

DurkeeSox® Product Presentation



What's DurkeeSox® system?

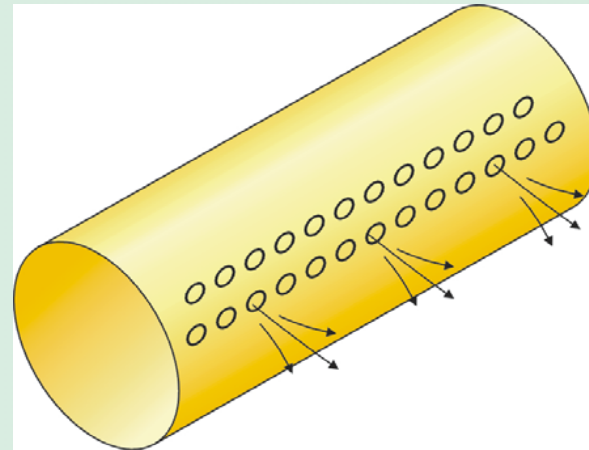
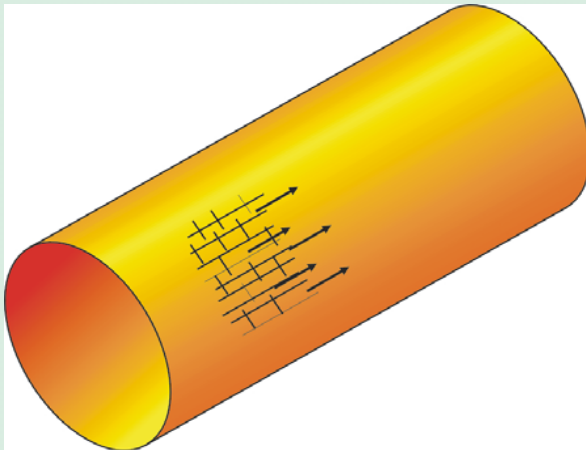
Definition:

An **flexible end system in HVAC/R** made of special fabric, to replace traditional air ducts, air valves, diffusers and insulations. namely DurkeeSox fabric air dispersion system.



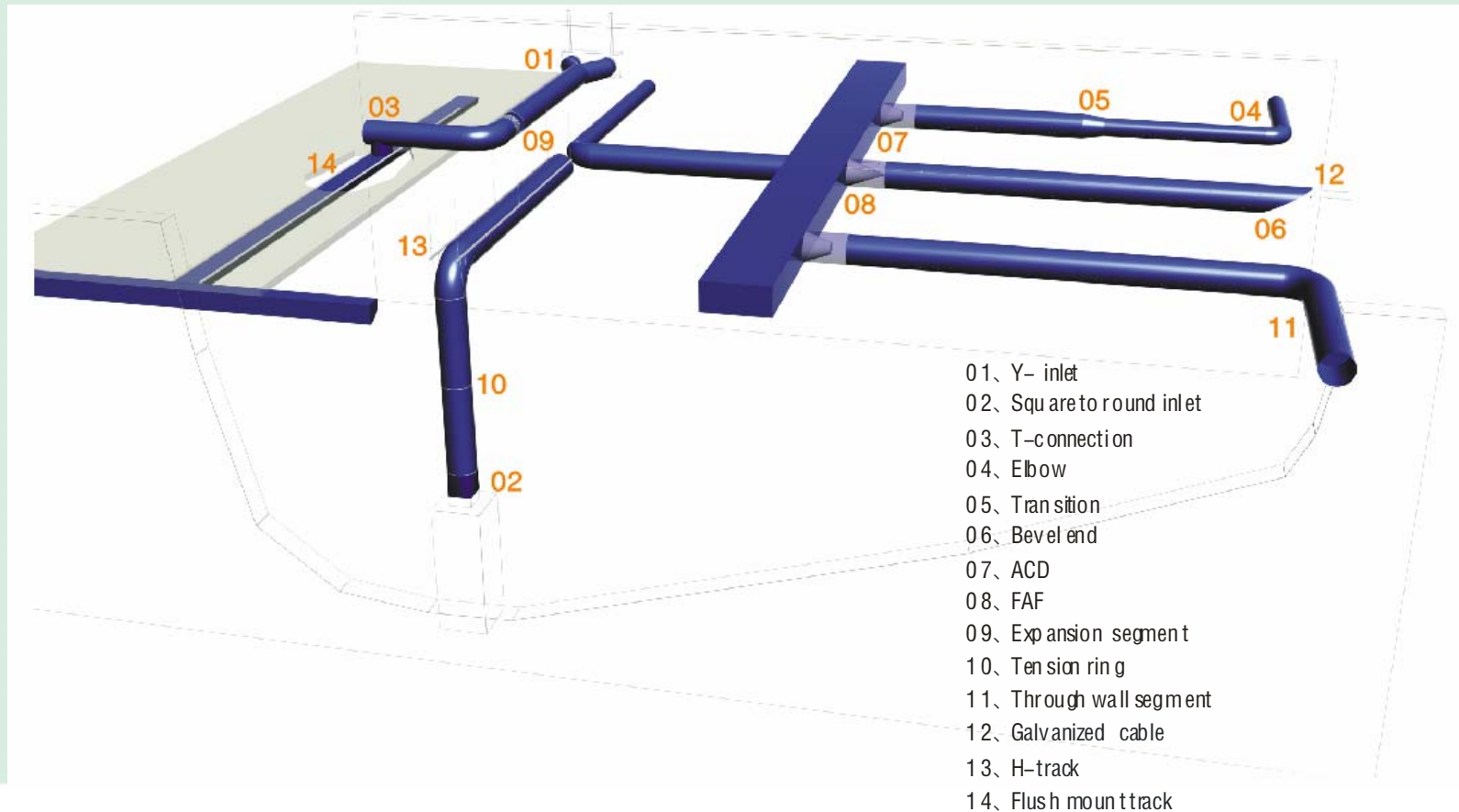
What's DurkeeSox® system?

- Airflow is evenly dispersed mainly through an unique air dispersion combination mode of **fabric air permeation and orifices jet.**



What's DurkeeSox® system?

Definition of DurkeeSox® System:



DurkeeSox® Product Series

DurkeeSox® products are divided as:

1. General Straight Duct
2. Parts & components in system



1. General straight duct

Detailed illustration of general straight duct in 5 aspects:

- Fabric Material, Colors, Airflow models, Shapes, Air Outlet Model

**Fabric
Material**

**Airflow
Models**

Shape

Color

**Air Outlet
Model**

1. General straight duct

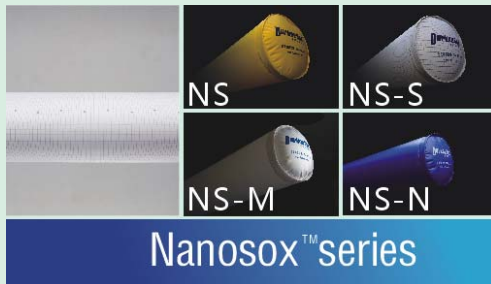
A. Material Type

Fabric
Material

3 Series material **9** types of product

Nine products with anti-microbial, anti-static etc more functional materials in **three series** to meet higher requirements from all fields:

- 1) NanoSox™ inherent permanent fire resistant series;
- 2) Treated laundry-resistant & fire-resistant series;
- 3) Non-inflammable fabric series.



1. General straight duct

Premium Patented Nanosox™ Series

Made of **inherent permanent fire resistant fabric** by Nanotechnology,
Perfect fire safety performance and widest application fields.
no more degrading of fire performance after laundry.

Property		Items	Index	Results	Code compliance	Testing organization	Remarks	
Material property	Fire safety	B	FIGRA, WIs≤120 THR600s, MJ≤7.5	15 2.2	GB 8624-2006 EN13501-1; 2007	NFTC	1、Formal testing	
		s1	SMO GRA, m2/s2≤30 TSP600s, m2≤50	0 20				
		d0	Flaming particles or droplets withing 600s Ignition of the filter paper	No No				
		t1	Smoke Toxicity ZA3	ZA3				
		Class1	Calculated Smoke Developed(CSD)≤50 Flame Spread Index(FSI)≤25	20 0		UL		
		Physics property	Tensile strength	> 15N	29N	GB/T 3917.1-1997	CTTC	
	Tear strength		> 500N	1240N	GB/T 3923.1-1997			
	Shrinkage after washing		< 2%	0.5%	GB/T 8630-2002			
	Permeability tolerance CV(%)		< 5%	3.7%	GB/T5453-1997			
	Operational performance	Temperature range	17.8°C(0 F)(24hours);129°C(265 F)(60days) No change of appearance	No change	Ac167 & UI181	UL	Formal testing and UL certificate	
		Clean & fibre drop property	No fabric drops	No change	Ac167 & UI181	UL		
		Anti-mold	No Destroying or decomposing after 60days under the testing condition of UI181	No change	Ac167 & UI181	UL		
		Textile health security	PH 4.0-7.5 Formaldehyde content≤20mg/kg Decomposable Aromatic Amine dye ≤20mg/kg No abnormal odor	7.4 Accord Unfound None	GB 18401-2003	CTTC	Class A (Baby cloth type)	
		NS-M Anti-microbial	>95%	>99%				ASTM E2149
		NS-S Anti-static		1.0 μ cm ²				GB/T 12703-1991
	System performance	Pressure resistance	No change at 1900pa static pressure Appearance no change, no tear, no damage at 2000Pa static	No change	Ac167 & UL181	UL	Formal testing and UL certificate	
Passive permeability		Passive permeability volume at 500Pa	≤ 50 (m3h • m2)	25	JGJ 141-2004	National center of quality supervision and inspection and testing for air condition equipment		
		Passive permeability volume at 1000Pa	≤ 100 (m3h • m2)	48				
		Dimension	≤ 1%	No change				

1. General straight duct



NS / General Nanosox™ type

- It is constructed of fabric in different permeability.
- Typically applied on all kinds of heating & cooling places with general comfort requirement.



1. General straight duct



NS-M / anti-microbial type

- Different from chemical treated anti-microbial fabric, completely made of inherent anti-microbial Nanosox™ fiber which guarantees both the permanent anti-microbial performance and permanent fire resistant performance.
- Mainly applied on food, pharmacy, clean rooms and more industries which are required more strictly on cleanness.



1. General straight duct



NS-S / anti-static type

- Constructed of an integration of fabric in diverse permeability and inherent anti-static fiber to dissipate static build-up.
- Typically used in electronic, chemical, precision manufacture and more industries in where of static sensitive environment.



1. General straight duct



NS-N / non-permeability type

- Made of non-porous fabric without permeability.
- Common used in industrial workshop, warehouse and more heating and ventilating areas where features a high and large space. Meanwhile, it is also applicable to light refrigerating places.



1. General straight duct

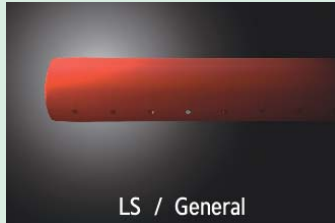
Economy

LaminSox™ coating fire resistant series — outside china using only

- Made of coating treated fire-resistant & laundry resistant fabric with various reliable physics indices, such as: high pressure resistance, high tensile resistance, stable air permeability etc.
- Ensured 10 years fire safety service life.
- Applied in various locations with less fire safety consideration.

Property	Items		Index	Results	Code compliance	Testing organization
Material property	Fire safety	CLASS 1	Calculated Smoke Developed(CSD) ≤ 50	30	ASTM E84	UL
			Flame Spread Index(FSI) ≤ 25	20		
	Physics property	Tensile strength	$> 15N$	98.3	GB/T 3917.3-1997	CTTC
		Tear strength	$> 500N$	1470	GB/T 3923.1-1997	
		Shrinkage after washing	$< 2\%$	0.2%	GB/T 8630-2002	
		Permeability tolerance CV(%)	$< 5\%$	Accord	GB/T 5453-1997	
	Operational performance	Textile health security	PH 4.0-7.5	6.7	GB 18401-2003	
			Formaldehyde content $\leq 20mg/kg$	< 20		
			No abnormal odor	None		
		LS-M Antimicrobial	$>90\%$	$>95\%$	ASTM E2149	
		LS-S Antistatic		$0.7\mu c/m^2$	GB/T 12703-1991	
	System performance	Pressure resistance	No change at 1900pa static pressure	No change	JGJ 141-2004	UL

1. General straight duct



LS / General type

Made of Lamisox fabric with diverse air permeability.

Mainly used in various heating, cooling , ventilation and refrigeration places with general comfort demands.



1. General straight duct



LS-M / anti-microbial type

- Constructed of treated anti-microbial fabric with diverse air permeability.
- Normally applied on food, medical and more industries where higher cleanness requirement is necessary.



1. General straight duct



LS-S / anti-static type

- Constructed of an integration of **Laminsox**[™] fabric and inherent anti-static fiber with different permeability.
- Typically used in electronic and precision manufacture and more industries where of static sensitive environment..



1. General straight duct



LS-N / non-permeability type

•Made of **Laminsox™** fabric without air permeability which is common applied in industrial workshop, warehouse and more heating and ventilating fields where features a high and large space. Meanwhile, it is also applicable to light refrigerating places.



1. General straight duct

Function type

FibersoxTM Class A non-flammable series



- Made of **FibersoxTM** Class A non-flammable material which is mainly used in heating, ventilating and light refrigerating locations with **strict fire safety requirement**.

Property		Items	Index	Results	Code compliance	Testing organization	Remarks
Material property	Fire safety	A2	FIGRA, W/s ≤ 120	5	GB 8624-2006	NFTC	1. Formal testing
			THR600s, MJ ≤ 7.5	0.9			
			Thermal value, MJ/kg, ≤ 3.0	1.6			
		s1	SMOGRA, m ² /s ² ≤ 30	0			
			TSP600s, m ² ≤ 50	20			
System performance	Passive permeability	d0	Flaming particles or droplets withing 600s	Accord	JGJ 141-2004	National center of quality supervision and inspection and testing for air condition equipment	
		t0	Smoke Toxicity ZA1	ZA1			
		Pressure resistance	Appearance no change, no tear, no damage at 2000Pa static pressure	No change			
		Passive permeability volume at 500Pa	≤ 50 { m ³ /h-m ² }	15			
		Passive permeability volume at 1000Pa	≤ 100 { m ³ /h-m ² }	36			
System performance	Dimension tolerance		$\leq 1\%$	No change			

1. General straight duct

Airflow
Models

B、Shapes available

- More shapes are available:
---Round, half-round, large half-round, quarter-round, and rectangle shape.



Round-O

General locations

- Mounted on corner, used in low space places with closed ceiling.



Half-round-D

- Mounted on ceiling, used in low space places with closed ceiling.



Large half-round-HD

- Mounted on ceiling, used in locations with closed ceiling with large air volume.



Quarter-round-Q



Rectangle-S

- Used as main duct in places with large air volume in limited space

1. General straight duct



C、Standard color

9 standard colors and custom colors are available .

Moreover, we could even print the custom LOGO on DurkeeSox air duct



1. General straight duct

D、Mode and component of air dispersion

Four airflow modes

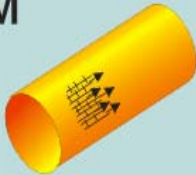
100% permeation-PM

Ejection-EJ

Permeation and slot-PS

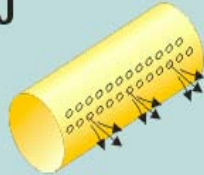
Permeation and Ejection-PE

PM



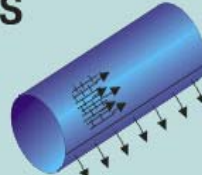
8、16、24、32

EJ



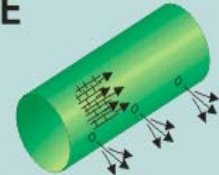
0

PS



2、4、6

PE



0.5、1

Indices of permeability: (unit: **cfm/ft² @ 0.5" w.g**)

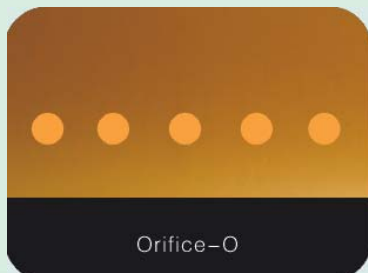
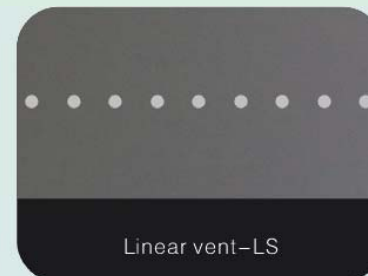
1. General straight duct



D、 Mode and component of air dispersion

Totally six air dispersion components:

Mesh slot, S-vents, L-vents, Orifice, Nozzle, Rubber Ring.



2. System Fittings & Components



FITTINGS

A、Fittings

Three categories: General fittings, special fittings, and functional fittings.



GENERAL
FITTINGS



Special
fittings



Functional
fittings

2. System Fittings & Components

GENERAL FITTINGS

Inlet Connection

- Generally, use single layer or double layer inlet connection to cover on the conventional air ducts joint which is fixed with belt, riveted.
- NanoSox™ employs double layer inlet, only fixes the inside layer, the outer layer is used to cover up and convenient to be removed for washing.
- LaminSox uses single layer inlet



double layer inlet



single layer inlet

2. System Fittings & Components

GENERAL FITTINGS

End

- End cap

NanoSox™ uses end cap, namely, join with duct by zipper which is easier to washing, exchange with other ducts and extend in the length direction.

- Fixed end

LaminSox employs fixed end, to seam the end to the duct, make a whole of it.



End cap



Fixed end

2. System Fittings & Components

GENERAL FITTINGS

Zipper connection

Used to connect among straight duct, parts, and components, just like conventional flange.

- Concealed zipper

Nanosox uses concealed zipper, which is covered by a layer of fabric from outside.

- Common zipper

Laminsox uses common zipper



Common zipper



Concealed zipper

2. System Fittings & Components

GENERAL FITTINGS

Elbow—E

Standard centerline radius is 1.5 times of diameter (curve radius= $1.5 \times$ diameter). The elbow consists of multiple gores, the size of gores depend on different curve angles per application required.



2. System Fittings & Components

GENERAL FITTINGS

Transition—V

Used to connect ducts in different diameters

Bottom flat: more aesthetic,

concentrate: more even air dispersion,

top flat: easier to install



2. System Fittings & Components

GENERAL FITTINGS

T-connection

Delivery the airflow to branch ducts which is perpendicular to main duct. When install, connect the T-connection with straight ducts by zippers respectively.

- **Bottom flat**
- **concentrate**
- **top flat**



2. System Fittings & Components

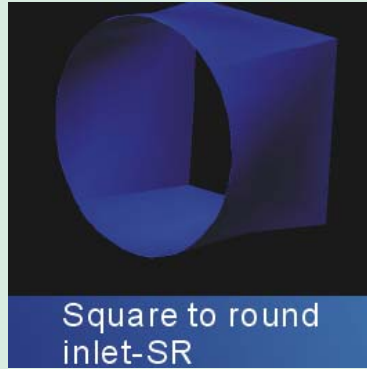
Special fittings

Special fittings

- Y-inlet, Square-Round inlet, Elbow-inlet, T-shape inlet



Connect two outlets of AHU with the main duct.



- Connect conventional square air duct with DurkeeSox air duct.



- Connect DurkeeSox inlet with elbows.



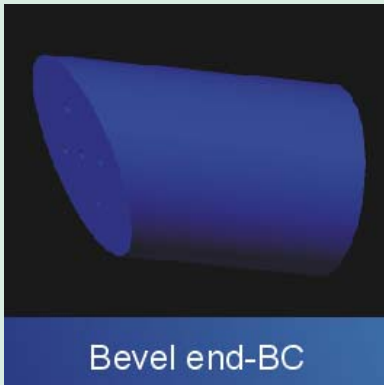
- Connect DurkeeSox inlet with T-connection.

2. System Fittings & Components

Special fittings

Irregular-shaped fittings

- Bevel end, Reducing-elbow, Bevel Transition



- Disperse air in the bevel end of duct in all directions, may design specially per project situation



- Connect elbows in different diameters.

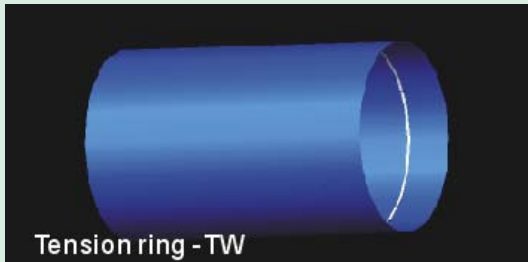


- Connect uneven ducts with different diameters.

2. System Fittings & Components

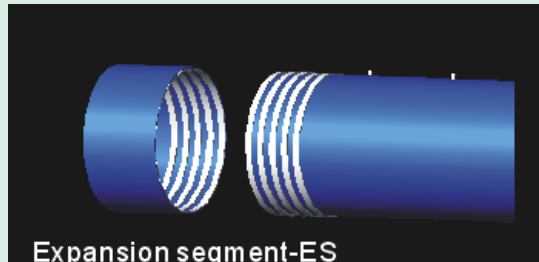
Functional fittings

- Tension Ring, Expansion Section, Through Wall Part



Tension ring —

For supporting use, fixed inside of duct, to produce aesthetic appearance. applied to upright elbows, etc special occasions.



Expansion segment — **ES**

Connected between two sections of DurkeeSox, Fold one end in airflow direction, fixed by hasp from outside, contributing to a certain flexibility in length.



Through wall segment — **TW**

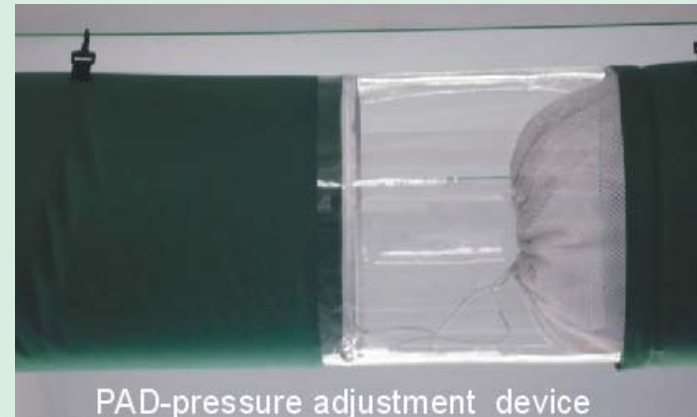
A component to resolve through wall issue, employs tension ring and certain length of air duct to fix it in the hole of wall and seal the gap between, then connect both ends with air duct by zippers.

2. System Fittings & Components

Component

B. Component

PAD-----Pressure adjustment device



Connected to DurkeeSox system by concealed heavy-duty zipper, Specially applied to balance air pressure in DurkeeSox system. PAD is patented protected. DurkeeSox owns this product patent.

2. System Fittings & Components

Component

B. Component

ACD ----airflow control device



An Airflow control device specialized for fabric air dispersion system, used to balance airflow volume before branch ducts, served as conventional air valve. The same, ACD is patent protected, DurkeeSox own it's patent.

2. System Fittings & Components

Component

B. Component

FAF ---- fabric air filter



FAF-fabric air filter

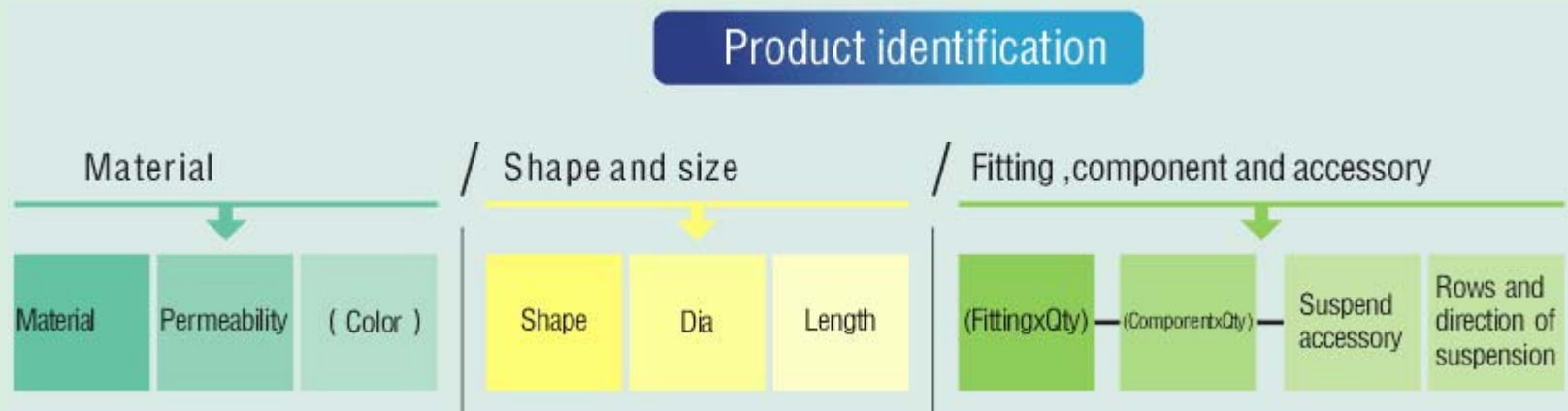
Fabric air Filter is an unique component introduced in the system to improve indoor air quality and efficiently prolong system clean and maintenance period.

2. System Fittings & Components

Codes of fittings and components

(Fitting)			(Component)	
General fitting	Special fitting	Functional fitting	Mesh slot-MS	Ring-R
Elbow-E	Y inlet-Y	Tension ring -TW	S-vent-SS	Pressure adjustment device-PAD
T-connection-T	Square to round-SR	Expansion segment-ES	Linear-vent-LS	Airflow control device-ACD
Transition-V	Elbow inlet-IE	Through wall segment-TR	Orifice-O	Fabric air filter-FAF
	T-connection inlet-IT		Nozzle-N	

3. Identification of DurkeeSox® system



Example of product identification

1、NS01/O Φ 508x20/G2

NanoSox porous materials, 1cfm/ft²(18m³/m²/h), round, 660mm dia, 20 m long, nozzle, 2:00 & 10:00 O'clock double rows cable suspension system.

2、NS-N(GY)/S1016x610x20.5/(SR1T5E1V1)-(R)-G3

Nanosox non-permeability fabric, grey, rectangle shape of 1016x610MM, 20.5 m long, 1 special square-round part , 5 T –connections, 1 elbow, 1 transition, rubber ring, 3 rows cable suspension system.

[Back](#)

[Resume](#)