



**Is there a recommended design air flow where the pressure matching method is not applicable? The Minneapolis duct blaster is rated for maximum 1075 CFMS with flex line, at what size air handler is the potential air flow outside of this measurable range? Is there potential harm to the air handler if it is designed for higher CFMS?**



**ANSWER:** If the air handler is rated for higher airflow than the max of the flow testing device, then obviously a different method should be chosen.



**The weigh in method for refrigerant requires a geotagged/timestamped photo of the HVAC contractors gauge showing levels added/subtracted. Is a formal report (from the HVAC contractor) describing levels added/subtracted an acceptable alternative?**



**ANSWER:** No- MeasureQuick may be approved in the future, but is not approved in RESNET Standards yet.



**How should we accurately measure line sets suspended from the ceiling and/or with excessive bends/kinks?**



**ANSWER:** If unsafe to measure directly across high ceilings, measure before drywall and mirror it on the floor below with an extension cord, then straighten the marked cord and measure that. For lines with curves/bends that can be reached, use a flexible measuring tape or use a flexible material such as rope or extension cord to match the shape, mark it, and then lay it out straight to measure.



**Does the number of returns include the number of ducted returns and returns without ducts? For example, systems with returns cut directly into the air handler or return plenum?**



**ANSWER:** For the purpose of calculating duct surface area, these can be ignored in the count if there are other returns. But for all other purposes, these would count as separate returns.



**When measuring airflow of a heat pump with variable speed, how do we ensure stage of measured airflow matches stage of design air flow? A multispeed can be set by the speed taps, where as variable enters different stages throughout operating conditions.**



**ANSWER:** For equipment that the rater is not familiar with, coordination with the manufacturer or HVAC installer may be required.



**The flow grid air flow method (6.6.2.5) requires a flow grid plate for every filter location to measure air flow simultaneously. Does testing each filter location individually and taking the sum airflow yield a different reading than a simultaneous reading?**



**ANSWER:** Yes, depending on how the resistance of the flow grid is compared to the filter, this can yield different results.



**If a project earns grade 1 or 2 on steps 2,3,and 4, but a grade III on step 5 (refrigerant), will the grade three negate the initial scores?**



**ANSWER:** No. Partial credit is possible toward the ERI/HERS Index Score.



**For load calculations, is door glass included in window surface area?**



**ANSWER:** Yes.



**Some load calculation software uses alternative methods of defining infiltration, outside of the ACH and qualitative descriptions, how should we verify the accuracy of infiltration rate?**



**ANSWER:** Some software uses a formula to determine CFM in the Winter and Summer. But the correlation to ACH or Qualitative description is unknown. If the load calculation software does not publish a correlation to ACH from the qualitative values, the recommendation is to work with the designer to use quantitative values instead.



**Section 8.2 states a prerequisite to measuring refrigerant charge is a blower fan metric, if a system is exempt from the blower fan, is the system exempt from this step or is a grade III given? For example, a mini split is exempted from steps 2,3, and 4, therefore it doesn't meet the prerequisite for step 5. What steps are taken next?**



**ANSWER:** Exempt systems should not be modeled as grade III. If software does not allow selection of "exempt" then use grade I.



**When using the DG-1000 gauge it calculates (QOP) by measuring the supply pressure at operating condition, then pressure and air flow at testing conditions. When using the 310 supplemental excel sheet, it will also calculate the predicted QOP. Resulting in a number being adjusted twice. (6.5.2.6/6.5.2.8)**



**ANSWER:** TEC is aware and is coordinating with RESNET and EPA to ensure the data collection sheet lines up with procedures for their new equipment.

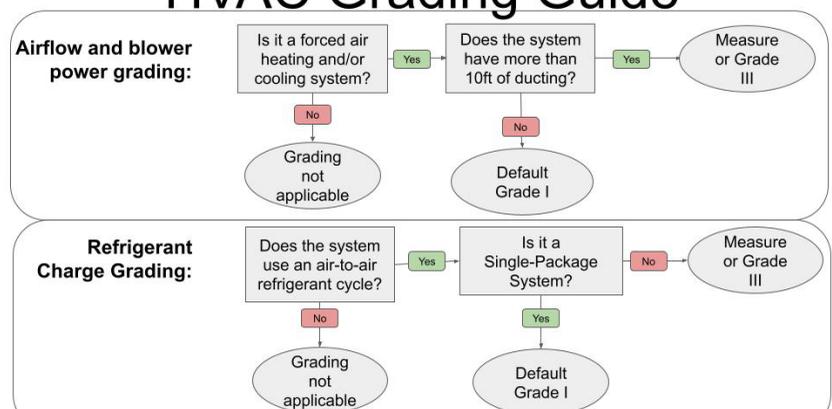


**What if the manufacturer doesn't require additional refrigerant to be added? Can I still show Grade I?**



**ANSWER:** In cases like the equipment you mention above, if you can document that the factory charge on these variable refrigerant systems accounts for the added components (ie: refrigerant line), then you should be able to show Grade I for refrigerant. Whether you do this in the worksheet listing the 100 ft liquid line accounted for in the factor charge or use the actual line length to calculate the amount that the system adds from the reserve tank is sort of academic. The key is to document what you've done in a way that a QA review of the file can determine that grade I was justified. It's a little more work, but my preference would be to show the actual installed line length.

## HVAC Grading Guide



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