i-day

XPOWER INVERTER

Cassette
40KQV

CEILING CASSETTE – THE CLASSIC CHOICE

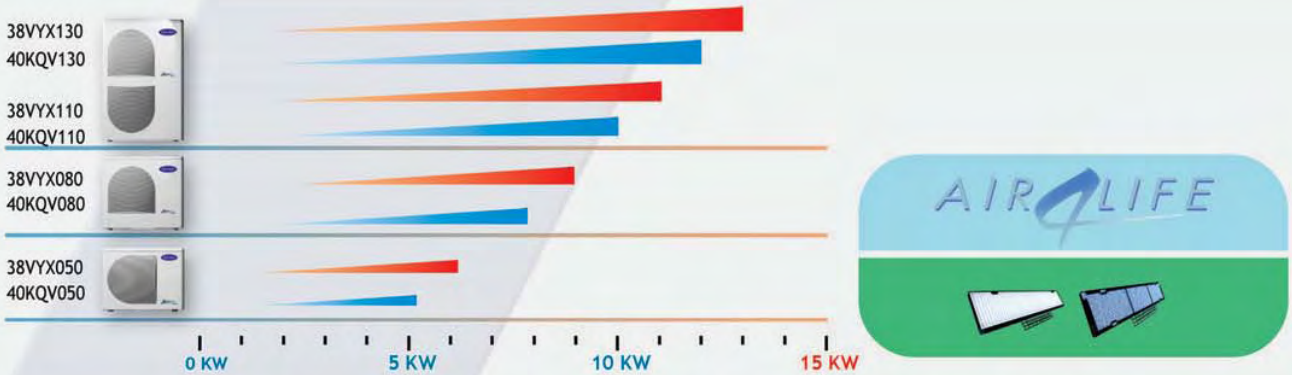
Ideal for any building with a false ceiling

The unit has a fresh air inlet to ensure constant air renewal

Motorised louvres with a choice of six selectable air flow directions, including continuous sweep and automatic mode, with four-way distribution control.

The acoustic performance is outstanding, thanks to the centrifugal fan with patented aerofoil blades, the new heat exchanger, and the improved air management system

Quick and easy maintenance: simple access to all critical components via the removable grille



Carrier

CARRIER CONTROL AND ELECTRONIC INTERFACE OPTIONS

One single multi-feature electronic board can now handle a large number of domestic and business functions, including running as part of a network.

All Carrier controls comply with current legislation, including the Electromagnetic Compatibility Directive (immunity and emissions).

MYCOMFORT – INFRARED REMOTE CONTROLLER

The exclusive MyComfort function enables users to program their favourite settings and preferences.

Sleep function provides comfort throughout the night.

24 hour programmable clock.

Louvre control to offer individual air distribution preferences.

ROOM CONTROLLER, THE LOCAL WIRED CONTROL

This small and elegant wall-mounted control serves up to 6 units with the same operating settings.

Settings and operation are clearly displayed.

Quick selection of cooling, heating, dehumidification, fan only and automatic mode.

ZONE MANAGER, THE BUILDING SUPERVISION MANAGER

Perfect for system monitoring, with the capacity to control and program up to 32 indoor units in 8 independent zones.

The user can select four individual start/stop ranges per day of the week for each zone.

In case of power failure, clock operations are maintained for 20 hours, while programmed parameters are memorised.

Technical data

cooling mode	maximum conditions	Outdoor temperature	43°C
		Indoor temperature	32°C dry bulb / 23°C wet bulb
	minimum conditions	Outdoor temperature	-5°C
		Indoor temperature	21°C dry bulb / 15°C wet bulb
heating mode	maximum conditions	Outdoor temperature	24°C dry bulb / 18°C wet bulb
		Indoor temperature	27°C
	minimum conditions	Outdoor temperature	-15°C dry bulb / -17°C wet bulb
		Indoor temperature	20°C

40KQV - Cassette		40KQV050	40KQV080	40KQV110	40KQV130
Dehumidification	l/h	1,7	1,8	3,7	4,5
Air flow cooling mode (l/m/h)	l/s	190/210/250	200/250/300	320/385/455	420/465/525
Sound pressure cooling mode (l/m/h) (1)	dB(A)	38/42/45	32/36/39	37/42/45	42/46/48
Sound power cooling mode (l/m/h)	dB(A)	51/55/58	45/49/52	50/55/58	55/59/61
Air flow heating mode (l/m/h)	l/s	190/210/250	200/250/300	320/385/455	420/465/525
Sound pressure heating mode (l/m/h) (1)	dB(A)	38/42/45	32/36/39	37/42/45	42/46/48
Sound power heating mode (l/m/h)	dB(A)	51/55/58	45/49/52	50/55/58	55/59/61
Dimensions (H x L x D)	mm	298 x 575 x 575	298 x 825 x 825	298 x 825 x 825	298 x 825 x 825
Weight	kg	19	38	38	38
Grille dimensions (H x L x D)	mm	30 x 720 x 720	30 x 960 x 960	30 x 960 x 960	30 x 960 x 960
Grille weight	kg	3,1	6,5	6,5	6,5
Nominal power supply	V/ph/Hz	220÷240 / 1 / 50	220÷240 / 1 / 50	220÷240 / 1 / 50	220÷240 / 1 / 50

38VYX - Condensing Unit		38VYX050	38VYX080	38VYX110	38VYX130
No. of compressors		1	1	1	1
Compressor type		twin rotary	twin rotary	twin rotary	twin rotary
Inverter type		DC hybrid inverter	DC hybrid inverter	DC hybrid inverter	DC hybrid inverter
Refrigerant type		R-410A	R-410A	R-410A	R-410A
Expansion device		pulsed modulation valve	pulsed modulation valve	pulsed modulation valve	pulsed modulation valve
Maximum pipe length	m	30	50	50	50
Maximum pipe elevation	m	20	30	30	30
Chargeless piping length	m	20	20	20	20
Flare connections (liquid/gas)		1/4" - 1/2"	3/8" - 5/8"	3/8" - 5/8"	3/8" - 5/8"
Sound pressure (cooling/heating) (1)	dB(A)	53 / 54	54 / 56	60 / 60	60 / 60
Sound power (cooling/heating)	dB(A)	64 / 65	65 / 67	71 / 71	71 / 71
Air flow (min/max)	l/s	290 / 666	290 / 1109	na / 1890	na / 2085
Dimensions (H x L x D)	mm	595 x 780 x 270	795 x 900 x 320	1340 x 900 x 320	1340 x 900 x 320
Weight	kg	35	55	75	85
Compressor frequency in cooling (min./max.)	Hz	20,3 / 76,0	15,0 / 68,4	24,0 / 99,6	15,0 / 65,4
Compressor frequency in heating (min./max.)	Hz	20,3 / 110,1	15,0 / 89,8	24,0 / 99,6	15,0 / 73,2
Maximum running current	A	12,0	15,0	22,0	22,8
Installation fuse rating	A	25 (type D)	25 (type D)	25 (type D)	25 (type D)
Nominal power supply	V/ph/Hz	220÷240 / 1 / 50	220÷240 / 1 / 50	220÷240 / 1 / 50	220÷240 / 1 / 50

(1) Sound Pressure level measured in accordance with standard JIS C 9612

Technical data

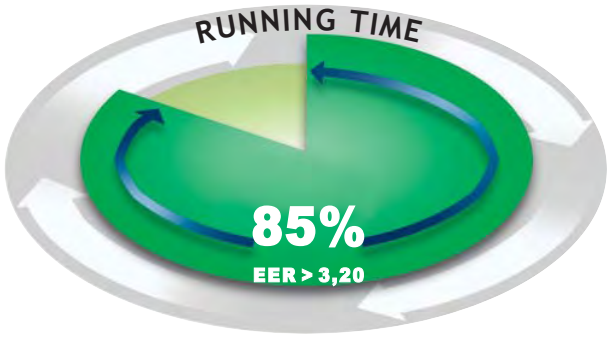
				40KQV
38VYX050	Cooling / Heating Capacity (Nominal)	kW	4,85	5,07
	Cooling / Heating Capacity (Minimum)	kW	1,50	1,50
	Cooling / Heating Capacity (Maximum)	kW	5,25	6,00
	Power Input (Nominal Conditions)	kW	1,83	1,55
	EER / COP (Nominal Conditions)	W/W	2,65	3,27
	Energy Efficiency Class (1)		D	C
	Annual Energy Consumption (1)	kW/h	915	—
	EER 50% / COP 50% (2)	W/W	4,00	4,10
38VYX080	Cooling / Heating Capacity (Nominal)	kW	6,60	7,55
	Cooling / Heating Capacity (Minimum)	kW	2,20	2,20
	Cooling / Heating Capacity (Maximum)	kW	7,90	9,00
	Power Input Nominal	kW	2,35	2,35
	EER / COP (Nominal Conditions)	W/W	2,81	3,21
	Energy Efficiency Class (1)		C	C
	Annual Energy Consumption (1)	kW/h	1175	—
	EER 50% / COP 50% (2)	W/W	4,50	4,50
38VYX110	Cooling / Heating Capacity (Nominal)	kW	10,30	10,10
	Cooling / Heating Capacity (Minimum)	kW	2,20	2,20
	Cooling / Heating Capacity (Maximum)	kW	11,50	12,00
	Power Input Nominal	kW	3,61	3,15
	EER / COP (Nominal Conditions)	W/W	2,85	3,21
	Energy Efficiency Class (1)		C	C
	Annual Energy Consumption (1)	kW/h	1805	—
	EER 50% / COP 50% (2)	W/W	4,00	4,50
38VYX130	Cooling / Heating Capacity (Nominal)	kW	12,40	13,00
	Cooling / Heating Capacity (Minimum)	kW	3,00	3,00
	Cooling / Heating Capacity (Maximum)	kW	13,50	15,00
	Power Input Nominal	kW	4,35	4,05
	EER / COP (Nominal Conditions)	W/W	2,85	3,21
	Energy Efficiency Class (1)		—	—
	Annual Energy Consumption (1)	kW/h	—	—
	EER 50% / COP 50% (2)	W/W	3,50	4,40

(1) : according to Directive 2002/31/CE
(2) : **according to CEN/TS 14825, EER 50% and COP 50% refer to the energy efficiency when the system delivers 50% of cooling or heating**

OUTSTANDING PERFORMANCE AND MAXIMUM EFFICIENCY

YEAR-ROUND SAVING

Tests carried out in several applications around the world demonstrate that XPower systems perform at very high efficiency levels for 85% of the running time.
In these conditions the XPower compressors absorb only a small amount of energy, reducing the annual electricity bill by up to 40%.



MINIMUM LIFE-CYCLE COST

Traditional air conditioners run at a constant speed; they stop and start continuously to maintain the desired temperature.

With Carrier XPower there is no waste. The compressor runs initially at full power reaching the preset temperature quickly. It then switches to minimum power without stopping.

Compared to a similar or conventional fixed-speed system, Carrier XPower gives you up to 40% energy saving in air conditioning (cooling and heating) applications.

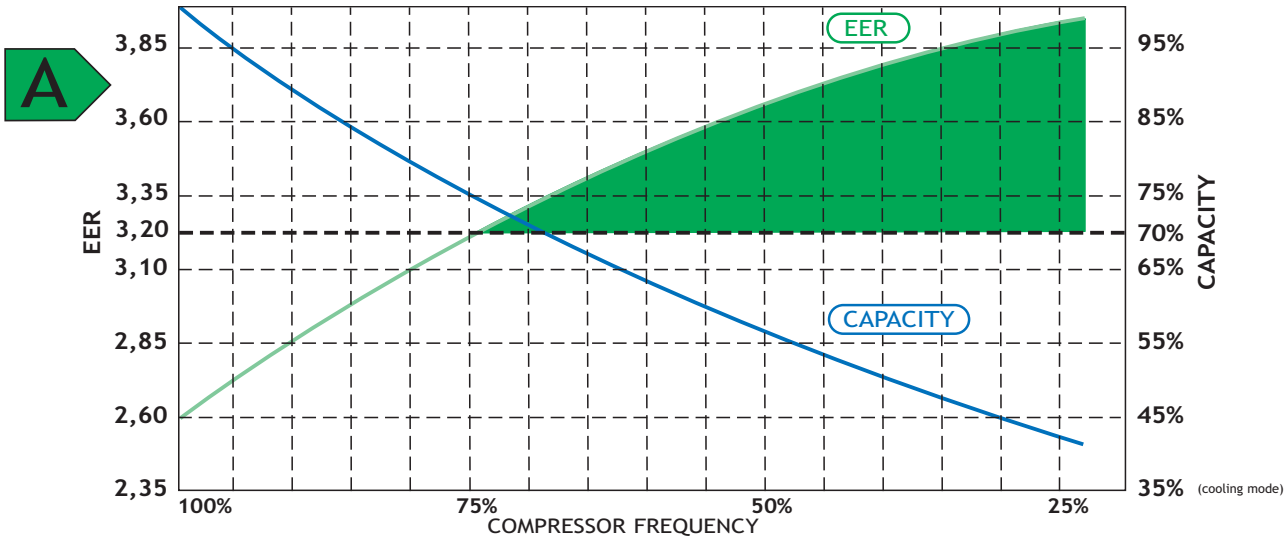
It also ensures:
- a superior environmentally sound air conditioner
- no more over or under capacity

The tests* results show that Carrier XPower systems work for 85% of the time in a range of capacity below 70% of the maximum performance. In these conditions, Carrier XPower always has an extremely high EER ratio (above 3.20)

*Tested in residential and commercial applications in Milan, Rome, Madrid, Lisbon, Auckland, Lyon, Nice, Amsterdam, Gstaad, Sydney, Berlin, London and Athens.

MAXIMUM EFFICIENCY AND PERFORMANCE

The XPower variable-speed compressor operates with an extremely high energy efficiency ratio. Outstanding EER ratios (above 3.2) are obtained both at low speeds and when the compressor runs at 70% of the maximum load. The energy saving, compared with a conventional fixed-speed system, is as much as 40%.



Condensing Unit
38VYX

FOR QUALITY OF LIFE, YOU NEED QUALITY TECHNOLOGY

DC Inverter Technology:
PAM (High power) + PWM (High efficiency)
System Electronic Management

Ecology and performance with R-410A, a non ozone depleting refrigerant

Minimal fluctuation when the preset room temperature is reached

Superior quality manufacturing process and guaranteed performance

Compressor technology optimized for significant noise reduction

Easy installation and maintenance

Wide range of Carrier controls and interfaces

XPOWER INVERTER

Condensing Unit 38VYX

ADVANCED FEATURES FOR PROFESSIONALS

TWIN ROTARY COMPRESSOR

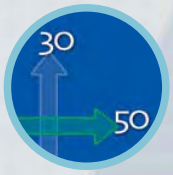
Two rotary compression cylinders, offset from each other by 180 degrees and a DC brushless motor and shaft in perfect balance to reduce vibration and noise and provide superior efficiency and performance.

WIDER OPERATING RANGE

Systems can operate at -5°C in cooling mode and -15°C in heating mode.

OUTDOOR DC FAN MOTORS

Outdoor fan speeds are fine tuned electronically to deliver the required air flow and optimal performance.



LONGER UNIT CONNECTIONS

Designed for challenging installations, up to 50 m in distance and 30 m in elevation; chargeless up to 20 m.

NO CURRENT PEAKS

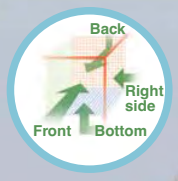
Power input at start-up is always lower than the operating current.

INCORPORATES A SELF-DIAGNOSTIC TOOL

An advanced self-diagnostic tool is incorporated to automatically monitor routine maintenance requirements. Twenty-three codes ensure thorough diagnosis.

PULSED MODULATION VALVE

The pulsed modulation valve (PMV) regulates the refrigerant flow in the circuit. The electronically controlled refrigerant flow guarantees optimum working conditions in every cycle.



CONNECTION FLEXIBILITY

On larger models the valves are positioned internally and can be connected (through a pre-cut panel) from four positions (front, back, bottom and right side).

Carrier

Condensing Unit
38VYX

XPOWER INVERTER

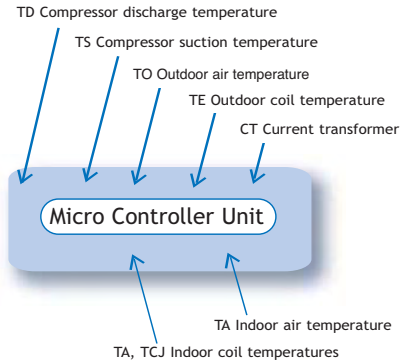
ABSOLUTE RELIABILITY AND PEACE OF MIND

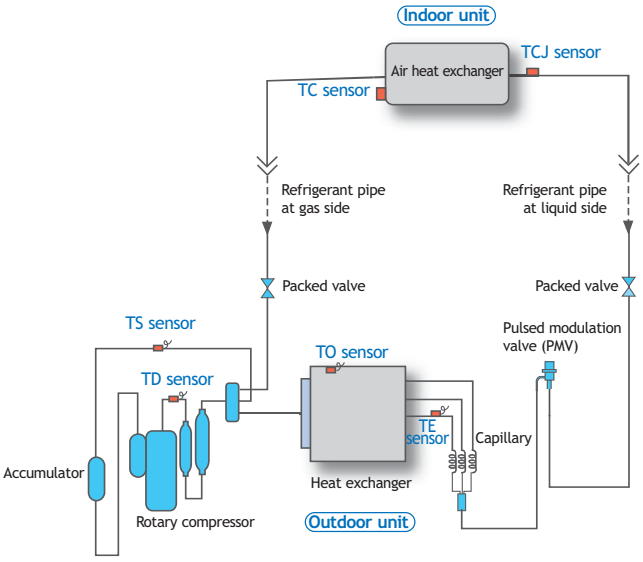
ADVANCED ELECTRONIC MONITORING SYSTEM

The new XPower system self-monitoring process ensures that the units always work at optimum efficiency. Resulting in energy savings and improved comfort.

Several sensors placed in key positions on the refrigerant circuit electronically detect the operating status of the system.

The micro controller unit receives the sensor input and uses advanced control algorithms to optimise the control of core components: compressor, fan motors and the PMV.





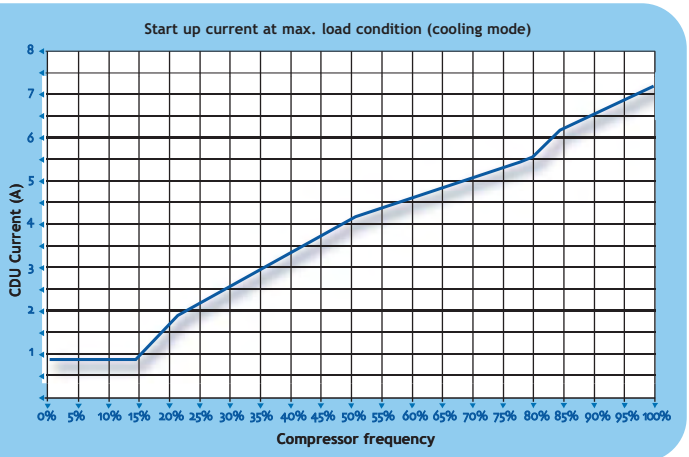
The main functions of these sensors are:

- to optimise refrigerant superheat at the compressor in cooling and heating mode and to prevent liquid refrigerant entering the compressor
- detection of the refrigerant leaks
- control the IDU and CDU fan speeds
- manage defrost and cold draft prevention in heating mode
- prevention of ice forming on the indoor coil during cooling operation at low-temperature
- prevent condensation at high humidity conditions in cooling mode
- monitor the indoor air temperature and set the system performance
- control CDU power input: no peaks during start-up ensures high compressor reliability

POWER INPUT MANAGEMENT

The condensing unit power input is continuously monitored to ensure longevity of key electronic components such as the compressor.
The maximum compressor frequency is reached step by step, this ensures :

- no power input peaks during the start-up, the power input is always lower than during operation
- safe connection to single-phase power supply even in large-capacity systems.



Carrier

Condensing Unit 38VYX

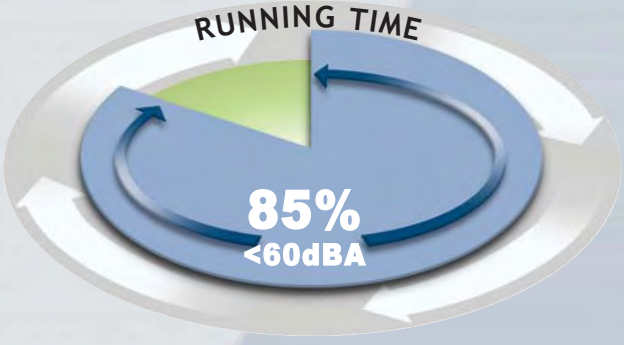
ACOUSTIC COMFORT AND ENVIRONMENTAL CARE

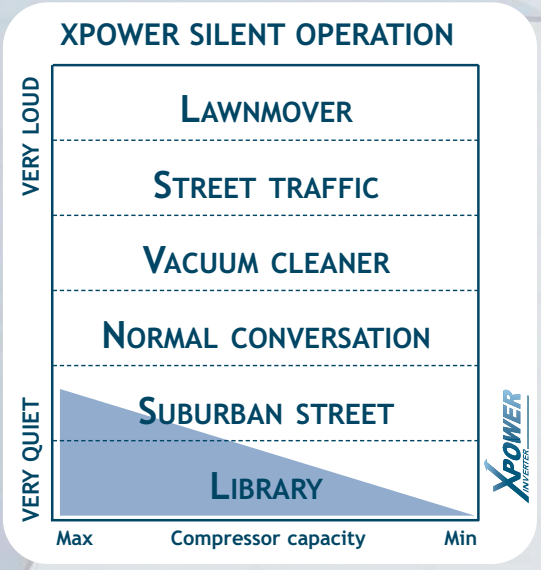
XPOWER – POWERFUL, YET QUIET

The Xpower systems utilise inverter technology that enables them to run continually at an energy efficient level, this also ensures they operate much quieter when compared to the traditional fixed-speed or on/off systems. Further improvements that result in reducing noise levels include:

- the compressors are fully insulated
- they incorporate a twin rotary cylinder shaft
- suppression of component vibration
- brushless DC compressor motor

XPower operates at less than 60dB(A) 85% of the time

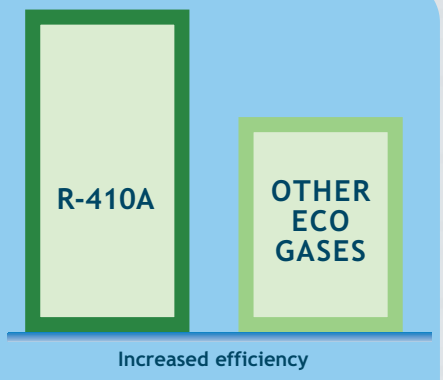




PURON: THE SAFEST AND MOST EFFICIENT REFRIGERANT

The quality of our environment and the quality of life are closely linked. The XPower systems are specifically optimised to operate with R410A refrigerant. R410A is the best ecologically sound technology that complies with the most demanding standards established by the Montreal and Kyoto protocols on the preservation of our environment. It is chlorine-free and its Ozone Depleting Potential (ODP) is zero. It is also non-toxic, non-flammable and provides an increase of up to 15% efficiency compared to alternative HFC or HCFC refrigerants.

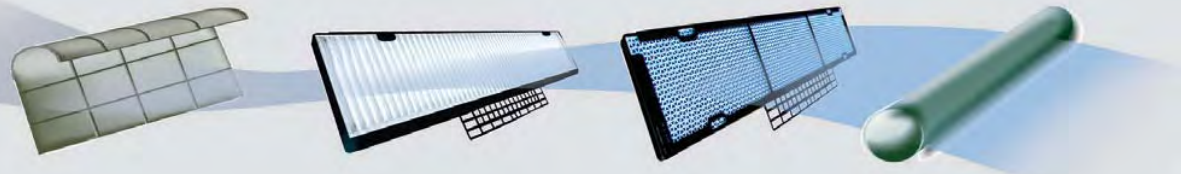
Puron™ the environmentally sound refrigerant



AIR4LIFE – ENHANCING INDOOR AIR QUALITY

XPower systems are fitted with Air4life, the high-efficiency four-stage air purification system, that eliminates dust and pollen particles suspended in the atmosphere.

It also reduces odours like smoke, cooking smells, bacteria and pollutants down to 0.01 micron in diameter.



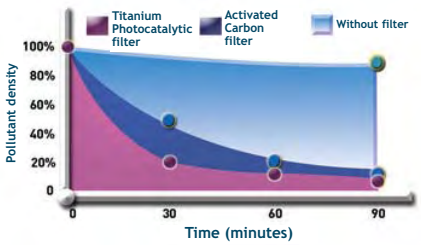
Anti-bacterial filter:
Removes dust and pet hairs while preventing bacteria and fungus formation.

Electrostatic filter:
Traps spores, bacteria and fine dust.

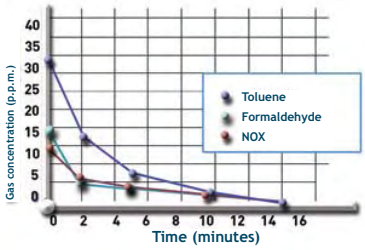
Titanium Photocatalytic filter:
Eliminates odours such as smoke, frying and other food smells. Breaks down pollutants and eliminates bacteria down to 0.01 micron in diameter.

Anti-bacterial fan:
Prevents bacteria and fungus proliferation by diffusing healthy and clean air.

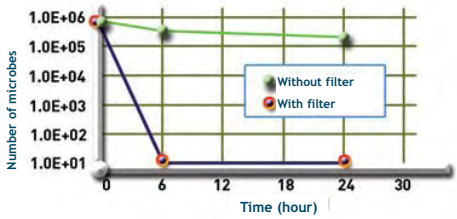
POLLUTANT DENSITY



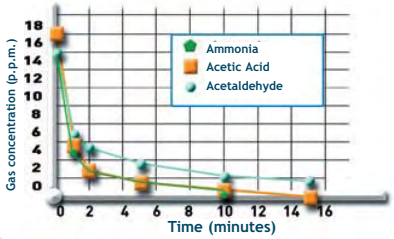
ELIMINATION OF HARMFUL CHEMICALS



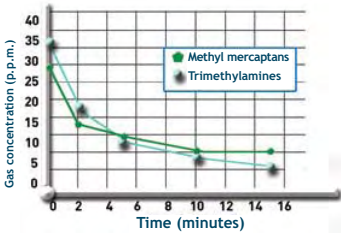
ANTIBACTERIAL PROPERTIES
E-coli



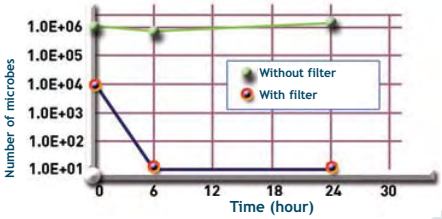
ELIMINATION OF SMOKE ODOURS



ELIMINATION OF DOMESTIC ODOURS
Waste and pets



ANTIBACTERIAL PROPERTIES
Salmonella



Regenerable filters

All filters are washable. The Titanium Photocatalytic filter is regenerable: after washing under running water, simply dry it in sunlight to completely break down the remaining pollutants.