

OO-A-373C  
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SUPERSEDING  
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May 25, 1984

FEDERAL SPECIFICATION

AIR CONDITIONERS, SINGLE PACKAGE TYPE

This specification is approved by the Commissioner, Federal Supply Service, General Services Administration, for the use of all Federal agencies.

1. SCOPE AND CLASSIFICATION

1.1 Scope. Space air conditioners covered by this specification are single package type units consisting of an air- or water-cooled condensing assembly and means for simultaneous air circulation, ventilation, air cleaning, cooling, and dehumidification. The air conditioners should incorporate heating facilities when required.

1.2 Classification. Air conditioners will be of the following types, styles, classes and capacity, arrangement, and mountings, as specified (see 6.2).

Type SP-A - Single-Package Air Conditioners, Air Cooled  
Type SP-W - Single-Package Air-Conditioners, Water Cooled  
Type SPY-A - Year-Round Single-Package air-Conditioner, Air cooled

Style A - Units with discharge plenum and grilles  
Style B - Units with connections for duct-work

Class 1 - Cooling capacity up to 60,000 British Thermal Units per hour (Btu/hr)  
Class 2 - Cooling capacity between 60,000 and 135,000 Btu/hr  
Class 3 - Cooling capacity between 135,000 and 1,260,000 Btu/hr

Beneficial comments (recommendations, additions, deletions) and any pertinent data which may be of use in improving this document should be addressed to: Commanding Officer (Code 156), Naval Construction Battalion Center, Port Hueneme, CA 93043-5000, by using the self-addressed Standardization Document Improvement Proposal (DD Form 1426) appearing at the end of this document or by letter.
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FSC 4120

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OO-A-373C

Arrangement - Indoor or outdoor

Mounting - Vertical or horizontal, roof, floor, slab or ground,  
or other

1.2.1 Part numbers. A part identification number (PIN) has been established. The PIN is made up of the document identifier and will be as follows:

	A373	-	X	-	X	-	X	-	X	-	X	-	XXX
Specification number													
Type code number (see 6.5)													
Style code number (see 6.5)													
Class code number (see 6.5)													
Arrangement Code Number (see 6.5)													
Mounting (see 6.5)													
Capacity in 1000 Btu/hr													

## 2. APPLICABLE DOCUMENTS

### 2.1 Government documents.

2.1.1 Specifications and standards. The following specifications and standards form a part of this specification 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 (see 6.2).

#### Federal Standard:

FED-STD-123 - Markings for Shipment (Civil Agencies)

(Activities outside the Federal Government may obtain copies of Federal specifications, standards, and commercial item descriptions as outlined under General Information in the Index of Federal Specifications, Standards, and Commercial Item Descriptions. The Index, which includes cumulative bimonthly supplements as issued, is for sale on a subscription basis by the Superintendent of Documents, U.S. Government Printing Office, Washington, DC 20402.)

(Single copies of this specification and other Federal specifications and commercial item descriptions required by activities outside the Federal Government for bidding purposes are available without charge from General Services Administration Business Service Centers in Boston, MA; New York, NY; Philadelphia, PA; Washington, DC; Atlanta, GA; Chicago, IL; Kansas City, MO; Fort Worth, TX; Houston, TX; Denver, CO; San Francisco, CA; Los Angeles, CA; and Seattle, WA.)

(Federal Government activities may obtain copies of Federal standardization documents, and the Index of Federal Specifications, Standards, and Commercial Item Descriptions from established distribution points in their agencies.)

OO-A-373C

Military Specifications:

- MIL-V-173 - Varnish, Moisture-and-Fungus-Resistant (For Treatment of Communications, Electronic, and Associated Equipment)
- MIL-R-3593 - Refrigeration and Cooling Equipment (Excluding Household Refrigerators), Packaging of

Military Standards:

- MIL-STD-129 - Markings for Shipment and Storage
- MIL-STD-461 - Electromagnetic Emission and Susceptibility Requirements for the Control of Electromagnetic Interference
- MIL-STD-462 - Electromagnetic Interference Characteristics Measurements of

(Copies of military specifications and standards required by contractors in connection with specific acquisition functions should be obtained from the procuring activity or as directed by the contracting officer.)

Federal Regulation:

Occupational Safety and Health Administration (OSHA)

Title 29, Code of Federal Regulations, Chapter XVII; Part 1910  
Occupational Safety and Health Standards.

(Application for copies should be addressed to the Superintendent of Documents, U.S. Government Printing Office, Washington, DC 20402.)

2.2 Other publications. The following documents form a part of this specification to the extent specified herein. Unless a specific issue is identified, the issue in effect on date of invitation for bids or request for proposal should apply.

Air Conditioning and Refrigeration Institute (ARI)

- ARI 210 - Standard for Unitary Air-Conditioning Equipment
- ARI 270 - Standard for Sound Rating of Outdoor Unitary Equipment
- ARI 360 - Standard for Commercial and Industrial Unitary Air-Conditioning Equipment

Directory of Certified Sound-Rated Outdoor Equipment.  
Directory of Certified Unitary Air-Conditioners

(Application for copies should be addressed to the Air Conditioning and Refrigeration Institute, 11501 Wilson Boulevard, Arlington, VA 22209.)

American Society of Heating, Refrigerating and  
Air-Conditioning Engineers (ASHRAE)

No. 15 - Safety Code for Mechanical Refrigeration

OO-A-373C

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

ASTM

- ASTM B 117 - Standard Method of Salt Spray (Fog) Testing
- ASTM D 247 - Standard Method for Testing Coated Metal Specimens at 100 Percent Relative Humidity
- ASTM F 1040 - Filter Units, Air Conditioning: Viscous - Impingement and Dry Types (Replaceable)

(Application for copies should be addressed to the ASTM, 1916 Race Street, Philadelphia, PA 19103.)

National Electrical Manufacturers Association (NEMA)

- NEMA ICS 1 - General Standards for Industrial Controls and Systems
- NEMA ICS 2 - Industrial Control Devices, Controllers and Assemblies
- NEMA ICS 6 - Enclosures for Industrial Controls and Systems
- NEMA MG 1 - Motors and Generators

(Application for copies should be addressed to the National Electrical Manufacturers Association, 2101 L Street, N.W., Washington, DC 20037.)

National Fire Protection Association (NFPA)

- NFPA 70 - National Electrical Code

(Application for copies should be addressed to the National Fire Protection Association, Batterymarch Park, Quincy, MA 02269.)

Underwriters Laboratories Inc. (UL)

- UL 465 - Standard for Safety - Central Cooling Air Conditioners
- UL 484 - Electrical Appliance and Utilization Equipment Directory

(Application for copies should be addressed to the Underwriters Laboratories Inc., 333 Pfingsten Road, Northbrook, IL 60062.)

(Non-Government standards and other publications are normally available from the organizations which prepare or that distribute the documents. These documents also may be available in or through libraries or other informational services.)

2.3 Order of precedence. In the event of a conflict between the text of this specification and the references cited herein (except for associated detail specifications, specifications sheets or MS standards), the text of this specification takes precedence. Nothing in this specification, however, supersedes applicable laws and regulations unless a specific exemption has been obtained.

OO-A-373C

### 3. REQUIREMENTS

3.1 Standard commercial product. The air-conditioning unit (referred to herein as "unit") shall, as a minimum, be in accordance with the requirements of this specification and shall be the manufacturer's standard commercial product. Additional or better features which are not specifically prohibited by this specification but which are a part of the manufacturer's standard commercial product, shall be included in the air-conditioning unit being furnished. A standard commercial product is a product which has been sold or is being currently offered for sale on the commercial market through advertisements or manufacturer's catalogs, or brochures, and represents the latest production model.

3.2 System of measurement. The dimensions used in this specification are not intended to preclude the use of the metric system of measurement in the fabrication and production of the material, individual parts, and the finished product, provided form, fit, and function requirements are satisfied.

3.3 Materials. Materials used shall be free from defects which would adversely affect the performance or maintainability of individual components or of the overall assembly. Materials not specified herein shall be of the same quality used for the intended purpose in commercial practice. Unless otherwise specified herein, all equipment, material, and articles incorporated in the work covered by this specification are to be new and fabricated using materials produced from recovered materials to the maximum extent possible without jeopardizing the intended use. The term "recovered materials" means materials which have been collected or recovered from solid waste and reprocessed to become a source of raw materials, as opposed to virgin raw materials. Unless otherwise specified, none of the above shall be interpreted to mean that the use of used or rebuilt products are allowed under this specification.

3.4 Description. The air-conditioning unit shall be a single package type, consisting of one or more factory-made assemblies combined into a single package, and shall be rated, tested and certified, where applicable, in accordance with ARI Standards. The unit shall mainly consist of expansion device(s), evaporator or cooling coil(s), compressor(s), condenser(s), air moving and filtering equipment and cabinet. Where applicable, the unit may also include a heating function. The unit shall be completed with all necessary valves, tubing, piping, motors, wiring, controls, accessories for a complete and operating unit. The unit shall be factory charged with refrigerant and oil. The basic unit shall be completely assembled and ready for operation when shipped from the factory. Field installation shall require only setting in place and connection to ducts, electrical power, water, heating source, conditioned space controls, and drains as required. Field installation of operating controls and accessories as required herein, is permitted.

#### 3.4.1 Types.

3.4.1.1 Type SP-A. Type SP-A units shall be suitable for outdoor, or indoor installation within a conditioned space as specified (see 6.1.1 and 6.2).

## OO-A-373C

3.4.1.2 Type SP-W. Unless otherwise specified (see 6.1.2 and 6.2). Type SP-W units shall be suitable for indoor installation. The unit shall be designed for use either with city water, cold well water, or a cooling tower water system, and shall be capable for handling a range in water pressure between 30 pound-force per square inch (psi) and 75 psi.

3.4.1.3 Type SPY-A. Unless otherwise specified (see 6.1.3 and 6.2). Type SPY-A units shall be suitable for outdoor installation and have provisions for hot water, steam, gas, or electric heating with heating capacity in Btu/hr kilowatt (kW) as specified (see 6.1.3 and 6.2).

### 3.4.2 Styles.

3.4.2.1 Style A. Style A units shall provide free delivery of air to the conditioned space and shall be equipped with a plenum chamber and grilles (see 6.1.4 and 6.2).

3.4.2.2 Style B. Style B units shall have provisions for connecting the unit to a duct system (see 6.1.5 and 6.2).

3.5 Identification marking. Identification shall be permanently and legibly marked directly on the air-conditioning unit or on a corrosion-resisting metal plate securely attached to the air-conditioning unit at the source of manufacturer. Identification shall include the manufacturer's model and serial number, name and trademark to be readily identifiable to the manufacturer.

3.6 Codes and standards. The air conditioner shall conform to requirements of UL 465, UL 484, ARI 270, ARI 210, and ARI 360 as applicable.

3.6.1 Compliance. Prior to approval of the first shipment, the contractor shall submit for the approval of the contracting officer, or his authorized representative, satisfactory evidence that the air conditioner he proposes to furnish under this specification meets the requirements of UL 465, UL 484, ARI 270, ARI 210, and ARI 360 as applicable.

3.6.1.1 UL for unitary air-conditioning equipment. Acceptable evidence of meeting the requirements of UL shall be the UL listing mark, a listing in the UL Electrical Appliance and Utilization Equipment Directory or American Gas Association listing mark (for SPY-A gas units only), or a certified test report (see 6.3), from a recognized independent testing laboratory, acceptable to the Government, indicating the air conditioner has been tested and conforms to UL 465.

3.6.1.2 ARI 270 for units less than 135,000 Btu/hr. Acceptable evidence of meeting the requirements of ARI 270 will be the certification symbol or a listing in the ARI Directory of Certified Sound-Rated Outdoor Unitary Equipment or a certificate of compliance (see 6.3) from a recognized independent testing laboratory acceptable to the Government. Indicating the air conditioner has been tested and conforms to ARI 270.

OO-A-373C

3.6.1.3 ARI 210 standard ratings for unitary air-conditioning equipment less than 135,000 Btu/hr. Acceptable evidence of meeting the requirements of ARI 210 will be the certification symbol or a listing in the ARI Directory of Certified Unitary Air-Conditioning Equipment or a certificate of compliance (see 6.3) from a recognized independent testing laboratory acceptable to the Government, indicating the air conditioner has been tested and conform to ARI 210.

3.6.1.4 ARI 360 standard ratings and application ratings for commercial and industrial unitary air-conditioning equipment over 135,000 Btu/hr. Acceptable evidence of meeting the requirements of the manufacturer's published standard and application ratings in accordance with ARI 360 shall be a certificate of compliance (see 6.3) by the manufacturer indicating the air conditioner has been tested based on data determined by methods of testing and limits prescribed in ARI 360 and conform to the manufacturer's published ratings based on data determined by methods of testing and limits prescribed in ARI 360.

3.6.1.5 Design conditions. For heat loads under 135,000 Btu/hr ARI 210 standard rating for temperatures (see 6.10) shall govern and no other source shall be used. For loads over 135,000 Btu/hr ARI 360 standard rating temperatures or application rating temperatures and air quantity shall be used as specified (see 6.2, 6.1.6, and 6.1.8).

3.7 Interchangeability. All units of the same classification furnished with similar options under a specific contract shall be identical to the extent necessary to insure interchangeability of component parts, assemblies, accessories, and spare parts.

3.8 Ease of maintenance. The air conditioners shall be designed and constructed so that normal adjustments, repair, and overhaul can be readily accomplished by means of general purpose tools with a minimum removal or disturbance of other elements of the unit. Covers or plates that must be removed for component adjustment or for parts removal shall be equipped with substantial fastening devices actuated by general purpose tools.

3.9 Construction. Conditions which can be hazardous to personnel or deleterious to equipment shall not be permitted.

3.10 Component parts.

3.10.1 Enclosure. The enclosure shall be constructed of reinforced sheet metal suitable for installation in interior or exterior locations as required by UL 465. Unless otherwise specified (see 6.2), interior located units shall be suitable for exposed installation in an office space. The enclosure design shall include mechanical features which shall be suitable for floor, ceiling, roof mounting, or other installation methods as specified (see 6.2).

3.10.1.1 Plenums, grilles, and duct connections. Plenums, grilles (Style A), and duct connections (Style B) shall be furnished to harmonize with the cabinet. Outlet grilles, which required, shall be constructed to permit adjustable directional air flow in both horizontal and vertical planes.

3.10.1.2 Provisions for ventilation air. When specified (see 6.2), knock-out plates or similar provisions for introducing outside air to the return air side of the unit shall be provided.

OO-A-373C

3.10.1.3 Roof mounting. When specified (see 6.2), roof mounted units shall be provided with matching roof mounting frames for the style unit specified herein. Units less than 60,000 Btu/hr may be mounted on matching roof frames or on steel sleepers on the roof with ducts extended through the roof.

3.10.1.4 Insulation. Units to be located within conditioned spaces (see 3.4.1.1 and 3.4.1.2) shall have the interior of the enclosure insulated. All other units shall have all conditioned air sections insulated. Insulation shall be glass fiber, or other suitable material acceptable to UL 465, properly secured to the inside of the metal housing. Insulation shall be of suitable thickness to meet the requirements of 3.13.9.

3.10.1.5 Duct adapters. Duct openings to the outside shall be provided with screens not more than 1/2-inch mesh or equipment openings on the weather side. Provisions shall be made for draining or excluding rain water to prevent its entrance into the unit or room.

3.10.2 Compressor. Unless otherwise specified (see 6.2), compressor shall be hermetically or semihermetically sealed. The compressor shall be mounted with means for vibration isolation. All moving compressor parts shall be oiled automatically and provisions shall be made to return oil from suction lines to housing or crankcase. As many as four compressors may be used but not more than two may be in parallel. For units over 240,000 Btu/hr with multiple compressors, there shall be a time delay or other means to sequence the starting of the compressors, and a multiple stage thermostat to control the number of compressors operating. Lead-lag sequencing shall not be used on stacked evaporator circuits with units less than 240,000 Btu/hr. Provisions shall be made to protect the compressor against damage caused by liquid entering the suction side of the compressor.

3.10.3 Condensing section.

3.10.3.1 Air-cooled condensers for type SP-A and type SPY-A. Unless otherwise specified (see 6.2), air-cooled condensers shall be finned tube construction consisting of seamless copper or aluminum tubes with copper or aluminum fins. Fins shall be bonded to tubes and installed in a metal casing. Coils, fittings, and joints shall meet the requirements for pressures of the refrigerant employed in the system and be in accordance with the referenced standards in ARI 210 or ARI 360 as applicable. When specified (see 6.2), for units 135,000 Btu/hr and over, the condensers coils shall provide not less than 10 degree Fahrenheit (oF) liquid subcooling.

3.10.3.2 Water-cooled condensers for type SP-W. Unless otherwise specified (see 6.2), water-cooled condensers shall be shell and tube, shell and coil, or concentric tube consisting of nonferrous metal may be used in the shell and tube heat exchanger. Soft solder containing tin shall not be permitted in the construction of the water circuit. The capacity rating of the condenser shall include a waterside fouling factor of not greater than 0.001 deg.F hr square foot/Btu. Quality of water available for cooling (hardness, total dissolved solids and pH) shall be as specified (see 6.2). A condenser water regulating valve shall be provided. The condenser shell shall be designed in accordance with referenced standards in ARI 210 and ARI 360 as applicable. Provisions



OO-A-373C

shall be made for venting and completely draining the water side. When specified (see 6.2) for units 135,000 Btu/hr and over, the condenser coils shall provide not less than 10 deg.F liquid subcooling at standard rating.

3.10.4 Condenser-receiver or receiver. The condenser-receiver shall have sufficient capacity to receive the charge (see 3.11 and 3.11.1). For units over 135,000 Btu/hr and when the temperature of the refrigerant is 90 deg.F and higher, the liquid shall not occupy more than 80 percent of the volume of the vessel.

3.10.5 Cooling (evaporator) coil. The cooling coil shall be finned tube construction, consisting of nonferrous metal tubes and nonferrous metal fins bonded to the tubing. Fittings and joints shall be brazed or welded. When specified (see 6.2 and 6.1.7), cooling coil shall be all copper or all aluminum.

3.10.6 Heating. Type SPY-A units shall be provided with a steam or hot water heating coil or gas heating, or an electric open coil, strip tubular, or fin tubular heater as specified (see 1.2, 6.1.3 and 6.2). Electric tubular heaters shall have alloy sheaths, or sheaths treated to prevent corrosion. Steam or hot water heating coils shall be of finned-tube construction consisting of nonferrous metal fins securely bonded to the tubing and designed to withstand not less than 100 pound-force per square inch gage (psig) at 400 deg.F for steam and 100 psig at 220 deg.F for hot water. Electric and gas heaters shall conform to the requirements of the reference standards in ARI 210 or ARI 360 as applicable except that safety requirements for heating functions as prescribed in ARI 210 and ARI 360 shall be mandatory instead of highly recommended. Acceptable evidence that electric heaters meet the reference standards shall be the UL listing mark, or a certified test report from a recognized independent testing laboratory which tests in accordance with UL standards. Acceptable evidence that gas heaters meet the referenced standards shall be the American Gas Association Laboratories Certification seal on the unit as a whole, not just the heater section. Gas heaters shall be indirect type, positive venting and shall have electric spark igniter with safety pilot or hot surface ignition and limited switches. The combustion chambers and heat exchangers shall be corrosion resistant. The seams shall be gas-tight. The average heat transfer rate shall not exceed the allowable heating element temperature rise specified in the referenced standards of ARI 210 or ARI 360 as applicable. Heaters shall be an integral part of the unit.

3.10.7 Condensate disposal pan and drain. Condensate disposal pan shall be provided under the evaporator. Drains shall be provided from the pan where means are not available for complete condensate disposal into the air stream. The pan shall either be constructed of corrosion-resisting material, or coated with at least 1/16-inch thick waterproof corrosion-resistance material, or made of reinforced plastic of at least 1/8-inch thick.

3.10.8 Fans and blowers. For outdoor units less than 135,000 Btu/hr, propeller fans, centrifugal blowers, and compressors shall have a Noise Rating (NRARI) not greater than 8.8 as rated in accordance with ARI 270. Acceptable

OO-A-373C

evidence of meeting this rating shall be the ARI certification symbol and a listing in ARI Directory of Certified Sound-Rated Outdoor Unitary Equipment. Air flow ratings shall be established in accordance with ARI 210 or ARI 360 as applicable. Fans and blowers shall be adequately secured to shafts. Bearings shall be self-oiling with adequate oil reservoirs or permanent life-lubricated ball bearings. Oil or grease fittings, when used, shall be readily accessible upon removal of the service panel. When the fan or blower is belt driven, the motor shall be provided with an adjustable base and guard conforming to OSHA 1910.219 or enclosed in the unit casing. Where the fan or blower motor is exposed to condensate drip, proper protection shall be provided. The direction of rotation shall be clearly and permanently marked on each fan and fan housing.

All centrifugal blowers shall be statically and dynamically balanced, and shall be supported by at least two self-aligning bearings.

3.10.8.1 Condenser fans or blowers. Condenser fan shall be the propeller type or centrifugal blower type at the option of the contractor, except blowers shall be used for air conditioners requiring duct connections for supplying outside air to cool the condenser. Propeller fans shall be designed for low tip speed. Condenser blowers for duct connections shall be designed to operate against a static pressure as specified (see 6.2).

3.10.8.2 Evaporator blowers. Evaporator blower(s) shall be the centrifugal type.

3.10.9 Drier and strainer. A filter drier shall be provided in the liquid line when specified (6.2). A strainer shall be installed in the refrigerating circuit.

3.10.10 Air filters. Unless otherwise specified (see 6.2), air filters shall be provided and arranged to filter all ventilation or recirculation air before its entrance into the evaporator-blower unit. Unless otherwise specified (see 6.2), filters shall conform to the requirements of ASTM F 1040. The direction of air flow shall be clearly and permanently marked on the filter frame.

3.10.11 Crankcase heaters. When specified (see 6.2), means shall be provided for heating the compressor crankcase during "OFF" cycles for all units to minimize liquid foaming, and prevent consequent liquid slugging under compressor starting conditions caused by retention of refrigerant by the oil in the compressor. Crankcase heaters shall be readily replaceable from the exterior without breaking the refrigerant seal. Internal crankcase heaters may use motor windings as heaters.

3.10.12 Lifting attachments. Means shall be provided to enable equipment to be lifted in its normal position as recommended by the manufacturer. Attachments shall withstand any handling conditions encountered, such as rapid lowering and braking of the load. When practicable, only one attachment shall be used. Where more than one is required, each attachment, when applicable, shall be of sufficient capacity to carry the total weight. Information as to the lifting capacity of each attachment shall be stenciled with a contrasting color enamel in a suitable location near the attachment. The letters and numbers comprising the data shall be at least 1/2-inch in height. Spreader bars shall be provided by the installer.

OO-A-373C

3.11 Refrigeration system. The refrigeration system and all component parts, including valves, shall conform to ASHRAE No. 15 and UL 465 or UL 484, as appropriate. If more than one refrigerant circuit is supplied, each circuit shall be completely isolated from the other circuit(s). Gage ports or charge valves shall be provided for routine and periodic pressure testing of the system and for field charging and removing of refrigerant. The refrigerant circuit(s) shall be dried, evacuated, and precharged with the refrigerant charge of the type for use in service. A complete charge of refrigerant oil shall be provided within the compressor crank case at the factory. The various components of the air conditioning system shall show a leakage of refrigerant not to exceed 1/2-ounce per unit per year. No alcohol or other additives shall be used in the circuit. If total capacity of refrigerant charge exceeds Interstate Commerce Commission restrictions, a holding charge may be substituted.

3.11.1 Refrigerant. Unless otherwise specified (see 6.2), the refrigerant in the unit shall be refrigerant R22 (CHClF<sub>2</sub>) or other refrigerants allowed by UL 465 or UL 484, as appropriate.

3.11.2 Expansion control device. An expansion valve, capillary tubes or orifice shall be required on all air conditioners rated at 60,000 Btu/hr or less. Unless otherwise specified (see 6.2), for units over 60,000 Btu/hr, the manufacturer's standard device for obtaining the refrigeration effect shall be furnished. Capillary tubes and expansion valves installed in refrigerant circuits shall be such that the compressor does not show signs of refrigerant flood back on rated low operating temperature. When capillary device is used, a filter-drier shall be located upstream of the capillary device.

3.11.3 Tubing and piping. Tubing and piping connections shall be arranged in a manner that does not impair the vibration-isolation properties of absorption type mounts. All tubing and piping shall be securely supported to minimize strain and vibration. Unless otherwise specified (see 6.2 and 6.8), joints and threaded joints shall meet the requirements of UL 465.

3.12 Electrical equipment. Electrical equipment shall conform to UL 465 or UL 484, as appropriate. Control panel shall be unit mounted or for remote mounting, and of NEMA ICS 6, Type 1 or Type 12 enclosure, as specified (see 6.2).

3.12.1 Motors and motor starters. Motors and overload protection shall have the electrical characteristics as specified (see 6.2). Motors shall be furnished for the explicitly voltage specified herein. Motors shall conform to NEMA MG-1. Motor starters shall conform to NEMA ICS 1, NEMA ICS 2, NEMA ICS 6 and when specified (see 6.2 and 6.6), shall be of the reduced voltage type. High pressure protection for hermetic motor-compressor units shall conform to the requirements of reference standards of ARI 210 and ARI 360, as applicable. When specified (see 6.2), motors and motor starters shall have sealed windings.

3.12.2 Safety protection. A high-limit pressure protection and low-limit pressure protection (or a dual pressure control) shall be used to limit pressures on the discharge side and the suction side, respectively, of the

OO-A-373C

compressor. For units less than 135,000 Btu/hr in lieu of a low limit pressure switch a built-in thermostat in the compressor's motor windings or other means such as amperes drawn may be used.

3.12.3 Operating controls. Manual and automatic controls, factory wired and accessible for service and inspection, shall be provided except for thermostats.

The control system shall permit operation either of the blower only or of the blower and refrigeration equipment simultaneously. When heating equipment is specified herein, a control system shall be installed for operating blowers and heating equipment simultaneously. When required, the control system shall provide means for single or multistage operation of heating and of cooling equipment including single and multizone equipment. Unless otherwise specified (see 6.2), connections shall be provided for connecting low voltage wiring (30 volts or less) for a remote thermostat to the unit for controlling the conditioned air.

3.12.4 Electrical resistance heater control. When electrical resistance heaters is provided integral with the air-conditioning unit, electric heaters shall be electrically wired in accordance with UL 465 or UL 484 as appropriate (see 3.10.6 and 6.2), or NFPA No. 70, as applicable; and controlled in one step or more steps. No single step shall produce a temperature rise in the discharge air greater than 35 deg.F.

3.12.5 Wiring. Wiring shall be factor-completed within each unit and shall include the wiring to all cabinet enclosed controls in accordance with UL 465 requirements, and NFPA No. 70.

### 3.13 Performance.

3.13.1 Cooling capacity. At a power input of not more than 105 percent of the voltage specified herein, the Btu/hr cooling capacity specified herein (see 1.2 and 6.2) shall be not less than 95 percent of the rated capacity. For units under 135,000 Btu/hr, the rated capacity including motor heat mixed with chilled air shall be the standard rating in the ARI Directory of Certified Unitary Air-Conditioners. For units 135,000 Btu/hr and over the rated capacity shall be the manufacturer's published rating, either standard rating or application rating specified in 3.6.1.5, as applicable in accordance with ARI 360.

3.13.2 Sensible cooling effect. The room sensible cooling effect (see 6.7) shall be not less than 60 percent of the total cooling effect in accordance with ARI 210 and ARI 360, as applicable.

3.13.3 Seasonal energy efficiency ratio (SEER) and energy efficiency ratio (ERR). The units shall have a minimum SEER or EER as specified (see 6.1.8, 6.2, and 6.10).

3.13.4 Air flow rate. For standard ratings, the air quantities circulated through the air conditioning system as required in ARI 210 and ARI 360. For application ratings see 3.6.1.5.

3.13.5 Locked-rotor current. The total locked-rotor current of the hermetic motor compressors designed to start simultaneously by the controls provided, is

OO-A-373C

the sum of the locked-rotor currents of the individual motors. The locked-rotor current shall be not greater than the name plate locked-rotor current as determined in UL 465.

3.13.6 Maximum operating conditions. The unit shall operate continuously without damage to the motors, other electrical parts or wiring because of overheating, and without damage to any other component from any operational cause under the maximum operating conditions specified in ARI 210 or ARI 360, an applicable and without interruption cause by tripping of the motor overload protective devices. During the first five minutes after an overload shutdown period, the interruption of the operation of any motor caused by tripping of its motor overload protective device, will be permitted. Type SP-W units shall be capable of operation under these maximum conditions at a water pressure drop not to exceed 15 psi measured across the unit.

3.13.7 Low temperature conditions. The unit shall operate without damage to the equipment. Frost or ice shall not form on the cooling coil to the extent specified in ARI 210 or ARI 360 as applicable. During low temperature operation and during the defrosting period after completion of the low temperature operation, all ice of meltage must be caught by the condensate collection pan, and either dissipated into the condenser air stream or disposed by the drain.

3.13.8 Condensate disposal. For Type SP-A and SPY-A units less than 135,000 Btu/hr which reject condenser air, there shall be no dripping, running-off, or blowing-off of moisture from the unit when controls and dampers are set to produce condensate at the maximum rate.

3.13.9 Insulation efficiency. For units less than 135,000 Btu/hr condensate water shall not drip, run, or blow-off the outer surfaces of the unit when controls, fans, dampers, and grilles are set to produce the maximum tendency to sweat to the extent specified in ARI 210.

3.13.10 External resistance for Style B units. Unless otherwise specified (see 6.2), when delivering the rated capacity and air quantity specified herein, the air conditioner shall be designed to work against the minimum external resistance as noted in ARI 210 and ARI 360, as applicable. The external resistance for style B units so noted shall be available for the duct system with all the specified equipment for the air conditioner in place.

3.13.11 Heating capacity. The Btu/hr heating capacity shall be not less than specified in 3.4.1.3 with applicable design temperatures, pressures, and voltage as specified in 3.10.6 (see 6.1.3).

3.13.12 Low voltage start. The compressor motors shall start at 10 percent low voltage as prescribed in ARI 210 and ARI 360 as applicable.

3.14 Corrosion protection. All materials in the air conditioners shall be so constructed that the units can meet the requirements of UL 465 for corrosion protection. When finishes of 3.14.1 and 3.14.2 are required, acceptable evidence of meeting the requirements shall be a Certificate of Compliance by manufacturer indicating that all the finishes of the unit have been tested and do conform to the referenced standards based on data determined by the methods prescribed in the referenced standards.

OO-A-373C

3.14.1 Indoor components. When specified (see 6.2 and 6.1.7), indoor components having factory finish applied in accordance with 3.15, as well as hardware (fasteners), shall withstand 125 hours of 100 percent relative humidity at 70 deg.F to 80 deg.F per ASTM D 2247.

3.14.2 Outdoor components. When specified (see 6.2), outdoor components having factory finish applied in accordance with 3.15, as well as hardware (fasteners) shall withstand salt spray per ASTM B 117 at dry bulb temperature of 97 deg.F +/- 2 deg.F for 125 hours or 500 hours, as specified (see 6.2 and 6.1.7).

3.15 Treatment and painting. Unless otherwise specified (see 6.2), the air conditioner shall be treated and painted in accordance with the manufacturer's standard practice. All surfaces of the air conditioner, other than corrosion-resisting steel, shall be protected against corrosion and present a neat appearance.

3.16 Identification marking. Equipment, assemblies, and parts shall be marked for identification in accordance with the applicable provision of the marking requirements in UL 465.

3.17 Lubrication. All moving parts of the unit normally requiring lubrication, except life-lubricated bearings shall have means provided for such lubrication. Lubrication shall be in accordance with the equipment manufacturer's recommendations and shall be compatible with lubricants specified herein. Pressure lubrication shall not damage seals or other parts. All parts requiring lubrication shall be lubricated as specified in section 5 prior to delivery and tagged to show the type and temperature rating of the lubricant used (see 6.9).

3.18 Electromagnetic interference suppression. When specified (see 6.2), the air conditioner shall be designed and equipped for electromagnetic interference in accordance with class 3, group I equipment of MIL-STD-461 (see 4.3.1).

3.19 Fungus resistance. When specified (see 6.2), electrical components and circuit elements, including terminal and circuit connections, shall be coated with varnish conforming to MIL-V-173, except that:

a. Components and elements inherently inert to fungi or in hermetically sealed enclosures need not be coated.

b. Current-carrying contact surfaces, such as relay contact points, shall not be coated.

3.20 Workmanship.

3.20.1 Castings. All castings shall be sound and free from patching, misplaced coring, warping, or any other defect which reduces the castings ability to perform its intended function.

3.20.2 Bolted connections. Bolt holes shall be accurately punched or drilled and shall have the burrs removed. Washers or lockwashers shall be provided in accordance with good commercial practice, and all bolts, nuts, and screws shall be tight.

OO-A-373C

3.20.3 Riveted connections. Rivet holes shall be accurately punched or drilled and shall have the burrs removed. Rivets shall be driven with pressure tools and shall completely fill the holes. Rivet heads, when not countersunk or flattened, shall be of approved shape and of uniform size for the same diameter of rivet. Rivet heads shall be full, neatly made, concentric with the rivet holes, and in full contact with the surface of the member.

3.20.4 Welding. Welding procedures shall be in accordance with a nationally recognized welding code. The surface of parts to be welded shall be free from rust, scale, paint, grease, or other foreign matter. Welds shall be of sufficient size and shape to develop the full strength of the parts connected by the welds. Welds shall transmit stress without permanent deformation or failure when the parts connected by the weld are subjected to proof and service loadings.

3.20.5 Steel fabrication. The steel used in fabrication shall be free from kinks, sharp bends, and other conditions which would be deleterious to the finished product. Manufacturing processes shall not reduce the strength of the steel to a value less than intended by the design. Manufacturing processes shall be done neatly and accurately. All bends shall be made by controlled means to insure uniformity of size and shape.

#### 4. QUALITY ASSURANCE PROVISIONS

4.1 Responsibility for inspection. Unless otherwise specified in the contract or purchase order, the contractor is responsible for the performance of all inspection requirements (examinations and tests) as specified herein. Except as otherwise specified in the contract or purchase order, the contractor may use his own or any other facilities suitable for the performance of the inspection requirements specified herein, unless disapproved by the Government. The Government reserves the right to perform any of the inspections set forth in the specification where such inspections are deemed necessary to ensure supplies and services conform to prescribed requirements.

4.1.1 Responsibility for compliance. All items shall meet all requirements of Sections 3 and 5. The inspection set forth in this specification shall become a part of the contractor's overall inspection system or quality program. The absence of any inspection requirements in the specification shall not relieve the contractor of the responsibility of ensuring that all products or supplies submitted to the Government for acceptance comply with all requirements of the contract. Sampling inspection, as part of manufacturing operations, is an acceptable practice to ascertain conformance to requirements, however, this does not authorize submission of known defective material, either indicated or actual, nor does it commit the Government to accept defective material.

4.1.2 Component and material inspection. Components and materials shall be inspected in accordance with all the requirements specified herein and in applicable referenced documents.

4.2 Examination. Each air conditioner shall be examined for compliance with the requirements specified in Section 3 of this specification. Any redesign or modification of the contractor's standard product to comply with specified

OO-A-373C

requirements, or any necessary redesign or modification following failure to meet specified requirements shall receive particular attention for adequacy and suitability. This element of inspection shall encompass all visual examinations and dimensional measurements. Noncompliance with any specified requirements or presence of one or more defects preventing or lessening maximum efficiency shall constitute cause for rejection.

4.2.1 Standards compliance. The contractor shall make available to the contracting officer or his authorized representative evidence of compliance with the applicable standard(s) cited in 3.6.1. The Government reserves the right to examine and test all air conditioning units to determine the validity of the certification.

4.3 Tests. The contractor shall have an established test system which shall assure compliance with the requirements of this specification and of the referenced standards. The system shall include the methods, procedures, controls, records, and maintenance of the system to provide verification of compliance with the requirements of this specification and of the referenced standards. For units less than 135,000 Btu/hr, the test shall have been mutually accepted between the contractor and the standards organizations.

4.3.1 Test electromagnetic interference suppression. When conformance to electromagnetic interference suppression limits is required, the first unit of production shall be tested in accordance with MIL-STD-462 to determine conformance to the electromagnetic suppression characteristics of 3.18. When suppressed to conform to 3.18 the contractor may, upon approval of the contracting officer, furnish a certificate of compliance in lieu of the test, together with a list of the suppression devices installed. The list shall be sufficiently detailed to allow visual determination that the devices are installed.

4.4 Preparation of delivery inspection. The inspection of the preservation, packing, and marking shall be in accordance with the quality conformance inspection of MIL-R-3593.

## 5. PACKAGING

5.1 Preservation, packaging, and packing. Preservation, packaging, and packing shall be in accordance with MIL-R-3593. The level of preservation and packaging and level of packing shall be as specified (see 6.2).

### 5.2 Marking.

5.2.1 Military agencies. Shipments to military agencies shall be marked in accordance with MIL-STD-129.

5.2.2 Civil agencies. Shipments to civil agencies shall be marked in accordance with FED-STD-123.

## 6. NOTES

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



## OO-A-373C

6.1 Intended use. This specification covers single package type air conditioners designed for a large office space or space consisting of several rooms with cooling capacity range from 1 ton to 75 tons. A general guide to selection of types and classes are as follows:

6.1.1 Type I. Type SP-A air conditioners are generally specified where condenser cooling water and drain facilities are not available.

6.1.2 Type II. Type SP-W air conditioners can be used in areas where there is a cooling tower or readily available water supply and drain facilities.

6.1.3 Type III. Type SPY-A air conditioners can be specified when heating of the space to be conditioned is required. Where not water, gas, electricity or steam is available for heating, the appropriate type of heating coil or heat exchanger can be specified. Steam and hot water heating on outdoor rooftop-mounted units are usually available in sizes 20-75 tons. Larger models and small models are usually available in gas or electric heat only. Indoor vertical self-contained units are usually available in 3-80 tons cooling capacity and have provisions for electric, steam, or hot water heating but not gas heating. For steam and hot water coils, the following information should be supplied:

- a. Velocity of air across coil face, feet/minute (ft/min) (m/min) - standard air.
- b. Entering the dry-bulb temperature, deg.F (Celsius (deg.C)).
- c. Water velocity range, ft/min (m/min) - hot water coil.
- d. Entering water temperature, deg.F (deg.C), - hot water coil.
- e. Steam pressure at coil, inlet, psi (kPa) - steam coil.
- f. Maximum superheat in steam at coil inlet; oF (deg.C), - steam coil.

6.1.4 Style A. Style A air conditioners can be specified where the conditioner can be discharged directly into the conditioned space. To accomplish this, the air conditioner must be located either within the conditioned space, adjacent to the space, or on the roof over the space.

6.1.5 Style B. Style B unit can be specified where duct work is necessary to supply the cooled air to conditioned space. The unit is usually located outside the conditioned space and duct work is required to deliver the cooled air to the conditioned space, or where the unit is located in a conditioned space and connected to other spaces by duct work.

6.1.6 Application ratings. Many applications of unitary air conditioners require ratings under conditions other than standard rating conditions of ARI 360 (see 3.6.1.5 and 6.10). The following information should be supplied by the acquisition authority to the contractor as indicated by the "X" in the applicable blocks.

OO-A-373C

OPERATING CONDITIONS FOR APPLICATIONS RATING AND PERFORMANCE TESTS						
TEST	Indoor coil air entering		Condenser cooling means Water		Air to Condenser	Minimum External Resistance  (inches of water)
	DB	WB	In	Out	DB	
	(degF)	(degF)	(degF)	(degF)	(oF)	
Maximum operating conditions	X	X	X	X	X	X
Low temperature Operation	X	X	-	X	X	
Condensate disposal						

6.1.7 Corrosion protection. Indoor air conditioner components made of ferrous metals located in marine atmosphere should withstand 125 hours of 100 percent relative humidity per ASTM D 2247. Outdoor components made of ferrous and nonferrous metals located in marine atmosphere should withstand 125 hours and in severe marine atmosphere 500 hours of salt per ASTM B 117 (see 3.14.1 and 3.14.2)

6.1.8 For Military acquisitions. All air conditioning units rated less than 65,000 Btu/hr with air cooled condenser and single phase power unit input, the SEER applies and the minimum should be 8.0. Other units within the scope of this specification, the EER applies and the minimum EER should be 7.5.

6.2 Ordering data. Purchasers should select the preferred options permitted herein and include the following information in acquisition documents:

- a. Title, number, and date of this specification.
- b. Issue of DODISS to be cited in the solicitation, and if required, the specific issue of individual documents referenced (see 2.1.1 and 2.2).
- c. Type, style, class, arrangement, and mounting of the air conditioner required (see 1.2, 3.4.1.1, 3.4.1.2, 3.4.1.3, 3.4.2.1, and 3.4.2.2).
- d. Cooling capacity required in Btu/hr, kilowatts (kW) and operating conditions (outside wet- and dry-bulb temperatures, inside wet-and dry-bulb temperatures and condenser water entering and leaving temperatures, where applicable) and air quantity for other than standard ratings (see 1.2, 3.6.1.5, 3.13.1 and 6.1.6).

OO-A-373C

- e. Where type SP-A units are to be located (see 3.4.1.1).
- f. Where type SP-W units are to be located other than as specified (see 3.4.1.2).
- g. Where type SPY-A units are to be located other than as specified (see 3.4.1.3).
- h. Method of heating required for type SPY-A units and heating capacity in Btu/hr (kW). Specify required steam pressure, gas pressure, water temperature, and at a separate unit or at a separate item, where applicable, and phase and Hertz of electric heaters where applicable (see 3.4.1.3, 3.10.6, 3.12.4, and 6.1.3).
- i. When interior-located air conditioners need not be suitable for exposed installation in an office space. Mechanical features of the enclosure design required for mounting (see 3.10.1).
- j. When provisions for introducing outside air to return air-side is required (see 3.10.1.2).
- k. When roof mounted units shall be provided with matching roof mounting frames (see 3.10.1.3).
- l. Type of compressor, if different (see 3.10.2).
- m. Air cooled condenser material, if different (see 3.10.3.1 and 6.1.7).
- n. Water cooled condenser type and material, if different (see 3.10.3.2).
- o. When units 135,000 Btu/hr and over shall be provided with not less than 10 deg. liquid subcooling (see 3.10.3.1 and 3.10.3.2).
- p. Specify the quality of water available for water-cooled condensers in terms of hardness, total dissolved solids and pH (see 3.10.3.2).
- q. Cooling coil construction if different (see 3.10.5).
- r. Static pressure against which condenser fan must operate for air conditioners requiring duct connections to supply cooling air to the condenser (see 3.10.8.1).
- s. When a strainer is required (see 3.10.9).
- t. When air filters shall be other than as specified (see 3.10.10).
- u. Type of refrigerant, if other than as specified (see 3.11.1).
- v. When other than manufacturer's standard device shall be used for units over 60,000 Btu/hr (see 3.11.2).
- w. Material of tubings, fittings, and threaded joints if other than specified (see 3.4.3 and 6.8).

## OO-A-373C

- x. When control panel shall be unit mounted or for remote mounting and type of enclosure required (see 3.12).
- y. Required electrical characteristics of motors (see 3.12.1).
- z. When motor starters shall be of the reduced voltage type (see 3.12.1). (Note: Motors over 15 horsepower should have reduced voltage or reduced current in rush starters.)
- aa. When motors and motors starters shall have sealed windings (see 3.12.1).
- bb. When electrical connections are to be different (see 3.12.3).
- cc. Required Seasonal Energy Efficiency Ratio (SEER) or Energy Efficiency Ratio (EER) (see 3.13.3).
- dd. Required minimum external resistance if different (see 3.13.10).
- ee. When indoor components are required to withstand 100 percent relative humidity (see 3.14.1).
- ff. Outdoor components are required to withstand 125 or 500 hours salt spray (see 3.14.2).
- gg. When finish of unit is to be different (see 3.15).
- hh. When electromagnetic interference suppression is required (see 3.18).
- ii. When fungus resistance treatment is required (see 3.19).
- jj. Level of preservation and packaging and level of packing required (see 5.1).

6.3 Data requirements. When this specification is used in an acquisition and data are required to be delivered, the data requirements shall be developed as specified by an approved Data Item Description (DD Form 1664) and delivered in accordance with the approved Contract Data Requirements List (CDRL), incorporated into the contract. When the provisions of DOD FAR Supplement, Part 27, Sub-Part 27.475-1 (DD Form 1423) are invoked and the DD Form 1423 is not used, the data should be delivered by the contractor in accordance with the contract or purchase order requirements.

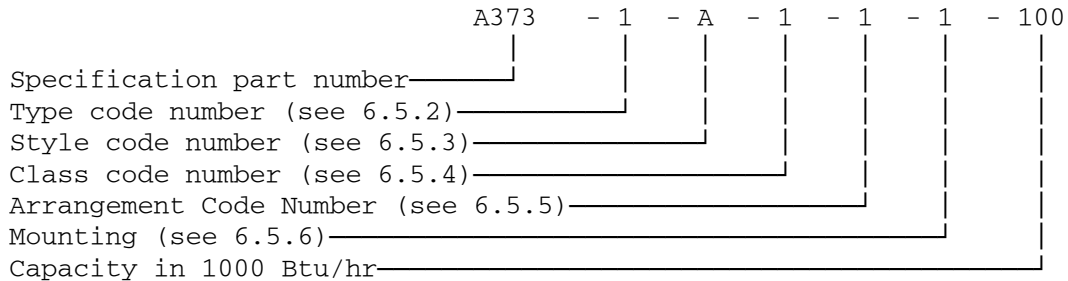
6.4 Changes from previous issue. Marginal notations are not used in this revision to identify changes with respect to the previous issue due to the extensiveness of the changes.

6.5 Definitive specification part number. The specification part number is a definitive part number which corresponds to the type, style, and class of air conditioner covered by this specification and defines the requirements of the

OO-A-373C

options presented under this specification. The specification number, and the type, style, class, and arrangement code numbers are combined to form the definitive specification part number.

6.5.1 Cataloging data. For cataloging purposes, part numbers for the air conditioners are as follows:



6.5.2 Types. The types of the air conditioners (see 1.2) are identified by a one-digit number (see table I).

TABLE I. Code number to type

Type I	SP-A	-	1
Type II	SP-W	-	2
Type III	SPY-A	-	3

6.5.3 Style. The style of the air conditioners (see 1.2) are identified by a one-digit letter (see table II).

TABLE II. Code number to style

Style A	-	A
Style B	-	B

6.5.4 Class. The class of the air conditioners (see 1.2) are identified by a one-digit number (see table III).

TABLE III. Code number to class

Class 1	-	1
Class 2	-	2
Class 3	-	3

OO-A-373C

6.5.5 Arrangement. The arrangement of the Air Conditioners (see 1.2) are identified by a one-digit number (see table IV).

TABLE IV. Code number to arrangement

Indoor	- 1
Outdoor	- 2

6.5.6 Mounting. The mounting of the air conditioners (see 1.2) are identified by a one-digit number (see table V).

TABLE V. Code number to mountings

Floor Vertical	- 1
Floor Horizontal	- 2
Roof	- 3
Wall	- 4
Other	- 5

6.5.7 Capacity. The capacity of the air conditioners (see 1.2) are identified by a three-digit number in 1000 Btu/hr.

6.6 Reduced voltage starters. Reduced voltage starters should be specified when critical voltage-regulation problems are anticipated because of such factors as inadequate power supply, poor distribution facilities, and presence of electrical or electronic equipment sensitive to voltage fluctuation. In general, the voltage dip should not exceed 4 percent.

6.7 Sensible cooling effect. The sensible cooling effect in Btu/hr is the difference between the total cooling effect and dehumidifying effect. The dehumidifying effect in Btu/hr shall be computed as the product of 1.060 and the difference in moisture content, expressed in pounds per hour, between the entering air and that of the leaving air.

6.8 Refrigerant tubing, pipe, and fittings. The attention of the contracting officer is directed to the fact that substitute refrigerant tubing, pipe, and fittings may not be available at the time of invitation for bids. He should, therefore, assure himself of such availability prior to requesting bids from prospective contractors.

6.9 Standard lubricants. When requested by the contractor, the contracting officer should furnish a list of standard military lubricants applicable to the equipment covered by this specification. Standard military lubricants are listed in the DoD section of the Federal Supply Catalog C9100-IL.

## OO-A-373C

## 6.10 Definitions.

- a. Compressors, hermetically sealed: A hermetically sealed compressor shall consist of a compressor and motor enclosed in a welded or brazed shell and connected within a refrigerant circuit wherein all refrigerant liquid-or gas-containing parts shall be permanently sealed to prevent the circuit from being opened without cutting or melting.
- b. Compressors, semihermetically sealed: A semihermetically sealed circuit shall consist of a compressor and motor enclosed in a gas-tight shell and connected within a refrigerant circuit repaired. Sealed systems shall be provided with a refrigerant-charging valve of suction and discharge service valves.
- c. EER: A ratio calculated by dividing the cooling capacity to Btu/hr by the power input in watts at any given set of rating conditions, expressed in Btu/hr per watt (Btu/hr/watt).
- d. SEER: SEER means the total cooling of a central in Btu's during its normal usage period for cooling (not to exceed 12 months) divided by the total electric energy input in watt-hours during the same period, as determined in Appendices A or B of ARI Standard 210 and ASHRAE Standard 116, Methods of Testing for Seasonal Efficiency of Unitary Air Conditioners and Heat Pumps.
- e. Temperature, application rating: Other than standard rating temperatures.
- f. Temperatures, standard rating: The temperature for standard ratings in accordance with ARI 210 and 360 and as follows:

Air temperature entering	80 deg.F (26.7 deg.C) dry bulb
Indoor portion of unit	67 deg.F (19.4 deg.C) wet bulb

Air temperature surrounding unit	95 deg.F (35 deg.C) dry bulb
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For air-cooled units	95 deg.F (35 deg.C) dry bulb
Air temperature entering outdoor portion of unit	(and 75 deg.F (23.9 deg.C) wet bulb when condensate is rejected to the air stream)

For water-cooled units	
Water temperature entering condenser	85 deg.F (29.4 deg.C)

Water temperature leaving condenser	95 deg.F (35 deg.C)
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## OO-A-373C

6.11 Suppression data. This document differs from the superseding specification in the following classifications:

## OO-A-373B (OLD)

Type SP-A  
Type SP-W  
Deleted  
Type SPY-A

Style A  
Style A

Class 1 - Cooling capacity up  
to 60,000 Btu/hr

Class 2 - Cooling capacity  
between 60,000 and  
135,000 Btu/hr

Class 3 - Cooling capacity  
between 135,000 and  
1,000,000 Btu/hr

Arrangement - Indoor or outdoor

Mounting

## OO-A-373C (NEW)

Type SP-A  
Type SP-W  
Type SPY-A

Style A  
Style B

Class 1 - Cooling capacity up  
to 60,000 Btu/hr

Class 2 - Cooling capacity  
between 60,000 and  
135,000 Btu/hr

Class 2 - Cooling capacity  
between 135,000 and  
1,260,000 Btu/hr

Arrangement - Indoor or outdoor

Mounting

## MILITARY INTERESTS:

## Custodians

Navy - YD  
Air Force - 99

## Review Activity

Air Force - 82

## User Activities

Army - CE  
Navy - MC

## CIVIL AGENCY COORDINATING ACTIVITIES:

GSA - FSS  
HHS - FDA  
INTERIOR - MIN  
VA - VOC

## PREPARING ACTIVITY:

Navy - YD

Project 4120-0321

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Orders for this publication are to be placed with General Services Administration, acting as an agent for the Superintendent of Documents. See section 2 of this specification to obtain extra copies and other documents referenced herein.



OO-A-373C  
INT. AMENDMENT-(YD)  
19 November 1990

INTERIM AMENDMENT

TO

FEDERAL SPECIFICATION

AIR CONDITIONERS, SINGLE PACKAGE TYPE

This interim amendment, which forms a part of OO-A-373C, dated 22 July 1990, is approved by the Commissioner, Federal Supply Service, General Services Administration, for the use of all Federal Services.

Page 11

Paragraph 3.11.1: Delete and substitute:

"3.11.1 Refrigerant. Unless otherwise specified (see 6.2), the refrigerant in the unit shall be refrigerant R22 (CHC1F2)."

PREPARING ACTIVITY:

NAVY - YD  
(Project 4120-1010)

Beneficial comments (recommendations, additions, deletions) and any pertinent data which may be of use in improving this document should be addressed to: Commanding Officer (Code 156), Naval Construction Battalion Center, Port Hueneme, CA 93043-5000, by using the self-addressed Standardization Document Improvement Proposal (DD Form 1426) appearing at the end of this document or by letter.