

“THE DUCT-FREE ZONE”

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The advent of ducted indoor units in the mini split world caused some anguish for me initially. I have been the guy leading the ductless heating and cooling parade...the flag bearer if you will...and now all of a sudden I had to deal with ducted evaporators. I saw the potential for me to be seen as a hypocrite...frankly, I felt a bit like a hypocrite.

After initially resisting them, I have since found a few applications where the ducted units...what some mini split manufacturers are calling “slim duct” or “concealed duct” units...offer a solution where traditional wall-mounted indoor mini split units had issues.

One such application is the high-end bathroom...VERY high-end bathroom! Because of my proximity to northern New Jersey, I have done a lot of business there over the years. Franklin Lakes, NJ is in Bergen County...in the 2010 census, Bergen County ranked #36 in counties in the U.S. for the highest income per capita. The show on the Bravo network, “The Real Housewives of New Jersey” is filmed there. The homes in Franklin Lakes, NJ aren't “McMansions,” they are what I call “Rockefeller mansions.” I'm talking homes with bathrooms that are 600 – 700 sq/ft. I'm not kidding...a bathroom!

My philosophy with evaporators in bathrooms has always been pretty simple...I have never and will never install a wall-mounted mini split indoor unit in a bathroom for two reasons.

First, I have always preached that it is bad practice to be moving air where there are cold, wet, naked people...just not a good idea.

Second, although some mini splits will remove humidity in a big way, the wall-mounted evaporator was

never intended to be in an environment of high humidity 24/7. Take the pretty plastic cover off the wall-mounted indoor unit and you will find a lot of metal parts that will be ill affected by humidity in the long run.

That said, however, when I'm dealing with a bathroom that is 600 – 700 sq/ft, my previously mentioned philosophy goes out the window...I need to get some air in there!

This is the PERFECT application for the ducted indoor unit! The unit can be placed above the ceiling, in a soffit or in a closet and the supply and return ducted into the bathroom keeping the unit out of harm's way.

Another application for the ducted indoor unit is the dog grooming salon...I know a guy who installed a traditional wall-mounted mini split evaporator in a dog grooming salon and lived to regret it. He had to go back every 30 days to clean the evaporator coil and blower wheel because they would become impacted with fur!

Just a “by the way” here...the SpeedClean Mini Split Bib Kit is the perfect product to clean the evaporator coil and blower wheel of a wall-mounted mini split indoor unit...we will discuss this in more detail in a future article.

OK, this is important when considering ducted mini split indoor units...

You must check to see what the static pressure rating of the unit is before you start adding ducts. Many of these products have a very low...I mean VERY low external static pressure rating so you're not going to connect 100 feet of duct with 8 elbows to these things.

Some ducted mini split indoor units have an SP rating as low as 0.04 ...Consider this...

5 feet of 10” flex duct on the return and 10 feet of 10” flex duct on the supply along with appropriate supply & return transition fittings off the unit and a return filter grille and supply register equals approximately 0.160 total static pressure...well above a unit static pressure rating of 0.04

My friends at Panasonic have a 3 ton medium static ducted single zone system, (36PEF2U6) that has a static rating of 0.24

My friends at Perfect-Aire have a 2 ton mini split ducted single zone system, (2PAMSDH24 / 1PAM-SHH24-SZO-20.5) that has a static pressure rating of 0.40

My friends at GREE will be introducing a high static ducted series with 18, 21 and 24K systems, (2 ton model GFH24DBD3DNA1A/I) with a static pressure rating as high as 0.80

These are all very generous SP ratings but break out your old ductulator. I know, you thought when you went ductless you left the ductulator behind but if you're going to use a ducted indoor unit you need to know how much duct you can attach and stay within the unit's SP rating.

So, if Mrs. Rockefeller wants to have her poodle, “FeeFee,” groomed in her 700 sq/ft bathroom, now you have some good choices!

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