

“Motivation for ventilation”

PRODUCT GUIDE



“Motivation for ventilation”

AFS FLEXIBLE DUCT Co. is the leading manufacturer of HVAC products in Turkey for over 20 years and has become a reliable name in the HVAC market.

AFS produces and markets many products in the heating, ventilation and air conditioning sector with State-Of-The-Art technology. Since 1991, many products have been improved and introduced by AFS to the HVAC market.

AFS has committed itself to provide the highest quality ventilation products, as well as constant excellent services, and the most effective solutions for the HVAC market. Working with the motto, *“Motivation for Ventilation”*, the corporation supplies Flexible Air Ducts, Air Disc Valves, Grills, Diffusers, HVAC Accessories, Fans, Air Curtains, Heat Recovery Units, Industrial Hoses, Textile Ducts and many more registered and internationally certified products.

Over 80% of the high quality production of the company is being sent to over 60 countries around the globe and AFS is very proud of its success.

With an efficient customer service, we work with passion, aiming to extend the market throughout the world and striving for ideal solutions to increase indoor air quality in public recreation areas.

As a corporation that is concerned with the environment, AFS is the first company in Turkey to produce Green Flexible Air Ducts with low emission values and has certified this achievement with international bodies. AFS focuses on the improvement of the indoor air environment with safe and durable products; all these operations are carried out with due regard for the environment and social responsibility. Throughout these operations, AFS consistently aims to minimize waste and responsibly use natural resources, thereby reducing our impact on the environment.

We are still investing in learning, constantly increasing “quality” and the development of our team, core values of our consistent growth.

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GREEN SERIES FLEXIBLE AIR DUCTS



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ALUAFS GREEN
Eco Friendly Non-insulated Aluminium
Flexible Air Ducts



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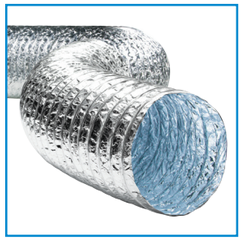
ISOAFS-ALU GREEN
Eco Friendly Thermally Insulated Aluminium
Flexible Air Ducts



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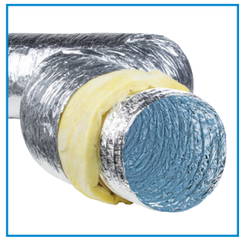
SONOAFS-ALU GREEN
Eco Friendly Thermally & Acoustically Insulated
Aluminium Flexible Air Ducts

ANTI-MICROBIAL FLEXIBLE AIR DUCTS



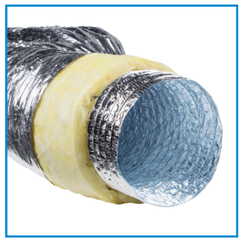
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ALUAFS HYGIENE
Non-insulated Aluminium Hygiene
Flexible Air Ducts



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ISOAFS-ALU HYGIENE
Thermally Insulated Aluminium Hygiene
Flexible Air Ducts



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SONOAFS-ALU HYGIENE
Thermally & Acoustically Insulated Aluminium Hygiene
Flexible Air Ducts

ALUMINIUM FLEXIBLE AIR DUCTS



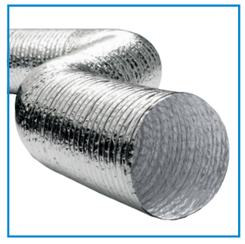
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ALUAFS UL
Non-insulated UL Listed Aluminium
Flexible Air Connectors



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ALUAFS
Non-insulated Aluminium
Flexible Air Ducts



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ALUAFS FORTE
Non-insulated Aluminium
Negative Pressure Competent Flexible Air Ducts



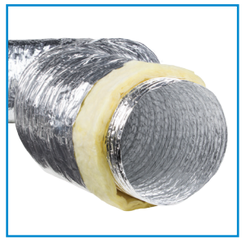
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ALUAFS RECTANGULAR
Non-insulated Aluminium Rectangular
Flexible Air Ducts



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ISOAFS-ALU
Thermally Insulated Aluminium
Flexible Air Ducts



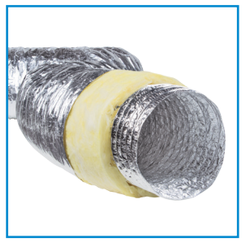
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ISOAFS-ALU FORTE
Thermally Insulated Aluminium
Negative Pressure Competent Flexible Air Ducts



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ISOAFS-ALU RECTANGULAR
Thermally Insulated Aluminium Rectangular
Flexible Air Ducts

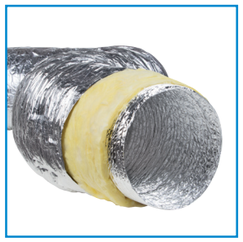


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SONOAFS-ALU
Thermally & Acoustically Insulated Aluminium
Flexible Air Ducts

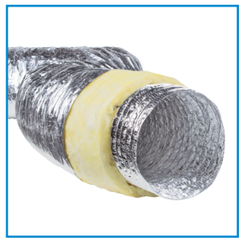
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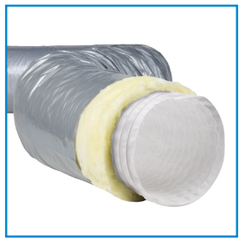
SONOAFS-ALU FORTE
Thermally & Acoustically Insulated Aluminium
Negative Pressure Competent Flexible Air Ducts



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SONOAFS-ALU PLUS
Thermally & Acoustically Insulated Aluminium
Flexible Air Ducts

NONWOVEN FLEXIBLE AIR DUCTS



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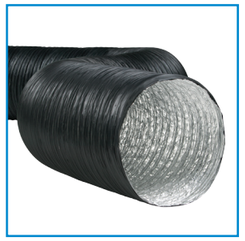
SONOAFS-NW
Thermally & Acoustically Insulated Nonwoven
Flexible Air Ducts

ALUMINIUM & PVC COMBINED FLEXIBLE AIR DUCTS



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COMBIAFS
Aluminium & PVC Combined
Flexible Air Ducts



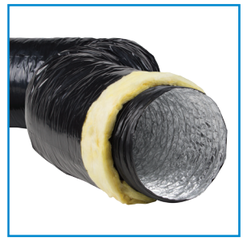
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COMBIAFS FORTE
Aluminium & PVC Combined
Negative Pressure Competent Flexible Air Ducts



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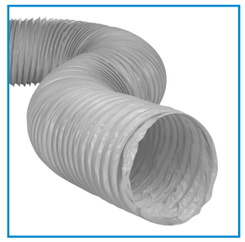
COMBIAFS RECTANGULAR
Aluminium & PVC Combined Rectangular
Flexible Air Ducts



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ISOAFS-COMBI
Thermally Insulated Aluminium & PVC Combined
Flexible Air Ducts

PVC FLEXIBLE AIR DUCTS



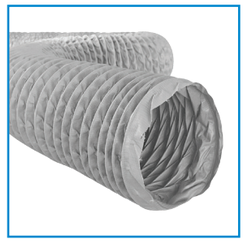
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VINYLAFS
Non-insulated PVC Flexible Air Ducts



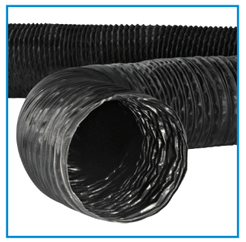
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PVCAFS
Non-insulated Reinforced PVC
Flexible Air Ducts



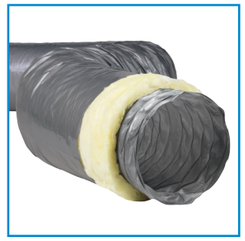
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PVCAFS.M1
Non-insulated Reinforced PVC
Flexible Air Ducts



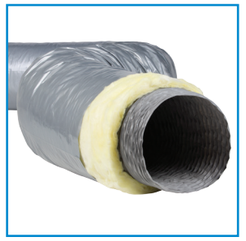
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PVCAFS-HEAVY
Non-insulated Industrial Reinforced PVC
Flexible Air Ducts



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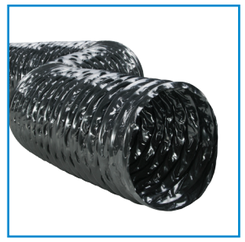
ISOAFS-VINYL
Thermally Insulated PVC
Flexible Air Ducts



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ISOAFS-PVC
Thermally Insulated Reinforced PVC
Flexible Air Ducts

PE FLEXIBLE AIR DUCTS



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PEAFS
Non-insulated PE Flexible Air Ducts



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ISOAFS-PE
Thermally Insulated PE Flexible Air Ducts

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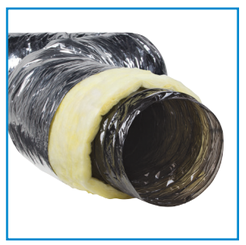
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POLYESTER FLEXIBLE AIR DUCTS



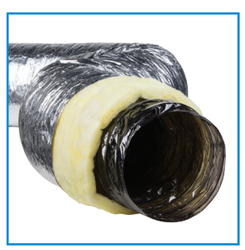
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POLYAFS
Non-insulated Polyester Flexible Air Ducts



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ISOAFS-POLY
Thermally Insulated Polyester Flexible Air Ducts



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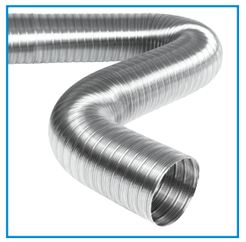
ISOAFS-POLY.181
Thermally Insulated Polyester
Flexible Air Ducts (UL 181 CLASS 1 CERTIFIED)

SEMI FLEXIBLE AIR DUCTS



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SEMIAFS
Aluminium Semi Flexible Air Ducts



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SEMIAFS-INOX
Stainless Steel Semi Flexible Air Ducts

SOUND ATTENUATORS



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ACOUSTIC SEMIAFS
Thermally & Acoustically Insulated Aluminium
Semi Flexible, Ends Finished, Sound Attenuators



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SOUNDROPAFS
Thermally & Acoustically Insulated Aluminium
Semi Flexible, Ends Collar Finished, Sound Attenuators



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SOUNDROPAFS-NW
Thermally & Acoustically Insulated Nonwoven
Flexible, Ends Collar Finished, Sound Attenuators



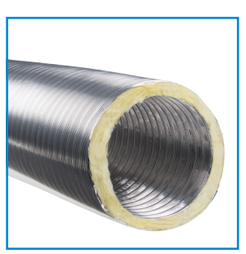
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SILENCERAFS
Thermally & Acoustically Insulated Aluminium
Flexible, Ends Finished, Sound Attenuators



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SILENCERAFS PLUS
Thermally & Acoustically Insulated Aluminium
Flexible, Ends Collar Finished, Sound Attenuators



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PHONIC SEMIAFS
Thermally & Acoustically Insulated Aluminium
Semi Flexible, Sound Attenuators

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SLEEVEAFS
Air Duct Insulation Material

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AFSTPU
Industrial Polyurethane Hoses



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Non-insulated Industrial PVC Flexible Air Ducts

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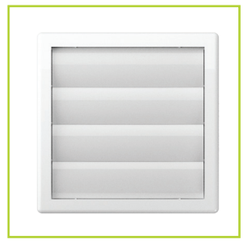
PLASTIC AIR DISC VALVES

VERSATILE SMART SERIES



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L SMART LINEAR GRILL



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G SMART GRAVITY LOUVER



118

C SMART COWL OUTLET

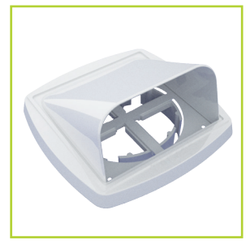
A trademark of AFS

GRILLS & DIFFUSERS



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CEILING DIFFUSERS



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COWL OUTLET
With Adjustable Collar



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LINEAR GRILLS
With Adjustable Collar



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GRAVITY LOUVERS
With 4 Set Collar



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GRAVITY LOUVERS
With Adjustable Collar



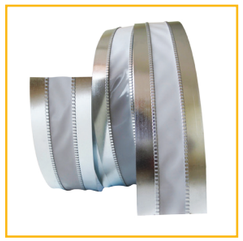
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AFSCONNECTOR
Flexible Duct Connector



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AFS CIRCULAR PU CONNECTOR KIT
Sleeve Connector - PU Coated Fiber Glass Fabric

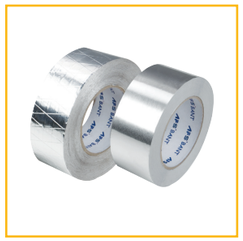
SELF ADHESIVE PIN



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AFS PIN
Self Adhesive Stuck Up Pin

MONTAGE ELEMENTS



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AFS TAPE
Self Adhesive Aluminium Foil Tape



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NYLON CLAMPS & PLIERS



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METAL CLAMPS
Strip Steel Banding System & Locking Devices



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DUCT COLLAR

AIR CONTROL EQUIPMENT



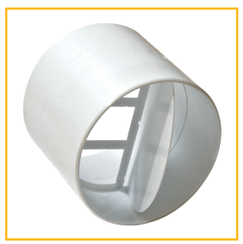
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ROUND AIR DAMPER



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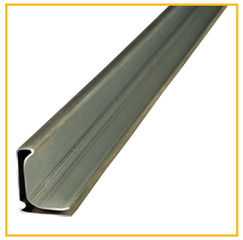
METAL BACK DRAUGHT SHUTTER



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PLASTIC BACK DRAUGHT SHUTTER

AIR DUCT EQUIPMENT



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FLANGE PROFILES



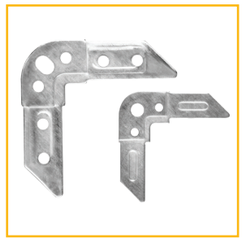
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AIR DUCT EQUIPMENT



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140 **BEAM CLAMPS**



142 **STEEL ANCHORS**



143 **GASKET TAPE**



141 **BOLTS & NUTS**



141 **EXTENSION NUTS**



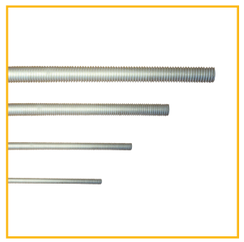
143 **MASTIC & SILICONE**



144 **DAMPER QUADRANT**



142 **HANGING ELEMENTS**



142 **HANGING RODS**

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VANTiLA®

ENERGY & HEAT RECOVERY UNIT



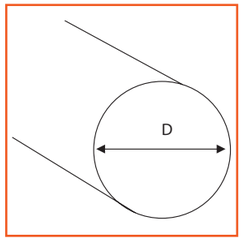
148 **VANTILA RECO*PLUS***
Energy Recovery Unit



152 **VANTILA RECO**
Heat Recovery Unit

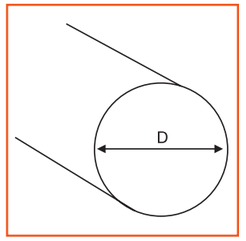
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TECHNICAL INFORMATION



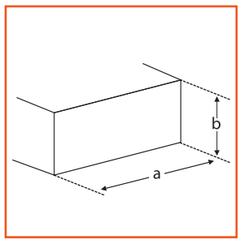
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STANDARD FLEXIBLE AIR DUCT DIMENSIONS



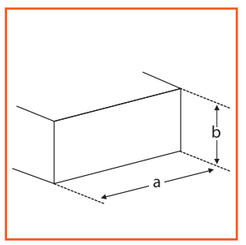
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STANDARD TPU INDUSTRIAL HOSE DIMENSIONS



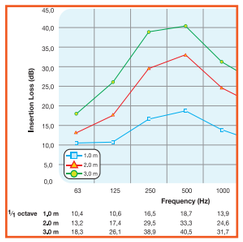
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STANDARD RECTANGULAR FLEXIBLE AIR DUCT DIMENSIONS



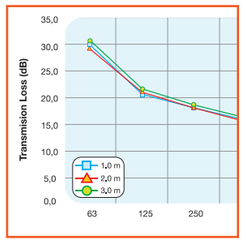
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CIRCULAR EQUIVALENT OF RECTANGULAR DUCT



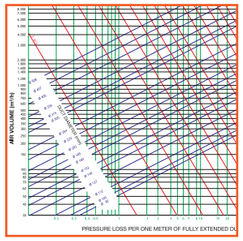
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INSERTION LOSS DIAGRAMS



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TRANSMISSION LOSS DIAGRAMS



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PRESURE LOSS DIAGRAMS

Chemical	Temperature,°C	SIMFLE
Acetone	RT	
Al-chloride, aqueous, 5 %	RT	
Ammonia, 10 %	RT	
Aniline	RT	
IRM-oil 901	80	
IRM-oil 902	80	
IRM-oil 903	80	
Petrol, standard grade	RT	
Petrol, premium grade	RT	
Benzene	RT	
Butanol	RT	
Butyl acetate	RT	
Cyclohexanol	RT	
Diesel oil	RT	
Dimethyl formamide	RT	
Fe chloride, aqueous, 5 %	40	
Ethylacetate	RT	
Ethylalcahol	RT	
Ethylether	RT	
Acetic acid 20 %	RT	

185

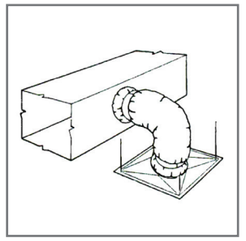
CHEMICAL RESISTANCE OF TPU INDUSTRIAL HOSE

INSTALLATION GUIDE

Ø DUCT DIA. (mm)
Ø 254
Ø 305
Ø 315
Ø 356

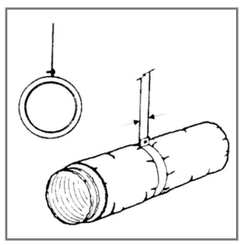
188

CHOOSING THE RIGHT DIAMETER



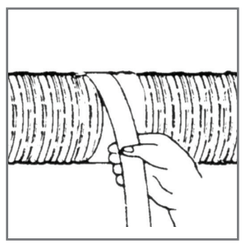
189

THE INSTALLATION LENGTH OF AFS FLEXIBLE AIR DUCTS



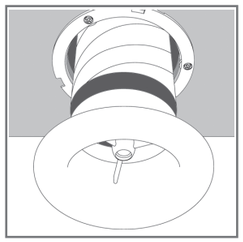
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CONTENTS



FLEXIBLE AIR DUCTS

AFS ECOSOFT

THERMALLY INSULATED ALUMINIUM ECOSOFT FLEXIBLE AIR DUCTS



TYPES:

ISOAFS-ALU.70 ECOSOFT
(XXXX)

ISOAFS-ALU.F ECOSOFT
(XXXX)

ISOAFS-ALU ECOSOFT

That's because the natural brown colour represents a level of sustainability and handling never before achieved. The colour comes from ECOSE® Technology, a revolutionary, new sustainable binder born from 5 years of intensive research. Made from rapidly renewable organic materials rather than oil based chemicals commonly used in other insulation products, ECOSE® Technology reduces binder embodied energy by up to 70%.
Combined with the brown colour comes a new 'super soft' feel, which in conjunction with the same reliable thermal and acoustic performance you have come to expect from glasswool, result in the next generation of energy saving insulation.
Made using sand and recycled glass bottles combined with ECOSE® Technology, new glasswool does not contain artificial colours or added formaldehyde, resulting in environmental credentials above our already A+ rated products in the Green Guide, and also in full compliance with 'formaldehyde free' specifications.

VOC and Formaldehyde emisions of AFS flexible air ducts based on ISO 16 000.

Compounds	Cas Number	Cexp at 28 days	Emission class
Formaldehyde	50-00-0	4	A+
Acetaldehyde	75-07-0	1	A+
Toluene	108-88-3	<1	A+
Tetrachlorethylene	127-18-4	<LD	A+
Xylene	108-38-3	<LQ	A+
1,2,4-trimethylbenzene	95-63-6	<1	A+
1,4-dichlorobenzene	106-46-7	<LD	A+
Ethylbenzene	100-41-4	<LQ	A+
2-butoxyethanol	111-76-2	<LD	A+
Styrene	100-42-5	<LQ	A+
TVOC*	-	11	A+
Resulting emission class			**A+**

* Volatile Organic Compound
Exposure concentrations at 28 days (µg.m-3) from SONOAFS-ALU.70 ECOSOFT ventilation duct and resulting emission class
(LD: detection limit, LQ: quantification limit)

The dimensions, tolerances and mechanical resistance of ALUAFS are tested, classified and certified according to EN 13180.

TECHNICAL PROPERTIES

TYPE	ISOAFS-ALU.70 ECOSOFT	ISOAFS-ALU.F ECOSOFT
Inner Duct Construction	3 ply aluminium + 2 ply polyester	3 ply aluminium + 1 ply polyester
Jacket Construction	1 ply aluminium + 2 ply polyester	1 ply aluminium + 2 ply polyester
Nominal Thickness (Inner Duct / Jacket)	70 micron / 45 micron	74 micron / 45 micron
Available diameters	Ø 52 mm - Ø 800 mm	Ø 82 mm - Ø 800 mm
Temperature range	-30 °C / +150 °C	-30 °C / +250 °C
Air velocity	30 m/s (max)	30 m/s (max)
Operating pressure	3000 Pa (max)	3000 Pa (max)
Insulation	glass wool -—- 25mm - 16 kg/m³	glass wool -—- 25mm - 16 kg/m³
Standard length	10 m	10 m
Packing	Single cardboard box	Single cardboard box
FIRE CERTIFICATE		
France	M1	M0/M1
CERTIFICATE		
EU EN 13501-1	Class B-s1, d0	

ÉMISSIONS DANS L'AIR INTÉRIEUR*
A+ (A+ A B C)

*Information on the emission level of volatile substances into indoor air, presenting a risk of toxicity by inhalation, on a scale ranging from A+ (very low emissions) to C (high emissions) (text in French)

CSTB Test report n° SC-15-030

ABSENCE OF RELEASE OF CMR COMPOUNDS

Compounds	Cas Number	Cexp at 28 days
Trichlorethylene	79-01-6	<LD
Benzene	71-43-2	<LQ
Bis(2-ethylhexyl) phthalate	117-81-7	<LQ
Dibutylphtalate	84-74-2	<LQ
Compliance with Orders		**YES**

Release of CMR compounds: exposure concentrations at 28 days (µg.m-3)
from SONOAFS-ALU.70 ECOSOFT ventilation duct (LD: detection limit, LQ: quantification limit)



AFS ECOSOFT

THERMALLY & ACOUSTICALLY INSULATED ALUMINIUM ECOSOFT FLEXIBLE AIR DUCTS



TYPES:

SONOAFS-ALU.70 ECOSOFT
(XXXX)

SONOAFS-ALU.F ECOSOFT
(XXXX)

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Combined with the brown colour comes a new 'super soft' feel, which in conjunction with the same reliable thermal and acoustic performance you have come to expect from glasswool, result in the next generation of energy saving insulation.
Made using sand and recycled glass bottles combined with ECOSE® Technology, new glasswool does not contain artificial colours or added formaldehyde, resulting in environmental credentials above our already A+ rated products in the Green Guide, and also in full compliance with 'formaldehyde free' specifications.

VOC and Formaldehyde emisions of AFS flexible air ducts based on ISO 16 000.

Compounds	Cas Number	Cexp at 28 days	Emission class
Formaldehyde	50-00-0	4	A+
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2-butoxyethanol	111-76-2	<LD	A+
Styrene	100-42-5	<LQ	A+
TVOC*	-	11	A+
Resulting emission class			**A+**

* Volatile Organic Compound
Exposure concentrations at 28 days (µg.m-3) from SONOAFS-ALU.70 ECOSOFT ventilation duct and resulting emission class
(LD: detection limit, LQ: quantification limit)

The dimensions, tolerances and mechanical resistance of ALUAFS are tested, classified and certified according to EN 13180.

TECHNICAL PROPERTIES

TYPE	SONOAFS-ALU.70 ECOSOFT	SONOAFS-ALU.F ECOSOFT
Inner Duct Construction	3 ply aluminium + 2 ply polyester (Perforated)	3 ply aluminium + 1 ply polyester (Perforated)
Jacket Construction	1 ply aluminium + 2 ply polyester	1 ply aluminium + 2 ply polyester
Nominal Thickness (Inner Duct / Jacket)	70 micron / 45 micron	74 micron / 45 micron
Available diameters	Ø 52 mm - Ø 800 mm	Ø 82 mm - Ø 800 mm
Temperature range	-30 °C / +150 °C	-30 °C / +250 °C
Air velocity	30 m/s (max)	30 m/s (max)
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Insulation	glass wool -—- 25mm - 16 kg/m³	glass wool -—- 25mm - 16 kg/m³
Standard length	10 m	10 m
Packing	Single cardboard box	Single cardboard box
FIRE CERTIFICATE		
France	M1	M0/M1
CERTIFICATE		
EU EN 13501-1	Class B-s1, d0	

ÉMISSIONS DANS L'AIR INTÉRIEUR*
A+
A+ A B C

*Information on the emission level of volatile substances into indoor air, presenting a risk of toxicity by inhalation, on a scale ranging from A+ (very low emissions) to C (high emissions) (text in French)
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Compliance with Orders		**YES**

Release of CMR compounds: exposure concentrations at 28 days (µg.m-3)
from SONOAFS-ALU.70 ECOSOFT ventilation duct (LD: detection limit, LQ: quantification limit)



ECO FRIENDLY NON-INSULATED ALUMINIUM FLEXIBLE AIR DUCTS



TYPES:

ALUAFS.70 GREEN
(M1, difficult to ignite)

ALUAFS.F GREEN
(M0, limited combustibility)

ALUAFS.70 GREEN UL
(M1, difficult to ignite)

ALUAFS GREEN

AFS proudly introduces innovative, low emitting, GREEN Series products certified by **UL Environment Greenguard Certification** program. The Green movement of AFS aims to improve indoor air quality and also reduce people's exposure to chemicals and other pollutants. AFS puts an extensive effort to develop GREEN Series, which stringently certified by **UL Environment.**

AFS GREEN Series products achieve stricter certification criteria and are marked as **"UL GREENGUARD GOLD Certified"** and referenced by both Collaborative for High Performance Schools (CHPS) and Leadership in Energy and Environmental Design (LEED) Building Rating systems. All AFS GREEN products are tested and retested periodically to ensure compliance with UL GREENGUARD Certification's rigorous indoor air quality standards. New AFS Green Series Flexible Air Ducts can be found in the free online UL GREENGUARD Product Guide. **(www.greenguard.org)**

Why Indoor Air Quality?

We spend about 90% of our time indoors, where air can be 2 to 5 times more polluted than outdoor air. Interior products have significant impact on indoor air quality and can emit hundreds of chemicals into the air that building occupants breathe. The particular substances known as Volatile Organic Compounds (VOCs) are released into the air from everyday furnishings, building materials and products. Once airborne, VOCs are inhaled by building occupants triggers numerious health problems.

Infants and children at school age are more sensitive to the effects of VOCs and poor indoor air quality. Children are breathing more air while their immune and neurological systems are still developing. Children are exposed to high levels of VOCs are four times more likely to develop asthma.

Indoor Air Pollution Leads To Health Consequences

- Asthma and allergies
- Headache
- Eye, nose & throat irritation
- Reproductive & development defects
- Neurological diseases
- Cardiovascular diseases
- Respiratory diseases
- Some forms of cancer

The dimensions, tolerances and mechanical resistance of ALUAFS GREEN are tested, classified and certified according to EN 13180.

TECHNICAL PROPERTIES

TYPE	ALUAFS.70 GREEN	ALUAFS.F GREEN
Fire Resistance	Difficult to ignite	Limited combustibility
Construction	3 ply aluminium 2 ply polyester	3 ply aluminium 1 ply polyester
Nominal Thickness	70 micron	74 micron
Available Diameters	Ø 52 mm – Ø 800 mm	Ø 82 mm – Ø 800 mm
Temperature Range	-30 °C / +150 °C	-30 °C / + 250 °C
Air Velocity	30 m/s (max)	30 m/s (max)
Operating Pressure	3000 Pa (max)	3000 Pa (max)
Standard Length	10 m	10 m
Packing	Single cardboard box	Single cardboard box
FIRE CERTIFICATES		
United Kingdom (EN 13501-1)	Class B - s1, d0	
Europe	EN ISO 11925-2 small flame test (ignitability) report EN 13823 single burning item (SBI) test report	EN ISO 1716 gross calorific value test report
France	M1	M0
CERTIFICATES		
USA (UL 181)		
TÜV SÜD	95 / 28 / EC	
Russia	GOST-R	GOST-R

GREENGUARD GOLD EMISSION CRITERIA

Individual VOCs[1]	**≤ 1/100 TLV[2] & ≤ ½ CA CREL[3]**
Formaldehyde	**≤ 7.3 ppb**
Total VOC[1]	**≤ 0.22 mg/m³**
Total Aldehydes	**≤ 0.043 ppm / 43 ppb**
Total Phthalates	**≤ 0.01 mg/m³**
Total Particles	**≤ 0.02 mg/m³**

[1] Volatile Organic Compound [2] Treshold Limit Value [3] Chronic Reference Exposure Level

GREENGUARD
PRODUCT CERTIFIED FOR LOW CHEMICAL EMISSIONS
UL.COM/GG
UL 2818
GOLD

ECO FRIENDLY THERMALLY INSULATED ALUMINIUM FLEXIBLE AIR DUCTS



TYPES:

ISOAFS-ALU.70 GREEN
(M1, difficult to ignite)

ISOAFS-ALU.F GREEN
(M0+M1, limited combustibility + difficult to ignite)

ISOAFS-ALU GREEN

AFS proudly introduces innovative, low emitting, GREEN Series products certified by **UL Environment Greenguard Certification** program. The Green movement of AFS aims to improve indoor air quality and also reduce people's exposure to chemicals and other pollutants. AFS puts an extensive effort to develop GREEN Series, which stringently certified by **UL Environment.**

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Infants and children at school age are more sensitive to the effects of VOCs and poor indoor air quality. Children are breathing more air while their immune and neurological systems are still developing. Children are exposed to high levels of VOCs are four times more likely to develop asthma.

Indoor Air Pollution Leads To Health Consequences

- Asthma and allergies
- Headache
- Eye, nose & throat irritation
- Reproductive & development defects
- Neurological diseases
- Cardiovascular diseases
- Respiratory diseases
- Some forms of cancer

The dimensions, tolerances and mechanical resistance of ISOAFS-ALU GREEN are tested, classified and certified according to EN 13180.

TECHNICAL PROPERTIES

TYPE	ISOAFS-ALU.70 GREEN	ISOAFS-ALU.F GREEN
Fire Resistance	Difficult to ignite	Limited combustibility + Difficult to ignite
Inner Duct Construction	3 ply aluminium + 2 ply polyester	3 ply aluminium + 1 ply polyester
Jacket Construction	1 ply aluminium + 2 ply polyester	1 ply aluminium + 2 ply polyester
Nominal Thickness (Inner Duct / Jacket)	70 micron / 45 micron	74 micron / 45 micron
Available Diameters	Ø 52 mm – Ø 800 mm	Ø 82 mm – Ø 800 mm
Temperature Range	-30 °C / +150 °C	-30 °C / + 250 °C
Air Velocity	30 m/s (max)	30 m/s (max)
Operating Pressure	3000 Pa (max)	3000 Pa (max)
Standard Length	10 m	10 m
Packing	Single cardboard box	Single cardboard box
FIRE CERTIFICATES		
France	M1	M0 + M1
Europe		EN ISO 1716 (inner duct) gross calorific value test report
CERTIFICATES		
Russia	GOST-R	GOST-R

GREENGUARD GOLD EMISSION CRITERIA

Individual VOCs[1]	**≤ 1/100 TLV[2] & ≤ ½ CA CREL[3]**
Formaldehyde	**≤ 7.3 ppb**
Total VOC[1]	**≤ 0.22 mg/m³**
Total Aldehydes	**≤ 0.043 ppm / 43 ppb**
Total Phthalates	**≤ 0.01 mg/m³**
Total Particles	**≤ 0.02 mg/m³**

[1] Volatile Organic Compound [2] Treshold Limit Value [3] Chronic Reference Exposure Level

GREENGUARD
PRODUCT CERTIFIED FOR LOW CHEMICAL EMISSIONS
UL.COM/GG
UL 2818
GOLD

ECO FRIENDLY THERMALLY & ACOUSTICALLY INSULATED ALUMINIUM FLEXIBLE AIR DUCTS



TYPES:

SONOAFS-ALU.70 GREEN
(M1, difficult to ignite)

SONOAFS-ALU.F GREEN
(M0+M1, limited combustibility + difficult to ignite)

SONOAFS-ALU GREEN

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- Asthma and allergies
- Headache
- Eye, nose & throat irritation
- Reproductive & development defects
- Neurological diseases
- Cardiovascular diseases
- Respiratory diseases
- Some forms of cancer

The dimensions, tolerances and mechanical resistance of SONOAFS-ALU GREEN are tested, classified and certified according to EN 13180.

TECHNICAL PROPERTIES

TYPE	SONOAFS-ALU.70 GREEN	SONOAFS-ALU.F GREEN
Fire Resistance	Difficult to ignite	Limited combustibility + Difficult to ignite
Inner Duct Construction	3 ply aluminium + 2 ply polyester (Perforated)	3 ply aluminium + 1 ply polyester (Perforated)
Jacket Construction	1 ply aluminium + 2 ply polyester	1 ply aluminium + 2 ply polyester
Nominal Thickness (Inner Duct / Jacket)	70 micron / 45 micron	74 micron / 45 micron
Available Diameters	Ø 52 mm – Ø 800 mm	Ø 82 mm – Ø 800 mm
Temperature Range	-30 °C / +150 °C	-30 °C / + 250 °C
Air Velocity	30 m/s (max)	30 m/s (max)
Operating Pressure	3000 Pa (max)	3000 Pa (max)
Standard Length	10 m	10 m
Packing	Single cardboard box	Single cardboard box
FIRE CERTIFICATES		
France	M1	M0 + M1
Europe		EN ISO 1716 (inner duct) gross calorific value test report
CERTIFICATES		
Russia	GOST-R	GOST-R

GREENGUARD GOLD EMISSION CRITERIA

Individual VOCs[1]	**≤ 1/100 TLV[2] & ≤ ½ CA CREL[3]**
Formaldehyde	**≤ 7.3 ppb**
Total VOC[1]	**≤ 0.22 mg/m³**
Total Aldehydes	**≤ 0.043 ppm / 43 ppb**
Total Phthalates	**≤ 0.01 mg/m³**
Total Particles	**≤ 0.02 mg/m³**

[1] Volatile Organic Compound [2] Treshold Limit Value [3] Chronic Reference Exposure Level

GREENGUARD
PRODUCT CERTIFIED FOR LOW CHEMICAL EMISSIONS
UL.COM/GG
UL 2818
GOLD

- Insertion Loss (page 162)
- Transmission Loss (page 170)

AFS

NON-INSULATED ALUMINIUM HYGIENE FLEXIBLE AIR DUCTS



TYPES:

ALUAFS HYGIENE

ALUAFS.F HYGIENE

ALUAFS HYGIENE

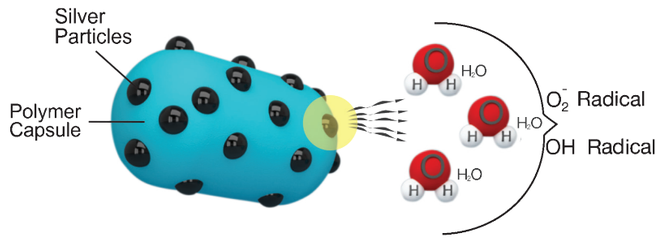
ANTI-MICROBIAL NANO TECHNOLOGY

The existence of microorganisms, such as mold, mildew, and bacteria has been well documented in ventilation systems. Humid and dark ambient of ventilation systems represent suitable environment for microbial growth.

The exposure through breathing of indoor air can lead to respiratory problems, infectious diseases or other allergic reactions and other various human health effects.

AFS has come up with a new hygienic solution, developed with state of the art technology. It will be the major component of safe ventilation systems that protects your indoor air quality.

- Anti-Microbial nano-sized silver particles are encapsulated in a polymer capsule.
- Nano-sized polymer capsules;
- Safe and healthy anti-microbial agent,
- Strongly anti-bacterial,
- Strongly anti-fungal,
- Totally ecological, nontoxic, no odor and harmful effects on environment,
- Activated by Catalytic Mechanism,
- There is no release of silver ions on the surface, long-lasting antimicrobial performance...



Catalytic Mechanism

Silver atoms radiate energy in narrow wavelengths which lead to formation of O_2^- and OH radicals that terminate the pathogens. As there is no specific killing mechanisms for pathogens in this catalytic mechanism, microorganisms cannot develop immunity against the antimicrobial capsules.

The dimensions, tolerances and mechanical resistance of ALUAFS HYGIENE are tested, classified and certified according to EN 13180.

TECHNICAL PROPERTIES

TYPE	ALUAFS HYGIENE	ALUAFS.F HYGIENE
Construction	3 ply aluminium 2 ply polyester	3 ply aluminium 1 ply polyester
Nominal Thickness	70 micron	74 micron
Available diameters	Ø 102 mm - Ø 800 mm	Ø 102 mm - Ø 800 mm
Temperature range	-30 °C / +150 °C	-30 °C / +150 °C
Air velocity	30 m/s (max)	30 m/s (max)
Operating pressure	3000 Pa (max)	3000 Pa (max)
Standard length	10 m	10 m
Packing	Single cardboard box	Single cardboard box
FIRE CERTIFICATE		
France		M0

ANTI-MICROBIAL CAPACITY

Silver has a long history as a natural antimicrobial agent in human health care. Based on many scientific experiments, silver particles are effective for over 600 microorganism species. However, all nano-silver technologies do not have the same anti-microbial effectiveness. AFS HYGIENE Flexible Air Ducts are produced with the latest Anti-Microbial Silver technology in order to obtain maximum anti-microbial capacity, healthy and ecological solution.



Microorganisms	*E. coli*	*P. Aeruginosa*	*Legionella Pneumophila*	*S.Aureus*	*Aspergillus Niger*	*Paecilomyces Variotti*	*Chaetomium Globosum*	*Gliocladium Virens*	*Aureobasidium Pullulans*
Type	Gram (-) bacteria	Gram (-) bacteria	Gram (-) bacteria	Gram (+) bacteria	Mold (fungus)	Mold (fungus)	Mold (fungus)	Mold (fungus)	Mold (fungus)
Test	ISO 22196	ISO 22196	ISO 22196	ISO 22196	ASTM G21	ASTM G21	ASTM G21	ASTM G21	ASTM G21
Antimicrobial Performance	> 99.99 % reduction				0 growth				
Certified by	IMSL (UK), EurofinsLab (Italy), Fiti Testing & Research Institute (Korea)								

THERMALLY INSULATED ALUMINIUM HYGIENE FLEXIBLE AIR DUCTS



TYPES:

ISOAFS-ALU HYGIENE

ISOAFS-ALU.F HYGIENE

NO-CONDENSATION

TECHNICAL PROPERTIES

TYPE	ISOAFS-ALU HYGIENE	ISOAFS-ALU.F HYGIENE
Inner Duct Construction	3 ply aluminium + 2 ply polyester	3 ply aluminium + 1 ply polyester
Jacket Construction	1 ply aluminium + 2 ply polyester	1 ply aluminium + 2 ply polyester
Nominal Thickness (Inner Duct / Jacket)	70 micron / 45 micron	74 micron / 45 micron
Available diameters	Ø 102 mm - Ø 800 mm	Ø 102 mm - Ø 800 mm
Temperature range	-30 °C / +150 °C	-30 °C / +150 °C
Air velocity	30 m/s (max)	30 m/s (max)
Operating pressure	3000 Pa (max)	3000 Pa (max)
Insulation	glass wool -—- white polyester	glass wool -—- white polyester
Insulation density	16 kg/m^3 -—- 10 kg/m^3	16 kg/m^3 -—- 10 kg/m^3
Thickness of insulation	25 mm	25 mm
Standard length	10 m	10 m
Packing	Single cardboard box	Single cardboard box
FIRE CERTIFICATE		
France		M1

ISOAFS-ALU HYGIENE

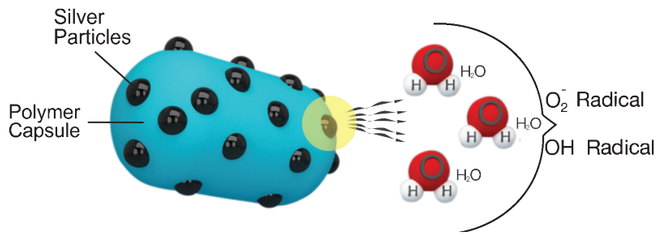
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- Activated by Catalytic Mechanism,
- There is no release of silver ions on the surface, long-lasting antimicrobial performance...



Catalytic Mechanism

Silver atoms radiate energy in narrow wavelengths which lead to formation of O_2^- and OH radicals that terminate the pathogens. As there is no specific killing mechanisms for pathogens in this catalytic mechanism, microorganisms can't develop immunity against the anti-microbial capsules.

The dimensions, tolerances and mechanical resistance of ISOAFS-ALU HYGIENE are tested, classified and certified according to EN 13180.

ANTI-MICROBIAL CAPACITY

Silver has a long history as a natural antimicrobial agent in human health care. Based on many scientific experiments, silver particles are effective for over 600 microorganism species. However, all nano-silver technologies do not have the same anti-microbial effectiveness. AFS HYGIENE Flexible Air Ducts are produced with the latest Anti-Microbial Silver technology in order to obtain maximum anti-microbial capacity, healthy and ecological solution.



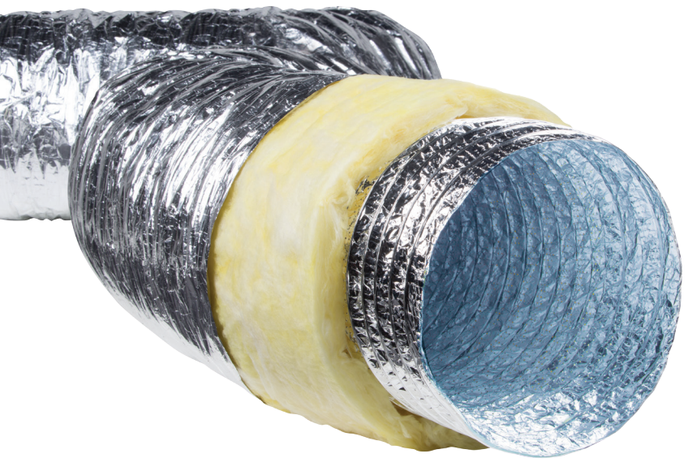
Microorganisms	*E. coli*	*P. Aeruginosa*	*Legionella Pneumophila*	*S.Aureus*	*Aspergillus Niger*	*Paecilomyces Variotti*	*Chaetomium Globosum*	*Glíocladium Virens*	*Aureobasidium Pullulans*
Type	Gram (-) bacteria	Gram (-) bacteria	Gram (-) bacteria	Gram (+) bacteria	Mold (fungus)	Mold (fungus)	Mold (fungus)	Mold (fungus)	Mold (fungus)
Test	ISO 22196	ISO 22196	ISO 22196	ISO 22196	ASTM G21	ASTM G21	ASTM G21	ASTM G21	ASTM G21
Antimicrobial Performance	> 99.99 % reduction				0 growth				
Certified by	IMSL (UK), EurofinsLab (Italy), Fiti Testing & Research Institute (Korea)								

THERMALLY & ACOUSTICALLY INSULATED ALUMINIUM HYGIENE FLEXIBLE AIR DUCTS

TYPES:

SONOAFS-ALU HYGIENE

SONOAFS-ALU.F HYGIENE



NO-CONDENSATION

SONOAFS-ALU HYGIENE

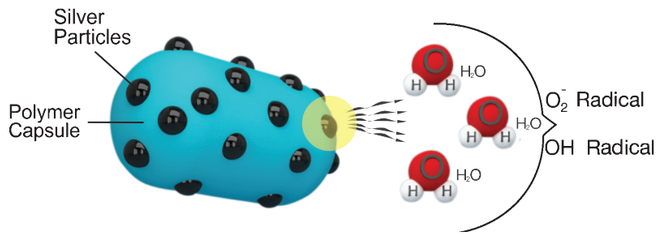
ANTI-MICROBIAL NANO TECHNOLOGY

The existence of microorganisms, such as mold, mildew, and bacteria has been well documented in ventilation systems. Humid and dark ambient of ventilation systems represent suitable environment for microbial growth.

The exposure through breathing of indoor air can lead to respiratory problems, infectious diseases or other allergic reactions and other various human health effects.

AFS has come up with a new hygienic solution, developed with state of the art technology. It will be the major component of safe ventilation systems that protects your indoor air quality.

- Anti-Microbial nano-sized silver particles are encapsulated in a polymer capsule.
- Nano-sized polymer capsules;
- Safe and healthy anti-microbial agent,
- Strongly anti-bacterial,
- Strongly anti-fungal,
- Totally ecological, nontoxic, no odor and harmful effects on environment,
- Activated by Catalytic Mechanism,
- There is no release of silver ions on the surface, long-lasting antimicrobial performance...



Catalytic Mechanism

Silver atoms radiate energy in narrow wavelengths which lead to formation of O_2^- and OH radicals that terminate the pathogens. As there is no specific killing mechanisms for pathogens in this catalytic mechanism, microorganisms cannot develop immunity against the antimicrobial capsules.

The dimensions, tolerances and mechanical resistance of SONOAFS-ALU HYGIENE are tested, classified and certified according to EN 13180.

TECHNICAL PROPERTIES

TYPE	SONOAFS-ALU HYGIENE	SONOAFS-ALU.F HYGIENE
Inner Duct Construction	3 ply aluminium + 2 ply polyester (Perforated)	3 ply aluminium + 1 ply polyester (Perforated)
Jacket Construction	1 ply aluminium + 2 ply polyester	1 ply aluminium + 2 ply polyester
Nominal Thickness (Inner Duct / Jacket)	70 micron / 45 micron	74 micron / 45 micron
Available diameters	Ø 102 mm - Ø 800 mm	Ø 102 mm - Ø 800 mm
Temperature range	-30 °C / +150 °C	-30 °C / +150 °C
Air velocity	30 m/s (max)	30 m/s (max)
Operating pressure	3000 Pa (max)	3000 Pa (max)
Insulation	glass wool -—- white polyester	glass wool -—- white polyester
Insulation density	16 kg/m³ -—- 10 kg/m³	16 kg/m³ -—- 10 kg/m³
Thickness of insulation	25 mm	25 mm
Standard length	10 m	10 m
Packing	Single cardboard box	Single cardboard box
FIRE CERTIFICATE		
France	M1	

ANTI-MICROBIAL CAPACITY

Silver has a long history as a natural antimicrobial agent in human health care. Based on many scientific experiments, silver particles are effective for over 600 microorganism species. However, all nano-silver technologies do not have the same anti-microbial effectiveness. AFS HYGIENE Flexible Air Ducts are produced with the latest Anti-Microbial Silver technology in order to obtain maximum anti-microbial capacity, healthy and ecological solution.



Microorganisms	*E. coli*	*P. Aeruginosa*	*Legionella Pneumophila*	*S.Aureus*	*Aspergillus Niger*	*Paecilomyces Variotti*	*Chaetomium Globosum*	*Gliocladium Virens*	*Aureobasidium Pullulans*
Type	Gram (-) bacteria	Gram (-) bacteria	Gram (-) bacteria	Gram (+) bacteria	Mold (fungus)	Mold (fungus)	Mold (fungus)	Mold (fungus)	Mold (fungus)
Test	ISO 22196	ISO 22196	ISO 22196	ISO 22196	ASTM G21	ASTM G21	ASTM G21	ASTM G21	ASTM G21
Antimicrobial Performance	> 99.99 % reduction				0 growth				
Certified by	IMSL (UK), EurofinsLab (Italy), Fiti Testing & Research Institute (Korea)								

- Insertion Loss (page 162)
- Transmission Loss (page 170)

AFS®

NON-INSULATED UL LISTED ALUMINIUM FLEXIBLE AIR CONNECTOR



TYPES:

ALUAFS.45 UL

ALUAFS.70 GREEN UL

c UL® US LISTED

ALUAFS.70 UL

- ALUAFS.70 UL non-insulated aluminium flexible air connectors are specifically produced for low and medium pressure heating, cooling, ventilation, exhaust and air conditioning systems.
- Airtight ALUAFS.70 UL is produced from multi-layer aluminium and polyester, strengthened with high tension hard steel spring wire.
- ALUAFS.70 UL has high elasticity and flexibility. It can be easily fitted to circular, oval or rectangular connectors.
- The fire resistance of ALUAFS.70 UL has been tested and certified by various international bodies.

PROPERTIES & ADVANTAGES

ALUMINIUM LAMINATED BODY
- Difficult to ignite (ALUAFS.70 UL)
- Impermeable to UV rays
- High resistance to UV rays
- 98 % reflective
- Resistant to chemicals

FLEXIBLE & SEAMLESS CONSTRUCTION
- Easy to store
- Easy to transport
- Low installation cost
- High resistance to wear and tear
- Airtight
- Low operation and maintenance costs

SMOOTH INNER SURFACE
- Minimum pressure loss
- Anti-static
- Dust proof interior

HIGH TENSION STEEL WIRE
- High resistance
- High resistance to deformation
- Easy to install

TECHNICAL PROPERTIES

TYPE	ALUAFS.70 UL	ALUAFS.45 UL	ALUAFS.70 GREEN UL
Fire Resistance	Difficult to ignite	Difficult to ignite	Difficult to ignite
Construction	3 ply aluminium 2 ply polyester	2 ply aluminium 1 ply polyester	3 ply aluminium 2 ply polyester
Nominal Thickness	70 micron	45 micron	70 micron
Available Diameters	Ø 2" – Ø 10"	Ø 2" – Ø 10"	Ø 2" – Ø 10"
Temperature Range	-30 °C / +150 °C	-30 °C / +150 °C	-30 °C / +150 °C
Air Velocity	30 m/s (max)	30 m/s (max)	30 m/s (max)
Operating Pressure	3000 Pa (max)	3000 Pa (max)	3000 Pa (max)
Standard Length	10 m	10 m	10 m
Packing	Single cardboard box	Single cardboard box	Single cardboard box
CERTIFICATE			
USA (UL 181)	UL®	c UL® US LISTED	c UL® US LISTED

Available on request

- Customized lengths
- Private label

The dimensions, tolerances and mechanical resistance of ALUAFS.70 UL are tested, classified and certified according to EN 13180.

NON-INSULATED ALUMINIUM FLEXIBLE AIR DUCTS



TYPES:

ALUAFS.70
(M1, difficult to ignite)

ALUAFS.F
(M0, limited combustibility)

ALUAFS

- ALUAFS non-insulated aluminium flexible air ducts are specifically produced for low and medium pressure heating, cooling, ventilation, exhaust and air conditioning systems.
- Airtight ALUAFS is produced from multi-layer aluminium and polyester, strengthened with high tension hard steel spring wire.
- ALUAFS has high elasticity and flexibility. It can be easily fitted to circular, oval or rectangular connectors.
- The fire resistance of ALUAFS has been tested and certified by various international bodies.

PROPERTIES & ADVANTAGES

ALUMINIUM LAMINATED BODY
- Difficult to ignite (ALUAFS.70)
- Limited combustibility (ALUAFS.F)
- Impermeable to UV rays
- High resistance to UV rays
- 98 % reflective
- Resistant to chemicals

FLEXIBLE & SEAMLESS CONSTRUCTION
- Easy to store
- Easy to transport
- Low installation cost
- High resistance to wear and tear
- Airtight
- Low operation and maintenance costs

SMOOTH INNER SURFACE
- Minimum pressure loss
- Anti-static
- Dust proof interior

HIGH TENSION STEEL WIRE
- High resistance
- High resistance to deformation
- Easy to install

The dimensions, tolerances and mechanical resistance of ALUAFS are tested, classified and certified according to EN 13180.

TECHNICAL PROPERTIES

TYPE	ALUAFS.70	ALUAFS.F
Fire Resistance	Difficult to ignite	Limited combustibility
Construction	3 ply aluminium 2 ply polyester	3 ply aluminium 1 ply polyester
Nominal Thickness	70 micron	74 micron
Available Diameters	Ø 52 mm – Ø 800 mm	Ø 82 mm – Ø 800 mm
Temperature Range	-30 °C / +150 °C	-30 °C / + 250 °C
Air Velocity	30 m/s (max)	30 m/s (max)
Operating Pressure	3000 Pa (max)	3000 Pa (max)
Standard Length	10 m	10 m
Packing	Single cardboard box	Single cardboard box
FIRE CERTIFICATE		
France	M1	M0
United Kingdom (BS 476 Part 6&7)	Class 0	
Italy	Class 1	
Switzerland		6q3
United Kingdom (EN 13501-1)	Class B - s1, d0	
Europe	EN ISO 11925-2 small flame test (ignitability) test report EN 13823 single burning item (SBI) test report	EN ISO 1716 gross calorific value test report
CERTIFICATE		
Russia	GOST-R	GOST-R
USA	Puncture test per UL 181	
USA	10 000 Pa (max) @ Ø 102 mm Positive pressure test per UL 181	

Available on request

- Customized lengths
- Private label
- Net packing
- Plastic bag packing
- Bulk packing



NON-INSULATED ALUMINIUM NEGATIVE PRESSURE COMPETENT FLEXIBLE AIR DUCTS



TYPES:

ALUAFS.70 FORTE
(M1, difficult to ignite)

ALUAFS.F FORTE
(M0, limited combustibility)

ALUAFS FORTE

- ALUAFS FORTE non-insulated aluminium negative pressure competent flexible air ducts are specifically produced for medium pressure heating, cooling, ventilation, exhaust and air conditioning systems.
- Airtight ALUAFS FORTE is produced from multi-layer aluminium and polyester, strengthened with high tension hard steel spring wire.
- ALUAFS FORTE has high elasticity and flexibility. It can be easily fitted to circular, oval or rectangular connectors.
- The fire resistance of ALUAFS FORTE has been tested and certified by various international bodies.

PROPERTIES & ADVANTAGES

ALUMINIUM LAMINATED BODY
- Difficult to ignite (ALUAFS.70 FORTE)
- Limited combustibility (ALUAFS.F FORTE)
- Impermeable to UV rays
- High resistance to UV rays
- 98 % reflective
- Resistant to chemicals

FLEXIBLE & SEAMLESS CONSTRUCTION
- Easy to store
- Easy to transport
- Low installation cost
- High resistance to wear and tear
- Airtight
- Low operation and maintenance costs

SMOOTH INNER SURFACE
- Minimum pressure loss
- Anti-static
- Dust proof interior

HIGH TENSION STEEL WIRE
- High durability
- High resistance to deformation
- Easy to install

The dimensions, tolerances and mechanical resistance of ALUAFS FORTE are tested, classified and certified according to EN 13180.

TECHNICAL PROPERTIES

TYPE	ALUAFS.70 FORTE	ALUAFS.F FORTE
Fire Resistance	Difficult to ignite	Limited combustibility
Construction	3 ply aluminium 2 ply polyester	3 ply aluminium 1 ply polyester
Nominal Thickness	70 micron	74 micron
Available Diameters	Ø 52 mm – Ø 800 mm	Ø 82 mm – Ø 800 mm
Wire Pitch	18 mm (Ø ≥102 mm)	18 mm (Ø ≥ 102 mm)
Temperature Range	-30 °C / +150 °C	-30 °C / + 250 °C
Air Velocity	30 m/s (max)	30 m/s (max)
Operating Pressure	3000 Pa (max)	3000 Pa (max)
Standard Length	10 m	10 m
Packing	Single cardboard box	Single cardboard box
FIRE CERTIFICATE		
Switzerland		6q3
France		M0
Europe		EN ISO 1716 gross calorific value test report
CERTIFICATE		
Russia	GOST-R	GOST-R

Available on request

- Customized lengths
- Private label
- Net packing
- Plastic bag packing
- Bulk packing



AFS

NON-INSULATED UL LISTED ALUMINIUM FLEXIBLE AIR CONNECTOR



c UL US LISTED

E474528 UL LISTED CLOTHES DRYER TRANSITION DUCT ALUAFS DRYER DUCT AFS

ALUAFS DRYER DUCT

- ALUAFS DRYER DUCT is a non-insulated flexible duct is specially produced for clothes dryer exhaust.
- Airtight ALUAFS DRYER DUCT is produced from multi-layer aluminum and polyester, reinforced with high tension special coated steel wire against corrosion.
- ALUAFS DRYER DUCT is tested and listed according to UL 2158A Standard for Clothes Dryer Transition Duct. The duct meets the requirements of the surface burning, bending, tension, impact, puncture, torsion and corrosion tests.
- The fire resistance of clothes dryer exhaust ducts is a critical issue because of the fire risks of the clothes dryers. ALUAFS DRYER DUCT has been tested according to UL 723 and it has flame spread index less than 25 and smoke developed index less than 50.
- ALUAFS DRYER DUCT has high elasticity and flexibility. It could be easily fixed on confined spaces instead of rigid ducts.

PROPERTIES & ADVANTAGES

ALUMINIUM LAMINATED BODY

- xxx
- xxx
- xxx
- xxx
- xxx

SMOOTH INNER SURFACE

- xxx
- xxx
- xxx
- xxx
- xxx

FLEXIBLE & SEAMLESS CONSTRUCTION

- xxx
- xxx
- xxx
- xxx
- xxx

HIGH TENSION STEEL WIRE

- xxx
- xxx
- xxx
- xxx
- xxx

TECHNICAL PROPERTIES

TYPE	ALUAFS DRYER DUCT
Fire Resistance	Difficult to ignite
Construction	3 ply aluminium 2 ply polyester
Wire	Galvanized coated steel wire against corrosion
Nominal Thickness	70 micron
Available Diameters	Ø 102 mm
Temperature Range	-30 °C / +150 °C
Air Velocity	30 m/s (max)
Operating Pressure	3000 Pa (max)
Standard Length	2,5 m
Packing	Single cardboard box
CERTIFICATE	
USA (UL 181)	UL c UL US LISTED

Available on request

- Customized lengths
- Private label

The dimensions, tolerances and mechanical resistance of ALUAFS.70 UL are tested, classified and certified according to EN 13180.
The dimensions, tolerances and mechanical resistance of ALUAFS are tested, classified and certified according to EN 13180.

NON-INSULATED ALUMINIUM RECTANGULAR FLEXIBLE AIR DUCTS



TYPES:

ALUAFS.70 RECTANGULAR
(M1, difficult to ignite)

ALUAFS.F RECTANGULAR
(M0, limited combustibility)

ALUAFS RECTANGULAR

- ALUAFS RECTANGULAR non-insulated aluminium rectangular flexible air ducts are specifically produced for low and medium pressure heating, cooling, ventilation, exhaust and air conditioning systems.
- They provide maximum cross sectional area at the minimum installation space.
- Airtight ALUAFS RECTANGULAR is produced from multi-layer aluminium and polyester, strengthened with high tension hard steel spring wire.
- ALUAFS RECTANGULAR is highly elastic, flexible and compressible. It can be easily fitted to circular, oval or rectangular connectors.
- The fire resistance of ALUAFS RECTANGULAR has been tested and certified by various international bodies.

PROPERTIES & ADVANTAGES

ALUMINIUM LAMINATED BODY
- Difficult to ignite (ALUAFS.70 RECTANGULAR)
- Limited combustibility (ALUAFS.F RECTANGULAR)
- Impermeable to UV rays
- High resistance to UV rays
- 98 % reflective
- Resistant to chemicals

FLEXIBLE & SEAMLESS CONSTRUCTION
- Easy to store
- Easy to transport
- Quick and easy installation
- Airtight
- Low operation and maintenance cost

SMOOTH INNER SURFACE
- Minimum pressure loss
- Anti-static
- Dust proof interior

HIGH TENSION STEEL WIRE
- High durability
- High resistance to deformation
- Easy to install

The dimensions, tolerances and mechanical resistance of ALUAFS RECTANGULAR are tested, classified and certified according to EN 13180.

TECHNICAL PROPERTIES

TYPE	ALUAFS.70 RECTANGULAR	ALUAFS.F RECTANGULAR
Fire Resistance	Difficult to ignite	Limited combustibility
Construction	3 ply aluminium 2 ply polyester	3 ply aluminium 1 ply polyester
Nominal Thickness	70 micron	74 micron
Cross Sectional Area Range	0.006 m^2 – 0.38 m^2	0.006 m^2 – 0.38 m^2
Temperature Range	-30 °C / +150 °C	-30 °C / + 250 °C
Air Velocity	30 m/s (max)	30 m/s (max)
Operating Pressure	3000 Pa (max)	3000 Pa (max)
Standard Length	10 m	10 m
Packing	Single cardboard box	Single cardboard box
CERTIFICATE		
Russia	GOST-R	GOST-R
France		MO+M1
Europe		EN ISO 1716 (inner duct) gross calorific value test report

Available on request

- Customized lengths
- Private label
- Net packing
- Plastic bag packing
- Bulk packing

THERMALLY INSULATED ALUMINIUM FLEXIBLE AIR DUCTS



TYPES:

ISOAFS-ALU.70
(M1, difficult to ignite)

ISOAFS-ALU.F
(M0+M1, limited combustibility + difficult to ignite)

NO-CONDENSATION

ISOAFS-ALU

- ISOAFS-ALU thermally insulated aluminium flexible air ducts are specifically produced for low and medium pressure heating, cooling, ventilation, exhaust and air conditioning systems.
- Airtight ISOAFS-ALU is produced from multi-layer aluminium and polyester, strengthened with high tension hard steel spring wire, surrounded with glass wool insulation and an aluminium vapour barrier.
- ISOAFS-ALU has high elasticity and flexibility. It can be easily fitted to circular, oval or rectangular connectors.
- The fire resistance of ISOAFS-ALU has been tested and certified by various international bodies.

PROPERTIES & ADVANTAGES

ALUMINIUM LAMINATED BODY
- Difficult to ignite (ISOAFS-ALU.70)
- Limited combustibility + difficult to ignite (ISOAFS-ALU.F)
- Impermeable to UV rays
- High resistance to UV rays
- 98 % reflective
- Resistant to chemicals

FLEXIBLE & SEAMLESS CONSTRUCTION
- Easy to store
- Easy to transport
- Low installation cost
- Airtight
- Low operation and maintenance cost

SMOOTH INNER SURFACE
- Minimum pressure loss
- Anti-static
- Dust proof interior

HIGH TENSION STEEL WIRE
- High durability
- High resistance to deformation
- Easy to install

GLASS WOOL INSULATION
- Heat resistant (Certified, EN 13501-1, Class A1),
- UL 723
  (Flame Spread index = 0)
  (Smoke Developed index = 0)
- No fiber erosion
- Minimal energy loss
- Perfect insulation property
- No-condensation

ALUMINIUM LAMINATED JACKET
- Difficult to ignite (Certified)
- High resistance to wear and tear
- Impermeable to UV rays
- High resistance to UV rays
- Resistant to chemicals

The dimensions, tolerances and mechanical resistance of ISOAFS-ALU are tested, classified and certified according to EN 13180.

TECHNICAL PROPERTIES

TYPE	ISOAFS-ALU.70	ISOAFS-ALU.F
Fire Resistance	Difficult to ignite	Limited combustibility + Difficult to ignite
Inner Duct Construction	3 ply aluminium + 2 ply polyester	3 ply aluminium + 1 ply polyester
Jacket Construction	1 ply aluminium + 2 ply polyester	1 ply aluminium + 2 ply polyester
Nominal Thickness (Inner Duct / Jacket)	70 micron / 45 micron	74 micron / 45 micron
Available Diameters	Ø 52 mm – Ø 800 mm	Ø 82 mm – Ø 800 mm
Temperature Range	-30 °C / +150 °C	-30 °C / + 250 °C
Air Velocity	30 m/s (max)	30 m/s (max)
Operating Pressure	3000 Pa (max)	3000 Pa (max)
Insulation / Thickness / Density	Glass wool / 25 mm / 16 kg/m³	Glass wool / 25 mm / 16 kg/m³
Thermal Conductivity	k = 0.037 W/mK	k = 0.037 W/mK
Standard Length	10 m	10 m
Packing	Single cardboard box	Single cardboard box
FIRE CERTIFICATE		
France	M1	M0 + M1
Italy	Class 1	Class 0
Europe		EN ISO 1716 (inner duct) gross calorific value test report
CERTIFICATE		
Russia	GOST-R	GOST-R

Available on request

- Customized lengths
- Private label
- White polyester insulation
- 38, 40 mm & 50 mm glass wool insulation
- 24 kg/m³ glass wool insulation
- PE jacket

Insulation Options Available



ALTERNATIVE CONSTRUCTIONS

Product Name	Difference from the standard type
ISOAFS-ALU.70-R6 **ISOAFS-ALU.F-R6**	R 6.0 glass wool insulation
ISOAFS-ALU.70-R8 **ISOAFS-ALU.F-R8**	R 8.0 glass wool insulation
ISOAFS-ALU.70-D24 **ISOAFS-ALU.F-D24**	24 kg/m³ glass wool insulation
ISOAFS-ALU.70-PE	1 ply PE jacket, in grey color
ISOAFS-ALU.70-W **ISOAFS-ALU.F-W**	White polyester insulation 25 mm in thickness 10 kg/m³ in density

AFS®

THERMALLY INSULATED ALUMINIUM NEGATIVE PRESSURE COMPETENT FLEXIBLE AIR DUCTS



TYPES:

ISOAFS-ALU.70 FORTE
(M1, difficult to ignite)

ISOAFS-ALU.F FORTE
(M0+M1, limited combustibility + difficult to ignite)

NO-CONDENSATION

ISOAFS-ALU FORTE

- ISOAFS-ALU FORTE thermally insulated aluminium negative pressure competent flexible air ducts are specifically produced for medium pressure heating, cooling, ventilation, exhaust and air conditioning systems.
- Airtight ISOAFS-ALU FORTE is produced from multi-layer aluminium and polyester, strengthened with high tension hard steel spring wire, surrounded with glass wool insulation and an aluminium vapour barrier.
- ISOAFS-ALU FORTE has high elasticity and flexibility. It can be easily fitted to circular, oval or rectangular connectors.
- The fire resistance of ISOAFS-ALU FORTE has been tested and certified by various international bodies.

PROPERTIES & ADVANTAGES

ALUMINIUM LAMINATED BODY
- Difficult to ignite (ISOAFS-ALU.70 FORTE)
- Limited combustibility + difficult to ignite (ISOAFS-ALU.F FORTE)
- Impermeable to UV rays
- High resistance to UV rays
- 98 % reflective
- Resistant to chemicals

FLEXIBLE & SEAMLESS CONSTRUCTION
- Easy to store
- Easy to transport
- Low installation cost
- Airtight
- Low operation and maintenance cost

SMOOTH INNER SURFACE
- Minimum pressure loss
- Anti-static
- Dust proof interior

HIGH TENSION STEEL WIRE
- High durability
- High resistance to deformation
- Easy to install

GLASS WOOL INSULATION
- Heat resistant (Certified, EN 13501-1, Class A1),
- UL 723
  (Flame Spread index = 0)
  (Smoke Developed index = 0)
- No fiber erosion
- Minimal energy loss
- Perfect insulation property
- No-condensation

ALUMINIUM LAMINATED JACKET
- Difficult to ignite (Certified)
- High resistance to wear and tear
- Impermeable to UV rays
- High resistance to UV rays
- Resistant to chemicals

The dimensions, tolerances and mechanical resistance of ISOAFS-ALU FORTE are tested, classified and certified according to EN 13180.

TECHNICAL PROPERTIES

TYPE	ISOAFS-ALU.70 FORTE	ISOAFS-ALU.F FORTE
Fire Resistance	Difficult to ignite	Limited combustibility + Difficult to ignite
Inner Duct Construction	3 ply aluminium + 2 ply polyester	3 ply aluminium + 1 ply polyester
Jacket Construction	1 ply aluminium + 2 ply polyester	1 ply aluminium + 2 ply polyester
Nominal Thickness (Inner Duct / Jacket)	70 micron / 45 micron	74 micron / 45 micron
Available Diameters	Ø 52 mm – Ø 800 mm	Ø 82 mm – Ø 800 mm
Wire Pitch	18 mm (Ø ≥102 mm)	18 mm (Ø ≥ 102 mm)
Temperature Range	-30 °C / +150 °C	-30 °C / + 250 °C
Air Velocity	30 m/s (max)	30 m/s (max)
Operating Pressure	3000 Pa (max)	3000 Pa (max)
Insulation / Thickness / Density	Glass wool / 25 mm / 16 kg/m³	Glass wool / 25 mm / 16 kg/m³
Thermal Conductivity	k = 0.037 W/mK	k = 0.037 W/mK
Standard Length	10 m	10 m
Packing	Single cardboard box	Single cardboard box
FIRE CERTIFICATE		
France	M1	M0 + M1
Europe		EN ISO 1716 (inner duct) gross calorific value test report
CERTIFICATE		
Russia	GOST-R	GOST-R

Available on request

- Customized lengths
- Private label
- White polyester insulation
- 38, 40 mm & 50 mm glass wool insulation
- 24 kg/m³ glass wool insulation
- PE jacket

Insulation Options Available



AFS®

THERMALLY INSULATED ALUMINIUM RECTANGULAR FLEXIBLE AIR DUCTS

TYPES:

ISOAFS-ALU.70 RECTANGULAR
(M1, difficult to ignite)

ISOAFS-ALU.F RECTANGULAR
(M0+M1, limited combustibility + difficult to ignite)

NO-CONDENSATION



ISOAFS-ALU RECTANGULAR

- ISOAFS-ALU RECTANGULAR thermally insulated aluminium rectangular flexible air ducts are specifically produced for low and medium pressure heating, cooling, ventilation, exhaust and air conditioning systems.
- They provide maximum cross sectional area at the minimum installation space.
- Airtight ISOAFS-ALU RECTANGULAR flexible air ducts are produced from multi-layer aluminium and polyester, strengthened with high tension hard steel spring wire, surrounded with glass wool insulation and an aluminium vapour barrier.
- ISOAFS-ALU RECTANGULAR has high elasticity and flexibility. It can be easily fitted to circular, oval or rectangular connectors.
- The fire resistance of ISOAFS-ALU RECTANGULAR has been tested and certified by various international bodies.

PROPERTIES & ADVANTAGES

ALUMINIUM LAMINATED BODY
- Difficult to ignite (ISOAFS-ALU.70 RECTANGULAR)
- Limited combustibility + difficult to ignite (ISOAFS-ALU.F RECTANGULAR)
- Impermeable to UV rays
- High resistance to UV rays
- 98 % reflective
- Resistant to chemicals

FLEXIBLE & SEAMLESS CONSTRUCTION
- Easy to store
- Easy to transport
- Quick and easy installation
- Airtight
- Low operation and maintenance costs

SMOOTH INNER SURFACE
- Minimum pressure loss
- Anti-static
- Dust proof interior

HIGH TENSION STEEL WIRE
- High durability
- High resistance to deformation
- Easy to install

GLASS WOOL INSULATION
- Heat resistant (Certified, EN 13501-1, Class A1)
- UL 723
  (Flame Spread index = 0)
  (Smoke Developed index = 0)
- No fiber erosion
- Minimal energy loss
- Perfect insulation property
- No-condensation

ALUMINIUM LAMINATED JACKET
- Difficult to ignite (Certified)
- High resistance to wear and tear
- Impermeable to UV rays
- High resistance to UV rays
- 98 % reflective

The dimensions, tolerances and mechanical resistance of ISOAFS-ALU RECTANGULAR are tested, classified and certified according to EN 13180.

TECHNICAL PROPERTIES

TYPE	ISOAFS-ALU.70 RECTANGULAR	ISOAFS-ALU.F RECTANGULAR
Fire Resistance	Difficult to ignite	Limited combustibility + Difficult to ignite
Inner Duct Construction	3 ply aluminium + 2 ply polyester	3 ply aluminium + 1 ply polyester
Jacket Construction	1 ply aluminium + 2 ply polyester	1 ply aluminium + 2 ply polyester
Nominal Thickness (Inner Duct / Jacket)	70 micron / 45 micron	74 micron / 45 micron
Cross Sectional Area Range (According to inner duct)	0.006 m^2 – 0.38 m^2	0.006 m^2 – 0.38 m^2
Temperature Range	-30 °C / +150 °C	-30 °C / + 250 °C
Air Velocity	30 m/s (max)	30 m/s (max)
Operating Pressure	3000 Pa (max)	3000 Pa (max)
Insulation / Thickness / Density	Glass wool / 25 mm / 16 kg/m^3	Glass wool / 25 mm / 16 kg/m^3
Thermal Conductivity	k = 0.037 W/mK	k = 0.037 W/mK
Standard Length	10 m	10 m
Packing	Single cardboard box	Single cardboard box
CERTIFICATE		
Russia	GOST-R	GOST-R

Available on request

- Customized lengths
- Private label
- White polyester insulation
- 38, 40 mm & 50 mm glass wool insulation
- 24 kg/m^3 glass wool insulation
- PE jacket

Insulation Options Available



ALTERNATIVE CONSTRUCTIONS

PRODUCT NAME	DIFFERENCE FROM THE STANDARD TYPE
ISOAFS-ALU.70-R6 RECTANGULAR **ISOAFS-ALU.F-R6 RECTANGULAR**	R 6.0 glass wool insulation
ISOAFS-ALU.70-R8 RECTANGULAR **ISOAFS-ALU.F-R8 RECTANGULAR**	R 8.0 glass wool insulation
ISOAFS-ALU.70-D24 RECTANGULAR **ISOAFS-ALU.F-D24 RECTANGULAR**	24 kg/m^3 glass wool insulation
ISOAFS-ALU.70-PE RECTANGULAR	1 ply PE jacket, in grey color
ISOAFS-ALU.70-W RECTANGULAR **ISOAFS-ALU.F-W RECTANGULAR**	White polyester insulation 25 mm in thickness 14 kg/m^3 in density

THERMALLY & ACOUSTICALLY INSULATED ALUMINIUM FLEXIBLE AIR DUCTS

TYPES:

SONOAFS-ALU.70
(M1, difficult to ignite)

SONOAFS-ALU.F
(M0+M1, limited combustibility + difficult to ignite)

NO-CONDENSATION



SONOAFS-ALU

- SONOAFS-ALU thermally and acoustically insulated aluminium flexible air ducts are specifically produced for low and medium pressure heating, cooling, ventilation, exhaust and air conditioning systems.
- Airtight SONOAFS-ALU is produced from multi-layer aluminium and polyester (perforated), strengthened with high tension hard steel spring wire, surrounded with glass wool insulation and an aluminium vapour barrier.
- SONOAFS-ALU has high elasticity and flexibility. It can be easily fitted to circular, oval or rectangular connectors.
- The fire resistance of SONOAFS-ALU has been tested and certified by various international bodies.

PROPERTIES & ADVANTAGES

ALUMINIUM LAMINATED BODY
- Difficult to ignite (SONOAFS-ALU.70)
- Limited combustibility + difficult to ignite (SONOAFS-ALU.F)
- High resistance to UV rays
- 98 % reflective
- Impermeable to UV rays
- Resistant to chemicals

FLEXIBLE & SEAMLESS CONSTRUCTION
- Easy to store
- Easy to transport
- Low installation cost
- Airtight
- Low operation and maintenance costs

SMOOTH INNER SURFACE
- Minimum pressure loss
- Anti-static
- Dust proof interior

HIGH TENSION STEEL WIRE
- High durability
- High resistance to deformation
- Easy to install

GLASS WOOL INSULATION
- Heat resistant (Certified, EN 13501-1, Class A1
- UL 723
  (Flame Spread index = 0)
  (Smoke Developed index = 0)
- No fiber erosion
- Minimal energy loss
- Perfect insulation property
- No-condensation

ALUMINIUM LAMINATED JACKET
- Difficult to ignite (Certified)
- High resistance to wear and tear
- Impermeable to UV rays
- High resistance to UV rays
- 98 % reflective
- Resistant to chemicals

The dimensions, tolerances and mechanical resistance of SONOAFS-ALU are tested, classified and certified according to EN 13180.

TECHNICAL PROPERTIES

TYPE	SONOAFS-ALU.70	SONOAFS-ALU.F
Fire Resistance	Difficult to ignite	Limited combustibility + Difficult to ignite
Inner Duct Construction	3 ply aluminium + 2 ply polyester (Perforated)	3 ply aluminium + 1 ply polyester (Perforated)
Jacket Construction	1 ply aluminium + 2 ply polyester	1 ply aluminium + 2 ply polyester
Nominal Thickness (Inner Duct / Jacket)	70 micron / 45 micron	74 micron / 45 micron
Available Diameters	Ø 52 mm – Ø 800 mm	Ø 82 mm – Ø 800 mm
Temperature Range	-30 °C / +150 °C	-30 °C / + 250 °C
Air Velocity	30 m/s (max)	30 m/s (max)
Operating Pressure	3000 Pa (max)	3000 Pa (max)
Insulation / Thickness / Density	Glass wool / 25 mm / 16 kg/m³	Glass wool / 25 mm / 16 kg/m³
Thermal Conductivity	k = 0.037 W/mK	k = 0.037 W/mK
Standard Length	10 m	10 m
Packing	Single cardboard box	Single cardboard box
FIRE CERTIFICATE		
France	M1	M0 + M1
Italy CSI	Class 1	
Europe		EN ISO 1716 (inner duct) gross calorific value test report
CERTIFICATE		
Russia	GOST-R	GOST-R

Available on request

- Customized lengths
- Private label
- White polyester insulation
- 38, 40 mm & 50 mm glass wool insulation
- 24 kg/m³ glass wool insulation
- PE jacket
- Polyester/PE barrier between the duct and the glass wool

Insulation Options Available



PRODUCT NAME	DIFFERENCE FROM THE STANDARD TYPE
SONOAFS-ALU.70-R6 **SONOAFS-ALU.F-R6**	R 6.0 glass wool insulation
SONOAFS-ALU.70-R8 **SONOAFS-ALU.F-R8**	R 8.0 glass wool insulation
SONOAFS-ALU.70-D24 **SONOAFS-ALU.F-D24**	24 kg/m³ glass wool insulation
SONOAFS-ALU.70-PE	1 ply PE jacket, in grey color
SONOAFS-ALU.70-W **SONOAFS-ALU.F-W**	White polyester insulation 25 mm in thickness 10 kg/m³ in density
SONOAFS-ALU.70 RECTANGULAR **SONOAFS-ALU.F RECTANGULAR**	rectangular in shape
SONOAFS-ALU.70B **SONOAFS-ALU.FB**	Polyester/PE barrier between duct and insulation (Prevents the entrance of fibers of insulation into flexible air duct)
SONOAFS-ALU.70B-R8 **SONOAFS-ALU.FB-R8**	R 8.0 glass wool insulation Polyester/PE barrier between duct and insulation

- Insertion Loss (page 162)
- Transmission Loss (page 170)

AFS®

THERMALLY & ACOUSTICALLY INSULATED NEGATIVE PRESSURE COMPETENT ALUMINIUM FLEXIBLE AIR DUCTS



TYPES:

SONOAFS-ALU.70 FORTE
(M1, difficult to ignite)

SONOAFS-ALU.F FORTE
(M0+M1, limited combustibility + difficult to ignite)

NO-CONDENSATION

SONOAFS-ALU FORTE

- SONOAFS-ALU FORTE thermally and acoustically insulated aluminium negative pressure competent flexible air ducts are specifically produced for medium pressure heating, cooling, ventilation, exhaust and air conditioning systems.
- Airtight SONOAFS-ALU FORTE is produced from multi-layer aluminium (perforated), strengthened with polyester and high tension hard steel spring wire, surrounded with glass wool insulation and an aluminium vapour barrier.
- SONOAFS-ALU FORTE has high elasticity and flexibility. It can be easily fitted to circular, oval or rectangular connectors.
- The fire resistance of SONOAFS-ALU FORTE has been tested and certified by various international bodies.

PROPERTIES & ADVANTAGES

ALUMINIUM LAMINATED BODY
- Difficult to ignite (SONOAFS-ALU.70 FORTE)
- Limited combustibility + difficult to ignite(SONOAFS-ALU.F FORTE)
- High resistance to UV rays
- 98 % reflective
- Impermeable to UV rays
- Resistant to chemicals

FLEXIBLE & SEAMLESS CONSTRUCTION
- Easy to store
- Easy to transport
- Low installation cost
- Airtight
- Low operation and maintenance costs

SMOOTH INNER SURFACE
- Minimum pressure loss
- Anti-static
- Dust proof interior

HIGH TENSION STEEL WIRE
- High durability
- High resistance to deformation
- Easy to install

GLASS WOOL INSULATION
- Heat resistant (Certified, EN 13501-1, Class A1
- UL 723
  (Flame Spread index = 0)
  (Smoke Developed index = 0)
- No fiber erosion
- Minimal energy loss
- Perfect insulation property
- No-condensation

ALUMINIUM LAMINATED JACKET
- Difficult to ignite (Certified)
- High resistance to wear and tear
- Impermeable to UV rays
- High resistance to UV rays
- 98 % reflective
- Resistant to chemicals

The dimensions, tolerances and mechanical resistance of SONOAFS-ALU FORTE are tested, classified and certified according to EN 13180.

TECHNICAL PROPERTIES

TYPE	SONOAFS-ALU.70 FORTE	SONOAFS-ALU.F FORTE
Fire Resistance	Difficult to ignite	Limited combustibility + Difficult to ignite
Inner Duct Construction	3 ply aluminium + 2 ply polyester (Perforated)	3 ply aluminium + 1 ply polyester (Perforated)
Jacket Construction	1 ply aluminium + 2 ply polyester	1 ply aluminium + 2 ply polyester
Nominal Thickness (Inner Duct / Jacket)	70 micron / 45 micron	74 micron / 45 micron
Available Diameters	Ø 52 mm – Ø 800 mm	Ø 82 mm – Ø 800 mm
Wire Pitch	18 mm (Ø ≥102 mm)	18 mm (Ø ≥ 102 mm)
Temperature Range	-30 °C / +150 °C	-30 °C / + 250 °C
Air Velocity	30 m/s (max)	30 m/s (max)
Operating Pressure	3000 Pa (max)	3000 Pa (max)
Insulation / Thickness / Density	Glass wool / 25 mm / 16 kg/m³	Glass wool / 25 mm / 16 kg/m³
Thermal Conductivity	k = 0.037 W/mK	k = 0.037 W/mK
Standard Length	10 m	10 m
Packing	Single cardboard box	Single cardboard box
CERTIFICATE		
Russia	GOST-R	GOST-R
France		MO+M1

Available on request

- Customized lengths
- Private label
- White polyester insulation
- 38, 40 mm & 50 mm glass wool insulation
- 24 kg/m³ glass wool insulation
- PE jacket
- Polyester/PE barrier between the duct and the glass wool

PRODUCT NAME	DIFFERENCE FROM THE STANDARD TYPE
SONOAFS-ALU.FB FORTE	Polyester/PE barrier between duct and insulation (Prevents the entrance of fibers of insulation into flexible air duct)

THERMALLY & ACOUSTICALLY INSULATED ALUMINIUM FLEXIBLE AIR DUCTS



New

TYPE:

SONOAFS-ALU.F PLUS
(M0+M0)

NO-CONDENSATION

SONOAFS-ALU PLUS

- SONOAFS-ALU.F PLUS thermally and acoustically insulated aluminium flexible air ducts are specifically produced for low and medium pressure heating, cooling, ventilation, exhaust and air conditioning systems.
- Airtight SONOAFS-ALU.F PLUS is produced from multi-layer aluminium and polyester (perforated), strengthened with high tension hard steel spring wire, surrounded with glass wool insulation and an aluminium vapour barrier.
- SONOAFS-ALU.F PLUS has high elasticity and flexibility. It can be easily fitted to circular, oval or rectangular connectors.
- The fire resistance of SONOAFS-ALU.F PLUS has been tested and certified by various international bodies.

PROPERTIES & ADVANTAGES

ALUMINIUM LAMINATED BODY
- Limited combustibility
- High resistance to UV rays
- 98 % reflective
- Impermeable to UV rays
- Resistant to chemicals

FLEXIBLE & SEAMLESS CONSTRUCTION
- Easy to store
- Easy to transport
- Low installation cost
- Airtight
- Low operation and maintenance costs

SMOOTH INNER SURFACE
- Minimum pressure loss
- Anti-static
- Dust proof interior

HIGH TENSION STEEL WIRE
- High durability
- High resistance to deformation
- Easy to install

GLASS WOOL INSULATION
- Heat resistant (Certified, EN 13501-1, Class A1
- UL 723
  (Flame Spread index = 0)
  (Smoke Developed index = 0)
- No fiber erosion
- Minimal energy loss
- Perfect insulation property
- No-condensation

ALUMINIUM LAMINATED JACKET
- Limited combustibility
- High resistance to wear and tear
- Impermeable to UV rays
- High resistance to UV rays
- 98 % reflective
- Resistant to chemicals

The dimensions, tolerances and mechanical resistance of SONOAFS-ALU.F PLUS are tested, classified and certified according to EN 13180.

TECHNICAL PROPERTIES

TYPE	SONOAFS-ALU.F PLUS
Fire Resistance	Limited combustibility
Inner Duct Construction	3 ply aluminium + 1 ply polyester (Perforated)
Jacket Construction	3 ply aluminium + 1 ply polyester
Nominal Thickness (Inner Duct / Jacket)	74 micron / 74 micron
Available Diameters	Ø 82 mm – Ø 800 mm
Temperature Range	-30 °C / +250 °C
Air Velocity	30 m/s (max)
Operating Pressure	3000 Pa (max)
Insulation / Thickness / Density	Glass wool / 25 mm / 16 kg/m³
Thermal Conductivity	k = 0.037 W/mK
Standard Length	5 m
Packing	Single cardboard box
FIRE CERTIFICATE	
France	M0 + M0

Available on request

- Customized lengths
- Private label

Insulation Options Available

R 4.2 R 6.0 R 8.0

- Insertion Loss (page 162)
- Transmission Loss (page 170)

AFS®

THERMALLY & ACOUSTICALLY INSULATED NON-WOVEN FLEXIBLE AIR DUCTS



New

TYPES:

SONOAFS-NW
(M1, Difficult to ignite)

SONOAFS-NW.PE
(M1, Difficult to ignite)

NO-CONDENSATION

SONOAFS-NW

- SONOAFS-NW thermally and acoustically insulated flexible air ducts are specifically produced for low and medium pressure heating, cooling, ventilation, exhaust and air conditioning systems.
- SONOAFS-NW has high elasticity and flexibility. It can be easily fitted to circular, oval or rectangular connectors.
- The fire resistance of SONOAFS-NW has been tested and certified by various international bodies.

PROPERTIES & ADVANTAGES

NONWOVEN CONSTRUCTION
- Difficult to ignite
- High resistance to UV rays
- Dampens mechanical vibration
- Excellent sound attenuation
- Fibre-migration proof
- Resistant to chemicals
- Suitable for IT Centers, computer rooms, hospitals & schools

FLEXIBLE & SEAMLESS CONSTRUCTION
- Easy to store
- Easy to transport
- Low installation cost
- Low operation and maintenance costs

SMOOTH INNER SURFACE
- Minimum pressure loss
- Dust proof interior

HIGH TENSION STEEL WIRE
- High durability
- High resistance to deformation
- Easy to install

GLASS WOOL INSULATION
- Heat resistant (Certified, EN 13501-1, Class A1
- UL 723
  (Flame Spread index = 0)
  (Smoke Developed index = 0)
- No fiber erosion
- Minimal energy loss
- Perfect insulation property
- No-condensation

PE OUTER JACKET
- High vibration resistance
- High resistance to wear and tear
- Impermeable to UV rays
- Resistant to chemicals
- Easy care

The dimensions, tolerances and mechanical resistance of SONOAFS-NW are tested, classified and certified according to EN 13180.

TECHNICAL PROPERTIES

TYPE	SONOAFS-NW	SONOAFS-NW.PE
Fire Resistance	Difficult to ignite	Difficult to ignite
Inner Duct Construction	Nonwoven Fabric	Nonwoven Fabric
Jacket Construction	1 ply aluminium + 2 ply polyester	1 ply PE
Nominal Thickness (Inner Duct / Jacket)	600 micron / 45 micron	600 micron / 100 micron
Available Diameters	Ø 82 mm – Ø 406 mm	Ø 82 mm – Ø 406 mm
Temperature Range	-20 °C / + 90 °C	-20 °C / + 90 °C
Air Velocity	20 m/s (max)	20 m/s (max)
Operating Pressure	1500 Pa (max)	1500 Pa (max)
Insulation / Thickness / Density	Glass wool / 25 mm / 16 kg/m³	Glass wool / 25 mm / 16 kg/m³
Thermal Conductivity	k = 0.037 W/mK	k = 0.037 W/mK
Standard Length	6 m	6 m
Packing	Single cardboard box	Single cardboard box
FIRE CERTIFICATE		
France	M1	M1

Available on request

- Customized lengths
- Private label
- Black & white polyester colors
- Black PE color
- 38, 40 mm & 50 mm glass wool insulation
- 24 kg/m³ glass wool insulation
- White polyester insulation

Insulation Options Available

R 4.2 R 6.0 R 8.0

- Insertion Loss (page 165)
- Transmission Loss (page 173)

AFS®

ALUMINIUM & PVC COMBINED FLEXIBLE AIR DUCTS



TYPES:

COMBIAFS

COMBIAFS.S

ACOUSTIC COMBIAFS
(perforated inner surface)

NO-CONDENSATION

COMBIAFS

- COMBIAFS is produced from multi-layer aluminium & polyester strengthened with high tension steel spring wire, covered with a PVC layer. COMBIAFS is recommended for discharging welding fumes (where high mechanical resistance is required), low and medium pressure heating, cooling and air conditioning systems.
- COMBIAFS is more effective against condensation than a standard non-insulated aluminium flexible air duct. To maintain indoor air quality at a certain level, preventing condensation is important. Accumulation of water on the duct surface arising from condensation leads to problems such as mold growth and corrosion, which would cause serious health problems and deformation of building materials and components.
- In order to prevent condensation the surface temperature of the duct shall be kept higher than the dew point of the air surrounding it. A PVC layer on the outer surface of COMBIAFS acts as an insulation which makes the duct more impermeable to water and keeps surface temperature higher.
- Punctures and tears could also lead to condensation and air leaks. Prevention from such deformations is achieved by adding a PVC layer which maintains more mechanical resistance than aluminum flexible air duct.
- COMBIAFS is elastic and flexible. It can be easily fitted to circular, oval, or rectangular connectors.

PROPERTIES & ADVANTAGES

ALUMINIUM LAMINATED INNER FLEXIBLE DUCT
- Impermeable to UV rays
- High resistance to UV rays
- Resistant to chemicals

HIGH TENSION STEEL WIRE
- High durability
- High resistance to deformation
- Easy to install

FLEXIBLE & SEAMLESS CONSTRUCTION
- Easy to store
- Easy to transport
- Low installation cost
- Airtight
- Low operation and maintenance costs

PVC SLEEVE
- High resistance to wear and tear
- High mechanical resistance
- High resistance to UV rays
- Resistant to chemicals

SMOOTH INNER SURFACE
- Minimum pressure loss
- Anti-static
- Dust proof interior

The dimensions, tolerances and mechanical resistance of COMBIAFS are tested, classified and certified according to EN 13180.

TECHNICAL PROPERTIES

TYPE	COMBIAFS	COMBIAFS.S	ACOUSTIC COMBIAFS
Construction	3 ply aluminium 2 ply polyester 1 ply PVC	1 ply aluminium 1 ply polyester 1 ply PVC	3 ply aluminium (perforated) 2 ply polyester (perforated) 1 ply PVC
Nominal Thickness	150 micron	100 micron	150 micron
PVC Color	Black	Black	Black
Available Diameters	Ø 52 mm – Ø 800 mm	Ø 52 mm – Ø 800 mm	Ø 52 mm – Ø 800 mm
Temperature Range	-30 °C / +150 °C	-30 °C / +150 °C	-30 °C / +150 °C
Air Velocity	30 m/s (max)	30 m/s (max)	30 m/s (max)
Operating Pressure	3000 Pa (max)	3000 Pa (max)	3000 Pa (max)
Standard Length	10 m	10 m	10 m
Packing	Single cardboard box	Single cardboard box	Single cardboard box
FIRE CERTIFICATE			
Italy	Class 1		
United Kingdom (BS 476 Part 6&7)		Class 0	
CERTIFICATE			
Russia	GOST-R		GOST-R

Available on request

- Customized lengths
- Private label
- Net packing
- Plastic bag packing
- Bulk packing
- Grey PVC color
- White PVC color

ALTERNATIVE CONSTRUCTIONS

PRODUCT NAME	DIFFERENCE FROM THE STANDARD TYPE
COMBIAFS GREY **ACOUSTIC COMBIAFS GREY**	Grey PVC color
COMBIAFS WHITE **ACOUSTIC COMBIAFS WHITE**	White PVC color

AFS®

ALUMINIUM & PVC COMBINED NEGATIVE PRESSURE COMPETENT FLEXIBLE AIR DUCTS



New

NO-CONDENSATION

COMBIAFS FORTE

- COMBIAFS HEAVY is produced from multi-layer aluminium & polyester strengthened with high tension steel spring wire, covered with a PVC layer. High pressure competent COMBIAFS HEAVY is recommended for discharging welding fumes (where high mechanical resistance is required), low and medium pressure heating, cooling and air conditioning systems.
- COMBIAFS-HEAVY is more effective against condensation than a standard non-insulated aluminium flexible air duct. To maintain indoor air quality at a certain level, preventing condensation is important. Accumulation of water on the duct surface arising from condensation leads to problems such as mold growth and corrosion, which would cause serious health problems and deformation of building materials and components.
- In order to prevent condensation the surface temperature of the duct shall be kept higher than the dew point of the air surrounding it. A PVC layer on the outer surface of COMBIAFS HEAVY acts as an insulation which makes the duct more impermeable to water and keeps surface temperature higher.
- Punctures and tears could also lead to condensation and air leaks. Prevention from such deformations is achieved by adding a PVC layer which maintains more mechanical resistance than aluminum flexible air duct.
- COMBIAFS HEAVY is elastic and flexible. It can be easily fitted to circular, oval, or rectangular connectors.

PROPERTIES & ADVANTAGES

ALUMINIUM LAMINATED INNER FLEXIBLE DUCT
- Impermeable to UV rays
- High resistance to UV rays
- Resistant to chemicals

FLEXIBLE & SEAMLESS CONSTRUCTION
- Easy to store
- Easy to transport
- Low installation cost
- Airtight
- Low operation and maintenance costs

SMOOTH INNER SURFACE
- Minimum pressure loss
- Anti-static
- Dust proof interior

HIGH TENSION STEEL WIRE
- High durability
- High resistance to deformation
- Easy to install

PVC SLEEVE
- High resistance to wear and tear
- High mechanical resistance
- High resistance to UV rays
- Resistant to chemicals

The dimensions, tolerances and mechanical resistance of COMBIAFS-HEAVY are tested, classified and certified according to EN 13180.

TECHNICAL PROPERTIES

TYPE	COMBIAFS FORTE	COMBIAFS - HEAVY
Construction	3 ply aluminium 2 ply polyester 1 ply PVC	3 ply aluminium 2 ply polyester 1 ply PVC
Nominal Thickness	150 micron	150 micron
PVC Color	Black	Black
Available Diameters	Ø 82 mm – Ø 800 mm	Ø 82 mm – Ø 800 mm
Wire Pitch	18 mm (Ø ≥102 mm)	18 mm (Ø ≥102 mm) strong design thicker wire
Temperature Range	-30 °C / +150 °C	-30 °C / +150 °C
Air Velocity	30 m/s (max)	30 m/s (max)
Operating Pressure	3000 Pa (max)	30 m/s (max)
Standard Length	10 m	10 m
Packing	Single cardboard box	Single cardboard box
CERTIFICATE		
Russia	GOST-R	GOST-R

Available on request

- Customized lengths
- Private label
- Net packing
- Plastic bag packing
- Bulk packing
- Grey PVC color
- White PVC color

ALTERNATIVE CONSTRUCTIONS

PRODUCT NAME	DIFFERENCE FROM THE STANDARD TYPE
COMBIAFS GREY HEAVY	Grey PVC color
COMBIAFS WHITE HEAVY	White PVC color

ALUMINIUM & PVC COMBINED RECTANGULAR FLEXIBLE AIR DUCTS

NO-CONDENSATION



COMBIAFS RECTANGULAR

- COMBIAFS RECTANGULAR is produced from multi-layer aluminium & polyester strengthened with high tension steel spring wire, covered with a PVC layer. COMBIAFS RECTANGULAR is recommended for discharging welding fumes (where high mechancal resistance is required), low and medium pressure heating, cooling and air conditioning systems.
- COMBIAFS RECTANGULAR is more effective against condensation than a standard non-insulated aluminium flexible air duct. To maintain indoor air quality at a certain level, preventing condensation is important. Accumulation of water on the duct surface arising from condensation leads to problems such as mold growth and corrosion, which would cause serious health problems and deformation of building materials and components.
- In order to prevent condensation the surface temperature of the duct shall be kept higher than the dew point of the air surrounding it. A PVC layer on the outer surface of COMBIAFS RECTANGULAR acts as an insulation which makes the duct more impermeable to water and keeps surface temperature higher.
- Punctures and tears could also lead to condensation and air leaks. Prevention from such deformations is achieved by adding a PVC layer which maintains more mechanical resistance than aluminum flexible air duct.
- COMBIAFS RECTANGULAR is elastic and flexible. It can be easily fitted to circular, oval, or rectangular connectors.

PROPERTIES & ADVANTAGES

ALUMINIUM LAMINATED INNER FLEXIBLE DUCT
- Impermeable to UV rays
- High resistance to UV rays
- Resistant to chemicals

FLEXIBLE & SEAMLESS CONSTRUCTION
- Easy to store
- Easy to transport
- Low installation cost
- Airtight
- Low operation and maintenance costs

SMOOTH INNER SURFACE
- Minimum pressure loss
- Anti-static
- Dust proof interior

HIGH TENSION STEEL WIRE
- High durability
- High resistance to deformation
- Easy to install

PVC SLEEVE
- High resistance to wear and tear
- High mechanical resistance
- High resistance to UV rays
- Resistant to chemicals

The dimensions, tolerances and mechanical resistance of COMBIAFS RECTANGULAR are tested, classified and certified according to EN 13180.

TECHNICAL PROPERTIES

TYPE	COMBIAFS RECTANGULAR
Construction	3 ply aluminium 2 ply polyester 1 ply PVC
Nominal Thickness	150 micron
PVC Color	Black
Cross Sectional Area Range	0.006 m^2 – 0.38 m^2
Temperature Range	-30 °C / +150 °C
Air Velocity	30 m/s (max)
Operating Pressure	3000 Pa (max)
Standard Length	6 m
Packing	Single cardboard box
CERTIFICATE	
Russia	GOST-R

Available on request

- Customized lengths
- Private label
- Net packing
- Plastic bag packing
- Bulk packing
- Grey PVC color
- White PVC color

ALTERNATIVE CONSTRUCTIONS

PRODUCT NAME	DIFFERENCE FROM THE STANDARD TYPE
COMBIAFS RECTANGULAR GREY	Grey PVC color
COMBIAFS RECTANGULAR WHITE	White PVC color

AFS®

THERMALLY INSULATED ALUMINIUM & PVC COMBINED FLEXIBLE AIR DUCTS

NO-CONDENSATION



ISOAFS-COMBI

- ISOAFS-COMBI thermally insulated aluminium & PVC combined flexible air ducts are specifically produced for discharging welding fumes and where high mechanical resistance is required. ISOAFS-COMBI is also recommended for heating, cooling and air conditioning systems.
- ISOAFS-COMBI is produced from multi-layer aluminium & polyester strengthened with high tension steel spring wire, covered with a PVC jacket and surrounded with glass wool insulation and an PE vapour barrier.
- ISOAFS-COMBI is elastic and flexible. It can be easily fitted to circular, oval, or rectangular connectors.

PROPERTIES & ADVANTAGES

ALUMINIUM LAMINATED INNER FLEXIBLE DUCT
- Impermeable to UV rays
- High resistance to UV rays
- Resistant to chemicals

FLEXIBLE & SEAMLESS CONSTRUCTION
- Easy to store
- Easy to transport
- Low installation cost
- Airtight
- Low operation and maintenance costs

SMOOTH INNER SURFACE
- Minimum pressure loss
- Anti-static
- Dust proof interior

HIGH TENSION STEEL WIRE
- High durability
- High resistance to deformation
- Easy to install

PVC JACKET
- High resistance to wear and tear
- High mechanical resistance
- High resistance to UV rays
- Resistant to chemicals

GLASS WOOL INSULATION
- Heat resistant (Certified, EN 13501-1, Class A1)
- UL 723
  (Flame Spread index = 0)
  (Smoke Developed index = 0)
- No fiber erosion
- Minimal energy loss
- Perfect insulation property
- No-condensation

PE OUTER JACKET
- High vibration resistance
- High resistance to wear and tear
- Impermeable to UV rays
- Resistant to chemicals

The dimensions, tolerances and mechanical resistance of ISOAFS-COMBI are tested, classified and certified according to EN 13180.

TECHNICAL PROPERTIES

TYPE	ISOAFS-COMBI
Inner Duct Construction	3 ply aluminium / 2 ply polyester / 1 ply PVC
Jacket Construction	1 ply PE
Nominal Thickness (Inner Duct / Jacket)	150 micron / 100 micron
Color (PVC / PE)	Black
Available Diameters	Ø 52 mm – Ø 800 mm
Temperature Range	-30 °C / +150 °C
Air Velocity	30 m/s (max)
Operating Pressure	3000 Pa (max)
Insulation / Thickness / Density	Glass wool 25 mm / 16 kg/m³
Standard Length	10 m
Packing	Single cardboard box
FIRE CERTIFICATE	
Italy CSI	Class 1
CERTIFICATE	
Russia	GOST-R

Available on request

- Customized lengths
- Private label
- Grey PVC color
- Grey PE color
- White polyester insulation
- 38, 40 mm & 50 mm glass wool insulation
- 24 kg/m³ glass wool insulation
- Aluminium jacket

Insulation Options Available

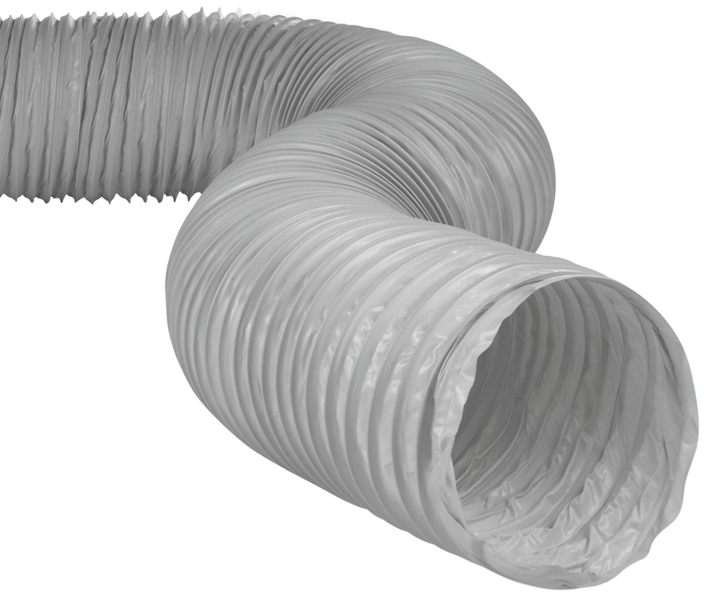


ALTERNATIVE CONSTRUCTIONS

PRODUCT NAME	DIFFERENCE FROM THE STANDARD TYPE
ISOAFS-COMBI-ALU	Aluminium jacket
ISOAFS-COMBI RECTANGULAR	Rectangular in shape
ISOAFS-COMBI-ALU RECTANGULAR	Aluminium jacket rectangular in shape
ISOAFS-COMBI-W	White polyester insulation 25 mm in thickness 10 kg/m³ in density
ISOAFS-COMBI-R8	R8.0 glass wool insulation

AFS®

NON-INSULATED PVC FLEXIBLE AIR DUCTS



TYPES:

VINYLAFS WHITE

VINYLAFS BLACK

VINYLAFS GREY

VINYLAFS

- VINYLAFS non-insulated PVC flexible air ducts are specifically produced for heating, cooling, ventilation, air conditioning systems under low and medium pressure.
- VINYLAFS has high resilience and can be used under excessive vibration and/or perpetual motion systems.
- It is produced from PVC strips with high tension steel spring wire.
- VINYLAFS is airtight and fire retardant.
- Oval, circular, and rectangular connectors are easy to install.

PROPERTIES & ADVANTAGES

PVC CONSTRUCTION
- High vibration resistance
- Impermeable to UV rays
- Resistant to chemicals

FLEXIBLE & SEAMLESS CONSTRUCTION
- Easy to store
- Easy to transport
- Airtight
- Low operation and maintenance costs

SMOOTH INNER SURFACE
- Minimum pressure loss

HIGH TENSION STEEL WIRE
- High durability
- High resistance to deformation
- Easy to install

TECHNICAL PROPERTIES

TYPE	VINYLAFS WHITE	VINYLAFS BLACK	VINYLAFS GREY
Inner Duct Construction	1 ply PVC	1 ply PVC	1 ply PVC
Nominal Thickness	60 micron	60 micron	60 micron
PVC Color	White	Black	Grey
Available Diameters	Ø 82 mm – Ø 254 mm	Ø 82 mm – Ø 254 mm	Ø 82 mm – Ø 254 mm
Temperature Range	-20 °C / +70 °C	-20 °C / +70 °C	-20 °C / +70 °C
Air Velocity	20 m/s (max)	20 m/s (max)	20 m/s (max)
Operating Pressure	1500 Pa (max)	1500 Pa (max)	1500 Pa (max)
Standard Length	6 m	6 m	6 m
Packing	Single cardboard box	Single cardboard box	Single cardboard box

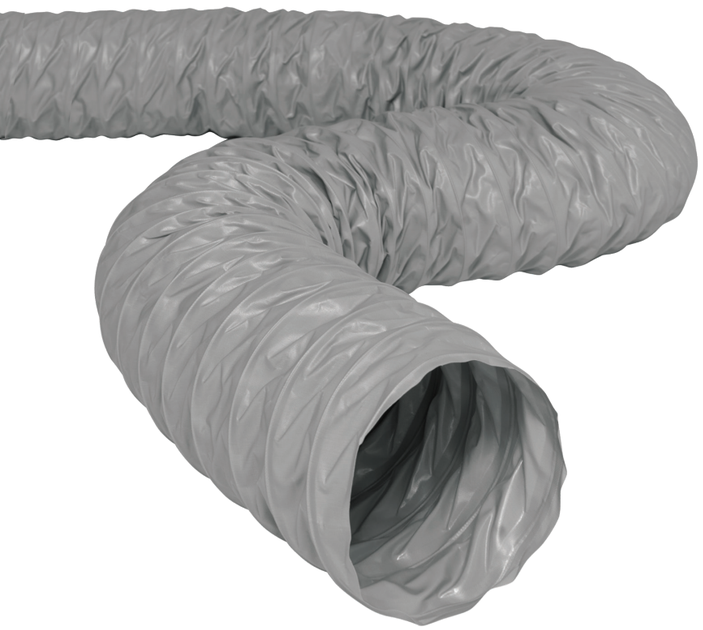
Available on request

- Customized lengths
- Private label
- Net packing
- Plastic bag packing
- Bulk packing
- Shrink Packing



The dimensions, tolerances and mechanical resistance of VINYLAFS are tested, classified and certified according to EN 13180.

NON-INSULATED REINFORCED PVC FLEXIBLE AIR DUCTS



TYPES:

PVCAFS

PVCAFS.F

PVCAFS

- PVCAFS non-insulated reinforced PVC flexible air ducts are specifically produced for low and medium pressure heating, cooling, ventilation, air conditioning, exhaust and dust extraction systems.
- PVCAFS is highly resilient and can be used in applications with excessive vibration and/or perpetual motion systems.
- PVCAFS is produced from PVC coated polyester fabric and reinforced with high tension steel spring wire.
- PVCAFS flexible air ducts are airtight.
- PVCAFS is highly elastic and flexible. It can be easily fitted to circular, oval or rectangular connectors.

PROPERTIES & ADVANTAGES

REINFORCED PVC CONSTRUCTION
- High vibration resistance
- Suitable for dust/particle transport
- Impermeable to UV rays
- Resistant to chemicals

HIGH TENSION STEEL WIRE
- High durability
- High resistance to deformation
- Easy to install

FLEXIBLE & SEAMLESS CONSTRUCTION
- Easy to store
- Easy to transport
- Low installation cost
- High resistance to wear and tear
- Airtight
- Low operation and maintenance costs
- Smooth inner surface
- Minimum pressure loss

TECHNICAL PROPERTIES

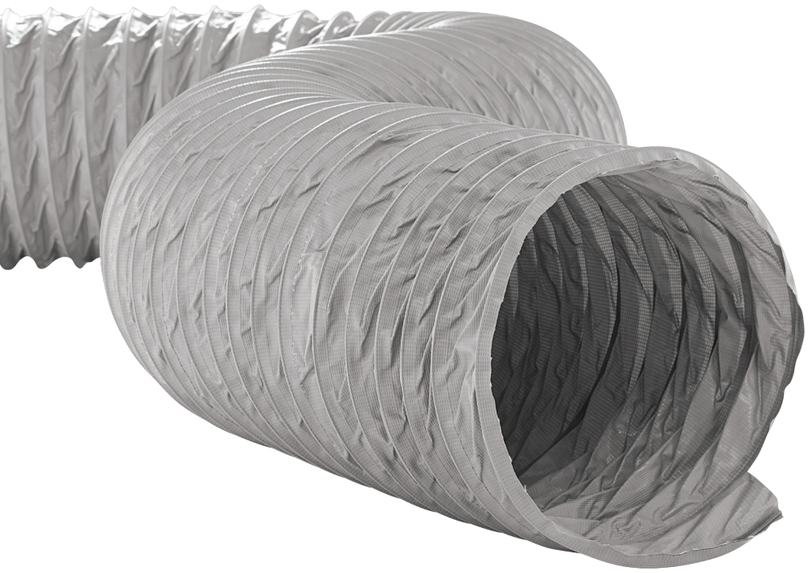
TYPE	PVCAFS	PVCAFS.F
Base Fabric	Polyester	Fibre Gloss
Coating	PVC (both sides)	PVC (both sides)
Nominal Thickness	250 micron	250 micron
PVC Color	Grey	Grey
Available Diameters	Ø 52 mm – Ø 800 mm	Ø 82 mm – Ø 356 mm
Temperature Range	-30 °C / +80 °C	-30 °C / +100 °C
Air Velocity	30 m/s (max)	30 m/s (max)
Operating Pressure	3000 Pa (max)	3000 Pa (max)
Standard Length	6 m / 10 m	6 m
Packing	Single cardboard box	Single cardboard box
CERTIFICATE		
Russia	GOST-R	
France		M1

Available on request

- Customized lengths
- Private label
- Bulk packing

The dimensions, tolerances and mechanical resistance of PVCAFS are tested, classified and certified according to EN 13180.

NON-INSULATED REINFORCED PVC FLEXIBLE AIR DUCTS



PVCAFS.M1

- PVCAFS.M1 non-insulated reinforced PVC flexible air ducts are specifically produced for low and medium pressure heating, cooling, ventilation, air conditioning, exhaust and dust extraction systems.
- PVCAFS.M1 is highly resilient and can be used in applications with excessive vibration and/or perpetual motion systems.
- PVCAFS.M1 is produced from PVC coated polyester mesh and reinforced with high tension steel spring wire.
- PVCAFS.M1 flexible air ducts are airtight.
- PVCAFS.M1 is highly elastic and flexible. It can be easily fitted to circular, oval or rectangular connectors.

PROPERTIES & ADVANTAGES

REINFORCED PVC CONSTRUCTION
- Fire retardant
- High vibration resistance
- Suitable for dust/particle transport
- Impermeable to UV rays
- Resistant to chemicals

HIGH TENSION STEEL WIRE
- High durability
- High resistance to deformation
- Easy to install

FLEXIBLE & SEAMLESS CONSTRUCTION
- Easy to store
- Easy to transport
- Low installation cost
- High resistance to wear and tear
- Airtight
- Low operation and maintenance costs
- Smooth inner surface
- Minimum pressure loss

The dimensions, tolerances and mechanical resistance of PVCAFS.M1 are tested, classified and certified according to EN 13180.

TECHNICAL PROPERTIES

TYPE	PVCAFS.M1	PVCAFS.M
Fire Resistance	Fire retardant	Fire retardant
Base Fabric	Polyester	Polyester
Coating	PVC (both sides)	PVC (both sides)
Nominal Thickness	220 micron	220 micron
PVC Color	Grey	Grey
Available Diameters	Ø 52 mm – Ø 800 mm	Ø 52 mm – Ø 800 mm
Temperature Range	-30 °C / +80 °C	-30 °C / +80 °C
Air Velocity	30 m/s (max)	30 m/s (max)
Operating Pressure	3000 Pa (max)	3000 Pa (max)
Standard Length	6 m	6 m
Packing	Single cardboard box	Single cardboard box
FIRE CERTIFICATE		
France	M1	M2
United Kingdom (BS 476)	Part 6	

Available on request

- Customized lengths
- Private label
- Bulk packing
- Net packing

ALTERNATIVE CONSTRUCTIONS

PRODUCT NAME	DIFFERENCE FROM THE STANDARD TYPE
PVCAFS.M1 RECTANGULAR	Rectangular in shape
PVCAFS.M RECTANGULAR	Rectangular in shape

NON-INSULATED INDUSTRIAL REINFORCED PVC FLEXIBLE AIR DUCTS



PVCAFS-HEAVY

- PVCAFS-HEAVY non-insulated industrial reinforced PVC flexible air ducts are specifically produced for low and medium pressure heating, cooling, ventilation, air conditioning, exhaust and dust extraction systems.
- PVCAFS-HEAVY is highly resilient and can be used in applications with excessive vibration and/or perpetual motion systems.
- Non-insulated industrial PVCAFS-HEAVY flexible air ducts are airtight.
- PVCAFS-HEAVY is manufactured from PVC coated polyester fabric and reinforced with high tension steel spring wire.
- PVCAFS-HEAVY is highly elastic and flexible. It can be easily fitted to circular, oval or rectangular connectors.

PROPERTIES & ADVANTAGES

REINFORCED PVC CONSTRUCTION
- High vibration resistance
- Suitable for dust/particle transport
- Impermeable to UV rays
- Resistant to chemicals

FLEXIBLE & SEAMLESS CONSTRUCTION
- Easy to store
- Easy to transport
- Low installation cost
- High resistance to wear and tear
- Airtight
- Low operation and maintenance costs

SMOOTH INNER SURFACE
- Minimum pressure loss

HIGH TENSION STEEL WIRE
- High durability
- High resistance to deformation
- Easy to install

The dimensions, tolerances and mechanical resistance of PVCAFS-HEAVY are tested, classified and certified according to EN 13180.

TECHNICAL PROPERTIES

TYPE	PVCAFS-HEAVY
Base Fabric	Polyester
Coating	PVC (both sides)
Nominal Thickness	250 micron
PVC Color	Grey
Available Diameters	Ø 52 mm – Ø 800 mm
Wire Pitch	20 mm (Ø ≥102 mm)
Temperature Range	-30 °C / +80 °C
Air Velocity	30 m/s (max)
Operating Pressure	3000 Pa (max)
Standard Length	6 m
Packing	Single cardboard box

Available on request

- Customized lengths
- Private label
- Plastic bag packing
- Bulk packing

ALTERNATIVE CONSTRUCTIONS

Product Name	Difference from the standard type
PVCAFS HEAVY RECTANGULAR	rectangular in shape

AFS®

THERMALLY INSULATED VINYL FLEXIBLE AIR DUCTS



NO-CONDENSATION

ISOAFS-VINYL

- ISOAFS-VINYL thermally insulated PVC flexible air ducts are specifically produced for heating, cooling, ventilation, air conditioning and exhaust systems under low and medium pressure.
- ISOAFS-VINYL has high resilience and can be used under excessive vibration and/or perpetual motion systems.
- Airtight ISOAFS-VINYL is strengthened with high tension steel spring wire, surrounded with thick glass wool insulation and a PE vapour barrier.
- ISOAFS-VINYL is elastic and flexible. It can be easily fitted to circular, oval or rectangular connectors.

PROPERTIES & ADVANTAGES

PVC CONSTRUCTION
- High vibration resistance
- Impermeable to UV rays
- Resistant to chemicals

FLEXIBLE & SEAMLESS CONSTRUCTION
- Easy to store
- Easy to transport
- Airtight
- Low operation and maintenance costs

SMOOTH INNER SURFACE
- Minimum pressure loss

HIGH TENSION STEEL WIRE
- High durability
- High resistance to deformation
- Easy to install

GLASS WOOL INSULATION
- Heat resistant (Certified, EN 13501-1, Class A1)
- UL 723
  (Smoke developed index = 0)
  (Flame spread index = 0)
- No fiber erosion
- Minimal energy loss
- Perfect insulation property
- No-condensation

PE OUTER JACKET
- High vibration resistance
- High resistance to wear and tear
- Impermeable to UV rays
- Resistant to chemicals
- Easy care

The dimensions, tolerances and mechanical resistance of ISOAFS-VINYL are tested, classified and certified according to EN 13180.

TECHNICAL PROPERTIES

TYPE	ISOAFS-VINYL
Inner Duct Construction	1 ply PVC
Jacket Construction	1 ply PE
Nominal Thickness (Inner Duct / Jacket)	60 micron / 50 micron
PVC Color	Grey
PE Color	Grey
Available Diameters	Ø 82 mm – Ø 254 mm
Temperature Range	-20 °C / +70 °C
Air Velocity	20 m/s (max)
Operating Pressure	1500 Pa (max)
Insulation	Glass wool
Insulation Thickness	25 mm
Insulation Density	16 kg/m^3
Standard Length	6 m
Packing	Single cardboard box

Available on request

- Customized lengths
- Private label
- Black & White PVC colors
- Black PE color
- White polyester insulation
- 38, 40 mm & 50 mm glass wool insulation
- 24 kg/m^3 glass wool insulation
- Net Packing

Insulation Options Available



THERMALLY INSULATED REINFORCED PVC FLEXIBLE AIR DUCTS



TYPES:

ISOAFS-PVC
(polyester base fabric)

ISOAFS-PVC.M1
(polyester base fabric)

NO-CONDENSATION

ISOAFS-PVC REINFORCED

- ISOAFS-PVC thermally insulated reinforced PVC flexible air ducts are specifically produced for low and medium pressure heating, cooling, ventilation, air conditioning, exhaust and dust extraction systems.
- ISOAFS-PVC is highly resilient and can be used in applications with excessive vibration and/or perpetual motion systems.
- Airtight ISOAFS-PVC is extremely durable, strengthened with high tension steel spring wire, surrounded with thick glass wool insulation and a PE vapour barrier.
- ISOAFS-PVC is elastic and flexible. It can be easily fitted to circular, oval or rectangular connectors.

PROPERTIES & ADVANTAGES

REINFORCED PVC CONSTRUCTION
- High vibration resistance
- Impermeable to UV rays
- Resistant to chemicals

FLEXIBLE & SEAMLESS CONSTRUCTION
- Easy to store
- Easy to transport
- Airtight
- Low operation and maintenance costs

SMOOTH INNER SURFACE
- Minimum pressure loss

HIGH TENSION STEEL WIRE
- High durability
- High resistance to deformation
- Easy to install

GLASS WOOL INSULATION
- Heat resistant (Certified, EN 13501-1, Class A1)
- UL 723
  (Smoke developed index = 0)
  (Flame spread index = 0)
- No fiber erosion
- Minimal energy loss
- Perfect insulation property
- No-condensation

PE OUTER JACKET
- High vibration resistance
- High resistance to wear and tear
- Impermeable to UV rays
- Resistant to chemicals
- Easy care

The dimensions, tolerances and mechanical resistance of ISOAFS-PVC REINFORCED are tested, classified and certified according to EN 13180.

TECHNICAL PROPERTIES

TYPE	ISOAFS-PVC	ISOAFS-PVC.M1
Inner Duct – Base Fabric	Polyester	Polyester
Inner Duct - Coating	PVC (both sides)	PVC (both sides)
Jacket Construction	1 ply PE	1 ply PE
Nominal Thickness (Inner Duct / Jacket)	250 micron / 100 micron	220 micron / 100 micron
PVC Color	Grey	Grey
PE Color	Grey	Grey
Available Diameters	Ø 52 mm – Ø 800 mm	Ø 52 mm – Ø 800 mm
Temperature Range	-30 °C / +80 °C	-30 °C / +80 °C
Air Velocity	30 m/s (max)	30 m/s (max)
Operating Pressure	3000 Pa (max)	3000 Pa (max)
Insulation	Glass wool	Glass wool / White polyester
Insulation Thickness	25 mm	25 mm
Insulation Density	16 kg/m^3	16 kg/m^3
Standard Length	6 m	6 m
Packing	Single cardboard box	Single cardboard box
FIRE CERTIFICATE		
Italy		Class 1

Available on request

- Customized lengths
- Private label
- Black PE color
- White polyester insulation
- 38, 40 mm & 50 mm glass wool insulation
- 24 kg/m^3 glass wool insulation

Insulation Options Available



ALTERNATIVE CONSTRUCTIONS

PRODUCT NAME	DIFFERENCE FROM THE STANDARD TYPE
ISOAFS-PVC BLACK **ISOAFS-PVC.F BLACK**	1 ply PE jacket, in black color
ISOAFS-PVC-ALU **ISOAFS-PVC.F-ALU**	Aluminium jacket
ISOAFS-PVC RECTANGULAR	Rectangular in shape
ISOAFS-PVC-W **ISOAFS-PVC.F-W**	White polyester insulation 25 mm in thickness 10 kg/m^3 in density

AFS®

NON-INSULATED PE FLEXIBLE AIR DUCTS



PEAFS

- PEAFS non-insulated PE(Polyethylene) flexible air ducts are specifically produced for low and medium pressure heating, cooling, ventilation, air conditioning, exhaust and dust extraction systems.
- PEAFS is highly resilient and can be used in applications with excessive vibration and/or perpetual motion systems.
- PE flexible air ducts are airtight.
- PEAFS is manufactured from hardwearing PE strip reinforced with high tension steel spring wire.
- PEAFS is highly elastic and flexible. It can be easily fitted to circular, oval or rectangular connectors.

PROPERTIES & ADVANTAGES

PE CONSTRUCTION
- High vibration resistance
- Suitable for dust/particle transport
- Impermeable to UV rays
- Resistant to chemicals

HIGH TENSION STEEL WIRE
- High durability
- High resistance to deformation
- Easy to install

FLEXIBLE & SEAMLESS CONSTRUCTION
- Easy to store
- Easy to transport
- Low installation cost
- High resistance to wear and tear
- Airtight
- Low operation and maintenance costs
- Smooth inner surface

The dimensions, tolerances and mechanical resistance of PEAFS are tested, classified and certified according to EN 13180.

TECHNICAL PROPERTIES

TYPE	PEAFS
Construction	1 ply PE
Nominal Thickness	100 micron
PE Color	Black
Available Diameters	Ø 52 mm - Ø 800 mm
Temperature Range	-30 °C / +70 °C
Air Velocity	20 m/s (max)
Operating Pressure	2000 Pa (max)
Standard Length	10 m
Packing	Single cardboard box
FIRE CERTIFICATE	
Italy CSI	Class 1

Available on request

- Customized lengths
- Private label
- Plastic bag packing
- Bulk packing
- Net packing

ALTERNATIVE CONSTRUCTIONS

PRODUCT NAME	DIFFERENCE FROM THE STANDARD TYPE
PEAFS RECTANGULAR	Rectangular in shape

AFS®

THERMALLY INSULATED PE FLEXIBLE AIR DUCTS



TYPES:

ISOAFS-PE
(Glass wool insulation)

ISOAFS-PE-W
(White polyester fiber insulation)

NO-CONDENSATION

ISOAFS-PE

- ISOAFS-PE thermally insulated PE(Polyethylene) flexible air ducts are specifically produced for low and medium pressure heating, cooling, ventilation, exhaust and air conditioning systems.
- ISOAFS-PE is highly resilient and can be used in applications with excessive vibration and/or perpetual motion systems.
- Airtight ISOAFS-PE is extremely durable, strengthened with high tension steel spring wire, surrounded with thick glass wool or white polyester fiber insulation and a PE vapour barrier.
- ISOAFS-PE is elastic and flexible. It can be easily fitted to circular, oval or rectangular connectors.

PROPERTIES & ADVANTAGES

PE CONSTRUCTION
- High vibration resistance
- Suitable for dust/particle transport
- Impermeable to UV rays
- Resistant to chemicals

FLEXIBLE & SEAMLESS CONSTRUCTION
- Easy to store
- Easy to transport
- Low installation cost
- High resistance to wear and tear
- Airtight
- Low operation and maintenance costs

HIGH TENSION STEEL WIRE
- High durability
- High resistance to deformation
- Easy to install

GLASS WOOL INSULATION
- Heat resistant (Certified, EN 13501-1, Class A1)
- UL 723
  (Smoke developed index = 0)
  (Flame spread index = 0)
- No fiber erosion
- Minimal energy loss
- Perfect insulation property
- Non-condensing property

PE OUTER JACKET
- High vibration resistance
- High resistance to wear and tear
- Impermeable to UV rays
- Resistant to chemicals

The dimensions, tolerances and mechanical resistance of ISOAFS-PE are tested, classified and certified according to EN 13180.

TECHNICAL PROPERTIES

TYPE	ISOAFS-PE	ISOAFS-PE-W
Inner Duct Construction	1 ply PE	1 ply PE
Jacket Construction	1 ply PE	1 ply PE
Nominal Thickness (Inner Duct / Jacket)	100 micron / 100 micron	100 micron / 100 micron
PE Color	Black	Black
Available Diameters	Ø 82 mm – Ø 800 mm	Ø 82 mm – Ø 800 mm
Temperature Range	-30 °C / +70 °C	-30 °C / +70 °C
Air Velocity	20 m/s (max)	20 m/s (max)
Operating Pressure	2000 Pa (max)	2000 Pa (max)
Insulation	Glass wool	White polyester
Insulation Thickness	25 mm	25 mm
Insulation Density	16 kg/m³	250 g/m²
Standard Length	10 m	10 m
Packing	Single cardboard box	Single cardboard box
FIRE CERTIFICATE		
Italy CSI	Class 1	Class 1

Available on request

- Customized lengths
- Private label
- 38, 40 mm & 50 mm glass wool insulation
- 24 kg/m³ glass wool insulation

Insulation Options Available



ALTERNATIVE CONSTRUCTIONS

PRODUCT NAME	DIFFERENCE FROM THE STANDARD TYPE
ISOAFS-PE RECTANGULAR **ISOAFS-PE-W RECTANGULAR**	Rectangular in shape

NON-INSULATED POLYESTER FLEXIBLE AIR DUCTS



POLYAFS

- POLYAFS non-insulated polyester flexible air ducts are specifically produced for low and medium pressure heating, cooling, ventilation and air conditioning systems.
- Airtight POLYAFS is produced from multi layer polyester, strengthened with high tension hard steel spring wire.
- POLYAFS is highly elastic and flexible. It can be easily fitted to circular or oval connectors.

PROPERTIES & ADVANTAGES

POLYESTER LAMINATED BODY
- High resistance to UV rays
- Resistant to chemicals
- Maintenance free

FLEXIBLE & SEAMLESS CONSTRUCTION
- Easy to store
- Easy to transport
- Low installation cost
- High resistance to wear and tear
- Airtight
- Low operation and maintenance costs

SMOOTH INNER SURFACE
- Minimum pressure loss

HIGH TENSION STEEL WIRE
- High durability
- High resistance to deformation
- Easy to install

The dimensions, tolerances and mechanical resistance of POLYAFS are tested, classified and certified according to EN 13180.

TECHNICAL PROPERTIES

TYPE	POLYAFS
Construction	2 ply polyester
Nominal Thickness	30 micron
Available Diameters	Ø 82 mm – Ø 800 mm
Temperature Range	-30 °C / +120 °C
Air Velocity	30 m/s (max)
Operating Pressure	3000 Pa (max)
Standard Length	7.6 m
Packing	Single cardboard box
CERTIFICATE	
Russia	GOST-R

Available on request

- Customized lengths
- Private label
- Metallized polyester

ALTERNATIVE CONSTRUCTIONS

Product Name	Difference from the standard type
POLYAFS.M	Metallized polyester

AFS®

THERMALLY INSULATED POLYESTER FLEXIBLE AIR DUCTS



NO-CONDENSATION

ISOAFS-POLY

- ISOAFS-POLY thermally insulated polyester flexible air ducts are specifically produced for low and medium pressure heating, cooling, ventilation, exhaust and air conditioning systems.
- Airtight ISOAFS-POLY is produced from multi-layer polyester, strengthened with high tension steel spring wire, surrounded with glass wool insulation and reinforced metallized polyester vapour barrier.
- ISOAFS-POLY is highly elastic and flexible. It can be easily fitted to circular or oval connectors.

PROPERTIES & ADVANTAGES

POLYESTER LAMINATED BODY
- High resistance to UV rays
- Resistant to chemicals
- Maintenance free

FLEXIBLE & SEAMLESS CONSTRUCTION
- Easy to store
- Easy to transport
- Low installation cost
- High resistance to wear and tear
- Airtight
- Low operation and maintenance costs

SMOOTH INNER SURFACE
- Minimum pressure loss

HIGH TENSION STEEL WIRE
- High durability
- High resistance to deformation
- Easy to install

GLASS WOOL INSULATION
- Heat resistant (Certified, EN 13501-1, Class A1)
- UL 723
  (Smoke developed index = 0)
  (Flame spread index = 0)
- No fiber erosion
- Minimal energy loss
- Perfect insulation property
- No-condensation

REINFORCED METALLIZED POLYESTER LAMINATED JACKET
- High resistance to wear and tear
- Impermeable to UV rays
- High resistance to UV rays
- Reflection property
- Resistant to chemicals
- Easy care

The dimensions, tolerances and mechanical resistance of ISOAFS-POLY are tested, classified and certified according to EN 13180.

TECHNICAL PROPERTIES

TYPE	ISOAFS-POLY
Inner Duct Construction	2 ply polyester
Nominal Thickness of Inner Duct	30 micron
Jacket Construction	2 ply Metallized polyester (reinforced by polyester fiber)
Nominal Thickness of Jacket	30 micron
Available Diameters	Ø 82 mm - Ø 800 mm
Temperature Range	-30 °C / +120 °C
Air Velocity	30 m/s (max)
Operating Pressure	3000 Pa (max)
Insulation	Glass wool
Insulation Thickness	25 mm
Insulation Density	16 kg/m³
Standard Length	7.6 m
Packing	Single cardboard box
CERTIFICATE	
Russia	GOST-R

Available on request

- Customized lengths
- Private label
- White polyester insulation
- 38, 40 mm & 50 mm glass wool insulation
- 24 kg/m³ glass wool insulation
- PE jacket

Insulation Options Available



ALTERNATIVE CONSTRUCTIONS

PRODUCT NAME	DIFFERENCE FROM THE STANDARD TYPE
ISOAFS-POLY.M	Metallized polyester inner core
ISOAFS-POLY-R6	R 6.0 glass wool insulation
ISOAFS-POLY-R8	R 8.0 glass wool insulation
ISOAFS-POLY-W	White polyester insulation 25 mm in thickness 10 kg/m³ in density
ISOAFS-POLY-D24	24 kg/m³ glass wool insulation
ISOAFS-POLY.45	Nominal thickness of inner duct: 45 micron

THERMALLY INSULATED UL 181 CLASS 1 CERTIFIED POLYESTER FLEXIBLE AIR DUCTS



NO-CONDENSATION

ISOAFS-POLY.181

- ISOAFS-POLY.181 thermally insulated polyester flexible air ducts are specifically produced for low and medium pressure heating, cooling, ventilation, exhaust and air conditioning systems.
- Airtight ISOAFS-POLY.181 is produced from multi-layer polyester, strengthened with high tension steel spring wire, surrounded with glass wool insulation and aluminium vapour barrier.
- ISOAFS-POLY.181 is highly elastic and flexible. It can be easily fitted to circular or oval connectors.

PROPERTIES & ADVANTAGES

POLYESTER LAMINATED INNER DUCT
- High resistance to UV rays
- Resistant to chemicals
- Maintenance free

FLEXIBLE & SEAMLESS CONSTRUCTION
- Easy to store
- Easy to transport
- Low installation cost
- High resistance to wear and tear
- Airtight
- Low operation and maintenance costs

SMOOTH INNER SURFACE
- Minimum pressure loss

HIGH TENSION STEEL WIRE
- High durability
- High resistance to deformation
- Easy to install

GLASS WOOL INSULATION
- Heat resistant (Certified, EN 13501-1, Class A1)
- UL 723
  (Smoke developed index = 0)
  (Flame spread index = 0)
- No fiber erosion
- Minimal energy loss
- Perfect insulation property
- Non-condensing property

ALUMINIUM LAMINATED JACKET
- Difficult to ignite (Certified)
- High resistance to wear and tear
- Impermeable to UV rays
- High resistance to UV rays
- 98 % reflective
- Resistant to chemicals

TECHNICAL PROPERTIES

TYPE	ISOAFS-POLY.181
Inner Duct Construction	2 ply polyester
Nominal Thickness of Inner Duct	30 micron
Jacket Construction	1 ply aluminium / 2 ply polyester
Nominal Thickness of Jacket	45 micron
Available Diameters	Ø 82 mm - Ø 800 mm
Temperature Range	-30 °C / +120 °C
Air Velocity	30 m/s (max)
Operating Pressure	3000 Pa (max)
Insulation	Glass wool
Insulation Thickness	25 mm
Insulation Density	16 kg/m³
Standard Length	7.6 m
Packing	Single cardboard box
FIRE CERTIFICATE	
Flame Spread Index [UL 723 as per UL 181]	< 25
Smoke Developed Index [UL 723 as per UL 181]	< 50
CERTIFICATE	
Russia	GOST-R

Available on request

- Customized lengths
- Private label
- White polyester insulation

Insulation Options Available



The dimensions, tolerances and mechanical resistance of ISOAFS-POLY.181 are tested, classified and certified according to EN 13180.

AFS®

ALUMINIUM SEMI FLEXIBLE AIR DUCTS

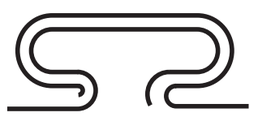


TYPES:

SEMIAFS

SEMIAFS.C

AFS



INTERLOCKED

OTHERS



OVERLAPPED

SEMIAFS

- SEMIAFS aluminium semi flexible air ducts are flexible, extendable and highly reliable for low and medium pressure air conditioning, ventilation, boiler systems and chimney liners.
- SEMIAFS is elastic, flexible and stretchable.
- Oval and circular connectors are easily installed.
- SEMIAFS is secured using an “INTERLOCK” crimp system. “INTERLOCK” crimp systems minimize separation of the duct when it is stretched or bent.

PROPERTIES & ADVANTAGES

PURE ALUMINIUM BODY

- Non-combustible
- Impermeable to UV rays
- High resistance to UV rays
- Resistant to chemicals

SEMI-FLEXIBLE & INTERLOCK CONSTRUCTION

- Easy to transport & store
- Quick and easy installation
- Inseparable
- Leak proof
- Airtight
- Energy efficient
- Low operation and maintenance cost

TECHNICAL PROPERTIES

TYPE	SEMIAFS	SEMIAFS.C
Fire Resistance	Non-combustible	Non-combustible
Construction	Corrugated aluminium	Corrugated aluminium
Nominal Thickness	90 micron	90 micron
Available Diameters	Ø 80 mm - Ø 800 mm	Ø 80 mm - Ø 800 mm
Temperature Range	-25 °C / +250 °C	-25 °C / +250 °C
Air Velocity	25 m/s (max)	25 m/s (max)
Operating Pressure	2000 Pa (max)	2000 Pa (max)
Standard Length	1.5 m / 3.0 m / 6.0 m	1.5 m / 3.0 m / 6.0 m
Compression Ratio	1/3	1/3
Packing	Single nylon package	Single nylon package
FIRE CERTIFICATE		
(EN 13501-1)	Class A1	Class A1
CERTIFICATE		
Russia	GOST-R	GOST-R

Available on request

- Customized lengths
- Private label
- 80 micron aluminium
- 120 micron aluminium
- Insulated type
- Bulk packing

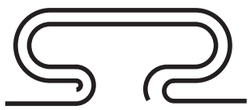
The dimensions, tolerances and mechanical resistance of SEMIAFS are tested, classified and certified according to EN 13180.

AFS

STAINLESS STEEL SEMI FLEXIBLE AIR DUCTS



AFS



INTERLOCKED

OTHERS



OVERLAPPED

SEMIAFS-INOX

- SEMIAFS-INOX stainless steel semi flexible ducts are flexible and highly reliable for fume and smoke extraction. Mainly used as chimney liners for discharging high temperature gases and smoke.
- It is suitable for all kinds of fuel (natural gas, LPG, oil, wood etc.).
- Oval and circular connectors are easily installed.
- SEMIAFS-INOX is produced from 316 L quality stainless steel strip using the “INTERLOCK” crimp system. “INTERLOCK” crimp systems minimize separation of the duct when it is stretched or bent.

PROPERTIES & ADVANTAGES

316 L QUALITY STAINLESS STEEL BODY
- Non-combustible
- Impermeable to UV rays
- High resistance to UV rays
- Resistant to chemicals

INTERLOCK CRIMP SYSTEM
- Inseparable
- Leak proof
- Airtight
- Energy efficiency

SEMI-FLEXIBLE CONSTRUCTION
- Easy to install & store
- Low installation cost

The dimensions, tolerances and mechanical resistance of SEMIAFS-INOX are tested, classified and certified according to EN 13180.

TECHNICAL PROPERTIES

TYPE	SEMIAFS-INOX
Fire Resistance	Non-combustible
Construction	316 L Stainless Steel
Nominal Thickness	100 micron
Available Diameters	Ø 80 mm - Ø 800 mm
Temperature Range	-30 °C / +800 °C
Air Velocity	25 m/s (max)
Operating Pressure	12500 Pa (max)
Standard Length	1.0 m / 1.5 m / 2.0 m / 2.5 m / 3.0 m / 5.0 m
Compression Ratio	Cannot be compressed
Packing	Single nylon package
FIRE CERTIFICATE	
Europe (EN 13501-1)	Class A1
CERTIFICATE	
Russia	GOST-R

Available on request

- Customized lengths
- Private label
- Insulated type

AFS®

THERMALLY & ACOUSTICALLY INSULATED SOUND ATTENUATORS



NO-CONDENSATION

AFS



INTERLOCKED

OTHERS



OVERLAPPED

ACOUSTIC SEMIAFS

- ACOUSTIC SEMIAFS aluminium semi flexible air ducts are flexible, extendable and highly reliable for low and medium pressure air conditioning, ventilation, boiler systems and chimney liners.
- Airtight ACOUSTIC SEMIAFS is produced from perforated aluminium surrounded with glass wool insulation and an aluminium vapour barrier.
- ACOUSTIC SEMIAFS is elastic, flexible and stretchable.
- Oval and circular connectors are easily installed.
- ACOUSTIC SEMIAFS is secured using an “INTERLOCK” crimp system. “INTERLOCK” crimp systems minimize separation of the duct when it is stretched or bent.

PROPERTIES & ADVANTAGES

PURE ALUMINIUM BODY

- Non-combustible
- Impermeable to UV rays
- High resistance to UV rays
- Resistant to chemicals

SEMI-FLEXIBLE & INTERLOCK CONSTRUCTION

- Easy to transport & store
- Quick and easy installation
- Inseparable
- Leak proof
- Airtight
- Energy efficient
- Low operation and maintenance cost

GLASS WOOL INSULATION

- Heat resistant (Certified, EN 13501-1, Class A1)
- UL 723
  (Flame Spread Index = 0)
  (Smoke Developed Index = 0)
- No fiber erosion
- Minimum energy loss
- Perfect insulation property
- No-condensation

The dimensions, tolerances and mechanical resistance of ACOUSTIC SEMIAFS are tested, classified and certified according to EN 13180.

TECHNICAL PROPERTIES

TYPE	ACOUSTIC SEMIAFS
Fire Resistance	Non-combustible + difficult to ignite
Inner Duct Construction	Corrugated aluminium (perforated)
Jacket Construction	1 ply aluminium, 2 ply polyester
Nominal Thickness (Inner Duct / Jacket)	90 micron / 45 micron
Available Diameters	Ø 80 mm - Ø 800 mm
Temperature Range	-25 °C / +250 °C
Air Velocity	25 m/s (max)
Operating Pressure	2000 Pa (max)
Insulation	Glass wool
Insulation Thickness	25 mm
Insulation Density	16 kg/m³
Standard Length	1.0 m / 2.0 m / 3.0 m
Packing	Single cardboard box
FIRE CERTIFICATE	
Europe (EN 13501-1)	Class A1 (inner flexible air duct)
CERTIFICATE	
Russia	GOST-R

Available on request

- Customized lengths
- Private label
- 80 micron aluminium
- 120 micron aluminium
- Insulated type
- Bulk packing

AFS®

THERMALLY & ACOUSTICALLY INSULATED SOUND ATTENUATORS



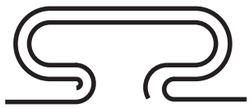
TYPES:

SOUNDROPAFS

SOUNDROPAFS.P

NO-CONDENSATION

AFS



INTERLOCKED

OTHERS



OVERLAPPED

SOUNDROPAFS

- SOUNDROPAFS aluminium circular duct type silencers are flexible and highly reliable for low and medium pressure air conditioning, ventilation and boiler systems.
- Airtight SOUNDROPAFS is produced from perforated aluminium surrounded with glass wool insulation and an aluminium or a PE vapour barrier.
- Ends are fitted with ring collars to reduce installation time.
- SOUNDROPAFS is secured using an “INTERLOCK” crimp system. “INTERLOCK” crimp systems minimize separation of the duct when it is stretched or bent.

PROPERTIES & ADVANTAGES

PURE ALUMINIUM BODY
- Non-combustible
- Resistant to chemicals

SEMI-FLEXIBLE & INTERLOCK CONSTRUCTION
- Easy to transport & store
- Quick and easy installation
- Inseparable
- Leak proof
- Airtight
- Energy efficient
- Low operation and maintenance cost

ALUMINIUM LAMINATED JACKET (SOUNDROPAFS)
- High resistance to wear and tear
- Impermeable to UV rays
- Highly resistant to UV rays
- 98% reflective
- Resistant to chemicals

PE OUTER JACKET (SOUNDROPAFS.P)
- Highly vibration resistant
- High resistance to wear and tear
- Impermeable to UV rays
- Resistant to chemicals
- Easy care

GLASS WOOL INSULATION
- Heat resistant (Certified, EN 13501-1, Class A1)
- UL 723
  (Flame Spread index = 0)
  (Smoke Developed Iindex = 0)
- No fiber erosion
- Minimum energy loss
- Perfect insulation property
- No-condensation

The dimensions, tolerances and mechanical resistance of SOUNDROPAFS are tested, classified and certified according to EN 13180.

TECHNICAL PROPERTIES

TYPE	SOUNDROPAFS	SOUNDROPAFS.P
Fire Resistance	Non-combustible + Difficult to ignite	Non-combustible inner duct
Inner Duct Construction	Corrugated aluminium (perforated)	Corrugated aluminium (perforated)
Jacket Construction	1 ply aluminium, 2 ply polyester	1 ply PE
Nominal Thickness (Inner Duct / Jacket)	90 micron / 45 micron	90 micron / 100 micron
Available Diameters	Ø 100 / 125 / 160 / 200 / 250 mm	Ø 100 / 125 / 160 / 200 / 250 mm
Temperature Range	-25 °C / +250 °C	
Air Velocity	25 m/s (max)	25 m/s (max)
Operating Pressure	2000 Pa (max)	2000 Pa (max)
Insulation	Glass wool	Glass wool
Insulation Thickness	25 mm	25 mm
Insulation Density	16 kg/m³	16 kg/m³
Standard Length	0.5 m / 1.0 m (+ 5 cm + 5 cm coupling)	0.5 m / 1.0 m (+ 5 cm + 5 cm coupling)
Packing	Single cardboard box	Single cardboard box
FIRE CERTIFICATE		
Europe (EN 13501-1)	Class A1 (inner flexible air duct)	Class A1 (inner flexible air duct)
CERTIFICATE		
Russia	GOST-R	GOST-R

Available on request

- Customized lengths
- Private label
- 80 micron aluminium
- 120 micron aluminium
- Insulated type
- Bulk packing

- Insertion Loss (page 166)
- Transmission Loss (page 174)

AFS®

NON-INSULATED ALUMINIUM FLEXIBLE AIR DUCTS



New

TYPES:

SOUNDROPAFS-NW
(M1, difficult to ignite)

SOUNDROPAFS-NW.PE
(Difficult to ignite)

NO-CONDENSATION

SOUNDROPAFS-NW

- SOUNDROPAFS-NW thermally and acoustically insulated flexible air ducts are specifically produced for low and medium pressure heating, cooling, ventilation, exhaust and air conditioning systems.
- SOUNDROPAFS-NW has high elasticity and flexibility. It can be easily fitted to circular, oval or rectangular connectors.
- The fire resistance of SOUNDROPAFS-NW has been tested and certified by various international bodies.

PROPERTIES & ADVANTAGES

NONWOVEN CONSTRUCTION
- Difficult to ignite (SONOAFS-NW)
- High resistance to UV rays
- Impermeable to UV rays
- Dampens mechanical vibration
- Excellent sound attenuation
- Fibre-migration proof
- Resistant to chemicals
- Suitable for hospital, school & clean room applications

FLEXIBLE & SEAMLESS CONSTRUCTION
- Easy to store
- Easy to transport
- Low installation cost
- Low operation and maintenance costs

SMOOTH INNER SURFACE
- Minimum pressure loss
- Anti-static
- Dust proof interior

HIGH TENSION STEEL WIRE
- High durability
- High resistance to deformation
- Easy to install

GLASS WOOL INSULATION
- Heat resistant (Certified, EN 13501-1, Class A1
- UL 723
  (Flame Spread index = 0)
  (Smoke Developed index = 0)
- No fiber erosion
- Minimal energy loss
- Perfect insulation property
- No-condensation

PE OUTER JACKET
- High vibration resistance
- High resistance to wear and tear
- Impermeable to UV rays
- Resistant to chemicals
- Easy care

The dimensions, tolerances and mechanical resistance of SOUNDROPAFS-NW are tested, classified and certified according to EN 13180.

TECHNICAL PROPERTIES

TYPE	SOUNDROPAFS-NW	SOUDNROPAFS-NW.PE
Fire Resistance	Difficult to ignite	Difficult to ignite
Inner Duct Construction	1 ply Nonwoven Fabric	1 ply Nonwoven Fabric
Jacket Construction	1 ply aluminium + 2 ply polyester	1 ply PE
Nominal Thickness (Inner Duct / Jacket)	600 micron / 45 micron	600 micron / 100 micron
Available Diameters	Ø 100 / 125 / 160 / 200 / 250 mm	Ø 100 / 125 / 160 / 200 / 250 mm
Temperature Range	-20 °C / + 90 °C	-20 °C / + 90 °C
Air Velocity	20 m/s (max)	20 m/s (max)
Operating Pressure	1500 Pa (max)	1500 Pa (max)
Insulation / Thickness / Density	Glass wool / 25 mm / 16 kg/m³	Glass wool / 25 mm / 16 kg/m³
Thermal Conductivity	k = 0.037 W/mK	k = 0.037 W/mK
Standard Length	0.5 m / 1.0 m (+ 5 cm + 5 cm coupling)	0.5 m / 1.0 m (+ 5 cm + 5 cm coupling)
Packing	Single cardboard box	Single cardboard box

Available on request

- Customized lengths
- Private label
- Black & white polyester colors
- Black PE color
- 38, 40 mm & 50 mm glass wool insulation
- 24 kg/m³ glass wool insulation

Insulation Options Available



- Insertion Loss (page 169)
- Transmission Loss (page 177)

AFS®

THERMALLY & ACOUSTICALLY INSULATED SOUND ATTENUATORS

TYPES:

SILENCERAFS

SILENCERAFS.D

NO-CONDENSATION



SILENCERAFS

- SILENCERAFS circular duct type multipurpose sound absorbers are specifically produced for low and medium pressure heating, cooling, ventilation, and air conditioning systems.
- SILENCERAFS is produced from multi-layer aluminium and polyester (perforated), strengthened with high tension hard steel spring wire, surrounded with glass wool insulation.
- The insulation material is surrounded with either a plain aluminium vapour barrier or a multi-layer aluminium and polyester, high tension hard steel spring wire reinforced jacket.
- SILENCERAFS is available both in Difficult to ignite and Limited combustibility versions.
- SILENCERAFS can be easily fitted to circular, oval, or rectangular connectors.
- SILENCERAFS has been tested and certified by various international bodies.

PROPERTIES & ADVANTAGES

PERFORATED ALUMINIUM LAMINATED INNER FLEXIBLE DUCT
- Reduces noise level
- Difficult to ignite
- High resistance to UV rays
- Resistant to chemicals
- Maintenance free

FLEXIBLE & SEAMLESS CONSTRUCTION
- Easy to store
- Easy to transport
- High resistance to wear and tear
- Airtight
- Low operation and maintenance costs

SMOOTH INNER SURFACE
- Minimum pressure loss
- Anti-static
- Dust-proof interior

HIGH TENSION STEEL WIRE
- High durability
- High resistance to deformation
- Easy to install

GLASS WOOL INSULATION
- Heat resistant (Certified, EN 13501-1, Class A1)
- UL 723
  (Smoke developed index = 0)
  (Flame spread index = 0)
- No fiber erosion
- Minimal energy loss
- Perfect insulation property
- No-condensation

ALUMINIUM LAMINATED JACKET
- Difficult to ignite (Certified)
- High resistance to wear and tear
- Impermeable to UV rays
- High resistance to UV rays
- 98% reflective
- Resistant to chemicals

The dimensions, tolerances and mechanical resistance of SILENCERAFS are tested, classified and certified according to EN 13180.

TECHNICAL PROPERTIES

TYPE	SILENCERAFS	SILENCERAFS.D
Fire Resistance	Difficult to ignite	Difficult to ignite
Inner Duct Construction	3 ply aluminium + 2 ply polyester (perforated)	3 ply aluminium + 1 ply polyester (perforated)
Jacket Construction	1 ply aluminium + 2 ply polyester	3 ply aluminium + 2 ply polyester (hard steel spring wire reinforced)
Nominal Thickness (Inner Duct / Jacket)	70 micron / 45 micron	74 micron / 70 micron
Available Diameters	Ø 52 mm – Ø 800 mm	Ø 52 mm – Ø 710 mm
Temperature Range	-30 °C / +150 °C	-30 °C / +250 °C
Air Velocity	30 m/s (max)	30 m/s (max)
Operating Pressure	3000 Pa (max)	3000 Pa (max)
Insulation	Glass wool	Glass wool
Insulation Thickness	25 mm	25 mm
Insulation Density	16 kg/m³	16 kg/m³
Standard Length	0.5 m / 1.0 m	0.5 m / 1.0 m
Packing	Several pieces in a cardboard box	Several pieces in a cardboard box

Available on request

- Customized lengths
- Private label
- 38, 40 mm & 50 mm glass wool insulation
- 24 kg/m³ glass wool insulation
- M0 + M1
- M0 + M0 (only for SILENCERAFS.D)

Insulation Options Available



- Insertion Loss (page 162)
- Transmission Loss (page 170)

AFS®

THERMALLY & ACOUSTICALLY INSULATED SOUND ATTENUATORS



New

TYPES:

SILENCERAFS.F PLUS
(M0+M1, limited combustibility + difficult to ignite)

NO-CONDENSATION

SILENCERAFS PLUS

- SILENCERAFS PLUS circular duct type multipurpose sound absorbers are specifically produced for low and medium pressure heating, cooling, ventilation, and air conditioning systems.
- SILENCERAFS PLUS is produced from multi-layer aluminium and polyester (perforated), strengthened with high tension hard steel spring wire, surrounded with glass wool insulation.
- The insulation material is surrounded with either a plain aluminium vapour barrier or a multi-layer aluminium and polyester, high tension hard steel spring wire reinforced jacket.
- SILENCERAFS PLUS is available both in Difficult to ignite and Limited combustibility versions.
- SILENCERAFS PLUS can be easily fitted to circular, oval, or rectangular connectors.
- SILENCERAFS PLUS has been tested and certified by various international bodies.

PROPERTIES & ADVANTAGES

PERFORATED ALUMINIUM LAMINATED INNER FLEXIBLE DUCT
- Reduces noise level
- Difficult to ignite
- High resistance to UV rays
- Resistant to chemicals
- Maintenance free

FLEXIBLE & SEAMLESS CONSTRUCTION
- Easy to store
- Easy to transport
- High resistance to wear and tear
- Airtight
- Low operation and maintenance costs

SMOOTH INNER SURFACE
- Minimum pressure loss
- Anti-static
- Dust-proof interior

HIGH TENSION STEEL WIRE
- High durability
- High resistance to deformation
- Easy to install

GLASS WOOL INSULATION
- Heat resistant (Certified, EN 13501-1, Class A1)
- UL 723
  (Smoke developed index = 0)
  (Flame spread index = 0)
- No fiber erosion
- Minimal energy loss
- Perfect insulation property
- No-condensation

ALUMINIUM LAMINATED JACKET
- Difficult to ignite (Certified)
- High resistance to wear and tear
- Impermeable to UV rays
- High resistance to UV rays
- 98% reflective
- Resistant to chemicals

The dimensions, tolerances and mechanical resistance of SILENCERAFS PLUS are tested, classified and certified according to EN 13180.

TECHNICAL PROPERTIES

TYPE	SILENCERAFS.F PLUS
Fire Resistance	Limited combustibility + Difficult to ignite
Inner Duct Construction	3 ply aluminium + 1 ply polyester (perforated)
Jacket Construction	1 ply aluminium + 2 ply polyester
Nominal Thickness (Inner Duct / Jacket)	74 micron / 52 micron
Available Diameters	Ø 160 mm – Ø 508 mm
Temperature Range	-30 °C / +250 °C
Air Velocity	30 m/s (max)
Operating Pressure	3000 Pa (max)
Insulation	Glass wool
Insulation Thickness	25 mm
Insulation Density	16 kg/m³
Standard Length	1.0 m / 2.0 m / 5.0 m
Packing	Single cardboard box
FIRE CERTIFICATE	
Italy	Class 1

Available on request

- Customized lengths
- Private label
- 38, 40 mm & 50 mm glass wool insulation
- 24 kg/m³ glass wool insulation
- M0 + M1
- M0 + M0 (only for SILENCERAFS.D)

Insulation Options Available



AFS®

THERMALLY & ACOUSTICALLY INSULATED SOUND ATTENUATORS



NO-CONDENSATION

AFS



INTERLOCKED

OTHERS



OVERLAPPED

PHONIC SEMIAFS

- PHONIC SEMIAFS aluminium semi flexible air ducts are flexible, extendable and highly reliable for low and medium pressure air conditioning, ventilation and boiler systems.
- Airtight PHONIC SEMIAFS is produced from perforated aluminium surrounded with glass wool insulation and an aluminium vapour barrier.
- Oval and circular connectors are easily installed.
- PHONIC SEMIAFS is secured using an “INTERLOCK” crimp system. “INTERLOCK” crimp systems minimize separation of the duct when it is stretched or bent.

PROPERTIES & ADVANTAGES

PURE ALUMINIUM BODY
- Non-combustible
- Resistant to chemicals

SEMI-FLEXIBLE & INTERLOCK CONSTRUCTION
- Easy to transport & store
- Quick and easy installation
- Inseparable
- Leak proof
- Airtight
- Energy efficiency
- Low operational and maintenance cost

ALUMINIUM JACKET
- Difficult to ignite
- Resistant to chemicals

GLASS WOOL INSULATION
- Heat resistant (Certified, EN 13501-1, Class A1)
- UL 723
  (Flame Spread Index = 0)
  (Smoke Developed Index = 0)
- No fiber erosion
- Minimal energy loss
- Perfect insulation property
- Non-condensation

The dimensions, tolerances and mechanical resistance of PHONIC SEMIAFS are tested, classified and certified according to EN 13180.

TECHNICAL PROPERTIES

TYPE	PHONIC SEMIAFS
Fire Resistance	Non-combustible
Inner Duct Construction	Corrugated aluminium
Nominal Thickness of Inner Duct	90 micron (perforated)
Jacket Construction	Corrugated aluminium
Nominal Thickness of Jacket	90 micron
Available Diameters	Ø 80 mm – Ø 450 mm
Temperature Range	-25 °C / +250 °C
Air Velocity	25 m/s (max)
Operating Pressure	2000 Pa (max)
Insulation	Glass wool
Insulation Thickness	25 mm
Insulation Density	16 kg/m^3
Standard Length	1,5 m
Packing	Single cardboard box
FIRE CERTIFICATE	
Europe (EN 13501-1)	Class A1 (inner duct) Class A1 (outer duct)

Available on request

- Customized lengths
- Private label
- 25 mm glass wool insulation
- 16 kg/m^3 glass wool insulation

AIR DUCT INSULATION MATERIAL



TYPES:

SLEEVEAFS.ALUMINIUM
(Aluminium jacket)

SLEEVEAFS.PE
(PE jacket)

SLEEVEAFS

- SLEEVEAFS air duct insulation materials are ready to use insulation elements which are specifically produced for circular and/or oval air duct insulation.
- Airtight SLEEVEAFS is produced from glass wool and covered with jacket. The outer jacket protects the insulating material and also serves as a vapour barrier.
- SLEEVEAFS is fast and easy to install.
- The fire resistance of SLEEVEAFS has been tested and certified by various international bodies.

PROPERTIES & ADVANTAGES

FLEXIBLE & SEAMLESS CONSTRUCTION
- Easy to store
- Easy to transport
- Easy to install
- Low installation cost
- High durability

ALUMINIUM LAMINATED JACKET (SLEEVEAFS.ALUMINIUM)
- Difficult to ignite (Certified)
- High resistance to wear and tear
- Impermeable to UV rays
- Highly resistant to UV rays
- 98 % reflective
- Resistant to chemicals

PE JACKET (SLEEVEAFS.PE)
- High vibration resistant
- High resistance to wear and tear
- Impermeable to UV rays
- Resistant to chemicals

GLASS WOOL INSULATION
- Heat resistant (Certified, EN 13501-1,Class A1)
- UL 723
  (Smoke developed index = 0)
  (Flame spread index = 0)
- No fiber erosion
- Minimal energy loss
- Perfect insulation property
- No-condensation

The dimensions, tolerances and mechanical resistance of SLEEVEAFS are tested, classified and certified according to EN 13180.

TECHNICAL PROPERTIES

TYPE	SLEEVEAFS.ALUMINIUM	SLEEVEAFS.PE
Jacket Construction	1 ply aluminium 2 ply polyester	1 ply PE
Nominal Thickness of Jacket	45 micron	100 micron
Available Diameters (according to inner duct)	Ø 52 mm – Ø 800 mm	Ø 52 mm – Ø 800 mm
Temperature Range	-30 °C / +150 °C	-30 °C / +90 °C
Insulation	Glass wool	Glass wool
Insulation Thickness	25 mm	25 mm
Insulation Density	16 kg/m³	16 kg/m³
Standard Length	5 m	5 m
CERTIFICATE		
Russia	GOST-R	GOST-R

Available on request

- Customized lengths
- Private label
- White polyester insulation
- 50 mm glass wool insulation
- 24 kg/m³ glass wool insulation
- Black PE color

Insulation Options Available



ALTERNATIVE CONSTRUCTIONS

PRODUCT NAME	Difference from the standard type
SLEEVEAFS.ALUMINIUM-R8 **SLEEVEAFS.PE-R8**	R 8.0 glass wool insulation
SLEEVEAFS.ALUMINIUM-R16 **SLEEVEAFS.PE-R16**	100 mm glass wool insulation
SLEEVEAFS.ALUMINIUM.B **SLEEVEAFS.PE.B**	Polyester barrier



INDUSTRIAL HOSES

AFS®

POLYURETHANE INDUSTRIAL HOSES



New

TYPES:

TPU 05

TPU 07

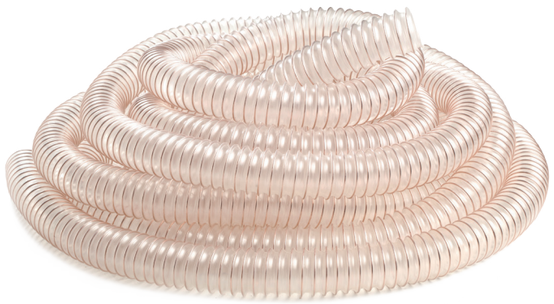
TPU 10

AFSTPU

- AFSTPU is produced by 100% thermoplastic polyester polyurethane and reinforced by high tension copper coated steel wire. There are three standard types of thickness for various applications.
- AFSTPU is suitable for applications that require high pressure and vacuum resistance. It has leak proof structure and its flexibility is convenient to use in wood industry, metal industry, metal processing, welding extraction, surface cleaning, glass, cement, ceramic, paper and automotive industries.
- Due to its high resistance to chemicals, AFSTPU is long lasting solution for industrial applications.

PROPERTIES & ADVANTAGES

- Chemical resistance
- High flow rate
- Superior abrassion resistance
- Long shelf life
- Flex & Shock resistance
- Lightweight by Design
- Clean core tubes (non-contaminating)





TECHNICAL PROPERTIES

TYPE	TPU 05	TPU 07	TPU 10
Wall	100% Polyester Polyurethane	100% Polyester Polyurethane	100% Polyester Polyurethane
Wire	Copper coated spring steel wire	Copper coated spring steel wire	Copper coated spring steel wire
Thickness	0,5 mm	0,7 mm	1,0 mm
Temperature Range	-40 °C / +90 °C	-40 °C / +90 °C	-40 °C / +90 °C
Diameter Range	Ø 30 mm – Ø 305 mm	Ø 30 mm – Ø 305 mm	Ø 30 mm – Ø 305 mm
Lenght	6 m / 10 m	6 m / 10 m	6 m / 10 m
Packing Type	Plastic bag	Plastic bag	Plastic bag

APPLICATION AREAS	
Wood Prep. Machines	**Pump hoses**
Refuse collection vehicles	**Spray dispensation**
Paint industry	**Rail cleaning**
Glass particles transportation	**Chaff extraction**
Glass & Rock wool transportation	**Ceramic industry**
Grass cutting devices	**Liquid transportation**
Cement transportation	**Quarries**
Suction/ transport for high abrasive materials	**Fresh air units**
Suction/ transport for light & medium abresive materials	**Textile fibre transportation**
Discharge units	**Textile industry**
Foundries	**Dockyard industry**
Smoke & Polluted air exhaust	**Dust extraction**
Industrial vacuum cleaners	**Oil mist extraction**
Fan hoses	**Surface cleaning**
Cesspit and waste water treatment plant	**Petrochemical industry**
Gas transportation	**Packaging industry**
Iron & Steel industry	**Automotive industry**
Heating, cooling & ventilation	**Metal chips & dust transportation**
Cuttle units	**Grease transportation**
Paper industry	**Gravel transportation**
Welding works	**Harbour installations**
Chemicals transportation	**Small particles transportation**
Tile industry	**Quartz works**
Control cabinets	**Sand transportation**

Available on request

- Customized lengths
- Private label

INDUSTRIAL PVC FLEXIBLE AIR DUCTS



TYPES:

VINYLAFS-TRANSPARENT
(Positive Pressure)

VINYLAFS-TRANSPARENT DW
(Negative Pressure)

VINYLAFS-TRANSPARENT

- VINYLAFS-TRANSPARENT non-insulated industrial PVC flexible air ducts are specifically produced and designed where vacuum systems are needed.
- It can also be used for transferring wood shavings and rough particulars and in applications with excessive vibration and/or perpetual motion systems.
- It is produced from PVC strips with high tension steel spring wire.
- VINYLAFS-TRANSPARENT is airtight.
- VINYLAFS-TRANSPARENT is elastic and flexible. It can be easily fitted to circular, oval, or rectangular connectors.

PROPERTIES & ADVANTAGES

PVC CONSTRUCTION
- High vibration resistance
- Impermeable to UV rays
- Resistant to chemicals

FLEXIBLE & SEAMLESS CONSTRUCTION
- Easy to store
- Easy to transport
- Low installation cost
- High resistance to wear and tear
- Airtight
- Low operation and maintenance costs

SMOOTH INNER SURFACE
- Minimum pressure loss

HIGH TENSION STEEL WIRE
- High durability
- High resistance to deformation
- Easy to install

TECHNICAL PROPERTIES

TYPE	VINYLAFS-TRANSPARENT	VINYLAFS-TRANSPARENT.DW
Construction	1 ply PVC	1 ply PVC
Nominal Thickness	200 micron	200 micron
PVC Color	Transparent	Transparent
Available Diameters	Ø 82 mm - Ø 508 mm	Ø 82 mm - Ø 508 mm
Temperature Range	-30 °C / +80 °C	-30 °C / +80 °C
Air Velocity	30 m/s (max)	30 m/s (max)
Standard Length	6 m	6 m
Packing	Single cardboard box	Single cardboard box

In your requests, please mention the application (positive or negative pressure)

Available on request

- Customized lengths
- Private label

The dimensions, tolerances and mechanical resistance of VINYLAFS-TRANSPARENT are tested, classified and certified according to EN 13180.

AFS®

POLYURETHANE INDUSTRIAL HOSES



CLIPAFS-PVC

- Ensures a long service life even under demanding conditions for applications such as transfer of semi-abrasive content, extraction of polluted indoor air, welding fumes, dust; and also, transfer of some chemicals under defined conditions.

TECHNICAL PROPERTIES

TYPE	CLIPAFS-PVC	CLIPAFS-PVC.H	CLIPAFS-PVC.F
Hose Wall	PVC Coated Polyester	PVC Coated Polyester	PVC Coated Fiberglass
Wall Thickness	230 micron	450 micron	260 micron
Outer Profile Helix	Galvanized Steel	Galvanized Steel	Galvanized Steel
Available Diameters	Ø 80 mm - Ø 600 mm	Ø 80 mm - Ø 600 mm	Ø 80 mm - Ø 600 mm
Temperature Range	-30 °C / +80 °C	-30 °C / +80 °C	-30 °C / +100 °C
Color	Black & Grey & Blue	Black & Grey & Blue	Grey
Standard Length	5 m	5 m	5 m
Compression Ratio	1/10	1/10	1/10
Bending Radius	0,7 x Ø	0,7 x Ø	0,7 x Ø
Application Areas	Extraction of polluted indoor air, dust, welding / solder fumes etc. Transfer of non-abresive granules and particles. Ventilation Heating and cooling Tent ventilation Low and medium pressure applications Vehicle and wagon ventilation Parking garage ventilation Tunnel and subway ventilation	Extraction of polluted indoor air, dust, welding / solder fumes etc. Transfer of non-abrasive granules and particles. Ventilation Heating and cooling Tent ventilation Low and medium pressure applications Vehicle and wagon ventilation Parking garage ventilation Tunnel and subway ventilation	Extraction of polluted indoor air, dust, welding / solder fumes etc. Transfer of semi-abrasive granules and particles. Extraction of soldering fumes Ventilation Heating and cooling Tent ventilation Low and medium pressure applications Vehicle and wagon ventilation Parking garage ventilation Tunnel and subway ventilation

Available on request

- Customized lengths
- Private label

POLYURETHANE INDUSTRIAL HOSES



CLIPAFS-NEOPRENE

- Ensures a long service life even under demanding conditions for applications such as transfer of semi-abrasive content, extraction of polluted indoor air, welding fumes, dust; and also, transfer of some chemicals under defined conditions.

TECHNICAL PROPERTIES

TYPE	CLIPAFS-NEOPRENE
Hose Wall	Neoprene Coated Fiberglass
Wall Thickness	450 micron
Outer Profile Helix	Galvanized Steel
Available Diameters	Ø 80 mm - Ø 600 mm
Temperature Range	-30 °C / +100 °C
Color	Black
Standard Length	5 m
Compression Ratio	1/10
Bending Radius	0,7 x Ø
Reaction to Fire	UL 214 (NFPA 701)
Application Areas	Extraction of polluted indoor air, dust, welding / solder fumes etc. Transfer of semi-abrasive granules and particles. Ventilation Heating and cooling Low and medium pressure applications Vehicle and wagon ventilation Parking garage ventilation Tunnel and subway ventilation

Available on request

- Customized lengths
- Private label

AFS®

POLYURETHANE INDUSTRIAL HOSES



CLIPAFS-PU

- Ensures a long service life even under demanding conditions for applications such as transfer of semi-abrasive content, extraction of polluted indoor air, welding fumes, dust; and also, transfer of some chemicals under defined conditions.

TECHNICAL PROPERTIES

TYPE	CLIPAFS-PU
Hose Wall	PU Coated Fiberglass
Wall Thickness	450 micron
Outer Profile Helix	Galvanized Steel
Available Diameters	Ø 80 mm - Ø 600 mm
Temperature Range	-30 °C / +80 °C
Color	Grey & Black
Standard Length	5 m
Compression Ratio	1/10
Bending Radius	0,7 x Ø
Reaction to Fire	(M0) / UL 214 (NFPA 701)
Application Areas	Extraction of polluted indoor air, dust, welding / solder fumes etc. Transfer of semi-abrasive granules and particles. Ventilation Heating and cooling Tent ventilation Low and medium pressure applications Vehicle and wagon ventilation Parking garage ventilation Tunnel and subway ventilation

Available on request

- Customized lengths
- Private label

AFS®

POLYURETHANE INDUSTRIAL HOSES



CLIPAFS-SILICONE

- Ensures a long service life even under demanding conditions for applications such as transfer of semi-abrasive content, extraction of polluted indoor air, welding fumes, dust; and also, transfer of some chemicals under defined conditions.

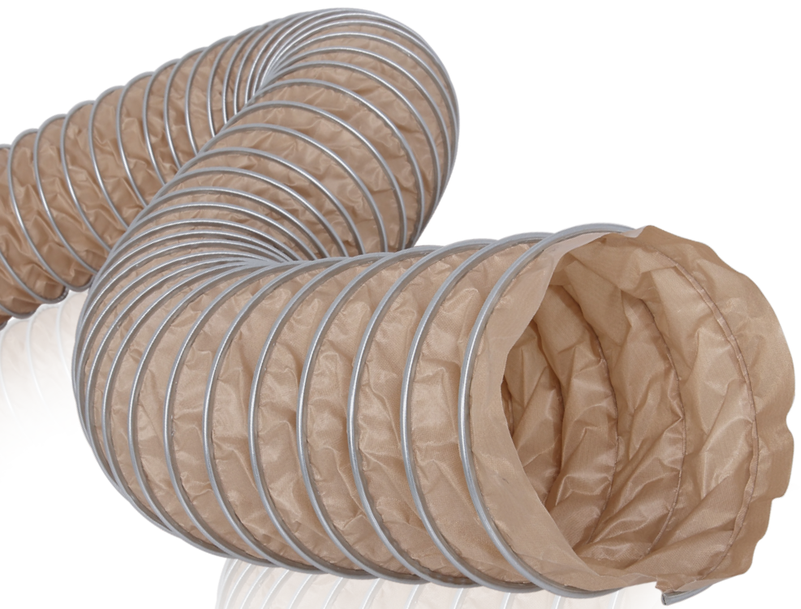
TECHNICAL PROPERTIES

TYPE	CLIPAFS-SILICONE
Hose Wall	Silicone Coated Fiberglass
Wall Thickness	430 micron
Outer Profile Helix	Galvanized Steel
Available Diameters	Ø 80 mm - Ø 600 mm
Temperature Range	-50 °C / +250 °C
Color	Grey
Standard Length	5 m
Compression Ratio	1/10
Bending Radius	0,7 x Ø
Application Areas	Extraction and ducting of hot air and gaseous media with high operating and ambient temperatures Transfer of semi-abrasive granules and particles Chemicals industry Plastic processing industry Aircraft industry Engine manufacturing Shipbuilding Low and medium pressure applications Vehicle and wagon ventilation

Available on request

- Customized lengths
- Private label

POLYURETHANE INDUSTRIAL HOSES



CLIPAFS-TEFLON

- Ensures a long service life even under demanding conditions for applications such as transfer of semi-abrasive content, extraction of polluted indoor air, welding fumes, dust; and also, transfer of some chemicals under defined conditions.

TECHNICAL PROPERTIES

TYPE	CLIPAFS-TEFLON
Hose Wall	Teflon Coated Fiberglass
Wall Thickness	140 micron
Outer Profile Helix	Galvanized Steel
Available Diameters	Ø 80 mm - Ø 600 mm
Temperature Range	-150 °C / +260 °C
Color	Light Brown
Standard Length	5 m
Compression Ratio	1/10
Bending Radius	0,7 x Ø
Application Areas	Extraction and ducting of hot air and gaseous media with high operating and ambient temperatures Chemicals industry Plastic processing industry Paint mist extraction Paint, wood & paper industries Extraction of solvents Pharmaceutical industry

Available on request

- Customized lengths
- Private label



VENTILATION EQUIPMENT

CONAIR

AIR DISC VALVES

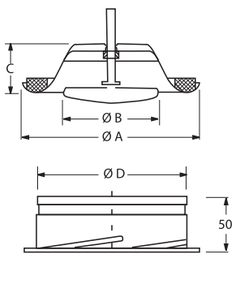


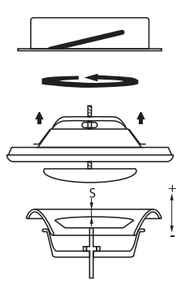
EXHAUST METAL AIR DISC VALVES

Exhaust type metal air disc valves are specifically designed for low and medium pressure ventilation systems.

- Available diameters are 100mm, 125mm, 150mm, 160mm & 200 mm
- Easy installation on wall or ceiling
- Manufactured from sheet steel painted white RAL9010 satin
- The valve body is equipped with a cellular plastic gasket to form air tight seal
- The air flow is adjusted by rotating the control disc
- Simple and effective design for easy application
- Supplied with mounting ring
- Mounting ring is made of galvanized steel sheet

EXHAUST MODEL	SIZE	DIMENSIONS (mm)			
		Ø A	Ø B	C	Ø D
CONAIR 26	Ø 100	138	75	40	97.5
CONAIR 27	Ø 125	164	100	46	122.5
CONAIR 28	Ø 150	202	120	50	147.5
CONAIR 29	Ø 160	211	130	54	157.5
CONAIR 30	Ø 200	248	158	63	197.5





QUICK SELECTION CHART (EXHAUST TYPE)

EXHAUST	AIR FLOW (L/S) AT SOUND LEVEL		
	25 dB (A)	30 dB (A)	35 dB (A)
CONAIR 26	30	37	45
CONAIR 27	46	57	68
CONAIR 28	58	70	81
CONAIR 29	64	80	98
CONAIR 30	120	140	170

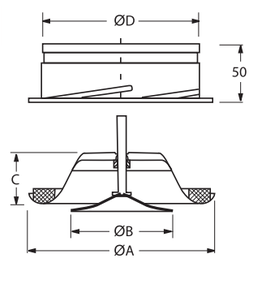


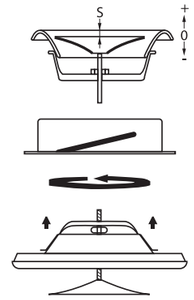
SUPPLY METAL AIR DISC VALVES

Supply type metal air disc valves are specifically designed for low and medium pressure ventilation systems.

- Available diameters are 100mm, 125mm, 150mm, 160mm & 200 mm
- Easy installation on wall or ceiling
- Manufactured from sheet steel painted white RAL9010 satin
- The valve body is equipped with a cellular plastic gasket to form air tight seal
- The air flow is adjusted by rotating the control disc
- Simple and effective design for easy application
- Supplied with mounting ring
- Mounting ring is made of galvanized steel sheet

SUPPLY MODEL	SIZE	DIMENSIONS (mm)			
		Ø A	Ø B	C	Ø D
CONAIR 26 S	Ø 100	138	92	40	97.5
CONAIR 27 S	Ø 125	164	111	46	122.5
CONAIR 28 S	Ø 150	202	135	50	147.5
CONAIR 29 S	Ø 160	211	147	54	157.5
CONAIR 30 S	Ø 200	248	194	63	197.5





QUICK SELECTION CHART (SUPPLY TYPE)

SUPPLY	AIR FLOW (L/S) AT SOUND LEVEL		
	25 dB (A)	30 dB (A)	35 dB (A)
CONAIR 26 S	20	24	30
CONAIR 27 S	40	48	57
CONAIR 28 S	59	68	80
CONAIR 29 S	50	58	65
CONAIR 30 S	80	100	120





New

P SMART AIR DISC VALVES

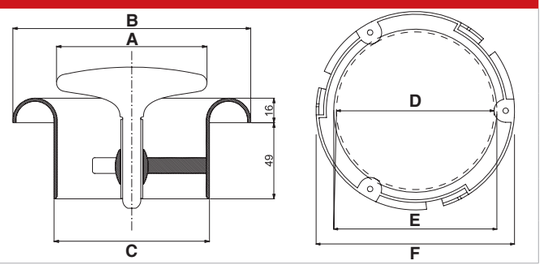
- Very low pressure loss values are obtained by the CFD analysis and verified by the tests in the laboratory complying with ASHRAE 70 standarts.
- No corrosion, locking and color change by eliminating metallic locknut and manufacturing adjustable lid from plastic.
- Instant mounting with elegant, light and smart mounting ring.
- Different design eliminating choked flow through cross sectional area as there is no restriction of flow and conserving flow regime the line through flexible air duct.
- An fully-airtight product contributing to indoor air quality and hygiene of attics by eliminating the parts causing air leakage with developed design inspired by CFD Simulation.

PROPERTIES & ADVANTAGES

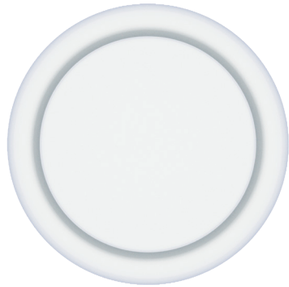
- Mounting in 1 minute: Intellectual design enabling easy and quick mounting on the wall and ceiling.
- Energy Saver: Optimum aerodynamic design ensuring very low pressure loss for supply and exhaust.
- Recyclable: it is made from ABS plastic entirely.
- Aesthetic compatibility with indoor ambience. Resistant to external impacts and having aesthetic appereance.
- Contributing to have better indoor air quality and highly efficience in use.
  Integrated design eliminating air leakages.

TECHNICAL PROPERTIES

CONAIR P SMART	DIMENSIONS (mm)					
	Ø A	Ø B	Ø C	Ø D	Ø E	Ø F
Ø 100	96	152	99	116	120	146
Ø 125	121	177	124	141	145	171
Ø 150	146	202	149	166	170	196
Ø 200	121	252	199	216	220	246
Operating Temperature	-10 °C / +90 °C					





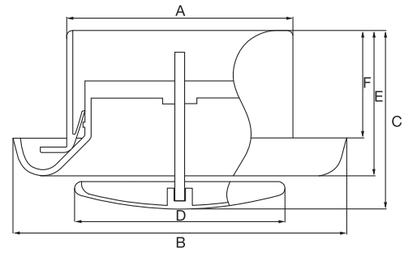


PLASTIC AIR DISC VALVES

- Available diameters are 100mm, 125mm, 150mm & 200 mm
- Simple and effective design for easy application
- Supplied with an airtight snap on mounting flange
- Adjustable air flow rate by centric, rotating valve
- Easy to remove for maintenance and cleaning
- Heat resistance up to +100 C°
- UV resistance
- Can be fitted directly to rigid ducting

TECHNICAL PROPERTIES

MODEL	SIZE	DIMENSIONS (mm)					
		Ø A	Ø B	C	D	E	F
CONAIR 21	Ø 100	99	146	90	92	63	47
CONAIR 22	Ø 125	124	165	78	111	63	45
CONAIR 23	Ø 150	148	185	100	142	66	52
CONAIR 24	Ø 200	199	246	106	187	79	59
Operating Temperature		-10 °C / +90 °C					



CONAIR

VERSATILE SMART SERIES

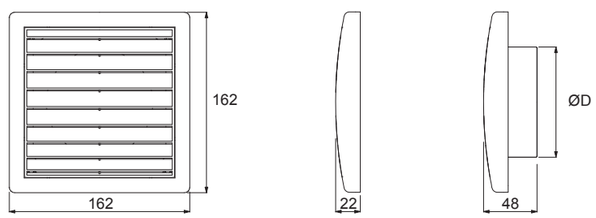


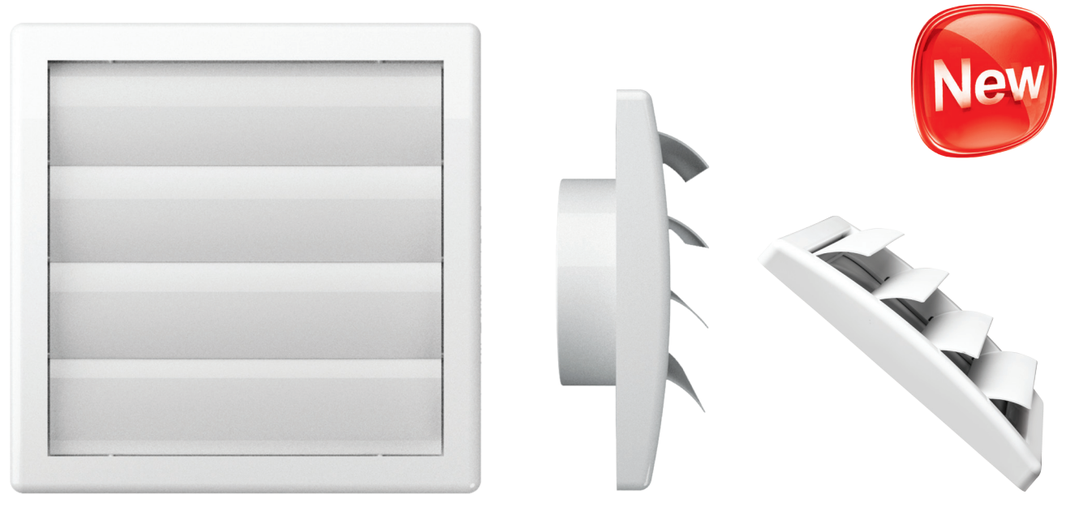
L SMART LINEAR GRILL

- Aesthetic New design
- Excellent design for both supply & exhaust ventilation
- High quality components
- Easy maintenance
- Exchangeable collars
- Easy & practical montage to both walls & ducts

TECHNICAL PROPERTIES

MODEL	DIMENSIONS (mm) Ø D
CONAIR 1040	-
CONAIR 1041	Ø 100
CONAIR 1042	Ø 125
CONAIR 1043	Ø 150



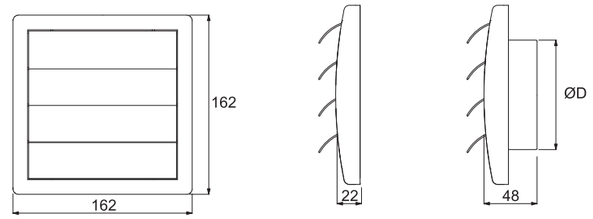


G SMART GRAVITY LOUVER

- Aesthetic New design
- Excellent design for exhaust ventilation
- High quality components
- Easy maintenance
- One way air flow from indoors towards outdoors
- Louvres balanced to give good air flow at appropriate pressure level
- Exchangeable collars
- Easy & practical montage to both walls & ducts

TECHNICAL PROPERTIES

MODEL	DIMENSIONS (mm) Ø D
CONAIR 1044	-
CONAIR 1045	Ø 100
CONAIR 1046	Ø 125
CONAIR 1047	Ø 150



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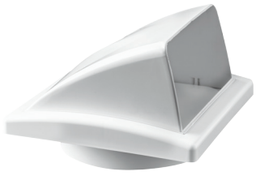
CONAIR

VERSATILE SMART SERIES









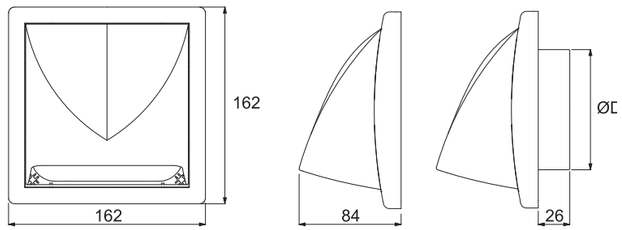


C SMART COWL OUTLET

- Aesthetic New design
- Excellent design for both supply & exhaust ventilation
- High quality components
- Easy maintenance
- No return flap
- For outdoors suitable for tumble drier extraction
- Exchangeable collars
- Easy & practical montage to both walls & ducts

TECHNICAL PROPERTIES

MODEL	DIMENSIONS (mm)
	Ø D
CONAIR 1048	-
CONAIR 1049	Ø 100
CONAIR 1050	Ø 125
CONAIR 1051	Ø 150



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GRILLS & DIFFUSERS





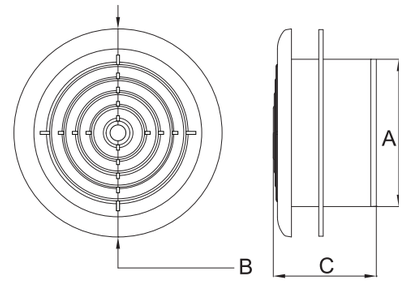


CEILING DIFFUSER

- Economical high performance diffuser
- Providing an architecturally pleasing ceiling effect
- Excellent design for surface mounting applications
- Multi-layer cone can divide the air into many layers of swift puffs
- Smoothy balances the flow and temperature of the air.
- Durable Round coupling corner

TECHNICAL PROPERTIES

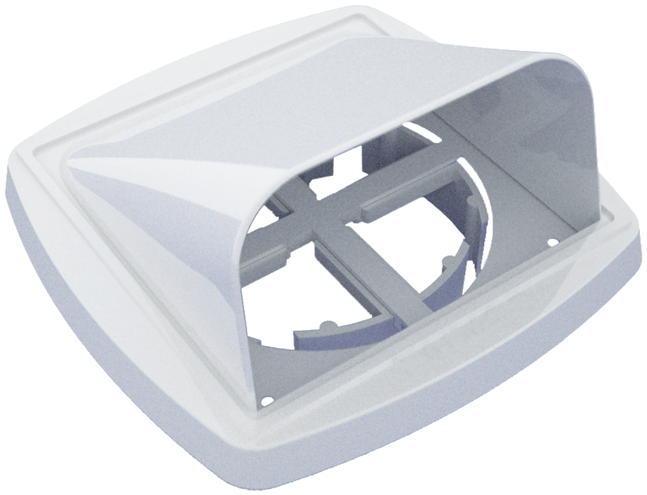
MODEL	DIMENSIONS (mm)		
	Ø A	Ø B	C
CONAIR 31	Ø 100	141	70
CONAIR 32	Ø 125	166	72
CONAIR 33	Ø 150	188	72
CONAIR 34	Ø 200	240	72
CONAIR 35	Ø 250	294	78
CONAIR 36	Ø 315	371	83

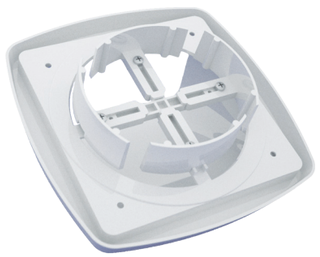


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CONAIR

VERSATILE SMART SERIES





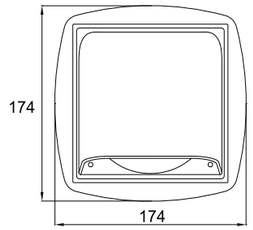
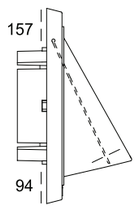


COWL OUTLET

NO RETURN FLAP

- Excellent design for exhaust ventilation
- For outside use, suitable for tumble drier extraction
- High quality components
- Practical mounting
- Easy maintenance

TECHNICAL PROPERTIES

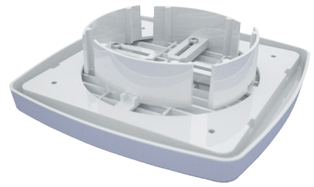
MODEL	DESCRIPTION	SIZE	DIMENSIONS (mm)
CONAIR 012	Cowl Outlet with return flap	174 x 174 mm Ø 94 - 157 mm	
CONAIR 037	Cowl Outlet with mosquito net	174 x 174 mm Ø 94 - 157 mm	

LINEAR GRILLS

with ADJUSTABLE COLLAR

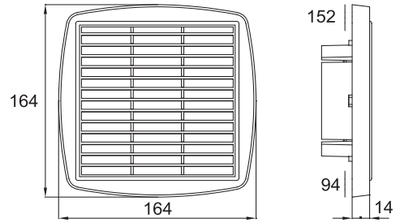
- Excellent design for both supply & exhaust ventilation
- Convenient for wall and ceiling application
- High quality components
- Easy maintenance
- Mosquito net optional
- Durable round coupling corner

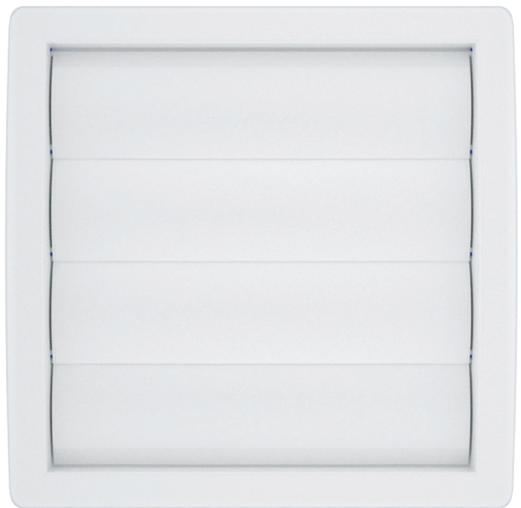


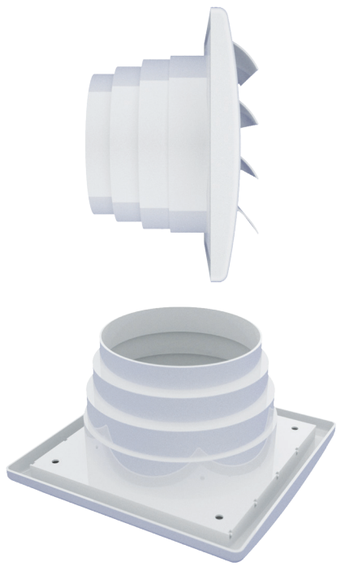




TECHNICAL PROPERTIES

MODEL	DESCRIPTION	SIZE	DIMENSIONS (mm)
CONAIR 005	Square linear grill with adjustable collar	164 x 164 Ø 94 - 152	



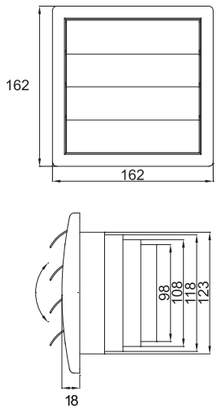


GRAVITY LOUVERS

with 4 SET COLLAR

- Excellent design for exhaust ventilation
- One way airflow from indoors towards outdoors
- Louvres balanced to give good air flow at appropriate pressure level
- High quality components
- Practical mounting secured by latches
- Easy maintenance

TECHNICAL PROPERTIES

MODEL	DESCRIPTION	SIZE	DIMENSIONS (mm)
CONAIR 025	Gravity louver with 4 set collar	162 x 162 mm Ø 98 mm, Ø 108 mm, Ø 118 mm, Ø 123 mm	



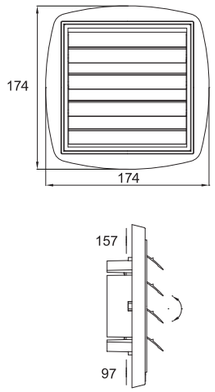


GRAVITY LOUVERS

with ADJUSTABLE COLLAR

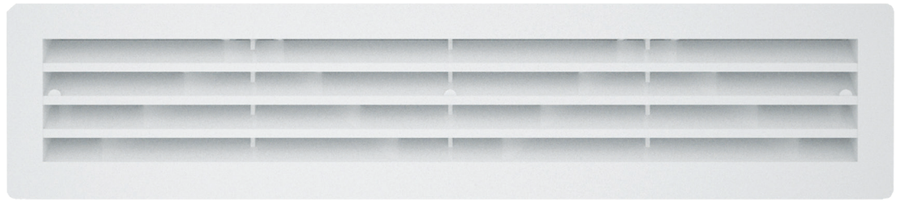
- Excellent design for exhaust ventilation
- One way airflow from indoors towards outdoors
- Louvres balanced to give good air flow at appropriate pressure level
- High quality components
- Practical mounting secured by latches
- Easy maintenance
- Mosquito net upon request

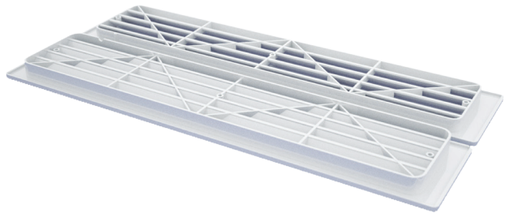
TECHNICAL PROPERTIES

MODEL	DESCRIPTION	SIZE	DIMENSIONS (mm)
CONAIR 014	Gravity louver with adjustable collar	174 x 174 Ø 97 - 157	

CONAIR

GRILLS & DIFFUSERS



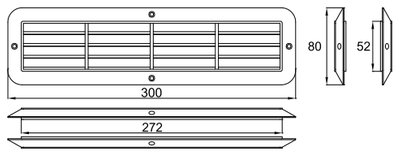
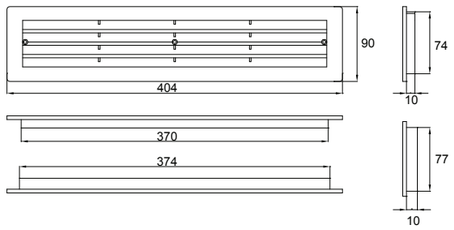




DOOR TRANSFER GRILLS

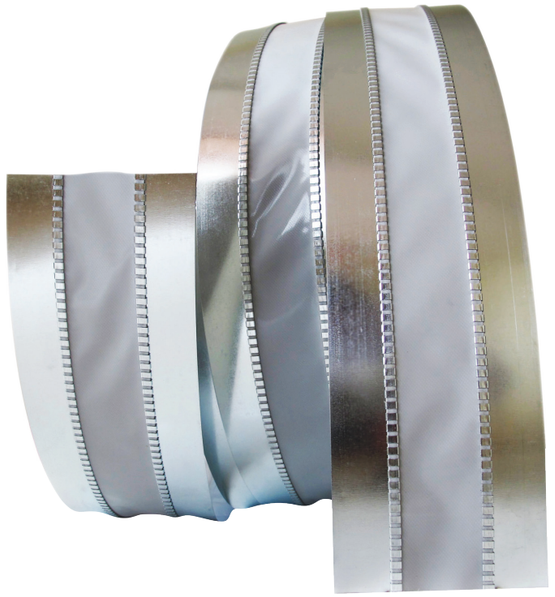
- Allows air circulation
- Double sided
- Overlapping V-shaped blades
- For mounting on doors in WC areas, showers, swimming pools etc.
- Various color options on demand
- Both parts of the grill are joined together by screws
- Made of high quality plastic

TECHNICAL PROPERTIES

MODEL	DESCRIPTION	SIZE	DIMENSIONS (mm)
CONAIR 019	Door transfer grill	300 x 80	
CONAIR 020	Door transfer grill	404 x 90	

A trademark of AFS

MONTAGE & FITTING ELEMENTS



AFSCONNECTOR

COATING TYPE

- **AFSCONNECTOR**s can be produced of PVC, SILICONE, PU, NEOPRENE or CANVAS as per application requirements

GENERAL PROPERTIES

- **AFSCONNECTOR**s are leak proof (airtight & water proof)
- They are suitable for rectangular, oval and circular applications, and easy to install.

SPECIAL SIZE

- **100x120x100 AFSCONNECTOR**'s wide galvanized steel plates make it compatible with roll forming and flange manufacture systems.

APPLICATION

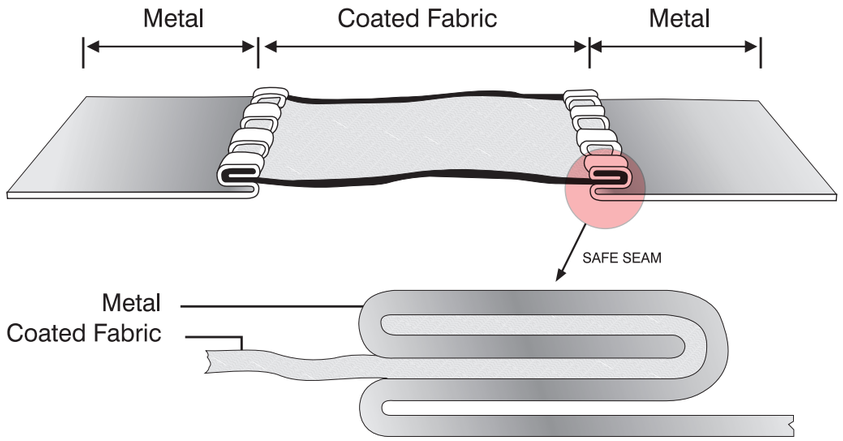
- **AFSCONNECTOR** is specifically designed for heating, cooling, ventilation and air conditioning systems.
- **AFSCONNECTOR**s are used to connect mechanical equipment and rigid air duct or two rigid air ducts, providing dampening against vibration and absorbing lateral movements.





LOCKING SYSTEM

AFSCONNECTORs are produced using a special **SAFE SEAM** technique from 'galvanized steel plate + coated fabric + galvanized steel plate'. The **SAFE SEAM** clamp system ensures that the coated fabric and the galvanized steel plates are inseparable.





	PVC	PVC ATEX	PU	NEOPRENE	SILICONE	CANVAS	PU FORTE	NEOPRENE FORTE
Base Fabric	Polyester	Polyester	Fiberglass	Fiberglass	Fiberglass	Cotton	Fiberglass	Fiberglass
Coating	PVC (Both Sides)	PVC (Both Sides)	PU (Both Sides)	Neoprene (Both Sides)	Silicone (Both Sides)	Chemical Coating	PU (Both Sides)	Neoprene (Both Sides)
Color	Grey & Black	Black	Grey & Black	Black	Grey	Green	Grey	Black
Temperature Range	- 30 °C /+80 °C	- 30 °C /+80 °C	- 30 °C /+100 °C	- 30 °C /+100 °C	- 30 °C /+250 °C	+80 °C	- 30 °C /+100 °C	- 30 °C /+100 °C
Construction	Galvanized Steel Plate + Coated Fabric + Galvanized Steel Plate						Galvanized Steel Plate + **Heavy** Coated Fabric + Galvanized Steel Plate	
Packing	Single Cardboard Box							
Fire Resistance	Fire Retardant	Fire Retardant	Fabric: non-combustible Coating: Fire retardant	Fabric: non-combustible Coating: Fire retardant	Fabric: non-combustible Coating: Fire retardant	Fire Retardant	Fabric: non-combustible Coating: Fire retardant	Fabric: non-combustible Coating: Fire retardant
Specifications	Suitable for general applications Economical choice	Suitable for protective systems in potentially explosive atmospheres to ensure ebaut safety. EN 13463-1 Surface Conductivity Resistance < 109	High resistance to abrasion Suitable for high temperature applications for a certain period of time (400 °C / 2 hours)	Suitable for high velocity applications and outdoor conditions High resistance to alkalies and gasoline	Suitable for high temperature applications (400 °C / 2 hours) High resistance to weathering and chemicals	Versatile and cost effective Resistant to humidity and mildew	High Resistance to abrasion Suitable for high temperature applications for a certain period of time	Suitable for high velocity applications and outdoor conditions High resistance to alkalies and gasoline

FIRE CERTIFICATE	PVC		PU	NEOPRENE	SILICONE	CANVAS		
France	-	-	M0	-	-	-	-	-
USA	UL 723	-	UL 723	UL 723	-	-	-	UL 723 (Class 1)
USA	-	-	NFPA 701 (Formerly UL 214)	NFPA 701 (Formerly UL 214)	-	NFPA 701 (Formerly UL 214)	NFPA 701 (Formerly UL 214)	NFPA 701 (Formerly UL 214)
SPAIN	-	-	F-400 (400 °C / 2 hours)	-	F-400 (400 °C / 2 hours)	-	-	-

METAL + COATED FABRIC + METAL	LENGTH	CARDBOARD BOX
35mm + 60mm + 35mm	25 m	430mm x 180mm x 430mm
35mm + 60mm + 35mm	50 m	500mm x 180mm x 500mm
45mm + 60mm + 45mm	25 m	430mm x 180mm x 430mm
45mm + 60mm + 45mm	50 m	500mm x 180mm x 500mm
45mm + 75mm + 45mm	25 m	430mm x 180mm x 430mm
45mm + 75mm + 45mm	50 m	500mm x 180mm x 500mm
45mm + 100mm + 45mm	25 m	430mm x 180mm x 430mm
45mm + 100mm + 45mm	50 m	500mm x 180mm x 500mm
45mm + 150mm + 45mm	25 m	430mm x 250mm x 430mm
45mm + 150mm + 45mm	50 m	500mm x 250mm x 500mm
50mm + 60mm + 50mm	25 m	430mm x 180mm x 430mm
50mm + 60mm + 50mm	50 m	500mm x 180mm x 500mm
70mm + 100mm + 70mm	25 m	430mm x 250mm x 430mm
70mm + 100mm + 70mm	50 m	500mm x 250mm x 500mm
70mm + 150mm + 70mm	25 m	430mm x 300mm x 430mm
70mm + 200mm + 70mm	25 m	430mm x 300mm x 430mm



AFS CIRCULAR PU CONNECTOR KIT

APPLICATION

- **AFS CIRCULAR PU CONNECTOR**s are specifically designed for heating, cooling, ventilation and air conditioning systems.
- **AFS CIRCULAR PU CONNECTOR**s kits have perfect solution for noise and vibration caused by ventilation equipment transmitted through air duct system
- **AFS CIRCULAR PU CONNECTOR**s are leak proof (airtight & water proof)
- **The circular connector is available in kit form with two fastening metal clamps in plastic bag**

ADVANTAGES

- Low installation cost
- Low operational cost
- Energy efficient
- Easily stored
- Easily transported
- Easily installed
- Maintenance free

PACKING

- 1 set per nylon bag
  (AFS CIRCULAR PU CONNECTOR + 2 Metal clamps)
- 10 nylon bags / box

TECHNICAL PROPERTIES

AFS CIRCULAR PU CONNECTOR		
Base fabric		Fiber glass
Coating		PU (both sides)
Color		Grey & Black
Temperature range		-30 °C / + 100 °C
Fire resistance		Fabric: non-combustible Coating: fire retardant
FIRE CERTIFICATE		
France	SAFRAN SME	M0
CERTIFICATE		
Russia		GOST-R

METAL CLAMPS

- Low carbon steel galvanized components
- Galvanized steel (free of hexavalent chromium screw
- Ferritic stainless steel ring (AISI 430 EN 1.4016)

STANDARD DIMENSIONS

DUCT DIAMETER (mm)	AFS CIRCULAR PU CONNECTOR WIDTH (mm)	METAL CLAMP DIAMETER (mm)
100	160	60 – 110
125	160	60 – 135
160	160	60 – 170
200	160	60 – 215
250	200	60 – 270
315	200	60 – 325
355	200	60 – 380
400	200	60 – 425
450	200	60 – 525
500	200	60 – 525
560	200	60 – 660
630	200	60 - 660

SELF ADHESIVE STUCK UP PIN



SAFEST PIN EVER
SMART DESIGN

AFS cares about the workmen's safety!

AFSPIN

- AFS self-adhesive pins are designed for fitting insulation materials to smooth surfaces without using any additional tools.
- Quick and easy application.
- It can be used for fitting rigid or flexible insulation materials such as glass wool, rock wool, polistiren, polyethylene foam, insulation cork boards, etc.
- Operating temperature range of AFS PIN is –10 ˚C / +80 ˚C. Application temperature has to be above +10 ˚C.
- The surface applied on has to be free of any residues, dust, grease, oil, etc.
- AFS self-adhesive pins are packed in cardboard boxes after PE bagged. This unique packing secures conditions that hold its adhesive properties. They can be transported, stocked and used safely, easily and practically.

PROPERTIES & ADVANTAGES

ALUMINIUM PIN
- Easy to cut, bend and mount
- Corrosion free

ALUMINIUM PIN WITH SAFE TIP
- Provides safe working environment
- Needs no pin cap

REINFORCED GALVANIZED STEEL BASE
- Ensures a flat base
- Ensures maximum adherence

GALVANIZED WASHERS
- Easy to fit, impossible to remove

QUANTITY OF SELF-ADHESIVE PINS PER SQUARE METER (m²)

INSULATION MATERIAL		SURFACE TEMPERATURE			
Density	Thickness	23 °C	40 °C	60 °C	80 °C
20 kg/m³	25 mm	4	4	4	4
	50 mm	4	4	4	4
40 kg/m³	25 mm	4	4	4	4
	50 mm	4	4	4	6
80 kg/m³	25 mm	4	4	4	6
	50 mm	4	4	6	8
120 kg/m³	25 mm	4	5	6	8
	50 mm	5	6	8	12

PACKING DETAILS (Base Dimension : 50 x 50)

PIN LENGTH	PACKING TYPE	PACKAGE AMOUNT
40 mm	Carton box	500 pieces with washer / box
50 mm	Carton box	500 pieces with washer / box
60 mm	Carton box	500 pieces with washer / box
80 mm	Carton box	400 pieces with washer / box
100 mm	Carton box	350 pieces with washer / box

Base dimension : 30 x 30 mm is available upon request

Operating temperature range of AFSPIN is -10 °C / +80 °C.
Application temperatures has to be above +10 °C. The surface applied on has to be free of any residues, dust, grease, oil, etc.





TYPES:

AFS TAPE PLAIN 30 micron

AFS TAPE PLAIN 40 micron

AFS TAPE PLAIN 50 micron

AFS TAPE REINFORCED
(Foil - Scrim - Kraft Tape)

AFS TAPE

- **AFS TAPE** self adhesive aluminium foil tapes are specifically produced for heating, cooling, ventilation, air conditioning and exhaust systems.
- **AFS TAPE**'s use acrylic based adhesives.
- **AFS TAPE**'s provide excellent performance in heavy conditions
- Compared to rubber based adhesives, **AFS TAPE**'s are more reliable and resistant to UV lights and cracks.
- After applying **AFS** tapes bonding strength increases by self cross linking property of acrylic polymers.
- **AFS TAPE**'s provide excellent vapour sealing on fiber glass and rock-wool duct-board and blanket systems.
- **AFS TAPE**'s can be applied even on rough and wet surfaces. Fiber glass, rock-wool, duct-board, blanket systems, sheet metals and plastic ducts are few of the application areas of **AFS TAPE**.

PROPERTIES & ADVANTAGES

- Excellent peel adhesion
- Resistant to water & fire.
- Strong initial & permanent bonding.
- Outstanding temperature & aging resistance

Remarks

- **AFS TAPE** should be kept at room temperature and stored away from wet and heat sources,humid locations and extreme conditions.
- The surface applied on has to be free of any residues, dust, grease, oil, etc.

TECHNICAL PROPERTIES

AFS TAPE	PLAIN 30 micron	Test Method
Backing Thickness	30 micron	PSTC-33 / ASTM D3652
Peel Adhesion	20 N / 25 mm	PSTC-1 / ASTM D3330
Tensile Strength	37.5 N / 25 mm	PSTC-31 / ASTM D3759
Elongation	3.0 %	PSTC-31 / ASTM D3759
Service Temperature	- 20 °C / + 120 °C	
Applying Temperature	+ 10 °C / + 40 °C	
Standard Dimensions - width	50 mm / 75 mm / 100 mm	
Length	40 m	

AFS TAPE	PLAIN 40 micron	Test Method
Backing Thickness	40 micron	PSTC-33 / ASTM D3652
Peel Adhesion	20 N / 25 mm	PSTC-1 / ASTM D3330
Tensile Strength	50 N / 25 mm	PSTC-31 / ASTM D3759
Elongation	3.0 %	PSTC-31 / ASTM D3759
Service Temperature	- 20 °C / + 120 °C	
Applying Temperature	+ 10 °C / + 40 °C	
Standard Dimensions - width	50 mm / 75 mm / 100 mm	
Length	50 m	

AFS TAPE	PLAIN 50 micron	Test Method
Backing Thickness	50 micron	PSTC-33 / ASTM D3652
Peel Adhesion	20 N / 25 mm	PSTC-1 / ASTM D3330
Tensile Strength	70 N / 25 mm	PSTC-31 / ASTM D3759
Elongation	3.5 %	PSTC-31 / ASTM D3759
Service Temperature	- 30 °C / + 120 °C	
Applying Temperature	+ 10 °C / + 40 °C	
Standard Dimensions - width	50 mm / 75 mm / 100 mm	
Length	40 m	

AFS TAPE	REINFORCED (Foil - Scrim - Kraft Tape)	Test Method
Backing Thickness	110 micron	PSTC-33 / ASTM D3652
Peel Adhesion	25 N / 25 mm	PSTC-1 / ASTM D3330
Tensile Strength	120 N / 25 mm	PSTC-31 / ASTM D3759
Elongation	1.0 %	PSTC-31 / ASTM D3759
Service Temperature	- 10 °C / + 80 °C	
Applying Temperature	+ 10 °C / + 40 °C	
Standard Dimensions - width	50 mm / 75 mm / 100 mm	
Length	40 m	



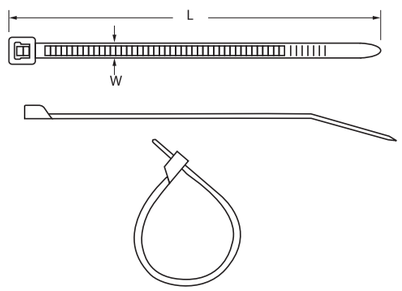


NYLON CLAMPS & PLIERS

- Nylon clamps are specifically produced for all kinds of flexible air duct connections. As an economical alternative.
- Nylon clamp edges are rounded to provide safer working environment.
- Self-locking system makes it easy and quick to apply.
- Nylon clamps can be reused.
- Nylon clamp pliers are specifically produced for an easy application and tightening of Nylon Clamps.

TECHNICAL PROPERTIES

MATERIAL	NYLON 66		
Fire Certificates	UL 94 Class V2		
	Application Range (mm)	W (mm)	L (mm)
	Ø 0 – 102	4.8	380
	Ø 0 – 140	7.6	530
	Ø 0 – 190	9.0	710
	Ø 0 – 229	9.0	800
	Ø 0 – 263	9.0	912
	Ø 0 – 360	9.0	1200





METAL CLAMPS

- Metal clamps are produced specifically for all kinds of flexible air duct connections.
- They consist of stainless steel strip and locking devices.
- Strip steel bands are produced 9 mm wide and 0.6 mm thick from AISI 430 quality stainless steel strip. Strip steel band edges are rounded to prevent damage while connecting flexible air ducts.
- Strip steel bands are packed in 30 m lengths in a plastic dispenser.
- The locking devices provide easy and fast clamping. The screw head is specially shaped so that simple tools like a screwdriver or spanner can be used. Housings are nickel plated and screws are zinc plated.
- The strip steel bonding and clip system is easily cut and installed, that makes it the fastest fixing system available. The band is cut, folded through the slot on the clamp, and taking care of the direction of the dimples on the strip, installed around the duct.

PROPERTIES & ADVANTAGES

STAINLESS STEEL STRIP
- AISI 430 quality stainless steel
- Non-flammable
- Inseparable
- Highly corrosion resistant
- Resistant to chemicals
- Maintenance free

LOCKING DEVICES
- Non-flammable
- Nickel plated housing
- Zinc plated screw
- Fast and simple installation
- Resistant to chemicals
- Low installation cost

STRIP STEEL CONSTRUCTION
- Easy to store
- Easy to transport
- Easy to install
- Low installation cost

TECHNICAL PROPERTIES

METAL CLAMPS	
Clamp Construction	AISI 430 stainless steel
Locking Device Construction	Nickel plated housing, zinc plated screw
Clamp Thickness	600 micron
Clamp Width	9 mm
Standard Length (Clamp)	30 m
Packing (Clamp)	Single plastic cassette
Standard Quantity (Locking Devices)	50 pieces

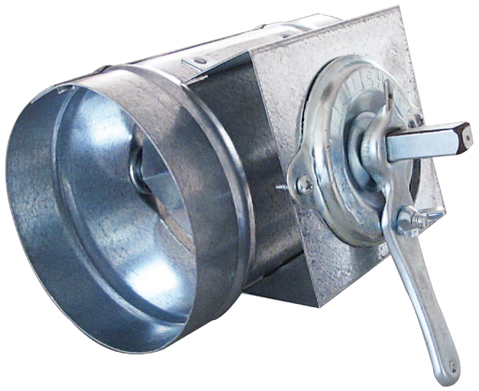
DUCT COLLAR



- Duct collars are specifically designed to connect flexible air ducts to rigid air ducts.
- Made of galvanized steel with quality finishing.

AVAILABLE DIAMETERS			
102 mm	185 mm	315 mm	630 mm
127 mm	203 mm	356 mm	710 mm
133 mm	229 mm	406 mm	800 mm
140 mm	254 mm	457 mm	
152 mm	280 mm	508 mm	
160 mm	305 mm	560 mm	

ROUND AIR DAMPER



- Round Air Dampers are used for applications where air volume control is required.
- Air volume can be adjusted manually.
- Made of galvanized steel with quality finishing.

AVAILABLE DIAMETERS			
102 mm	152 mm	254 mm	406 mm
112 mm	160 mm	280 mm	457 mm
127 mm	185 mm	305 mm	508 mm
133 mm	203mm	315 mm	560 mm
140 mm	229 mm	356mm	

METAL BACK DRAUGHT SHUTTER



- Metal back Draught Shutters are used to prevent reverse air flow.
- Made of Galvanized steel with aluminium blades.

AVAILABLE DIAMETERS	
102 mm	254 mm
127 mm	315 mm
152 mm	356 mm
160 mm	406 mm
203 mm	

PLASTIC BACK DRAUGHT SHUTTER

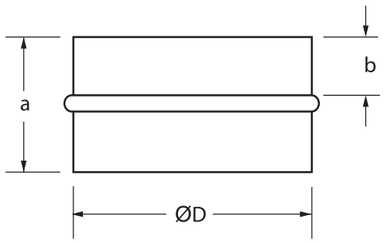


- Plastic back Draught Shutters are used to prevent reverse air flow.
- Made of high quality plastic material.

AVAILABLE DIAMETERS
100 mm
125 mm
150 mm

TECHNICAL PROPERTIES

Ø D (mm)	a (mm)	b (mm)
100	85	-
125	62	30
150	62	30

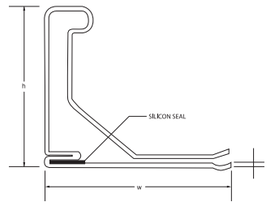


FLANGE PROFILES



- Flange profiles are designed for ensuring maximum endurance and easy splicing of air ducts.
- Made of galvanized base in accordance with TSE standards.
- Flange profiles are supplied by the inclusion of nontoxic sealant, so air tightness is achieved.

TECHNICAL PROPERTIES

	h (mm)	w (mm)
	25	31.8
	35	31.8

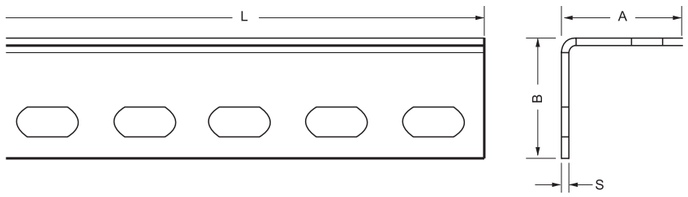
PERFORATED L PROFILES



- Multipurpose perforated L profiles can be used in mounting of horizontal and vertical pipe hangers, fixing of air ducts and as a support or connection element at pipe hanging systems. They can be used together with other profiles as well as they can be used separately.
- They are matched for connection elements. Holes are suitable for fitting and setting.
- Perforated L profiles are galvanize plated.

TECHNICAL PROPERTIES

A (mm)	B (mm)	S (mm)	L (mm)
30	30	3	2000
40	40	3	2000

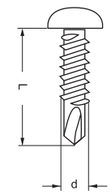


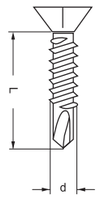
SELF DRILLING SCREWS



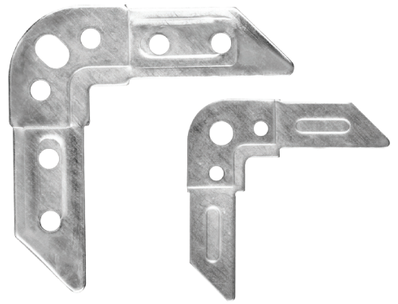
- Two types of self drilling screws are available; pan head (PH) and countersunk head (CSH).
- Self drilling parts at the end of each screw enable the screws to be used without drilling.

TECHNICAL PROPERTIES

PANHEAD (PH)	d x L (mm x mm)
	3.9 x 13
	3.9 x 16
	3.9 x 19
	4.2 x 16
	4.2 x 25

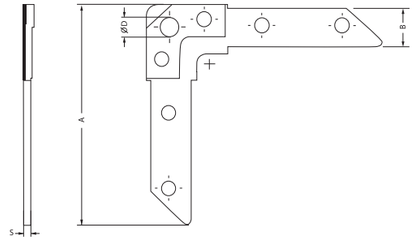
COUNTERSUNK HEAD (CSH)	d x L (mm x mm)
	3.9 x 13
	3.9 x 16
	3.9 x 38
	4.2 x 38
	

CORNER ELEMENTS



- Corner elements are used for connecting flange profiles to each other.
- By ensuring rigidity at the connection between flanges, they reduce influences of duct vibration to minimum level.
- Corner elements are galvanize plated.

TECHNICAL PROPERTIES

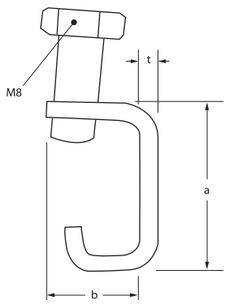


SIZE (mm)	A (mm)	B (mm)	Ø D (mm)	s (mm)
25	81	20	9	2,5
35	110	30	13	3

G CLAMPS

PRATi® A trademark of AFS®





- G Clamps are designed to fix ready duct flange profiles to each other.
- By ensuring rigidity at the connection between flanges, they reduce influences of duct vibration to minimum level.
- G Clamps are galvanize plated.

TECHNICAL PROPERTIES

a (mm)	b (mm)	t (mm)
31	17	2.5

BEAM CLAMPS

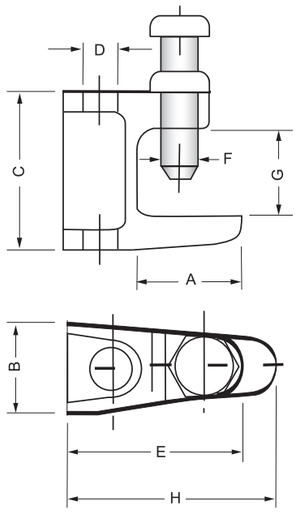


TYPES:

AFS BC8

AFS BC10

- Beam clamps are mounted to tie beams without any welding and/or drilling.



TECHNICAL PROPERTIES

	AFS BC8	AFS BC10
A (mm)	21	29
B (mm)	19	21
C (mm)	35	45
D (mm)	M8 Ø9	M8 Ø9
E (mm)	35	41
F (mm)	M8	M10
G (mm)	18	23
H (mm)	38	50
Approximate Weight (g)	81	147
Safe Working Load (N)	1200	2500
Certificate	VdS, UL	VdS, UL

EXTENSION NUT



- Connects threaded components to each other.
- Galvanize plated against corrosion.

TECHNICAL PROPERTIES

Thread Size (mm)
M6
M8
M10
M12

BOLT & NUT



- Galvanize plated against corrosion.

TECHNICAL PROPERTIES

Thread Size (mm)	Bolt Length (mm)
M6	25
M8	25
M10	25
M12	25

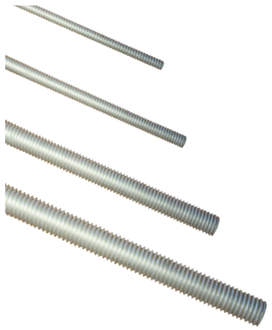
HANGING ELEMENTS



- Hanging Elements are particularly designed for hanging air ducts.
- They are applied together with hanging rods.
- Rubber vibration absorbers prevent transfer of vibration on air ducts.

	Z Large	Z Middle	L Large	L Middle
Thickness (mm)	2.5	2.5	2.5	2.5
Hole Size (mm)	4	4	4	4
Slot (mm x mm)	20 x 8.5	12 x 8.5	20 x 8.5	12 x 8.5
Length (mm)	104	62	137	98

HANGING ROD



- Hanging Rod acts as a connector in hanging of air ducts systems.
- Galvanize plated against corrosion.
- Grade: 4.8

TECHNICAL PROPERTIES

Thread Size (mm)	Length (m)
M6	1 & 2
M8	1 & 2
M10	1 & 2
M12	1 & 2

STEEL ANCHORS



- Provides quick montage on concrete.
- Galvanize plated against corrosion.

AVAILABLE SIZES
M6 / M8 / M10 / M12

GASKET TAPE



- Duct gasket tapes are designed to ensure airtightness between the ducts connected to each other. Besides airtightness, it ensures tightness against water, dust, smoke, noise, oil, etc.

TECHNICAL PROPERTIES

Standard Sizes
thickness (mm) x width (mm)
5 x 15
5 x 25

MASTIC & SILICONE



- Mastic is used to ensure airtightness of air ducts.

MASTIC
- Acrylic Sealant which is reinforced with silicone oil
- Outstanding adhesion
- Paintable after cured
- UV resistant
- Grey / White in color
- High elasticity

SILICONE
- Antibacterial
- One part, acetic acid curing sealant
- Elongation at break: 550%
- Tack free time: approximately 10-20 min.
- Application temperature: +5 °C to +40 °C

DAMPER QUADRANT

PRATi® AFS®

TYPES:

MDQ-250 (up to 250 mm)

MDQ-500 (up to 500 mm)

MDQ-700 (up to 700 mm)

PDQ-250 (plastic & up to 220 mm)



PDQ-250

- Plastic damper quadrant
- For dampers up to 220 mm
- Nylon body
- Plastic end spindle



MDQ-250

- For dampers up to 250 mm diameter

Set includes :

- Dial parts with handle
- Wing nut washer & bolt
- 1/4” spring loaded end spindle
- 1/4” square spindle

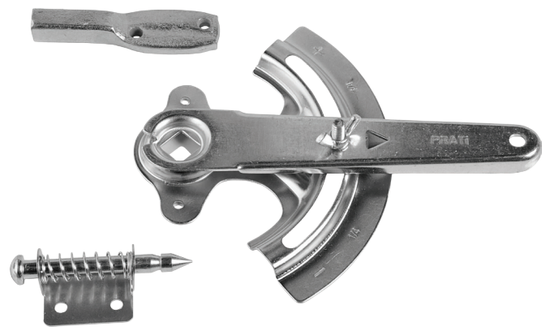


MDQ-500

- For dampers up to 500 mm diameter

Set includes :

- Dial parts with handle
- Wing nut washer & bolt
- 3/8” spring loaded end spindle
- 3/8” square spindle



MDQ-700

- For dampers up to 700 mm diameter

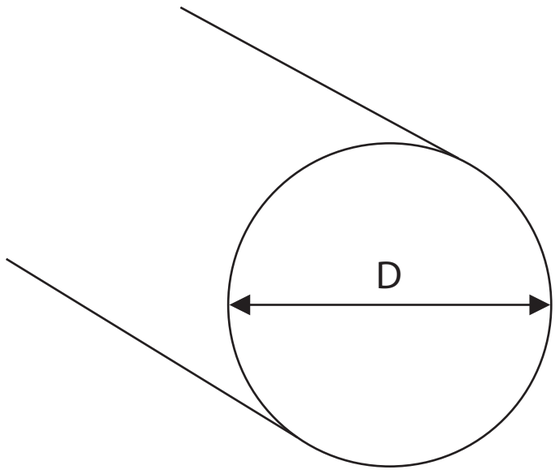
Set includes :

- Quadrant
- Handle
- Wing nut washer & bolt
- 1/2” spring loaded end spindle
- 1/2” square spindle



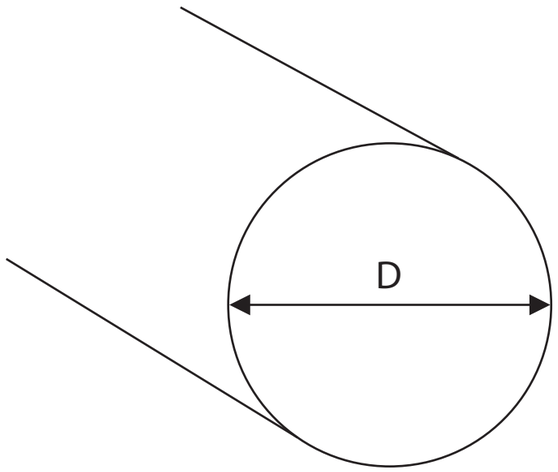
TECHNICAL DETAILS

STANDARD FLEXIBLE AIR DUCT DIMENSIONS



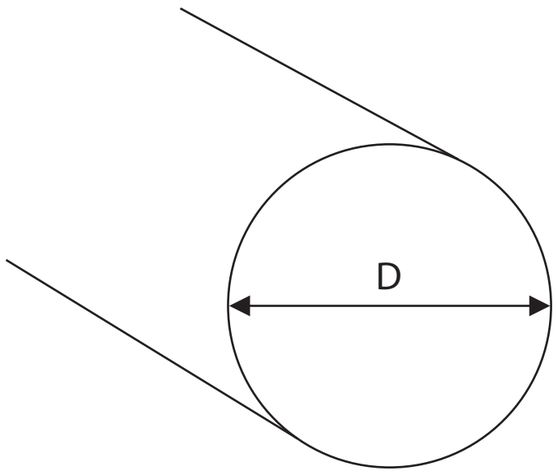
D (mm)	
52	254
68	280
76	305
82	315
102	356
112	406
127	457
133	508
140	560
152	610
160	630
185	710
203	800
229	

STANDARD SEMI RIGID AIR DUCT DIMENSIONS



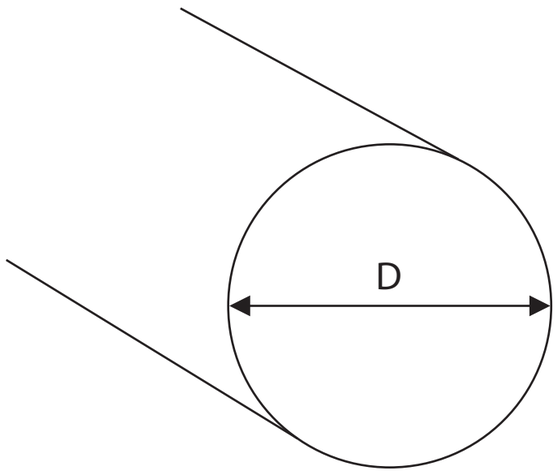
D (mm)	
80	180
100	190
110	200
120	250
125	300
130	350
133	400
140	500
150	600
160	700
170	800

STANDARD TPU INDUSTRIAL HOSE DIMENSIONS



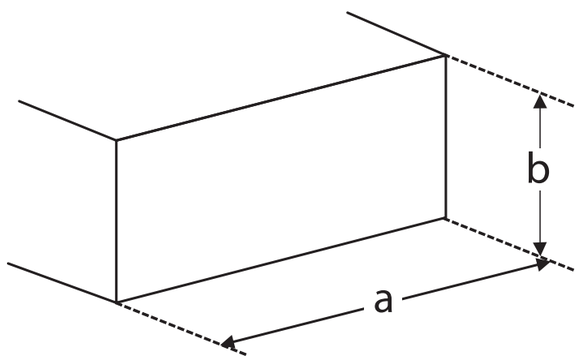
D (mm)		
30	110	225
35	115	250
40	120	279
45	127	305
52	130	315
60	140	325
64	153	350
70	160	375
76	175	400
80	180	450
90	204	500
102		

STANDARD CLIP DUCT DIMENSIONS



D (mm)	
80	254
90	305
100	350
125	400
150	450
160	500
165	600
203	

STANDARD RECTANGULAR FLEXIBLE AIR DUCT DIMENSIONS



a x b (mm x mm)	a x b (mm x mm)	a x b (mm x mm)
60 x 100	180 x 310	280 x 600
60 x 140	180 x 380	280 x 710
60 x 180	180 x 460	280 x 830
80 x 140	180 x 540	280 x 980
80 x 170	200 x 360	300 x 690
80 x 240	200 x 440	300 x 810
100 x 190	200 x 520	300 x 960
100 x 260	200 x 600	320 x 790
100 x 300	220 x 420	320 x 940
120 x 200	220 x 500	340 x 770
120 x 280	220 x 580	340 x 920
120 x 320	220 x 660	360 x 900
120 x 360	240 x 480	380 x 880
140 x 260	240 x 560	400 x 860
140 x 300	240 x 640	420 x 840
140 x 350	240 x 750	440 x 820
140 x 420	260 x 540	460 x 800
160 x 280	260 x 620	480 x 780
160 x 330	260 x 730	500 x 760
160 x 400	260 x 850	520 x 740
160 x 480		

* Other dimension are available upon request

CIRCULAR EQUIVALENTS of RECTANGULAR DUCTS

The circular equivalent (De) of a rectangular duct for equal friction and capacity is calculated using the following formula:

$$D_e = \frac{1.30(a \times b)^{0.625}}{(a+b)^{0.25}}$$ (Heubscher equation)

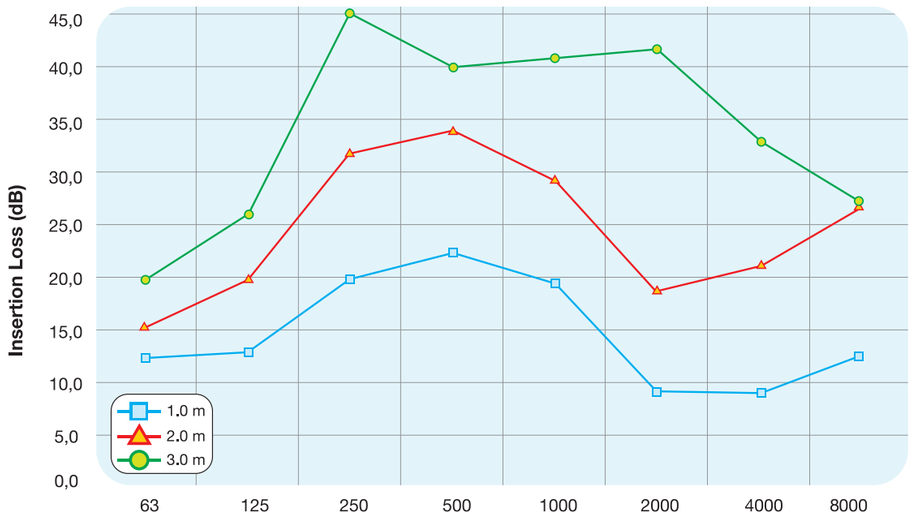
where a, b : dimensions of two sides of rectangular duct

a x b (mm x mm)	De (mm)	a x b (mm x mm)	De (mm)	a x b (mm x mm)	De (mm)
60 x 100	84	180 x 310	256	280 x 600	440
60 x 140	98	180 x 380	281	280 x 710	475
60 x 180	110	180 x 460	306	280 x 830	509
80 x 140	115	180 x 540	329	280 x 980	547
80 x 170	125	200 x 360	290	300 x 690	487
80 x 240	146	200 x 440	318	300 x 810	523
100 x 190	149	200 x 520	343	300 x 960	564
100 x 260	171	200 x 600	365	320 x 790	536
100 x 300	183	220 x 420	328	320 x 940	579
120 x 200	168	220 x 500	355	340 x 770	548
120 x 280	169	220 x 580	380	340 x 920	593
120 x 320	208	220 x 660	402	360 x 900	607
120 x 360	219	240 x 480	366	380 x 880	619
140 x 260	206	240 x 560	392	400 x 860	630
140 x 300	220	240 x 640	416	420 x 840	640
140 x 350	236	240 x 750	446	440 x 820	649
140 x 420	256	260 x 540	403	460 x 800	657
160 x 280	229	260 x 620	429	480 x 780	664
160 x 330	247	260 x 730	461	500 x 760	670
160 x 400	270	260 x 850	493	520 x 740	675
160 x 480	292				

Use De for pressure loss calculations and diagram readings in rectangular flexible duct applications.

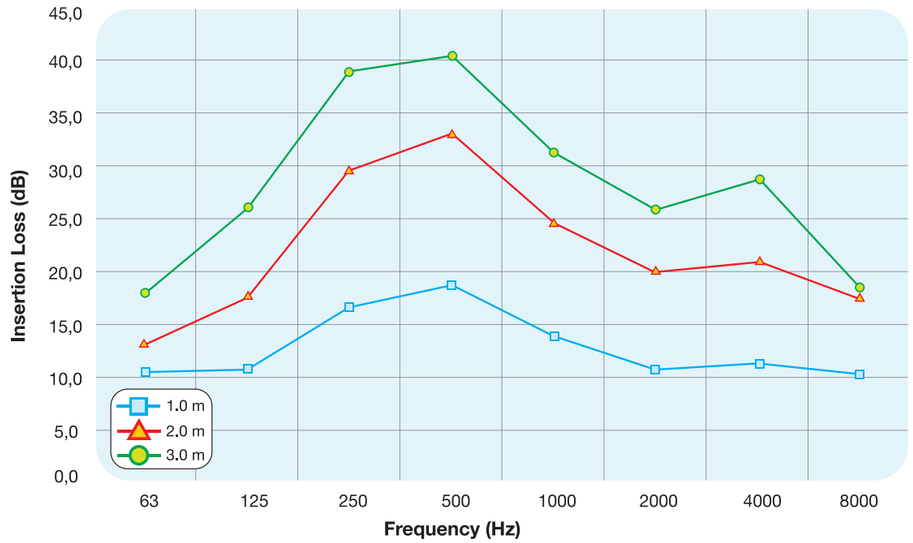
INSERTION LOSS DIAGRAMS

SONOAFS-ALU.F - Ø 102 mm



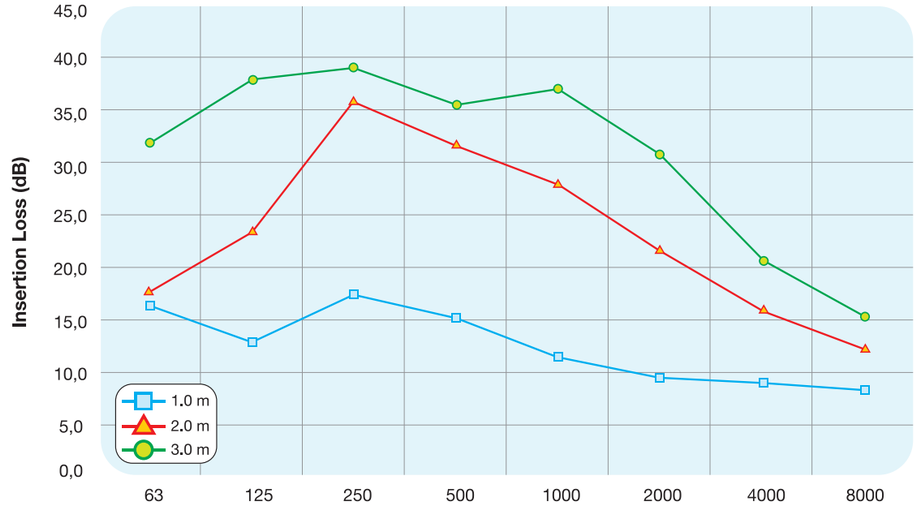
1/1 octave								
1.0 m	12,6	12,8	19,8	22,5	19,6	9,3	9,1	13,2
2.0 m	15,3	19,8	32,0	33,9	29,2	18,4	21,0	28,0
3.0 m	19,8	26,5	45,0	40,0	40,9	42,0	33,2	28,4

SONOAFS-ALU.F - Ø 127 mm



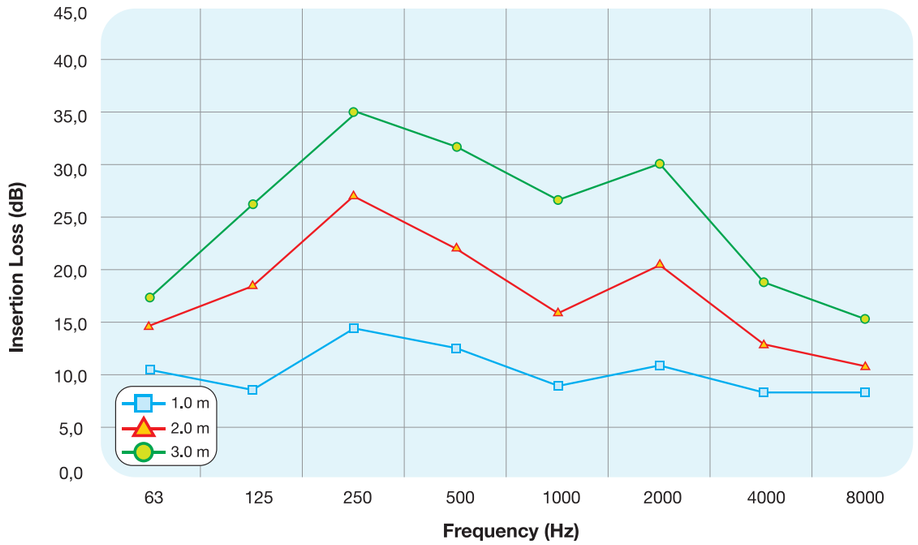
1/1 octave								
1.0 m	10,4	10,6	16,5	18,7	13,9	10,9	11,7	10,4
2.0 m	13,2	17,4	29,5	33,3	24,6	19,9	21,2	17,6
3.0 m	18,3	26,1	38,9	40,5	31,7	26,0	27,3	18,6

SONOAFS-ALU.F - Ø 160 mm



1/1 octave								
1.0 m	16,5	12,9	17,4	15,3	11,7	9,4	8,8	7,0
2.0 m	17,5	23,5	36,0	32,2	28,1	21,9	16,0	12,6
3.0 m	31,9	38,2	38,9	35,7	37,1	31,0	21,0	15,4

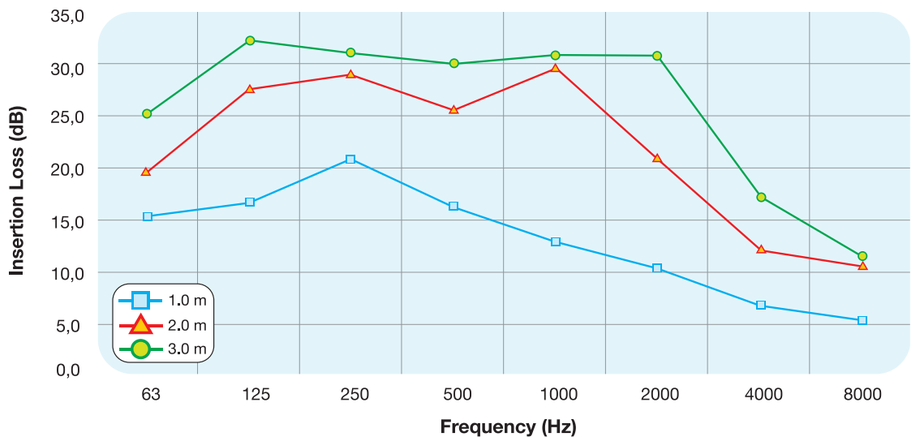
SONOAFS-ALU.F - Ø 203 mm



1/1 octave								
1.0 m	10,8	8,9	14,0	12,4	9,1	11,5	8,4	8,3
2.0 m	14,4	18,0	27,1	22,3	16,6	20,6	12,9	11,5
3.0 m	17,3	26,4	35,1	32,2	26,6	30,0	18,6	15,5

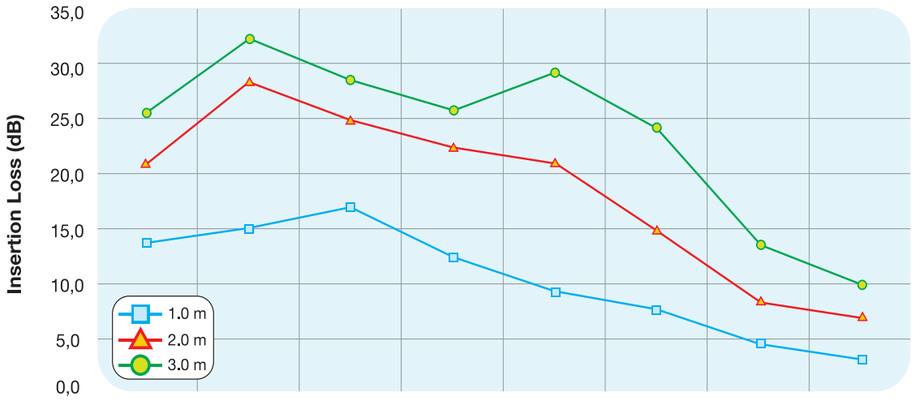
INSERTION LOSS DIAGRAMS

SONOAFS-ALU.F - Ø 254 mm



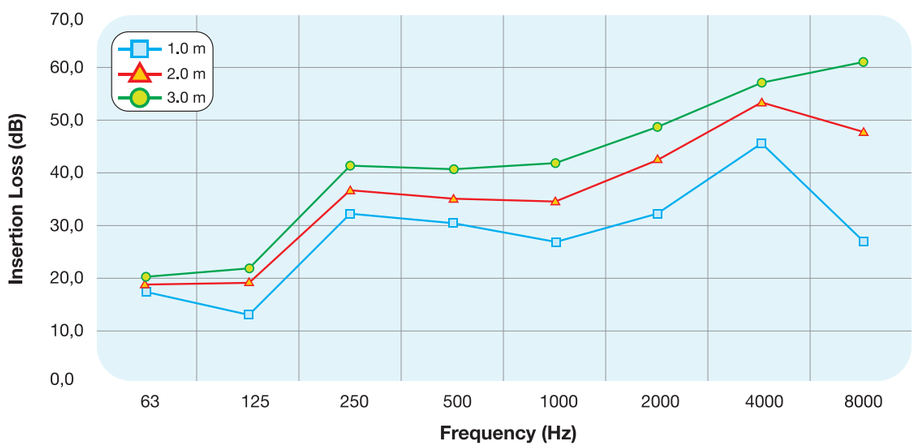
1/1 octave								
1.0 m	15,8	16,9	21,0	16,4	13,5	10,5	6,9	5,5
2.0 m	19,4	27,8	28,7	25,7	29,2	21,5	12,3	10,8
3.0 m	25,1	32,6	31,5	30,1	31,3	31,2	17,2	11,7

SONOAFS-ALU.F - Ø 315 mm



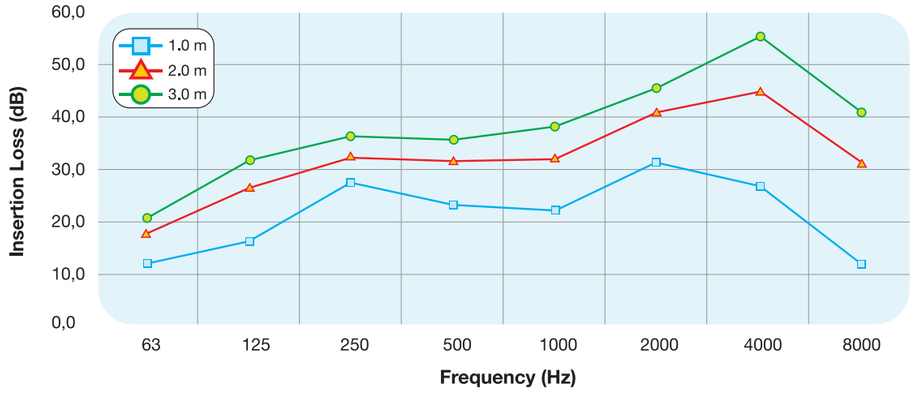
1/1 octave								
1.0 m	13,8	15,2	17,1	12,7	9,3	7,8	4,6	3,6
2.0 m	21,6	28,3	24,9	22,4	21,3	14,9	8,6	6,8
3.0 m	25,7	32,6	27,8	26,4	28,6	24,0	13,1	9,9

SONOAFS-NW.P - Ø 127 mm



1/1 octave								
1.0 m	17,3	13,3	32,3	30,4	27,7	33,3	45,8	27,0
2.0 m	19,1	19,2	37,9	36,9	36,7	43,4	53,9	48,3
3.0 m	20,2	22,7	41,2	40,7	41,9	49,3	58,7	60,8

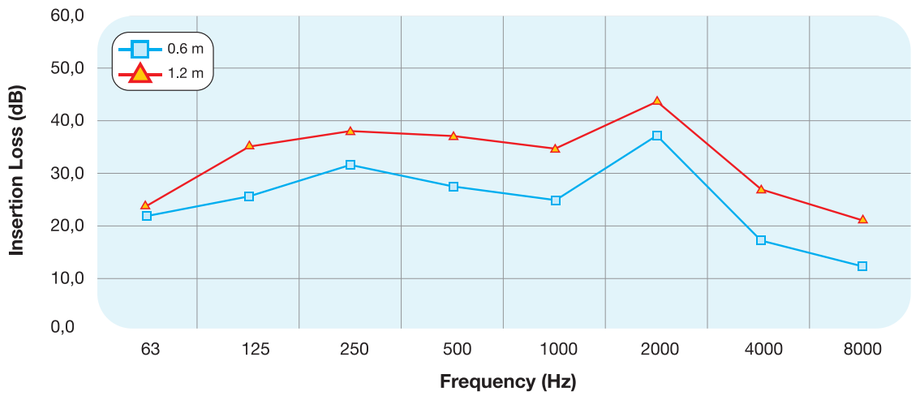
SONOAFS-NW.P - Ø 160 mm



1/1 octave								
1.0 m	12,1	16,3	28,6	24,0	23,1	31,0	27,5	16,4
2.0 m	17,4	26,3	33,8	31,8	33,1	40,5	45,2	31,5
3.0 m	20,5	32,1	36,8	36,4	38,9	46,0	55,6	40,4

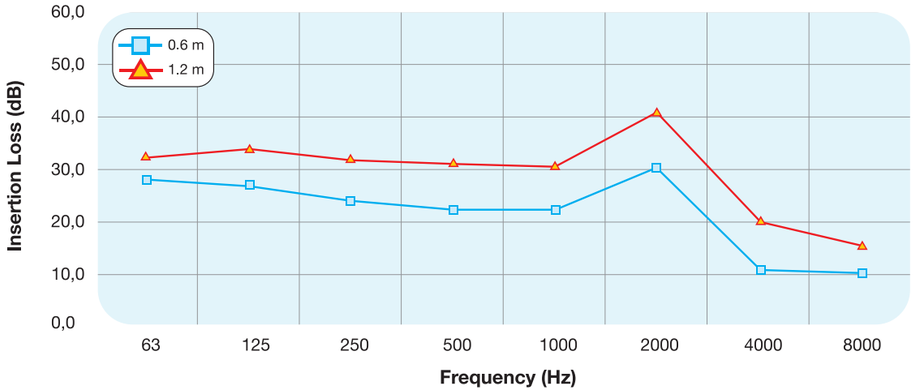
INSERTION LOSS DIAGRAMS

SOUNDROPAFS.P - Ø 100 mm



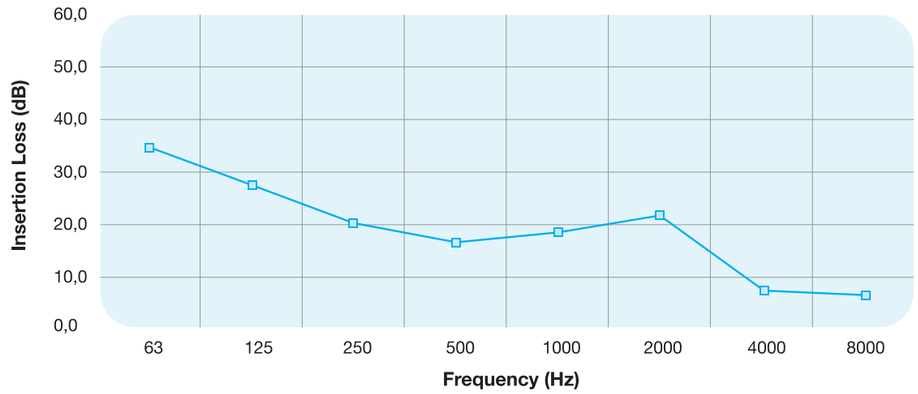
1/1 octave		63	125	250	500	1000	2000	4000	8000
	0.6 m	22,3	25,2	31,6	27,3	25,2	37,3	17,7	12,5
	1.2 m	23,5	35,4	37,3	36,8	35,4	44,2	27,3	21,3

SOUNDROPAFS.P - Ø 125 mm



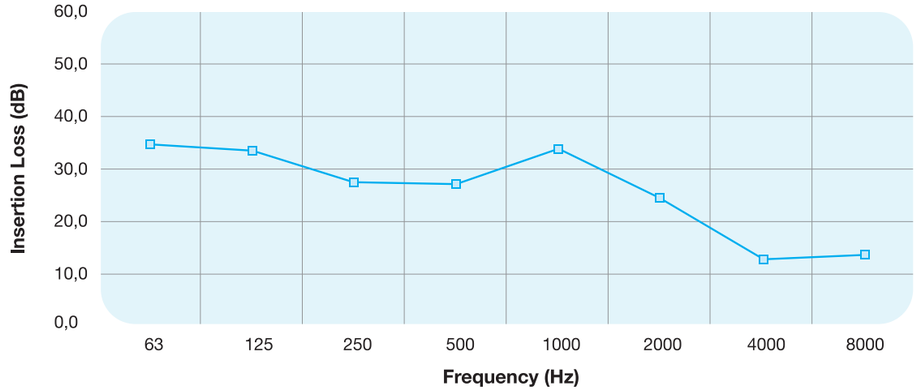
1/1 octave		63	125	250	500	1000	2000	4000	8000
	0.6 m	27,8	27,5	24,2	22,7	22,5	30,2	11,0	10,1
	1.2 m	32,9	34,5	32,5	31,4	30,8	40,3	20,1	15,8

SOUNDROPAFS.P - Ø 160 mm - 0.6 m



1/1 octave		63	125	250	500	1000	2000	4000	8000
	0.6 m	35,2	27,3	20,3	17,6	18,8	21,5	7,9	6,7

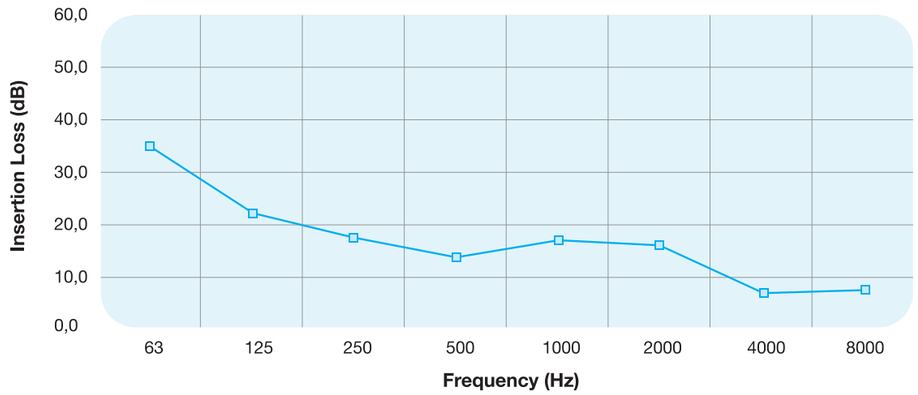
SOUNDROPAFS.P - Ø 160 mm - 1.2 m (50 mm Insulation)



1/1 octave		63	125	250	500	1000	2000	4000	8000
	1.2 m	34,9	34,1	27,9	27,6	33,0	24,7	13,4	14,4

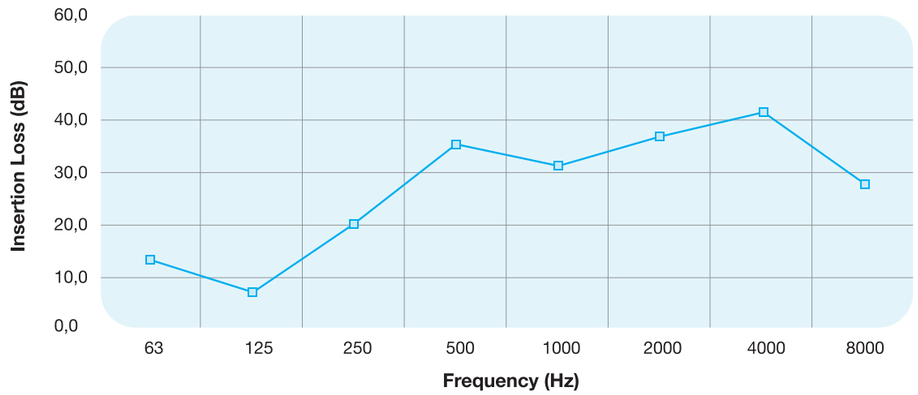
INSERTION LOSS DIAGRAMS

SOUNDROPAFS.P - Ø 200 - 0.6 m



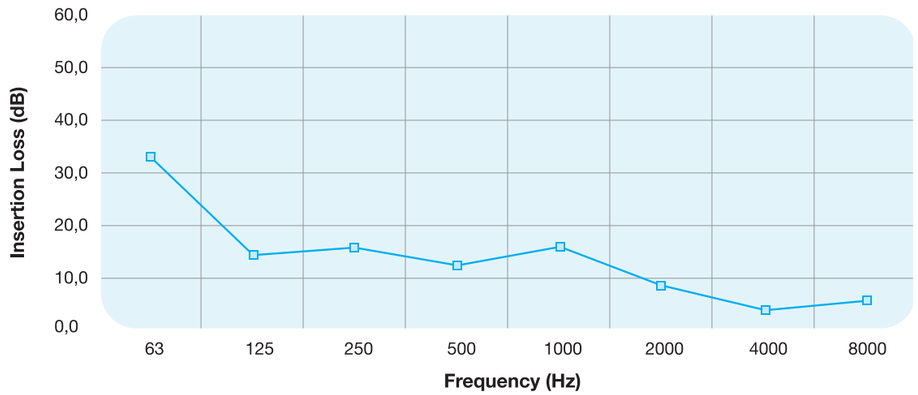
1/1 octave	0,6 m	35,5	22,5	18,3	14,3	16,4	15,5	7,1	7,2

SOUNDROPAFS-NW - Ø 127 mm - 1.0 m



1/1 octave	1.0 m	13,5	7,3	19,8	35,5	30,9	36,0	41,6	27,7

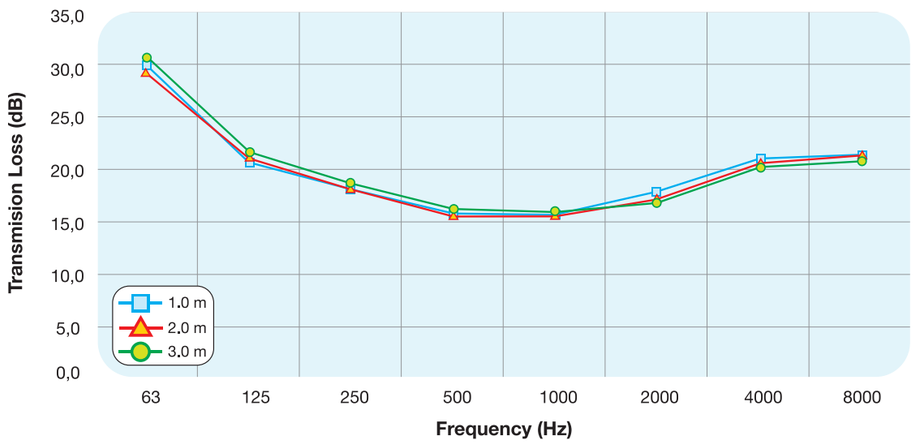
SOUNDROPAFS.P - Ø 250 - 0.6 m



1/1 octave	0.6 m	33,0	15,2	15,7	13,0	16,0	9,6	4,1	5,1

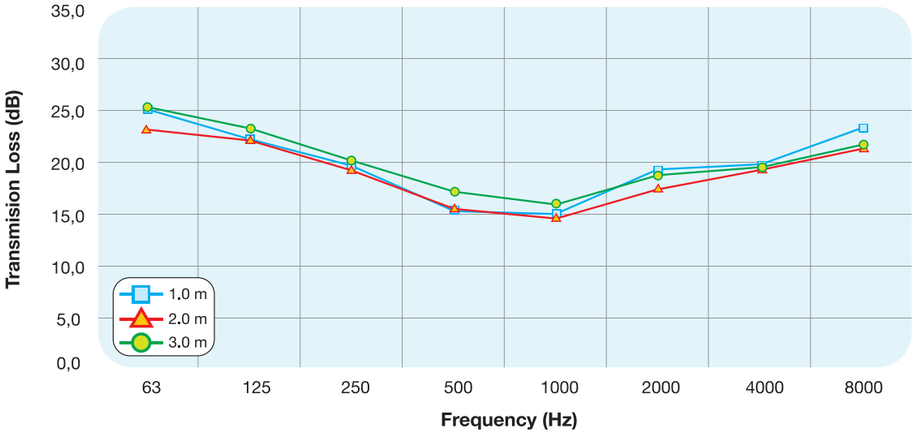
TRANSMISSION LOSS DIAGRAMS

SONOAFS-ALU.F - Ø 102 mm



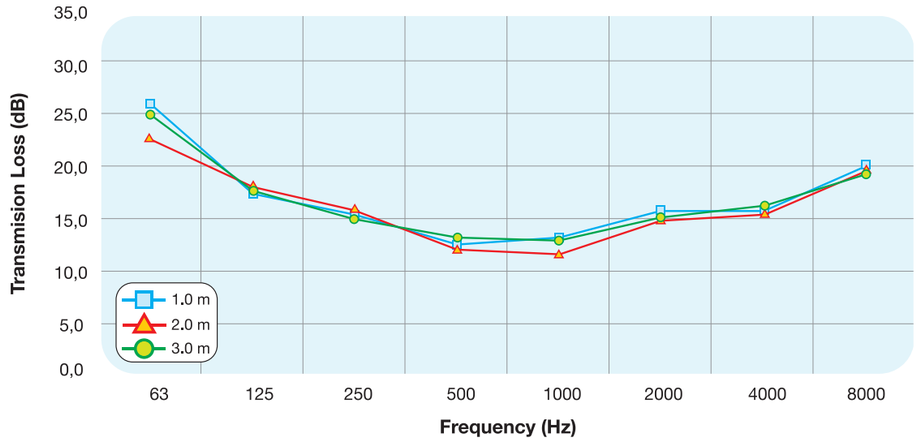
1/1 octave								
1.0 m	29,8	20,9	17,8	16,3	16,0	18,0	21,5	21,8
2.0 m	29,2	21,5	17,8	15,8	15,8	17,4	20,8	21,8
3.0 m	30.9	21.8	18.1	16.7	16.1	17.3	20.2	21.3

SONOAFS-ALU.F - Ø 127 mm



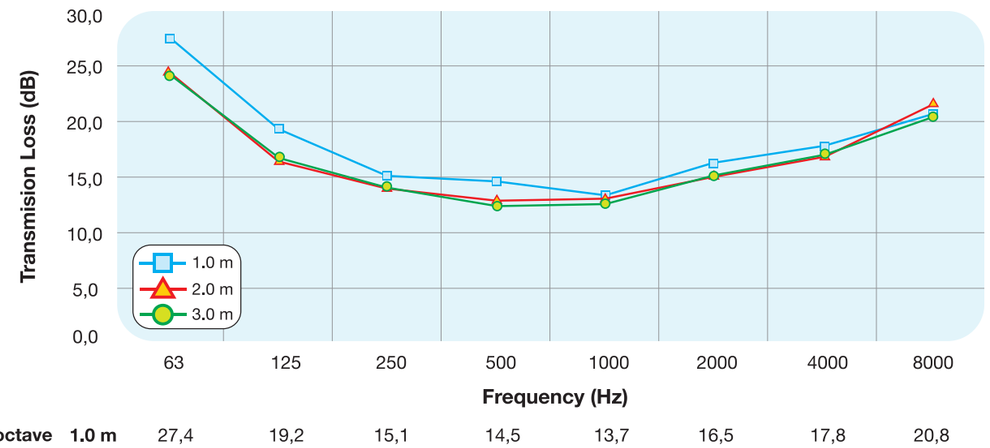
1/1 octave								
1.0 m	25,1	22,3	19,5	15,6	15,1	19,3	19,6	23,0
2.0 m	23,5	22,4	18,9	15,4	14,8	17,5	19,2	21,4
3.0 m	25,1	23,4	20,3	17,6	16,5	18,9	19,5	22,0

SONOAFS-ALU.F - Ø 160 mm



1/1 octave								
1.0 m	25,9	17,6	15,5	12,7	13,3	16,1	16,1	20,2
2.0 m	23,4	18,2	16,0	12,6	12,1	14,8	15,5	19,6
3.0 m	24,8	17,8	15,0	13,3	13,1	15,3	16,0	18,9

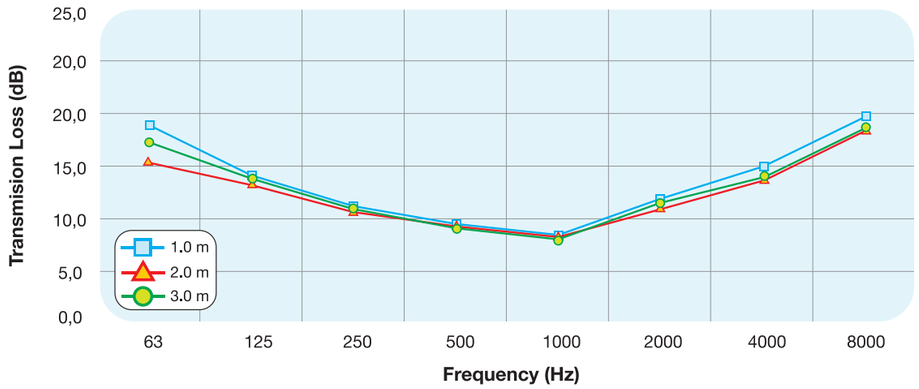
SONOAFS-ALU.F - Ø 203 mm



1/1 octave								
1.0 m	27,4	19,2	15,1	14,5	13,7	16,5	17,8	20,8
2.0 m	24,6	16,9	14,1	13,1	13,5	15,1	16,8	21,8
3.0 m	24,5	17,1	14,0	12,5	12,8	15,2	16,6	20,3

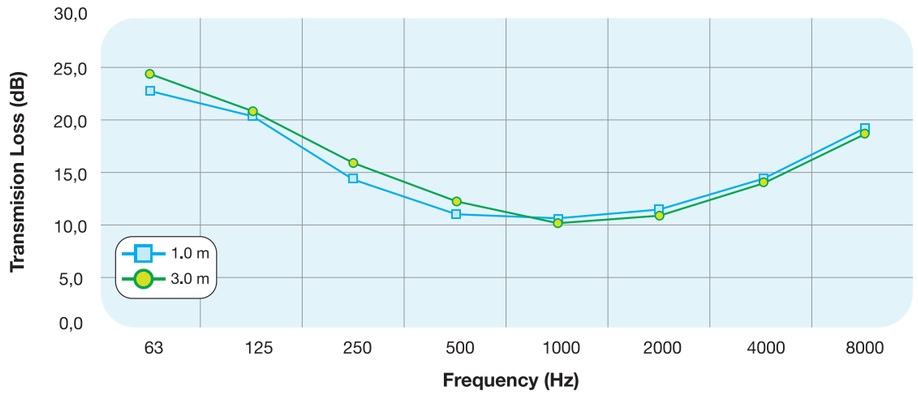
TRANSMISSION LOSS DIAGRAMS

SONOAFS-ALU.F - Ø 254 mm



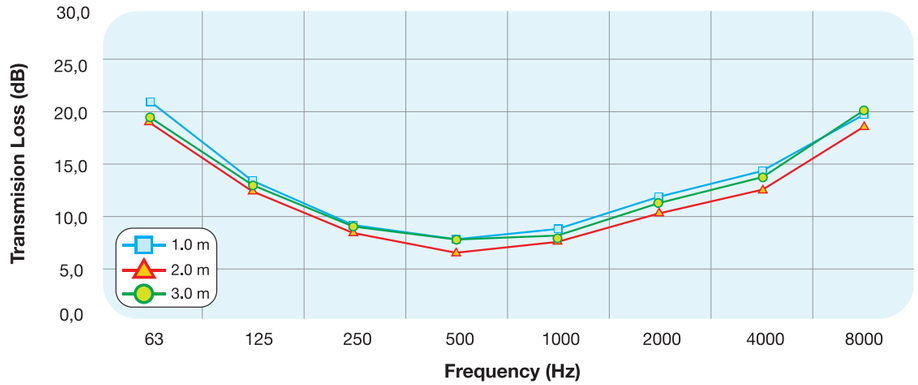
1/1 octave								
1.0 m	17,9	14,0	11,0	9,6	9,0	12,1	15,1	19,4
2.0 m	15,3	13,6	10,6	9,5	9,1	11,3	13,9	18,0
3.0 m	16,8	14,0	11,2	9,3	8,7	11,8	14,0	18,1

SONOAFS-NW.P - Ø 127 mm



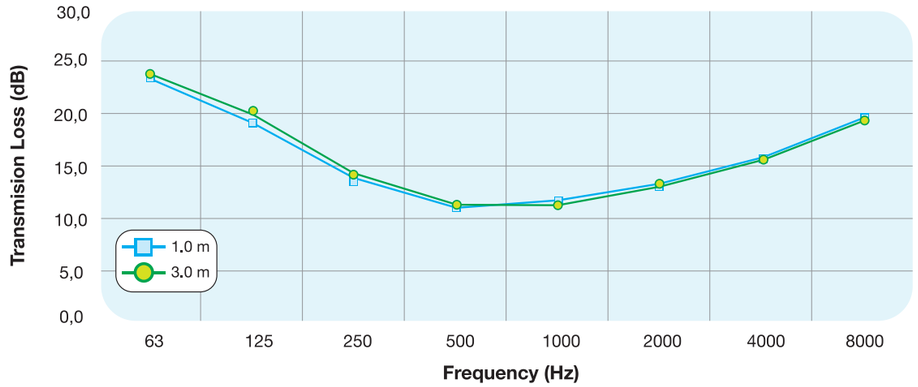
1/1 octave								
1.0 m	22,8	20,4	14,6	11,3	10,8	11,7	14,2	18,8
3.0 m	24,5	20,8	15,9	12,3	10,5	11,1	14,3	18,4

SONOAFS-ALU.F - Ø 315 mm



1/1 octave								
1.0 m	21,4	13,4	9,1	7,8	8,4	12,0	14,2	19,8
2.0 m	18,6	12,6	8,3	6,9	7,4	10,7	12,7	18,1
3.0 m	19,7	13,0	9,0	7,8	8,4	11,7	13,8	20,1

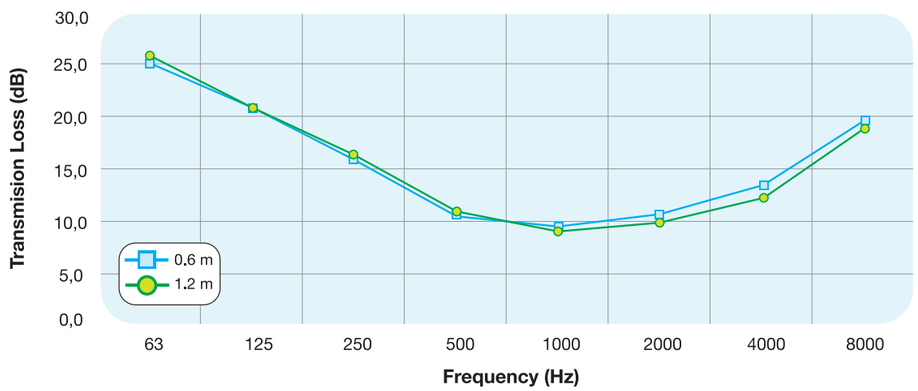
SONOAFS-NW.P - Ø 160 mm



1/1 octave								
1.0 m	23,0	19,3	13,6	11,6	11,8	12,6	15,4	19,8
3.0 m	23,3	20,0	14,1	11,8	11,5	12,7	15,4	19,8

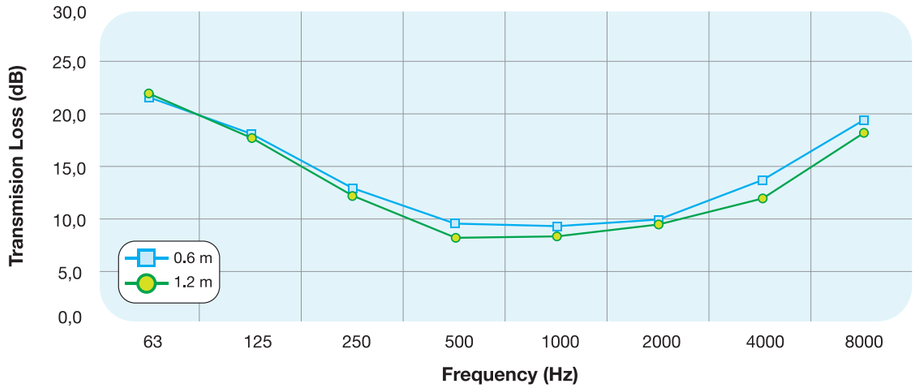
TRANSMISSION LOSS DIAGRAMS

SOUNDROPAFS.P - Ø 100 mm



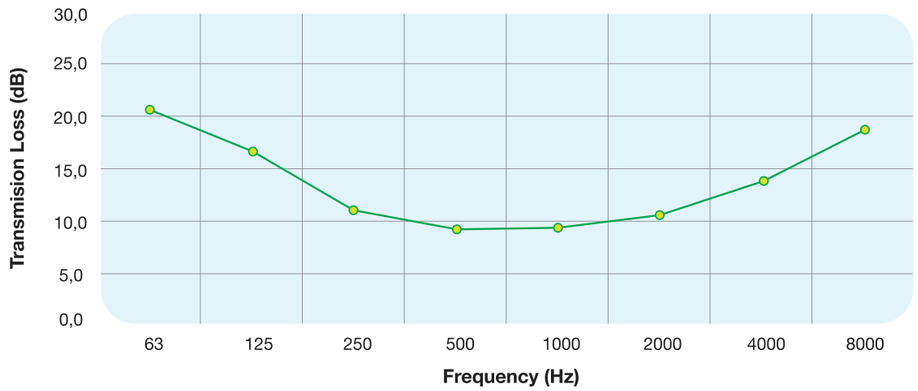
1/1 octave		63	125	250	500	1000	2000	4000	8000
	1.0 m	25,1	20,8	16,0	11,4	9,7	10,8	13,6	19,4
	3.0 m	25,8	20,9	16,7	11,7	9,4	10,1	12,5	18,0

SOUNDROPAFS.P - Ø 125 mm



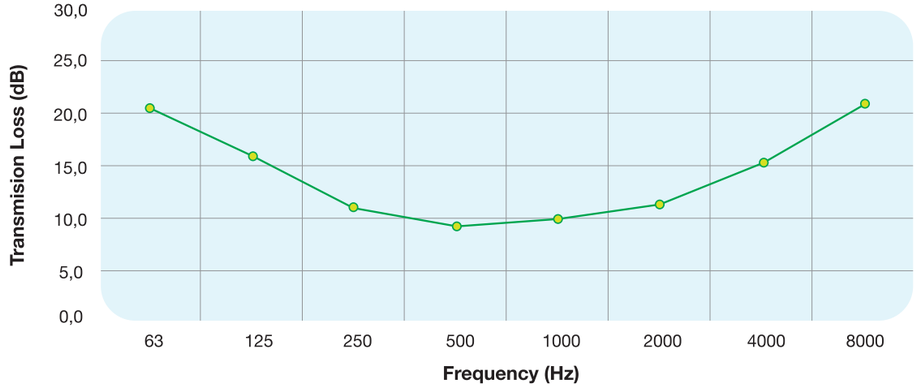
1/1 octave		63	125	250	500	1000	2000	4000	8000
	1.0 m	21,8	17,3	12,7	9,7	9,3	9,9	13,5	19,2
	3.0 m	22,0	17,2	12,3	7,9	8,2	9,3	12,0	17,8

SOUNDROPAFS.P - Ø 160 mm - 0.6 m



1/1 octave		63	125	250	500	1000	2000	4000	8000
	0.6 m	21,5	16,7	11,5	9,1	9,5	10,7	13,7	18,5

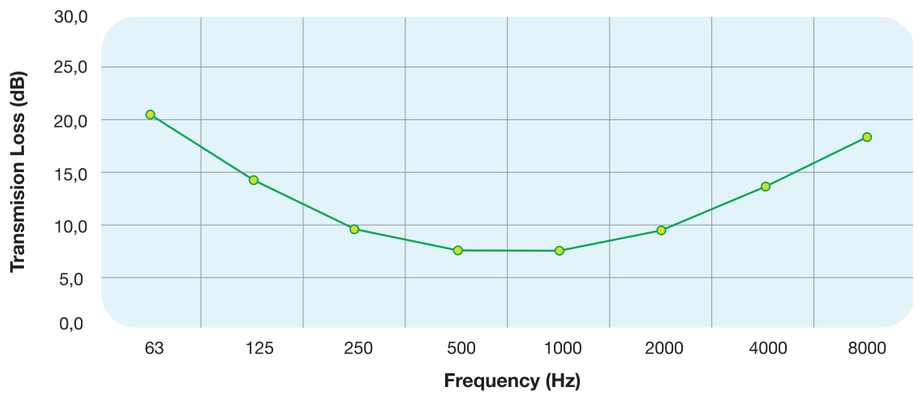
SOUNDROPAFS.P - Ø 160 mm - 1.2 m (50 mm Insulation)



1/1 octave		63	125	250	500	1000	2000	4000	8000
	1.2 m	21,3	16,3	11,2	9,5	9,9	11,6	15,1	20,9

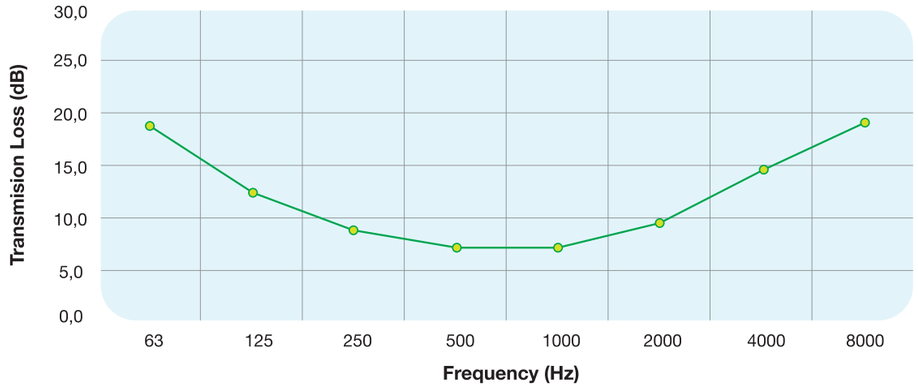
TRANSMISSION LOSS DIAGRAMS

SOUNDROPAFS.P - Ø 200 mm - 0.6 m



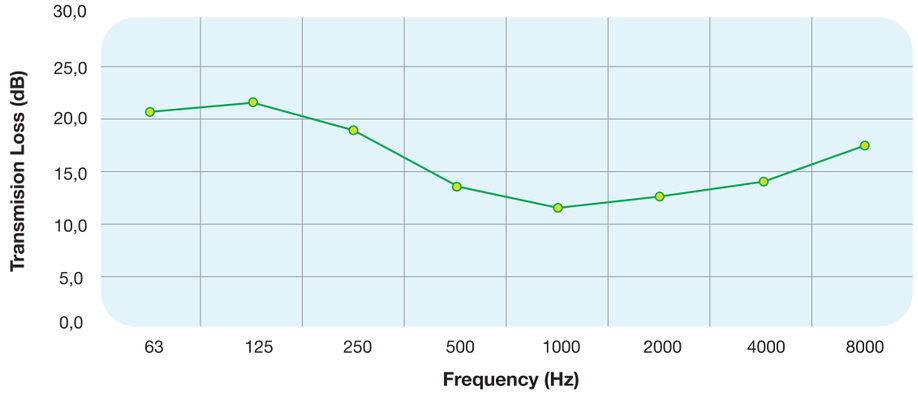
1/1 octave	1.2 m	20,4	14,4	9,4	7,7	7,7	9,3	13,3	18,1

SOUNDROPAFS.P - Ø 250 mm - 0.6 m



1/1 octave	0.6 m	18,5	12,7	9,2	7,4	7,7	9,5	14,6	18,8

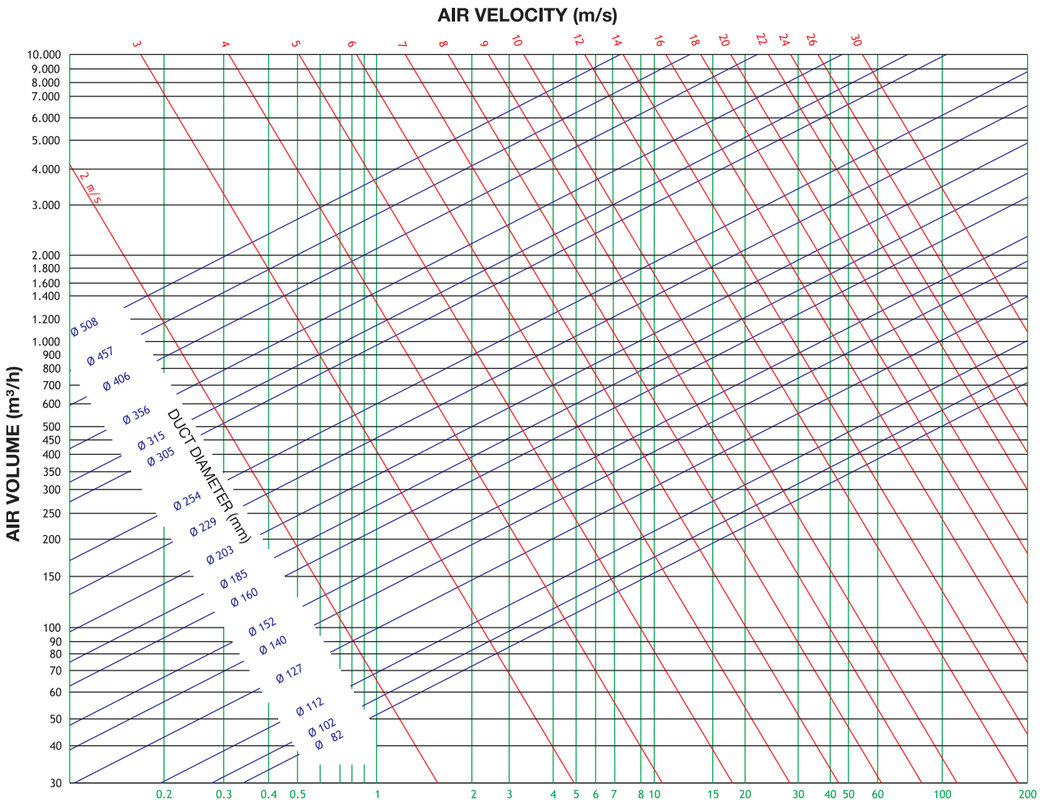
SOUNDROPAFS-NW - Ø 127 mm - 1.0 m



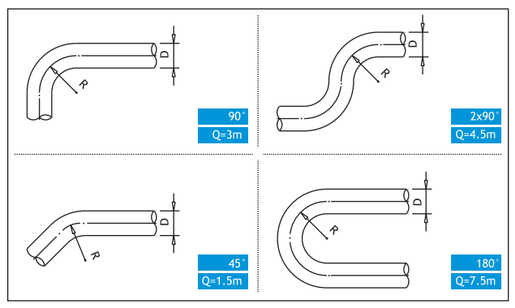
1/1 octave	1.0 m	21,1	21,8	17,9	13,3	12,0	12,8	13,9	17,5

PRESSURE LOSS DIAGRAMS

ALUAFS, ISOAFS-ALU, SONOAFS-ALU, COMBIAFS
PRESSURE LOSS CHARACTERISTICS



BEND LOSS COEFFICIENTS



Temperature	-20°C	-0°C	+20°C	+40°C	+60°C	+80°C	+100°C
Correction Fac.	1,158	1,073	1,000	0,936	0,880	0,830	0,785

(R / D = 1)

Equivalent Length

$$Z = Q \times \frac{D}{300}$$

Z = Equivalent length, m
Q = Bend loss coefficient
D = Duct diameter, mm

Example

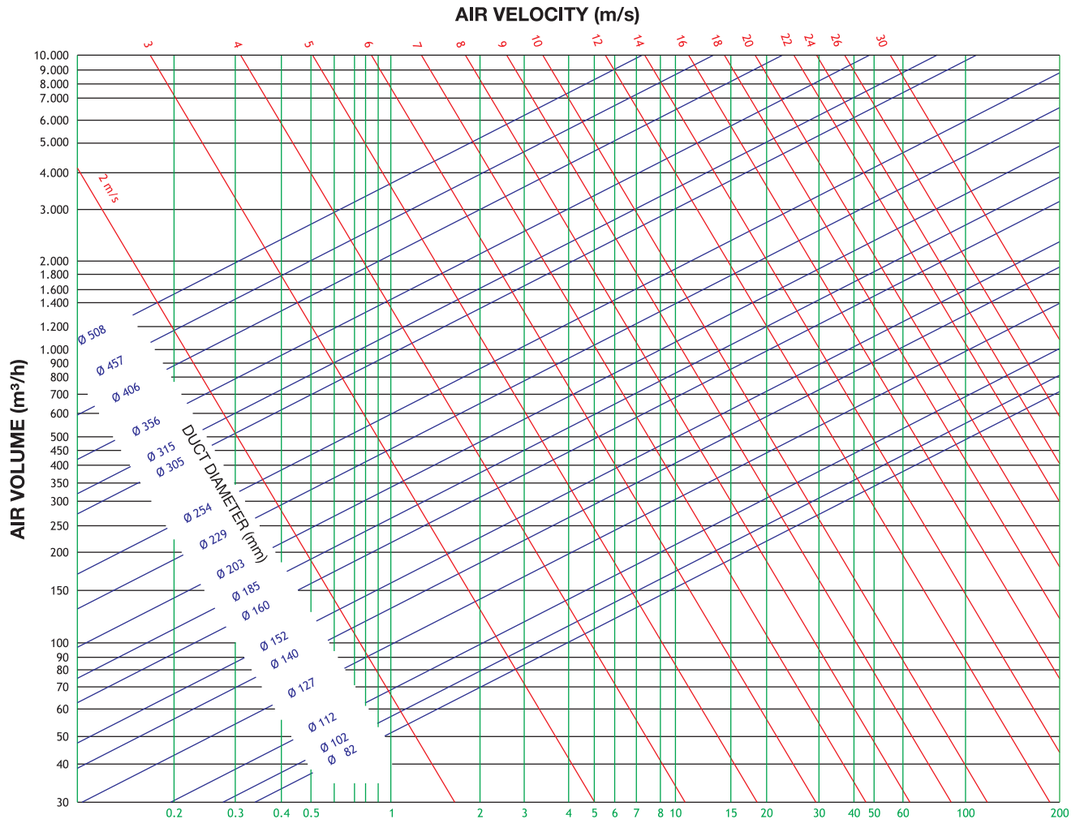
Air Velocity = 5m/s
Duct Diameter = 203mm
Pressure Loss = ?

90° Bend = 1 piece
Duct Length = 4m

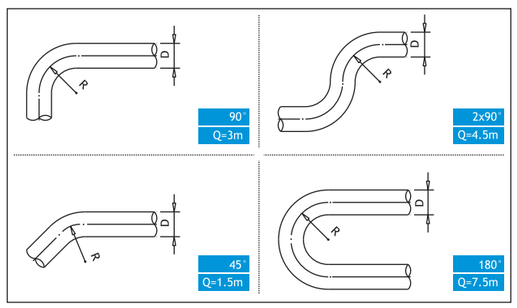
Pressure loss in 1 m Duct = 3Pa
Bend loss coefficient = 3
Equivalent Lenght = $3 \times \frac{203}{300}$ = 2.03m
Pressure Loss = (2.03 + 4)m x 3Pa/m
= 18.09Pa

PRESSURE LOSS DIAGRAMS

POLYAFS, ISOAFS-POLY
PRESSURE LOSS CHARACTERISTICS



BEND LOSS COEFFICIENTS



Temperature	-20°C	-0°C	+20°C	+40°C	+60°C	+80°C	+100°C
Correction Fac.	1,158	1,073	1,000	0,936	0,880	0,830	0,785

(R / D = 1)

Equivalent Length

$$Z = Q \times \frac{D}{300}$$

Z = Equivalent length, m
Q = Bend loss coefficient
D = Duct diameter, mm

Example

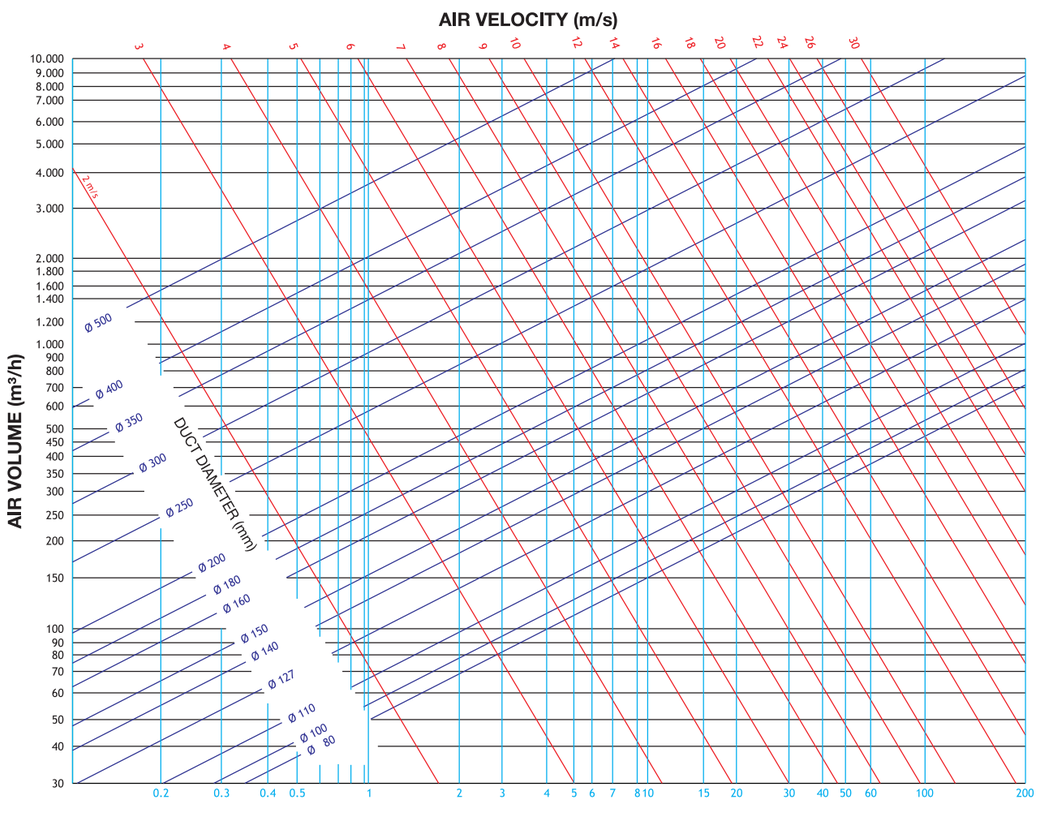
Air Velocity = 5m/s
Duct Diameter = 203mm
Pressure Loss = ?

90° Bend = 1 piece
Duct Length = 4m

Pressure loss in 1 m Duct = 3.04Pa
Bend loss coefficient = 3
Equivalent Lenght = $3 \times \frac{203}{300}$ = 2.03m
Pressure Loss = (2.03 + 4)m x 3.04Pa/m
= 18.33Pa

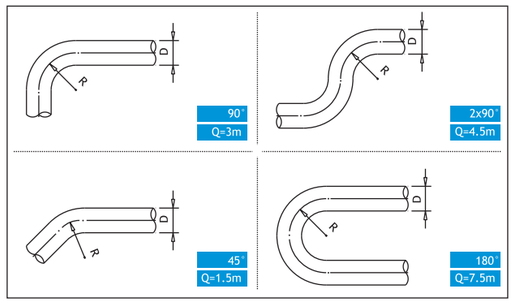
PRESSURE LOSS DIAGRAMS

SEMIAFS, SEMIAFS-INOX
PRESSURE LOSS CHARACTERISTICS



PRESSURE LOSS PER ONE METER OF FULLY EXTENDED DUCT (Pa)

BEND LOSS COEFFICIENTS



Temperature	-20°C	-0°C	+20°C	+40°C	+60°C	+80°C	+100°C
Correction Fac.	1,158	1,073	1,000	0,936	0,880	0,830	0,785

SEMIAFS (R / D = 1)
SEMIAFS-INOX (R / D = 5)

Equivalent Length

$$Z = Q \times \frac{D}{300}$$

Z = Equivalent length, m
Q = Bend loss coefficient
D = Duct diameter, mm

Example

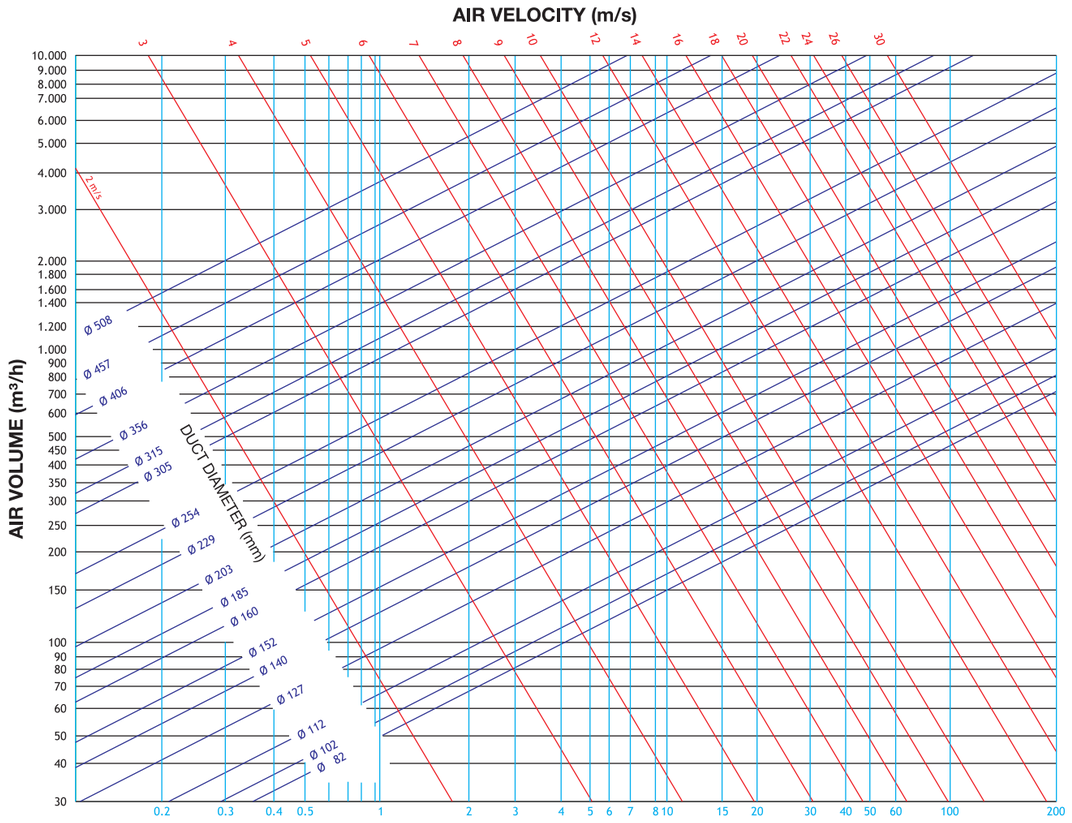
Air Velocity = 5m/s
Duct Diameter = 200mm
Pressure Loss = ?

90° Bend = 1 piece
Duct Length = 4m

Pressure loss in 1 m Duct = 3.12Pa (TABLO-1)
Bend loss coefficient = 3 (TABLO-2)
Equivalent Lenght = $3 \times \frac{200}{300}$ = 2.0m
Pressure Loss = (2.0 + 4)m x 3.12Pa/m
= 18.72Pa

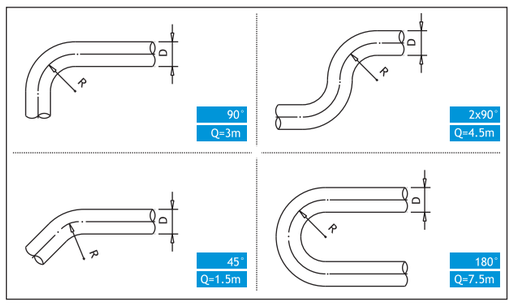
PRESSURE LOSS DIAGRAMS

PVCAFS, ISOAFS-PVC, VINYLAFS
PRESSURE LOSS CHARACTERISTICS



PRESSURE LOSS PER ONE METER OF FULLY EXTENDED DUCT (Pa)

BEND LOSS COEFFICIENTS



Temperature	-20°C	-0°C	+20°C	+40°C	+60°C	+80°C
Correction Fac.	1,158	1,073	1,000	0,936	0,880	0,830

(R / D = 1)

Equivalent Length

$$Z = Q \times \frac{D}{300}$$

Z = Equivalent length, m
Q = Bend loss coefficient
D = Duct diameter, mm

Example

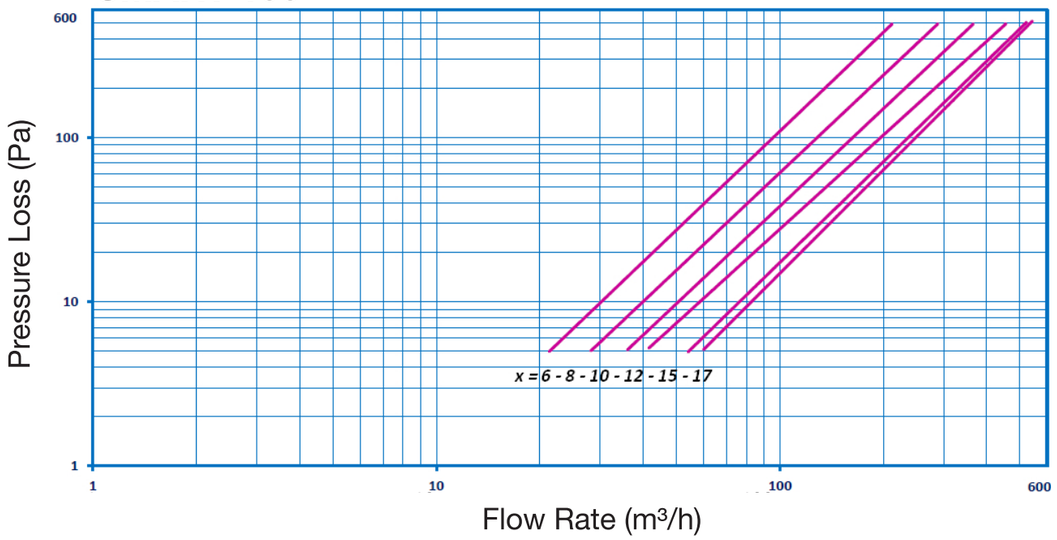
Air Velocity = 5m/s
Duct Diameter = 203mm
Pressure Loss = ?

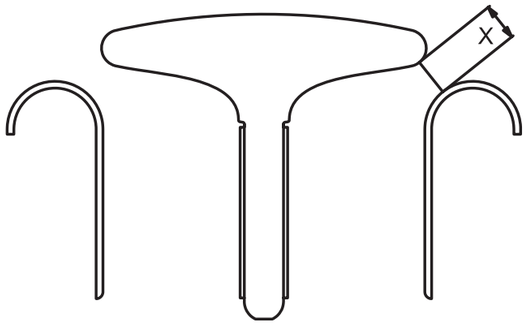
90° Bend = 1 piece
Duct Length = 4m

Pressure loss in 1 m Duct = 3.22 Pa
Bend loss coefficient = 3
Equivalent Lenght = $3 \times \frac{203}{300}$ = 2.03m
Pressure Loss = (2.03 + 4)m x 3.22Pa/m
= 19.42Pa

PRESSURE LOSS DIAGRAMS

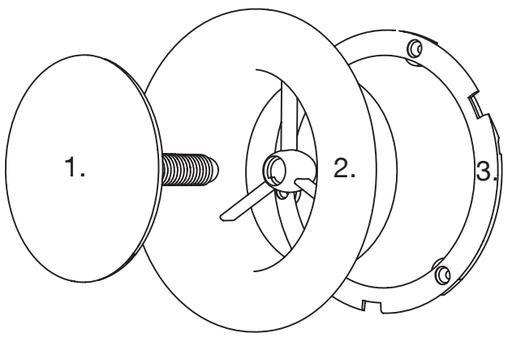
SMART 100





x : the smallest distance between disc of lid and flanged diffuser

TECHNICAL PROPERTIES



1. Adjustable Lid

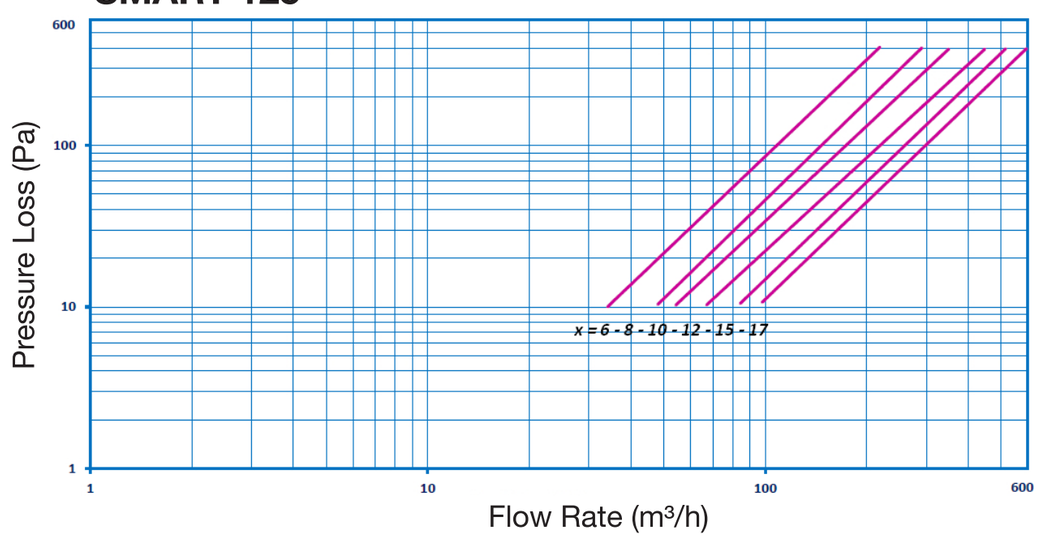
2. Flanged Diffuser

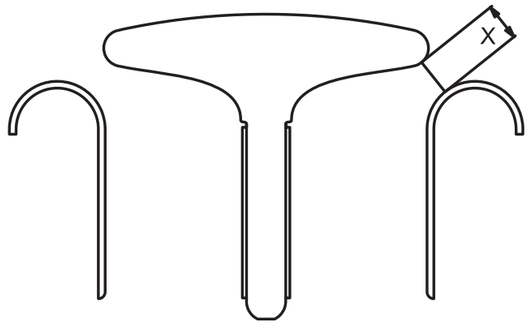
3. Mounting Ring

Pressure loss test results conforming with ASHRAE 70 standard

PRESSURE LOSS DIAGRAMS

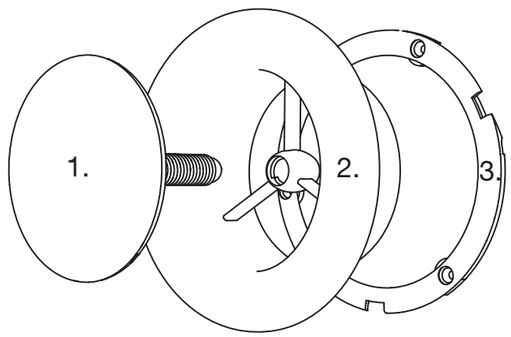
SMART 125





x : the smallest distance between disc of lid and flanged diffuser

TECHNICAL PROPERTIES



1. Adjustable Lid

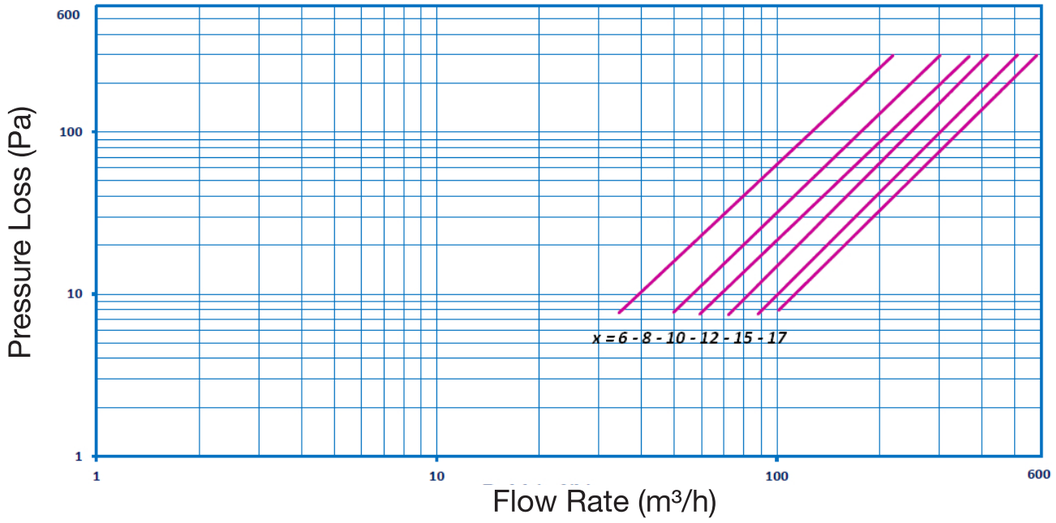
2. Flanged Diffuser

3. Mounting Ring

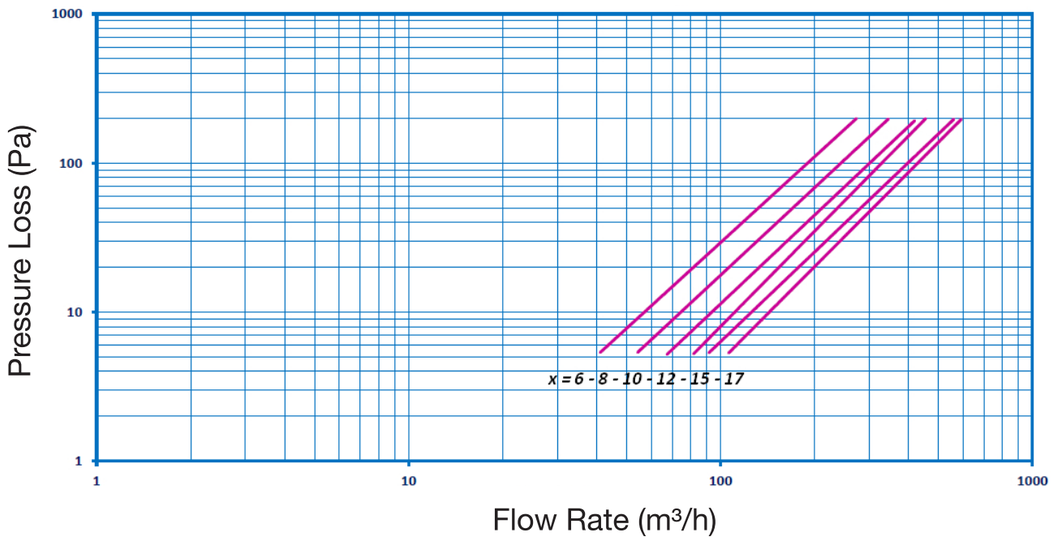
Pressure loss test results conforming with ASHRAE 70 standard

PRESSURE LOSS DIAGRAMS

SMART 150



SMART 200



CHEMICAL RESISTANCE OF TPU INDUSTRIAL HOSE

Chemical	Temperature, °C	TPU
Acetone	RT	0
Al-chloride, aqueous, 5 %	RT	+
Ammonia, 10 %	RT	+
Aniline	RT	-
IRM oil 901	80	+
IRM oil 902	80	+
IRM oil 903	80	0/+
Petrol, standard grade	RT	+
Petrol, premium grade	RT	0/+
Benzene	RT	0
Butanol	RT	0
Butyl acetate	RT	-
Cyclohexanol	RT	0
Diesel oil	RT	+
Dimethyl formamide	RT	-
Fe chloride, aqueous, 5 %	40	0
Ethyl acetate	RT	-
Ethyl alcahol	RT	0
Ehtyl ether	RT	+
Acetic acid, 20 %	RT	0
Potassium hydroxide solution 1 N	RT	+/0
Sodium chloride solution, conc.	RT	+
Isopropanol	RT	0
Methanol	RT	0
Methanol/benzene, 15/85	RT	+/0
Methylene chloride	RT	0/-
Methyl ethyl ketone	RT	0
Mineral oil	80	+
Soda soap fat	RT	+
Soda soap fat + 20 % water	RT	+/0
Sodium hydroxide solution N	RT	+/0
N-metyl pyrrolidone	RT	-
Nitric acid, 20 %	RT	-
Hydrochloric acid, 20 %	RT	0
Sulphuric acid, 20 %	RT	0
Sea water	RT	+ *
Carbon Tetrachloride	RT	0/-
Trichloro-ethylene	RT	0/-
Tetrahydrofurane	RT	-
Toluene	RT	-
Water	RT 80 100	+ 0/+ 0

+ = resistant over a prolonged period
0 = short-term contact possible under certain conditions
- = not resistant, pronounced attack or dissolution
* = microbial attack possible
RT = room temperature, 23 °C



INSTALLATION GUIDE

INSTALLATION OF FLEXIBLE AIR DUCT

FLEXIBLE AIR DUCT INSTALLATION GUIDE

Flexible air ducts are specifically used for low and medium pressure heating, cooling, ventilation, air conditioning and exhaust systems.

It is of utmost important to realize that air leakage and pressure loss can seriously affect the system performance. Coosing the right installation elements and paying attention to technical details are also important for maximum efficiency.

To avoid these defects, fallow the instructions included in this guide.
Appropriate installation provides maximum productivity with minimum energy consumption, resulting in time and cost saving.

CHOOSING THE RIGHT DIAMETER

In choosing the right diameter, calculated pressure loss is very important. Optimum air velocity should be 3 m/s in flexible air ducts.

As shown in Table 1 pressure loss increases by 498% when the air velocity increases from 2.79 m/s to 5.48 m/s.

AIR FLOW (m^3/h)	Ø DUCT DIA. (mm)	AIR VELOCITY (m/s)	PRESSURE LOSS (Pa)	PRESSURE LOSS DIFFERENCE %
1000	Ø 254	5.48	2.93	498 %
1000	Ø 305	3.80	1.11	126 %
1000	Ø 315	3.56	0.94	92 %
1000	Ø 356	2.59	0.49	0 %

TABLE 1

TO DETERMINE THE INSTALLATION LENGTH OF AFS FLEXIBLE AIR DUCTS

Flexible air ducts should be installed in fully extended in fully extended form to obtain a smooth and flat inner surface. This will minimize pressure loss and keep the diameter steady.

The inner surface of AFS flexible air ducts remains smooth and flat when extended, due to its being manufactured from stronger and thicker aluminium than competitive products.

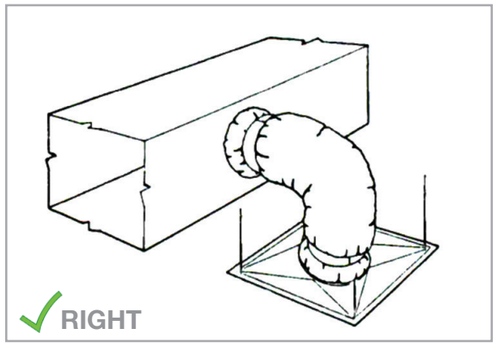
BENDS AND ELBOWS

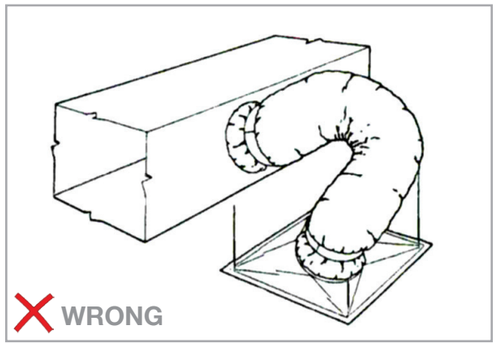
The number of bends, the angle of each bend and the amount of sag allowed between support joints will seriously affect system performance due to the increased air resistance that each element introduces. It is important to keep the number of bends to a minimum.

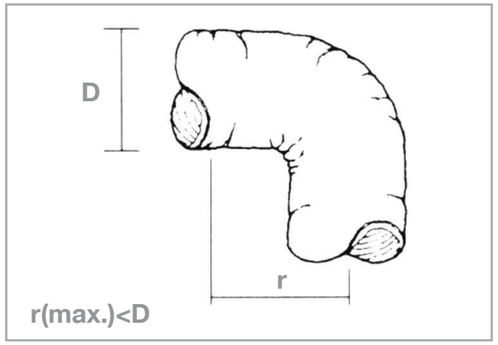
The friction loss in a bend of 90° bends, it is important that the nominal radius be less than the diameter of the duct. It is important to check that the ducts to be used are suitable for bending, and that when bent they are not deformed.

AFS flexible air ducts have a constant diameter throughout the installation. Due to their multi-layer, laminated, construction being reinforced with a steel wire spiral, they resist deformation and preserve their diameter.

The bending radius of AFS flexible air ducts is calculated as fallows;
Bending Radius = Duct Diameter x 0.50







SUPPORTING FLEXIBLE DUCT

Flexible air ducts should be supported at least every 1.5 m. Max. permissible sag is 40 mm per meter.

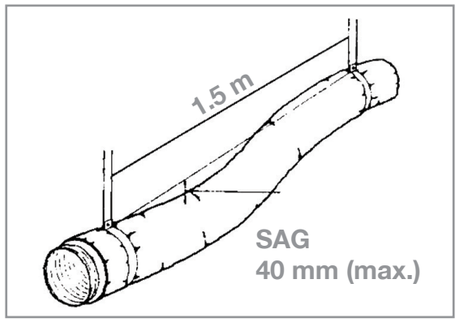
Long horizontal duct installations with sharp bends should have additional supports before and after the bend; the additional supports should be placed away from the bend a distance equal to the diameter of the duct used.

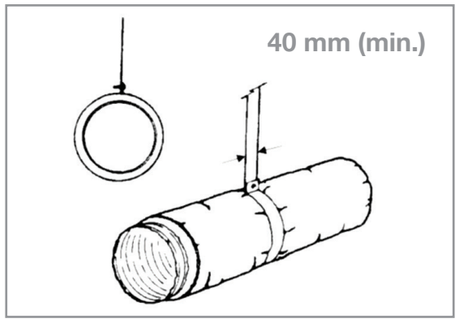
Due to the special technique used in producing the highly resilient multi-layer structure, AFS flexible air ducts are self-supporting even with videly spaced supports.

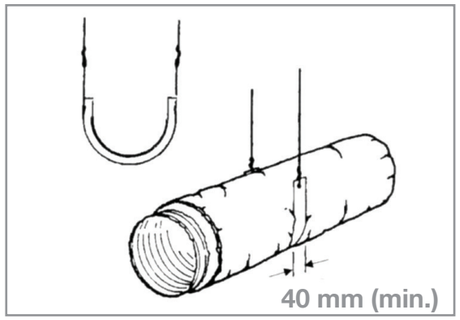
Flexible air duct hangers or saddles should be of sufficient width to prevent any constriction of the duct diameter.

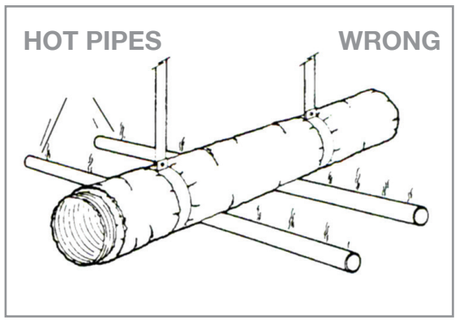
The hangers or saddles should be at least 40 mm wide.

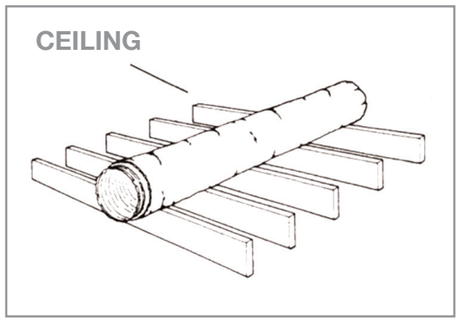
Flexible air ducts may res on ceiling or truss supports. Do not install flexible air ducts near hot equiptments (e.g. steam pipes, furnaces, boilers, etc.) This situation may edversely affect the temperature of the air passing through the duct.





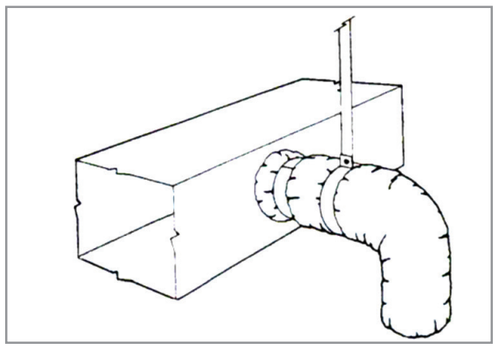




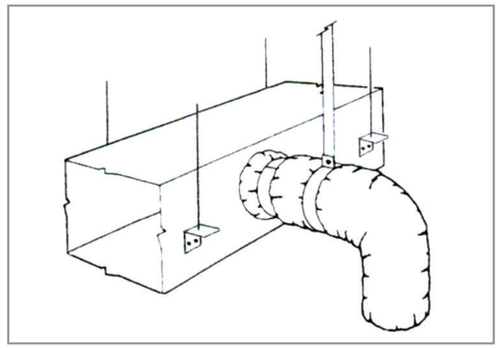


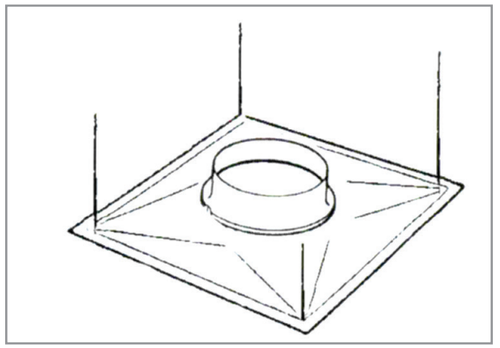
SUPPORTING FLEXIBLE DUCT

Flexible air ducts should be supported between metal connections and bends, while allowing the duct to extend straight for a few centimeters before making the bend. This will prevent damage to the flexible duct by the edge of the metal collar.

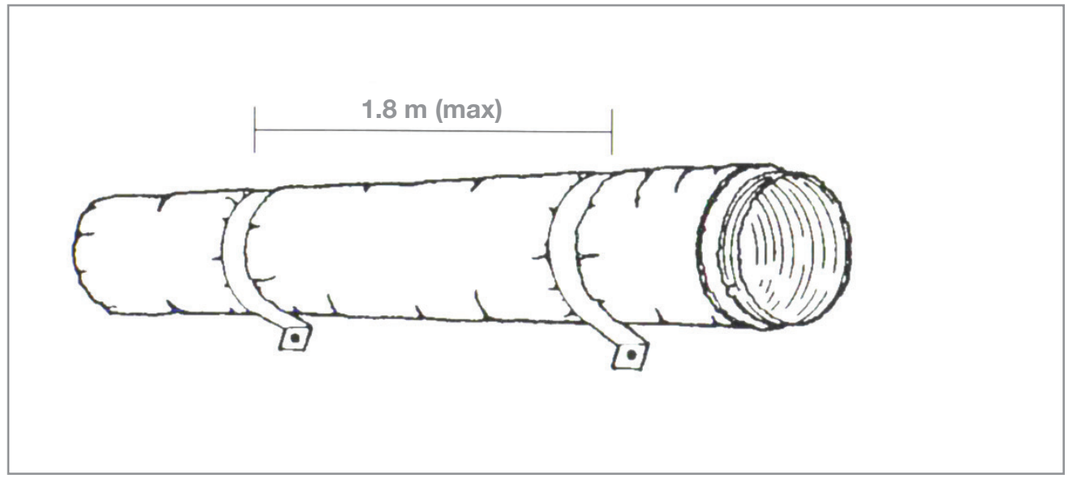


It is important that inlet and outlet vents should be hung by independent supports. Flexible air ducts should not be subjected to load.



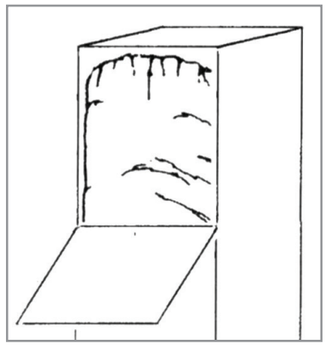


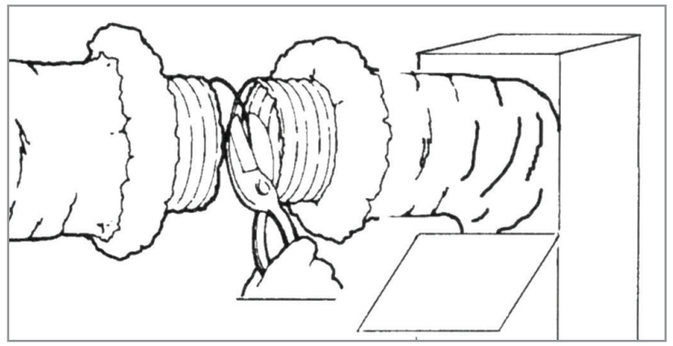
Vertically installed ducts should be supported at least every 1.8 m.



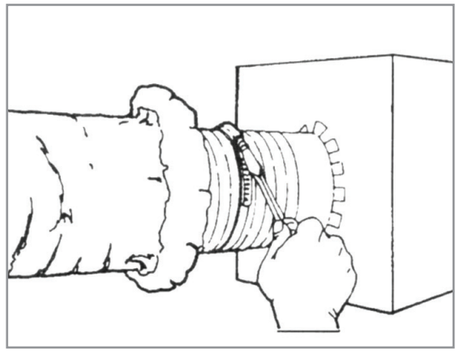
STEP BY STEP INSTRUCTIONS FOR FLEXIBLE AIR DUCT CONNECTIONS

1. Never open a box from the ends to avoid recoil effect. Make a square hole near the upper side of the duct box by beginning from the top lid edge (as shown in the drawing) the hole should not be more than 5 cm larger than the duct diameter. Pull out the duct to the desired length. Cut around it with a knife or scissors. Then cut the highly resilient spiral steel wire with wire cutter. Push the remaining duct back into the box to prevent it from deformation and waste which may occur if the duct is left outside the package.

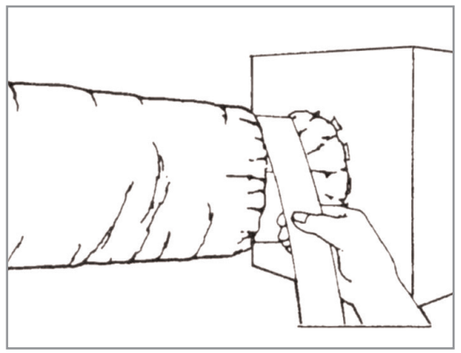




2. Pull back the jacket and insulation material from inner core. Slide at least 25mm of duct over the connection element. Wrap the duct with at least 2 turns of duct tape to form an airtight seal and secure the duct using a metal or plastic clamp.



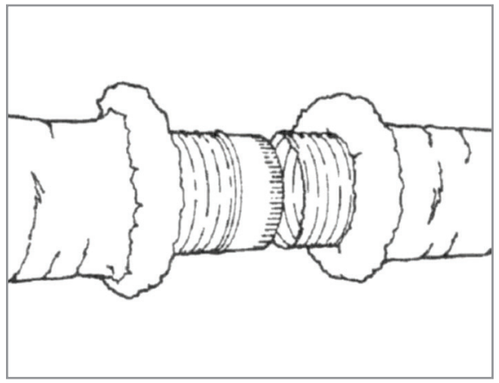
3. Pull the jacket and insulation back over the duct. Tape the jacket with at least 2 wraps of duct tape. A clamp can be used instead of or in combination with the duct tape.



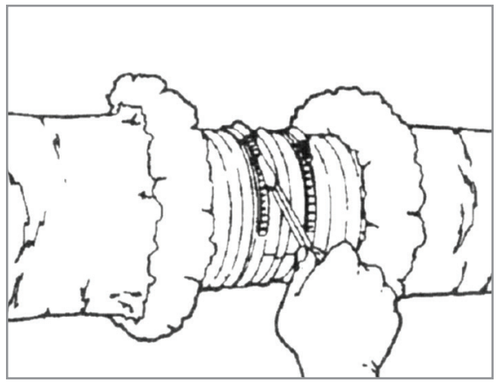
- Disregard references to the insulation material and the jacket for non-insulated ducts.
- It is recommended that the connection element's bead face the outside of the collar.
- Use reinforced aluminium foil tapes that are suitable for low and high temperature on the connection element and flexible air duct connection.
- Use stainless steel metal clamps to the secure the duct. If plastic clamps are used, tighten the clamps by using the correct tool.

FLEXIBLE DUCT SPLICING INSTRUCTIONS

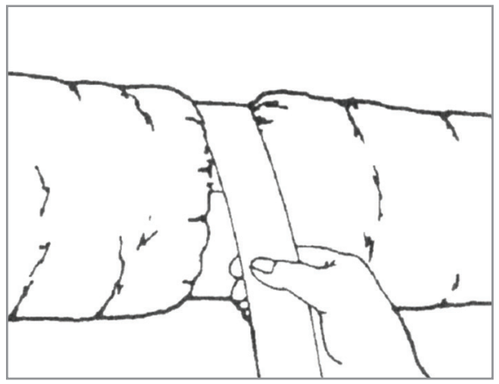
1. Pull back the jacket and insulation material. Slide each core at least 25 mm over the connection element.



2. Secure the air duct with 2 clamps.



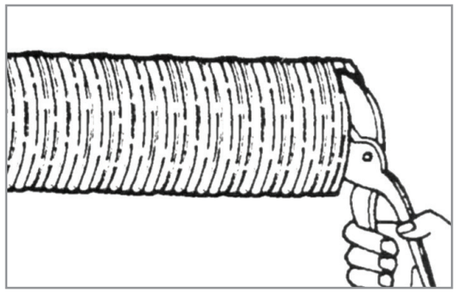
3. Tape the air ducts together with at least 2 turns of duct tape



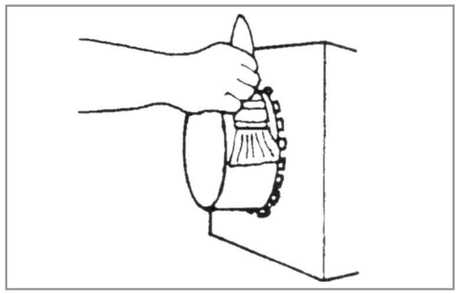
- Disregard references to the insulation material and the jacket for non-insulated ducts.
- It is recommended that the connection element's bead face the outside of the collar.
- Use reinforced aluminium foil tapes that are suitable for low and high temperature on the connection element and flexible air duct connection.
- Use stainless steel metal clamps to the secure the duct. If plastic clamps are used, tighten the clamps by using the correct tool.

SEMI FLEXIBLE DUCT CONNECTION INSTRUCTIONS

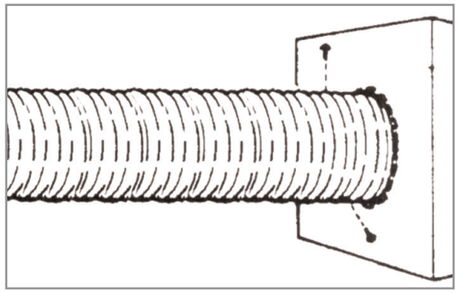
1. Cut the Semi flexible air duct all round at the desired length with a knife or snips.



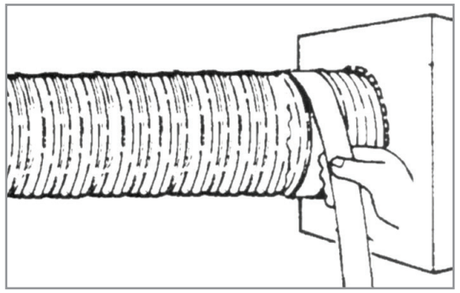
2. If the system pressure is above 1000 Pa, use mastic on the connection element. Slide at least 25 mm of the duct over the connection element.



3. Screw the semi flexible air duct to the connection element with equally spaced screws. For diameters smaller than 300 mm use 3 screws; for larger diameters 5 screws.



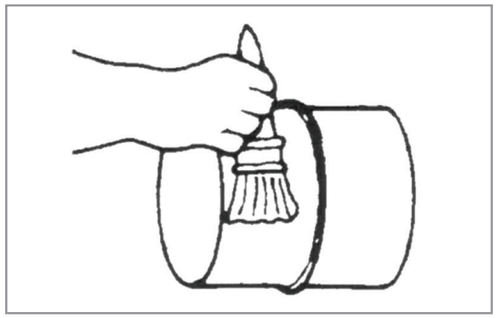
4. Wrap the duct with at least 2 turns of duct tape to cover the screw heads and form an airtight seal.



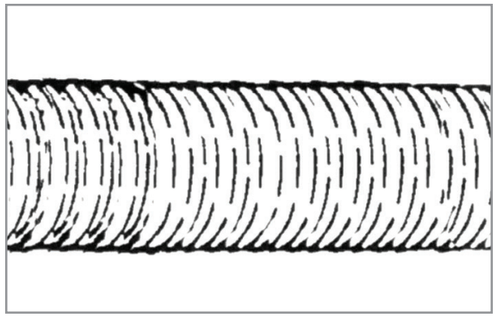
- Use standard duct mastics.
- Use reinforced aluminium foil tapes that are suitable for low and high temperatures on the connection element and semi flexible air duct connection.

SEMI FLEXIBLE DUCT SPLICING INSTRUCTIONS

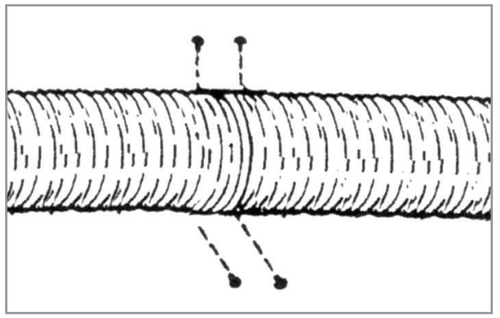
1. If the system pressure is above 1000 Pa, use mastic on the connection element.



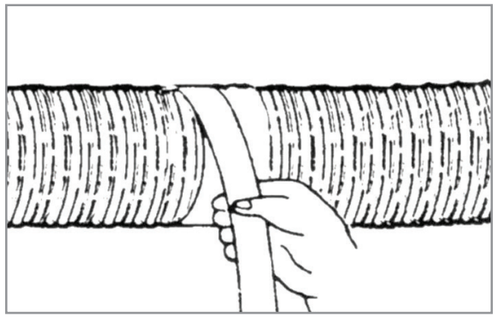
2. Slide at least 25 mm of the duct over the connection element.



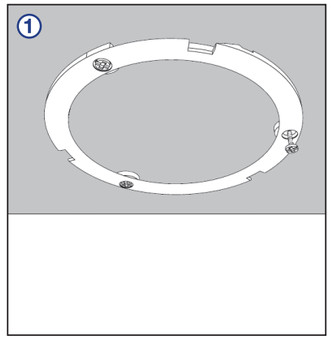
3. Screw the semi flexible air duct to the connection element with equally spaced screws. For diameters smaller than 300 mm use 3 screws; for larger diameters 5 screws.



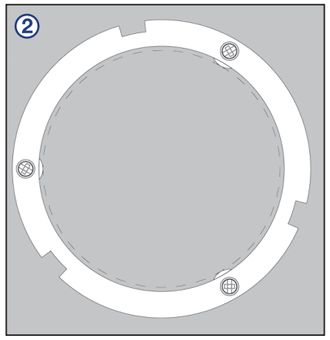
4. Wrap the duct with at least 2 turns of duct tape to cover the screw heads and form an airtight seal.



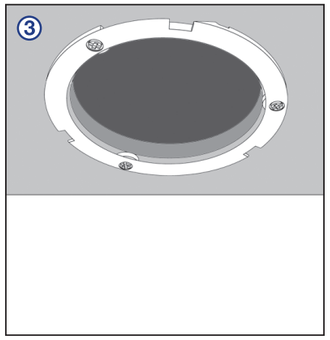
MONTAGE OF P SMART AIR DISC VALVE



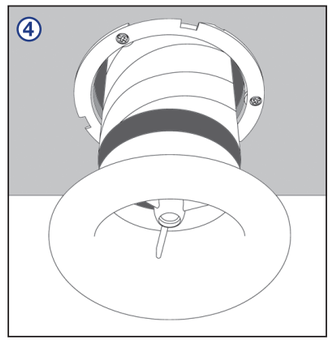
1. Screw the mounting ring where product needs to be mounted.



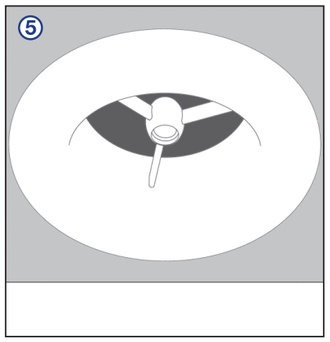
2. Use the fins on mounting ring as a template for punching a hole.



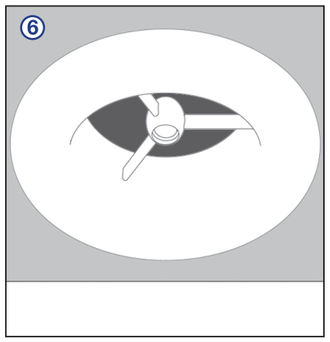
3. Punch the hole by the assitance of the template.



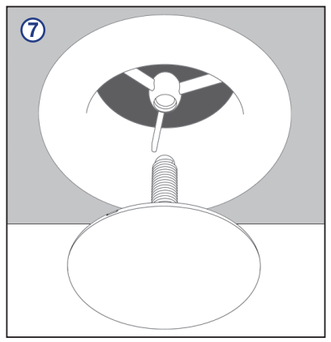
4. Connect the duct onto collar of flanged diffuser.



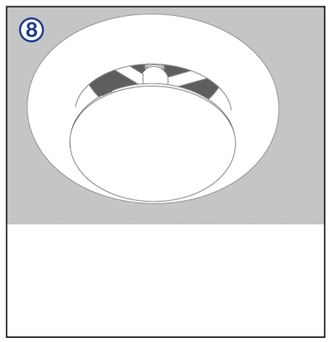
5. Place the fixture elements behind flanged diffuser where the gaps on the ring coincide with.



6. Turn the flanged diffuser clock-wise to secure locking.



7. Screw the lid onto threaded hole at the middle of flanged diffuser.



8. Rotate the lid to adjust air flow rate.

PACKING INFORMATION

ALUAFS

TRUCK PALLET

Ø (mm)	Length (m)	Box Dimensions (mm)	Truck Pallet Dimensions (cm)	Boxes Per Pallet	Rows Per Pallet	Columns Per pallet
52	10	135 x 135 x 370	81 x 111 x 245	306	18	17
68	10	100 x 100 x 550	80 x 110 x 245	368	16	23
76	10	100 x 100 x 550	80 x 110 x 245	368	16	23
82	10	100 x 100 x 400	80 x 110 x 245	506	22	23
102	10	115 x 115 x 400	80 x 110 x 245	400	20	20
112	10	115 x 115 x 400	80 x 110 x 245	400	20	20
127	10	135 x 135 x 370	81 x 111 x 245	288	18	16
133	10	135 x 135 x 370	81 x 111 x 245	288	18	16
140	10	170 x 170 x 370	85 x 111 x 253	210	15	14
152	10	170 x 170 x 370	85 x 111 x 253	210	15	14
160	10	170 x 170 x 370	85 x 111 x 253	210	15	14
185	10	215 x 215 x 370	86 x 111 x 252	132	12	11
203	10	215 x 215 x 370	86 x 111 x 252	132	12	11
229	10	270 x 270 x 400	80 x 108 x 231	72	8	9
254	10	270 x 270 x 400	80 x 108 x 231	72	8	9
280	10	320 x 320 x 400	80 x 96 x 239	42	6	7
305	10	320 x 320 x 400	80 x 96 x 239	42	6	7
315	10	320 x 320 x 400	80 x 96 x 239	42	6	7
356	10	370 x 370 x 400	80 x 111 x 237	36	6	6
406	10	420 x 420 x 420	84 x 84 x 225	20	4	5
457	10	480 x 480 x 480	96 x 96 x 255	20	4	5
508	10	520 x 520 x 520	104 x 104 x 223	16	4	4
560	10	580 x 580 x 500				
610	10	640 x 640 x 500				
630	10	640 x 640 x 500				
710	10	720 x 720 x 500				
800	10	820 x 820 x 500				

NOTES:

40' HC PALLET

Ø (mm)	Length (m)	Box Dimensions (mm)	Truck Pallet Dimensions (cm)	Boxes Per Pallet (Qty.)	Rows Per Pallet	Columns Per pallet
52	10	135 x 135 x 370	81 x 111 x 245	306	18	17
68	10	100 x 100 x 550	80 x 110 x 245	368	16	23
76	10	100 x 100 x 550	80 x 110 x 245	368	16	23
82	10	100 x 100 x 400	80 x 110 x 245	506	22	23
102	10	115 x 115 x 400	80 x 115 x 245	400	20	20
112	10	115 x 115 x 400	80 x 115 x 245	400	20	20
127	10	135 x 135 x 370	81 x 111 x 245	288	18	16
133	10	135 x 135 x 370	81 x 111 x 245	288	18	16
140	10	170 x 170 x 370	85 x 111 x 236	210	15	13
152	10	170 x 170 x 370	85 x 111 x 236	210	15	13
160	10	170 x 170 x 370	85 x 111 x 236	210	15	13
185	10	215 x 215 x 370	86 x 111 x 230	132	12	10
203	10	215 x 215 x 370	86 x 111 x 230	132	12	10
229	10	270 x 270 x 400	80 x 108 x 231	72	8	8
254	10	270 x 270 x 400	80 x 108 x 231	72	8	8
280	10	320 x 320 x 400	80 x 96 x 239	42	6	7
305	10	320 x 320 x 400	80 x 96 x 239	42	6	7
315	10	320 x 320 x 400	80 x 96 x 239	42	6	7
356	10	370 x 370 x 400	80 x 111 x 237	36	6	6
406	10	420 x 420 x 420	84 x 84 x 225	20	4	5
457	10	480 x 480 x 480	96 x 96 x 207	20	4	4
508	10	520 x 520 x 520	104 x 104 x 223	16	4	4
560	10	580 x 580 x 500				
610	10	640 x 640 x 500				
630	10	640 x 640 x 500				
710	10	720 x 720 x 500				
800	10	820 x 820 x 500				

NOTES:

PACKAGING INFORMATION

ISOAFS-ALU

TRUCK PALLET

Ø (mm)	Length (m)	Box Dimensions (mm)	Truck Pallet Dimensions (cm)	Boxes Per Pallet	Rows Per Pallet	Columns Per pallet
52	10					
68	10					
76	10					
82	10	165 x 165 x 1100	83 x 110 x 253	70	5	14
102	10	185 x 185 x 1100	100 x 110 x 255	65	5	13
112	10	185 x 185 x 1100	100 x 110 x 255	65	5	13
127	10	205 x 205 x 1100	103 x 110 x 241	55	5	11
133	10	205 x 205 x 1100	103 x 110 x 241	55	5	11
140	10	235 x 235 x 1100	100 x 110 x 227	40	4	10
152	10	235 x 235 x 1100	100 x 110 x 227	40	4	10
160	10	235 x 235 x 1100	100 x 110 x 227	40	4	10
185	10	280 x 280 x 1100	84 x 110 x 239	24	3	8
203	10	280 x 280 x 1100	84 x 110 x 239	24	3	8
229	10	330 x 330 x 1100	100 x 110 x 246	21	3	7
254	10	330 x 330 x 1100	100 x 110 x 246	21	3	7
280	10	380 x 380 x 1100	110 x 114 x 243	18	3	6
305	10	380 x 380 x 1100	110 x 114 x 243	18	3	6
315	10	380 x 380 x 1100	110 x 114 x 243	18	3	6
356	10	430 x 430 x 1100	86 x 110 x 230	10	2	5
406	10	480 x 480 x 1100	100 x 110 x 255	10	2	4
457	10	520 x 520 x 1100	104 x 110 x 223	8	2	4
508	10	570 x 570 x 1100	114 x 112 x 243	8	2	4
560	10	700 x 700 x 1100				
610	10	700 x 700 x 1100				
630	10	700 x 700 x 1100				
710	10	780 x 780 x 1100				
800	10	860 x 860 x 1100				

NOTES:

40' HC PALLET

Ø (mm)	Length (m)	Box Dimensions (mm)	Truck Pallet Dimensions (cm)	Boxes Per Pallet	Rows Per Pallet	Columns Per pallet
52	10					
68	10					
76	10					
82	10	165 x 165 x 1100	83 x 110 x 230	65	5	13
102	10	185 x 185 x 1100	100 x 110 x 237	60	5	12
112	10	185 x 185 x 1100	100 x 110 x 237	60	5	12
127	10	205 x 205 x 1100	103 x 110 x 241	55	5	11
133	10	205 x 205 x 1100	103 x 110 x 241	55	5	11
140	10	235 x 235 x 1100	100 x 110 x 227	36	4	9
152	10	235 x 235 x 1100	100 x 110 x 227	36	4	9
160	10	235 x 235 x 1100	100 x 110 x 227	36	4	9
185	10	280 x 280 x 1100	84 x 110 x 239	24	3	8
203	10	280 x 280 x 1100	84 x 110 x 239	24	3	8
229	10	330 x 330 x 1100	100 x 110 x 246	21	3	7
254	10	330 x 330 x 1100	100 x 110 x 246	21	3	7
280	10	380 x 380 x 1100	110 x 114 x 243	18	3	6
305	10	380 x 380 x 1100	110 x 114 x 243	18	3	6
315	10	380 x 380 x 1100	110 x 114 x 243	18	3	6
356	10	430 x 430 x 1100	86 x 110 x 230	10	2	5
406	10	480 x 480 x 1100	100 x 110 x 207	8	2	4
457	10	520 x 520 x 1100	104 x 110 x 223	8	2	4
508	10	570 x 570 x 1100				
560	10	700 x 700 x 1100				
610	10	700 x 700 x 1100				
630	10	700 x 700 x 1100				
710	10	780 x 780 x 1100				
800	10	860 x 860 x 1100				

NOTES:

PACKAGING INFORMATION

SONOAFS-ALU

TRUCK PALLET

Ø (mm)	Length (m)	Box Dimensions (mm)	Truck Pallet Dimensions (cm)	Boxes Per Pallet	Rows Per Pallet	Columns Per pallet
52	10					
68	10					
76	10					
82	10	165 x 165 x 1100	83 x 110 x 253	70	5	14
102	10	185 x 185 x 1100	100 x 110 x 255	65	5	13
112	10	185 x 185 x 1100	100 x 110 x 255	65	5	13
127	10	205 x 205 x 1100	103 x 110 x 241	55	5	11
133	10	205 x 205 x 1100	103 x 110 x 241	55	5	11
140	10	235 x 235 x 1100	100 x 110 x 227	40	4	10
152	10	235 x 235 x 1100	100 x 110 x 227	40	4	10
160	10	235 x 235 x 1100	100 x 110 x 227	40	4	10
185	10	280 x 280 x 1100	84 x 110 x 239	24	3	8
203	10	280 x 280 x 1100	84 x 110 x 239	24	3	8
229	10	330 x 330 x 1100	100 x 110 x 246	21	3	7
254	10	330 x 330 x 1100	100 x 110 x 246	21	3	7
280	10	380 x 380 x 1100	110 x 114 x 243	18	3	6
305	10	380 x 380 x 1100	110 x 114 x 243	18	3	6
315	10	380 x 380 x 1100	110 x 114 x 243	18	3	6
356	10	430 x 430 x 1100	86 x 110 x 230	10	2	5
406	10	480 x 480 x 1100	100 x 110 x 255	10	2	4
457	10	520 x 520 x 1100	104 x 110 x 223	8	2	4
508	10	570 x 570 x 1100	114 x 112 x 243	8	2	4
560	10	700 x 700 x 1100				
610	10	700 x 700 x 1100				
630	10	700 x 700 x 1100				
710	10	780 x 780 x 1100				
800	10	860 x 860 x 1100				

NOTES:

40' HC PALLET

Ø (mm)	Length (m)	Box Dimensions (mm)	Truck Pallet Dimensions (cm)	Boxes Per Pallet	Rows Per Pallet	Columns Per pallet
52	10					
68	10					
76	10					
82	10	165 x 165 x 1100	83 x 110 x 230	65	5	13
102	10	185 x 185 x 1100	100 x 110 x 237	60	5	12
112	10	185 x 185 x 1100	100 x 110 x 237	60	5	12
127	10	205 x 205 x 1100	103 x 110 x 241	55	5	11
133	10	205 x 205 x 1100	103 x 110 x 241	55	5	11
140	10	235 x 235 x 1100	100 x 110 x 227	36	4	9
152	10	235 x 235 x 1100	100 x 110 x 227	36	4	9
160	10	235 x 235 x 1100	100 x 110 x 227	36	4	9
185	10	280 x 280 x 1100	84 x 110 x 239	24	3	8
203	10	280 x 280 x 1100	84 x 110 x 239	24	3	8
229	10	330 x 330 x 1100	100 x 110 x 246	21	3	7
254	10	330 x 330 x 1100	100 x 110 x 246	21	3	7
280	10	380 x 380 x 1100	110 x 114 x 243	18	3	6
305	10	380 x 380 x 1100	110 x 114 x 243	18	3	6
315	10	380 x 380 x 1100	110 x 114 x 243	18	3	6
356	10	430 x 430 x 1100	86 x 110 x 230	10	2	5
406	10	480 x 480 x 1100	100 x 110 x 207	8	2	4
457	10	520 x 520 x 1100	104 x 110 x 223	8	2	4
508	10	570 x 570 x 1100				
560	10	700 x 700 x 1100				
610	10	700 x 700 x 1100				
630	10	700 x 700 x 1100				
710	10	780 x 780 x 1100				
800	10	860 x 860 x 1100				

NOTES:

PACKAGING INFORMATION

ISO / SONOAFS-ALU 50mm

TRUCK PALLET

Ø (mm)	Length (m)	Box Dimensions (mm)	Truck Pallet Dimensions (cm)	Boxes Per Pallet	Rows Per Pallet	Columns Per pallet
52	10					
68	10					
76	10					
82	10	185 x 185 x 1100	100 x 110 x 256	65	5	13
102	10	205 x 205 x 1100	103 x 110 x 241	55	5	11
112	10	205 x 205 x 1100	103 x 110 x 241	55	5	11
127	10	235 x 235 x 1100	100 x 110 x 250	40	4	10
133	10	235 x 235 x 1100	100 x 110 x 250	40	4	10
140	10	280 x 280 x 1100	84 x 110 x 239	24	3	8
152	10	280 x 280 x 1100	84 x 110 x 239	24	3	8
160	10	280 x 280 x 1100	84 x 110 x 239	24	3	8
185	10	330 x 330 x 1100	100 x 100 x 246	21	3	7
203	10	330 x 330 x 1100	100 x 100 x 246	21	3	7
229	10	380 x 380 x 1100	100 x 114 x 243	18	3	6
254	10	380 x 380 x 1100	100 x 114 x 243	18	3	6
280	10	430 x 430 x 1100	86 x 110 x 230	10	2	5
305	10	430 x 430 x 1100	86 x 110 x 230	10	2	5
315	10	430 x 430 x 1100	86 x 110 x 230	10	2	5
356	10	480 x 480 x 1100	100 x 110 x 255	10	2	5
406	10	520 x 520 x 1100	104 x 110 x 223	8	2	4
457	10	570 x 570 x 1100				
508	10	700 x 700 x 1100				
560	10					
610	10					
630	10					
710	10					
800	10					

NOTES:

40' HC PALLET

Ø (mm)	Length (m)	Box Dimensions (mm)	Truck Pallet Dimensions (cm)	Boxes Per Pallet	Rows Per Pallet	Columns Per pallet
52	10					
68	10					
76	10					
82	10	185 x 185 x 1100	100 x 110 x 237	60	5	12
102	10	205 x 205 x 1100	103 x 110 x 241	55	5	11
112	10	205 x 205 x 1100	103 x 110 x 241	55	5	11
127	10	235 x 235 x 1100	100 x 110 x 250	36	4	9
133	10	235 x 235 x 1100	100 x 110 x 250	36	4	9
140	10	280 x 280 x 1100	84 x 110 x 239	24	3	8
152	10	280 x 280 x 1100	84 x 110 x 239	24	3	8
160	10	280 x 280 x 1100	84 x 110 x 239	24	3	8
185	10	330 x 330 x 1100	100 x 100 x 246	21	3	7
203	10	330 x 330 x 1100	100 x 100 x 246	21	3	7
229	10	380 x 380 x 1100	100 x 114 x 243	18	3	6
254	10	380 x 380 x 1100	100 x 114 x 243	18	3	6
280	10	430 x 430 x 1100	86 x 110 x 230	10	2	5
305	10	430 x 430 x 1100	86 x 110 x 230	10	2	5
315	10	430 x 430 x 1100	86 x 110 x 230	10	2	5
356	10	480 x 480 x 1100	100 x 110 x 207	8	2	4
406	10	520 x 520 x 1100	104 x 110 x 223	8	2	4
457	10	570 x 570 x 1100				
508	10	700 x 700 x 1100				
560	10					
610	10					
630	10					
710	10					
800	10					

NOTES:

PACKAGING INFORMATION

COMBIAFS

TRUCK PALLET

Ø (mm)	Length (m)	Box Dimensions (mm)	Truck Pallet Dimensions (cm)	Boxes Per Pallet	Rows Per Pallet	Columns Per pallet
52	10	135 x 135 x 370	81 x 111 x 245	288	18	16
68	10	170 x 170 x 370	85 x 111 x 236	210	15	13
76	10	170 x 170 x 370	85 x 111 x 236	210	15	13
82	10	100 x 100 x 550	80 x 110 x 245	368	16	23
102	10	115 x 115 x 550	100 x 115 x 222	360	18	20
112	10	115 x 115 x 550	100 x 115 x 222	360	18	20
127	10	135 x 135 x 500	100 x 110 x 245	272	16	17
133	10	135 x 135 x 500	100 x 110 x 245	272	16	17
140	10	170 x 170 x 500	100 x 119 x 253	196	14	14
152	10	170 x 170 x 500	100 x 119 x 253	196	14	14
160	10	170 x 170 x 500	100 x 119 x 253	196	14	14
185	10	215 x 215 x 500	100 x 110 x 252	110	10	11
203	10	215 x 215 x 500	100 x 110 x 252	110	10	11
229	10	270 x 270 x 500	100 x 110 x 258	72	8	9
254	10	270 x 270 x 500	100 x 110 x 258	72	8	9
280	10	320 x 320 x 500	100 x 100 x 239	42	6	7
305	10	320 x 320 x 500	100 x 100 x 239	42	6	7
315	10	320 x 320 x 500	100 x 100 x 239	42	6	7
356	10	370 x 370 x 500	100 x 111 x 237	36	6	6
406	10	420 x 420 x 500	84 x 100 x 225	20	4	5
457	10	480 x 480 x 500	96 x 100 x 207	16	4	4
508	10	520 x 520 x 520	104 x 104 x 223	16	4	4
560	10	580 x 580 x 500				
610	10	640 x 640 x 500				
630	10	640 x 640 x 500				
710	10	720 x 720 x 500				
800	10	820 x 820 x 500				

NOTES:

40' HC PALLET

Ø (mm)	Length (m)	Box Dimensions (mm)	Truck Pallet Dimensions (cm)	Boxes Per Pallet	Rows Per Pallet	Columns Per pallet
52	10	135 x 135 x 370	81 x 111 x 245	288	18	16
68	10	170 x 170 x 370	85 x 111 x 236	195	15	13
76	10	170 x 170 x 370	85 x 111 x 236	195	15	13
82	10	100 x 100 x 550	80 x 110 x 245	368	16	23
102	10	115 x 115 x 550	100 x 115 x 222	360	18	20
112	10	115 x 115 x 550	100 x 115 x 222	360	18	20
127	10	135 x 135 x 500	100 x 110 x 245	272	16	17
133	10	135 x 135 x 500	100 x 110 x 245	272	16	17
140	10	170 x 170 x 500	100 x 119 x 236	182	14	14
152	10	170 x 170 x 500	100 x 119 x 236	182	14	14
160	10	170 x 170 x 500	100 x 119 x 236	182	14	14
185	10	215 x 215 x 500	100 x 110 x 230	100	10	11
203	10	215 x 215 x 500	100 x 110 x 230	100	10	11
229	10	270 x 270 x 500	100 x 110 x 231	64	8	9
254	10	270 x 270 x 500	100 x 110 x 231	64	8	9
280	10	320 x 320 x 500	100 x 100 x 239	42	6	7
305	10	320 x 320 x 500	100 x 100 x 239	42	6	7
315	10	320 x 320 x 500	100 x 100 x 239	42	6	7
356	10	370 x 370 x 500	100 x 111 x 237	36	6	6
406	10	420 x 420 x 500	84 x 100 x 225	20	4	5
457	10	480 x 480 x 500	96 x 100 x 207	16	4	4
508	10	520 x 520 x 520	104 x 104 x 223	16	4	4
560	10	580 x 580 x 500				
610	10	640 x 640 x 500				
630	10	640 x 640 x 500				
710	10	720 x 720 x 500				
800	10	820 x 820 x 500				

NOTES: