

Contractor's Guide

The Dollars & "Sense" of Choosing a Duct System

The logo for SEVICO Duct & Acoustical Products Inc. is centered on the page. It features the word "SEVICO" in a large, bold, blue, sans-serif font. Below it, "Duct & Acoustical Products Inc" is written in a smaller, blue, sans-serif font. A small "TM" trademark symbol is located to the right of the company name. The entire logo is enclosed within a large, stylized, grey oval shape that has a dynamic, swooping appearance, suggesting movement or airflow. The background of the entire advertisement is a dark, metallic surface with vertical ridges, possibly representing a duct or a wall panel.

SEVICOTM
Duct & Acoustical Products Inc

In today's fast paced economy and competitive environment the focus is on low price. This is especially true in the construction market. Low first price however, is not the lowest overall cost or the best value. This brochure is an attempt to educate HVAC duct system buyers, so they can make the most informed buying decision possible.

Economic Considerations

An independent market survey commissioned by SMACNA indicates the overall installed costs of duct systems to a building owner breaks down to 34.5% material cost for duct, and 65.5% for cost of labor to install. This data is substantiated by U.S. Department of Commerce statistics. Obviously, these surveys indicate that the labor cost to install duct systems is the largest cost element.

Reported Cost Structure

Duct System Installed Costs	SMACNA	U.S. Department of Commerce
Duct Product Material Costs	34.5%	36.5%
Installation Labor, O/H, Profit	65.5%	63.5%
Total Installed Duct Costs	100%	100%

In the competitive bidding process everyone attempts to be low at bid time. The focus of being low is to receive the contract. Everyone knows duct systems are a commodity product, there are no moving parts, so what's the big deal? The deal is that not all duct systems are created equal! Contractors and owners should not overlook VALUE as it could represent the lowest overall installed cost and the highest profits.

Spiral duct systems today are supplied in many different configurations and assemblies. These different configurations can cause installation labor to vary by as much as 50% or more. The air inside the duct system will see little, if any, performance differences due to configuration. The product weight may be exactly the same, however the field installation and the overall installed cost could be significantly different. Frequently, installing contractors see their job site labor exceed budget. We believe many contractors experience job site cost overruns without truly understanding the value factor.

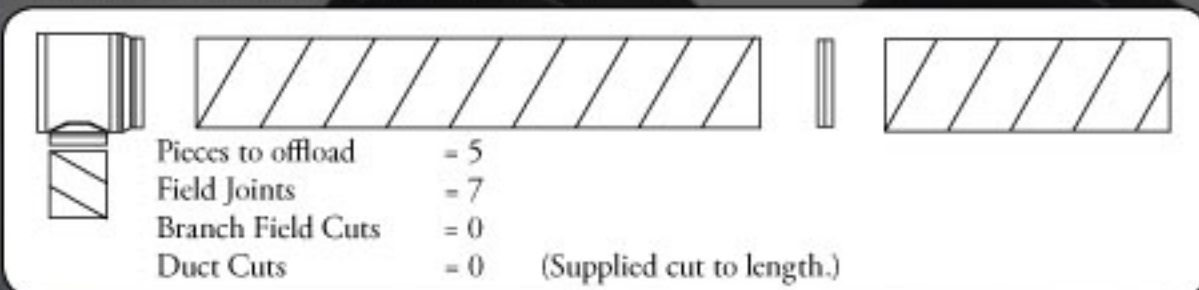
For the purpose of this document we chose to use the more conservative SMACNA data from above, realizing that installation labor costs vary widely depending on location (from \$53.39 per hour in Philadelphia, \$48.60 in Chicago, \$38.84 in Denver, \$28.34 in Dallas, and \$22.28 in Orlando, based on average 2004 info). The concept of this presentation is about controlling field labor costs (installed labor) for the installing contractor. This is where projects and profits are made or lost.



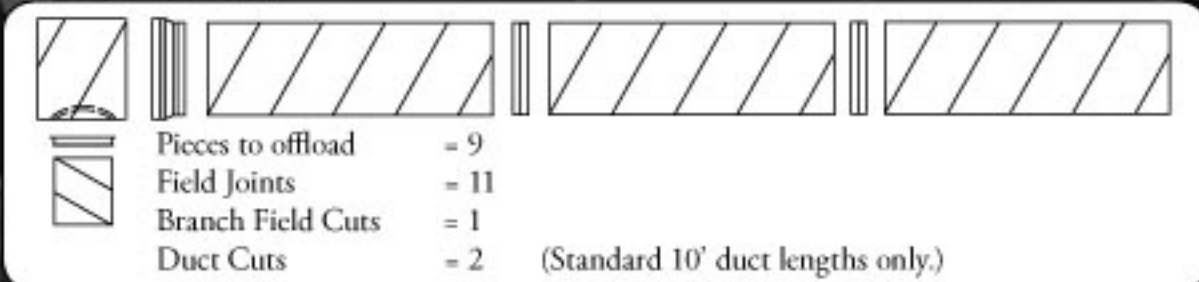
Breakdown of Typical Duct Project

The impact of different configurations of a fairly common duct system can be seen in the following example.

Scenario 1 (Complete Fittings and Cut to Length Duct):



Scenario 2 (Loose Erection Set):



In the above two examples, Scenario 2 has nearly twice as many pieces to off-load (9 versus 5) and double the amount of field joints/cuts to perform (14 versus 7). The economic impact of these two different configurations is demonstrated in the following chart. This comparison is based on a duct system with a total installed cost of \$100,000.

Cost Comparison of Scenarios	Scenario 1		% Change	Scenario 2	
Duct Product Material Costs	\$34,500	34.5%	-10%	\$31,050	31.0%
<i>Installation Labor Costs</i>	<i>\$40,500</i>	<i>40.5%</i>	<i>+30%</i>	<i>\$52,650</i>	<i>52.7%</i>
<i>Overhead & Profit</i>	<i>\$25,000</i>	<i>25.0%</i>		<i>\$16,300</i>	<i>16.3%</i>
Installation LBR, OH, & PFT	\$65,500	65.5%		\$68,950	69.0%
Total Overall Installed Cost	\$100,000	100.0%		\$100,000	100.0%

Assumptions:

Although the above diagrams show an increase in total field joints and cuts to perform (AKA labor for the contractor), we chose a more conservative 30% increase in installed labor for our calculations. The SMACNA report states Overhead & Profit averages 25% and Installation Labor costs as 40.5% of the total job costs.

Since material costs for Scenario 1 is 10% higher, the contractor purchased Scenario 2. The contractor appeared to save \$3,450 (10%) by purchasing the low cost duct system. But, by ignoring the labor savings and the overall installed value of the Scenario 1, this contractor lost the opportunity to increase his profits by 53.4% (\$25,000 - \$16,300 = \$8,700). By choosing Scenario 2, the contractors field cost was over budget by \$12,150.

SEMCO Configuration Options

Round Diameter

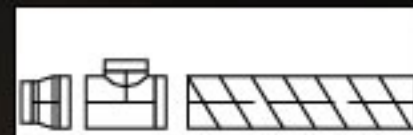
Configuration A

Configuration B

14 x 12 X 10

Loose Erection Set

Loose Fittings & Duct



Pieces

5

3

Joints

7

5

Cuts

2

0

Price

\$64.10

\$77.00

Price Index

87%

104%

Labor

\$309.19

\$171.77

Labor Index

225%

125%

Total Price

\$373.29

\$248.77

Total Price Index

177%

118%

Fittings

All Loose, Male Ends Only

All Loose, Male or Female

Taps

All Loose, Male Ends Only

Installed on Body

Reducers

All Loose, Male Ends Only

Loose Male or Female

Spiral Duct

Standard 10'-0" Lengths

Standard 10'-0" Lengths

Access Doors

Loose Not Installed

Installed on Body

Caps/Plugs

Loose Not Installed

Loose Not Installed

Female Couplings

Required for Fitting to Fitting

Not Required

Flanges

Loose if Applicable

Loose if Applicable

Rectangular Taps

Loose or Not Provided

Installed on Body Male/Male

Piece Marks

Not Available

On Fittings Only

Configuration C

Complete Fittings & Cut
to Length Duct



2
4
0

\$74.00
100%

\$137.42
100%

\$211.42
100%

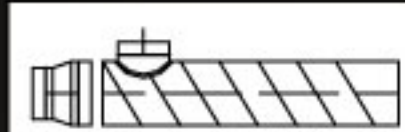
All Loose, Male or Female
Installed on Body
Installed Male or Female
Cut to length
Installed on Duct or Fitting
Installed on Duct or Fitting
Not Required
Installed if Required
Installed if Required

Piece Mark & Color Coded

**BASEPOINT FOR
COMPARISON**

Configuration D

Manifold



2
4
0

\$83.00
112%

\$137.42
100%

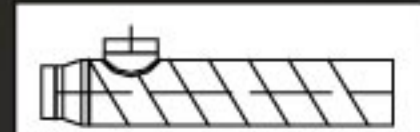
\$220.42
104%

Loose and Manifolder
Installed Male or Female
Installed Male or Female
Cut to Length
Installed on Duct or Fitting
Installed on Duct or Fitting
Not Required
Installed if Required
Installed if Required

Piece Mark & Color Coded

Configuration E

Manifold



1
3
0

\$87.00
118%

\$103.06
75%

\$190.06
90%

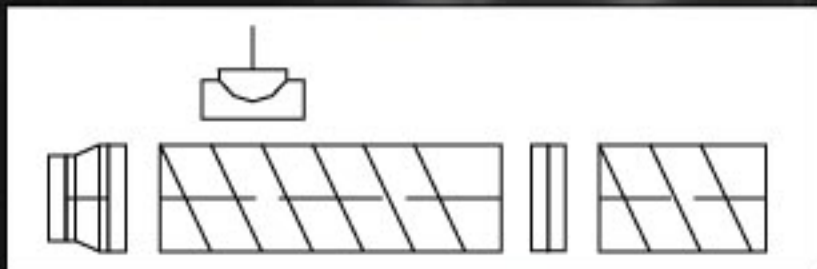
Manifolder
Installed Male or Female
Installed Male or Female
Cut to Length
Installed on Duct or Fitting
Installed on Duct or Fitting
Not Required
Installed if Required
Installed if Required

Piece Mark & Color Coded

How, When & Where

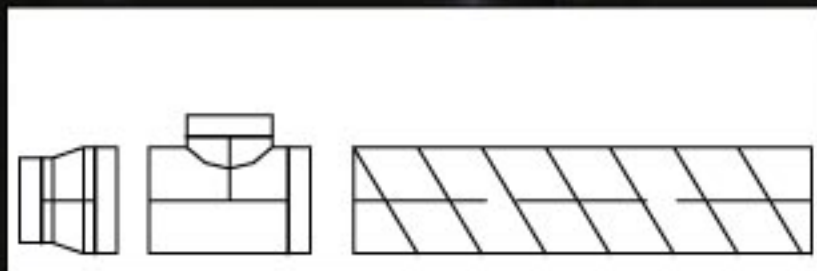
Configuration A:

- Spiral Duct
- Loose Saddle Taps
- Loose Concentric Reducers
- Standard 10'-0" Duct Lengths



Configuration A is best used in small diameter projects such as tenant finish areas, low pressure downstream of mixing boxes or where there are long straight runs or multiple short runs which can be common on low pressure systems. It is best in single wall round with self-sealing joints.

Avoid this configuration when flanged joints are required and/or where the appearance is important. Configuration A offers the least product cost but the highest labor to install. It also uses more pieces (5) and more joints (7) than all other configurations.



Configuration B:

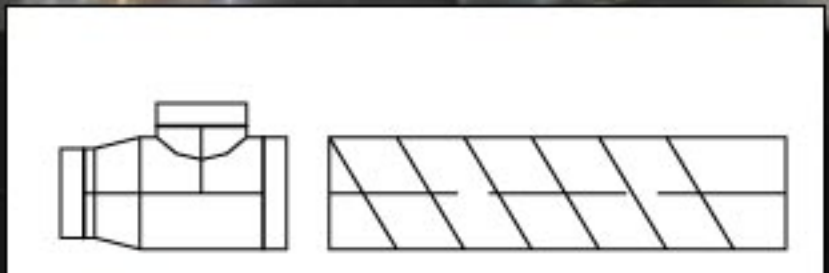
- Spiral Duct
- Full Bodied Fittings
- Loose Concentric Reducers
- Standard 10'-0" Duct Lengths

Configuration B is suitable for many pressure classifications. Again, this is best used where the diameters are small to midsize and where duct runs are made in tight spaces. This arrangement works well in single wall or dual wall applications and where self-sealing joints are highly advantageous. It works well for medium and high-pressure mains to mixing boxes. This configuration could also be used in exposed or concealed applications.

Avoid this option when flanged joints are required, as it will significantly increase the product cost. Configuration B uses fewer pieces (3) and fewer joints (5) than configuration A. Product cost and installation labor for this configuration is typically mid-range.

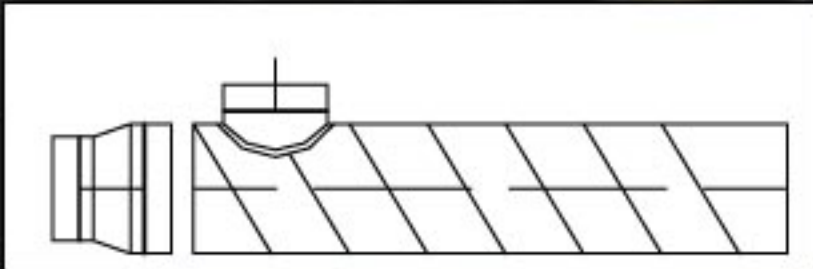
Configuration C:

- Spiral Duct
- Full Bodied Fittings
- Installed Reducers and End Treatments
- Custom Duct Lengths



This configuration has been both the base standard in the industry and SEMCO's standard for many years. Configuration C is suitable for all pressure classifications, single wall and dual wall applications. In our opinion, this design is the best overall value in the market and is suitable for all duct applications. This arrangement is commonly used in exposed or concealed applications and is a good application for large diameter ducts where flange joints are required.

This configuration uses fewer pieces (2) and fewer joints (4) than either configuration A or B. Product cost is slightly higher and labor is mid-range. Again SEMCO has made configuration C a standard and we believe this design provides the best balance of product cost and labor. A contractor who is not aware of the differences between various manufacturers offerings and/or who does not acknowledge the added value of this configuration may experience labor costs that are over budget. Thus, reducing profits!



Configuration D:

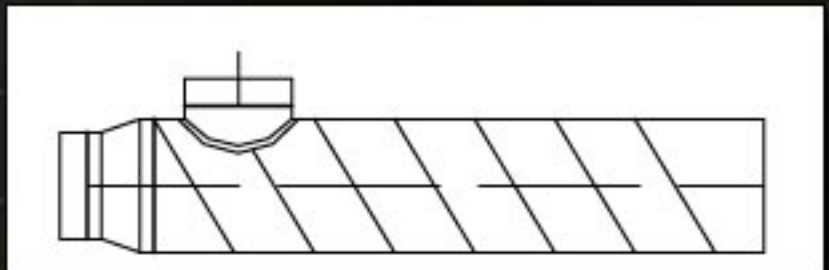
- Spiral Duct Partial Manifold
- Installed Branch Taps
- Loose Reducers and End Treatments
- Custom Duct Lengths

Configuration D is suitable for all pressure classifications, all single wall and dual wall applications and is well suited for open areas such as pools, athletic facilities, atriums, and manufacturing areas. This design is commonly used in exposed or concealed applications and can be used in small and large diameter ducts to greatly reduce field labor where there are multiple branches off the same piece.

This option uses fewer pieces (2) and fewer joints (4) than configuration A. Product cost is slightly higher and labor is mid-range. Added freight cost should be considered when evaluating configuration "D".

Configuration E:

- Spiral Duct Manifold
- Installed Branch Taps
- Installed Reducers and End Treatments
- Custom Duct Lengths



Configuration E is suitable for all pressure classifications, all single wall and dual wall applications and is well suited for open areas such as pools, athletic facilities, atriums, and manufacturing areas. This design is commonly used in exposed or concealed applications. This arrangement is used in small and large diameter ducts and can greatly reduce field labor where there are multiple branches off the same piece. This is the best option where diameters are large and flanged joints are required.

This option uses the fewest pieces (1) and fewest joints (3) than any other configuration. Product cost is the highest and installation labor is the lowest. Added freight cost should be considered when evaluating configuration "E".

Summary

We live in a fast paced competitive environment. To get the contract, everyone is geared to be low at bid time. The bottom line is that the lowest product cost does not equate to the lowest overall installed cost! Overall value should not be overlooked, as all duct systems are not created equal!

It has been and will be SEMCO's mission to offer the market the overall best value and highest quality products for the application. SEMCO is dedicated to educating the market and helping our customers make the best buying decision for their company and project.



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