

## General Description

### STANDARD FEATURES

<b>Construction</b>	<p>Cases are manufactured from lightweight galvanized sheet steel with integral fan mounting rails for added strength. Fire resistant foam insulation (to UL94 VO) is fitted internally to provide both thermal and acoustic insulation.</p> <p>A variety of optional extras can be factory fitted depending on the model, including electric heating and hot water heating.</p>
<b>Evaporator</b>	<p>All direct expansion units utilize large surface area evaporator coil(s) ideally positioned to optimize heat transfer and airflow. Each evaporator is manufactured from refrigeration quality copper tubes with mechanically bonded aluminum fins.</p>
<b>Chilled Water Coil</b>	<p>All chilled water units utilize large surface area coils positioned to optimize heat transfer and airflow. Each coil is manufactured from refrigeration quality copper tubes with mechanically bonded aluminum fins and are circuited from headers to ensure low water pressure drops.</p>
<b>Fan</b>	<p>All units, utilizing backward curved centrifugal fans, are statically and dynamically balanced for quiet operation. Fan impellers are made from either aluminum or fire retardant plastic (UL94 VO) for light weight and corrosion resistant operation. Fans are driven by an enclosed multi-speed external rotor motor allowing good heat dissipation and an increased motor efficiency. Fans come complete with thermal overload protection and sealed-for-life lubricated bearings.</p>
<b>Filtration</b>	<p>Wire framed filters are fitted. These are re-usable and may be vacuum cleaned.</p>
<b>Condensate Pump</b>	<p>A condensate pump is fitted to carry water out of the unit. The pump is fixed to a mounting bracket which can be withdrawn from the side of the chassis and incorporates an inspection hole to allow a visual check of the pump during operation. A float switch is fitted to stop the cooling action should the pump become blocked or fail.</p>
<b>Air Vanes</b>	<p>Air outlet vanes are manufactured from aluminum and covered with nylon flock to prevent condensation from forming. Vanes are manually adjustable on the 2 x 2 model units but driven by an electric motor on all other model units. Where fitted, the motorized air vanes can be set to auto sweep or can be stopped in a fixed position. Polystyrene blanking pieces are supplied with Cassette packing so that up to two fascia discharge slots can be blanked off.</p>

## General Description

### OPTIONS

#### Factory Installed

#### Controls Option 1: Electro-Mechanical

A 24V thermostat is supplied loose for on site wall mounting. Thermostat options are cooling only or cooling and one stage auxiliary heat. Only single fan speed thermostats are available.

#### Controls Option 2: Microprocessor

A custom designed microprocessor is fitted to the Modine Cassette to enable room conditions to be maintained at a user defined set point. Communication to the controller is by a hand held infrared transmitter or a wall mounted 'pendant' transmitter. Each type of transmitter includes a wall mounting bracket as standard.

The microprocessor allows five operating modes: fan only, dry cooling, cooling only, heating only, and heating/cooling with auto changeover for maximum versatility. A temperature set point between 58°F and 90°F can also be selected.

The microprocessor monitors indoor coil temperature and return air temperature. The receiver contains a self diagnostic feature. When a low indoor coil temperature is detected the cooling action is stopped. If a sensor fails then an alarm is displayed on the fascia mounted receiver. The microprocessor also limits the number of compressor starts per hour to reduce wear on the compressor.

The infrared/pendant transmitter is used to switch the unit on/off, change temperature settings, fan speed, operating mode, and to toggle the motorized air sweep (where fitted). The microprocessor also has an inbuilt clock which can be activated to enable the unit to be programmed with up to two separate operating periods for the days of the week (Mon-Fri).

The clock provides ON/OFF unit operation and is *not* a night set back or occupied/unoccupied control function. Mon-Fri will operate as a 'block' of days and cannot be programmed independently of one another. Saturdays and Sundays can each be programmed with up to two separate operating periods and are programmed independently of the weekdays and each other.

A fascia mounted receiver displays on/off, cool or heat, and timer/alarm status.

#### Electric Heat

Electric heating elements can be fitted to the unit. Elements are manufactured for maximum surface area and lower working temperature for improved reliability. Thermal cut out protection switches are fitted to the electric heat circuit to protect against overheating.

#### Hot Water Coil

A hot water heating coil can be factory fitted in addition to the standard DX or chilled water coil to provide heating. The coil is manufactured from refrigeration quality copper tubes with mechanically bonded aluminum fins.

## OPTIONS

### Field Installed Accessories

#### Chilled Water/LPHW Control Valve

For control of chilled water or hot water flow, a three-way, three-port diverting type valve or a two-way, two-port control valve is supplied loose for on site installation. Actuation is via a 24V signal from the unit's electrical panel.

On a four pipe system where two-way valves are specified, the chilled water valve will be a normally closed type. The hot water valve will be a normally open type. Where three-way valves are specified, the same type valve will be supplied for both coils and should be installed normally closed to the coil in the case of the chilled water coil and normally open to the coil in the case of the hot water coil.

On a two pipe changeover system where a two-way valve is specified, a normally closed valve is supplied. Where a three-way valve is specified, this should be installed normally closed to the coil. In both cases, a pipe mounted changeover thermostat will also be supplied to monitor water supply temperature and allow action of the valve accordingly.

#### Fresh Air Intake

The Cassette chassis features two or three fresh air knockouts depending on model size. Any number can be removed to allow fresh air to enter the unit. A duct collar is available for fastening to the unit to allow connection of a 3" flexible duct.

#### Branch Ducting

A limited amount of conditioned air can be ducted from the unit by removing the branch duct knockouts and connecting flexible ducting. In the case of the 2 x 2 model units, there are a total of three knockouts positioned on three of the unit sides (one per side). In the case of the other model units, a total of four knockouts are available and are arranged in pairs along two of the unit sides (two per side). A duct collar is available to allow connection of a 5" or 6" (depending on units size) flexible duct to the Cassette.

On the 2 x 2 range of units, it is recommended that only one of the three branch duct knockouts are utilized, due to the small capacity of the unit.