



Polypipe Ventilation Specifiers Guide



Mechanical Ventilation with Heat Recovery
Mechanical Extract Ventilation
Intermittent Extract and Decentralised Mechanical Extract Fans
Rigid and Semi-Rigid Duct Systems



As a leading designer and manufacturer of energy saving ventilation systems, our exclusive Domus duct products and Silavent mechanical extract ventilation appliances offer a high quality solution for domestic and light commercial applications.

Innovative = High quality = Trusted = Energy efficient = Reliable = Compliant = Practical

Our range of specifiable ventilation solutions

Innovative systems that give peace of mind...

At Polypipe we continuously strive to develop new products which not only improve indoor air quality and reduce household energy usage, but also make specifying and installing ventilation systems much easier.

Designed and manufactured in the UK, our systems include a range of patented & patent pending products, specifically engineered to meet the evolving requirements of the ventilation industry and provide optimum homeowner comfort.

We like to go that step further...

Understanding your ventilation requirements is integral to ensuring that we tailor our solutions to meet your needs.

Available to support you from the enquiry stage through to project completion, we will recommend the most suitable and compliant system for your project:

- Quotations and specifications
- FREE bespoke CAD drawings
- On-site engineering assistance
- Commissioning and servicing
- On-line training resource





Polypipe Ventilation have proudly been specified and our systems successfully installed on a number of projects ranging from the unique, high profile and large scale through to small and complex developments. For more information please visit:

www.polypipe.com/ventilation/ case-studies





CPD training

If you have an enquiry and would like a guotation from your local Area Specification Manager, please call 08443 715523 or email specifyvent@polypipe.com

🚹 We're here to help...

To download our full product selector, visit www.polypipe.com/ventilation

To book or enquire on our CPD courses please email vent.marketing@polypipe.com or visit www.polypipe.com/ventilation/ specification





Why ventilate?

All dwellings need a supply of fresh outdoor air, not just for the health and comfort of the occupants, but also to remove polluted air from inside a dwelling and replace it with fresh outdoor air.

In new energy efficient houses greater levels of air tightness leads to poor indoor air quality and other, more visible impacts such as condensation damage and mould growth.

To combat these issues, we offer a range of ventilation solutions which exceed current Building Regulation requirements and are suitable for a wide variety of property types.

Silavent DOMLS

- 1 Silavent Green Line HRX2 MVHR appliance. Our centralised range also includes the HRX MVHR unit and CMX MEV unit. See pages 4-7.
- 2 Domus Radial semi-rigid duct. See page 12-13.
- 3 Domus Radial manifold. See page 12.
- 4 Domus Radial outlet plenum (optional twin connection). See page 13.
- 5 Domus Thermal rigid duct insulation. See page 11.
- 6 Domus rigid duct. See page 10.
- 7 Silavent Sapphire bathroom fan. See pages 15.*
 - The Sapphire range also includes stylish dMEV units. See page 14.
- 8 External roof cowl terminal. Forms part of our Domus rigid duct systems. See page 10.

*This image is for illustration purposes only and intermittent extract fans should not be operated in conjunction with a centralised mechanical extract system.



Mechanical Ventilation with Heat Recovery (MVHR)

Silavent Green Line HRX and HRX2 Units

Our MVHR range is designed to improve indoor air quality through efficiently combining supply and extract ventilation into one centralised system. When installed with Domus ducting they provide the ultimate energy saving system.

Key benefits:

- **Key features:**
- Lower household energy consumption
- Help reduce the Dwelling Emission Rate (DER) to secure additional SAP points
- Improve indoor air quality through continuous balanced ventilation
- Provide peace of mind that the units exceed Building Regulations
- Easy and quick to install, commission and maintain

When installed with

- Distinct moulded lightweight EPP casing improves thermal efficiency and maximises air flow
- Wiring centre is mounted remotely, taking away the need to dismantle the unit to install and preventing moisture from damaging the electrics
- 100% summer bypass option maintains air flow performance
- Designed for left or right installation no need for complex duct runs
- Energy Efficiency

product

PATENT PENDIN

2014

The HRX

In more detail:

- Low Specific Fan Power down to 0.58 W/(l/s)
- Heat exchange efficiency up to 88%
- Compact and extremely lightweight (11.5kg)
- Services Product of the year

The HRX2

In more detail:

- Extremely low Specific Fan Power down to 0.46 W/(l/s)
- Heat exchange efficiency up to 95%
- Modular bypass design removes any need to dismantle the unit during installation

Installation:

space

Floor area up to 180m²

• Fits inside a kitchen cupboard or loft

rigid duct and HRX unit. See page 12

Installation:

- Floor area up to 275m²
- Fits inside a utility room or loft space
- Ideal for larger developments

Recommended duct ancillaries; either:

- Domus Ø150mm round or 220 x 90mm rectangular rigid duct. See page 10
- Domus Radial house pack with semi-rigid duct and HRX2 unit. See page 12

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 $\boldsymbol{\omega}$ Technical assistance: Call 08443 715523

www.polypipe.com/ventilation

Specification MVHR documents are available at www.polypipe.com/ventilation/specification



The HRX2

550 500

450

400

350

300

250 200

150

100



Recommended duct ancillaries; either: Domus Ø125mm round or 204 x 60mm Winner of Housebuilder's Best rectangular rigid duct. See page 10 Domus Radial house pack with semi-

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Specification	230V
Max Extract Volume (m ³ /h)	260
Max Extract Volume (l/s)	72
Max Pressure (Pa)	550
Max Power (W)	184
Supply Frequency (Hz)	50
Max Sound dB(A)@3m	35
Insulation Class	1
Weight (kg)	11.5
Dimensions (HxWxD mm)	755x564x290
Max Operating Temperature (°C)	40

Product Characteristics Database

	Butubu	<u> </u>
Application	SFP W/(l/s) (2009)	Heat Exchange Efficiency (2009)
Kitchen & 1 wet room	0.58	88%
Kitchen & 2 wet rooms	0.61	86%
Kitchen & 3 wet rooms	0.68	86%
Kitchen & 4 wet rooms	0.78	86%
Kitchen & 5 wet rooms	0.91	85%
Kitchen & 6 wet rooms	1.08	84%
Kitchen & 7 wet rooms	1.24	84%
	(2012)	(2012)
Kitchen & 1 wet room	0.63	87%
Kitchen & 2 wet rooms	0.75	86%
Kitchen & 3 wet rooms	0.93	85%
Kitchen & 4 wet rooms	1.14	84%
Kitchen & 5 wet rooms	1.37	84%

Specification	230V
Max Extract Volume (m ³ /h)	406
Max Extract Volume (I/s)	113
Max Pressure (Pa)	450
Max Power (W)	184
Supply Frequency (Hz)	50
Max Sound dB(A)@3m	35
Insulation Class	1
Weight (kg)	20
Dimensions (HxWxD mm)	683x935x530
Max Operating Temperature (°C)	40

Product Characteristics Database		
Application	SFP W/(l/s) (2009)	Heat Exchange Efficiency (2009)
Kitchen & 1 wet room	0.53	95%
Kitchen & 2 wet rooms	0.47	94%
Kitchen & 3 wet rooms	0.46	94%
Kitchen & 4 wet rooms	0.52	93%
Kitchen & 5 wet rooms	0.57	92%
Kitchen & 6 wet rooms	0.67	92%
Kitchen & 7 wet rooms	0.77	91%
	(2012)	(2012)
Kitchen & 1 wet room	0.48	94%
Kitchen & 2 wet rooms	0.50	94%
Kitchen & 3 wet rooms	0.59	93%
Kitchen & 4 wet rooms	0.71	92%
Kitchen & 5 wet rooms	0.85	91%
Kitchen & 6 wet rooms	1.00	90%
Kitchen & 7 wet rooms	1.15	89%

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Mechanical Extract Ventilation (MEV)

Silavent Green Line CMX Unit

Designed to continually extract waste air from a property, the CMX at just 125mm in depth is one of the most versatile and energy efficient MEV solutions available on the market.

Key benefits

Key features

- Improves indoor air quality through continuous ventilation
- Helps reduce the Dwelling Emission Rate (DER) to secure additional SAP points
- Provides peace of mind that the unit exceeds Building Regulation requirements
- Easy and quick to install and maintain
- Fits into joist spaces

 Exceptionally compact (125mm deep) and lightweight (3.25kg), ideal for small

- ceiling void depthsDistinct EPP casing reduces noise
- Extremely low Specific Fan Power down to 0.24 W/(l/s)
- In-line ports enable straightforward duct connection
- Flexible home owner control (3 speed options)

Quiet. Compact. Efficient.

Installation:

- Floor area up to 275m²
- Flexible installation: can be fitted horizontally or vertically:
- Inside a kitchen cupboard or utility room
- Direct to a ceiling or in a loft space
- Within a joist space

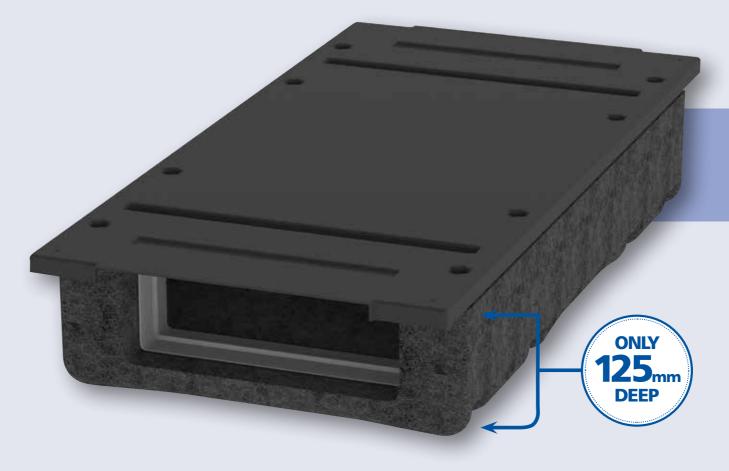
Recommended duct ancillaries:

 Domus CMX air supply kit with filter (CMX-ASK1). Brown (B) and white (W) versions available

Either:

- Domus 220 x 90mm rectangular or Ø150mm round rigid duct system.
 See page 10
- Domus Radial house pack with semirigid duct and CMX unit. See page 12

Specification	230V
Max Extract Volume (m ³ /h)	430
Max Extract Volume (l/s)	120
Max Pressure (Pa)	650
Max Power (W)	83
Supply Frequency (Hz)	50
Max Sound dB(A)@3m	34
Socket Size (mm)	220x90
Insulation Class	1
Weight (kg)	3.25
Max Operating Temperature (°C)	40

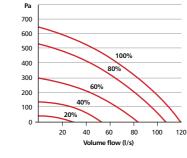


Product Characteristics Database	
Application	SFP W/(l/s) (2009)
Kitchen & 1 wet room	0.24
Kitchen & 2 wet rooms	0.25
Kitchen & 3 wet rooms	0.29
Kitchen & 4 wet rooms	0.35
Kitchen & 5 wet rooms	0.43
Kitchen & 6 wet rooms	0.54
	(2012)
Kitchen & 1 wet room	0.24
Kitchen & 2 wet rooms	0.25
Kitchen & 3 wet rooms	0.29
Kitchen & 4 wet rooms	0.35
Kitchen & 5 wet rooms	0.43
Kitchen & 6 wet rooms	0.54





Warranty: 2 yrs standard



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www.polypipe.com/ventilation/MEV

Warranty: 2 yrs standard Cechnical a

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Domus CMX air supply kit provides effective background ventilation

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High airflow performance up to 120l/s

Specification documents available at www.polypipe.com/ventilation/specification

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High Efficiency Green Line Rigid Duct Bends

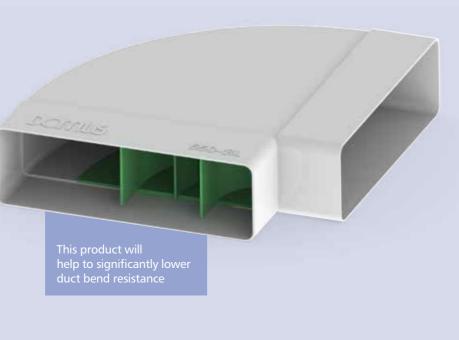


Engineered to significantly reduce duct resistance, lower system noise and overall energy usage.

Why they are needed

Due to the profile of a duct bend, air travelling through it can become turbulent, causing increased resistance and system noise. As a consequence, the mechanical extract appliance will need to work harder in order to meet the required air flow rates; therefore consuming more energy.

Domus Green Line high efficiency 90° duct bends have been specifically designed to enable a uniform flow of air through the section of duct, **reducing** the duct bend resistance by up to 60% and lowering the air speed. All of which results in a guieter and more efficient ventilation system.



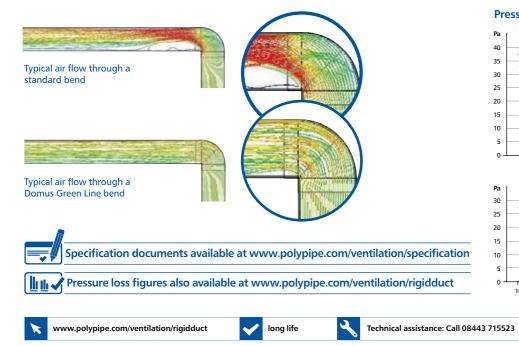
The colour of the internal vanes as shown in the image is illustrative (manufactured in white).

Key features

- Smoothly channels air through the duct bend in a uniform flow
- Performance has been tested by the Building Research Establishment (BRE)

Key benefits

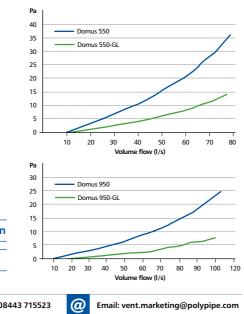
- Significantly reduces duct resistance by up to 60% for improved air flow and overall energy usage
- Reduces air speed through the bend to lower system noise



Range

To support the most popular rectangular rigid duct profiles, **NEW** Domus Green Line bends are available to install with 204x60mm (550-GL) and 220x90mm (950-GL) ducting.

Pressure Loss Performance



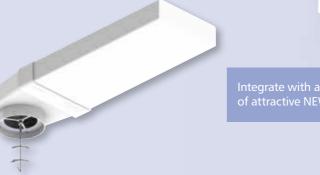
Rigid Duct Plenum with Flow Control Device

allowing connection to a range of stylish grilles.

Why is it needed

When installing a centralised mechanical extract system into a dwelling, the air flow rates will need to be balanced and commissioned at the internal terminals, to ensure the correct rates are achieved.

An integral flow control device allows the required air flow rates to be easily set and an architectural grille directly fitted to the plenum – regardless of the installation stage.



- Adjusting the air terminal for commissioning is guick and easy
- Enables commissioning to be carried out prior to fixing the ceiling boards





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Rigid Duct Insulation

As an integral part of Domus rigid duct systems, Domus Thermal is a unique and patented duct insulation system, designed specifically to radically improve the thermal insulation of rigid ducting in domestic properties.

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MAXIMISES TH

EFFICIENCY OF SILAVENT

Why Domus Thermal?

Complies with 2010 Building Regulations and NHBC requirements*

- LABC registered
- Reduces heat loss and virtually eliminates the formation of condensation
- Insulates ducting passing through cold spaces and in the heated area of a dwelling
- Insulates both the exhaust and intake ducts into the MVHR unit
- An installer-friendly solution which can be fitted quickly and reliably without the need for gluing or taping

NHBC guidelines have changed.

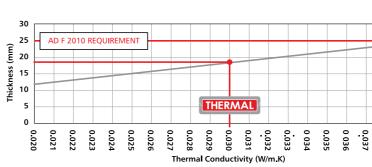
All duct insulation must have a specific thermal value.

Why is it needed?

Changes to current Building Regulations require that greater provision needs to be made for insulating ducting in domestic properties.

Building Regulations demand:

≤0.04 W/(m.K) thermal conductivity at 25mm insulation thickness.







Supported by insulation, sound attenuation and fire stopping products.

Our market leading Domus duct systems help customers to achieve the highest possible efficiency from Silavent mechanical extract appliances. The range is manufactured to exacting tolerances, which virtually eliminates air leakage and minimises the pressure drop associated with ducting and consequently, system energy consumption.

Duct profiles

Domus circular duct: Ø100mm - EasiPipe 100 Ø125mm - EasiPipe 125 Ø150mm - EasiPipe 150

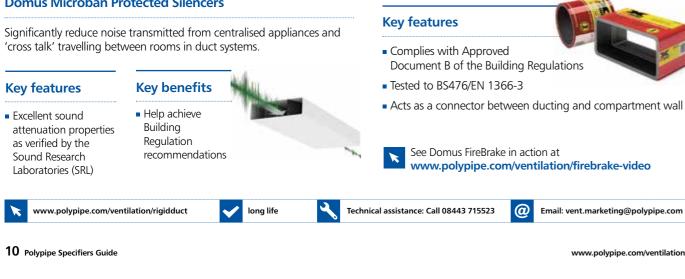
Domus rectangular duct: 110mm x 54mm - System 100 204mm x 60mm - Supertube 220mm x 90mm - Megaduct 234mm x 29mm - PV Low Profile 225 308mm x 29mm - PV Low Profile 300

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EFFICIENCY OF SILAVENT

Domus Microban Protected Silencers



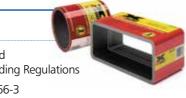


Specification documents available at www.polypipe.com/ventilation/specification

Pressure loss figures available at www.polypipe.com/ventilation/rigidduct

Domus FireBrake

Domus FireBrake fire-stopping connectors are also available for each profile. FireBrake meets NHBC requirements and provides up to 2 hours of fire protection.



See Domus FireBrake in action at www.polypipe.com/ventilation/firebrake-video

Minimum thermal resistance or R-value = 0.025/0.04 = **0.625 K/W.**

Domus Thermal provides:

≤0.03 W/(m.K) thermal conductivity at 20mm insulation thickness.

Thermal resistance or R-value = 0.020/0.03 = 0.666 K/W.

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Quicker to install

installation costs.











Currently, compliant solutions are more labour intensive and require higher skill levels to install. Domus Thermal's simple interlocking feature means that the system is guicker and easier to install. This revolutionary method can therefore significantly reduce



The Silver EPS used to manufacture Domus Thermal provides a significantly improved thermal conductivity value due to the inclusion of carbon particles, which gives Domus Thermal its distinctive silver colour.

* Note: NHBC requirement for unheated areas require supplementary insulation. Please consult NHBC Standards Chapter 3.2

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What is different about Domus Radial?

- Suitable for multi-floor, single floor and apartment configurations
- NEW slimline manifold (125mm deep) enables easy installation between joists or in tight spaces
- Compact manifold size also allows for greater location flexibility
- **NEW** innovative outlet plenum with optional twin connection for increased air flow and lower energy usage
- Optional integral flow control device allows the outlet plenum to be connected directly to a stylish architectural grille – no air valve necessary
- Can integrate with Domus rigid duct systems to create versatile hybrid solutions
- Rapid fixing mechanism enables secure and air-tight connection with no leakages
- Corrugated construction and the unique formulation of semi-rigid duct resists stress cracking and on-site damage
- Fire-stopping and insulation components also available

ww.polypipe.com/ventilation/radial

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Unit warranty: 2 yrs standard

Tested by the Building Research Establishment (BRE) for inclusion within the Product Characteristics Database, Domus Radial offers performance levels that not only are the equivalent to traditional rigid ducting in smaller builds but also exceed these levels in properties with four or more wet rooms.



Key benefits

Accessories

- Simplified design layout makes the system ideal for new and refurbishment projects
- Increased air capacity for reduced air noise, lower duct losses and improved appliance efficiency
- Ability to integrate stylish architectural grilles, to fit interior design scheme
- Eliminates room-to-room cross talk, for a quieter home
- Reduces installation time by up to 60%, thereby lowering project costs



to suit internal





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Domus Radial is available as preproduct selector for more information at www.polypipe.com/ventilation

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Decentralised Mechanical Extract Ventilation (dMEV)



Silavent Sapphire dMEV Units

Our highly efficient Silavent Sapphire dMEV range offers continuous low level ventilation – to a single wet room, coupled with virtually silent operation.

How it works

Decentralised Mechanical Extract Ventilation (dMEV) systems incorporate continuously running extract fans, designed to remove waste and moist air from a single wet room.

dMEV fans continuously extract the waste air at both low trickle or boost speeds, as determined by the homeowner through a range of control options. Replacement fresh air is then drawn into the dwelling via background ventilators located in the habitable rooms.



100mm Energy Efficient Axial

SAPPHIRE RANGE

GREEN LINE PRODUCTS

- Provides very quiet levels of continuous ventilation to a single wet room, down to 12 dB(A)
- Comply with current Building Regulation requirements
- Stylish fascia to fit interior design scheme
- Extremely low SFP down to 0.19 W/(l/s)
- Ability to interchange fascia options



Stylishly designed to discreetly complement modern interior design schemes, our NEW dMEV Sapphire range offers exceptionally high levels of energy efficient performance and operate almost silently; ensuring homeowners are not disturbed whilst maintaining continuous and effective balanced ventilation.





100mm Energy Efficient Centrifugal

SAPPHIRE RANGE

GREEN LINE PRODUCTS

- Provides very quiet levels of continuous ventilation to a single wet room, down to 18 dB(A)
- Comply with current Building Regulation requirements
- Stylish fascia to fit interior design scheme
- Extremely low SFP down to 0.29 W/(l/s)

Mix and match stylish axial fascia options to suit the interior design scheme!

Axial dMEV A	ccessories	
1K	Wall Fitting Kit	
TFF100-CF1W	Fascia, Curved, Gloss White Finish, 210x190mm	States of States
TFF100-CF1S	Fascia, Curved, Silver Finish, 210x190mm	and the second
TFF100-CF1BM	Fascia, Curved, Brushed Metal Finish, 210x190mm	
TFF100-DT1W	Fascia, Circular Indent, Gloss White Finish, 200x200mm	-
TFF100-DT1S	Fascia, Circular Indent, Silver Finish, 200x200mm	-



Very quiet ventilation combined with style and efficiency!

w.polypipe.com/ventilation/dmey

2 Warranty: 2 yrs standard



 $\boldsymbol{\omega}$ Technical assistance: Call 08443 715523 Email: vent.marketing@polypipe.com

Intermittent Extract Fans

Silavent Sapphire Fans

Our quiet range of stylish Silavent Sapphire bathroom and kitchen fans provides rapid local extraction and includes axial, centrifugal and in-line options.

How it work	s			Sapphire Ir
	ract is a classic m me, either under ntrol.		 Very quiet Include en emissions a Ability to in 	dern design to performance l ergy efficient r and comply wi nterchange or r discreet integ
-	100mm A	Axial		Energy
	SAPPHIRE		to 22 dD(A)	GREEN L Comply
	Stylish faseAbility to rExtract up	peration down cia to fit interio mix and match to 23l/s (230V hort duct runs	r design scheme fascia options	Comply RegulatOffer aReduce
PREMIUM	SUITABLE FOR	BATHROOM	TOILET	
	150mm E SAPPHIRE	nergy Effic	cient Axial	~
-	GREEN LIN	E PRODUCTS		
SUITABLE FOR KITCHEN TOILET PREMIUM FOR NEW BUILD & REPLACEMENT	 Performance 	nts v SFP down to ia to fit interior peration down arbon emission	r design scheme to 49 dB(A)	SU SU Libea Su Re
	100mm (Centrifugal		Energy
	SAPPHIRE	RANGE		GREEN L
-	Stylish faseExtract up	peration down cia to fit interio to 19l/s (230V onger duct runs	r design scheme)	 Comply Regulat Offer a Reduce

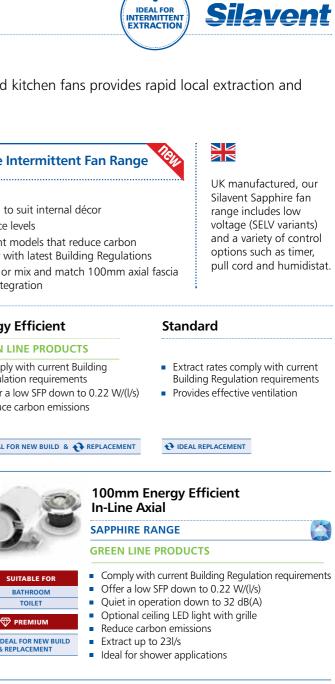
Fascia Options		
Fascia, Curved, Gloss White Finish, 210x190mm		
Fascia, Curved, Silver Finish, 210x190mm		
Fascia, Curved, Brushed Metal Finish, 210x190mm		
Fascia, Circular Indent, Gloss White Finish, 200x200mm		
Fascia, Circular Indent, Silver Finish, 200x200mm		
oipe.com/ventilation/fans 🗸 Warranty: 2 yrs standard 🌂		

BATHROOM

SUITABLE FOR

TOILET





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Efficient

Standard

LINE PRODUCTS

ly with current Building ation requirements low SFP down to 0.39 W/(l/s) Reduce carbon emissions

🛉 IDEAL FOR NEW BUILD & 🕀 REPLACEMENT

- Extract rates comply with current
- **Building Regulation requirements**
- Provides effective ventilation

♦ IDEAL REPLACEMENT



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Polypipe Ventilation Specifiers Guide



Polypipe Ventilation

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