

AIRFLEX PRO

ZERO LEAKAGE DUCTING



“Semi rigid ducting performance data is now recognised by the UK Government as an input for Standard Assessment Procedure (SAP) calculations via Appendix Q.”

Meeting tomorrow's standards – today!

AIRFLEX PRO

With the drive towards a more environmentally conscious world, the need to save energy and protect precious natural resources becomes ever more important.

Even at the residential installation level it makes no sense to specify eco-efficient ventilation with heat recovery appliances, if the benefits of regained heat are to be lost through a badly designed and poorly fitted ductwork system.

In 2010, the latest Building Regulations introduced a series of "Compliance Guides" to raise the standard of ductwork installations ensuring that the whole system, not just the appliance, is designed and installed to a high standard of integrity.

In particular, the "Domestic Ventilation Compliance Guide" details specific conditions that should be met as a means of achieving compliance with the ventilation requirements in the Building Regulations.

Airflex Pro meets, and exceeds - many of the design expectations now placed on Architects, Consultants and Installers of a ventilation system.

Indeed, now that Semi Rigid ducting performance data is now recognized by the UK Government as an input for Standard Assessment Procedure (SAP) calculations via Appendix Q, it is an important factor to incorporate in the overall Dwelling Emission Rate (DER) to achieve an energy efficient low carbon home.



From a suspended ceiling



Between joists



In the concrete screed

INSTALLATION

- Save up to 70% on ducting installation time
- Flexible and compact, suits narrow joists and screeded floors
- Compatible with traditional, joist and metal web joist systems
- Quick and easy assembly with push fittings
- Taping or sealing with non-hardening sealant is not required
- Compatible with Airflex ISO insulated ducting and air distribution boxes

PERFORMANCE

- Zero leakage ensures performance – no loss of valuable regained air
- High crushability ($S = 16 \text{ kN/m}^2$) withstands external pressure to EN ISO 9969
- Low resistance pipe compared to flexible ducting with relatively constant volume
- Superior flow characteristics. High efficiency by connecting each room individually
- Very low noise transmission between rooms
- Recognised as an input to Standard Assessment Procedure (SAP) via Appendix Q.

HYGIENE

- Smooth 75mm diameter bore for easy cleaning
- Anti-static coating prevents dust build up reducing dust traps
- Corrosion and abrasion resistant to avoid scale build up
- No evaporation of harmful substances – toxically safe
- Easily accessible from extract terminals and plenum boxes – easy to inspect and blow through with a commercial vacuum cleaner

SYSTEM

- Zero leakage system satisfies compliance and offers reduced labour costs to install
- Cost effective with low maintenance and long life
- Offers freedom of design with choice of different components to suit any layout
- Flexibility of the system allows for majority of ducting to sit inside loft insulation – reducing the cost of insulating the ducting



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Among a raft of new Building Regulations introduced in 2010 is the new Domestic Ventilation Compliance Guide. Reproduced below are some of the key point in the new Guide with our added notation in white italics of the advantages to be gained by installing Airflex Pro in line with the latest requirements specific to:

Continuous Mechanical Ventilation Systems.

Installation Clauses

Supplementary Information

<p>2.0 Ductwork</p>	<p>Duct installation – general notes</p> <p>a. Ducts should be sized to minimise pressure loss and noise generation. This is achieved by sizing the ducts to limit the air velocity. Airflex Pro wall/ceiling plenums allows this</p> <p>b. The routing of ducts should aim to minimise overall duct length and minimise the number of bends required. It is particularly important to minimise bends in main ducts operating at higher air velocities. Semi rigid nature of Airflex Pro ducting allows this</p> <p>c. The need for privacy (acoustic separation) should be considered when planning duct layout. Characteristic of Airflex Pro ducting system complies as noted in supplementary information, therefore no extra costing required for acoustic attenuation</p> <p>d. Where room extract terminals/grilles are not fitted with filters, consideration should be given to the need to access ducts for cleaning. Airflex Pro ducting system easily accessible from extract terminals/grilles and plenum boxes, so is easy to inspect and clean.</p> <p>e. Ducting should be insulated where it passes through unheated areas and voids e.g. loft spaces Flexibility of system allows for majority of ducting to sit inside planned loft insulation therefore reducing the cost of insulating the ducting</p>	<p>A radial layout may achieve acoustic separation more effectively than a branched layout.</p> <p>The performance of the ventilation system relies on efficient air distribution, it is vital that duct installation is not left until the last moment, when the only means of overcoming obstructions is to install flexible ducts where rigid ducts have been specified.</p>
<p>2.0 Ductwork (continued)</p>	<p>Installation of ducts – rigid</p> <p>a. Ducts should not be installed where they can be damaged, for example open loft areas where they may be stood on or have items placed on them, breaking seals and possibly crushing the duct. Airflex Pro ducting is very forgiving to this type of activity</p> <p>b. Connection of components should not result in significant air flow resistance. Components should be proprietary and fit easily together without distortion. Airflex Pro Easy connect system utilises very few components ensuring compliance and ease of stocking and availability</p>	<p>Distortion of rectangular duct may result in significant reduction of the free internal area of the duct, increasing the flow resistance and making sealing more difficult.</p>
<p>2.0 Ductwork (continued)</p>	<p>Duct connections</p> <p>a. All duct connections require sealing. Where ducts are installed against a solid structure this can be difficult to achieve. In such locations preassembly of duct sections should be considered. This will require that connections are permanent to ensure the seal is maintained during installation. Simple fit zero leakage system satisfies compliance and offers reduced labour costs to install</p> <p>b. Where access to ducts will not be possible after construction is complete .i.e. within floors and wall voids, consideration should be given to permanent connection and sealing with an appropriate non-hardening sealant, and not using duct tape to achieve connection and sealing. Sealing with non-hardening sealant is not required with the Airflex Pro ducting system offering reduced labour costs to install</p>	

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Services and Support for Airflex Pro ducting system

- Consultation** We have an external team of Specification managers that can call and discuss your project. Alternatively, we have a showroom at our Head Office in the U.K at High Wycombe where we can demonstrate all our products as well as show you some applications.
- Design & Support** Our internal technical team are available to design clients' specific duct runs and specify what Duplexvent units are required. They can also offer support by way of advice on current regulations and how best to meet Best Practice building standards.
- Training** We offer training for installers wanting to use Airflex Pro and CPD courses for Architects and Designers.
- Supply** We supply all major builders' merchants, plumbers' merchants and electrical wholesalers, therefore ensuring our products are easily available.
- Installers** In the unlikely event that you cannot find an installer, Airflow can recommend an installer that has had training with our Duplexvent and Airflex Pro systems.



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Flexible, tough and zero leakage

AIRFLEX PRO

A quick and easy to fit system of flexible ducting that can result in up to 70% time saving during the on-site installation process, compared to rigid or spiral duct methods.

This innovative system uses low resistance, smooth bore tubing to individually connect each room to the heat recovery unit via an Air Distribution box, and is now recognised as an input to Standard Assessment Procedure (SAP) via Appendix Q.

By directly connecting each inlet/outlet there is zero leakage, so no loss of valuable regained warm air. Also the bore of the duct is coated with anti-static coating ensuring hygienic conditions and easy to clean simply by purging with a high pressure vacuum cleaner.

By direct connection to the air distribution box, noise transmission between rooms is greatly reduced compared to flat duct systems with numerous branches and tee joints.

Requiring limited space, Airflex Pro can be fitted in narrow joists due to its high crushability and can be run in concrete screeds for a permanent installation that will never degrade.

Available in 75mm diameter (63mm ID) bore size, with a choice of air distribution boxes and termination ceiling adapters.

NEW IN 2011

BRE have introduced "Specification requirements applicable to the utilisation of Rigid Duct performance data for dwellings fitted with Semi-Rigid duct within the Standard Assessment Procedure (SAP) via Appendix Q" (www.sap-appendixq.org.uk)

A summary of the important characteristics relating to Airflex Pro Semi Rigid Ducting, which is fully compliant with BRE requirements, are as follows: -

System:

A Semi-Rigid ducting system is defined as a unique product supplied by a manufacturer or supplier comprising of the components required for assembly of that system. Systems listed within the SAP Appendix Q database have demonstrated that their performance, when installed in a variety of configurations, is at least equal in terms of aerodynamic performance to SAP performance data for Rigid duct. It is therefore possible to select Rigid duct performance data when listed Semi-Rigid duct systems are specified for a dwelling.

Duct design:

The Airflex Pro Semi-Rigid ducting has double-skin lining where the outer layer is PE-HD (polyethylene - high density) and the inner layer is PE-LD (polyethylene - low density) with antistatic additive. This twin wall pipe (inside smooth - outside corrugated) ensures significantly less pressure loss than single-skin ventilation ducts.

Crushability:

Having a crushability of ≥ 16.0 kN/m² the Airflex Pro Semi-Rigid ducting will withstand an external pressure in excess of the minimum requirement of ≥ 8.0 kN/m² which differentiates it from rigid and flexible ducting.

Radius:

Thanks to its flexibility the Airflex Pro ducting can be installed without 90° fittings. This 75mm diameter duct can be bent within a radius of 150mm.

Installation layout:

Along with its easy-to-fit accessories, the Airflex Pro system uses two plenum boxes (one for supply / one for extract) for efficient air distribution.

Mechanical connection:

The sealing rings ensure that each connection between ducts and other components is mechanically sealed and no tape is used.

Material composition:

The Airflex Pro semi-rigid duct is toxically safe, contains unscented PE material and does not comprise any recycled material.

Plenum boxes:

Both plenum boxes have removable doors which provide easy access to the system for routine maintenance.

Labeling:

In each plenum box there is an approved SAP label which should be affixed to the MVHR unit in close proximity to the unit's own SAP-Q label.



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Typical installations

I am very pleased with your semi-rigid ducting which I've begun using immediately. I am particularly impressed with its ability to quickly fit to each component, and also its leak-proof design thanks to the easy-to-fit sealing rings. The Airflex Pro ducting has already paid for itself in time saved!"

Ben Thomas - Design Architect at Persimmon Homes



"As a contractor working throughout the UK installing residential HVAC equipment in new and refurbishment houses I have no hesitation in recommending Airflex Pro for the ventilation ducting systems. The quality of material is second to none and the flexibility of ducting made it possible to install very quickly even in narrow spaces."

Toby Buchan - Director of Cotswold Efficient Energy Centre

- Voted 2010 National Renewable Project of the Year H & V Awards
- Voted 2010 National Renewable Energy Company of the Year B.R.E. Award



"Specification of Airflex Pro has added value and raised the standard of the ventilation system throughout the dwelling, while contributing to a lower carbon environment for the homeowner."

Kyle Burgess - Project Manager at Millgate Homes



"The installation went according to plan and the whole system is working very well... Thanks for your excellent service!"

David Ellin - Quantity Surveyor at Miller Homes



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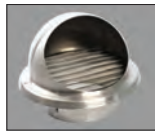
Fast, effective, efficient

AIRFLEX PRO

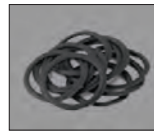
A small selection of the quality adaptors and grilles available to ensure the installation is of a high standard.



Airflex Pro Pipe:
Low resistance, flexible, smooth bore with anti static coating.



External Cowl:
Stainless steel with louvers or mesh screen



Sealing Ring:
Zero leakage assured



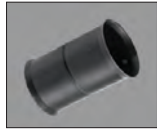
Ceiling/Wall Outlet:
Adjustable to joist depth for supply and extract valves.



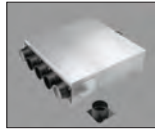
Pantile Cowl:
Pitched roof outlet with flashing plate. Black or Terracotta



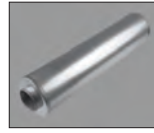
Supply Air Valve:
Wall or ceiling mounting adjustable air distribution. Metal and plastic versions.



Connector:
Joining piece for Airflex Pro Pipe



Plenum Box:
6, 10 and 15 room connection options.



Silencer:
Additional sound attenuation for ultra quiet installations



Extract Air Valve:
Wall or ceiling mounting adjustable air distribution. Metal and plastic versions



Wall Outlet:
High and low level air distribution via cavity. Adjustable grille.



Roof Outlet:
Roof outlet with insulation. Black or Terracotta

Duplexvent ventilation with heat recovery

A range of air handling units with heat recovery designed for residential, commercial and industrial applications.



- Saves energy, refreshes the indoor environment
- Residential units from 150 m³/hr to 550 m³/hr
- SAP Appendix Q eligible
- Low energy. EC fan control
- Counterflow heat recovery up to 94%
- Humidity, CO₂ and motion sensor options
- Compatible with Airflex Pro ducting
- Meets the latest Building Regulations 2010
- Commercial units up to 15000 m³/hr
- Helps reduce dwelling carbon footprint
- BMS controls for 'on-demand' ventilation
- Optional control via internet for easy and efficient usage
- Incorporate into BREEAM assessments

Fans and Accessories

Airflow supply compatible ducting, grilles and controls for all our products ensuring that the installation is of a high standard.



Residential

- Toilets/en-suites
- Bathrooms
- Kitchens/Utilities
- SELV DC Low Energy Fans
- Condensation Control
- Comply with Building Regulations
- 3 Year "No Quibble" warranty



Industrial

- Electronics Cooling
- HVAC, Air Handling
- Flue Gas Venting
- Boiler Combustion
- Warm Air Distribution
- De-stratification, Space heating

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