

Projects Featuring the Mitsubishi CITY MULTI HVAC System

Background

ArcSine Engineering has extensive experience in HVAC system design for both new and renovation projects. System requirements must be evaluated and then the appropriate systems are selected and incorporated in the design. Renovation projects usually require a site visit to evaluate the existing equipment and it's applicability to the new use. New systems can include some of the options described below.

Options

There are a number of alternative mechanical systems which can be specified depending on the application.

- Packaged Rooftop VAV: This system consists of a single large rooftop unit with VAV boxes for each zone. Each VAV box has a thermostat and heating coil that give multiple zones control from a single air-handling unit.
- Four-Pipe Fan Coil System: This system uses multiple fan coils, each with a heating coil and cooling coil. Heating is provided with a hot water boiler and cooling with an air-cooled chiller. Hot and cold water are piped around the building to each fan coil.
- Single Zone System: This system uses multiple independent rooftop or split systems each serving a single zone. The outdoor heat pumps are connected to an indoor fan coil with refrigerant piping. The indoor unit is usually visible in the space, either mounted on the wall, ceiling, or floor.
- Variable-Refrigerant Flow System: This system uses multiple indoor units connected to large outdoor heat pump units. Heating and cooling energy are transferred through the building with refrigerant instead of hot and/or cold water. Pumps are not required and the piping is usually much smaller.

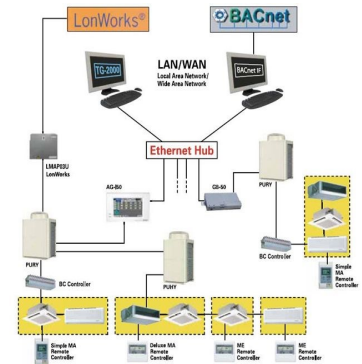
Mitsubishi CITY MULTI System

One system that ArcSine Engineering has extensively specified and designed around is the Mitsubishi CITY MULTI system which is a Variable-Refrigerant Flow System.

The VRF system has multiple indoor units connected to large outdoor heat pump units. The heat pumps have variable-speed compressors and fans. An advantage of the VRF system is that the outdoor unit can provide simultaneous heating and cooling in different zones on the same system, and even transfer heat between indoor zones. For example, the heat from a computer room that requires year-round cooling could be transferred to a zone that requires heating in the winter. This results in a very efficient system.

Featured projects using the Mitsubishi CITY MULTI system:

- Jackson County Fire District #3 Administration Building, White City, OR
- Klamath National Forest Supervisors Office, Yreka, CA
- Housing Authority of Jackson County-Grand Hotel, Medford, OR
- Winema Electric, Klamath Falls, OR
- Carnegie Library, Medford, OR
- Mercy Flight Operations Building, Medford, OR
- Redding Rancheria Health Clinic, Redding, CA
- Jackson County Sheriff's Depot, Medford OR



HVAC Interface



Housing Authority of Jackson County-Grand Hotel, Medford



Redding Rancheria Health Clinic
Redding, CA

