

## Technical Bulletin

### 2019 Standards: Ducted Multi-Split Duct Leakage Testing Variable Refrigerant Flow (VRF) Ducted Multiple Indoor Coil Protocols

*Multi-Split HVAC* systems have become more common in recent years. A Multi-Split HVAC system is comprised of an outdoor unit that allows for variable refrigerant flow (VRF) to multiple indoor units.

With regards to HERS testing protocols, when more than one indoor head (fan coil) is installed in conjunction with a VRF outdoor unit, an exemption occurs in Airflow and Fan Efficacy testing. The following are some examples:

- Single VRF outdoor unit serves one (1) *ductless* indoor unit & one (1) *ducted* indoor unit. The system is exempt from Airflow and Fan Efficacy testing on both indoor units, however the ducted indoor unit must pass Duct Leakage verification.
- Single VRF outdoor unit serves more than one (1) *ducted* indoor unit. The system is exempt from Airflow and Fan Efficacy testing on all indoor units, however each indoor unit must pass separate Duct Leakage verification tests as individual systems.

#### HERS Diagnostic Testing Protocols

Each *ducted* indoor unit must be tested independently of the others. The following are the methods currently approved for determination of the duct leakage target.

- Indoor Unit Tonnage: (Indoor Unit Ton x 400) x (allowable leakage % for entirely new system)
  - Example: (1-ton indoor unit x 400 nominal) x 5% = 20 cfm target
- Measured Airflow: (Measure a single indoor unit's airflow using approved methods as listed in RA3.3.3) x (allowable leakage % for altered duct system)
  - Example: Measured Airflow of 360 cfm x 15% = 54 cfm target

#### Important Notes

- The outdoor unit tonnage shall not be used to calculate duct leakage targets.
- Other HERS verifiable measures may still apply, such as Rated Equipment and Refrigerant Charge verification.
- The exemption occurs automatically when the CF2R-MCH-01 is correctly completed.
- VCHP compliance option is a separate verification that has additional eligibility requirements.

Additional questions about HERS verification of duct leakage testing on ducted multi-splits may be directed to CalCERTS support: [support@calcerts.com](mailto:support@calcerts.com) or (916) 985-3400, ext.\*

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