

It's modular.
It's adjustable.
And, it's in stock!

simpleSOX™

Adjustable Fabric Air Dispersion System

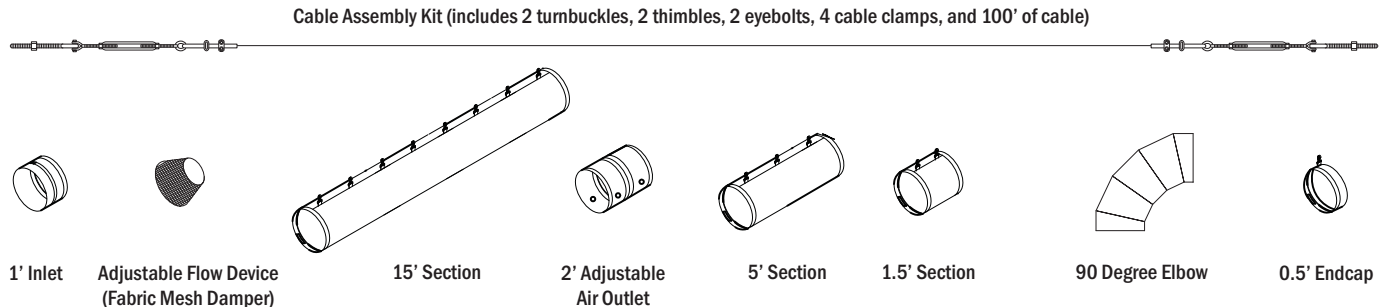
DUCTSOX®
Fabric Air Dispersion Products

simpleSOX™ System

A SimpleSox™ System is an adjustable fabric air dispersion system assembled with pre-made components readily available. The versatility of a SimpleSox™ System is unmatched as you can easily adjust both the volume and direction of air, as well as the location of where air will be dispersed, both during and after installation.

A SimpleSox™ System consists of up to eight standard parts (see drawings below) available in five diameters (12", 16", 20", 24", and 28") to deliver up to 6000 CFM per run. Each system has standard and optional components to meet your airflow and layout needs.

SimpleSox™ Systems are configurable up to 14 airflow volumes and a total of 63 combinations considering orifice size, orientation, and the number of orifices activated.



SimpleSox™ Systems are intended for simple, open ceiling applications using straight runs with or without 90 degree elbows. They can be used as an alternative for uninsulated metal duct and diffuser systems in traditional heating and ventilating applications, including some conditioned environments. Typical applications are light industrial and retail, but can include many others.

Adjustable Air Outlet (AAO)

Adjustability

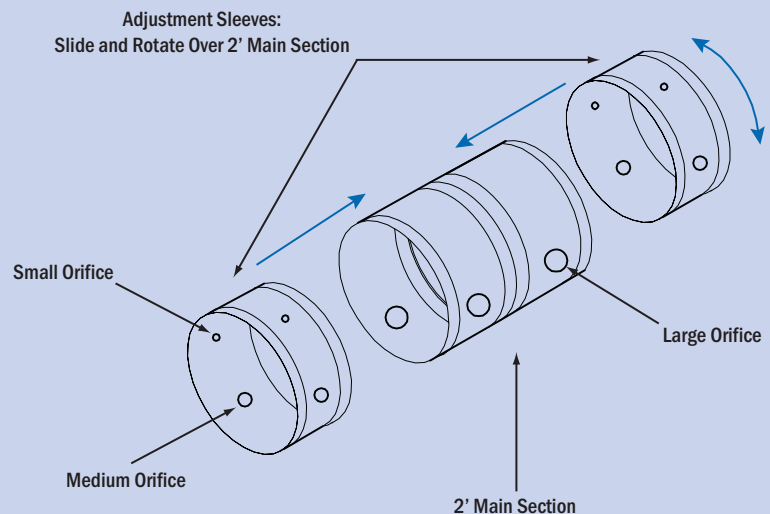
Adjustable Air Outlets (AAOs) are truly what make a SimpleSox™ System unique! The AAO feature provides the option to:

Change the Direction of Airflow

The 2' main section of the AAO has four large orifices and has dual start zippers on each end. This enables the AAO to be rotated 180 degrees, changing the direction of airflow to either down (4 & 8 o'clock) or up (10 & 2 o'clock).

Change the Volume of Airflow

Each AAO has two independent adjustment sleeves that slide and rotate over the 2' main section. The adjustment sleeves have both small and medium orifices and are held in place with hook and loop fasteners. Simply rotate the sleeves to select small and/or medium orifices, or remove them for large orifices. Changing the number of orifices activated (0, 1, 2, 3, or 4) and/or the size of each orifice (small, medium, or large) changes the volume of air discharged from the AAO. Airflow volumes can range from 0 CFM per AAO (fully blocked) to 920 CFM per AAO (using four large orifices, 0.5" w.g. inlet static pressure, and a 28" diameter SimpleSox™ System). See Chart 2 for Low, Medium (Factory Setting), and High CFM volumes for each diameter.



Five Easy Steps

Follow these steps to select the required standard parts to distribute and disperse air with a SimpleSox™ System.

Step 1. Select the diameter based on the amount of CFM delivered at the inlet using Chart 1.

Step 2. Calculate the number of Adjustable Air Outlets (AAOs). Using Chart 2, divide the CFM delivered at the inlet by the airflow volume for the Medium Setting of the diameter selected in Step 1. Always start with the Medium Setting and adjust the quantity of AAOs if more or less air is required per AAO.

NOTE: The Low, Medium, and High Settings are based on using four orifices (two per side) of the same size. For example, the Low Setting uses four small orifices, the Medium Setting (Factory Setting) uses four medium orifices, and the High Setting uses four large orifices. All CFM values are based on 0.5" w.g. inlet static pressure. Please consult the DuctSox factory if the pressure is more or less than 0.5" w.g.

Step 3. Determine total length required, then complete the layout by calculating the lengths of the required components (Inlet, AAOs, and Endcap) and filling in the available space with 1.5', 5', or 15' straight sections. Refer to Chart 3 for component lengths. Get as close to the desired length as possible.

NOTE: Since all applications are different, placement and adjustment of your AAOs is based on airflow requirements. Do not place two AAOs side-by-side and always use a straight section (1.5', 5', or 15') from the inlet and elbow.

Step 4. Use Chart 3 to itemize the components required for your layout. If your system requires more than 100' of cable, you will need to order two or more cable assembly kits.

Chart 1. CFM per Diameter

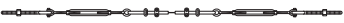



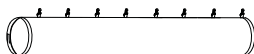
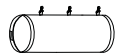



CFM	Diameter
Less than 1000	12"
1001-2000	16"
2001-3000	20"
3001-4400	24"
4401-6000	28"

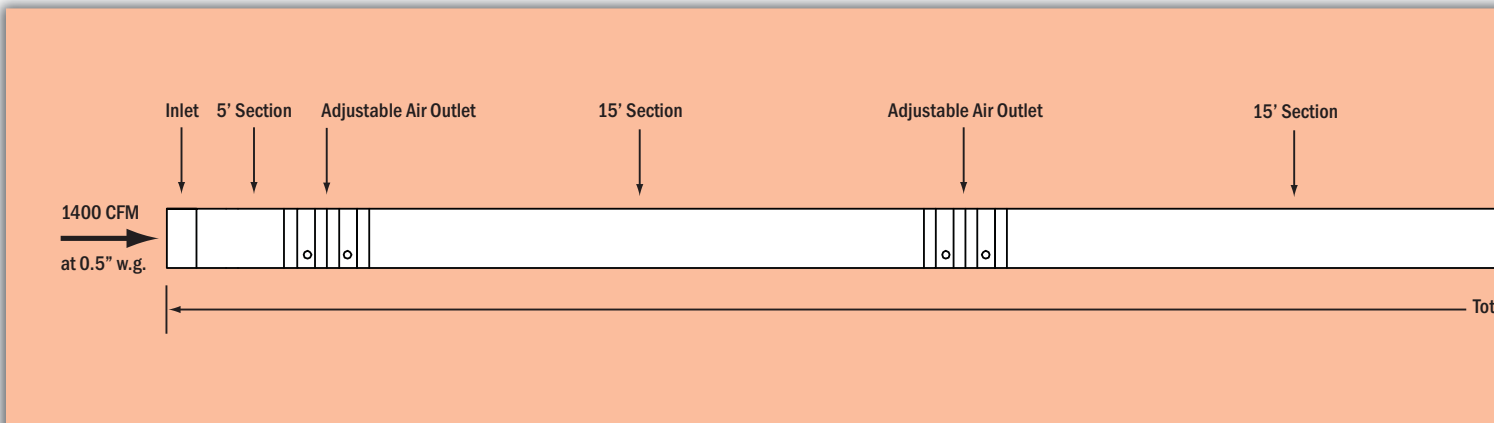
Chart 2. AAO Air Volume (CFM)

Diameter	Low	Medium	High
12"	140	200	260
16"	200	280	380
20"	320	460	620
24"	380	560	760
28"	460	680	920
		Factory Setting	

NOTE: For Low and Medium Settings, reduce airflow volumes by 50% if orifices are on one side only. High Setting is not applicable for air dispersion on one side.

Chart 3. Components List

Part Code	Part Name	Length
CA	Cable Assembly 	100' roll
AAO	Adjustable Air Outlet 	2'
I	Inlet 	1'
EC	Endcap 	0.5'
15D	15' Section 	15'
5D	5' Section 	5'
1D	1.5' Section 	1.5'
E	Elbow 	90 degree
AFD	Adjustable Flow Device 	0



Step 5. Plan your work and work your plan. Now that you have ordered your SimpleSox™ System, start planning for the installation.

Planning Tips

- Double check your measurements.
- Do a site visit.
- No special tools are required, but you will want to determine if a lift is necessary.

Included with your SimpleSox™ System will be a comprehensive installation guide. Read this thoroughly prior to installing your System. The installation guide is also available on www.ductsox.com.

The estimated times for installing a SimpleSox™ System are:

Total Length	Install Hours
25 ft.	2.5
50 ft.	3
75 ft.	3.5
100 ft.	4
Note: For elbow, add 2.5 hours.	

Throw Distances

Velocity		150 FPM		
Diameter	AAO Setting	Low	Med	High
	12"		18'	22'
16"		22'	26'	31'
20"		28'	34'	40'
24"		31'	37'	44'
28"		34'	41'	49'

Velocity		100 FPM		
Diameter	AAO Setting	Low	Med	High
	12"		27'	34'
16"		32'	40'	46'
20"		43'	52'	59'
24"		46'	57'	66'
28"		52'	63'	74'

Velocity		50 FPM		
Diameter	AAO Setting	Low	Med	High
	12"		54'	65'
16"		67'	80'	93'
20"		85'	103'	120'
24"		94'	114'	132'
28"		103'	125'	147'

NOTE: Distances are estimated and based on calculated theoretical throw values.

- AAO Settings above assume:
- Low = 2 small orifices/side
 - Med = 2 med orifices/side
 - High = 2 large orifices/side

Values based on 0.5" w.g. inlet static pressure.

SimpleSox™ System Example

An application is supplying 1400 CFM of air at the inlet of the SimpleSox™ System. The layout will need air distributed equally in a straight line approximately 76' from the face of the air handling unit. The inlet static pressure is 0.5" w.g.

Step 1

The diameter for 1400 CFM is 16".

Step 2

Medium Setting:

5 AAOs (1400 CFM/280 CFM) are required.

For more or less air, adjust the quantity of AAOs to:

High Setting (large orifices):

4 AAOs (1400 CFM/380 CFM) are required.

Low Setting (small orifices):

7 AAOs (1400 CFM/200 CFM) are required.

Step 3

Required Parts:

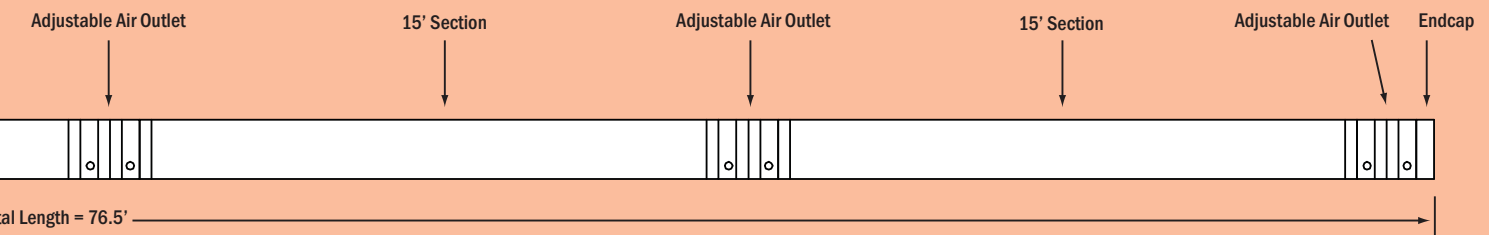
- 1 Inlet = 1'
- 1 Endcap = 0.5'
- 5 AAOs = 10'
- Section Lengths:
4 - 15' = 60' 1 - 5' = 5'
- Total Length = 76.5'

Step 4

For a 16" diameter:

Part Code	Quantity
CA	1
AAO	5
I	1
EC	1
15D	4
5D	1
AFD	Optional

See SimpleSox™ System layout below.



Other Features & Benefits

- Modular, configurable components.
- In stock and individually packaged.
- Material costs are 25% less than metal.
- Install time is 40–80% less than metal.
- Much smaller space requirements for transporting and storage.
- Easy installation using cable, clips, and zippers.
- Lightweight for easy handling.
- Machine launderable.
- Fabric is non-corrosive and will not dent.
- AFD (fabric mesh damper), an optional feature for turbulent air.
- Dual start zippers on AAOs and elbows.

Resources Available

There are many resources available for designing a SimpleSox™ System, including: this brochure, online tools (specifications, calculations, and drawings), and our Customer Service Dept. In addition, the SimpleSox™ System Selection Guide (see slide chart below) was developed to make sizing a SimpleSox™ System quick and easy!

SimpleSox™ System Selection Guide

Step 1. Match your CFM to the below chart, rounding up to the next highest CFM. This will result in the **1** diameter and the **2** number of Adjustable Air Outlets (AAOs).

CFM	Diameter	AAOs	Category	Use this for
1400	16	5	SMALL (1 to 5 ton units)	Use this for 400 to 2000 CFM
3000	20	7	MEDIUM (6 to 30 ton units)	Use this for 2000 to 4000 CFM
5000	28	8	LARGE (30 to 75 ton units)	Use this for 4000 to 6000 CFM

Fact: There are up to 24 airflow volumes to choose from and a total of 63 combinations when you consider orifice size, orientation, and the number of orifices activated.

Note: All CFM values are based on 0.5" w.g. of static pressure at the inlet. Please consult the DuctSox Factory if the pressure is more or less than 0.5" w.g.

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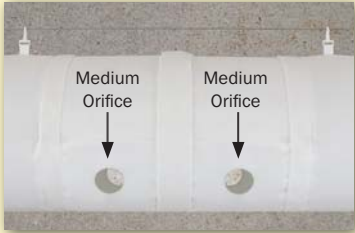
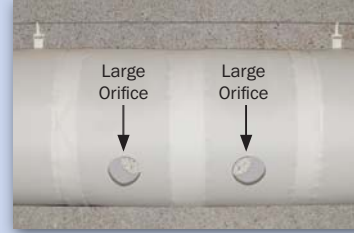
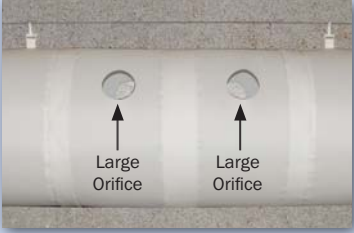
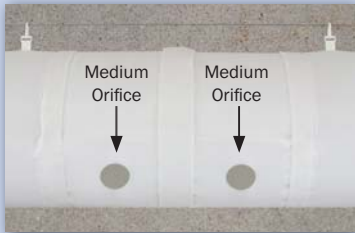
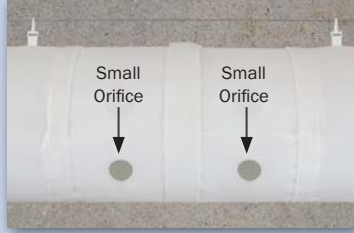

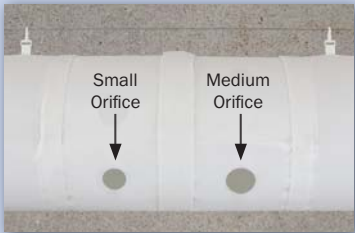
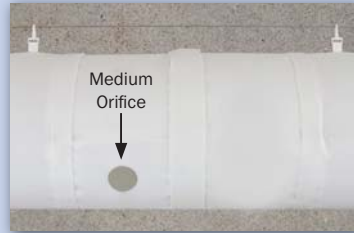
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Fabric & Specifications

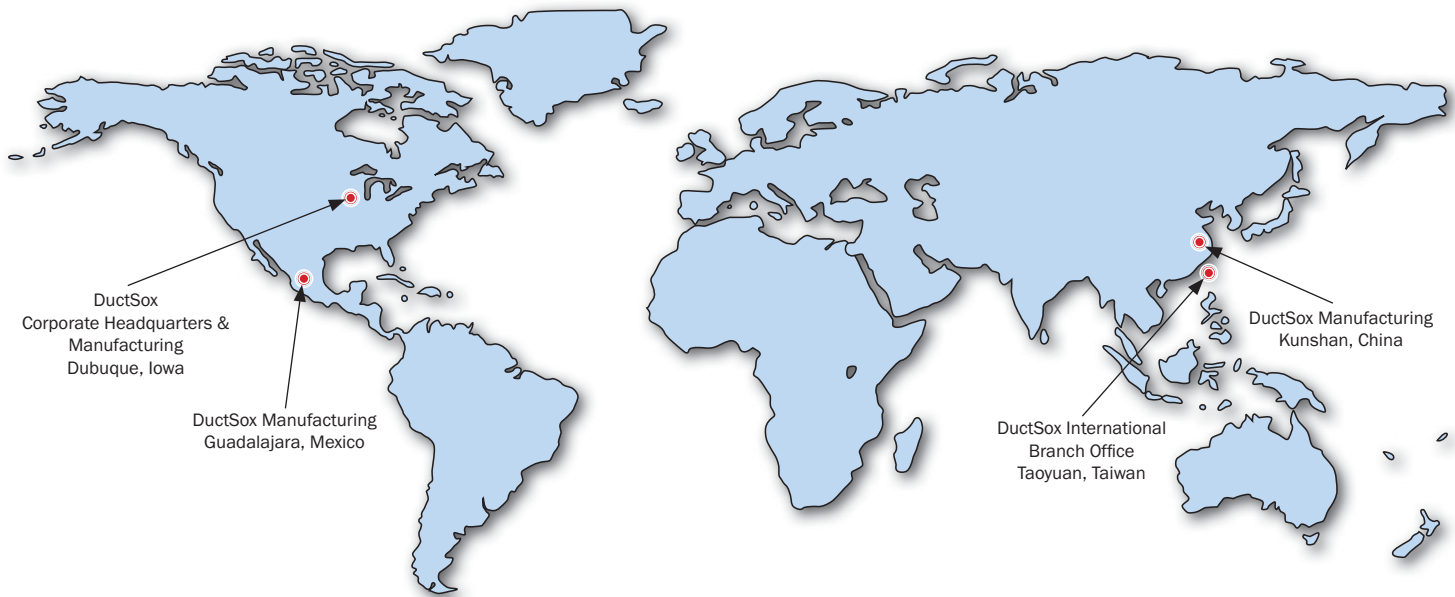
SimpleSox™ Systems are constructed using a medium weight, commercial grade non-permeable white fabric that is machine washable. Specifications include: Fire Retardant Polyester, Plain Weave, Coated; 5.5 oz/yd²; and Classified by Underwriters Laboratories in accordance with the requirements of: NFPA 90A, ICC/AC167, and UL 2518.



AAO Adjustment Variations*

<p>Airflow down, 4 & 8 o'clock</p> 	<p>Airflow down, 4 & 8 o'clock</p> 	<p>Airflow down, 4 & 8 o'clock</p> 
<p>Airflow up, 10 & 2 o'clock</p> 	<p>Airflow down, 1 side, 4 or 8 o'clock</p> 	<p>Airflow down, 1 side, 4 or 8 o'clock</p> 
<p>Airflow down, 4 & 8 o'clock</p> 	<p>Airflow down, 1 side, 4 or 8 o'clock</p> 	<p>Airflow down, 1 side, 1 orifice, 4 or 8 o'clock</p> 

* The photos above show nine of the adjustment variations for a SimpleSox™ System. There are 54 other combinations of orifice size, orientation, and number of orifices activated!



DuctSox products have been accepted within key industry organizations such as ASHRAE, Underwriters Laboratories (US & Canada), International Code Council, and by many building code authorities throughout the world.

More than evolving our standard products, DuctSox strives to be the leader in the industry through our commitment to quality, service, and innovation.

To better support our Global Distribution Network, we have expanded our production capabilities to Kunshan, China and Guadalajara, Mexico.

For more information on DuctSox products, check us out at www.ductsox.com, or contact us at 866-382-8769!

Our commitment to INNOVATION provides unique products for many environments.

DUCTSOX®
Fabric Air Dispersion Products

Custom engineered air dispersion systems for open ceiling and finished ceiling applications.

LabSOX™
Air Dispersion For Critical Environments

Unique air dispersion systems offer reduced discharge velocities for critical environments.

under floor SOX™
Plenum Air Dispersion Systems

Engineered distribution and dispersion systems provide uniform temperature and pressure for raised access floors.

simpleSOX™
Adjustable Fabric Air Dispersion System

Simple and adjustable fabric air dispersion system assembled with pre-made components for open ceiling architecture.

Products may be covered by one or more of the following patents: 6565430, 6558250, 5769708, 6425417, 6626754, 6280320, 5961044, 5655963, 6960130, 6958011, 6953396, 6899615. Other patents pending.

A Subsidiary of Rite-Hite Holding Corporation

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