

BLUEPRINT

BRIAN & LAURA DAVIS RESIDENCE SCOTTSDALE, ARIZONA

PROJECT INFORMATION

Building Type:
Residential, Single-Family

Contractor:
Brian Davis
Garrison Engineered, Inc.

HVAC Contractor:
Vince Palermo
Tempe Mechanical

Distributor:
Gary Alleman
Geary Pacific Supply



Challenge:

Building a home in Scottsdale, Arizona to maintain comfort and efficiency in harsh summers.

The Solution:

Daikin Multi-Split heat pumps with "Slim Duct" indoor units.



The home's wall and ceiling panels were to be constructed of high efficiency engineered foam material with total wall and roof R-values of R-35 and R-62, respectively. Local HVAC contractors recommended traditional ducted unitary heating and cooling systems, which were oversized and bulky, and created excessive soffits and tremendous electrical load burdens. This, in turn, created the need for additional photovoltaic (PV) panels to offset the Locked Rotor Amps (LRA) of the proposed unitary solutions. The Davis' desire for optimal zoning, efficiency and quiet operation were nearly impossible to achieve through these solutions. Enter Tempe Mechanical, who proposed using 3 Daikin high efficiency multi-split heat pump systems with "slim duct" style indoor units. These concealed fan coils maximized the zoning, dramatically minimizing the amount of large ductwork that would have been required for a traditional unitary style system.

For optimum comfort levels, 9 separate heating/cooling zones were created. Soffits were minimized, with no exposed ducts or wall-mount fan coils visible. The overall tonnage was reduced by making good use of zoning and diversity. This, combined with the "soft start" of the Daikin inverter compressor, meant that no additional PV panels or circuits were required. By employing these high-efficiency Daikin multi-splits, the contractor enabled the dream of a comfortable, near "net-zero energy" home to become a reality. The Daikin systems easily maintained the Davis' desired 78 degrees indoors with outside high temperatures in excess of 115 degrees! These units, in conjunction with a properly designed fresh air ventilation system, have created a clean, comfortable and incredibly efficient home comfort system that will serve the Davis' well for years to come.

Brian and Laura Davis knew that building their dream home in Scottsdale, Arizona would have its challenges. In spite of the extreme temperatures, the Davis' wanted comfort and efficiency in their new home.



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DAIKIN EQUIPMENT

- Multi-Splits
 - 1 3MXS24JVJU Outdoor Unit
 - 2 4MXS32GVJU Outdoor Units
- Concealed Ducted Fan Coils
 - 1 FDXS09LVJU Indoor Unit
 - 1 FDXS12LVJU Indoor Unit
 - 1 FTXS15LVJU Indoor Unit

FIND OUT MORE ABOUT DAIKIN VRV.
Contact your local dealer or manufacturer's representative.

Additional information

Before purchasing this appliance, read important information about its estimated annual energy consumption, yearly operating cost, or energy efficiency rating that is available from your retailer.

Actual savings and costs will vary. Cost and savings statements are applicable solely to the installation indicated. For additional information please contact the installing contractor, distributor or factory representatives.



Our continuing commitment to quality products may mean a change in specifications without notice.

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