PRESSURE DROP CALCULATION PROGRAM

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Buffalo Air Handling (BAH) is a company located in Amherst, Virginia, which specializes in building large industrial sized Heating, Ventilation, and Air Conditioning (HVAC) units. The science of HVAC involves air being pulled by a fan through the upstream section and then being pushed by a fan through the downstream section. This is accomplished by selecting a fan that can overcome the pressure drop throughout the entire unit. A fan that can provide more pressure drop of inches of water gage than what the unit produces will ensure that air continuously flows through the system. This thereby enables the HVAC unit to provide fresh, cool air to the building.

Buffalo Air is currently using an older, outdated, Pressure Drop Calculation Program that is inadequate for their current needs and demands. Our team was tasked with the mission to develop a new Pressure Drop Calculation Program that was not only updated for BAH's current inventory of supplies, but would also solve many of the problems found in the original program. Foremost of problems with the original program was its summary output page, which was two-pages long. This led to many problems within BAH whereas inevitably one of the summary pages was often misplaced and lost. Another major complaint toward the older program was that it is not savable. It can often take up to 30 minutes to input all the data for one unit. BAH is displeased at how much time is wasted each time the data must be reentered and equipment modified. Due to the fact that the older program has a confusing layout and design, BAH asked that this program be more user friendly. Finally, we were asked by BAH to allow the users to modify certain values, however if done so the program must indicate where and what modifications the operator made.

Our program written in Visual Basic 6.0 and run in an executable format meets and exceeds all the criteria set forth by Buffalo Air. The program is easy to operate and a summary of all the data entered can be printed onto one sheet of paper. The program is also savable in a text (.txt) format. Our Pressure Drop Calculation Program is of great importance to Buffalo Air and it will soon be distributed throughout the Buffalo Air Corporation, as well as to its many customers nationwide ensuring continuing success for Buffalo Air Handling.