Smacna Duct Weight Calculator

unlimited dvr storage space live tv from 60 channels no cable box required cancel anytime, smacna standards snap rite will fabricate all duct amp fittings to meet or exceed smacna standards tdf flanged connection transverse duct flange is a 4 bolt duct connection system that eliminates time and waste rather than using separate connectors to assemble your system tdf flanges are roll formed onto duct during the manufacturing process, i was wondering if there is a calculator or some formulas out there that i can use to determine the weight of a rectangular fitting whether is be sqg rt ndl elb trns offset etc i need to know how much it weighs before our layout guys even see the duct order ive been googling around this morning but havent found much of anything, what equation is used for duct weight what is theequation used for duct weight hvac you can calculate weight for different thickness example for 0 8mm 6 4 kg m2 you get d from smacna tables by knoledge of gauge or thickness, forcements to the duct see figures 1 2 and 1 3 for use of tie rods see figures 1 13 through 1 16 for corner closures at joints 1 15 comments there are several proprietary duct connection systems available and in use because such systems are propri etary or have propri etary elements smacna does not evaluate or grade them however smacna does, radius bend duct revision 2 0 august 2014 unit objective by the end of this unit each apprentice will be able to accurately measure a duct radius bend using the correct techniques make a freehand sketch of a radius bend accurately mark out and fabricate a 90 degree radius bend, duct sizing excel deexcel dynamic pressure static pressure hydraulic pressure loss coefficients singular pressure loss duct k factor local resistance oblong duct equivalent diameter surface roughness factor, equivalent duct calculator app user guide introduction round is the most efficient duct shape for transporting air round duct has less surface area weight and fewer joints than rectangular duct it is much easier to seal and can easily be specified to meet smacna class 3 leakage even at 10 in wg static pressures, gauge or gage sizes are numbers that indicate the thickness of a piece of sheet metal with a higher number referring to a thinner sheet the equivalent thicknesses differ for each gauge size standard which were developed based on the weight of the sheet for a given material, single wall all round spiral duct and fittings shall be manufactured from g 90 galvanized steel conforming to astm and smacna standards standard elbows will have 1 5 centerline radius, find hvac duct weights related suppliers manufacturers products and specifications on globalspec a trusted source of hvac duct weights information 2 2 3 hvac systems 2 2 3 1 pressurelosses through ducts and duct fittings assuming the specific weight of atmospheric air equals that of air in the duct the relationship for fluid, 5 results of the analysis a comparison of weights per linear metre of ductwork between pre insulated ductwork fabricated from the kingspan koolduct system and galvanized sheet steel ductwork insulated with mineral fibre is shown in table 1, sheet metal duct friction loss calculator 1 enter duct airflow cfm duct velocity fpm duct length and the number of bends 2 read round duct diameter inches and friction loss per 100 of duct inches of water, hvac calculations and duct sizing gary d beckfeld m s e p e course content 1 heat conduction and thermal resistance for steady state conditions and one dimensional heat transfer the heat q conducted through a plane wall is given by q ka t1 t2 l btu hr eq 1 where l the thickness of the wall in inches, duct systems distribute filtered conditioned air around the building to serve various zones applied to the surface area to determine the total weight of a duct section the weight can then be used to determine shop fabrication time field installation time and raw material sheet metal to calculate the cost of an average man hour, tdc duct constructed per smacna standards first edition 1995 2 duct fabricated using pittsburg seams 3 all duct stiffened by machine formed beads spaced at 12 o c 4 duct work to be sealed per smacna hvac table 1 2 5 tdc cnt jnt condu loc tdc connector center of duct amp tdc connector, duct calculator actual temperature in the ductwork 0f equal pf major weight pounds pf per 100 feet use instructions none of the cells are locked or protected keep a backup copy smacna 2005 flat oval duct gauge 10 lwg spiral seam construction weights do not take into account the required reinforcement, duct dimensions and measures the area of the cross section is the product of multiplying the lengths of sides a and b the area of the duct is the product of multiplying the internal perimeter and the length of the duct hydraulic diameter in relation to the rectangular duct it is a diameter of the round duct at which pressure loss is the, air duct calculators hvac air duct calculators function used by trainers educators and technicians to get the following information friction velocity round duct size rectangular duct size align the correct air quantity cfm with the friction loss to calculate velocity round duct diameter and rectangular duct diameter product, author pploeg created date 7 16 2015 9 08 17 am, as per smacna the gauges of ducting sheet varies and depends upon the width of the duct and type of application of a particular project here are the few gauge system as per smacna standards example low and medium velocity duct system 26 gauge is use for the duct size below 300 mm 12 and thickness 0 5 mm, the ductulator duct sizing calculator is a hand held rotating calculator used for sizing supply and return duct systems using the equal friction design method this
accurate easy to use duct size calculator includes scales for friction loss per unit length air volume air velocity round duct diameter and rectangular duct diameters, smacna cad standard second edition v notice to users of this publication 1 disclaimer of warranties a the sheet metal and air conditioning contractors national association smacna provides its product for informational, duct tapes should be ul and smacna rated so the material so we look at the duct calculator and put 800 cfm at the 10 it is also lighter weight than, this calculator is designed to give the approximate weight of sheet metal based on length width and thickness, rigid semi rigid amp flexible duct rigid semi rigid amp flexible duct holyoake air management solutions 2011 spiro set spiro set is a light weight air duct machine formed in a continuous spiral from aluminium strip coil stock corrugated and seamed with a four ply lock seam creating an airtight tube which can be easily cut to length and bent, hvac duct design calculator includes detailed instructions and enables hvac system designers to design an average duct system without additional references it is the only calculator in the industry to include the 0 0003 roughness factor duct friction loss data for designing straight round or rectangular sheet metal ducts smacna 1052, spiral duct and fittings the economic way to prevent mold from becoming a problem in your hvac system over the last several years concerns about mold and mildew growth in hvac systems have increased significantly with an active ingredient approved for use by the epa aviron46 provides superior protection for only a fraction of the cost, online ductulator free duct size calculator ductulator calculates duct dimensions using equal friction method or velocity method it calculates both rectangular and round duct dimensions and it shows the velocity and or static pressure loss of air for both types of duct shape it works with i p units united states united kingdom and metric units canada europe russia middle east asia, lantek expert duct is a powerful software for calculating hvac and duct figures this software system perfectly combines machine technology with the customers programming and management needs lantek expert duct is designed in such a way that the user only has to follow the simple steps prompted by the system, armstrong metalcrafts does prototyping and produces devices that stimulate the imagination spark a conversation and enlighten the soul, the duct sizing calculator is a hand held sliding calculator used for sizing supply and return duct systems using the equal friction or velocity reduction design method front of calculator includes scales for friction velocity round duct size weight per linear foot of round duct surface area in square feet per linear foot of round duct, so far in this series on duct and system design we have discussed heat transfer duct leaks and heat load calculations with an understanding of the system and the data collected we are able to, equivalent duct calculator app user guide introduction round is the most efficient duct shape for transporting air round duct has less surface area weight and fewer joints than rectangular duct it is much easier to seal and can easily be specified to meet smacna, armaflex thickness calculator ductwork uk 03 2010 the service portal from armacell achieving f u l l p e r f o r m a n c e iso 12241 recognises that heat loss does not occur solely through the duct wall heat flows as water and disproportionate energy loss occurs at weak points known as thermal bridges these, the tables as shown herein are the smacna tables with those interpretations already substituted by conducting joint performance testing as described in section vii of the smacna hvac duct construction standards 2nd ed 1995 it was found that in some tests the ward angles e h and j permitted a more liberal interpretation of the smacna tables, duct fitting database dfdb for the iphone ipod touch and ipad allows you to perform pressure loss calculations for ashrae duct fittings in both i p and si units use this mobile app in the field for quick duct pressure loss calculations the inputs can be adjusted by touch and installation is automatic, industrial duct we have considered the span distance between hangers working pressure specific weight and abrasiveness of particulate being conveyed and have documented all considerations and assumptions which have been made in the development of this design program smacna s industrial duct construction standards, duct and offset past obstacles which may be in the path of the system measuring such ventilation systems for insulation and cladding requires skill and knowledge accurate measuring on site can reduce manufacturing time reduce waste and increase the profitability of the job module 5 ductwork amp vessels unit 1 measuring ductwork amp other large, gauge and weight chart for sheet steel galvanized steel stainless steel aluminum and strip amp tubing sponsored links wire gauge is a measure for the size of a wire either in diameter or in cross sectional area, duct velocity calculate velocities in circular and rectangular ducts imperial and si units online calculator ductwork seal classes ductwork prone to air leakages ductwork support ductwork support and recommended distance between hangers, duct calculator duct calculator is a powerful tool that provides access to duct calculation and sizing capabilities either as a standalone windows program or from within the autodesk building mechanical design environment marisoft makes it easy for you to test drive marisoft duct calculator at your leisure with the fully functional evaluation version, 3 high velocity duct systems high velocity hv duct systems are characterized by air velocities in the range of 2500 to 3500 fpm low velocity ductwork design is very important for energy efficiency in air distribution systems low velocity design will lead to larger duct sizes but it may be worth since doubling of duct diameter, kinetics pipe amp duct seismic application manual rectangular
the duct that tends to burst or collapse the duct and is expressed in inches of water gage wg velocity pressure vp is defined as that pressure the weight and volume of the contaminant in the air stream is ignored this is permissible for the contaminant concentrations in typical exhaust, users can combine multiple sections of ductwork that vary by size and shape to calculate a total allowable leakage the application uses the method outlined in smacna’s hvac air duct leakage manual and provides suggested leakage classes from smacna’s latest edition of the manual, i work for a cost consultant and recently came upon a rather interesting and indeed tricky situation i usually find that my estimate on the total duct weight is more conservative than the contractor’s but in this instance it was the other way round as an example for a 7 feet long galvanized duct of size 74 x 54 i came up with a weight of 247 lbs assuming 0 wastage, 9094 leslie street unit 7 richmond hill ontario l4b 3l9 phone 905 771 8898 fax 905 764 8188 spiral duct weight chart galvanized spiral duct weight chart pounds per foot, this tool is designed to calculate the ducts weight for all the ducts in the projects according to the international standard this helps the designers to calculate the duct weight this enables the users to produce a more accurate design, if the designer does not designate pressure class for duct construction on the contract drawings the basis of compliance with the smacna hvac duct construction standards is as follows: 2 500 pa wg for all ducts between the supply fan and variable volume control boxes and 1 250 pa wg for all other ducts of any application