

INCH-POUND

MIL-STD-1408B

5 March 1992

SUPERSEDING

MIL-STD-1408A

9 APRIL 75

MILITARY STANDARD

AIR CONDITIONERS,
STANDARD FAMILY OF MILITARY AIR CONDITIONERS,
GENERAL APPLICATION CHARACTERISTICS

AMSC N/A

FSC 4120

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FOREWORD

1. This military standard is approved for use by all Departments and Agencies of the Department of Defense.

2. Beneficial comments (recommendations, additions, deletions) and any pertinent data which may be of use in improving this document should be addressed to: U. S. Army Belvoir Research, Development, and Engineering Center, ATTN: STRBE-TSE, Fort Belvoir, VA 22060-5606 by using the Standardization Document Improvement Proposal (DD Form 1426) appearing at the end of this document or by letter.

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1. SCOPE

1.1 Scope. This standard serves as a catalog of units comprising the standard family of military air conditioners. It presents capabilities and application characteristics useful in selecting a unit to meet a defined need. In cases where the need is not well defined, reference to Army Materiel Command Pamphlet 706-120, Criteria for Environmental Control of Mobile Systems, is invited and encouraged.

2. REFERENCED DOCUMENTS

2.1 Government documents.

2.1.1 Specifications. The following specifications form a part of this document to the extent specified herein. Unless otherwise specified, the issues of these documents are those listed in the issue of the Department of Defense Index of Specifications and Standards (DODISS), and supplement thereto, cited in the solicitation.

SPECIFICATIONS

MILITARY

MIL-A-52767	- Air Conditioners: Vertical and Horizontal.
MIL-A-52963	- Air Conditioner: Split-Package, 208-Volt, 3-Phase 400-Hertz, AC, 18,000 Btu/Hr Cooling, 30,000 Btu/Hr Heating.
MIL-A-53089	- Air Conditioners: Vertical and Horizontal, Compact, Multiple Power Input.
MIL-A-83216	- Air Conditioner A/E32C-39.

(Unless otherwise indicated, copies of federal and military specifications, standards, and handbooks are available from the Naval Publications and Printing Service Office (NPPSO), Standardization Documents Order Desk, Building 4 D, 700 Robbins Avenue, Philadelphia, PA 19111-5094.)

2.1.2 Government drawings. The following Government drawings form a part of this document to the extent specified herein. Unless otherwise specified, the issues are those cited in the solicitation.

DRAWINGS

TA13217E6898	- Air Conditioner, Vertical, Compact, 60,000 Btu/hr, 208 Volt, 3-Phase, 400 Hertz.
TA13218E9880	- Air Conditioner, Vertical, Compact, 6,000 Btu/hr, 208 Volt, 3-Phase, 400 Hertz.
TA13218E9890	- Air Conditioner, Vertical, Compact, 6,000 Btu/hr, 115 Volt, Single-Phase, 50/60 Hertz.
TA13218E9900	- Air Conditioner, Vertical, Compact, 9,000 Btu/hr, 208 Volt, 3-Phase, 400 Hertz.
TA13218E9905	- Air Conditioner, Vertical, Compact, 9,000 Btu/hr, 115 Volt, Single-Phase, 50/60 Hertz.
TA13218E9910	- Air Conditioner, Vertical, Compact, 9,000 Btu/hr, 208 Volt, 3-Phase, 50/60 Hertz.
TA13218E9915	- Air Conditioner, Vertical, Compact, 9,000 Btu/hr, 230 Volt, Single-Phase, 50/60 Hertz.

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TA13221E9100	- 18,000 BTUH Split Package Air Conditioner, 18,000 BTUH Cooling, 30,000 BTUH Heating, 208V, 3 Phase, 400 Hertz.
TA13222E9150	- Air Conditioner, Horizontal, Compact, 18,000 Btu/hr, 230 Volt, Single-Phase, 50/60 Hertz.
TA13222E9160	- Air Conditioner, Horizontal, Compact, 18,000 Btu/hr, 208 Volt, 3-Phase, 50/60 Hertz.
TA13222E9170	- Air Conditioner, Horizontal, Compact, 18,000 Btu/hr, 208 Volt, 3-Phase, 400 Hertz.
TA13225E8000	- Air Conditioner, Vertical, Compact, 18,000 Btu/hr, 208 Volt, 3-Phase, 50/60 Hertz.
TA13225E8010	- Air Conditioner, Vertical, Compact, 18,000 Btu/hr, 208 Volt, 3-Phase, 400 Hertz.
TA13225E8200	- Air Conditioner, Vertical, Compact, 36,000 Btu/hr, 208 Volt, 3-Phase, 50/60 Hertz.
TA13225E8210	- Air Conditioner, Vertical, Compact, 36,000 Btu/hr, 208 Volt, 3-Phase, 400 Hertz.
TA13225E8445	- Air Conditioner, Horizontal, Compact, 9,000 Btu/hr, 230 Volt, Single-Phase, 50/60 Hertz.
TA13225E8450	- Air Conditioner, Horizontal, Compact, 9,000 Btu/hr, 115 Volt, Single-Phase, 50/60 Hertz.
TA13225E8455	- Air Conditioner, Horizontal, Compact, 9,000 Btu/hr, 208 Volt, 3-Phase, 50/60 Hertz.
TA13225E8460	- Air Conditioner, Horizontal, Compact, 9,000 Btu/hr, 208 Volt, 3-Phase, 400 Hertz.
TA13225E9500	- Air Conditioner, Horizontal, Compact, 36,000 Btu/hr, 208 Volt, 3-Phase, 50/60 Hertz.
TA13225E9600	- Air Conditioner, Horizontal, Compact, 36,000 Btu/hr, 208 Volt, 3-Phase, 400 Hertz.
TA13228E4000	- Air Conditioner, Vertical, Compact, 60,000 Btu/hr, 208 Volt, 3-Phase, 50/60 Hertz.
TA13228E4200	- Air Conditioner, Horizontal, Compact, 18,000 Btu/hr, 230 Volt-AC, Single-Phase, 50/60 Hertz, and 208 Volt-AC, 3-Phase, 50/60/400 Hertz.
TA13228E4250	- Air Conditioner, Vertical, Compact, 18,000 Btu/hr, 208 Volt-AC, 3-Phase, 50/60/400 Hertz.
TA13228E6700	- Air Conditioner, Horizontal, Compact, 36,000 Btu/hr, 208 Volt-AC, 3-Phase, 50/60/400 Hertz.
D13229E6716	- Receptical, Wall Mounting.
D13229E6718	- Plug, Straight.
TA13229E8100	- Air Conditioner, Vertical, Compact, 36,000 Btu/hr, 208 Volt-AC, 3-Phase, 50/60/400 Hertz.
TA13229E8611	- Air Conditioner: Trailer Mounted, Generator-Set-Powered, 18K Btuh.

(Copies of drawings required by contractors in connection with specific acquisition functions should be obtained from the USA Belvoir Research, Development, and Engineering Center, ATTN: STRBE-FES, Fort Belvoir, VA 22060-5606.)

2.2 Non-Government publications. The following document(s) form a part of this document to the extent specified herein. Unless otherwise specified, the issues of the documents which are DoD adopted are those listed in the issue of the DODISS cited in the solicitation. Unless otherwise specified, the issues of documents not listed in the DODISS are the issues of the documents cited in the solicitation (see 6.2).

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AMERICAN SOCIETY OF HEATING, REFRIGERATING AND AIR-CONDITIONING ENGINEERS (ASHRAE)

ASHRAE STD 16 - Method of Testing for Rating Room Air Conditioners and Packaged Terminal Air Conditioners.

ASHRAE STD 37 - Method of Testing for Rating Unitary Air Conditioning and Heat Pump Equipment.

(Application for copies should be addressed to the American Society of Heating, Refrigerating and Air-Conditioning Engineers, 1791 Tullie Circle, NE, Atlanta, GA 30329.)

3. DEFINITIONS

3.1 Definitions and abbreviations. The definitions and abbreviations used in this standard are as follows:

- A/C - Air conditioner - A device with the primary function of cooling air. This cooled air is then used to cool equipment and personnel within an enclosure. An A/C may or may not include supplemental heating capability. Usually provides secondary effect of dehumidifying and filtering the air being circulated within the space (see the figures specified in 5.1.8).
- Btu - British thermal units - The quantity of heat required to raise the temperature of one pound of water one degree Fahrenheit at, or near, its point of maximum density (39.1 °F).
- Btuh - British thermal units per hour.
- DEPMED - Deployable medical system.
- Dry bulb temperature - Dry bulb temperature is that measured by an ordinary thermometer. It indicates only sensible heat changes.
- EMI - Electromagnetic interference - The interference with the operation of electronic equipment that is caused by electromagnetic radiation emissions from electromechanical equipment such as air conditioners.
- EMP - Electromagnetic pulse - An intense burst of electromagnetic energy resulting from a nuclear explosion. The energy released can burn out the solid state components used in many A/Cs and shelters hundreds of miles from the blast.
- h - Hour
- Hz - Hertz (a unit of frequency, expressed in cycles per second).
- kW - Kilowatts (1,000 watts).
- MPI - Multiple power input
- scfm - Standard cubic feet per minute - Cubic feet of air flow per minute at 14.69 psi and 58.73 °F conditions.

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- Wet bulb temperature - Wet bulb temperature is the evaporating water temperature measured by a thermometer, whose bulb is covered by a water-saturated wick, when air is passed over the bulb. It is used with dry bulb temperature to determine humidity.
- Wg - Water gage - Pressure, in inches of water. On the data sheets, this is used to express the external static pressure on the A/C evaporator when describing conditions at which A/C conditioned air flow was measured.

4. GENERAL INFORMATION

4.1 Capacity. All air conditioners have been capacity tested in accordance with American Society of Heating, Refrigerating and Air Conditioning Engineers (ASHRAE) procedures using the temperatures specified in the climatic conditions for capacity ratings listed for each unit.

4.2 Design. All air conditioners, with the exception of the 54,000 DEPMED and 18,000 trailer mounted A/C, covered by this standard have been designed for installation inside or outside of vans, stationary and mobile shelters, and similar enclosures, provided unrestricted outdoor ambient air is available to the unit for proper operation. The 54,000 DEPMED and 18,000 trailer mounted A/C's are designed to be stationary ground units with cool air supplied to shelters by ducts.

4.3 Reduction in air flow. A reduction in the unit's rated air flow and cooling performance can be expected should the static pressure, as specified on item 16 of the figures, be exceeded by the installation of external ducts, filters, registers, or other devices which restrict the flow of air to and from the A/C. Air flow and cooling capacity for the 54,000 DEPMED and 18,000 trailer mounted A/C are rated with ducts installed.

5. DETAIL REQUIREMENTS

5.1 The standard family of military air conditioners. The standard family consists of 28 units ranging from 6,000 Btuh cooling/4,500 Btuh heating to 60,000 Btuh cooling/47,000 Btuh heating. These units are arranged by this standard into six categories: compact vertical, compact horizontal, split-package, MPI's, 18,000 trailer mount, and the 54,000 DEPMED. All units cool, dehumidify and heat. The heating capacity was designed so that the power demand in the heating mode approximates that of the cooling mode.

5.1.1 Compact air conditioners. The compact air conditioners are intended to satisfy the majority of requirements of the Field Army. They are designed for minimum size and weight, standardization of components, minimum power requirement, a tolerance of variations in power supply, and maximum reliability and maintainability consistent with their relatively small interior volume. Their features include:

- a. Rugged construction and able to withstand high levels of shock and vibration.
- b. Automatically controlled heating as well as cooling.
- c. Compatibility with collective protection systems.
- d. Fresh air ventilation with or without cooling or heating.
- e. Self-protection against abnormal temperatures.
- f. Self-protection against cutoff of condenser air flow.

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- g. Compatibility with sensitive electronic systems. A hot gas bypass control system enables precise air conditioning without cyclic disturbance of the external power supply circuit.
- h. The MPI units are equipped with soft start capabilities eliminating the need for a hot gas bypass control system.

5.1.2 Compact vertical air conditioners. The vertical air conditioners have their maximum dimension in the vertical direction for applications where available space and the specific cooling requirement dictate a relatively narrow, tall unit. There are five vertical units with a total of twelve different electrical models or classes; these are depicted in figure 1.

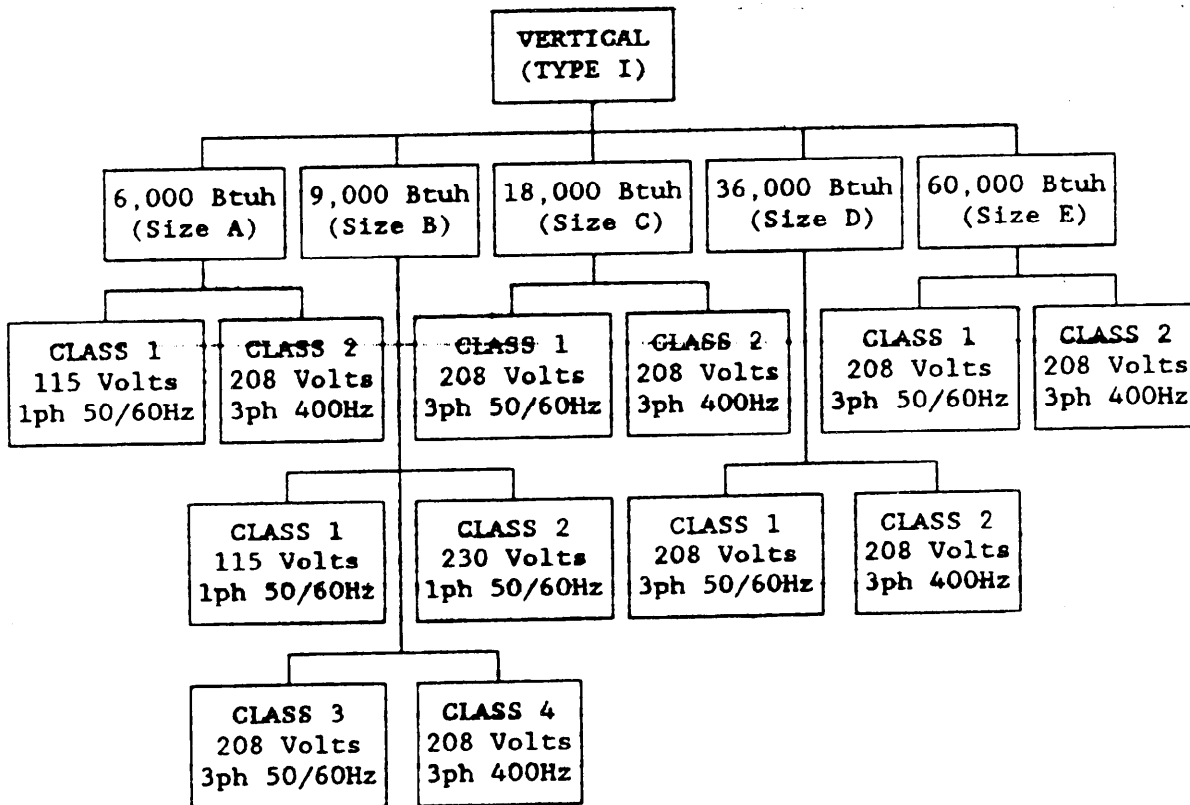


Figure 1. Compact vertical air conditioners.

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5.1.3 Compact horizontal air conditioners. The horizontal units are designed with their maximum dimension in the horizontal direction. There are three horizontal sizes with nine classes, as shown in figure 2.

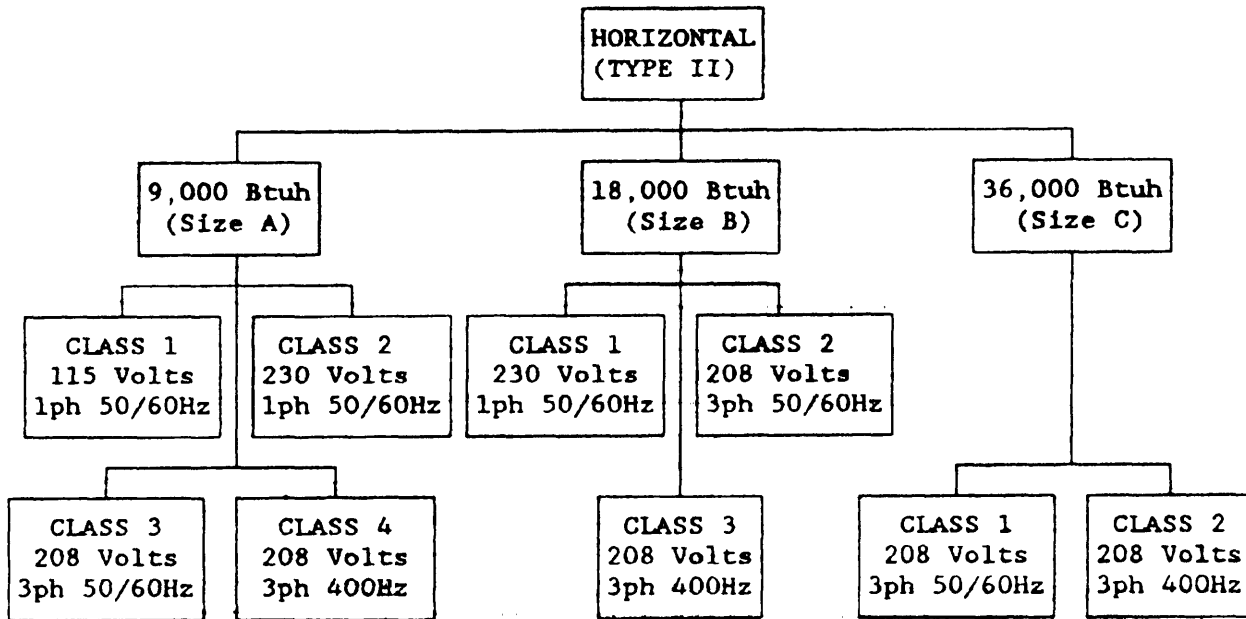
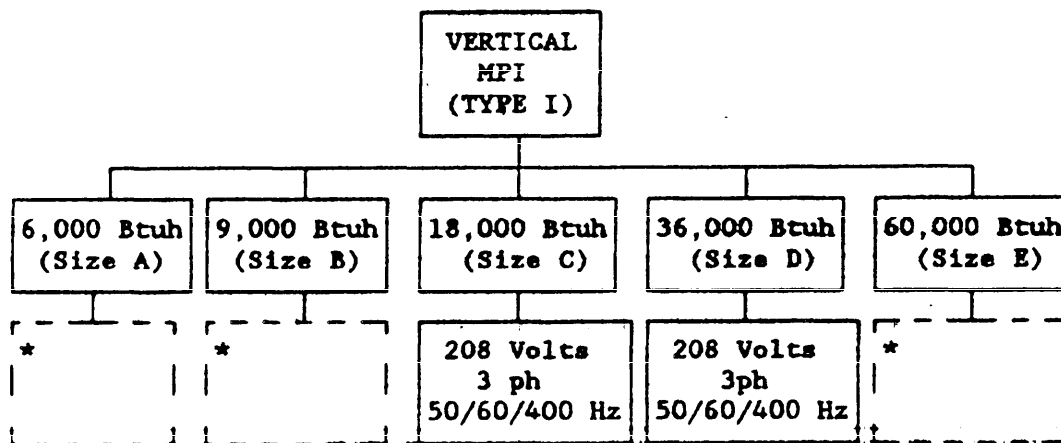


Figure 2. Compact horizontal air conditioners.

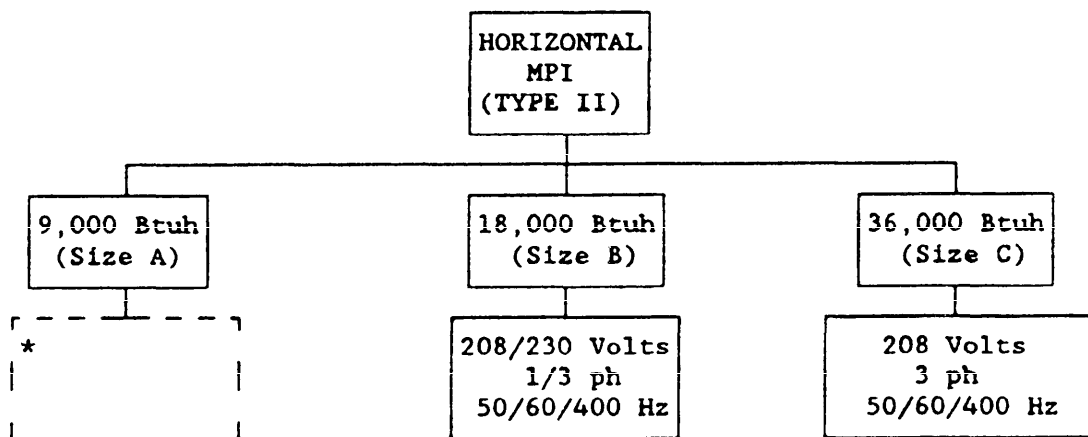
5.1.4 Split-package air conditioner. The split package unit is a single 18,000 Btuh air conditioner that is constructed in two parts: an evaporator section and a condenser section. This design permits the user to configure the package vertically or horizontally or with the condenser section operating remotely from the evaporator, for example, on the outside of a wall. The split package unit has the operational features of the compact air conditioners although it is approximately one-third larger and one-third heavier than the equivalent compact units. The split package unit is designed with protection against EMP.

5.1.5 MPI air conditioners. The MPI units are constructed following the vertical and horizontal units design and application. These units are capable of operating on multiple power inputs, subsequently the name, MPI. There are two vertical units and two horizontal units with power characteristics as shown in figures 3 and 4.

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Figure 3. Vertical multiple power input air conditioner.

* Future development planned.



* Future development planned.

Figure 4. Horizontal multiple power input air conditioners.

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5.1.6 Trailer mounted 18,000 Btuh A/C. The self-contained mobile trailer mounted 18,000 Btuh A/C consists of a single horizontal compact 18,000 Btuh air conditioner and a single 10 kW diesel generator unit, both mounted onto a 3/4-ton single axle trailer. The conditioned air is supplied to shelters by two 12-foot-long by 12-inches diameter ducts, supply and return.

5.1.7 Deployable medical system (DEPMED) A/C. The DEPMEDS unit is a horizontal, duct type, 54,000 Btuh air conditioner that has a base mount design. This means that the unit, as opposed to mounting directly on the shelter, would sit on the ground beside the shelter. The conditioned air is supplied to the shelter by two 15-inch diameter flexible ducts, supply and return.

5.1.8 Detailed drawings. Figures 5 through 19 contain general application characteristics for each type of unit: Figures 5 through 7 for horizontal compact units; figures 8 through 12 for vertical compact units; figure 13 for the split-package unit; figures 14 through 17 for MPI units; figure 18 for the trailer mounted 18,000 Btuh unit; and figure 19 for the DEPMED unit. Consult applicable military specification for complete dimensions and installation data.

5.2 Method of reference. Reference to models should include the military specification, type, size, and classes of the desired air conditioner; this information may be found on the figures provided herein.

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AIR CONDITIONER: COMPACT, TYPE II (HORIZONTAL), SIZE A (9,000 BTUH)

1.	Military specification	MIL-A-52767				
2.	Operating temperature range	Cooling: 0 to 120 °F Heating: -50 to 80 °F				
3.	Control	Internal or remotely mounted control panel				
4.	Mounting	Base mounted				
5.	Refrigerant	Monochlorodifluoromethane (R-22)				
Electrical class		1	2	3	4	
6.	Top Assembly Drawing	TA13225E8445	TA13225E8450	TA13225E8455	TA13225E8460	
7.	National stock number	4120-00-916-9404	4120-00-903-3569	4120-00-963-4447	4120-00-951-1091	
8.	Line item number	A23828	A23988	A23955	A23970	
9.	SSN	M773	M716	M916	M915	
10.	Rated cooling capacity	10,000 Btuh	10,000 Btuh	10,000 Btuh	10,000 Btuh	
11.	Rated heating capacity	7,000 Btuh	7,000 Btuh	7,000 Btuh	7,000 Btuh	
12.	Volts, AC	115	230	208	208	
	Phase	1	1	3	3	
	Frequency, Hz	50/60	50/60	50/60	400	
	Wires	3	3	4	4	
13.	Max power consumption	3.22 kW	3.22 kW	3.0 kW	3.1 kW	
14.	Minimum power factor	0.85	0.90	0.71	0.45	
15.	Starting current	Peak duration				
16.	Condition air flow at 0 inches wg	370 scfm	370 scfm	370 scfm	370 scfm	
17.	Gross weight	200 lbs	200 lbs	200 lbs	200 lbs	
18.	Power connector supplied	A/C	MS3100R18-11P	MS3100R18-11P	MS3100R18-11P	MS3100R18-11P
		Mating	MS3106R18-11S	MS3106R18-11S	MS3106R18-11S	MS3106R18-11S

Figure 5. Horizontal compact unit. (9,000 Btuh).

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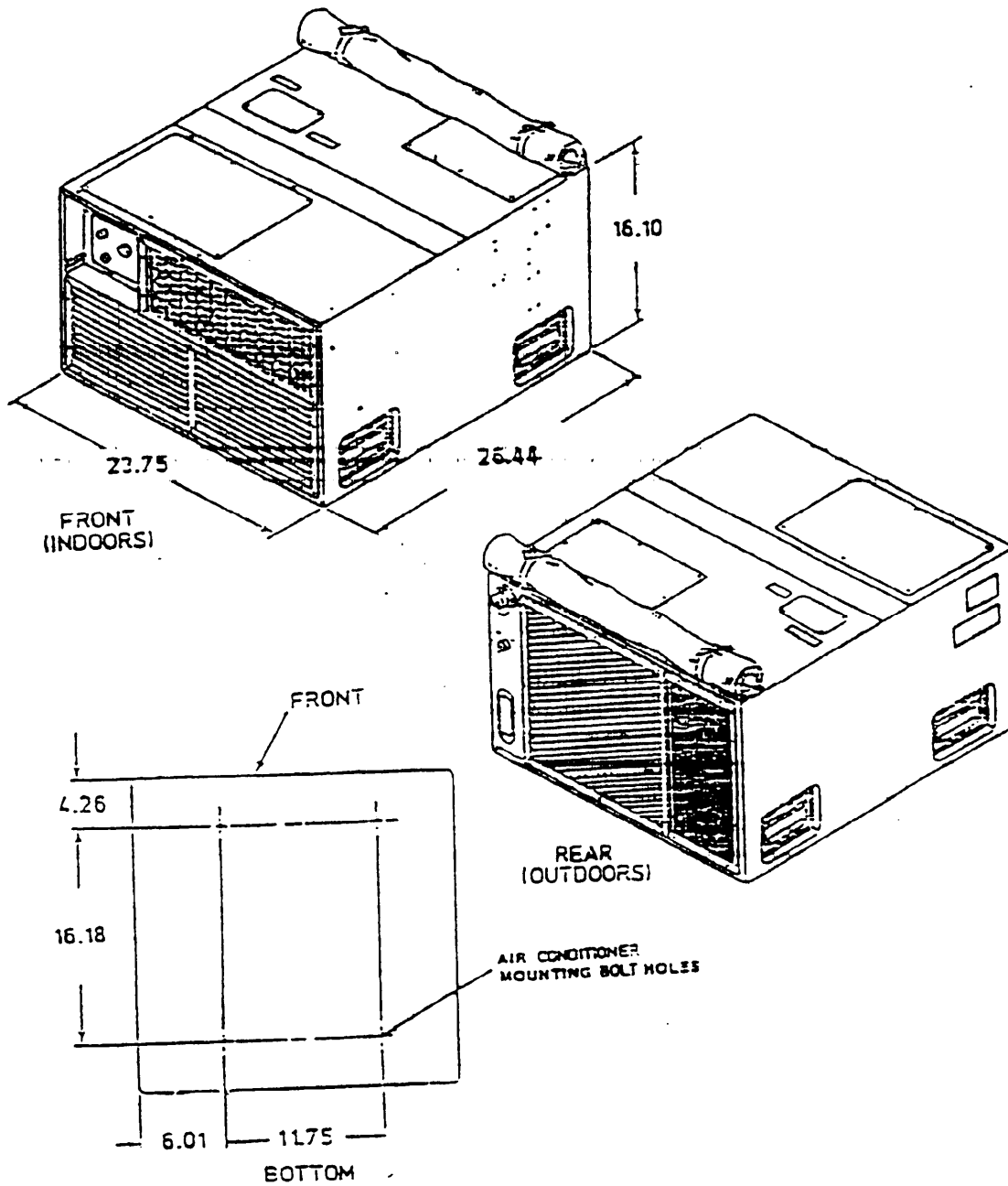


FIGURE 5. Horizontal compact unit, (9,000 Btuh)
208 volts, 3ph, 50/60/400 Hz. (continued)

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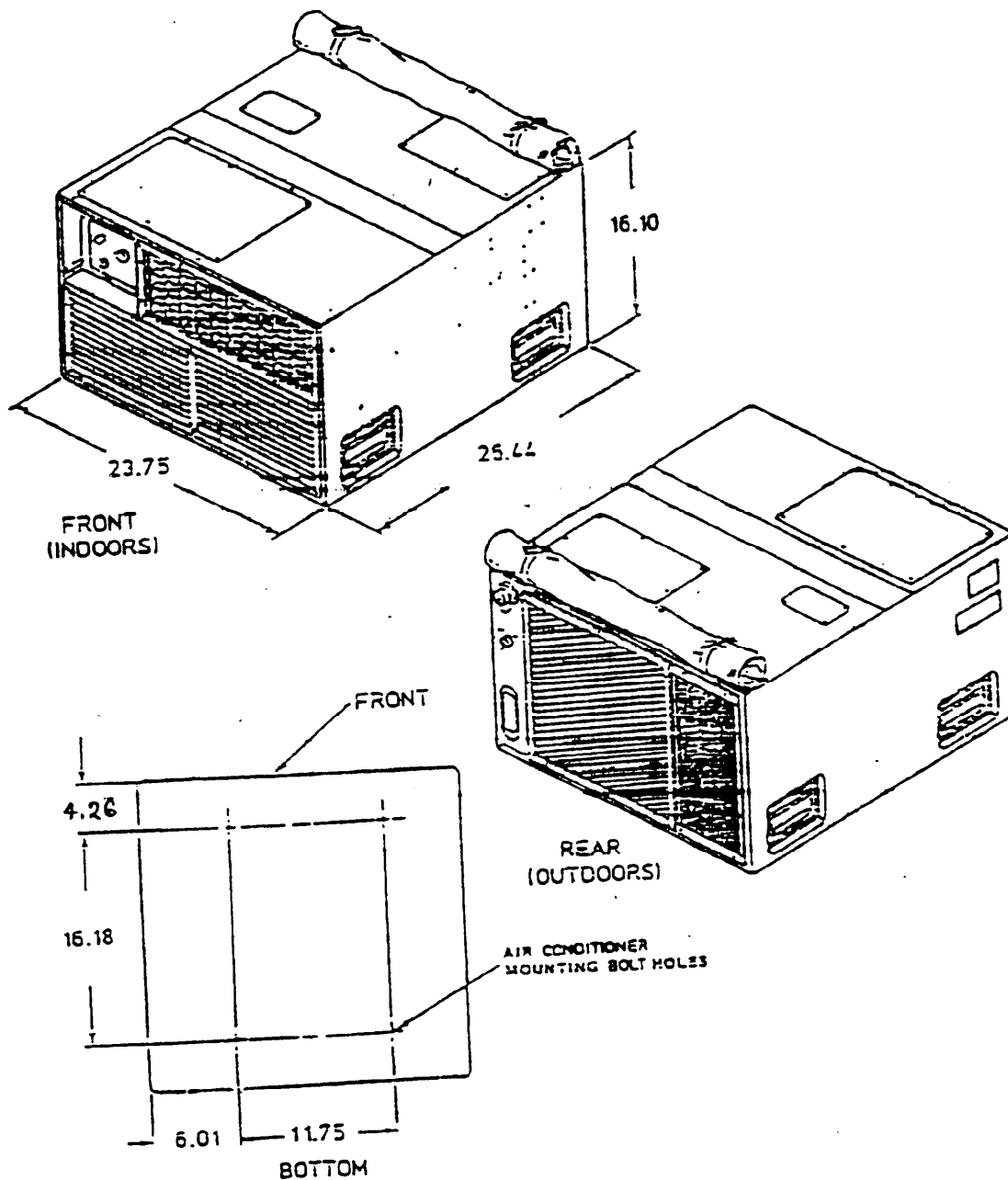


FIGURE 5. Horizontal compact unit, (9,000 Btuh)
115, 230 volts, 3ph, 50/60/400 Hz. (continued)

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AIR CONDITIONER: COMPACT, TYPE II (HORIZONTAL), SIZE B (18,000 BTUH)

1.	Military specification	MIL-A-52767			
2.	Operating temperature range	Cooling: 0 to 120 °F Heating: -50 to 80 °F			
3.	Control	Internal or remotely mounted control panel			
4.	Mounting	Base mounted			
5.	Refrigerant	Monochlorodifluoromethane (R-22)			
Electrical class		1	2	3	
6.	Top Assembly Drawing	TA13222E9150	TA13222E9160	TA13222E9170	
7.	National stock number	4120-00-931-4518	4120-00-974-7206	4120-00-951-0948	
8.	Line item number	A24017	A24463	A24575	
9.	SSN	M917	M918	M896	
10.	Rated cooling capacity	18,500 Btuh	18,500 Btuh	18,500 Btuh	
11.	Rated heating capacity	13,400 Btuh	13,400 Btuh	13,400 Btuh	
12.		Volts, AC	230	208	208
		Phase	1	3	3
		Frequency, Hz	50/60	50/60	400
		Wires	3	4	4
13.	Max power consumption	5.0 kW	4.6 kW	5.0 kW	
14.	Minumum power factor	0.95	0.80	0.55	
15.	Starting current	Peak duration			
16.	Condition air flow at 0 inches wg	590 scfm	590 scfm	640 scfm	
17.	Gross weight	290 lbs	290 lbs	290 lbs	
18.	Power connector supplied	A/C	MS3100R18-11P	MS3100R18-11P	MS3100R18-11P
		Mating	MS3106R18-11S	MS3106R18-11S	MS3106R18-11S

Figure 6. Horizontal compact unit. (18000 Btuh).

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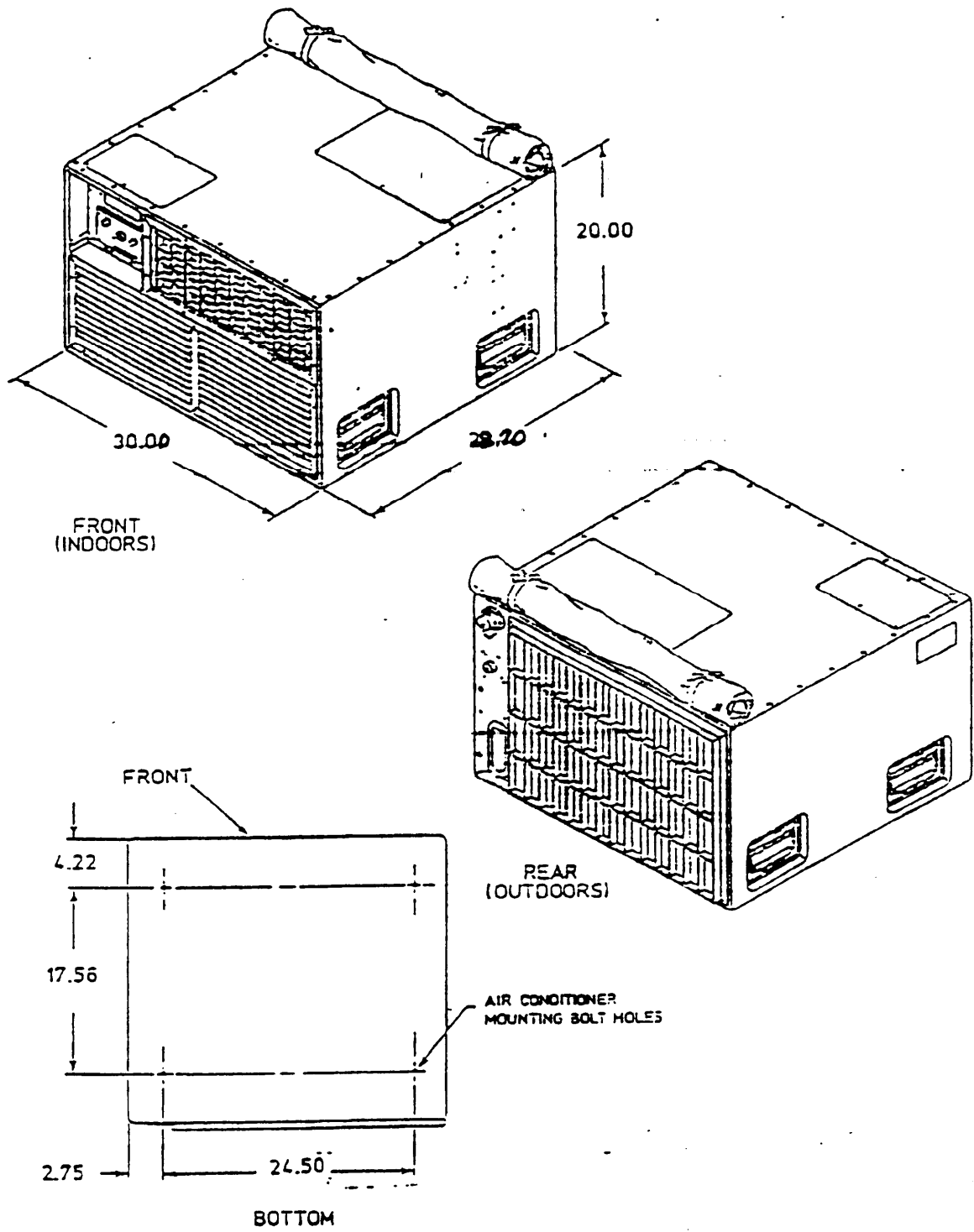


FIGURE 6. Horizontal compact unit, (18,000 Btuh)
208 volts, 3ph, 50/60 Hz. (continued)

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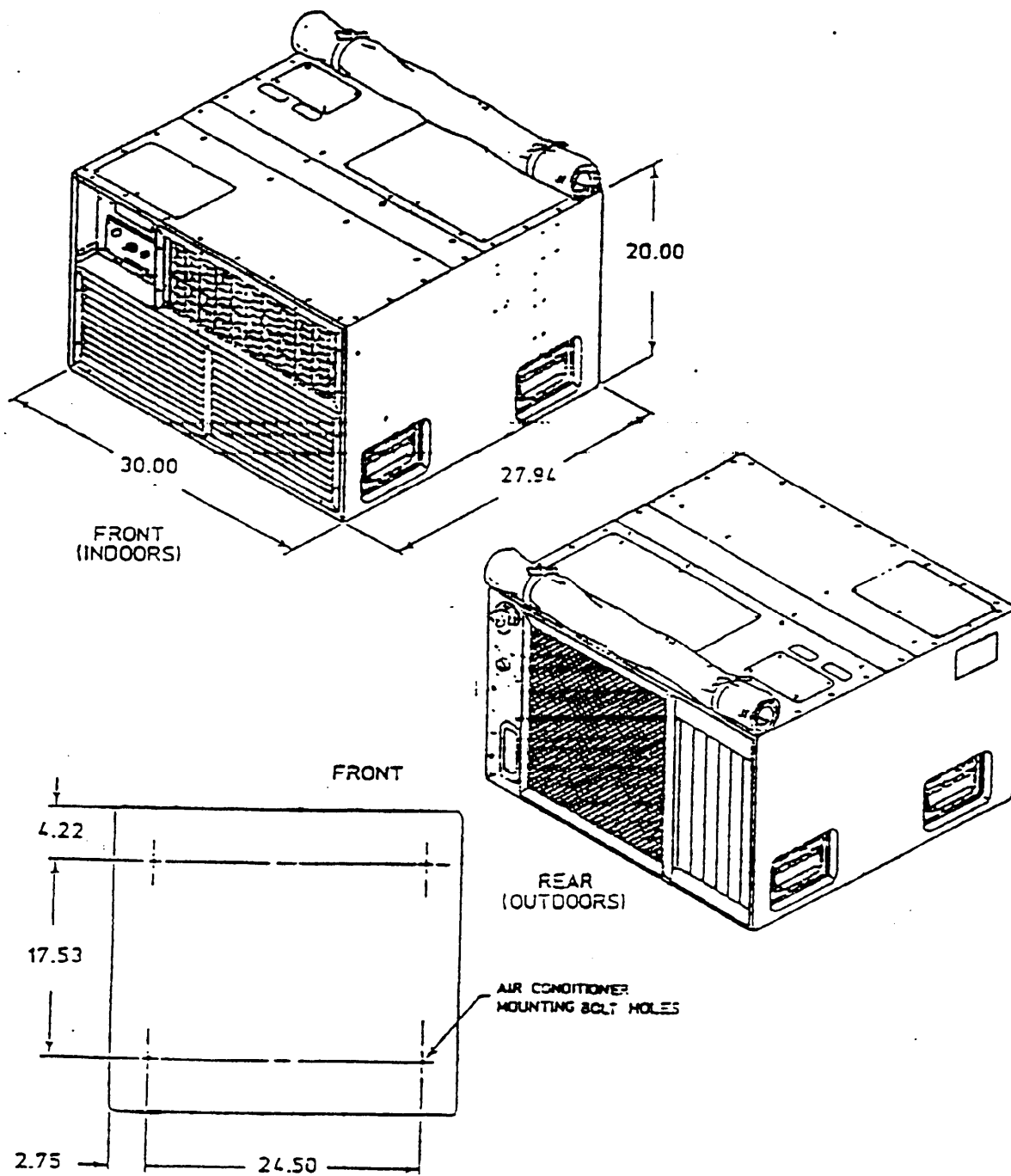


FIGURE 8. Horizontal compact unit, (18,000 Btuh)
230 volts, lph, 50/60 Hz. (continued)

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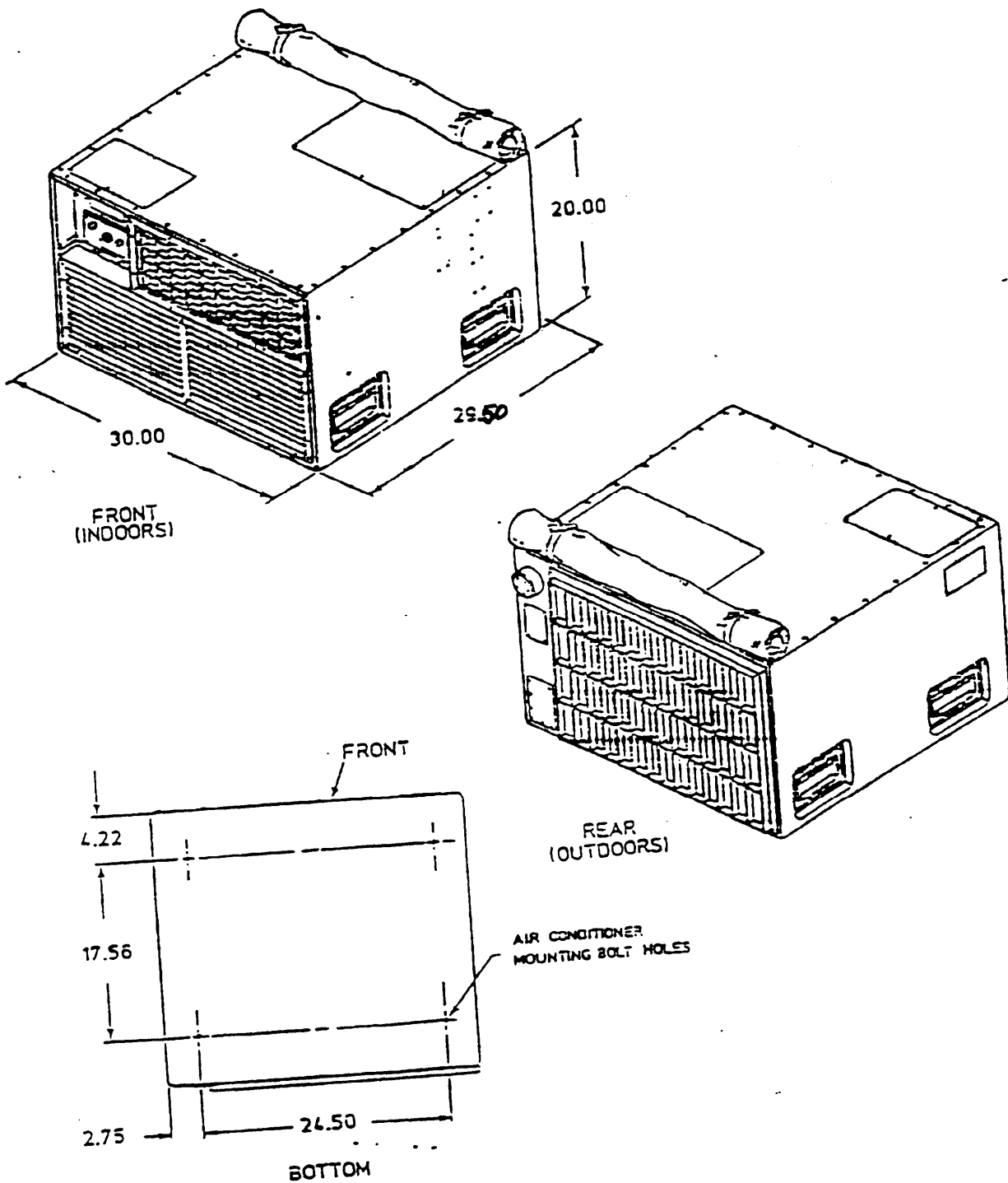


FIGURE 6. Horizontal compact unit, (18,000 Btuh)
208 volts, 3ph, 50/60 Hz, EMP protected. (continued)

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AIR CONDITIONER: COMPACT, TYPE II (HORIZONTAL), SIZE C (36,000 BTUH)

1.	Military specification	MIL-A-52767	
2.	Operating temperature range	Cooling: -25 to 120 °F Heating: -50 to 80 °F	
3.	Control	Internal or remotely mounted control panel	
4.	Mounting	Base mounted	
5.	Refrigerant	Monochlorodifluoromethane (R-22)	
	Electrical class	1	2
6.	Top Assembly Drawing	TA13225E9500	TA13225E9600
7.	National stock number	4120-00-951-9697	4120-00-951-1055
8.	Line item number	A24763	A24820
9.	SSN	M811	M812
10.	Rated cooling capacity	41,000 Btuh	41,000 Btuh
11.	Rated heating capacity	31,200 Btuh	34,700 Btuh
12.	Volts, AC	208	208
	Phase	3	3
	Frequency, Hz	50/60	400
	Wires	4	4
13.	Max power consumption	13.5 kW	13.5 kW
14.	Mininum power factor	0.83	0.64
15.	Starting current	Peak duration	
16.	Condition air flow at 0 inches wg	1380 scfm	1520 scfm
17.	Gross weight	435 lbs	435 lbs
18.	Power connector supplied	A/C	MS3100R24-22P
		Mating	MS3106R24-22S
		MS3100R24-22P	MS3106R24-22S

Figure 7. Horizontal compact unit. (36,000 Btuh).

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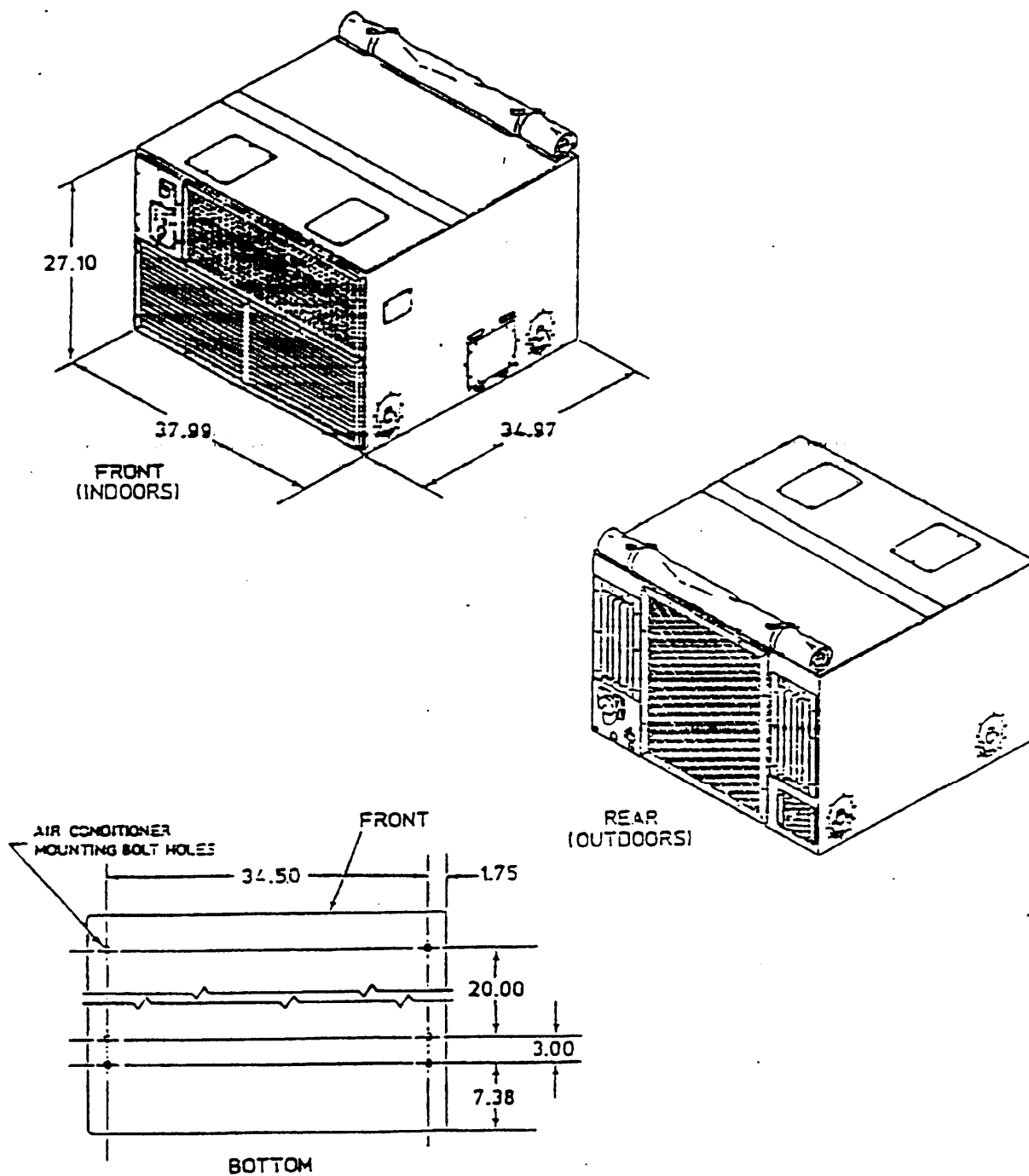


FIGURE 7. Horizontal compact unit, (36,000 Btuh)
208 volts, 3ph, 50/60 Hz. (continued)

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AIR CONDITIONER: COMPACT, TYPE I (VERTICAL), SIZE A (6,000 BTUH)

1.	Military specification		MIL-A-52767	
2.	Operating temperature range		Cooling: 55 to 120 °F Heating: -50 to 80 °F	
3.	Control		Internal or remotely mounted control panel	
4.	Mounting		Base mounted; additional fastening at upper rear	
5.	Refrigerant		Monochlorodifluoromethane (R-22)	
Electrical class			1	2
6.	Top Assembly Drawing		TA13218E9890	TA13218E9880
7.	National stock number		4120-00-926-1139	4120-00-926-1138
8.	Line item number		A23667	A23684
9.	SSN		M702	M701
10.	Rated cooling capacity		6,300 Btuh	6,300 Btuh
11.	Rated heating capacity		4,500 Btuh	4,500 Btuh
12.		Volts, AC	115	208
		Phase	1	3
		Frequency, Hz	50/60	400
		Wires	3	4
13.	Max power consumption		2.2 kW	2.6 kW
14.	Minimum power factor		0.90	0.50
15.	Starting current	Peak duration		
16.	Condition air flow at 0 inches wg		280 scfm	300 scfm
17.	Gross weight		180 lbs	175 lbs
18.	Power connector supplied	A/C	MS3100R20-4PX	MS3100R20-4PX
		Mating	MS3106R20-4SX	MS3106R20-4SX

Figure 8. Vertical compact unit. (6,000 Btuh).

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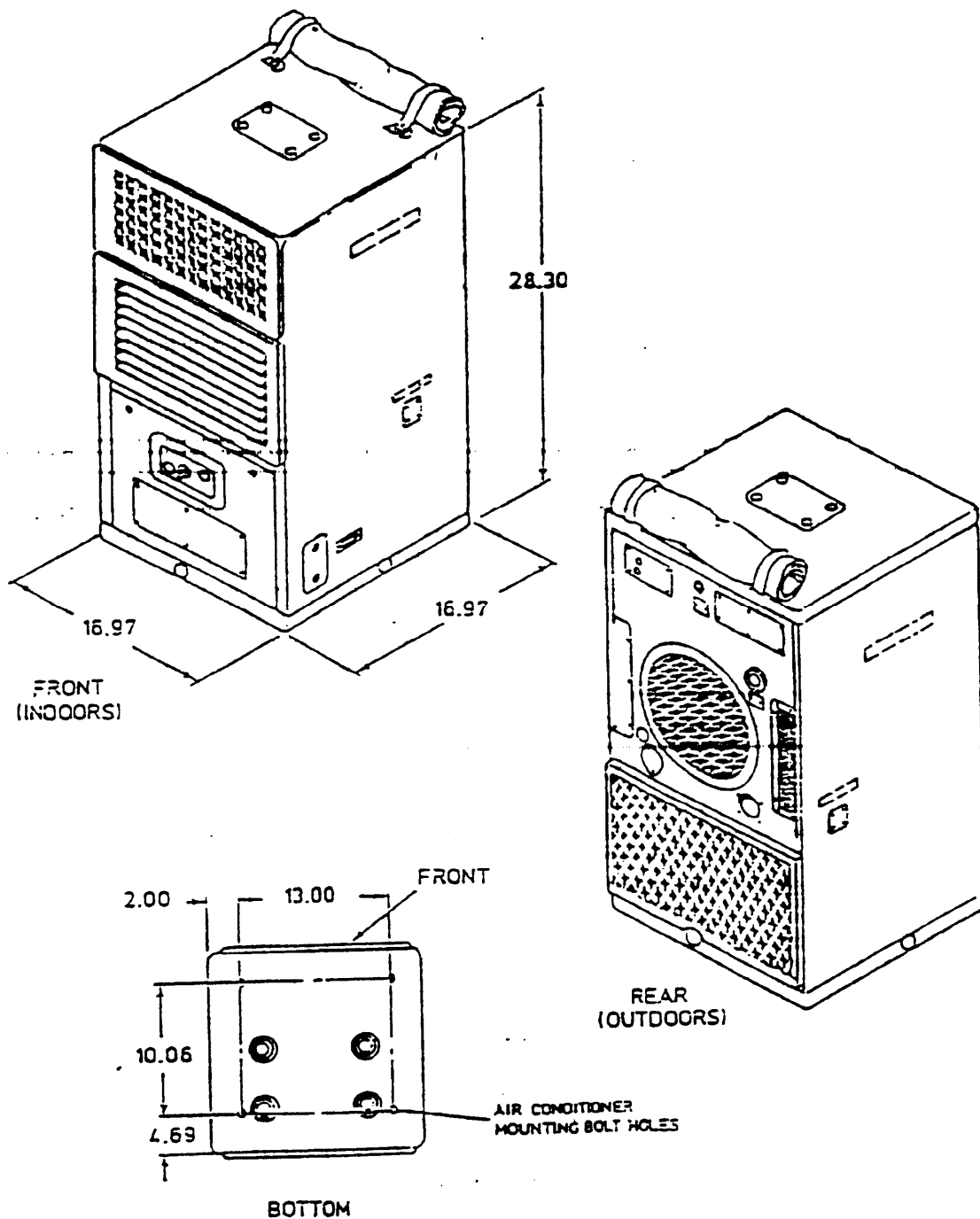


FIGURE 8. Vertical compact unit, (6,000 Btuh)
208 volts, 3ph, 400 Hz. (continued)

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AIR CONDITIONER: COMPACT, TYPE I (VERTICAL), SIZE B (9,000 BTUH)

1.	Military specification	MIL-A-52767				
2.	Operating temperature range	Cooling: 55 to 120 °F Heating: -50 to 80 °F				
3.	Control	Internal or remotely mounted control panel				
4.	Mounting	Base mounted; additional fastening upper rear				
5.	Refrigerant	Monochlorodifluoromethane (R-22)				
Electrical class		1	2	3	4	
6.	Top Assembly Drawing	TA13218E9905	TA13218E9915	TA13218E9910	TA13218E9900	
7.	National stock number	4120-00-926-1142	4120-00-926-1140	4120-00-926-1137	4120-00-926-1141	
8.	Line item number	A23838	A23990	A23960	A23975	
9.	SSN	M912	M891	M910	M911	
10.	Rated cooling capacity	9,350 Btuh	9,350 Btuh	9,350 Btuh	9,350 Btuh	
11.	Rated heating capacity	6,000 Btuh	6,000 Btuh	6,000 Btuh	6,000 Btuh	
12.	Volts, AC	115	230	208	208	
	Phase	1	1	3	3	
	Frequency, Hz	50/60	50/60	50/60	400	
	Wires	3	3	4	4	
13.	Max power consumption	3.6 kW	3.4 kW	3.4 kW	3.6 kW	
14.	Minimum power factor	0.95	0.95	0.84	0.55	
15.	Starting current	Peak duration				
16.	Condition air flow at 0 inches wg	335 scfm	335 scfm	335 scfm	335 scfm	
17.	Gross weight	200 lbs	200 lbs	190 lbs	190 lbs	
18.	Power connector supplied	A/C	MS3100R20-4PX	MS3100R20-4PX	MS3100R20-4PX	MS3100R20-4PX
		Mating	MS3106R20-4SX	MS3106R20-4SX	MS3106R20-4SX	MS3106R20-4SX

Figure 9. Vertical compact unit. (9,000 Btuh).

MIL-STD-1408B

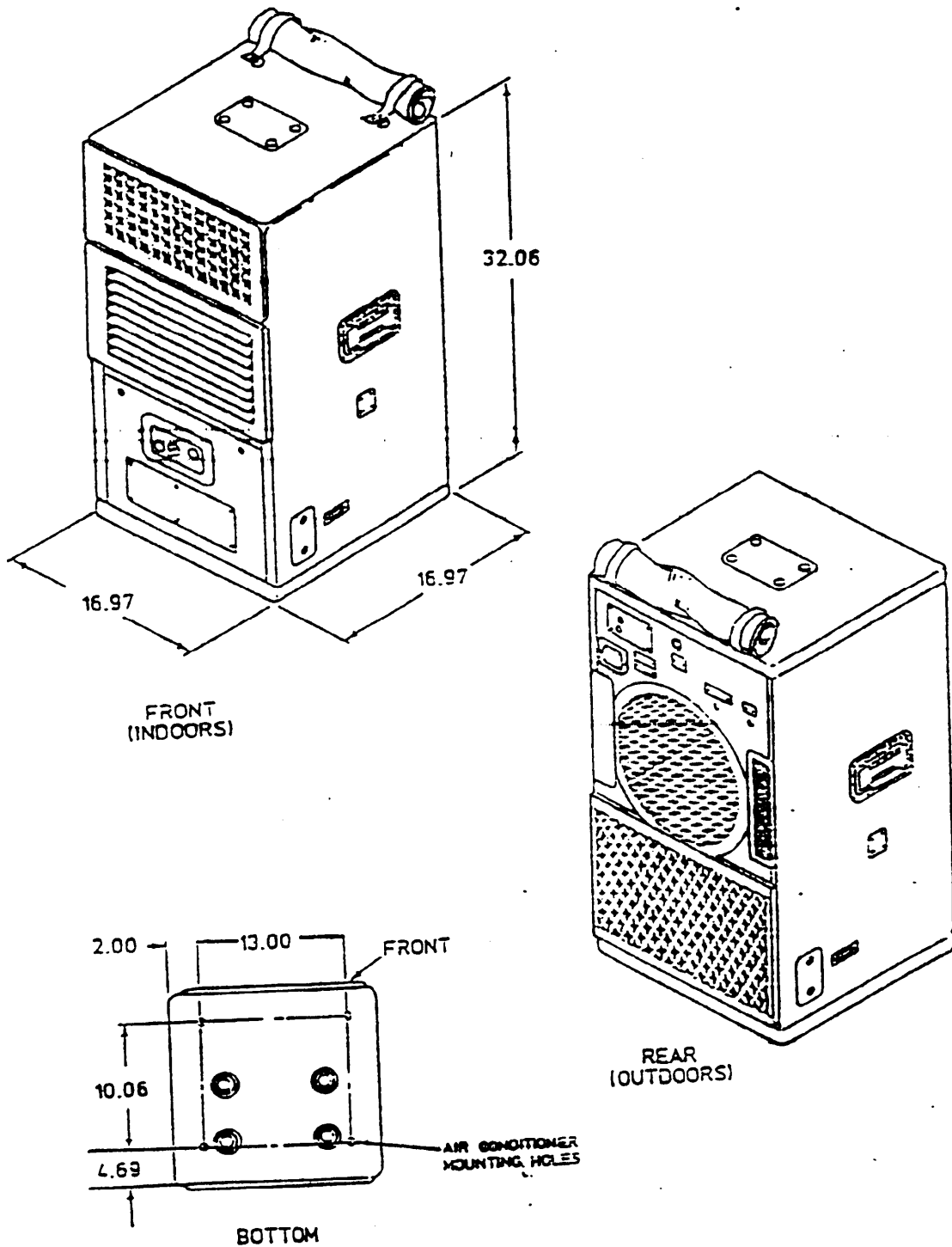


FIGURE 9. Vertical compact unit, (9,000 Btuh)
115 volts, lph, 50/60 Hz. (continued)

MIL-STD-1408B

AIR CONDITIONER: COMPACT, TYPE I (VERTICAL), SIZE C (18,000 BTUH)

1.	Military specification		MIL-A-52767	
2.	Operating temperature range		Cooling: 55 to 120 °F Heating: -50 to 80 °F	
3.	Control		Internal or remotely mounted control panel	
4.	Mounting		Base mounted; additional fastening at upper rear	
5.	Refrigerant		Monochlorodifluoromethane (R-22)	
	Electrical class		1	2
6.	Top Assembly Drawing		TA13225E8000	TA13225E8010
7.	National stock number		4120-00-959-4453	4120-00-061-2869
8.	Line item number		A24455	A24592
9.	SSN		M899	M881
10.	Rated cooling capacity		18,500 Btuh	18,500 Btuh
11.	Rated heating capacity		12,000 Btuh	12,000 Btuh
12.		Volts, AC	208	208
		Phase	3	3
		Frequency, Hz	50/60	400
		Wires	4	4
13.	Max power consumption		5.0 kW	5.7 kW
14.	Minimum power factor		0.90	0.60
15.	Starting current	Peak duration		
16.	Condition air flow at 0 inches wg		585 scfm	615 scfm
17.	Gross weight		280 lbs	280 lbs
18.	Power connector supplied	A/C	MS3100R22-22P	MS3100R22-22P
		Mating	MS3106R22-22S	MS3106R22-22S

Figure 10. Vertical compact unit. (18,000 Btuh).

MIL-STD-1408B

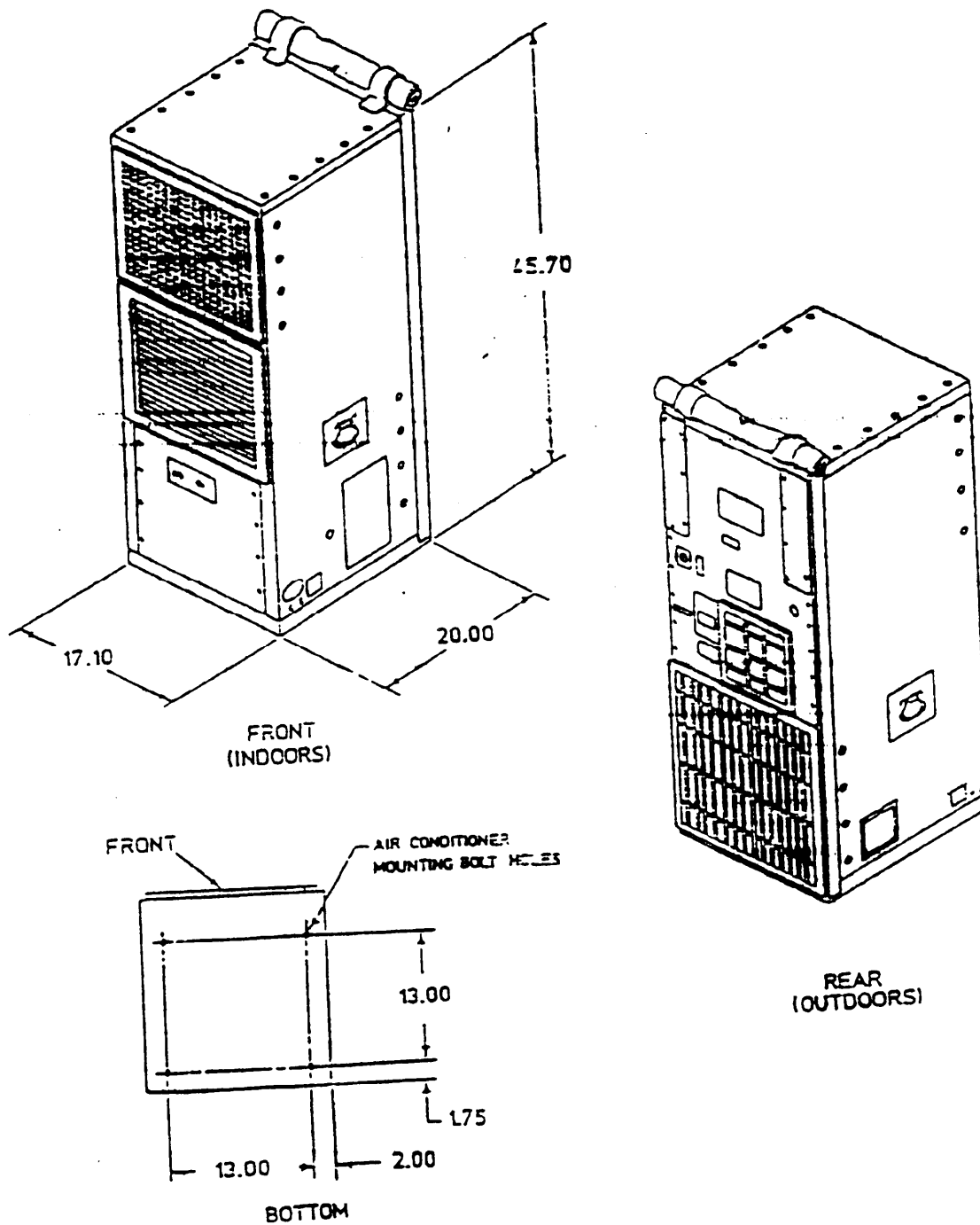


FIGURE 10. Vertical compact unit, (18,000 Btuh)
208 volts, 3ph, 50/60/400 Hz. (continued)

MIL-STD-1408B

AIR CONDITIONER: COMPACT, TYPE I (VERTICAL), SIZE D (36,000 BTUH)

1.	Military specification		MIL-A-52767	
2.	Operating temperature range		Cooling: 0 to 120 °F Heating: -50 to 80 °F	
3.	Control		Internal or remotely mounted control panel	
4.	Mounting		Base mounted; additional fastening at upper rear	
5.	Refrigerant		Monochlorodifluoromethane (R-22)	
	Electrical class		1	2
6.	Top Assembly Drawing		TA13225E8200	TA13225E8210
7.	National stock number		4120-00-926-4136	4120-00-926-4137
8.	Line item number		A24830	A24934
9.	SSN		M813	M814
10.	Rated cooling capacity		37,800 Btuh	37,800 Btuh
11.	Rated heating capacity		28,600 Btuh	28,600 Btuh
12.		Volts, AC	208	208
		Phase	3	3
		Frequency, Hz	50/60	400
		Wires	4	4
13.	Max power consumption		9.6 kW	11.0 kW
14.	Minumum power factor		0.83	0.60
15.	Starting current	Peak duration		
16.	Condition air flow at 0 inches wg		1250 scfm	1360 scfm
17.	Gross weight		460 lbs	460 lbs
18.	Power connector supplied	A/C	MS3100R24-22P	MS3100R24-22P
		Mating	MS3106R24-22S	MS3106R24-22S

Figure 11. Vertical compact unit, (36,000 Btuh).

MIL-STD-1408B

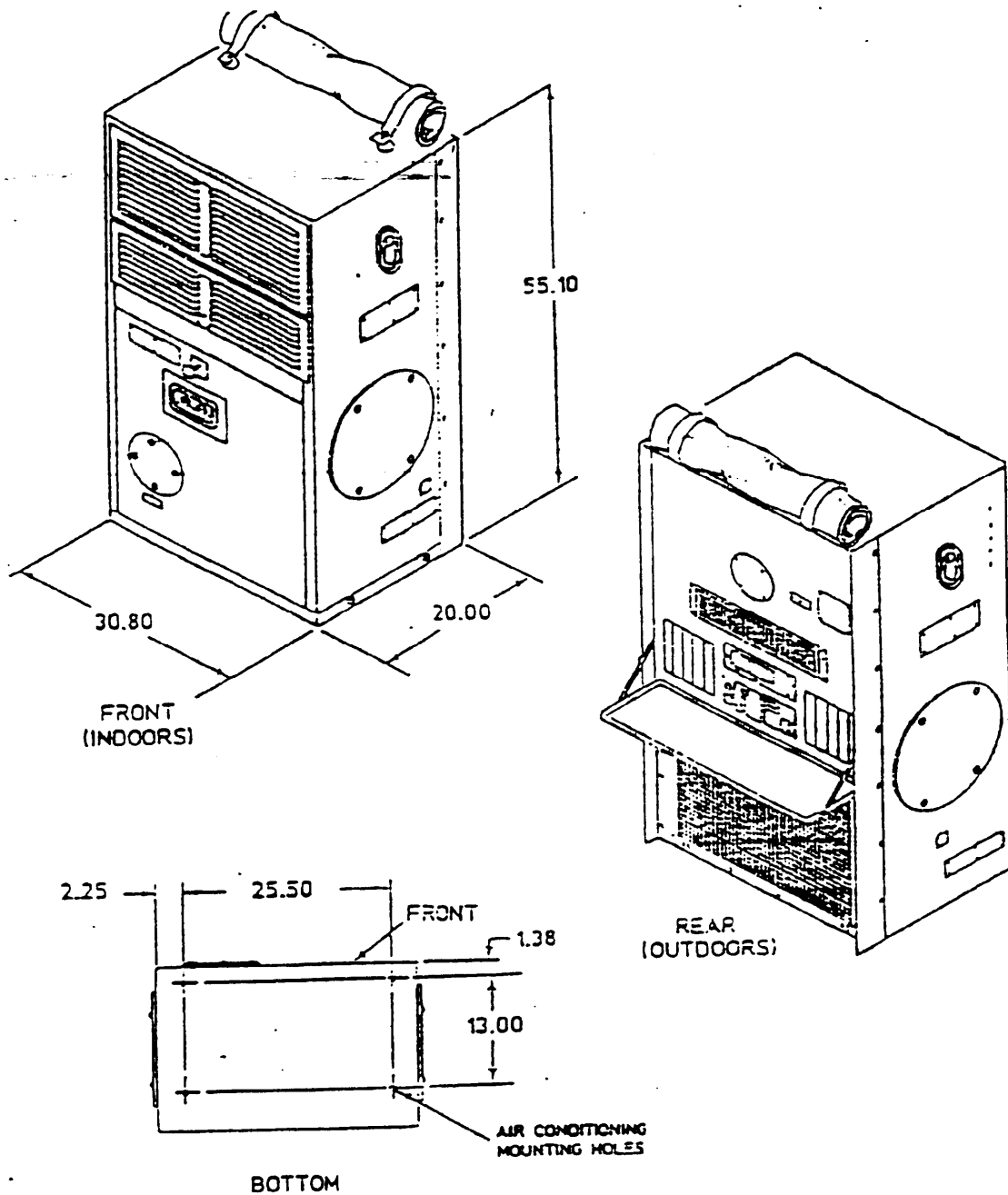


FIGURE 11. Vertical compact unit, (36,000 Btuh)
208 volts, 3ph, 50/60 Hz. (continued)

MIL-STD-1408B

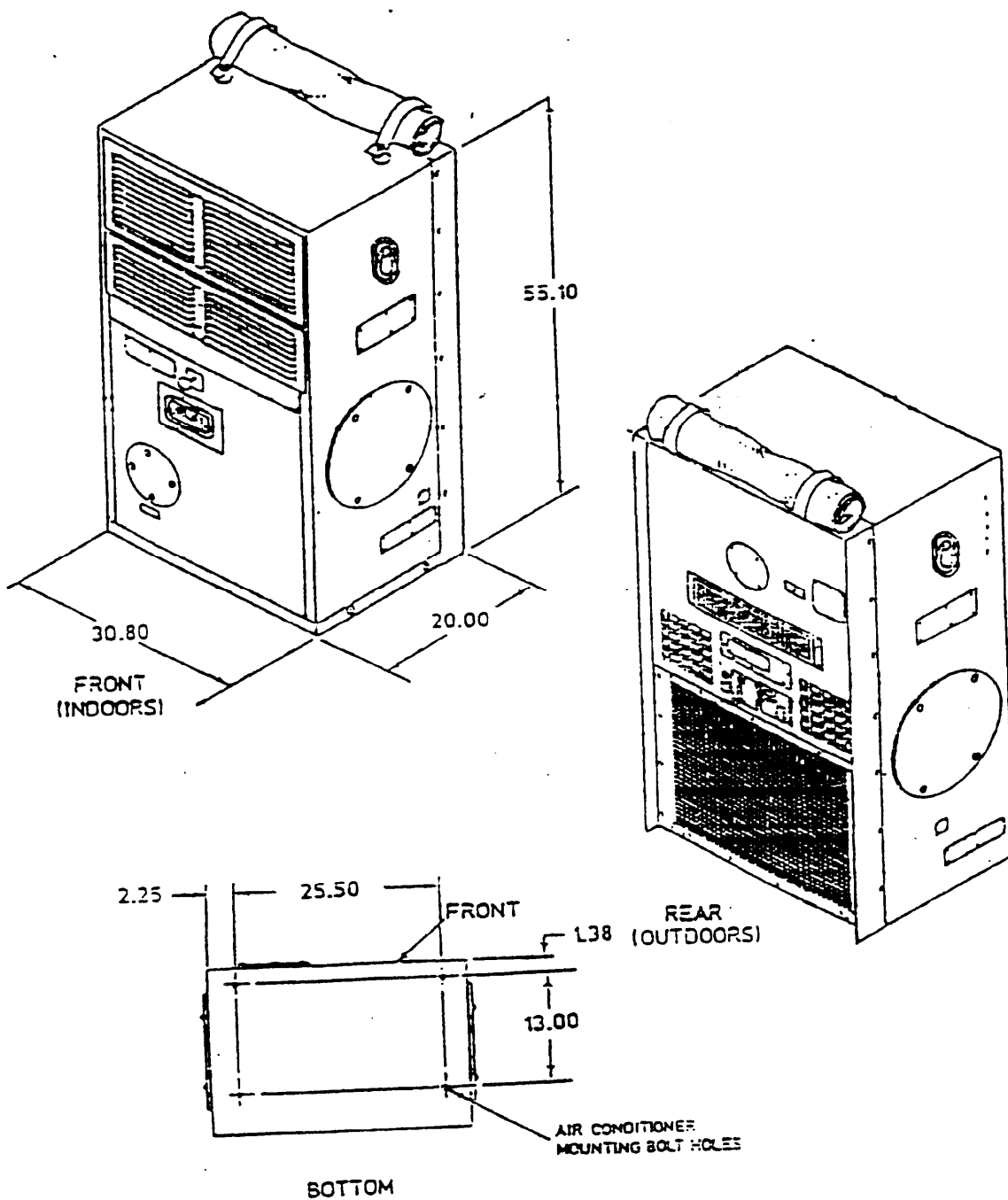


FIGURE 11. Vertical compact unit, (36,000 Btuh)
208 volts, 3ph, 400 Hz. (continued)

MIL-STD-1408B

AIR CONDITIONER: COMPACT, TYPE I (VERTICAL), SIZE E (60,000 BTUH)

1.	Military specification	MIL-A-52767	
2.	Operating temperature range	Cooling: 0 to 120 °F Heating: -50 to 80 °F	
3.	Control	Internal or remotely mounted control panel	
4.	Mounting	Base mounted; additional fastening at upper rear	
5.	Refrigerant	Monochlorodifluoromethane (R-22)	
	Electrical class	1	2
6.	Top Assembly Drawing	TA13228E4000	TA13217E6898
7.	National stock number	4120-00-935-1531	4120-00-926-4138
8.	Line item number	A25860	A25859
9.	SSN	M895	M893
10.	Rated cooling capacity	60,000 Btuh	60,000 Btuh
11.	Rated heating capacity	47,000 Btuh	47,000 Btuh
12.	Volts, AC	208	208
	Phase	3	3
	Frequency, Hz	50/60	400
	Wires	4	4
13.	Max power consumption	15.5 kW	18.6 kW
14.	Minimum power factor	0.78	0.63
15.	Starting current	Peak duration	
16.	Condition air flow at 0 inches wg	1900 scfm	2020 scfm
17.	Gross weight	620 lbs	620 lbs
18.	Power connector supplied	A/C	MS3100R32-17P
		Mating	MS3106R32-17S
			MS3100R32-17P
			MS3106R32-17S

Figure 12. Vertical compact unit, (60,000 Btuh).

MIL-STD-1408B

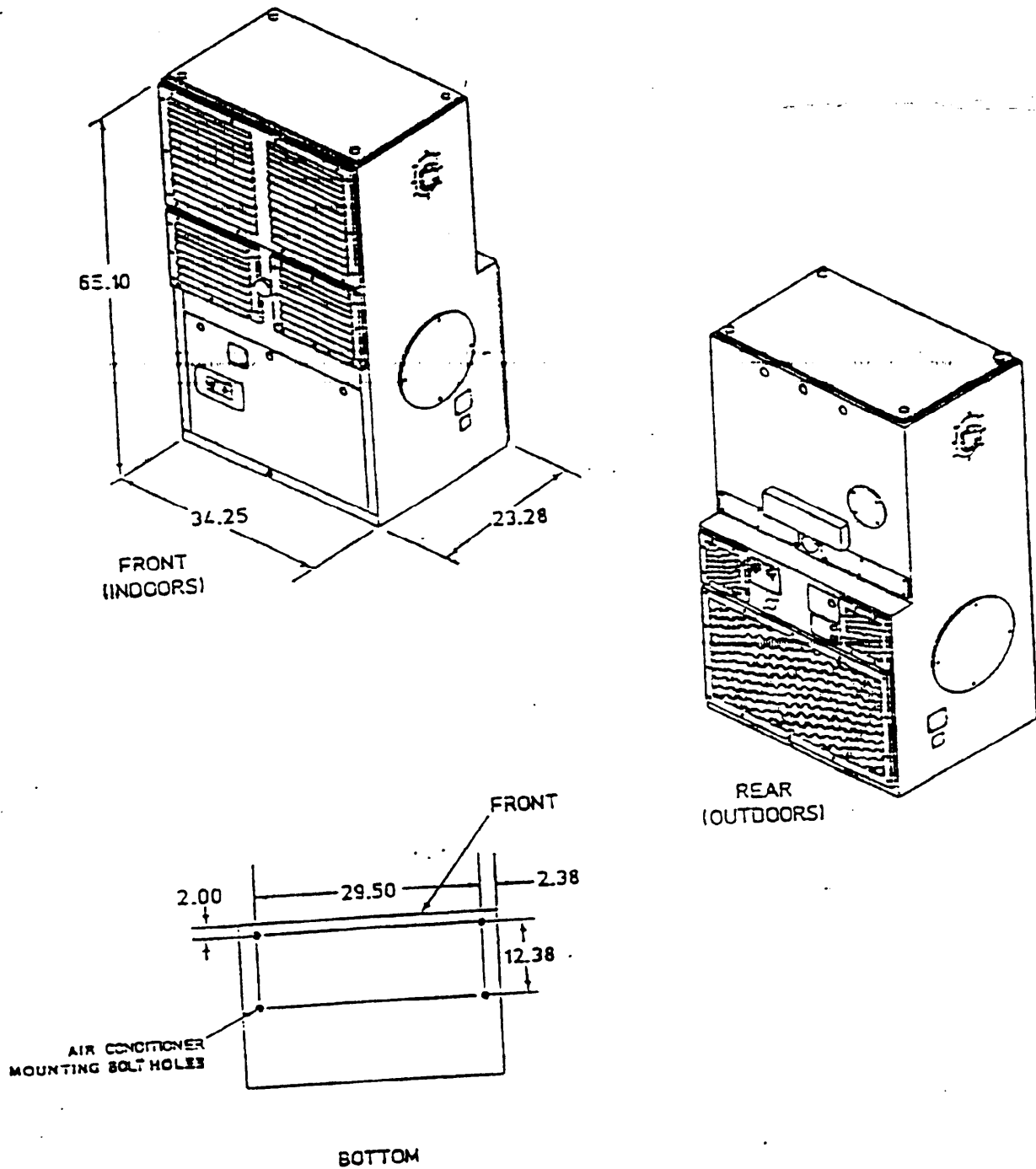


FIGURE 12. Vertical compact unit, (60,000 Btuh)
208 volts, 3ph, 50/60/400 Hz. (continued)

MIL-STD-1408B

AIR CONDITIONER: SPLIT PACKAGE, SIZE: 18,000 BTUH

1.	Military specification	MIL-A-52963	
2.	Top Assembly Drawing	TA13221E9100	
3.	Operating temperature range	Cooling: 0 to 120 °F Heating: -50 to 80 °F	
4.	Control	Remote control only. Remote control assembly, power and remote control cables provided unless specified otherwise.	
5.	Mounting	Evaporator and condenser sections are base mounted	
6.	Refrigerant	Monochlorodifluoromethane (R-22)	
7.	National stock number	4120-01-069-1321	
8.	Line item number	A34870	
9.	SSN	M810	
10.	Rated cooling capacity	18,000 Btuh	
11.	Rated heating capacity	30,000 Btuh	
12.	Volts, AC	208	
	Phase	3	
	Frequency, Hz	400	
	Wires	4	
13.	Max power consumption	Cooling: 5.85 kW	Heating: 10.0 kW
14.	Minimum power factor	Cooling: 0.50	Heating: 0.94
15.	Starting current	Peak duration	
16.	Condition air flow at 0.4 inches wg	525 to 575 scfm	
17.	Gross weight (Max.)	370 lbs	
18.	Power connector supplied	A/C	MS3102R22-22P
		Mating	Not supplied with unit

Figure 13. Split package unit, (18,000 Btuh).

MIL-STD-1408B

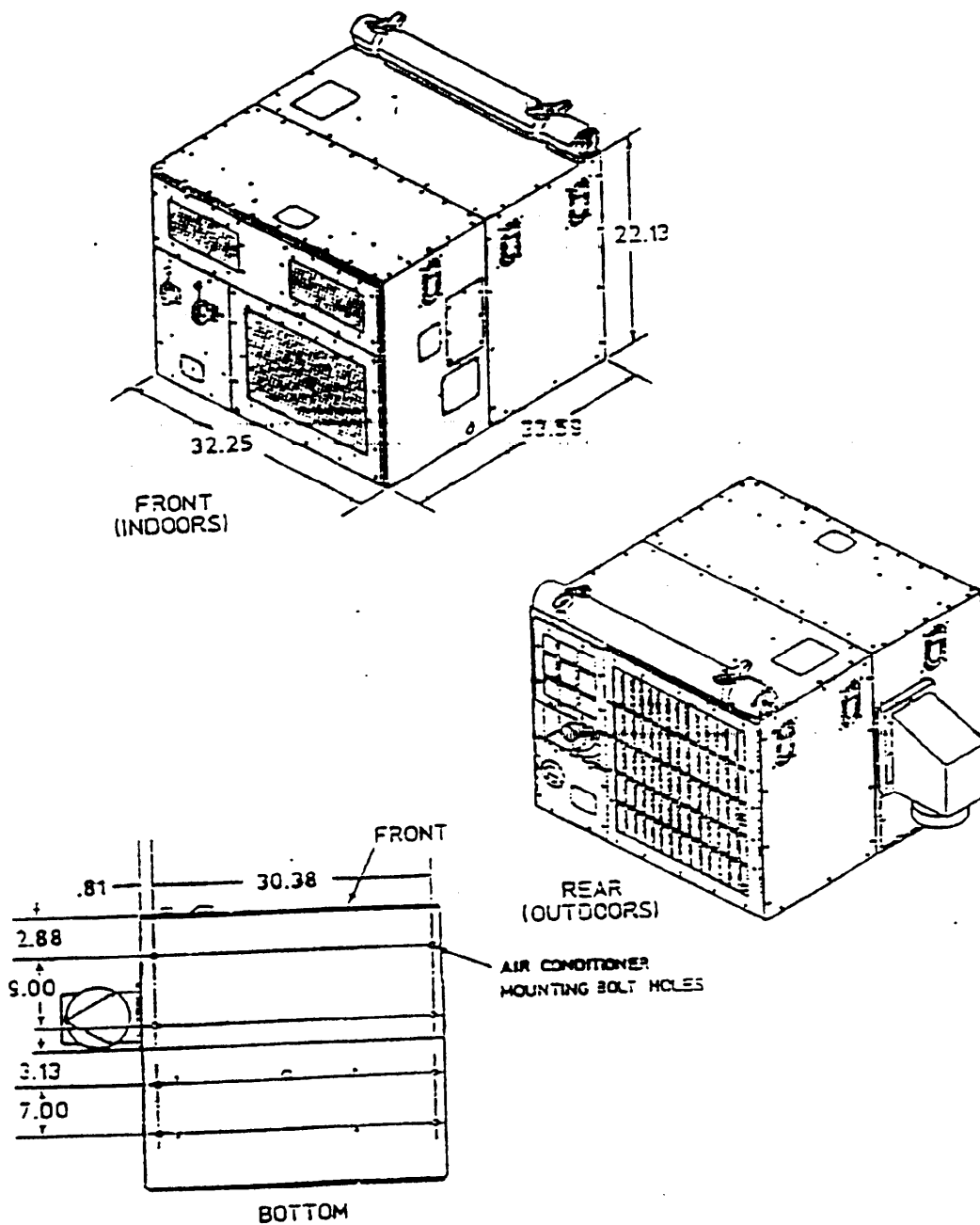


FIGURE 13. Split-package unit (18,000 Btuh). (continued)

MIL-STD-1408B

AIR CONDITIONER: COMPACT, MPI, TYPE I (VERTICAL), SIZE C (18,000 BTUH)

1.	Military specification	MIL-A-53089	
2.	Top Assembly Drawing	TA13228E4250	
3.	Operating temperature range	Cooling: 55 to 120 °F Heating: -50 to 80 °F	
4.	Control	Internal or remotely mounted control panel	
5.	Mounting	Base mounted; additional mounting at upper rear	
6.	Refrigerant	Monochlorodifluoromethane (R-22)	
7.	National stock number	To be assigned	
8.	Line item number	To be assigned	
9.	SSN	To be assigned	
10.	Rated cooling capacity	18,500 Btuh	
11.	Rated heating capacity	12,000 Btuh	
12.	Volts, AC	208	
	Phase	3	
	Frequency, Hz	50/60 or 400	
	Wires	5	
13.	Max power consumption	Cooling: 6.5 kW	Heating: 6.5 kW
14.	Minimum power factor	Cooling: 0.90	Heating: 1.00
15.	Starting current	Peak duration	
16.	Condition air flow at 0 inches wg	570 scfm	
17.	Gross weight (Max.)	280 lbs	
18.	Power connector supplied	A/C	MS3100R22-22P
		Mating	MS3106R22-22S

Figure 14. MPI, compact vertical (18,000 Btuh).

MIL-STD-1408B

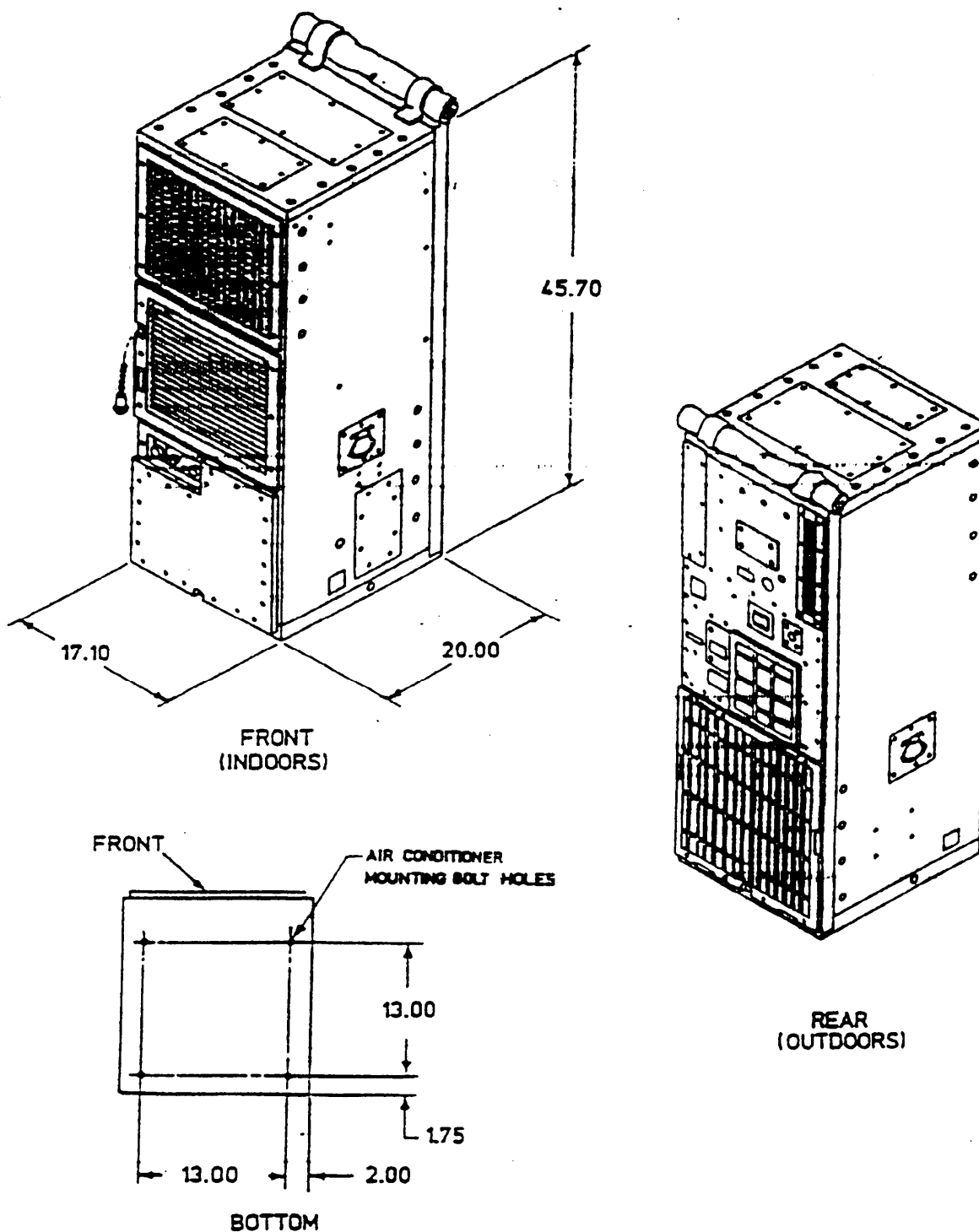


FIGURE 14. MPI, compact vertical (18,000 Btuh). (continued)

MIL-STD-1408B

AIR CONDITIONER: COMPACT, MPI, TYPE I (VERTICAL), SIZE D (36,000 BTUH)

1.	Military specification	MIL-A-53089	
2.	Top Assembly Drawing	TA13229E8100	
3.	Operating temperature range	Cooling: 0 to 120 °F Heating: -50 to 80 °F	
4.	Control	Internal or remotely mounted control panel	
5.	Mounting	Base mounted; additional mounting at upper rear	
6.	Refrigerant	Monochlorodifluoromethane (R-22)	
7.	National stock number	To be assigned	
8.	Line item number	To be assigned	
9.	SSN	To be assigned	
10.	Rated cooling capacity	37,800 Btuh	
11.	Rated heating capacity	28,600 Btuh	
12.	Volts, AC	208	
	Phase	3	
	Frequency, Hz	50/60/400	
	Wires	5	
13.	Max power consumption	Cooling: 11.0 kW	Heating: 11.0 kW
14.	Minimum power factor	Cooling: 0.90	Heating: 1.00
15.	Starting current	Peak duration	105 Amps/5 sec.
16.	Condition air flow at 0 inches wg	1250 scfm	
17.	Gross weight (Max.)	460 lbs	
18.	Power connector supplied	A/C	Dwg 13229E6716-1 P/N SM3200R24-79P
		Mating	13229E6718-2

Figure 15. MPI, compact vertical (36,000 Btuh).

MIL-STD-1408B

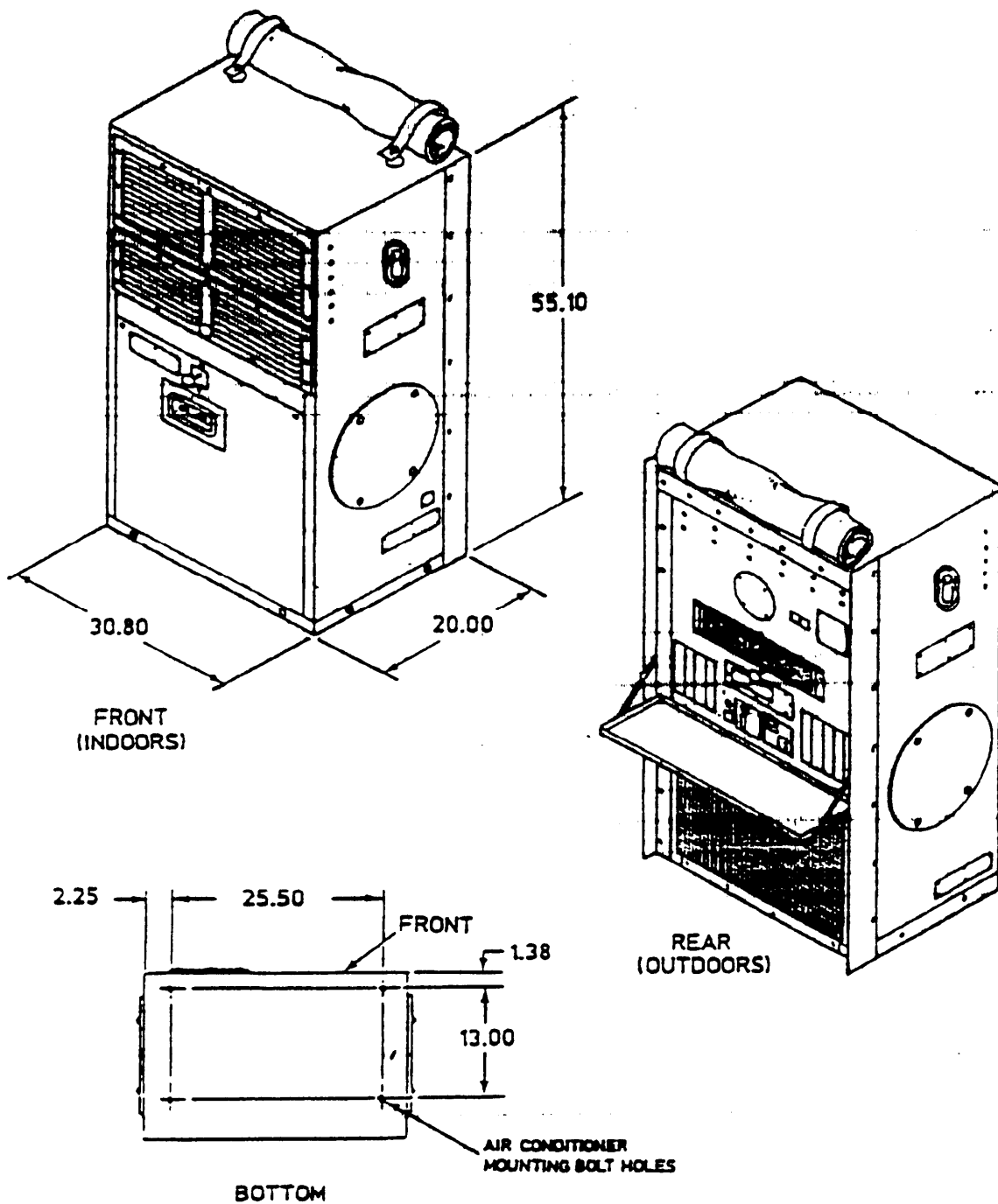


FIGURE 15. MPI, compact vertical (36,000 Btuh). (continued)

MIL-STD-1408B

AIR CONDITIONER: COMPACT, MPI, TYPE II (HORIZONTAL), SIZE B (18,000 BTUH)

1.	Military specification	MIL-A-53089	
2.	Top Assembly Drawing	TA13228E4200	
3.	Operating temperature range	Cooling: 0 to 120 °F Heating: -50 to 80 °F	
4.	Control	Internal or remotely mounted control panel	
5.	Mounting	Base mounted	
6.	Refrigerant	Monochlorodifluoromethane (R-22)	
7.	National stock number	To be assigned	
8.	Line item number	To be assigned	
9.	SSN	To be assigned	
10.	Rated cooling capacity	18,500 Btuh	
11.	Rated heating capacity	13,400 Btuh	
12.	Volts, AC	208/230	
	Phase	1/3	
	Frequency, Hz	50/60/400	
	Wires	5	
13.	Max power consumption	Cooling: 6.5 kW	Heating: 6.5 kW
14.	Minimum power factor	Cooling: 0.90	Heating: 1.00
15.	Starting current	Peak duration	
16.	Condition air flow at 0 inches wg	580 scfm	
17.	Gross weight (Max.)	290 lbs	
18.	Power connector supplied	A/C	MS3100R18-11P
		Mating	MS3106R22-22S

Figure 16. MPI, compact horizontal (18,000 Btuh).

MIL-STD-1408B

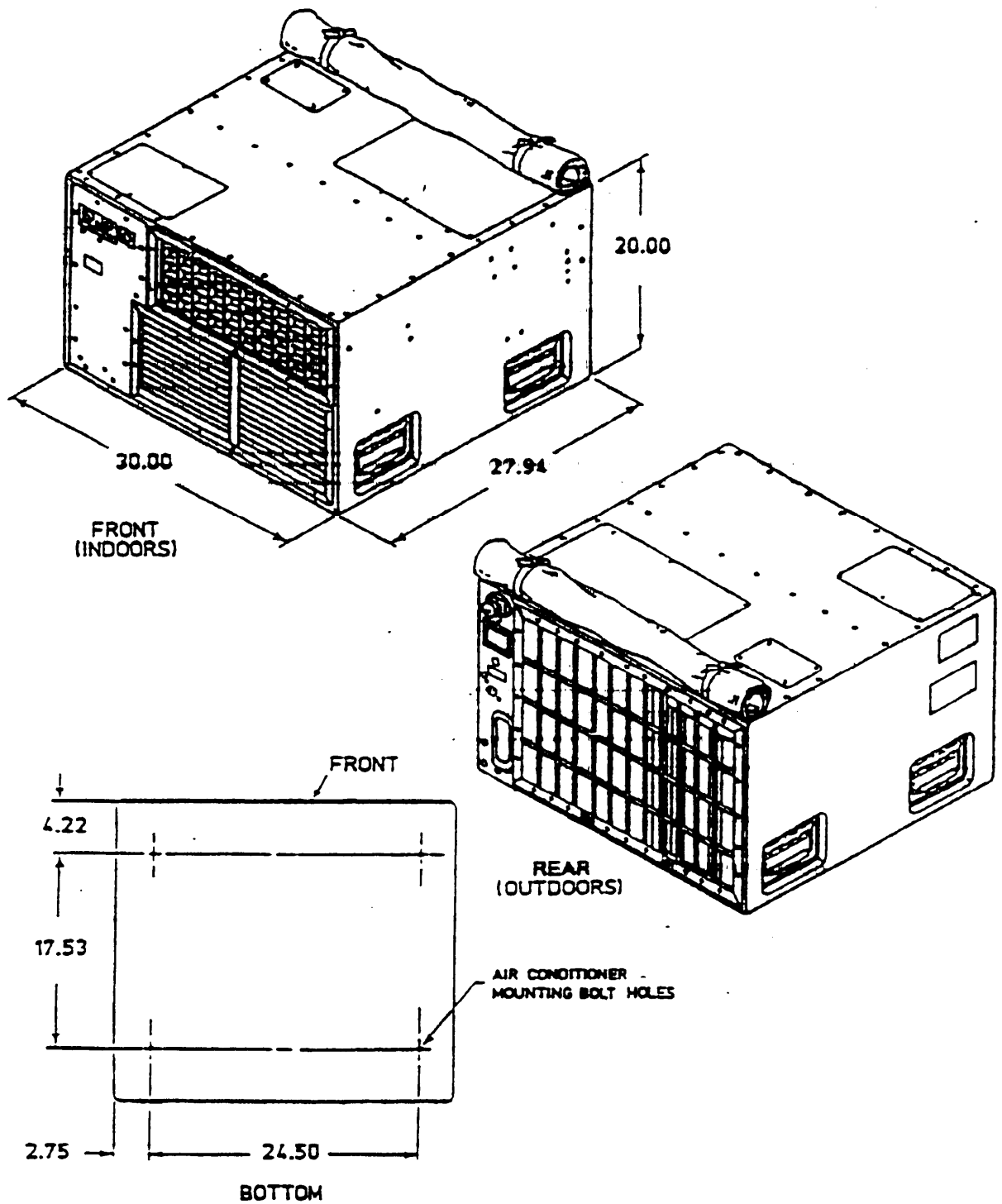


FIGURE 16. MPI, compact horizontal (18,000 Btuh). (continued)

MIL-STD-1408B

AIR CONDITIONER: COMPACT, MPI, TYPE II (HORIZONTAL), SIZE C (36,000 BTUH)

1.	Military specification	MIL-A-53089	
2.	Top Assembly Drawing	TA13228E6700	
3.	Operating temperature range	Cooling: -25 to 120 °F Heating: -50 to 80 °F	
4.	Control	Internal or remotely mounted control panel	
5.	Mounting	Base mounted; additional mounting at upper rear	
6.	Refrigerant	Monochlorodifluoromethane (R-22)	
7.	National stock number	4120-00-951-9697	
8.	Line item number	To be assigned	
9.	SSN	To be assigned	
10.	Rated cooling capacity	41,000 Btuh	
11.	Rated heating capacity	31,200 Btuh	
12.	Volts, AC	208	
	Phase	3	
	Frequency, Hz	50/60/400	
	Wires	5	
13.	Max power consumption	Cooling: 13.5 kW	Heating: 13.5 kW
14.	Minimum power factor	Cooling: 0.90	Heating: 0.90
15.	Starting current	Peak duration	105 Amps/5 sec.
16.	Condition air flow at 0 inches wg	1380 scfm	
17.	Gross weight (Max.)	435 lbs	
18.	Power connector supplied	A/C	Dwg 13229E6716-1 P/N SM3100R24-79P
		Mating	13229E6718-2

Figure 17. MPI, compact horizontal (36,000 Btuh).

MIL-STD-1408B

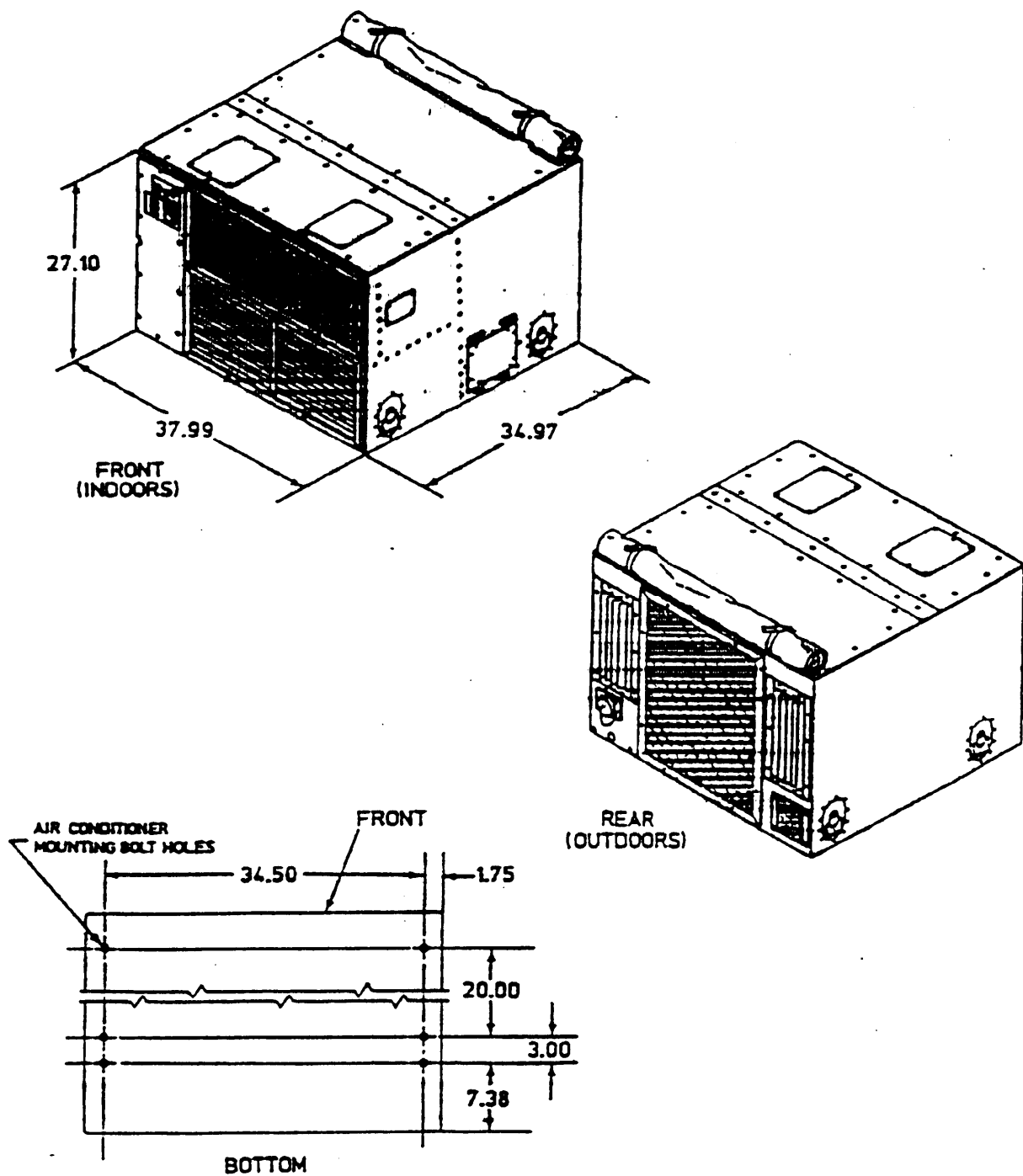


FIGURE 17. MPI, compact horizontal (36,000 Btuh). (continued)

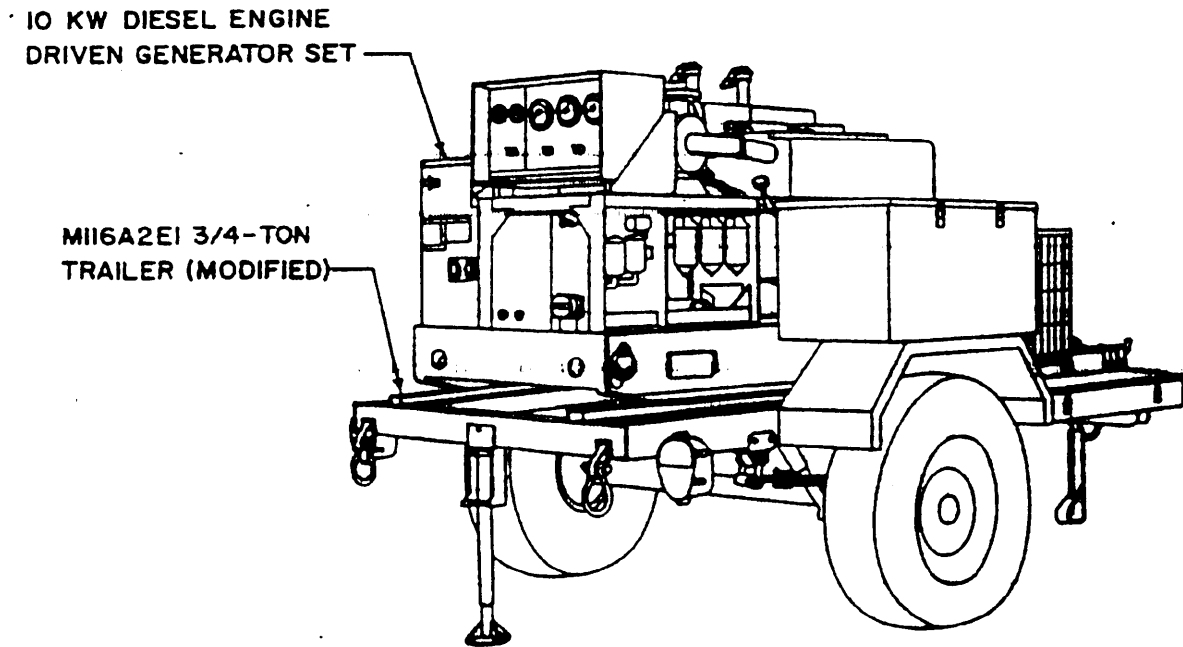
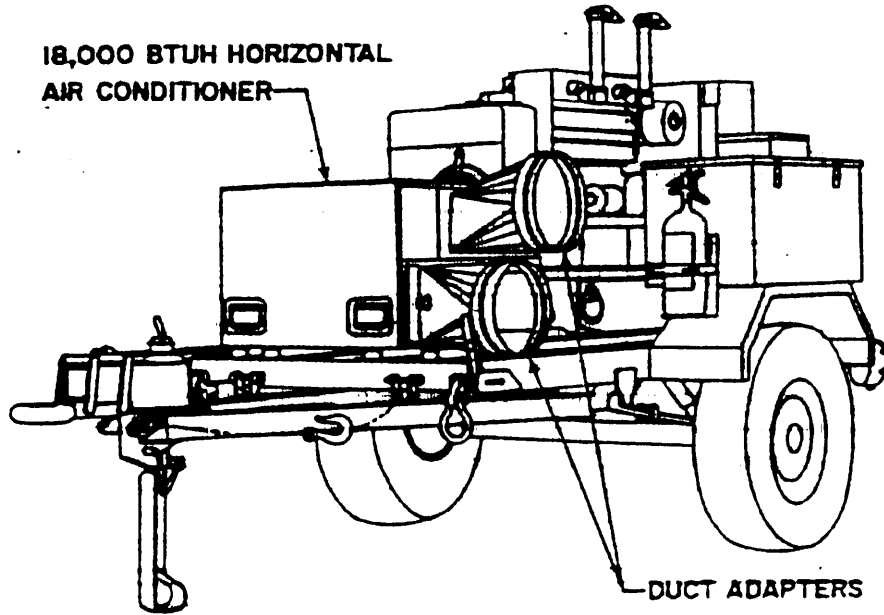
MIL-STD-1408B

AIR CONDITIONER: TRAILER MOUNTED, TYPE II (HORIZONTAL), SIZE B (18,000 BTUH)

1.	Military specification	MIL-A-52767
2.	Top Assembly Drawing	TA13229E8611
3.	Operating temperature range	Cooling: 0 to 125 °F Heating: -50 to 80 °F
4.	Control	Internal or remotely mounted control panel
5.	Mounting	Mounted on 2-wheel, 3/4 ton trailer
6.	Refrigerant	Monochlorodifluoromethane (R-22)
7.	National stock number	4120-00-930-5700
8.	Line item number	A26271
9.	SSN	M918
10.	Rated cooling capacity	18,000 Btuh
11.	Rated heating capacity	13,400 Btuh
12.	Volts, AC	208
	Phase	3
	Frequency, Hz	50/60
	Wires	4
13.	Power source	10 kW Generator Set, 4 Wires
14.	Starting current	Peak duration
15.	Gross weight (Max.)	2800 lbs
16.	Condition air flow at 0.0 inches wg	590 scfm
17.	Power connector	A/C Permanent connection

Figure 18. Trailer mounted, horizontal (18,000 Btuh).

MIL-STD-1408B



OVERALL DIMENSIONS: LENGTH—145.31 INCHES
WIDTH— 71.12 INCHES
HEIGHT— 67.75 INCHES WITHOUT REMOVABLE EXHAUST STACKS

FIGURE 18. Trailer mounted, horizontal (18,000 Btuh). (continued)

MIL-STD-14088

AIR CONDITIONER: DEPMED, DUCT TYPE, 54,000 BTUH (HORIZONTAL)

1.	Military specification	MIL-A-83216	
2.	Top Assembly Drawing	N/A	
3.	Operating temperature range	Cooling: 0 to 120 °F Heating: -50 to 80 °F	
4.	Control	Control panel mounted permanently on air conditioner	
5.	Mounting	Base mounted	
6.	Refrigerant	Monochlorodifluoromethane (R-22)	
7.	National stock number	4120-00-483-2880	
8.	Line item number	N/A	
9.	SSN	N/A	
10.	Rated cooling capacity	54,000 Btuh	
11.	Rated heating capacity	32,000 Btuh	
12.	Volts, AC	120/208	
	Phase	3	
	Frequency, Hz	50/60	
	Wires	4	
13.	Max power consumption	10 kW	
14.	Minimum power factor	N/A	
15.	Starting current	Peak duration	103 amps/phase
16.	Condition air flow at 0.25 inches wg		2200 scfm
17.	Gross weight (Max.)		920 lbs
18.	Power connector supplied	A/C	MS90558C32412P
		Mating	MS90558C32412S

Figure 19. DEPMED, 54,000 Btuh.

MIL-STD-1408B

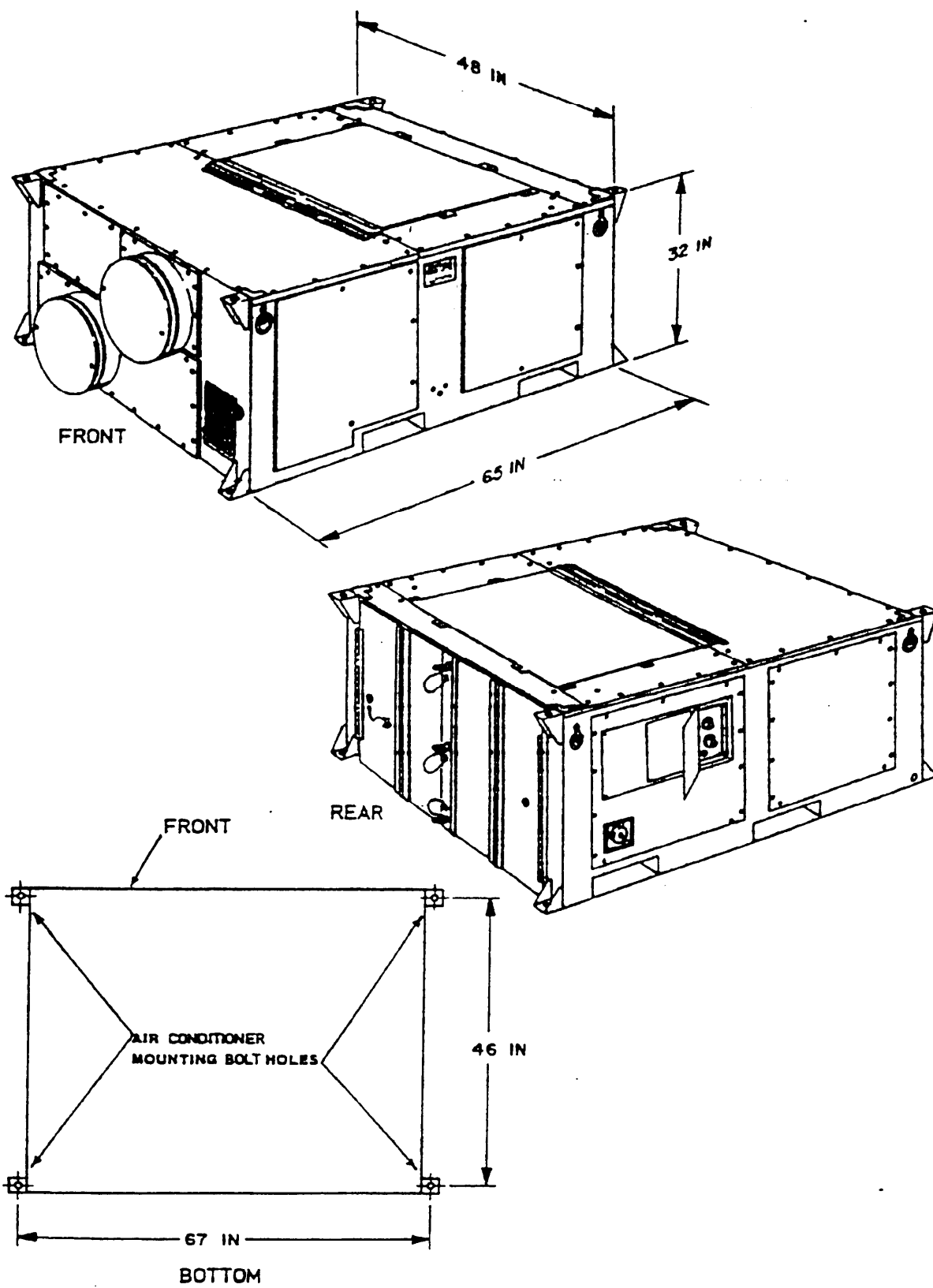


FIGURE 19. DEPMED, 54,000 Btuh. (continued)

MIL-STD-1408B

6. NOTES

(This section contains information of a general or explanatory nature that may be helpful, but is not mandatory.)

6.1 Intended use. This standard is intended for use in selecting air conditioning units to meet a defined need.

6.2 Subject term (key word) listing.

Compact, horizontal
Compact, vertical
Compact unit
Multipower
Split-package
Trailer mounted
6,000 Btuh
9,000 Btuh
18,000 Btuh
36,000 Btuh
60,000 Btuh

6.3 Changes from previous issue. Marginal notations are not used in this revision to identify changes with respect to the previous issue due to the extensiveness of the changes.

Custodians:
Army - ME

Preparing activity:
Army - ME

Review activities:
Army - EA, GL
Navy - MC
DLA - GS

Project 4120-1012

User activity:
Army - ER

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RECOMMEND A CHANGE:

 1. DOCUMENT NUMBER
MIL-STD-14068

 2. DOCUMENT DATE (YYMMDD)
920305

3. DOCUMENT TITLE

Air Conditioners, Standard Family of Military Air Conditioners, General Application Characteristics

4. NATURE OF CHANGE (Identify paragraph number and include proposed rewrite, if possible. Attach extra sheets as needed.)

REASON FOR RECOMMENDATION

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a. NAME (Last, First, Middle Initial)

b. ORGANIZATION

c. ADDRESS (Include Zip Code)

 d. TELEPHONE (Include Area Code)
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(if applicable)
(2) AUTOVON

7. DATE SUBMITTED

8. PREPARING ACTIVITY

a. NAME

Betty Taylor

 b. TELEPHONE (Include Area Code)
(1) Commercial
(703) 704-3466

 (2) AUTOVON
654-3466

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