



# SMART DUCT System

## RESIDENTIAL LOW AIRFLOW DUCT SYSTEM

As loads in High Performance homes go lower, volume of required conditioned air drops, causing a decline in performance for traditional duct systems.

With the builders' requirements in mind as well as the building science community's input, *Dettson Industries* is now offering the *Right-Sized System*<sup>®</sup> in combination to the *Smart Duct System*<sup>®</sup>. Since just like equipment, ducts need to be sized appropriately.

*SMART*  
DUCT SYSTEM

The logo for the Smart Duct System, featuring the word 'SMART' in a large, bold, sans-serif font, with 'DUCT SYSTEM' in a smaller font below it. The logo is set against a circular background with a colorful, abstract design.

Homeowner complaints about thermal comfort lead to service calls, lower customer satisfaction. Moisture issues in Hot-Humid climates with oversized equipment result in short-cycling and risk for mold. Right-Sizing an HVAC system properly includes calculating the proper load per room in both cooling and heating.

The right airflow is as important in considering the load per room as the BTUs. With its built-in gaskets, the *Smart Duct System*<sup>®</sup> can provide a system leakage of 5% or less, thus in combination with the controls we developed at Dettson for this specific system, our HVAC in a box<sup>®</sup> solution is designed to run at a low to medium velocity in terms of static pressure, offering a quiet / comfortable operation for the occupant and system efficacy for the efficient home.

Our vision behind this system is called HVAC in a box<sup>®</sup>, allowing the builder to eliminate bulkheads and added expenses, while optimizing floor plan designs.

The High Performance homes environment appreciates the longer cycles that is offered by the lower airflow in combination of the right BTUs. Our HVAC in a Box<sup>®</sup> concept also includes zoning capabilities.



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## Benefits from the Smart Duct System®

### For the builder:

- A uniform system from home to home;
- Less expensive to install being less labor intensive;
- Lower duct leakage below 5%, balanced room to room, less call backs;
- Easier to keep in conditioned space.

### For building science:

- Provides a solution to the new building codes and volunteer programs challenges;
- Raises the bar on old rule of thumbs load assessments;
- Easy-to-design duct system.

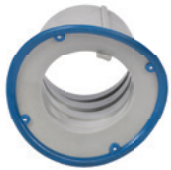
### For the homeowner:

- Better air mix across the home through better distribution (no cold or hot rooms);
- System designed for central HVAC efficacy for lower energy consumption;
- Quieter environment in each room;
- Healthier home including humidity management;
- 35 dB and less at the diffuser.

### For mechanical contractor:

- Provides a differentiator with a technical solution;
- Allows to bring value added to their customers, the builder;
- Ability to handle more job sites;
- Installation labour savings vs traditional duct system;
- More consistent end-product.

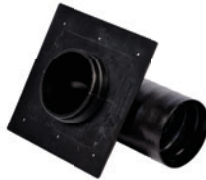
## Components



Saddle for the 8" round main trunk



Saddle for the 6" round main trunk



90° collar



Flat collar



Temporary construction cap



Restrictive cap



Wall diffuser



2 to 4 zones zoning system (2-stage per zone)



2.5" flex Smart Duct, UL-181 approved as duct material by code



Diffuser assembled to a 90° collar



Restrictive cap on a diffuser assembled to a 90° collar



Example of an assembly mounted to a wood plank



Example of an assembly mounted to a round trunk



How to cut it to tread better in the saddle or collar



Diffuser assembled to flat collar



Temporary Construction Cap assembled to flat collar



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