

**MGH3180A units require additional support if wall mounted. The mounting flanges alone are not adequate.**

## Filter Size

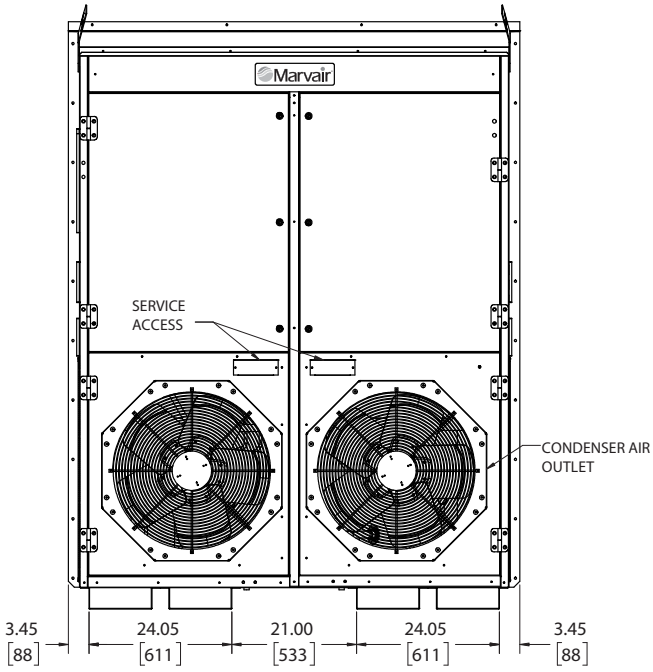
| MGH3180A | INCHES | MILLIMETERS | PART NUMBER | FILTERS PER UNIT | MERV RATING |
|---|---|---|---|---|---|
| [1]Exterior Access Return Air Filter | 25" x 16" x 2" | 635 x 406 x 51 | 80137 | 4 | 8 (STD) |
| Fresh Air Hood Pre-Filter | 26" x 12" x 1" | 660 x 305 x 25 | 92526 | 2 | N/A |

[1]Standard Configuration

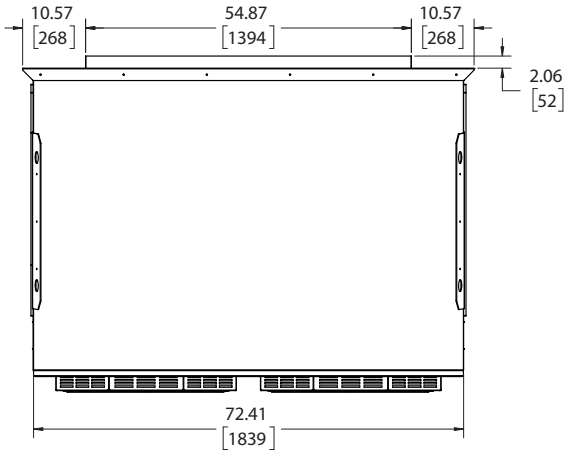
***Note:*** All overall outside dimensions are given with +/- .250" (6mm) tolerance.

# Dimensional Data: MGH3180A - Center Supply/Top Return

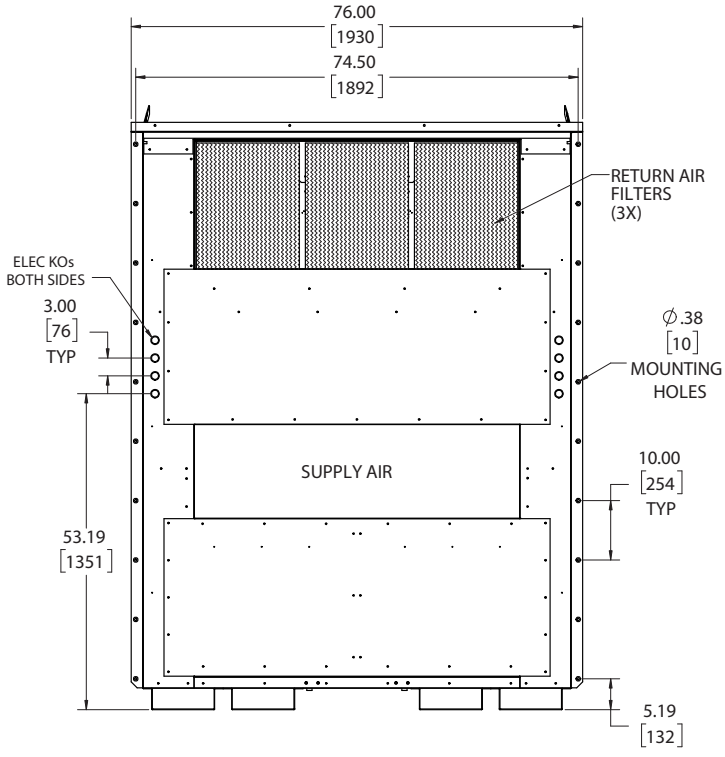
*Engineering Revision "B"*



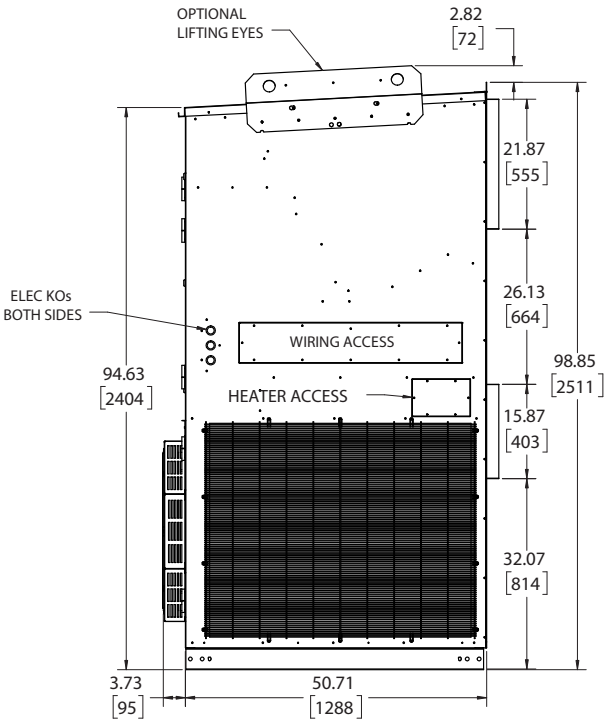

FRONT VIEW




TOP VIEW




REAR VIEW




RIGHT VIEW

## Weight

| | LBS/KGS |
|---|---|
| MGH3180A | 2307/1049 |

**MGH3180A units require additional support if wall mounted. The mounting flanges alone are not adequate.**

## Filter Size

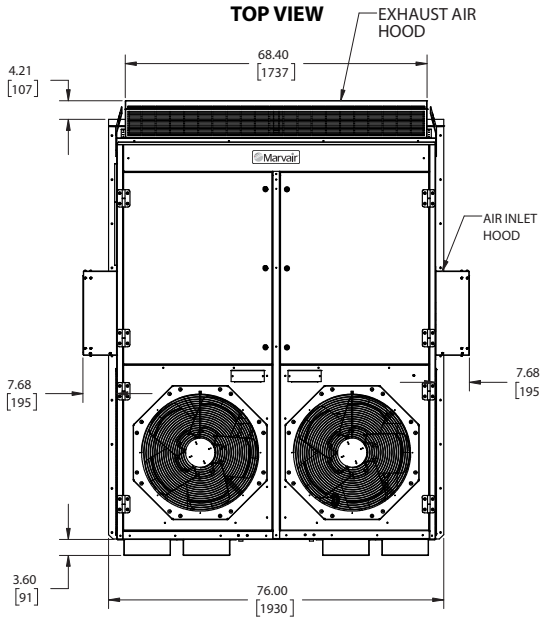
| MGH3180A | INCHES | MILLIMETERS | PART NUMBER | FILTERS PER UNIT | MERV RATING |
|---|---|---|---|---|---|
| Interior Access Return Air Filter | 24" x 18" x 2" | 610 x 457 x 51 | 81257 | 4 | 8 (STD) |
| Mist Eliminator Filter | 15 5/8" x 25 5/8" x 2" | 397 x 625 x 51 | 92971 | 1 | N/A |

***Note:*** All overall outside dimensions are given with +/- .250" (6mm) tolerance.

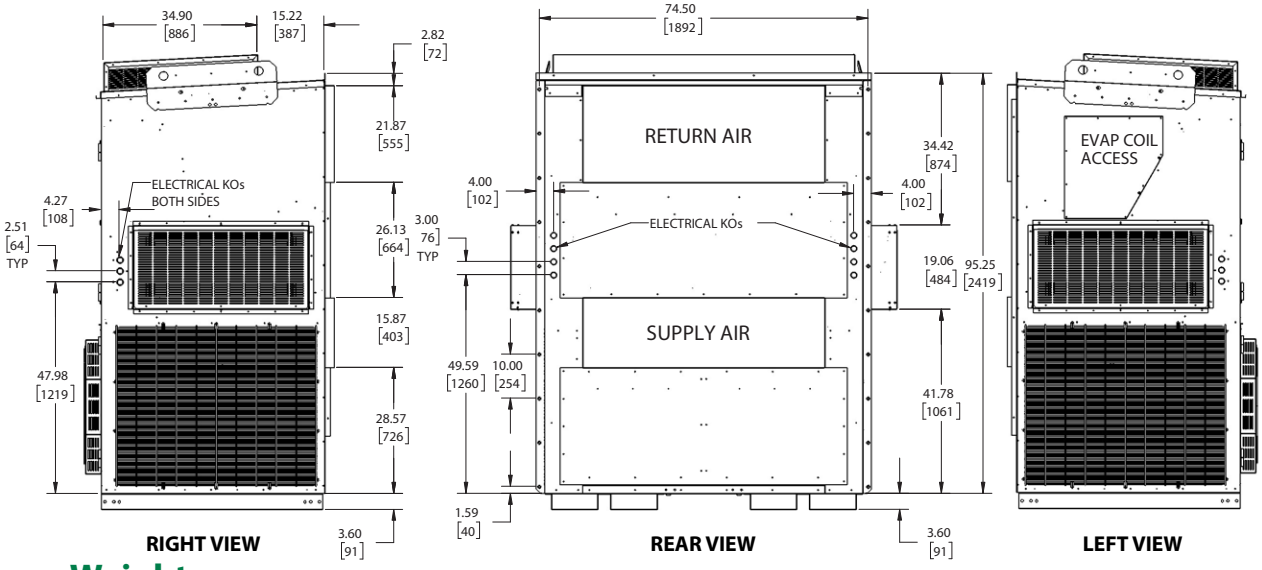
# Dimensional Data: MGH3180A - Center Supply/Top Return w/Economizer

*Engineering Revision "B"*

**TOP VIEW**




**FRONT VIEW**




**RIGHT VIEW** **REAR VIEW** **LEFT VIEW**

## Weight

| | LBS/KGS |
|---|---|
| **MGH3180A** | 2345/1063 |

**MGH3180A units require additional support if wall mounted. The mounting flanges alone are not adequate.**

## Filter Size

| MGH3180A | INCHES | MILLIMETERS | PART NUMBER | FILTERS PER UNIT | MERV RATING |
|---|---|---|---|---|---|
| Interior Access Return Air Filter | 18" x 24" x 2" | 457 x 610 x 51 | 81257 | 3 | N/A |
| Mist Eliminator Filter | 15 5/8" x 24 5/8" x 2" | 397 x 625 x 51 | 92971 | 4 | N/A |
| Fresh Air Hood Pre-filters | 14" x 32" x 1" | 356 x 813 x 25 | 93187 | 2 | N/A |

***Note:*** All overall outside dimensions are given with +/- .250" (6mm) tolerance.

## Notes

*Please consult the Marvair® website at www.marvair.com for the latest product literature. Detailed dimensional data is available upon request. A complete warranty statement can be found in each product's Installation/Operation Manual, on our website or by contacting Marvair at 229-273-3636. As part of the Marvair continuous improvement program, specifications are subject to change without notice.*

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