condensate from the cooling coil is sprayed over the condenser surface and vaporized, thus eliminating the need for drain connections. A simple dampering arrangement is generally provided for exhausting some air from the room, in addition to introducing outside air and recirculating required amounts of air. It is possible to remove the equipment for winter storage or utilize the ventilating features for winter operation.

Controls for Room Cooling Units

Control devices for self-contained cooling units are generally provided to include all necessary means for automatic operation. Provision is also made for adding auxiliary external controls when desired. Remote units are not generally equipped with controls. Control systems for remote units, and auxiliary controls for self-contained units, are covered in the general treatment of Controls in Chapter 34.

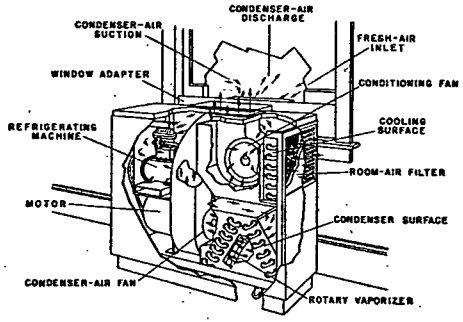

FIG. 7. SELF-CONTAINED AIR-COOLED UNIT AIR CONDITIONER

RATINGS OF UNIT AIR CONDITIONERS

There are two codes governing the rating and testing of unit air conditioners. The first code, Standard Method of Rating and Testing Air Conditioning Equipment[1], covers all types of air conditioning units except the self-contained type. The latter is covered by the second code, The Standard Method of Rating and Testing Self-Contained Air Conditioning Units for Comfort Cooling[2]. The two codes are necessary because of the basic difference caused by the heat given up by the self-contained units. The standard rating conditions for self-contained unit air conditioners, as given in the code, are set forth in Table 1.

The standard rating of a self-contained unit for the conditions specified in Table 1 includes all items which apply to the function of a unit as: (1) name of unit, (2) functions which unit performs, (3) data on cooling, (4) data on heating, (5) data on air flow, and (6) data on humidification.

The standard rating conditions for unit air conditioners, other than the self-contained type, are identical with those in Table 1 except the entering wet-bulb temperature for cooling is expressed as 50 per cent relative humidity (66.7 F wet-bulb) instead of 67 F wet-bulb temperature. In addition, the saturated suction refrigerant temperature for comfort cooling is specified at 40 F. This condition is omitted from Table 1 for self-contained units as immaterial in the rating of a unit that includes the evaporator and condensing unit.

TABLE 1. STANDARD RATING BASIS FOR SELF-CONTAINED AIR CONDITIONING UNITS

FUNCTIONS	TYPES OF UNITS	RATING CONDITION		
		Item	Description	Value
All	All	a	Barometric Pressure	29.92 in. Hg.
Cooling	Water-Cooled, Air-Cooled and Evaporatively-Cooled Condensers	b	Unit Ambient and Air Entering Room—Air Inlet (1) Dry-Bulb (2) Wet-Bulb	 80 F 67 F
		c	Ventilation Air	See Note
	Water-Cooled Condensers	d	Water Temperature Entering Unit	75 F
		e	Water Temperature Leaving Unit	95 F
	Air-Cooled and Evaporatively-Cooled Condensers	f	Air Entering Outside Air Inlet (1) Dry-Bulb (2) Wet-Bulb	 95 F 75 F
Heating	All Types Provided with Heating Function	g	Unit Ambient and Total Air Entering Unit	70 F
		h	Heating Medium, Pressure or Temperature (1) Dry Saturated Steam (2) Water In (3) Water Out	 16.7 lb per sq in. abs 180 F 160 F
Humidifying	All Types Provided with Humidifying Function	i	Unit Ambient	70 F
		j	Total Air Entering Unit (1) Dry-Bulb (2) Wet-Bulb	 70 F. 53 F
Air Circulation	All	k	Filters	New and Clean

Note: Rating shall be based on both ventilation and recirculated room air entering at 80 F dry-bulb and 67 F wet-bulb temperature. (The *Note* as given in the code has been condensed in order to remove material not pertinent to this chapter).

APPLICATION OF UNITARY EQUIPMENT

One of the chief advantages resulting from use of factory produced units is the saving in installation and field assembly labor, a factor that should always be kept in mind when selecting a location for these units. Because of their compactness, the tendency exists to put them in closets, storage rooms, and other inaccessible places, where installation is so difficult that much of this cost advantage is lost.

Access panels are provided on units for the proper servicing and maintenance of the equipment. Adequate outside clearance at these panels is