

EDUCATION K-12

LG Air Conditioning Systems

LG Technology Creating a Cost Effective Learning Environment

MODULAR DESIGN
VRF TECHNOLOGY
OPERATIONAL FLEXIBILITY



MULTI V™ III

About LG VRF Technology

Variable Refrigerant Flow is a technology introduced as a system to minimize efficiency losses and provide sustainable energy benefits. LG VRF systems are engineered to save on the cost of ducts, distribution fans, water pumps and water piping. A VRF system has low life cycle cost compared to other system technologies on the market today.

Why LG VRF?

The benefits are numerous; modern style, mirror units for interior designers, less piping for installers and energy efficiency for owners. LG is among the industry leaders in low sound levels, so units are quiet and can be installed where sound is an issue. LG manufactured inverter scroll compressors optimize system energy efficiency and are certified using AHRI Standard 1230.

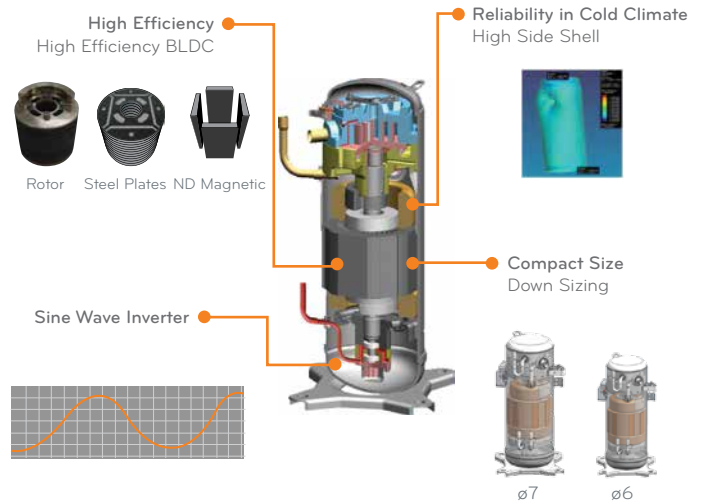


Air Source Unit

Benefits

- 1 LG Inverter Scroll**
A new high side shell innovation offers a more compact size for the same capacity output with greater reliability in cold climates.
- 2 Rapid Start Cooling**
The fast response cooling / heating feature drives heating or cooling faster than previous systems.
- 3 AHRI 1230 Certification**
Multi V III is performance certified. This ensures that you are getting verified ratings.
- 4 Compact**
More indoor zones, less outdoor space. When space or access is at a premium, this equates to significant cost advantages for the owner on large projects.
- 5 Longer Piping Distances**
Owners can reach extra zones further off the same VRF units. This eliminates the need to invest in extra systems and saves on installation.
- 6 Enhanced Energy Efficiency**
New compressor design and optimized heat exchanger contribute to enhanced efficiency.

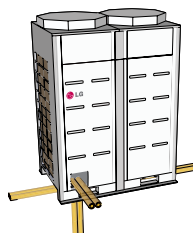
Higher Efficiency



Compact Design



Contractor Friendly 4 Way Piping



Space Saver Advantage





MULTI VTM III

Multi V III VRF Technology

This product line is LG's premiere VRF system. Multi V III is designed to provide the owner the benefits of VRF - lower operational costs minimal or no duct work to install, classroom comfort with individual zoning, efficiency superior to other technologies while maintaining architectural integrity. The benefit of zoning for heating or cooling provides a level of comfort for students and staff. Units are from 6 tons to 36 tons with the following benefits:

MULTI VTM III

Heat Pump

Benefits of Heat Pump

LG VRF Multi V III heat pump systems provide heating or cooling to individual zones. The benefits of VRF heat pump zoning are to provide a level of control for student and staff comfort in individual classrooms or other common spaces. Multi V III eliminates the need for chilled or hot water heat.

MULTI VTM III

Heat Recovery

Benefits of Heat Recovery

LG Multi V III heat recovery systems permit synchronous cooling and heating in different zones at the same time. The benefit of zoning for heating and cooling at the same time provides the ultimate in VRF technology, moving heat from one zone to another.

Ceiling Cassette



2-Way



4-Way



Ducted (High Static)



Vertical Air Handling Unit (VAHU)

Other indoor models also available

ENERGY EFFICIENT

Operational Cost

This innovative VRF system technology delivers exceptional comfort while delivering value, to buildings with lower energy consumption.

MULTI V III

System Efficiency

An energy efficient system from LG Multi V III allows you to use only what you need, when you need it.

BUILDING MODELING SOFTWARE

EnergyPro™ V.5 building energy simulation software provided by EnergySoft®, using the following accreditations:

- Uses DOE-2.1E simulation engine from U.S. Department of Energy
- Approved by the California Energy Commission
- Accepted by USGBC for use with LEED® certification
- Incorporates ASHRAE based load calculations

DESIGN PARAMETERS

The utility rates used for the energy analysis were assigned based on regional data acquired from the U.S. DOE

The building energy analysis was performed using ASHRAE design temperatures for Atlanta, GA

The city design conditions were used to model the performance of six different types of HVAC systems:

- LG Multi V III, Water Source Heat Pumps (WSHP), Duct Free Split (DFS) Systems, Constant Volume Rooftop Package Units and 4-pipe chilled water/hot water (CW/HW) central plants: one using air cooled chillers, one using water cooled chillers.

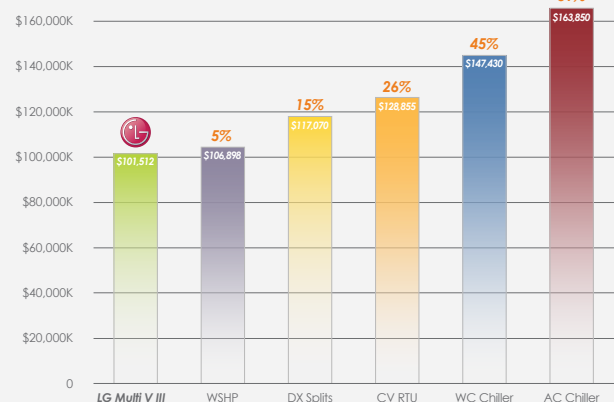
BUILDING DESCRIPTION

- Total Area (Sq. Ft): 133,600
- Total levels: 6
- Basement level walk-out
- Zones: 145
- Infiltration (CFM): 0

Building Type: office

Multi-story Building Energy Analysis

HVAC Systems Annual Operating Cost
(\$0.0902/kWh, \$1.358/Therm)
Building modeled in Atlanta, GA



Inverter



LIFE'S GOOD...WHEN IT'S GREEN.

Potential energy savings may vary depending on your personal system settings, equipment maintenance, local climate, actual construction and installation of equipment, and duct system



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