Williams Oil-O-Matic Heating Corporation

Manufacturers of Air Conditioning Equipment

Bloomington, Illinois

Service to Architects and Builders

CHICAGO, ILL., 641 N. Michigan Avenue — NEW YORK, N. Y., 1231 Graybar Building

For Williams Oil-O-Matic Oil Burner Equipment and Ice-O-Matic Refrigeration Equipment, see File Index

Air-O-Matic Combines Heating and Cooling in One Air-Conditioning System

The Williams Oil-O-Matic Heating Corporation has developed an outstanding year 'round air conditioning system known as "Air-O-Matic." Low pressure steam, which is usually provided by an Oil-O-Matic operated boiler unit, is supplied directly to a copper finned heating coil within the central air distributing unit for heating service, which can be supplemented by direct radiation if desired. Proper provision for the addition of moisture is provided for winter heating service.

This same low pressure steam, through an especially developed absorption refrigeration unit, provides the proper degree of temperature and humidity reduction for summer comfort. A change from winter to summer operation can be effected almost instantaneously by means of a master control located in a suitable, convenient place.

The Williams Low Pressure Steam Absorption Type Unit, the outstanding feature of Air-O-Matic, has been especially developed to meet the particular requirements of air conditioning through years of research in the Williams' laboratories. It affords adequate comfort cooling facilities with unusual advantages of economical operation, mechanical simplicity, compactness and freedom from fire and toxicity hazards. Both the solvent and refrigerant are newly developed chemicals and are essentially non-toxic, non-inflammable, non-corrosive to the common metals and chemically stable under all operating conditions.

The steam requirements for one ton of refrigeration are 19 lb. (18,200 B.t.u.'s) per hour at a pressure of 10 to 12 lb. gauge. The electrical power requirements for one ton of refrigeration are 75 to 100 watt hours per hour.

Low Steam and Power Requirements

The low power requirements make possible the use of single phase current in the smaller size installation, thereby saving the expense of providing 3-phase current. For all sizes of machines any low pressure steam boiler of the proper capacity may serve to generate the required steam.

*NOTE.—Any low pressure steam boiler of proper capacity may be used to generate the required steam. A Williams Oil-O-Matic Boiler-Burner Unit or other types of automatic heating systems may be used to maintain the necessary steam pressure automatically.

The only metal to metal contact of moving parts within the refrigeration unit is between the seal face and seal seat of the solution circulating pump. This seal face operates in a bath of oil, thereby assuring proper lubrication. The maximum pressure against this seal face is only 45 lb.

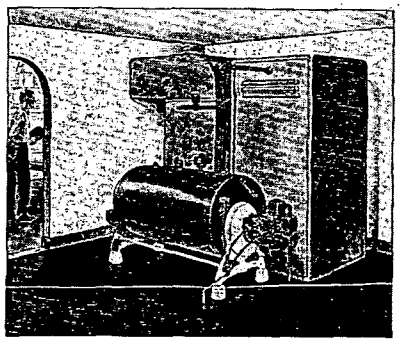
In normal operation the pressure on the low side of the unit is between 8 in. and 2 in. of vacuum and the pressure on the high side is between 22 and 28 lb. gauge.

The steam requirements remain at 19 lb. per ton hour at high or lower cooling water or evaporator temperatures within a reasonable range.

These new absorption refrigeration units are remarkably compact. For example, the 15-ton unit is 44 in. long, 44 in. wide, and 65 in. high, and the 25-ton unit is 65 in. long, 65 in. wide and 65 in. high.

There are now available seven different sized units ranging in capacity from 6 to 25 tons.

The cooling coils of the dry expansion type and the expansion valve are designed for the unique characteristics of the refrigerant.



See also Page 893

The Young Ventilating Company

2700 Woodland Avenue, **Cleveland, Ohio**

CONTRACTORS - ENGINEERS - MANUFACTURERS

YOUNG REGULATOR

A Convenient Control of Air Conditioning and Ventilation



The Young Regulator controls the volume of air flow through a duct by opening and closing a volume damper with which it is connected by a ⅜ in. square rod. Indicator and dial show accurately position of damper in duct.

For service in schools, hospital, residences, offices, banks and public buildings, the operator in charge of air conditioning and ventilating finds it easy, with this device, to establish and maintain the proper volume of air, free from interference or meddling.

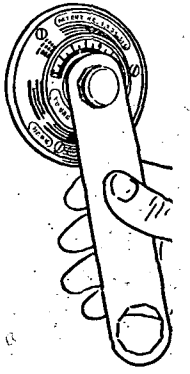
The Young Regulator is simple to install, with direct connection to the damper. It is made of rust-resisting metal and presents a neat appearance.

For Locking a Volume Damper in a Permanent Position

With the handy wrench the damper is readily set to admit the desired amount of tempered air, and locked in that position, making it tamper proof.

The device for adjusting is the outermost nut, or head with eight sides, turned by wrench.

Behind the adjusting nut is a set nut with ten sides, of larger diameter, which, with a turn of the wrench, will lock the regulator at any desired position, or release it. This nut is difficult of access by any ordinary wrench.



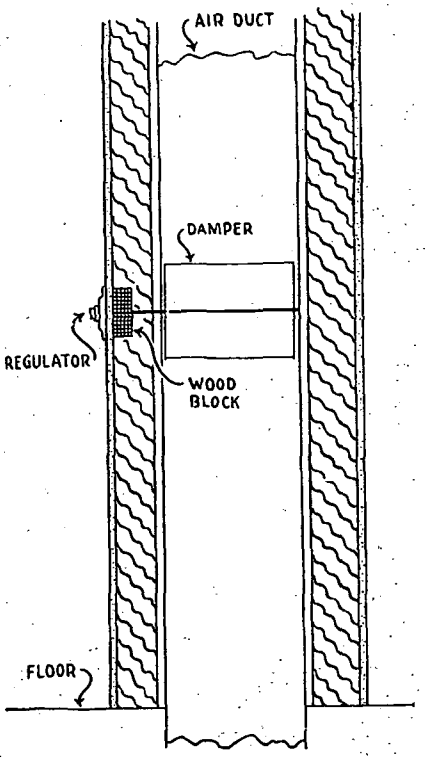


Diagram Showing Vent and Supply Ducts, in which Damper Controls are Installed