

TWIN FANS

209

FAN TYPE	FAN LOCATION	MAX PERFORMANCE	PAGE
OPUS 40/60/95	SURFACE OR RECESSED	95l/s	210
ES-OPUS DC	INLINE DUCT	115l/s	216
OPUS PLUS	INLINE DUCT OR SURFACE	150l/s	222
QUIETSCROLL ECOSMART TWIN FANS	INLINE OR ROOF	5.9m ³ /s	228
CONSTANT PRESSURE	INLINE (CENTRAL EXTRACT)	2.4m ³ /s	246
CVD DAMPERS	INLINE (CENTRAL EXTRACT)	DESIGN DEPENDANT	
TWIN SQUIF	INLINE	6.2m ³ /s	264

OPUS 40-60-95 SINGLE & TWIN FANS

NEW STYLISH WALL & CEILING FAN CONTINUING NUAIRE'S PEDIGREE FOR HIGH PERFORMANCE, LOW NOISE SOLUTIONS.



BENEFITS

VERY QUIET OPERATION

Units offer high performance with low noise levels.

MOST EFFICIENT SYSTEMS

Latest DC motor design providing high performance with the lowest possible Specific Fan Power available in its class. Will conform to Part L2.

GUARANTEED VENTILATION

The most compact cost effective twinfan available for the duty range.

QUICK & EASY TO INSTALL

Unit delivered complete with surface or recessed kit.

SIMPLE TO COMMISSION

Integral control facility enables the duty to be precisely set without the need for additional controls.

LOW MAINTENANCE COST

Easy clean foam filters protect motor and fan assembly, reducing maintenance costs and extending fan life. Foam filters fitted as standard.

CONTROLS

A choice of 'on-board' and 'remote' control options are available, including Ecosmart energy efficient controls.

FLEXIBLE SOLUTION - SIDE DISCHARGE

Unit can be installed horizontally or vertically. Range offers surface, recessed for duct mounted options. Refer to page 213.

CONTINUOUS VENTILATION

Twin fans allow for automatic changeover to standby fan in event of fan failure.

SPECIALIST OPTION

Vandal proof grille available for extra security and protection.

WARRANTY

Opus 40, 60 & 95 have a 3 year warranty. Ecosmart models have a 5 year warranty.

Note: if you have a BMS system the Ecosmart model will be required.

For a full range of Ecosmart sensors and enablers please refer to the controls and ancillaries section.

INSTALLATION OPTIONS



Unit can be installed as surface mounted...



...or recessed mounted.

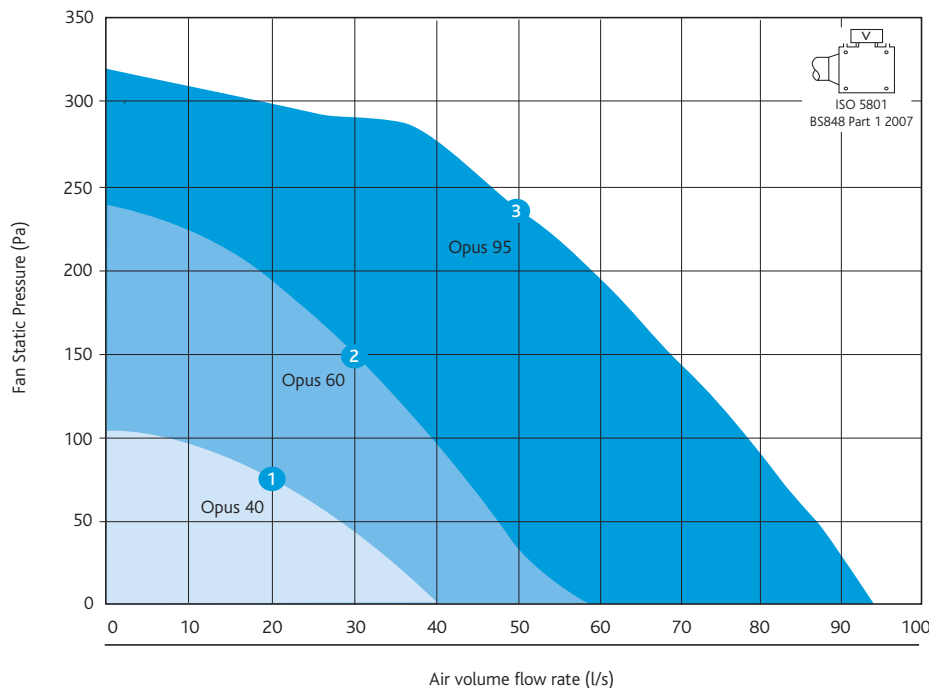
TWIN FANS

OPUS 40 - 60 - 95

TECHNICAL INFORMATION

PERFORMANCE - OPUS EXTRACT FANS

Opus 40, 60 and 95



Note: Opus 95 has $\frac{2}{3}$ duty on fan failure.

Casing



Code description (Example)

OPUS 40T - E S P

1 2 3 4 5

1 = Opus range

2 = 40, 60 or 95l/s

3 T= Twin fan

S = Single,

D = Dual fan $\frac{2}{3}$ duty on fan failure

4 = Ecosmart control or speed control

5 = P.I.R. or run on timer

OPUS EXTRACT FANS - MODELS AND CODING

MODEL	OPUS40 (SINGLE & TWIN FAN)	OPUS60 (SINGLE & TWIN FAN)	OPUS95 (DUAL FAN)
	surface/recessed	surface/recessed	surface/recessed
Single Fan (basic on/off, with trickle switch)	S	S	-
Twin Fan (basic on/off, with trickle switch) autochanger/duty share	T	T	-
Dual Fan ($\frac{2}{3}$ duty on fan failure)	-	-	D
Speed control (built in trickle & boost)	C	C	C
Ecosmart (speed control/sensors)	ES	ES	ES
Run on timer	R	R	R
PIR (run on timer included) only available on Ecosmart model (built in)	P	P	P
Inlet filter	M	M	M

ANCILLARIES

Remote Fail Indicator	OPUS-RFI	OPUS-RFI	OPUS-RFI
Remote Fail Indicator (for Ecosmart model only)	ES-AVIZ	ES-AVIZ	ES-AVIZ
External Humidistat	HUMISEN	HUMISEN	HUMISEN
External Humidistat (for Ecosmart model only)	ES-HUMIDISTAT	ES-HUMIDISTAT	ES-HUMIDISTAT
Vandal proof cover	OPUS-VPC	OPUS-VPC	OPUS-VPC
Backdraft shutter in white	PVC494WH	PVC494WH	PVC494WH

For a full range of Ecosmart sensors and enablers please refer to the controls and ancillaries section.

For foam filter spares contact Nuaire.

Note: ES-PIR & ES-TEMPZ are also available, for details refer to controls section.

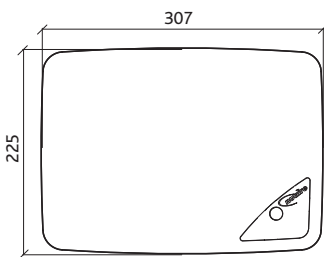
ELECTRICAL & SOUND

Fan Unit	Frequency Hz								Open inlet dBA @ 3m	FLC amps	Power watts
	63	125	250	500	1K	2K	4K	8K			
Opus 40	45	47	53	49	47	48	43	33	36	0.1	14
Opus 60	48	57	57	55	54	55	51	44	43	0.32	43
Opus 95 Dual Fan	50	57	62	58	57	57	52	46	46	0.6	72

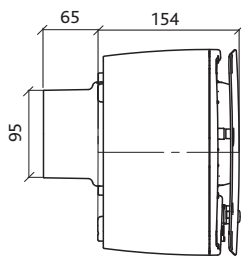
DIMENSIONS (MM)

Surface mounted unit

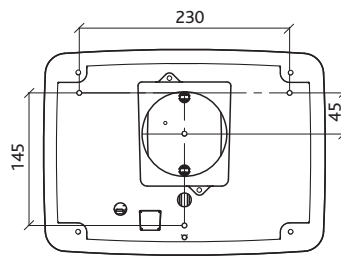
Front view



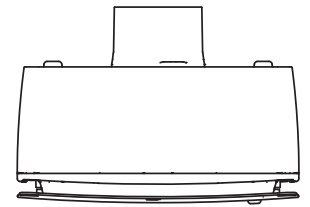
Side view



Back view

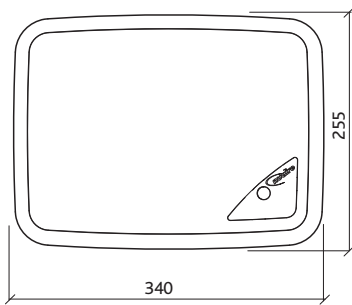


Top view

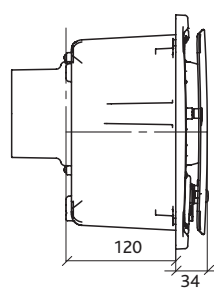


Recessed mounted unit rear discharge

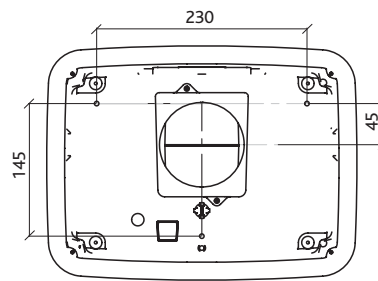
Front view



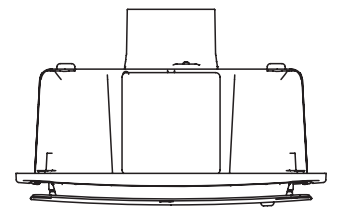
Side view



Back view

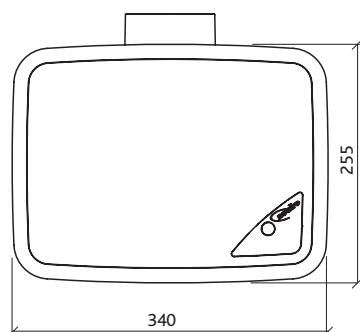


Top view

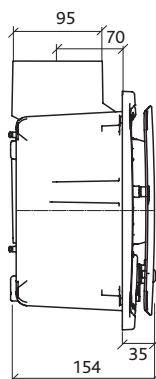


Recessed mounted unit side discharge

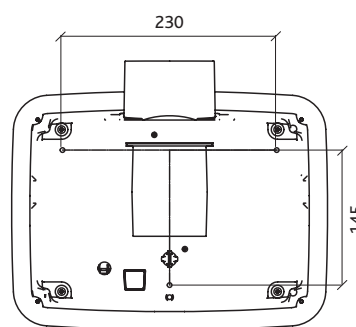
Front view



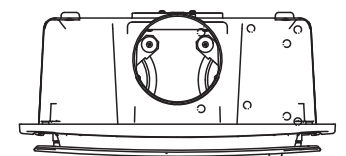
Side view



Back view

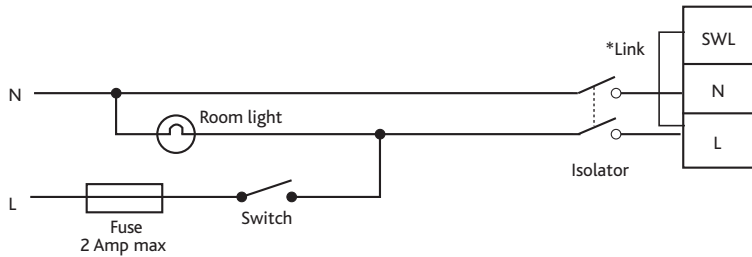


Top view

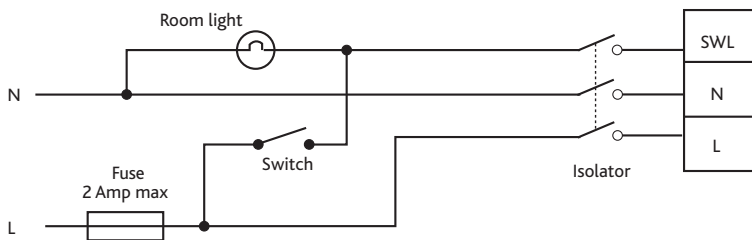


WIRING - OPUS 40 - 60 - 95

Unit ventilating one room

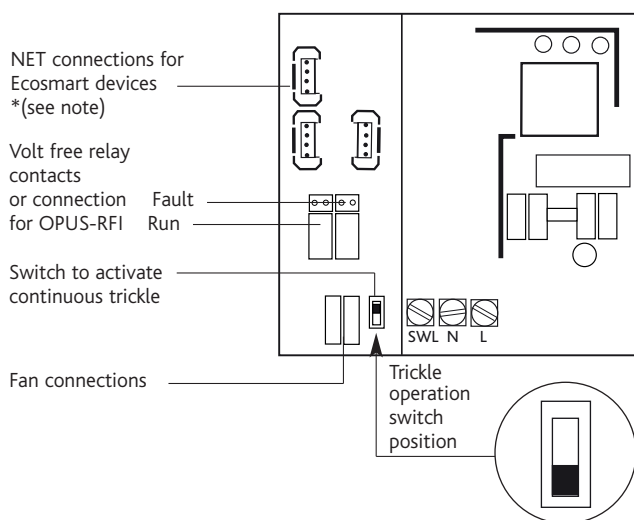


Unit ventilating one room (Using run on circuit)



*Note: Link also required when used in conjunction with remote user control (ES-UCF).

ECOSMART CONTROL OPTION



CONSULTANTS SPECIFICATION

OPERATION

The extract fans shall be as indicated on the drawings and shall be in accordance with the fan schedule in the specification. The vitiated air shall be extracted from each area via ductwork as shown. All necessary ductwork fittings and ancillaries shall be allowed for by the mechanical sub contractor.

The extract fan shall automatically vary its speed as it receives signals from one of the interconnected sensors sited in the rooms being ventilated. When the signal is received the fan shall have the ability to increase speed gradually until the required level is achieved or it will work on a trickle and boost principle i.e. increase ventilation rate from the continuous background rate to the design maximum in one step.

FAN SPECIFICATION

The fans shall have low energy, high efficiency DC fan/motor assembly with sealed for life bearings.

Motors shall have locked rotor protection to prevent overheating in the event of fan failure. The case shall be 100% recyclable with all parts supplied to enable either surface or recessed mounting. It shall have noise levels and power requirements as detailed in the specification and in accordance with the manufacturers details.

The recessed unit shall be capable of discharging the air either from the rear of the case or the side via spigots suitable for 100mm diameter ductwork.

For commissioning purposes the unit can have a miniature control panel mounted in its fascia hidden behind the front cover facilitating high and low speed adjustment (trickle and boost) together with run on timer (1- 60minutes) The front cover shall be removable without the aid of tools. Any adjustments shall be quickly and easily achieved with a standard screwdriver. The control panel shall also have status indication lamps visible behind the corner "window".

Run and standby versions shall have autochangeover and duty share as standard, the fan shall changeover every twelve hours of run time to maximise the units effective life span. All models shall have foam filters as standard.

CONTROL SPECIFICATION

The fan unit selected shall have the following functions integrally mounted within the fan unit on a purpose made PCB, all such components pre-wired and factory fitted by the manufacturer.

CONTROL OPTIONS

All models to have power and fan failure indication visible behind the front cover.

Base model – on/off control with facility for continuous background ventilation.

C – full speed control of both background and boost ventilation.

R – 1-60 minute run-on timer.

P – Integrated passive infrared detection to trigger the units to boost (Ecosmart model).

ES – ECOSMART CONTROL OFFERING:

- Integrated Infinitely variable speed control.
- Integral background ventilation commissioning facility.
- Integral boost ventilation commissioning facility.
- Autochangeover and duty share (twin fan unit only).
- Integral adjustable run on timer.
- Integral S/L terminal for boost trigger from remote switch, e.g. light switch etc.
- 3no. IDC sockets for interconnection of Ecosmart fans or low voltage sensors using pre-plugged 4-core low voltage cable.

Multiple fans can be interconnected and run from one or more sensor or controller.

- Remote volt free run and fail status indication.
- Run and fail relays for connection to BMS.
- Facia mounted fan failure, system status indication as follows:
 - Fan 1 status.
 - Fan 2 status.
 - Power to fan.
 - System standby.

5 years parts and labour warranty.

The unit shall be of the Opus type as manufactured by Nuaire.

INSTALLATION

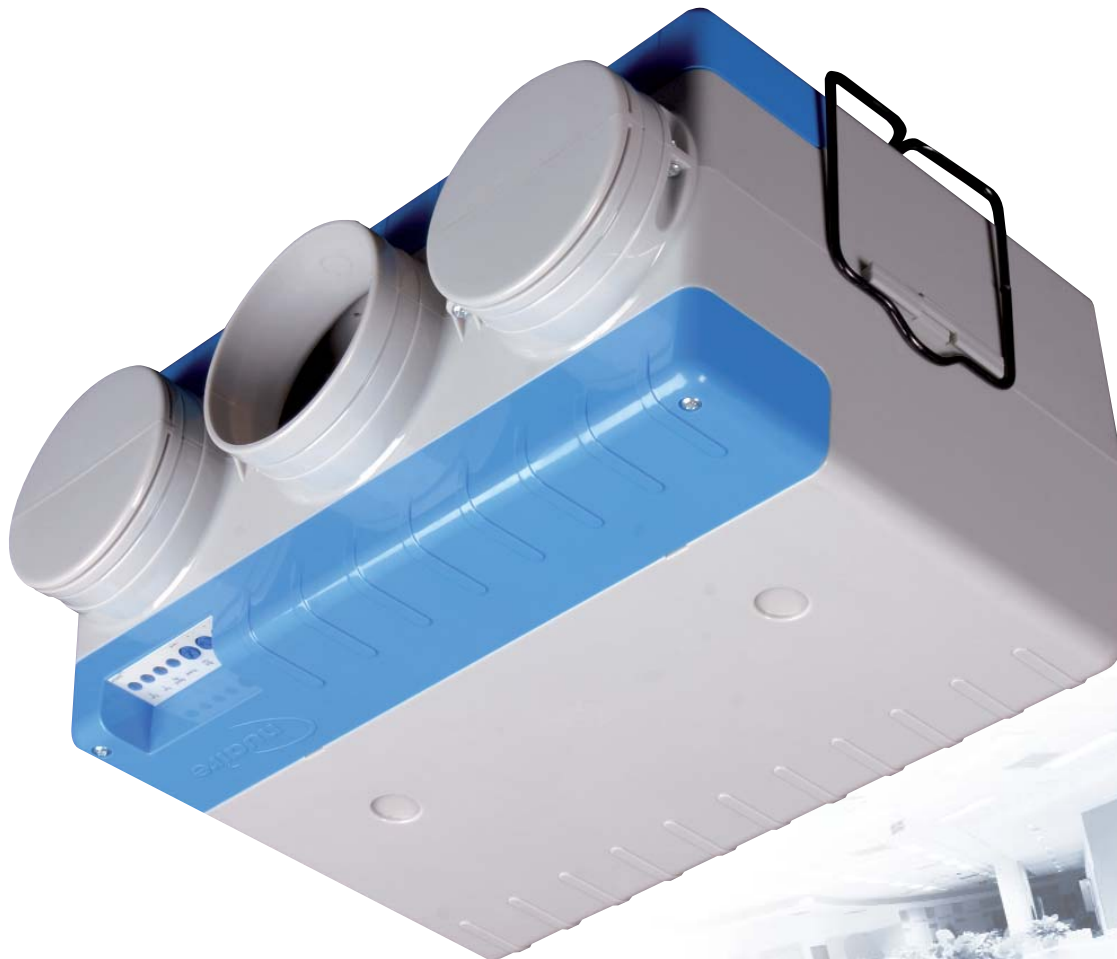
By the appointed contractor.

Mechanical installation requires mounting of the extract unit in the designated position and connection to the associated duct work. Electrical installation requires the provision and connection of single phase electrical supply at the fan.

The manufacturer's recommendations should be observed at all times.

ES-OPUSDC EXTRACT FANS

ENERGY EFFICIENT, LOW NOISE, FLEXIBLE EXTRACT SOLUTION.



BENEFITS

QUIETEST SOLUTIONS

Advanced fan motor and impeller technology providing the quietest unit available.

CONTINUOUS VENTILATION

Twin fans allow for automatic changeover to stand by fan in the event of fan failure. They also feature auto duty share.

MOST EFFICIENT SYSTEMS

Latest DC motor design providing high performance with the lowest possible Specific Fan Power available in its class.

SIMPLE COMMISSIONING

Integrated speed control enabling minimum and maximum fan speed to be easily adjusted giving an accurate and efficient site set up.

QUICK & EASY INSTALLATION

Unique self locating mounting bracket enables the unit to be quickly and efficiently installed without additional fittings.

INCREASED LIFECYCLE

Accurate speed control reduces wear and heat losses. Combined with the automatic change over in the twinfan version increases overall life of the units.

HEALTHY ATMOSPHERE

Ecosmart sensors accurately control the ventilation levels ensuring that the rooms design requirement is met without wasting motor power or needlessly, extracting conditioned air. Trickle function means that a background ventilation rate can be accurately set to keep rooms fresh when there is low occupancy.

CONTROLLABILITY

A choice of 'on-board' and 'remote' control options are available and are completely interchangeable.

ECOSMART SPEED CONTROL

All units have inbuilt energy efficient Ecosmart control included as standard to provide an easily commissioned packaged solution.

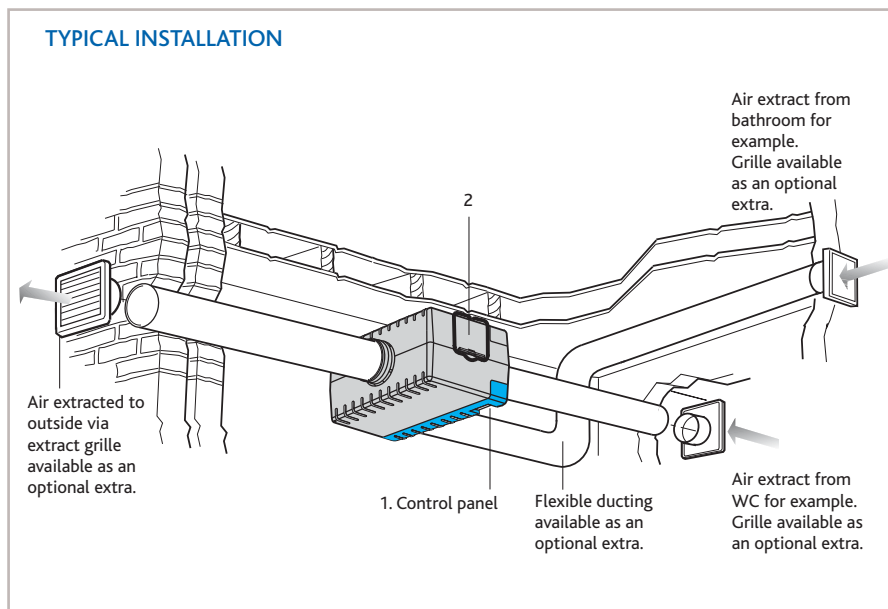
REMOTE FAILURE INDICATOR

Visual and audible failure indicator
 Code: ES-AVIZ.

WARRANTY

The ES-Opusdc has a 5 year warranty.

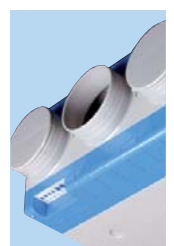
TYPICAL INSTALLATION



1. Easy control access. 2. Quick release bracket.



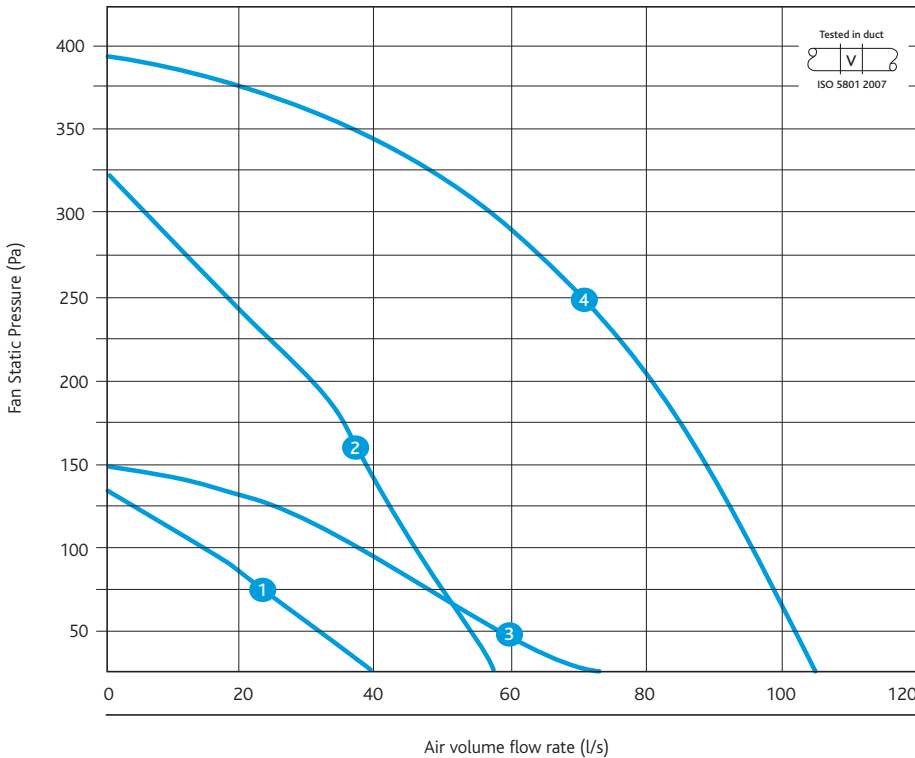
Plug-in connections.



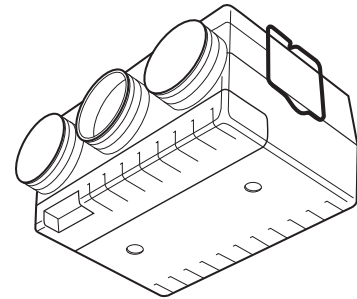
3 inlet connections.

PERFORMANCE - ES-OPUSDC EXTRACT FANS

ES-OPUSDC Single and Twinfan Units



Casing



Code descriptions

ES - OPUSDC 40 - 2 M



1. Ecosmart control
2. Opus range
3. DC=direct current, low watt
4. 40 = unit size
5. 2 = Twin model (See note*)
No reference = Single fan
6. M= Duct mounted

ES-OPUSDC EXTRACT FANS

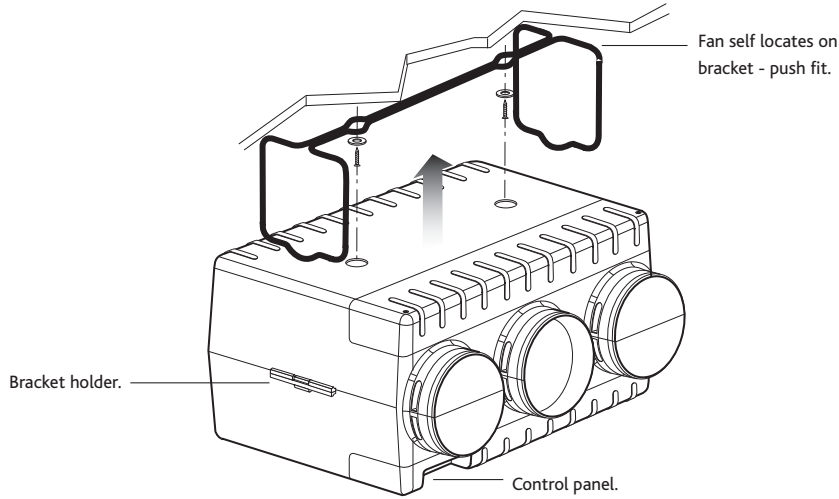
ELECTRICAL & SOUND

Curve	Code	Input Power Watts	FLC amps	Induct Inlet/outlet noise	Sound Power Levels dB re:10-12w						Breakout dBA@3m	
					Frequency Hz							
					125	250	500	1K	2K	4K	8K	
Single Fan												
1	ES-OPUSDC40-M	18	0.13	Induct inlet	65	52	45	41	36	24	25	29
				Induct outlet	64	56	53	52	49	42	34	
				Breakout sound levels	45	52	45	40	29	25	25	
2	ES-OPUSDC60-M	44	0.31	Induct inlet	72	58	53	50	45	33	30	34
				Induct outlet	75	67	62	61	60	55	49	
				Breakout sound levels	45	51	51	46	42	34	27	
Twin Fan												
1	ES-OPUSDC40-2M	18	0.13	Induct inlet	65	52	45	41	36	24	25	29
				Induct outlet	64	56	53	52	49	42	34	
				Breakout sound levels	45	52	45	40	29	25	25	
2	ES-OPUSDC60-2M	44	0.31	Induct inlet	72	58	53	50	45	33	30	34
				Induct outlet	75	67	62	61	60	55	49	
				Breakout sound levels	45	51	51	46	42	34	27	
3*	ES-OPUSDC75-M	33	0.23	Induct inlet	68	55	49	48	38	27	27	30
				Induct outlet	69	58	54	52	48	42	33	
				Breakout sound levels	52	48	49	44	31	28	25	
4*	ES-OPUSDC110-M	90	0.6	Induct inlet	76	68	61	54	49	40	37	37
				Induct outlet	76	71	63	63	62	58	52	
				Breakout sound levels	52	54	54	50	44	37	27	

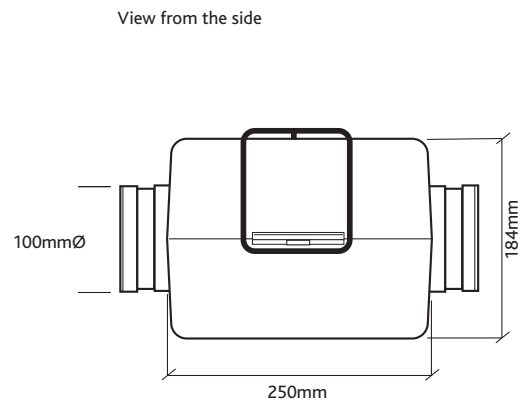
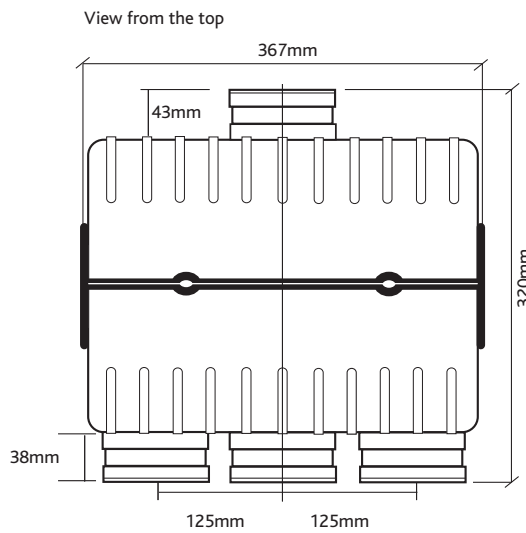
*Note: Unit sizes 75 and 110 have 2 fans running simultaneously as standard. In the event of failure the remaining fans performance will be reduced to approximately 2/3rds. Fully Ecosmart compatible with low voltage plug in control.

INSTALLATION - ES-OPUSDC EXTRACT FANS

Integral mounting bracket screws into position on ceiling.

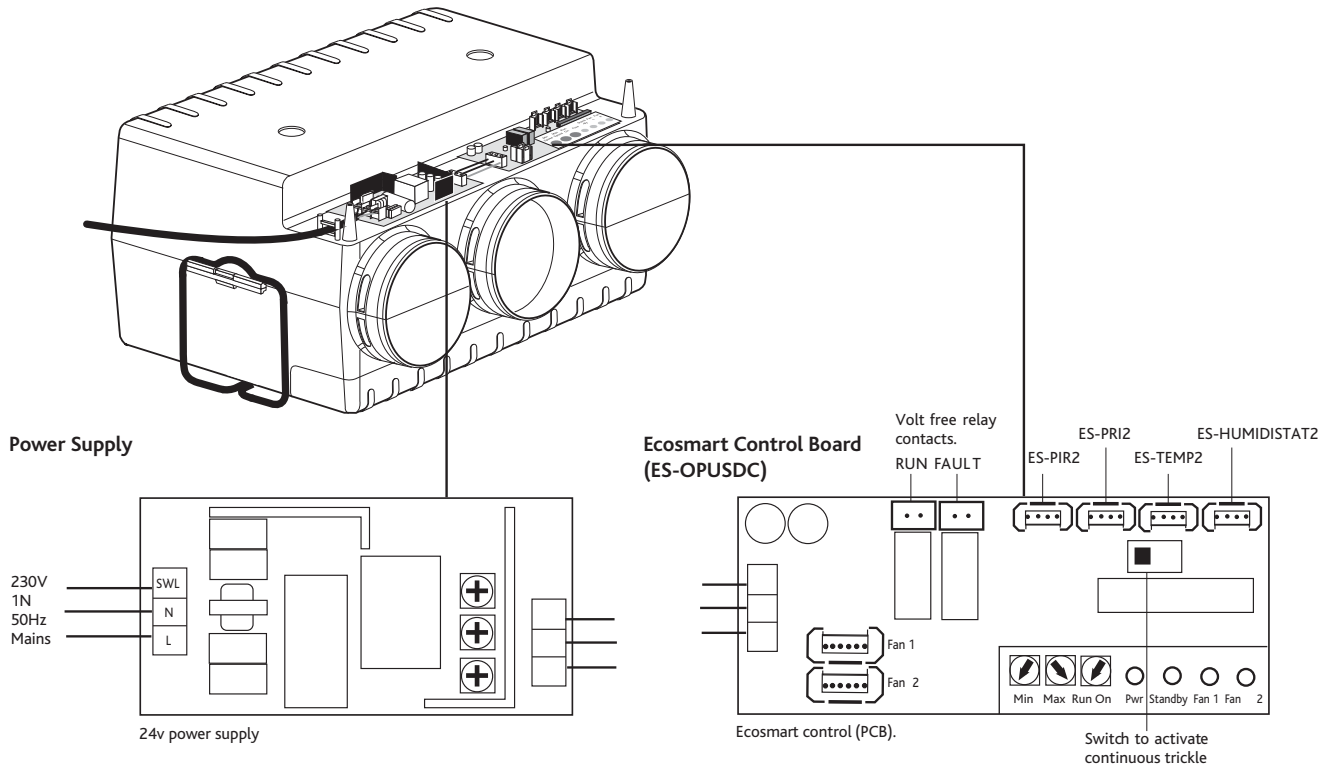


DIMENSIONS (MM)

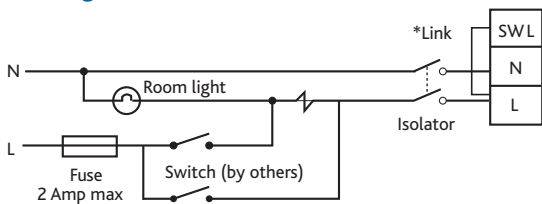


All spigots 100mm dia.
Unit weight = 3kg

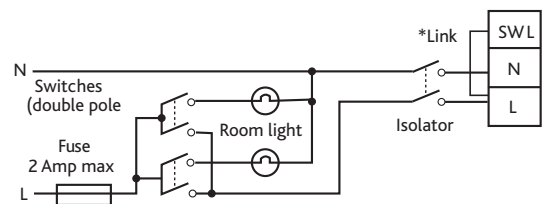
WIRING ES-OPUSDC



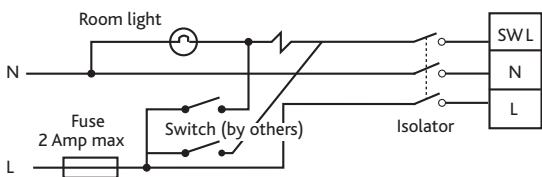
Unit ventilating one room



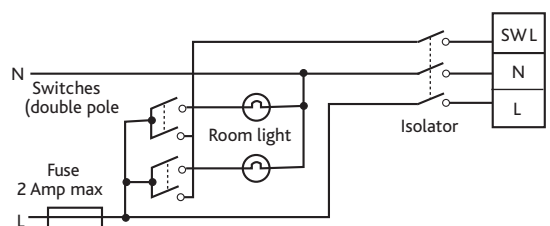
Unit ventilating two rooms



Unit ventilating one room (Using run on circuit)



Unit ventilating two rooms (Using run on circuit)



CONSULTANTS SPECIFICATION

OPERATION

The extract fans shall be as indicated on the drawings and shall be in accordance with the fan schedule in the specification. The vitiated air shall be extracted from each area via ductwork as shown. All necessary ductwork fittings and ancillaries shall be allowed for by the mechanical sub contractor. The extract fan shall automatically vary its speed as it receives signals from one of the interconnected sensors sited in the rooms being ventilated. When the signal is received the fan shall have the ability to increase speed gradually until the required level is achieved or it will work on a trickle and boost principle i.e. increase ventilation rate from the continuous background rate to the design maximum in one step.

FAN SPECIFICATION

The fans shall have low energy, high efficiency DC fan/motor assemblies with sealed for life bearings, mounted within an acoustically lined, 100% recyclable plastic case, ensuring a very efficient quiet solution. It shall have noise levels and power requirements as detailed in the specification and in accordance with the manufacturers details.

The unit shall incorporate a quick release mounting bracket. The bracket shall enable the unit to be mounted horizontally or vertically, enabling the unit to be removed without the aid of specialist tools. The depth of the unit shall not be greater than 190mm (including mounting bracket). The unit shall be constructed with one removable panel allowing quick and easy access to the electrical connections.

For commissioning purposes the unit shall have a miniature control panel mounted in its fascia facilitating high and low speed adjustment (trickle and boost) together with run on timer (1- 60minutes) and shall be accessible without the need of removing any access panels or the unit itself. Any adjustments shall be quickly and easily achieved with a standard screwdriver. The control panel shall also have status indication lamps on the underside of the unit.

Run and standby versions shall have autochangeover and duty share as standard, the fan shall changeover every twelve hours of run time to maximise the units effective life span.

Three number 100 diameter circular spigots on the system side of the unit are available to allow the ventilation of a number of rooms or points from a single unit. Two of the spigots have blanks fitted which are easily removed to facilitate the interconnection of ductwork.

CONTROL SPECIFICATION

The fan unit shall have the following functions integrally mounted within the fan unit on a purpose made PCB, all such components pre-wired and factory fitted by the manufacturer: -

ES-OPUSDC

- Integrated Infinitely variable speed control.
- Integral background ventilation commissioning facility.
- Integral boost ventilation commissioning facility.
- Autochangeover and duty share (twin fan unit only).
- Integral adjustable run on timer.
- Integral S/L terminal for boost trigger from remote switch, e.g. light switch.
- 4no. IDC sockets for interconnection of Ecosmart fans or low voltage sensors using pre-plugged 4-core low voltage cable. Multiple fans can be interconnected and run from one or more sensor or controller.
- Remote volt free run and fail status indication.
- Facia mounted fan failure, system status indication as follows:
 - Fan 1 status.
 - Fan 2 status.
 - Power to fan.
 - System standby.

5 year warranty.

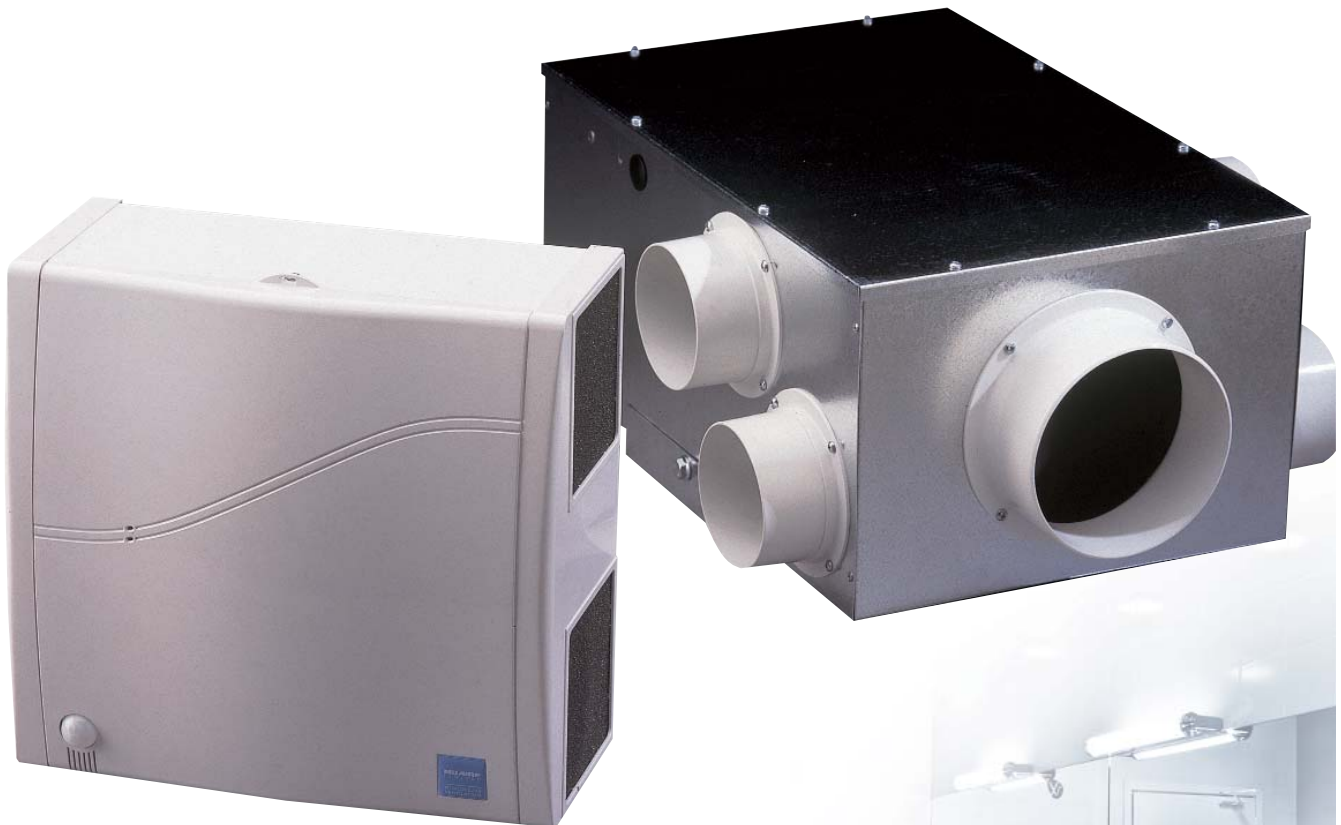
Fan shall be the ES-OPUSDC type unit as manufactured by Nuairé.

The user control and low voltage sensors are supplied complete with a 10m length of low voltage, pre-plugged cable to facilitate their interconnection (other length of cables available).

The manufacturer's recommendations should be observed at all times.

OPUS PLUS TWINFANS

COMPACT & POWERFUL, IDEAL FOR LARGER ROOM APPLICATIONS
WHILST MAINTAINING LOW NOISE LEVELS.



BENEFITS

COMPACT & POWERFUL

Small design, high performance up to 150l/s - ideal for larger room applications.

CONTINUOUS VENTILATION

Twin fans allow for automatic changeover to stand by fan in event of fan failure. They also feature auto duty share.

VERY QUIET OPERATION

Acoustically treated case and 'on board' speed control offers high performance with low noise levels.

SIMPLE COMMISSIONING

Both high and low speeds can be easily adjusted and set to the design requirements.

INCREASED LIFECYCLE

Fans automatically change over to standby every 12 hours of run time, increasing units overall lifecycle.

LOW MAINTENANCE COST

Easy clean filters protect motor and fan assembly, reducing maintenance costs and extending fan life.

HEALTHY ATMOSPHERE

Minimum fan speed can easily be adjusted between 0% and 50% for continuous background ventilation without wasting motor power. Enabling background ventilation to be provided.

CONTROLLABILITY

A choice of 'on-board' and 'remote' control options are available.

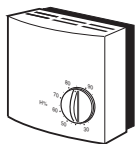
SPEED CONTROL INCLUDED

All units has speed control included as standard to provide a packaged solution.

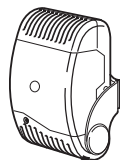
WARRANTY

Opus Plus have a 3 year warranty.

ANCILLARIES



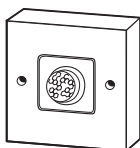
Humidistat.



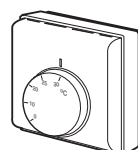
Audio visual fault indicator.



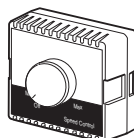
Wall kit.



Remote P.I.R. sensor.



Thermostat.



Remote speed control.

Easy maintenance.



Simple controls.



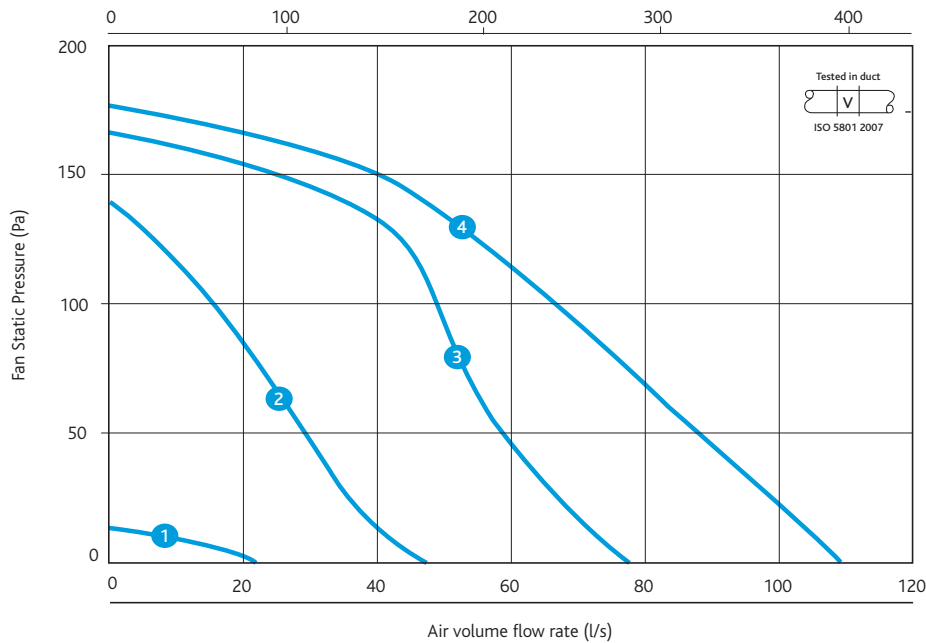
Easy filter access.



Knockout spigots.

PERFORMANCE - OPUS PLUS FANS

Opus 100 - Single and Twin Fans



Code Descriptions

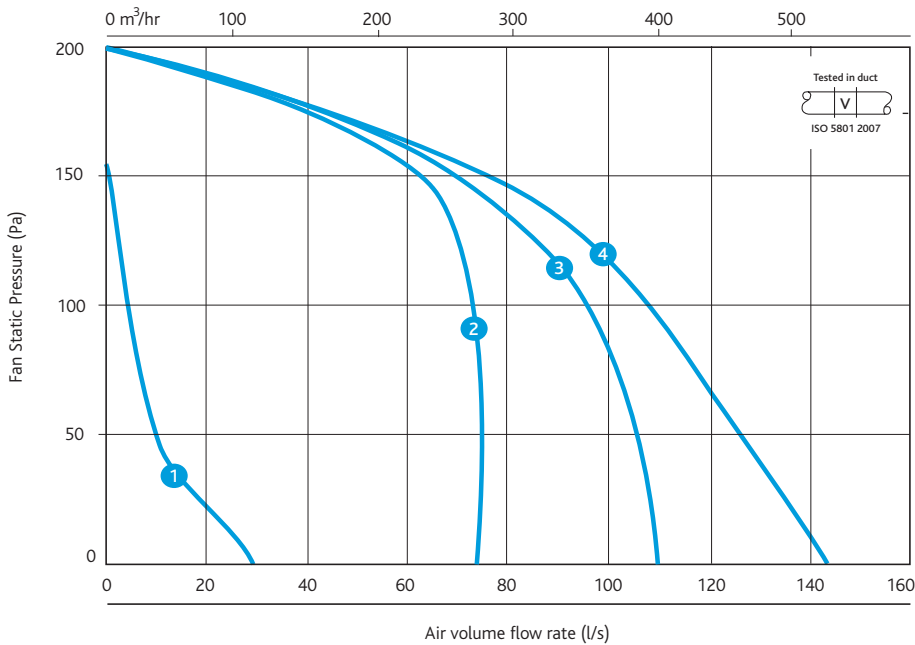
OPUS 100 - 2 B P

| | | | |

1 2 3 4 5

1. Opus-Plus range
2. Duty indication:
100 = 100 l/s
150 = 150 l/s
3. 2 = Twin fan
No reference = Single fan.
4. Unit application:
B = Surface mounted
M = Duct mounted
5. P = integral PIR. Option for surface mounted models only

Opus 150 - Dual Fans



Note: Speeds are 25-50% (1 & 2) 75-100% (3 & 4). Curves are for indication only.

Opus 150 - In event of fan failure, the second fan will continue to run. Performance will be as Opus 100.

PERFORMANCE - OPUS PLUS FANS

ELECTRICAL & SOUND

100B/2B Surface Mounted

Curve	Fan Code	Speed Control Setting	Input Power (watts)	FLC amps	Sound Power Levels (dB re 1pW)							
					Octave band mid frequency (Hz)							
					125	250	500	1K	2K	4K	8K	dBa @ 3m
1	OPUS100	25%	24	0.10	28	27	32	27	19	10	4	13
2	OPUS100	50%	36	0.15	43	42	48	42	34	25	20	28
3	OPUS100	75%	44	0.19	51	50	56	51	44	39	33	37
4	OPUS100	100%	100	0.39	59	59	62	58	54	48	45	45

150B Surface Mounted

1	OPUS150	25%	55	0.23	30	31	35	30	23	14	7	16
2	OPUS150	50%	65	0.27	45	47	51	46	38	30	25	31
3	OPUS150	75%	130	0.55	53	56	61	56	51	44	40	41
4	OPUS150	100%	200	0.78	57	61	65	61	57	51	47	48

100M/2M Surface Mounted

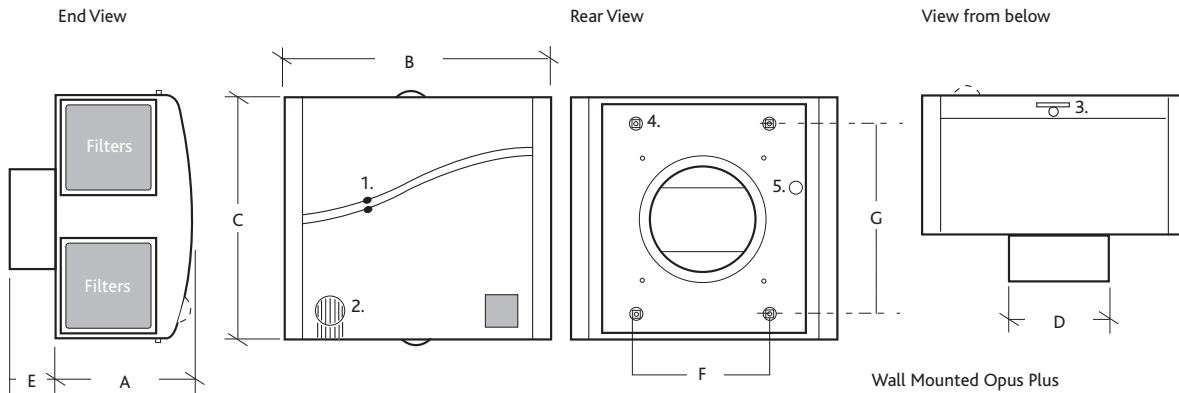
1	OPUS100	25%	24	0.10	30	24	20	18	12	1	-	4
2	OPUS100	50%	36	0.15	45	39	36	33	27	16	7	20
3	OPUS100	75%	46	0.19	53	47	44	42	37	30	20	30
4	OPUS100	100%	100	0.39	61	56	50	49	47	39	32	37

150M Duct Mounted

1	OPUS150	25%	55	0.23	31	27	22	18	13	2	-	4
2	OPUS150	50%	65	0.27	46	43	38	34	28	18	10	20
3	OPUS150	75%	130	0.55	54	52	48	44	41	32	25	30
4	OPUS150	100%	200	0.78	58	58	52	49	46	39	32	37

The electrical and sound information in the table is nominal. Breakout dBA@3m is spherical, free field.

DIMENSIONS - SURFACE MOUNTED OPUS PLUS UNITS

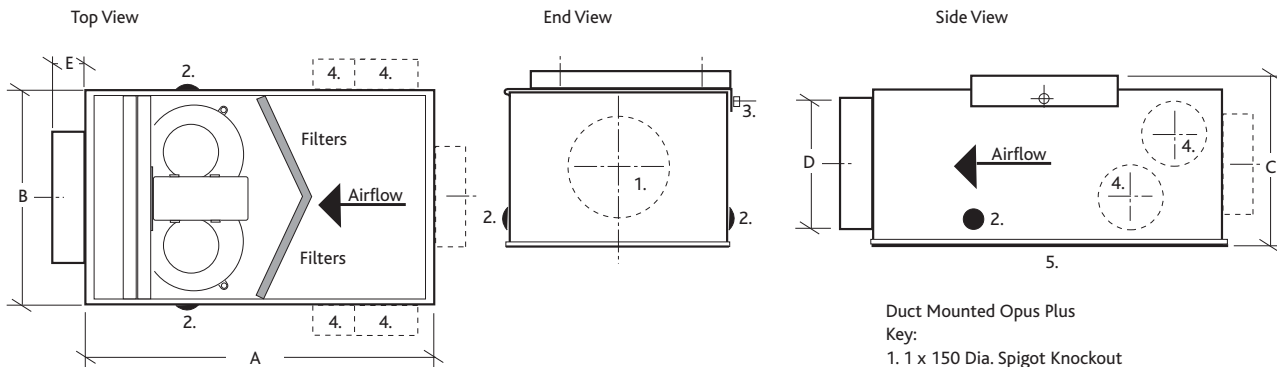


Wall Mounted Opus Plus

- Key:
- 1. LED Run and Fail Indicators
 - 2. Optional Fascia P.I.R.
 - 3. Cover Fixing Screws
 - 4. Fixing Points
 - 5. Cable Access

DIMENSIONS (mm) & WEIGHTS								
Fan Unit	A	B	C	D	E	F	G	Weight Kg
OPUS100-2B	160	335	320	125	50	160	248	5
OPUS100-B	160	335	320	125	50	160	248	5
OPUS150-B	160	335	320	125	50	160	248	5

DIMENSIONS - DUCT MOUNTED OPUS PLUS UNITS



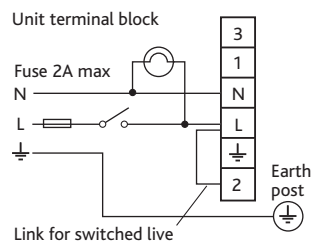
Duct Mounted Opus Plus

- Key:
- 1. 1 x 150 Dia. Spigot Knockout
 - 2. Cable Access
 - 3. Single Screw Unit Fixing
 - 4. 4 x 100 Dia. Spigot Knockouts
 - 5. Access Panel (full length of unit)

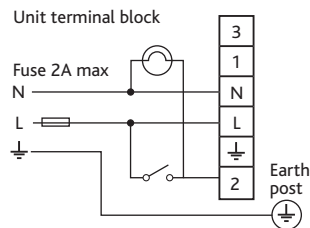
DIMENSIONS (mm) & WEIGHTS						
Fan Unit	A	B	C	D	E	Weight Kg
OPUS100-2M	500	330	260	200	50	11
OPUS100-M	500	330	260	200	50	10
OPUS150-M	500	330	260	200	50	11

WIRING

Wire for full speed operation only.



Wire for trickle vent/boost and timed overrun.



CONSULTANTS SPECIFICATION

OPERATION

The extract fans shall be as indicated on the drawings and shall be in accordance with the particular fan schedule in this specification. The vitiated air shall be extracted from each area via ductwork as shown. All necessary ductwork fittings and ancillaries shall be allowed for by the mechanical sub contractor.

The extract fans shall be operated as it receives signals from one of the interconnected sensors or an external signal e.g. light switch. The OPUS Plus shall have the facility to increase speed on a trickle and boost principle when triggered.

GENERAL FAN SPECIFICATION

The fans are acoustically lined with high density class "O" flame retardant acoustic insulation, giving extremely low noise levels and shall be complete with an integral filter, integral controls and fascia mounted run and fail indication. The breakout noise level and power requirements shall be in accordance with the schedule and the manufacturer's details.

The fans shall have low energy, high efficiency fan/motor assembly with sealed for life bearings.

OPUS PLUS

The unit shall be supplied complete with automatic fan changeover in the event of failure, sensed via a "hall effect" airflow sensor, and auto duty share every 12 hours of run time.

DUCT MOUNTED

The unit shall incorporate a low profile single point mounting bracket, incorporating a pre-stressed synthetic anti vibration seal. The bracket shall enable the unit to be mounted horizontally or vertically. The depth of the unit shall not be greater than 260mm. The unit shall be constructed with one removable panel allowing full maintenance access. To facilitate the interconnection of branch ducts the unit shall have 4x100 dia & 1x 125 dia knockouts on the suction side of the unit (spigots provided) and 1 x 200 dia discharge spigot.

Fan shall be the OPUS100- (2) M or the OPUS150-M as manufactured by Nuair.

SURFACE MOUNTED

All fan components are manufactured from ABS polymer and pre-coated steel. Unit finish shall be white.

Fan to have the option of an integrated PIR detector to switch the unit from trickle or off to full speed. Air inlet grilles are fitted with foam filters to protect the fan/motor assembly from airborne dust and contaminants. The unit shall have a 125dia spigot to connect to ductwork or wall mounting kit. Surface mounted LED indicators shall show the unit operational status.

The unit shall be supplied complete with automatic fan changeover in the event of failure, sensed via a "hall effect" airflow sensor, and auto duty share every 12 hours of run time.

All versions shall have the following functions integrally mounted within the fan unit on a purpose made PCB, all such components pre-wired and factory fitted by the manufacturer:

- Integral adjustable background ventilation control/set point (0 – 50%).
- Integral adjustable trickle ventilation control/set point (50 – 100%).
- Integral adjustable run on timer.
- Integral S/L terminal for boost trigger from remote switch, e.g. light switch.
- Volt free failure/status indication.
- 3 years manufacturers warranty.

The unit shall be controlled by one of the following remote options:

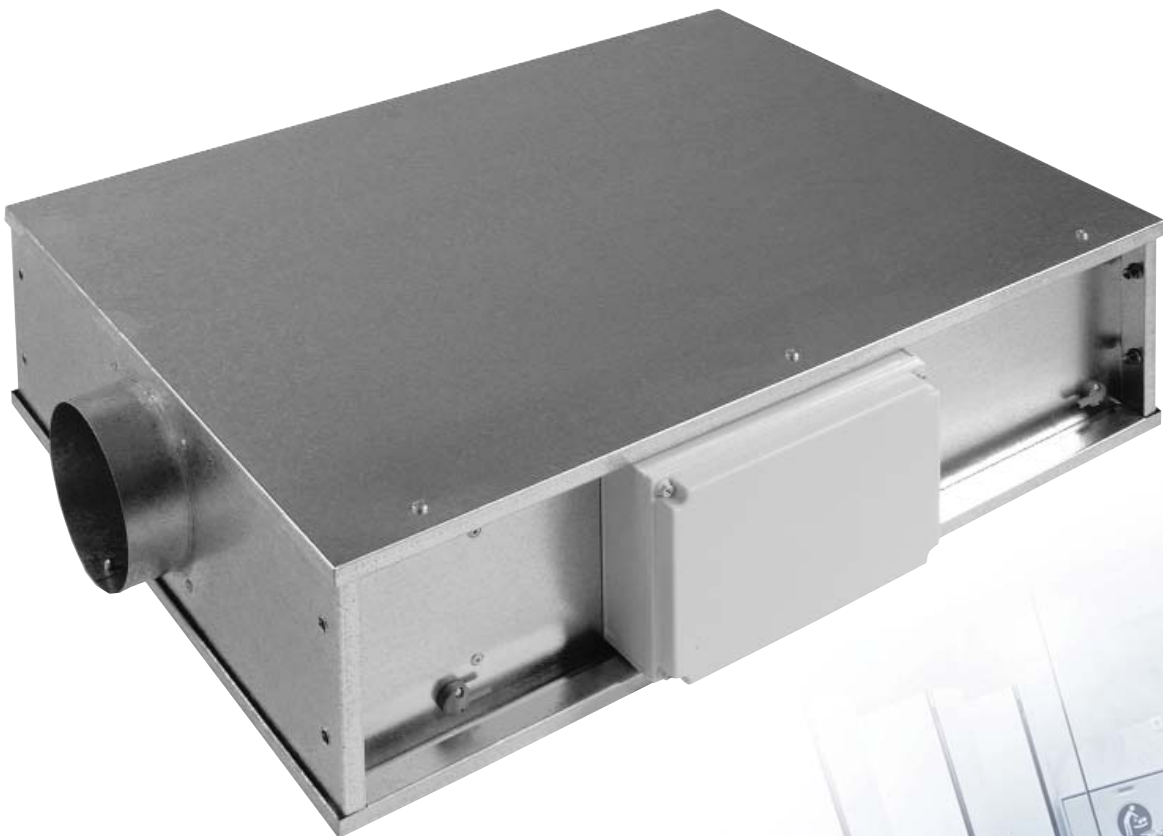
- OPUS –SPD – Low voltage (12V) speed control, ON/OFF and speed control between min and max settings.
- 230-PIR - (passive infra-red) movement detector (includes run-on-timer), 2-30 mins).
- 230-PIRNT - (passive infra-red) movement detector (without run-on-timer).
- HUMISEN - Humidity sensor.
- 230-TSTATR – Room thermostat.
- ES-AVI2 - Audio Visual Indicator.

Fan shall be the OPUS100- 2 B (P) or M or the OPUS150- B (P) or M as manufactured by Nuair Ltd.

The manufacturer's recommendations should be observed at all times.

QUIETSCROLL TWIN FANS

QUIETEST, MOST COMPREHENSIVE RANGE OF TWIN FANS WITH
INTEGRAL ENERGY SAVING CONTROLS.



BENEFITS

QUIETEST FANS

As the innovator and market leader of twinfans, Nuair's experience and expertise has ensured the quietest twin fans in the industry.

SUPPLY AND EXTRACT

A Nuair supply unit can be interlinked with a twinfan to provide a cost effective controllable solution to your system requirements – both fans responding to a single or multiple sensors/controls.

PURE DEMAND VENTILATION

Only ventilates the room when required - maximum energy savings possible achieved.

HEALTHY ATMOSPHERE

Ecosmart has a "trickle function" as standard which when activated enables you to set a background ventilation rate, keeping the rooms fresh whilst still saving energy.

GUARANTEED VENTILATION

Uses Hall effect sensor for autochange.
Automatic change over in the event of fan/motor failure, guaranteeing ventilation 24/7.

EASY MAINTENANCE

Direct Drive (EST 1-9) models have bottom access as standard.

SIMPLE TO INSTALL AND COMMISSION

All controls pre-assembled and installed – site time kept to a minimum. Integrated simple to adjust speed control – no need for main balancing damper which can waste energy and generate noise.
Note: The control box on sizes EST 1-9 can be moved to the opposite side of the Twin Fan.

IMPROVED LIFECYCLE

Auto duty share every 12 hours ensuring maximum life from fans.

PLUG-IN CONTROLS

All sensors and controls (a maximum of 32) are complete with 10m lengths of low voltage pre-plugged cable, (extra lengths available) you decide which conditions to monitor and the system will operate at the optimum speed for that condition.

INTEGRATED SILENCER

The unique integrated silencer (direct drive models) means that your in-duct acoustic requirements may be reduced and subsequently save you space on site. Contact Nuair for details.

NO SYSTEM OVERLOADS

Ecosmart is pre-programmed with a soft start function which prevents electrical overloading and minimises mechanical wear.

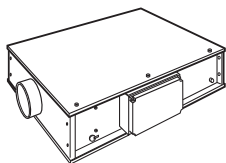
BMS INTERFACE

Integrated BMS features enable any central system to monitor the fan/air handling unit.

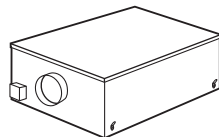
WARRANTY

Ecosmart Quietscroll twin fans have a 5 year warranty.

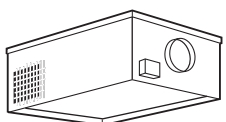
ALTERNATIVE CONNECTION AND MOUNTING OPTIONS



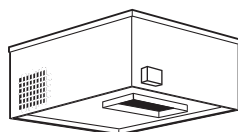
EST internal in-line twin fans.



EST-X External in-line twin fans.



EST-R Roof mounted twin fans with end inlet and dual side discharge.



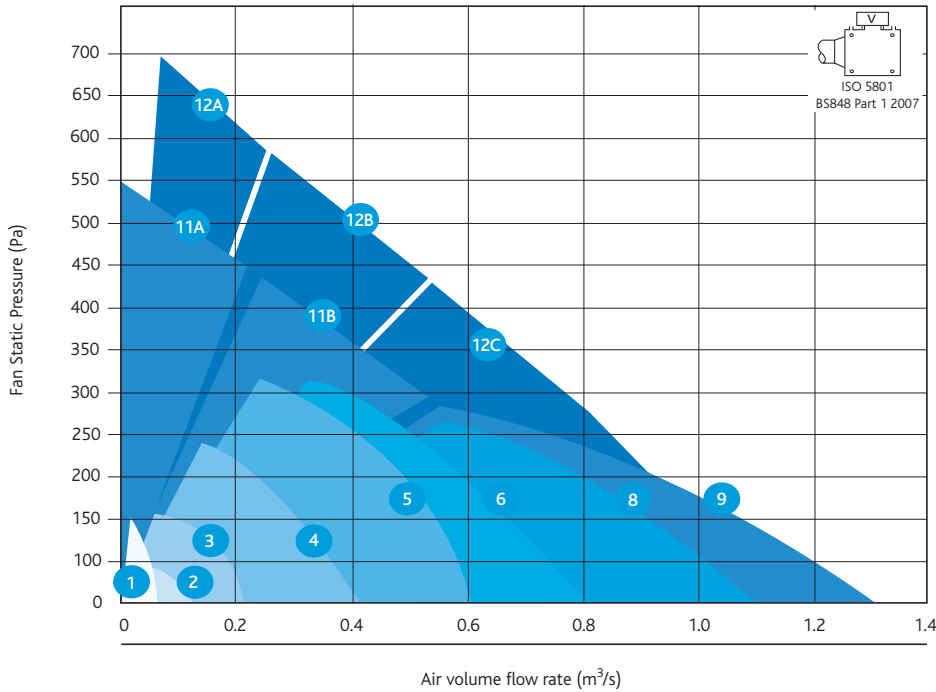
EST-B Roof mounted twin fans with bottom inlet and side discharge.



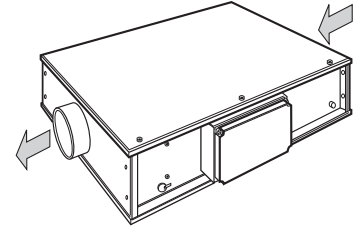
Dual side discharge grille ensuring low pressure discharge in all wind conditions.

PERFORMANCE - QUIETSCROLL EST AND EST-X

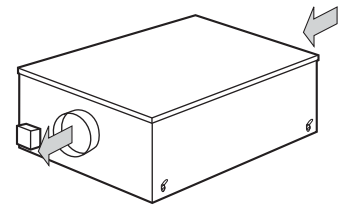
Quietscroll Units 1-9 and 11A-12C



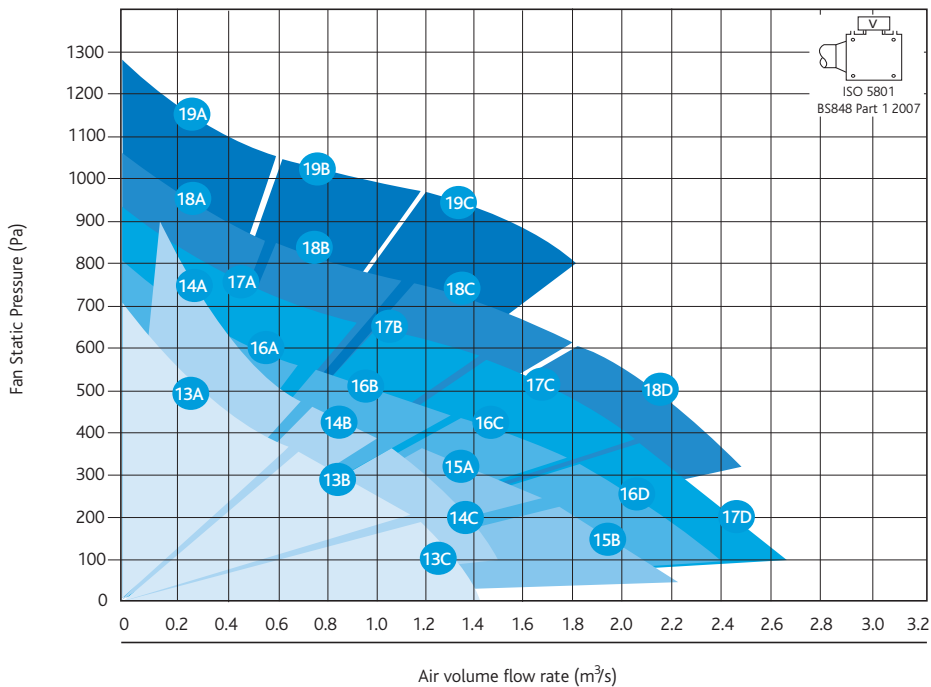
Casing



EST Internal In-line Twin Fans



Quietscroll Units 13A-19C



EST-X External In-line Twin Fans

Note: Case sizes 20-25 have rectangular spigots.

Code descriptions

E S T 11B - X



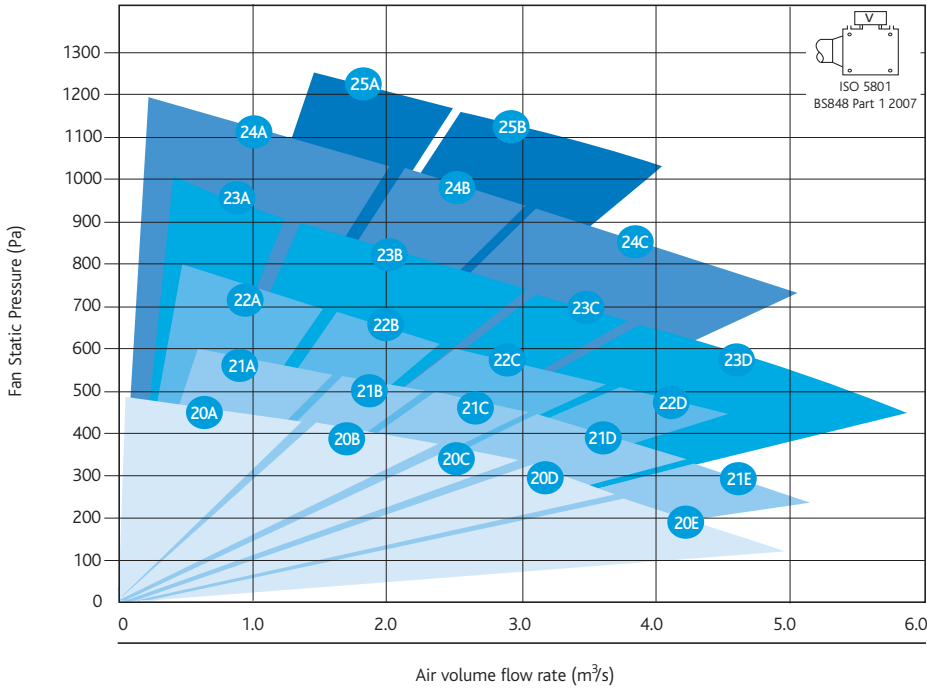
- 1 Quietscroll Twin range
 - 2 Case sizes 1 to 25
 - 3 A,B,C & D refer to motor & pulley combination
 - 4 No suffix = Internal in-line unit
X = External in-line unit
- Please note curves 11-25 inc are belt drive

Note: All Twin Fans incorporate Ecosmart Controls as standard. Comprising:

- Auto Changeover
- Auto Duty Share
- Integral Control BMS interfaces
- Trickle and Boost Facility
- Easy commissioning adjustment
- 4 external control parts
- Run & fail volt free contacts

PERFORMANCE - QUIETSCROLL EST AND EST-X CONT.

Quietscroll Units 20A-25B



QUIETSCROLL INTERNAL TWIN FANS EST

ELECTRICAL, SOUND & WEIGHT

Code/ Curve	Phase	RPM	Motor power (kW)	FLC (amps)	SC (amps)	Induct inlet Sound Power levels dB re lpW (+ correction for outlet)						Breakout dBA@3m	Weight (Kg)	
						125	250	500	1K	2K	4K			8K
EST1	1	2040	0.086	0.65	0.65	61(+5)	50(+8)	46(+4)	35(+16)	22(+18)	22(+8)	22(+3)	21	20
EST2	1	1320	0.104	0.56	0.56	65(+4)	51(+2)	41(+7)	31(+14)	22(+21)	22(+15)	22(+7)	22	30
EST3	1	1260	0.23	1.6	1.6	63(+8)	57(+3)	40(+11)	31(+20)	24(+25)	25(+20)	23(+15)	30	43
EST4	1	1140	0.37	1.6	1.6	61(+6)	61(+1)	45(+9)	37(+16)	31(+18)	30(+15)	24(+14)	30	57
EST5	1	1110	0.66	2.95	2.95	66(+6)	61(+0)	48(+11)	44(+18)	39(+23)	35(+26)	32(+25)	35	69
EST6	1	1272	1.28	4.84	4.84	73(+7)	66(+11)	54(+16)	50(+21)	49(+19)	47(+19)	41(+20)	43	79
EST8	1	960	1.4	6.3	6.3	73(+7)	67(+7)	60(+13)	54(+19)	52(+20)	49(+22)	41(+22)	46	160
EST9	1	960	1.6	7.3	7.3	74(+8)	71(+9)	70(+13)	67(+19)	67(+20)	63(+22)	56(+22)	47	154
EST11A	3	1225	0.37	1.3	1.3	73(+1)	67(+7)	62(+10)	63(+11)	55(+9)	49(+11)	45(+9)	46	77.5
EST11B	3	1225	0.55	1.7	1.7	74(+2)	68(+7)	64(+9)	65(+10)	57(+8)	52(+9)	48(+7)	48	82.4
EST12A	3	1400	0.55	1.7	1.7	75(-1)	71(+4)	66(+7)	66(+9)	58(+7)	51(+8)	45(+5)	48	82.4
EST12B	3	1400	0.75	2.1	2.1	74(+3)	70(+8)	65(+10)	66(+12)	58(+9)	51(+11)	44(+9)	50	84.4
EST12C	3	1400	1.1	2.9	2.9	77(+2)	73(+7)	67(+10)	69(+10)	60(+8)	54(+10)	47(+11)	51	90.4
EST13A	3	1085	0.75	2.1	2.1	70(+5)	67(+8)	67(+8)	63(+8)	56(+8)	57(+7)	51(+7)	48	116
EST13B	3	1085	1.1	2.9	2.9	72(+5)	68(+8)	69(+8)	65(+8)	58(+8)	59(+7)	54(+7)	50	116
EST13C	3	1085	1.5	3.7	3.7	73(+4)	69(+7)	70(+7)	64(+9)	59(+7)	61(+5)	55(+6)	50	125
EST14A	3	1225	1.1	2.55	2.55	73(+5)	68(+7)	68(+7)	62(+10)	56(+8)	58(+6)	48(+7)	48	116

Fan size 11A to 25B inc. are belt drive and cannot be mounted at an angle no greater than 5°. Please contact your local Nuair Technical Sales Engineer or the Technical Department to discuss your application requirements. Units EST20 to EST25 inc. have top and side access as standard. Breakout dBA@3m is hemispherical free field. The electrical and sound information in the table is nominal.

QUIETSCROLL INTERNAL TWIN FANS EST CONT.

ELECTRICAL, SOUND & WEIGHT															
Code/ Curve	Phase	RPM	Motor power (kW)	FLC (amps)	SC (amps)	Induct inlet Sound Power levels dB re 1pW (+ correction for outlet)								Breakout dBA@3m	Weight (Kg)
						125	250	500	1K	2K	4K	8K			
EST14B	3	1225	1.5	3.7	3.7	74(+5)	68(+9)	68(+10)	63(+11)	57(+10)	59(+8)	49(+12)	50	125	
EST14C	3	1225	2.2	5.4	5.4	75(+5)	70(+9)	71(+9)	65(+11)	60(+9)	62(+7)	55(+9)	52	134	
EST15A	3	925	2.2	5.4	5.4	80(+6)	79(+2)	78(+9)	76(+8)	73(+7)	70(+6)	64(+9)	60	168.7	
EST15B	3	925	3	6.9	6.9	83(+8)	81(+3)	79(+9)	78(+9)	76(+9)	74(+10)	68(+12)	62	174.6	
EST16A	3	1040	1.5	3.7	3.7	80(+5)	80(+1)	75(+8)	75(+7)	73(+6)	71(+6)	67(+8)	57	159.6	
EST16B	3	1040	2.2	5.4	5.4	81(+8)	81(+3)	76(+12)	76(+11)	74(+9)	71(+9)	68(+9)	61	168.7	
EST16C	3	1040	3	6.9	6.9	81(+7)	82(+2)	77(+11)	77(+10)	74(+8)	71(+9)	68(+8)	61	174.6	
EST16D	3	1040	4	10	10	84(+7)	82(+1)	80(+10)	79(+9)	77(+8)	75(+9)	70(+8)	63	193.6	
EST17A	3	1160	2.2	5.4	5.4	83(+4)	81(0)	75(+7)	76(+7)	74(+5)	73(+5)	69(+6)	57	168.7	
EST17B	3	1160	3	6.9	6.9	84(+5)	82(+1)	76(+12)	77(+9)	75(+8)	73(+7)	70(+7)	61	174.6	
EST17C	3	1160	4	10	10	84(+4)	83(0)	77(+11)	78(+8)	75(+7)	73(+7)	70(+6)	61	193.6	
EST17D	3	1160	5.5	12	12	85(+4)	83(-1)	80(+10)	80(+7)	77(+7)	76(+7)	71(+6)	62	231.6	
EST18A	3	1260	2.2	5.4	5.4	83(+3)	84(-1)	78(+7)	80(+5)	76(+5)	75(+4)	69(+5)	60	168.7	
EST18B	3	1260	3	6.9	6.9	84(+4)	83(-2)	79(+9)	80(+5)	77(+6)	74(+5)	69(+7)	61	174.6	
EST18C	3	1260	4	10	10	84(+4)	83(-1)	79(+8)	80(+5)	77(+5)	74(+6)	69(+7)	61	193.6	
EST18D	3	1260	5.5	12	12	85(+4)	83(-1)	81(+8)	81(+5)	78(+5)	76(+6)	71(+7)	62	231.6	
EST19A	3	1440	3	6.9	6.9	90(+2)	83(-2)	82(+5)	80(+4)	79(+5)	78(+3)	73(+4)	61	174.6	
EST19B	3	1440	4	10	10	87(-2)	82(-1)	81(+5)	79(+5)	79(+3)	77(+2)	73(+3)	60	193.6	
EST19C	3	1440	5.5	12	12	86(+1)	84(0)	82(+6)	81(+6)	79(+3)	77(+3)	73(+3)	62	231.6	
EST20A	3	700	1.5	3.7	3.7	83(+1)	81(-2)	79(+7)	68(+5)	69(+4)	62(+4)	63(+4)	58	682	
EST20B	3	700	2.2	5.4	5.4	83(+1)	80(-1)	80(+6)	69(+5)	68(+4)	62(+3)	62(+5)	58	691	
EST20C	3	700	3	6.9	6.9	83(+1)	80(-1)	80(+7)	69(+5)	68(+4)	61(+3)	62(+4)	59	697	
EST20D	3	700	4	10	10	83(+3)	81(0)	81(+8)	70(+6)	67(+6)	60(+5)	60(+6)	61	716	
EST20E	3	700	5.5	12	12	86(+2)	84(0)	84(+7)	73(+6)	70(+5)	63(+5)	63(+6)	63	730	
EST21A	3	800	2.2	5.4	5.4	86(+1)	83(-1)	83(+6)	72(+5)	71(+4)	65(+3)	65(+5)	61	691	
EST21B	3	800	3	6.9	6.9	86(+4)	83(-1)	83(+8)	72(+5)	71(+5)	64(+6)	65(+7)	63	697	
EST21C	3	800	4	10	10	86(+3)	84(0)	84(+8)	73(+6)	70(+6)	63(+5)	63(+6)	64	716	
EST21D	3	800	5.5	12	12	89(+2)	87(-1)	87(+6)	76(+5)	73(+5)	66(+4)	66(+5)	65	730	
EST21E	3	800	7.5	16	16	90(+2)	88(-1)	87(+7)	77(+5)	74(+5)	67(+4)	67(+5)	66	750	
EST22A	3	900	3	6.9	6.9	88(+1)	85(-1)	85(+6)	74(+5)	73(+4)	67(+3)	67(+5)	63	697	
EST22B	3	900	4	10	10	88(+2)	85(-2)	85(+5)	74(+4)	73(+5)	66(+3)	67(+4)	62	716	
EST22C	3	900	5.5	12	12	88(+3)	86(0)	86(+8)	75(+6)	72(+6)	65(+5)	65(+6)	66	730	
EST22D	3	900	5.5	16	16	91(+2)	89(-1)	89(+6)	78(+5)	75(+5)	68(+4)	68(+5)	67	750	
EST23A	3	1000	4	10	10	90(-2)	87(-1)	87(+5)	76(+5)	75(+3)	69(+2)	69(+3)	64	716	
EST23B	3	1000	5.5	12	12	90(+1)	87(-1)	87(+7)	76(+5)	75(+4)	68(+3)	69(+4)	66	730	
EST23C	3	1000	7.5	16	16	90(+3)	88(0)	88(+8)	77(+6)	74(+6)	67(+5)	67(+6)	68	750	
EST23D	3	1000	11	23	23	93(+2)	91(-1)	91(+6)	80(+5)	77(+5)	70(+4)	70(+5)	69	794	
EST24A	3	1100	5.5	12	12	92(+1)	89(-1)	89(+6)	78(+5)	77(+4)	71(+3)	71(+5)	67	730	
EST24B	3	1100	7.5	16	16	92(+1)	89(-1)	89(+7)	78(+5)	77(+4)	70(+3)	71(+4)	68	750	
EST24C	3	1100	11	23	23	92(+3)	90(0)	90(+8)	79(+6)	76(+6)	69(+5)	69(+6)	70	794	
EST25A	3	1200	7.5	16	16	93(+1)	90(-1)	90(+6)	79(+5)	78(+4)	72(+3)	72(+5)	68	750	
EST25B	3	1200	11	23	23	93(+1)	90(-1)	90(+7)	79(+5)	78(+4)	71(+3)	72(+4)	69	794	

Fan size 11A to 25B inc. are belt drive and cannot be mounted at an angle no greater than 5°.

Please contact your local Nuaire Technical Sales Engineer or the Technical Department to discuss your application requirements.

Units EST20 to EST25 inc. have top and side access as standard. Breakout dBA@3m is hemispherical free field. The electrical and sound information in the table is nominal.

QUIETSCROLL EXTERNAL TWIN FANS EST-X

ELECTRICAL, SOUND & WEIGHT														
Code/ Curve	Phase	RPM	Motor power (kW)	FLC (amps)	SC (amps)	Induct inlet Sound Power levels dB re lpW (+ correction open outlet)						Breakout dBA@3m	Weight (Kg)	
						125	250	500	1K	2K	4K			8K
EST1-X	1	2040	0.086	0.65	0.65	66(+8)	55(+3)	46(+0)	47(+6)	39(+13)	35(+11)	31(+8)	29	20
EST2-X	1	1320	0.104	0.56	0.56	62(+11)	46(+4)	40(+9)	35(+15)	32(+17)	31(+13)	31(+5)	25	30
EST3-X	1	1260	0.23	1.6	1.6	72(+2)	55(+6)	47(+7)	43(+14)	40(+14)	36(+15)	32(+13)	32	43
EST4-X	1	1140	0.37	1.6	1.6	68(+8)	59(+6)	51(+10)	29(+17)	46(+15)	42(+16)	35(+18)	37	57
EST5-X	1	1110	0.66	2.95	2.95	68(+8)	58(+10)	49(+14)	49(+19)	50(+18)	48(+17)	43(+17)	40	69
EST6-X	1	1272	1.28	4.84	4.84	71(+5)	63(+4)	55(+12)	58(+13)	58(+13)	55(+13)	48(+12)	47	79
EST9-X	1	960	1.6	7.3	7.3	72(+13)	66(+19)	61(+18)	60(+18)	60(+17)	57(+19)	51(+18)	50	154
EST11A-X	3	1225	0.37	1.3	1.3	73(+1)	67(+7)	62(+10)	63(+11)	55(+9)	49(+11)	45(+9)	46	77.5
EST11B-X	3	1225	0.55	1.7	1.7	74(+2)	68(+7)	64(+9)	65(+10)	57(+8)	52(+9)	48(+7)	48	82.4
EST12A-X	3	1400	0.55	1.7	1.7	75(-1)	71(+4)	66(+7)	66(+9)	58(+7)	51(+8)	45(+5)	48	82.4
EST12B-X	3	1400	0.75	2.1	2.1	74(+3)	70(+8)	65(+10)	66(+12)	58(+9)	51(+11)	44(+9)	50	84.4
EST12C-X	3	1400	1.1	2.9	2.9	77(+2)	73(+7)	67(+10)	69(+10)	60(+8)	54(+10)	47(+11)	51	90.4
EST13A-X	3	1085	0.75	2.1	2.1	70(+5)	67(+8)	67(+8)	63(+8)	56(+8)	57(+7)	51(+7)	48	116
EST13B-X	3	1085	1.1	2.9	2.9	72(+5)	68(+8)	69(+8)	65(+8)	58(+8)	59(+7)	54(+7)	50	116
EST13C-X	3	1085	1.5	3.7	3.7	73(+4)	69(+7)	70(+7)	64(+9)	59(+7)	61(+5)	55(+6)	50	125
EST14A-X	3	1225	1.1	2.55	2.55	73(+5)	68(+7)	68(+7)	62(+10)	56(+8)	58(+6)	48(+7)	48	116
EST14B-X	3	1225	1.5	3.7	3.7	74(+5)	68(+9)	68(+10)	63(+11)	57(+10)	59(+8)	49(+12)	50	125
EST14C-X	3	1225	2.2	5.4	5.4	75(+5)	70(+9)	71(+9)	65(+11)	60(+9)	62(+7)	55(+9)	52	134
EST15A-X	3	925	2.2	5.4	5.4	80(+6)	79(+2)	78(+9)	76(+8)	73(+7)	70(+6)	64(+9)	60	168.7
EST15B-X	3	925	3	6.9	6.9	83(+8)	81(+3)	79(+9)	78(+9)	76(+9)	74(+10)	68(+12)	62	174.6
EST16A-X	3	1040	1.5	3.7	3.7	80(+5)	80(+1)	75(+8)	75(+7)	73(+6)	71(+6)	67(+8)	57	159.6
EST16B-X	3	1040	2.2	5.4	5.4	81(+8)	81(+3)	76(+12)	76(+11)	74(+9)	71(+9)	68(+9)	61	168.7
EST16C-X	3	1040	3	6.9	6.9	81(+7)	82(+2)	77(+11)	77(+10)	74(+8)	71(+9)	68(+8)	61	174.6
EST16D-X	3	1040	4	10	10	84(+7)	82(+1)	80(+10)	79(+9)	77(+8)	75(+9)	70(+8)	63	193.6
EST17A-X	3	1160	2.2	5.4	5.4	83(+4)	81(0)	75(+7)	76(+7)	74(+5)	73(+5)	69(+6)	57	168.7
EST17B-X	3	1160	3	6.9	6.9	84(+5)	82(+1)	76(+12)	77(+9)	75(+8)	73(+7)	70(+7)	61	174.6
EST17C-X	3	1160	4	10	10	84(+4)	83(0)	77(+11)	78(+8)	75(+7)	73(+7)	70(+6)	61	193.6
EST17D-X	3	1160	5.5	12	12	85(+4)	83(-1)	80(+10)	80(+7)	77(+7)	76(+7)	71(+6)	62	231.6
EST18A-X	3	1260	2.2	5.4	5.4	83(+3)	84(-1)	78(+7)	80(+5)	76(+5)	75(+4)	69(+5)	60	168.7
EST18B-X	3	1260	3	6.9	6.9	84(+4)	83(-2)	79(+9)	80(+5)	77(+6)	74(+5)	69(+7)	61	174.6
EST18C-X	3	1260	4	10	10	84(+4)	83(-1)	79(+8)	80(+5)	77(+5)	74(+6)	69(+7)	61	193.6
EST18D-X	3	1260	5.5	12	12	85(+4)	83(-1)	81(+8)	81(+5)	78(+5)	76(+6)	71(+7)	62	231.6
EST19A-X	3	1440	3	6.9	6.9	90(+2)	83(-2)	82(+5)	80(+4)	79(+5)	78(+3)	73(+4)	61	174.6
EST19B-X	3	1440	4	10	10	87(-2)	82(-1)	81(+5)	79(+5)	79(+3)	77(+2)	73(+3)	60	193.6
EST19C-X	3	1440	5.5	12	12	86(+1)	84(0)	82(+6)	81(+6)	79(+3)	77(+3)	73(+3)	62	231.6

Fan size 11A to 25B inc. are belt drive and cannot be mounted at an angle no greater than 5°. Please contact your local Nuair Technical Sales Engineer or the Technical Department to discuss your application requirements. Units EST20 to EST25 inc. have top and side access as standard. Breakout dBA@3m is hemispherical free field. The electrical and sound information in the table is nominal.

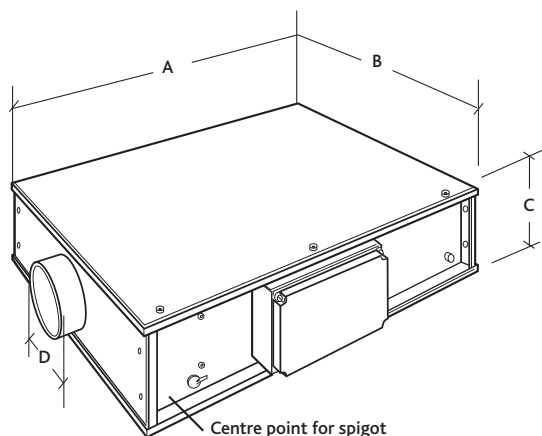
QUIETSCROLL EXTERNAL TWIN FANS EST-X CONT.

ELECTRICAL, SOUND & WEIGHT

Code/ Curve	Phase	RPM	Motor power (kW)	FLC (amps)	SC (amps)	Induct inlet Sound Power levels dB re lpW (+ correction open outlet)								Breakout dBA@3m	Weight (Kg)
						125	250	500	1K	2K	4K	8K			
EST20A-X	3	700	1.5	3.7	3.7	83(+1)	81(-2)	79(+7)	68(+5)	69(+4)	62(+4)	63(+4)	58	682	
EST20B-X	3	700	2.2	5.4	5.4	83(+1)	80(-1)	80(+6)	69(+5)	68(+4)	62(+3)	62(+5)	58	691	
EST20C-X	3	700	3	6.9	6.9	83(+1)	80(-1)	80(+7)	69(+5)	68(+4)	61(+3)	62(+4)	59	697	
EST20D-X	3	700	4	10	10	83(+3)	81(0)	81(+8)	70(+6)	67(+6)	60(+5)	60(+6)	61	716	
EST20E-X	3	700	5.5	12	12	86(+2)	84(0)	84(+7)	73(+6)	70(+5)	63(+5)	63(+6)	63	730	
EST21A-X	3	800	2.2	5.4	5.4	86(+1)	83(-1)	83(+6)	72(+5)	71(+4)	65(+3)	65(+5)	61	691	
EST21B-X	3	800	3	6.9	6.9	86(+4)	83(-1)	83(+8)	72(+5)	71(+5)	64(+6)	65(+7)	63	697	
EST21C-X	3	800	4	10	10	86(+3)	84(0)	84(+8)	73(+6)	70(+6)	63(+5)	63(+6)	64	716	
EST21D-X	3	800	5.5	12	12	89(+2)	87(-1)	87(+6)	76(+5)	73(+5)	66(+4)	66(+5)	65	730	
EST21E-X	3	800	7.5	16	16	90(+2)	88(-1)	87(+7)	77(+5)	74(+5)	67(+4)	67(+5)	66	750	
EST22A-X	3	900	3	6.9	6.9	88(+1)	85(-1)	85(+6)	74(+5)	73(+4)	67(+3)	67(+5)	63	697	
EST22B-X	3	900	4	10	10	88(+2)	85(-2)	85(+5)	74(+4)	73(+5)	66(+3)	67(+4)	62	716	
EST22C-X	3	900	5.5	12	12	88(+3)	86(0)	86(+8)	75(+6)	72(+6)	65(+5)	65(+6)	66	730	
EST22D-X	3	900	5.5	16	16	91(+2)	89(-1)	89(+6)	78(+5)	75(+5)	68(+4)	68(+5)	67	750	
EST23A-X	3	1000	4	10	10	90(-2)	87(-1)	87(+5)	76(+5)	75(+3)	69(+2)	69(+3)	64	716	
EST23B-X	3	1000	5.5	12	12	90(+1)	87(-1)	87(+7)	76(+5)	75(+4)	68(+3)	69(+4)	66	730	
EST23C-X	3	1000	7.5	16	16	90(+3)	88(0)	88(+8)	77(+6)	74(+6)	67(+5)	67(+6)	68	750	
EST23D-X	3	1000	11	23	23	93(+2)	91(-1)	91(+6)	80(+5)	77(+5)	70(+4)	70(+5)	69	794	
EST24A-X	3	1100	5.5	12	12	92(+1)	89(-1)	89(+6)	78(+5)	77(+4)	71(+3)	71(+5)	67	730	
EST24B-X	3	1100	7.5	16	16	92(+1)	89(-1)	89(+7)	78(+5)	77(+4)	70(+3)	71(+4)	68	750	
EST24C-X	3	1100	11	23	23	92(+3)	90(0)	90(+8)	79(+6)	76(+6)	69(+5)	69(+6)	70	794	
EST25A-X	3	1200	7.5	16	16	93(+1)	90(-1)	90(+6)	79(+5)	78(+4)	72(+3)	72(+5)	68	750	
EST25B-X	3	1200	11	23	23	93(+1)	90(-1)	90(+7)	79(+5)	78(+4)	71(+3)	72(+4)	69	794	

Fan size 11A to 25B inc. are belt drive and cannot be mounted at an angle no greater than 5°. Please contact your local Nuair Technical Sales Engineer or the Technical Department to discuss your application requirements. Units EST20 to EST25 inc. have top and side access as standard. Breakout dBA@3m is hemispherical free field. The electrical and sound information in the table is nominal.

DIMENSIONS QUIETSCROLL INTERNAL TWIN FANS EST



Note: Case sizes 20-25 have rectangular spigots.

DIMENSIONS (mm)

Fan Code	A	B	C	Circular Spigot D dia	Rectangular Spigot
EST1	763	572	210	150	-
EST2	778	787	262	200	-
EST3	913	787	340	200	-
EST4	1063	1047	360	250	-
EST5	1193	1047	423	400	-
EST6	1193	1047	423	400	-
EST8	1195	1174	575	500	-
EST9	1195	1174	575	500	-
EST11-12	974	974	622	400	-
EST13-14	1233	1233	701	500	-
EST15-19	1430	1635	780	630	-
EST20-25	2030	2313	1183	N/A	1200 x 700

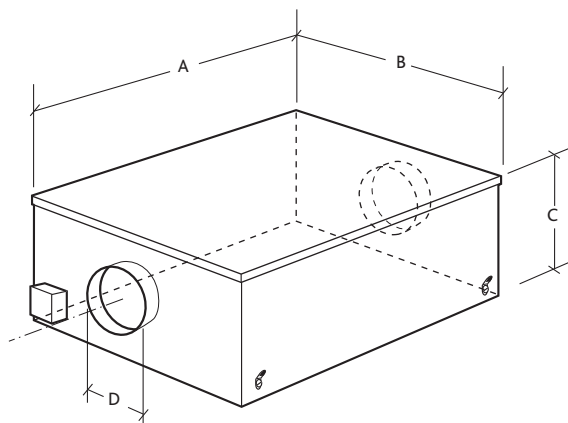
Top and bottom access on sizes EST1-9 inc.
 Top access only on sizes EST11-19 inc.
 Top and side access on EST20-25 as standard.

QUICK SELECTION GUIDE

EST – INTERNAL DUCT TWIN FANS

Fan Code	AV mounts	Silencer	Standard Flexible Connector	Acoustic Flexible Connector
EST1	NAV1	ES1SIL	CFC16	ACFXRD150
EST2	NAV2	ES2SIL	CFC20	ACFXRD200
EST3	NAV2	ES3SIL	CFC20	ACFXRD200
EST4	NAV2	ES4SIL	CFC25	ACFXRD250
EST5	NAV2	ES5SIL	CFC40	ACFXRD400
EST6	NAV2	ES6SIL	CFC40	ACFXRD400
EST8	NAV2	ES7SIL	CFC50	ACFXRD500
EST9	NAV2	ES8SIL	CFC50	ACFXRD500
EST11	INC	ES6SIL	CFC40	ACFXRD400
EST12	INC	ES6SIL	CFC40	ACFXRD400
EST13	INC	ES7SIL	CFC50	ACFXRD500
EST14	INC	ES8SIL	CFC50	ACFXRD500
EST15	INC	CA63S	CFC63	-
EST16	INC	CA63S	CFC63	-
EST17	INC	CA63S	CFC63	-
EST18	INC	CA63S	CFC63	-
EST19	INC	CA63S	CFC63	-
Rectangular Connection				
EST20	INC	CA100S	FXRC11	-
EST21	INC	CA100S	FXRC11	-
EST22	INC	CA100S	FXRC11	-
EST23	INC	CA100S	FXRC11	-
EST24	INC	CA100S	FXRC11	-
EST25	INC	CA100S	FXRC11	-

DIMENSIONS QUIETSCROLL EXTERNAL TWIN FANS EST-X



Note: Case sizes 20-25 have rectangular spigots.

DIMENSIONS (mm)

Fan Code	A	B	C	Circular Spigot D dia	Rectangular Spigot
EST1-X	705	505	355	125	-
EST2-X	875	720	400	200	-
EST3-X	970	720	485	200	-
EST4-X	1165	980	575	250	-
EST5-X	1165	980	575	400	-
EST6-X	1165	980	575	400	-
EST9-X	1495	1125	710	500	-
EST11-12-X	974	974	622	400	-
EST13-14-X	1233	1233	701	500	-
EST15-19-X	1430	1635	780	630	-
EST20-25-X	2030	2313	1183	N/A	1200 x 700

Top access on sizes EST1-19-X inc
Top access only on sizes EST11-19-X inc
Top and side access on EST20-25-X as standard

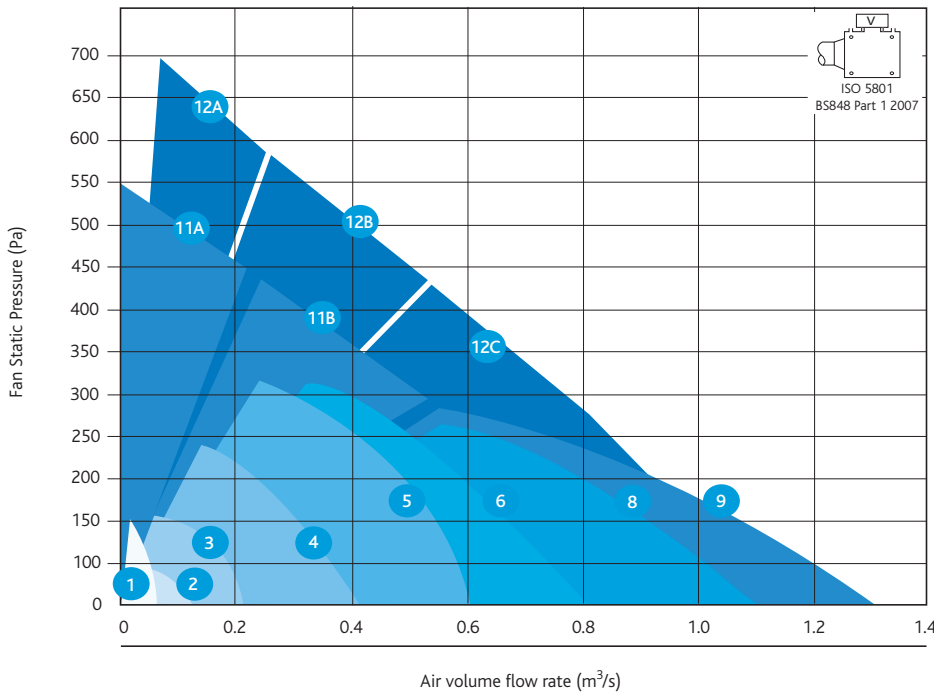
QUICK SELECTION GUIDE

EST-X – EXTERNAL DUCT TWIN FANS

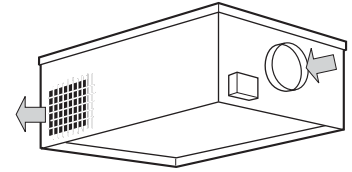
Fan Code	Standard Silencer	Standard Flexible Connector	Acoustic Flexible Connector
EST1-X	CA25S	CFC16	ACFXRD150
EST2-X	CA25S	CFC20	ACFXRD200
EST3-X	CA25S	CFC20	ACFXRD200
EST4-X	CA25S	CFC25	ACFXRD250
EST5-X	CA40S	CFC40	ACFXRD400
EST6-X	CA40S	CFC40	ACFXRD400
EST9-X	CA50S	CFC50	ACFXRD500
EST11-X	CA40S	CFC40	ACFXRD400
EST12-X	CA40S	CFC40	ACFXRD400
EST13-X	CA50S	CFC50	ACFXRD500
EST14-X	CA50S	CFC50	ACFXRD500
EST15-X	CA63S	CFC63	-
EST16-X	CA63S	CFC63	-
EST17-X	CA63S	CFC63	-
EST18-X	CA63S	CFC63	-
EST19-X	CA63S	CFC63	-
EST20-X	CA100S	FXRC11	-
Rectangular Connection			
EST21-X	CA100S	FXRC11	-
EST22-X	CA100S	FXRC11	-
EST23-X	CA100S	FXRC11	-
EST24-X	CA100S	FXRC11	-
EST25-X	CA100S	FXRC11	-

PERFORMANCE - QUIETSCROLL EXTERNAL TWIN FANS EST-R AND EST-B

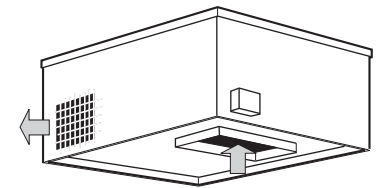
Quietscroll Units 1-9 and 11A-12C



Casing

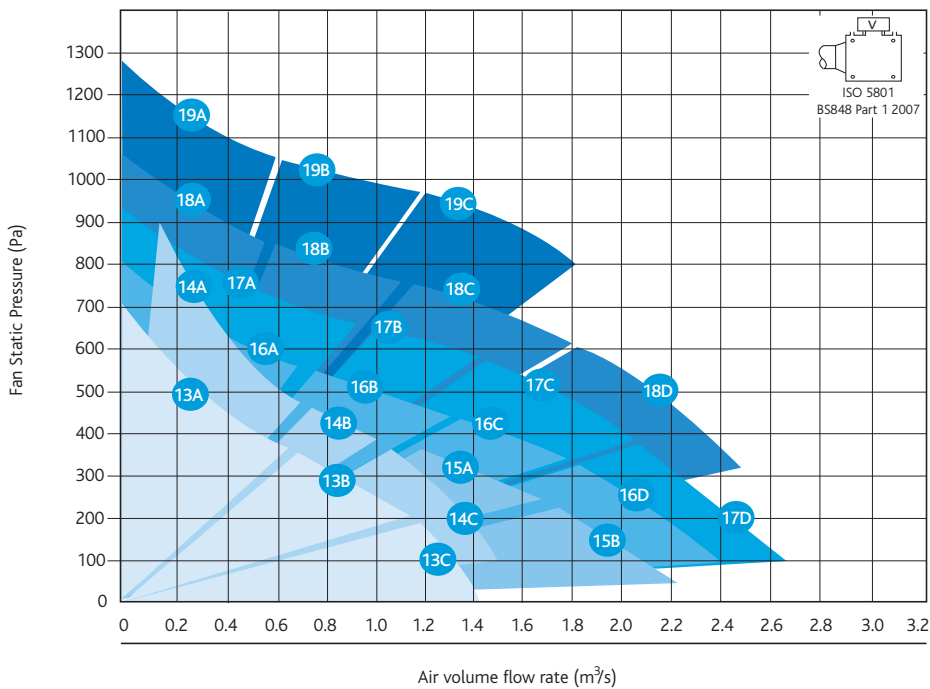


EST-R External Twin Fans



EST-B External Twin Fans

Quietscroll Units 13A-19C



Code descriptions

E S T 11 B - B



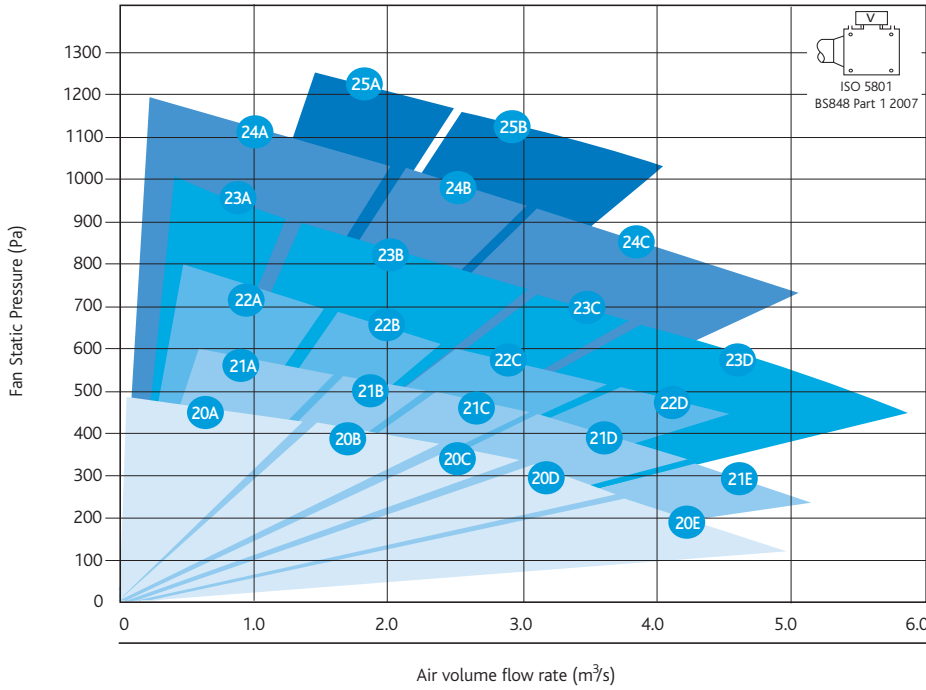
1. Quietscroll Twin range
2. Case sizes 1 to 25b
3. A, B, C & D refer to motor & pulley combination
4. - R = back inlet, grille outlet external roof mounted unit
- B = bottom inlet, grille outlet external roof mounted unit
No suffix = Internal in-line unit (Direct line)

Note: All Twin Fans incorporate Ecosmart Controls as standard. Comprising:

- Auto Changeover
- Auto Duty Share
- Integral Control BMS interface
- Trickle and Boost Facility
- Easy commissioning adjustment

PERFORMANCE - QUIETSCROLL EXTERNAL TWIN FANS EST-R AND EST-B CONT.

Quietscroll Units 20A-25B



QUIETSCROLL EXTERNAL TWIN FANS EST-R AND EST-B

ELECTRICAL, SOUND & WEIGHT

Code/ Curve	Phase	RPM	Motor power (kW)	FLC (amps)	SC (amps)	Induct inlet Sound Power levels dB re lpW (+ correction for open outlet)						Open inlet (Open outlet) dBA@3m	Weight (Kg)	
						125	250	500	1K	2K	4K			8K
EST1	1	2040	0.086	0.65	0.65	66(+8)	55(+3)	46(+0)	47(+6)	39(+13)	35(+11)	31(+8)	29 (+15)	20
EST2	1	1320	0.104	0.56	0.56	62(+11)	46(+4)	40(+9)	35(+15)	32(+17)	31(+13)	31(+5)	23(+17)	30
EST3	1	1260	0.23	1.6	1.6	72(+2)	55(+6)	47(+7)	43(+14)	40(+14)	36(+15)	32(+13)	31(+15)	43
EST4	1	1140	0.37	1.6	1.6	68(+8)	59(+6)	51(+10)	49(+17)	46(+15)	42(+16)	35(+18)	39(+13)	57
EST5	1	1110	0.66	2.95	2.95	68(+8)	58(+10)	49(+14)	49(+19)	50(+18)	48(+17)	43(+17)	38(+20)	69
EST6	1	1272	1.1	4.84	4.84	71(+5)	63(+4)	55(+12)	58(+13)	58(+13)	55(+13)	48(+12)	45(+17)	79
EST9	1	960	1.6	7.3	7.3	72(+13)	66(+19)	61(+18)	60(+18)	60(+17)	57(+19)	51(+18)	48(+20)	154
EST11A	3	1225	0.37	1.3	1.3	73(-3)	67(+3)	62(+9)	63(+11)	55(+9)	49(+11)	45(+9)	47(+11)	77.5
EST11B	3	1225	0.55	1.7	1.7	74(-2)	68(+4)	64(+8)	65(+10)	57(+8)	52(+9)	48(+7)	49(+10)	82.4
EST12A	3	1400	0.55	1.7	1.7	75(-5)	71(+1)	66(+6)	66(+9)	58(+7)	51(+8)	45(+5)	51(+8)	82.4
EST12B	3	1400	0.75	2.1	2.1	74(-1)	70(+5)	65(+9)	66(+12)	58(+9)	51(+11)	44(+9)	50(+11)	84.4
EST12C	3	1400	1.1	2.9	2.9	77(-2)	73(+4)	67(+9)	69(+10)	60(+8)	54(+10)	47(+11)	53(+10)	90.4
EST13A	3	1085	0.75	2.1	2.1	70(+5)	67(+8)	67(+8)	63(+8)	56(+8)	57(+7)	51(+7)	50(+6)	116
EST13B	3	1085	1.1	2.9	2.9	72(-1)	68(+6)	69(+8)	65(+8)	58(+8)	59(+7)	54(+7)	52(+7)	116
EST13C	3	1085	1.5	3.7	3.7	73(-2)	69(+5)	70(+7)	64(+9)	59(+7)	61(+5)	55(+6)	52(+7)	125
EST14A	3	1225	1.1	2.55	2.55	73(-1)	68(+5)	68(+7)	62(+10)	56(+8)	58(+6)	48(+7)	50(+8)	116
EST14B	3	1225	1.5	3.7	3.7	74(-1)	68(+7)	68(+10)	63(+11)	57(+10)	59(+8)	49(+12)	50(+10)	125
EST14C	3	1225	2.2	5.4	5.4	75(-1)	70(+7)	71(+9)	65(+11)	60(+9)	62(+7)	55(+9)	53(+9)	134
EST15A	3	925	2.2	5.4	5.4	80(+1)	79(+1)	78(+8)	76(+8)	73(+7)	70(+6)	64(+9)	62(+8)	168.7

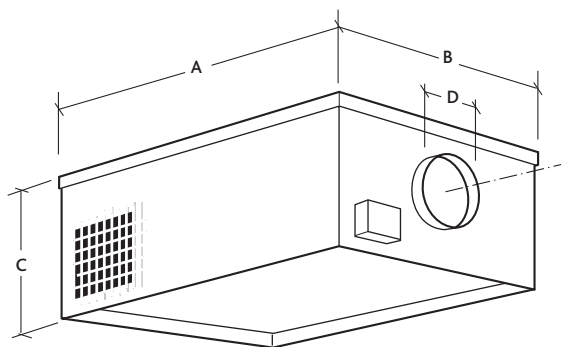
Fan size 11A to 25B inc. are belt drive and cannot be mounted at an angle no greater than 5°. Please contact your local Nuair Technical Sales Engineer or the Technical Department to discuss your application requirements. Units EST20 to EST25 inc. have top and side access as standard. **Please insert R or B into code for spigot position eg. EST11B-B.** Breakout dBA@3m is hemispherical free field. The electrical and sound information in the table is nominal.

QUIETSCROLL EXTERNAL TWIN FANS EST-R AND EST-B CONT.

ELECTRICAL, SOUND & WEIGHT														
Code/ Curve	Phase	RPM	Motor power (kW)	FLC (amps)	SC (amps)	Induct inlet Sound Power levels dB re lpW (+ correction for open outlet)							Open inlet (Open outlet) dBA@3m	Weight (Kg)
						125	250	500	1K	2K	4K	8K		
EST15B	3	925	3	6.9	6.9	83(+3)	81(+2)	79(+8)	78(+9)	76(+9)	74(+10)	68(+12)	65(+9)	174.6
EST16A	3	1040	1.5	3.7	3.7	80(0)	80(0)	75(+7)	75(+7)	73(+6)	71(+6)	67(+8)	62(+6)	159.6
EST16B	3	1040	2.2	5.4	5.4	81(+3)	81(+1)	76(+11)	76(+11)	74(+9)	71(+9)	68(+9)	63(+10)	168.7
EST16C	3	1040	3	6.9	6.9	81(+2)	82(0)	77(+10)	77(+10)	74(+8)	71(+9)	68(+8)	63(+9)	174.6
EST16D	3	1040	4	10	10	84(+2)	82(-1)	80(+9)	79(+9)	77(+8)	75(+9)	70(+8)	66(+8)	193.6
EST17A	3	1160	2.2	5.4	5.4	83(0)	81(-1)	75(+6)	76(+7)	74(+5)	73(+5)	69(+6)	63(+6)	168.7
EST17B	3	1160	3	6.9	6.9	84(0)	82(0)	76(+11)	77(+9)	75(+8)	73(+7)	70(+7)	64(+9)	174.6
EST17C	3	1160	4	10	10	84(-1)	83(-1)	77(+10)	78(+8)	75(+7)	73(+7)	70(+6)	64(+8)	193.6
EST17D	3	1160	5.5	12	12	85(-1)	83(-2)	80(+9)	80(+7)	77(+7)	76(+7)	71(+6)	67(+7)	231.6
EST18A	3	1260	2.2	5.4	5.4	83(-2)	84(-2)	78(+6)	80(+5)	76(+5)	75(+4)	69(+5)	66(+5)	168.7
EST18B	3	1260	3	6.9	6.9	84(0)	83(-3)	79(+8)	80(+5)	77(+6)	74(+5)	69(+7)	66(+6)	174.6
EST18C	3	1260	4	10	10	84(-1)	83(-2)	79(+7)	80(+5)	77(+5)	74(+6)	69(+7)	66(+6)	193.6
EST18D	3	1260	5.5	120	120	85(-1)	83(-2)	81(+7)	81(+5)	78(+5)	76(+6)	71(+7)	67(+6)	231.6
EST19A	3	1440	3	6.9	6.9	90(-1)	83(-2)	82(+5)	80(+4)	79(+5)	78(+3)	73(+4)	68(+4)	174.6
EST19B	3	1440	4	10	10	87(-5)	82(-1)	81(+5)	79(+5)	79(+3)	77(+2)	73(+3)	67(+4)	193.6
EST19C	3	1440	5.5	12	12	86(-2)	84(0)	82(+5)	81(+6)	79(+3)	77(+3)	73(+3)	68(+5)	231.6
EST20A	3	700	1.5	3.7	3.7	83(-1)	81(-3)	79(+7)	68(+5)	69(+4)	62(+4)	63(+4)	61(+5)	682
EST20B	3	700	2.2	5.4	5.4	83(-1)	80(-2)	80(+6)	69(+5)	68(+4)	62(+3)	62(+5)	61(+5)	691
EST20C	3	700	3	6.9	6.9	83(-1)	80(-2)	80(+7)	69(+5)	68(+4)	61(+3)	62(+4)	61(+6)	697
EST20D	3	700	4	10	10	83(+1)	81(-1)	81(+8)	70(+6)	67(+6)	60(+5)	60(+6)	62(+6)	716
EST20E	3	700	5.5	12	12	86(0)	84(-1)	84(+7)	73(+6)	70(+5)	63(+5)	63(+6)	65(+6)	730
EST21A	3	800	2.2	5.4	5.4	86(-1)	83(-2)	83(+6)	72(+5)	71(+4)	65(+3)	65(+5)	64(+5)	691
EST21B	3	800	3	6.9	6.9	86(+2)	83(-2)	83(+8)	72(+5)	71(+5)	64(+6)	65(+7)	64(+7)	697
EST21C	3	800	4	10	10	86(+1)	84(-1)	84(+8)	73(+6)	70(+6)	63(+5)	63(+6)	65(+7)	716
EST21D	3	800	5.5	12	12	89(0)	87(-2)	87(+6)	76(+5)	73(+5)	66(+4)	66(+5)	68(+5)	730
EST21E	3	800	7.5	16	16	90(0)	88(-2)	87(+7)	77(+5)	74(+5)	67(+4)	67(+5)	68(+6)	750
EST22A	3	900	3	6.9	6.9	88(-1)	85(-2)	85(+6)	74(+5)	73(+4)	67(+3)	67(+5)	66(+5)	697
EST22B	3	900	4	10	10	88(0)	85(-3)	85(+5)	74(+4)	73(+5)	66(+3)	67(+4)	66(+4)	716
EST22C	3	900	5.5	12	12	88(+1)	86(-1)	86(+8)	75(+6)	72(+6)	65(+5)	65(+6)	67(+6)	730
EST22D	3	900	5.5	16	16	91(0)	89(-2)	89(+6)	78(+5)	75(+5)	68(+4)	68(+5)	70(+5)	750
EST23A	3	1000	4	10	10	90(-4)	87(-2)	87(+5)	76(+5)	75(+3)	69(+2)	69(+3)	68(+4)	716
EST23B	3	1000	5.5	12	12	90(-1)	87(-2)	87(+7)	76(+5)	75(+4)	68(+3)	69(+4)	68(+6)	730
EST23C	3	1000	7.5	16	16	90(+1)	88(-1)	88(+8)	77(+6)	74(+6)	67(+5)	67(+6)	69(+6)	750
EST23D	3	1000	11	23	23	93(0)	91(-2)	91(+6)	80(+5)	77(+5)	70(+4)	70(+5)	72(+5)	794
EST24A	3	1100	5.5	12	12	92(-1)	89(-2)	89(+6)	78(+5)	77(+4)	71(+3)	71(+5)	70(+5)	730
EST24B	3	1100	7.5	16	16	92(-1)	89(-2)	89(+7)	78(+5)	77(+4)	70(+3)	71(+4)	70(+6)	750
EST24C	3	1100	11	23	23	92(+1)	90(-1)	90(+8)	79(+6)	76(+6)	69(+5)	69(+6)	71(+6)	794
EST25A	3	1200	7.5	16	16	93(-1)	90(-2)	90(+6)	79(+5)	78(+4)	72(+3)	72(+5)	71(+5)	750
EST25B	3	1200	11	23	23	93(-1)	90(-2)	90(+7)	79(+5)	78(+4)	71(+3)	72(+4)	71(+6)	794

Fan size 11A to 25B inc. are belt drive and cannot be mounted at an angle of no greater than 5°.
Please contact your local Nuair Technical Sales Engineer or the Technical Department to discuss your application requirements.
Units EST20 to EST25 inc. have top and side access as standard. **Please insert R or B into code for spigot position eg. EST11B-B.**
Breakout dBA@3m is hemispherical free field. The electrical and sound information in the table is nominal.

DIMENSIONS QUIETSCROLL EXTERNAL TWIN FANS EST-R



Note: Case sizes 20-25-R have rectangular spigots.

QUICK SELECTION GUIDE

EST-R – EXTERNAL TWIN FANS

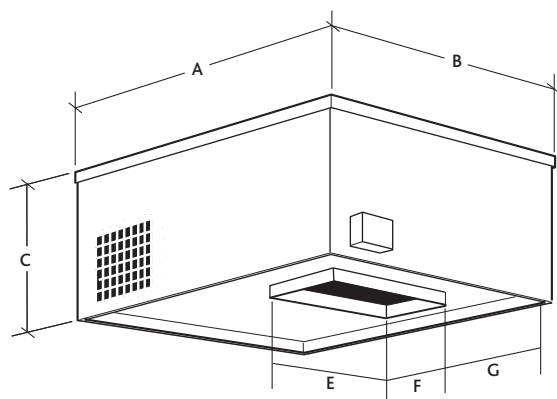
Fan Code	Duct Mounted Silencer	End Inlet Flexible Connector	Roof Curb
EST1-R	CA25S	CFC12	ESPFC1
EST2-R	CA25S	CFC20	ESPFC2
EST3-R	CA25S	CFC20	ESPFC3
EST4-R	CA25S	CFC25	ESPFC4
EST5-R	CA40S	CFC40	ESPFC4
EST6-R	CA40S	CFC40	ESPFC4
EST9-R	CA50S	CFC50	ESPFC5
EST11-R	CA40S	CFC40	ESPFC4B
EST12-R	CA40S	CFC40	ESPFC4B
EST13-R	CA50S	CFC50	ESPFC5B
EST14-R	CA50S	CFC50	ESPFC5B
EST15-R	CA63S	CFC63	ESPFC6B
EST16-R	CA63S	CFC63	ESPFC6B
EST17-R	CA63S	CFC63	ESPFC6B
EST18-R	CA63S	CFC63	ESPFC6B
EST19-R	CA63S	CFC63	ESPFC6B
EST20-R	CA100S	FXRC11	Note 1
EST21-R	CA100S	FXRC11	Note 1
EST22-R	CA100S	FXRC11	Note 1
EST23-R	CA100S	FXRC11	Note 1
EST24-R	CA100S	FXRC11	Note 1
EST25-R	CA100S	FXRC11	Note 1

Note: Roof curb sizes EST20R - 25R & EST20B - 25B are a builders requirements.

DIMENSIONS (mm)

Fan Code	A	B	C	Circular Spigot D dia	Rectangular Spigot
EST1-R	705	505	355	125	-
EST2-R	875	720	400	200	-
EST3-R	970	720	485	200	-
EST4-R	1165	980	575	250	-
EST5-R	1165	980	575	400	-
EST6-R	1165	980	575	400	-
EST9-R	1495	1125	710	500	-
EST11-12-R	974	974	622	400	-
EST13-14-R	1233	1233	701	500	-
EST15-19-R	1430	1635	780	630	-
EST20-25-R	2030	2313	1183	N/A	1200 x 700

DIMENSIONS QUIETSCROLL EXTERNAL TWIN FANS EST-B



DIMENSIONS (mm)

Fan Code	A	B	C	Rectangular Spigots		
				E	F	G
EST1-B	705	505	355	153	77	124
EST2-B	875	720	400	229	128	121
EST3-B	970	720	485	229	127	124
EST4-B	1165	980	575	305	152	162
EST5-B	1165	980	575	458	230	123
EST6-B	1165	980	575	458	230	123
EST9-B	1495	1125	710	762	304	158
EST11-12-B	974	974	622	458	230	136.5
EST13-14-B	1233	1233	701	762	304	185
EST15-19-B	1430	1635	780	889	381	155
EST20-25-B	2030	2313	1183	1200	700	-

For details on EST20-25B contact Nuair.

QUICK SELECTION GUIDE

EST-B – EXTERNAL TWIN FANS

Fan Code	Duct Mounted Silencer	End Inlet Flexible Connector	Roof Curb
EST1-B	SIL125	FXRC1	ESPFC1
EST2-B	SIL200	FXRC4	ESPFC2
EST3-B	SIL250	FXRC4	ESPFC3
EST4-B	SIL315	FXRC5	ESPFC4
EST5-B	ES5SIL	FXRC7	ESPFC4
EST6-B	ES6SIL	FXRC7	ESPFC4
EST9-B	ES8SIL	FXRC9	ESPFC5
EST11-B	ES6SIL	FXRC7	ESPFC4B
EST12-B	ES6SIL	FXRC7	ESPFC4B
EST13-B	ES7SIL	FXRC9	ESPFC5B
EST14-B	ES8SIL	FXRC9	ESPFC5B
EST15-B	CA63S	FXRC10	ESPFC6B
EST16-B	CA63S	FXRC10	ESPFC6B
EST17-B	CA63S	FXRC10	ESPFC6B
EST18-B	CA63S	FXRC10	ESPFC6B
EST19-B	CA63S	FXRC10	ESPFC6B
EST20-B	CA100S	FXRC11	Note
EST21-B	CA100S	FXRC11	Note
EST22-B	CA100S	FXRC11	Note
EST23-B	CA100S	FXRC11	Note
EST24-B	CA100S	FXRC11	Note
EST25-B	CA100S	FXRC11	Note

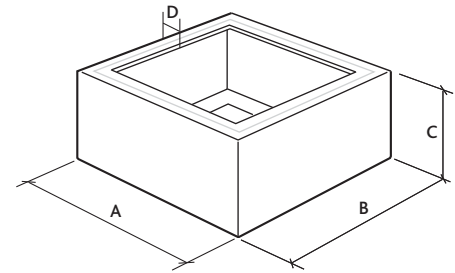
Note: Roof curb sizes EST20R-25R and EST20B-25B are a builder's requirement

DIMENSIONS - PREFABRICATED CURB

Manufactured in aluminium alloy these curbs will reduce design work and guarantee correct unit mounting when on site.

DIMENSIONS (mm)

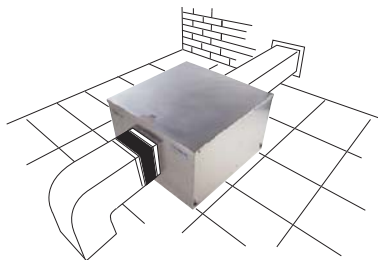
Unit code	Prefab Curb	A	B	C	D
EST1	ESPFC1	635	435	250	50
EST2	ESPFC2	805	650	250	50
EST3	ESPFC3	900	650	250	50
EST4	ESPFC4	1095	910	250	50
EST5	ESPFC4	1095	910	250	50
EST6	ESPFC4	1095	910	250	50
EST9	ESPFC5	1425	1045	250	50
EST11-12*	ESPFC4/B	917	917	250	75
EST13-14*	ESPFC5/B	1173	1173	250	100
EST15-19*	ESPFC6/B	1136	1374	250	100



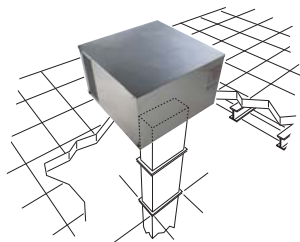
Note: Upper faces of curb are fitted with robust sealing strip.

Codes ESPFC* (typical) Note: Roof curb sizes EST20R-25R and EST20B-25B are a builder's work requirement

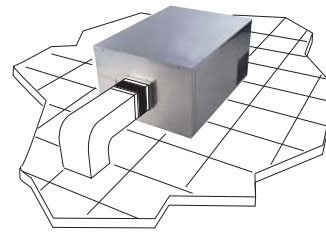
DIMENSIONS - ROOF OPENING AND CURB



EST 11B - X

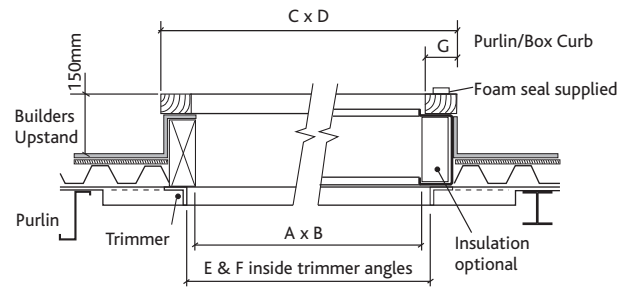
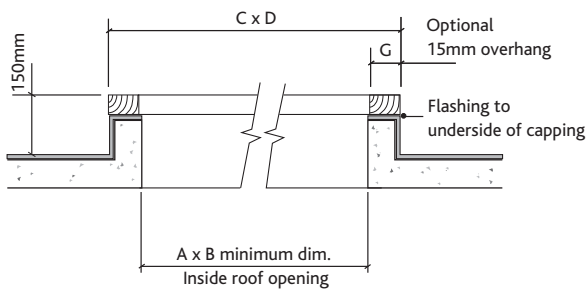


EST 11B - B



EST 11B - R

Code examples:



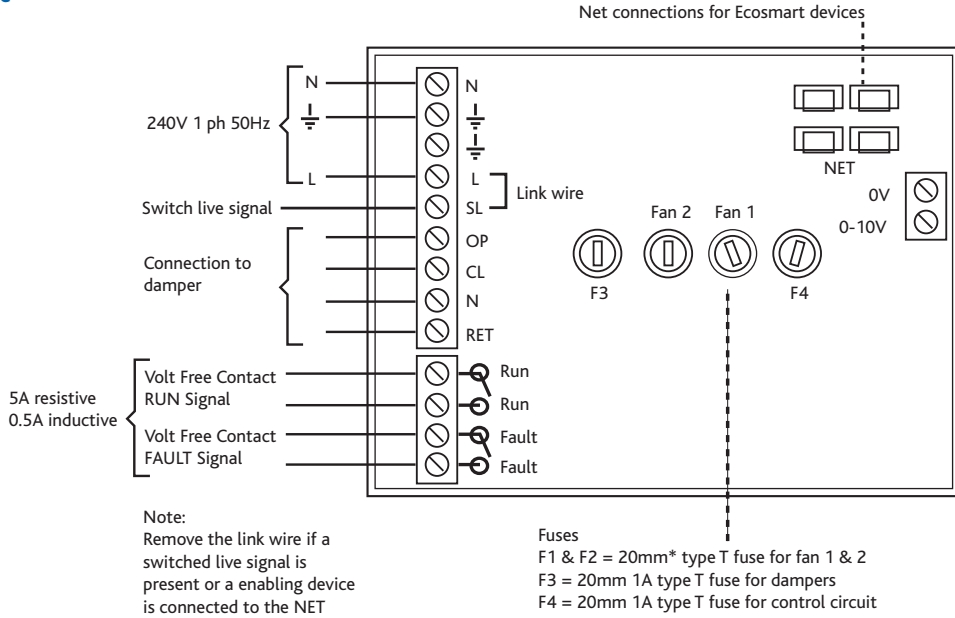
DIMENSIONS (mm)

Unit code	A	B	C	D	E	F	G
EST1	535	335	665	465	621	421	50
EST2	700	550	830	680	791	636	50
EST3	795	550	925	680	886	636	50
EST4	940	760	1120	940	1105	920	75
EST5	940	760	1120	940	1105	920	75
EST6	940	760	1120	940	1105	920	75
EST9	1265	900	1445	1080	1435	1065	75
EST11-12	767	767	947	947	837	837	75
EST13-14	973	973	1203	1203	1064	1064	100
EST15-19	1169	1375	1399	1605	1268	1471	100

Note: Roof curb sizes EST20R-25R and EST20B-25B are a builder's work requirement

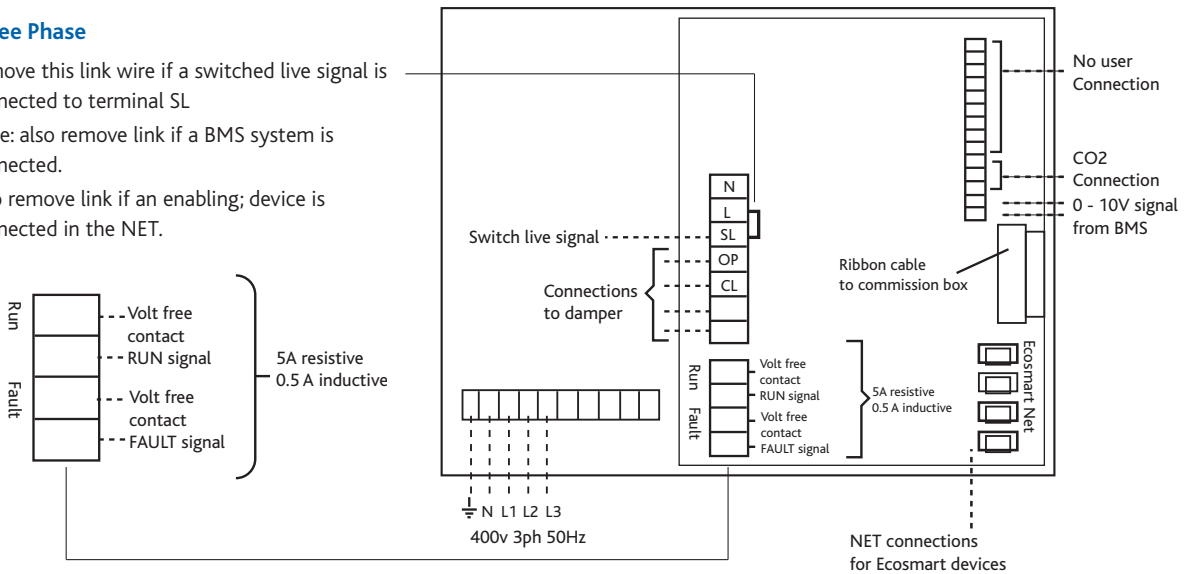
WIRING - QUIETSCROLL

Single Phase



Three Phase

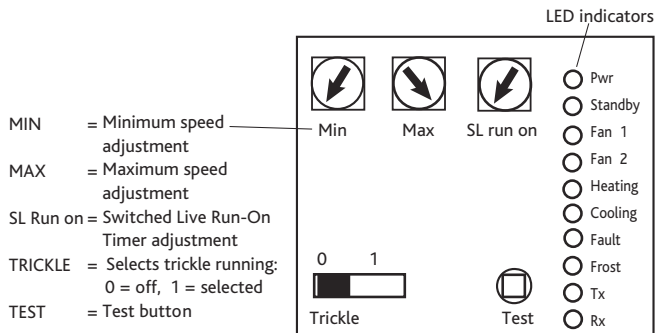
Remove this link wire if a switched live signal is connected to terminal SL
Note: also remove link if a BMS system is connected.
Also remove link if an enabling device is connected in the NET.



Set Up/Commissioning box

LED Indication

- PWR GREEN: Power on & OK,
- Standby LED on when fan is not running.
- Fan 1 GREEN: Fan 1 is running, RED: Fan 1 faulty.
- Fan 2 GREEN: Fan 2 is running, RED: Fan 2 faulty.
- Heating* Not applicable. See note.
- Cooling* Not applicable. See note.
- Fault LED on when a fault is present on unit.
- Frost* Not applicable. See note.
- Tx LED on when the controller is transmitting data.
- Rx LED on when the controller is receiving data.



* Note that the control panel is common to all the Ecosmart products and will have indicators for functions that are not available in this particular fan. However these indicators will not be illuminated.

CONSULTANTS SPECIFICATION

VENTILATION SYSTEM DESCRIPTION

The main extract twinfan shall be as indicated on the drawings and in accordance with the relevant fan schedule. The vitiated air shall be extracted from the space using an energy efficient demand ventilation principle; the system shall have its volume flow rate of air varied by a range of low voltage sensors and enablers.

FAN DESCRIPTION

The unit shall be manufactured from heavy gauge, corrosion resistant Aluzinc steel, internally coated with fire retardant acoustic material. Fully detachable panels for maintenance/service and manometer test points. It shall have an integrated upstream attenuator keeping system noise levels to an absolute minimum. (Units 1-9).

Run and standby fan assemblies to incorporate fan impeller and motors selected to provide the most energy efficient solution conforming to part L regulations and shall be direct or belt drive with IE2 high efficiency motors to BS5000 as standard, belt or direct drive with EN60034-30 motors fitted with "hall effect" air flow failure monitoring, units suitable for operation in ambient temperatures of 40 degrees C.

The Fan unit shall have a 5 year warranty.

The unit and ancillaries shall be of the Quietscroll type with Ecosmart controls as manufactured by Nuaire Ltd.

INSTALLATION REQUIREMENTS

The mechanical contractor shall ensure that all necessary ancillaries are included e.g. AV mounts, flexible connections, attenuators, etc.

The contractor shall allow for all necessary ductwork transformations to and from the fan unit and any associated components in accordance with the manufacturers recommendations, DW 144 and general good practice.

SYSTEM OPERATION

The extract fan shall automatically vary its speed as it receives signals from one of the interconnected sensors. When the signal is received the fan shall either increase speed gradually until the required level is achieved or it will work on a trickle and boost principle. This will then move the fan duty point from trickle/background ventilation rate to the required boost ventilation rate. Both the trickle and boost rates are infinitely variable, easy to adjust and remove the need of a main balancing damper in accordance with Part L.

CONSULTANTS SPECIFICATION

FAN CONTROL DESCRIPTION

The acoustically lined low noise Twinfan shall be controlled by an integrated Ecosmart control panel mounted within the fan unit. The Ecosmart control enables the fan's speed to be varied automatically as conditions in the ventilated space change by linking low voltage sensors or as the low voltage user control is adjusted. It also enables multiple fans to be directly interlinked. The fans shall have the following energy saving and operational functions integrally installed within it, all components will be pre-wired and fitted by the manufacturer:

- Auto-change over on fan failure.
- Auto duty share every 12 hours of run time.
- Integral Frequency inverter/speed controller.
- Integral adjustable run-on timer.
- Maximum and minimum speed adjustment/setting (trickle and boost).
- Volt free run & failure/status indication.
- 0-10V BMS interface for remote operation.
- Low voltage interface with second fan or supply fan.
- Multiple low voltage sockets for interconnection of sensors or fans.
- Background ventilation/trickle enable switch.

Fan, Ecosmart controls and associated sensors/controllers shall be manufactured by Nuair Ltd.

INSTALLATION

By the appointed contractor.

Mechanical installation requires mounting of the extract unit in the designated position and connection to the associated duct work.

Electrical installation requires the provision and connection of single or three phase electrical supply at the fan.

The user control and low voltage sensor are supplied complete with a 10m length of low voltage, pre-plugged cable.

COMMISSIONING

By the appointed commissioning engineer.

The systems should be commissioned in the normal way and the minimum and maximum speed adjustment with the Ecosmart control panel should be set to provide the required ventilation rates. These should be adjusted until the required air volume flow rate is achieved on the approved measuring device.

The manufacturer's recommendations should be observed at all times.

CONSTANT PRESSURE TWINFANS

ENERGY SAVING CENTRAL EXTRACT SYSTEM THAT PRECISELY
VENTILATES INDIVIDUAL ROOMS DEPENDING ON
THEIR REQUIREMENTS.



BENEFITS

PRECISE VENTILATION

The only multi-room ventilation system to provide local "on demand" control.

GUARANTEED VENTILATION

Automatic change over in the event of fan/motor failure, guaranteeing ventilation 24/7.

QUIET OPERATION

Does not generate noise by throttling back on balancing dampers required in conventional systems.

TRUE DEMAND VENTILATION

Only the areas requiring ventilation receive ventilation.

SAVES ENERGY

Up to 70% saving over conventionally controlled central systems.

- Not needlessly extracting conditioned air
- Fan speed/motor power dictated by demand requirement.

UNIQUE DIRECT ACTING MULTI-POSITION DAMPER/GRILLE

Ensures operation only when room occupied with integrated PIR.

PRE-WIRED

All components assembled, wired and tested at the Nuairé manufacturing facility.

- Simply plug and go. No wiring required between fan and dampers.

ENHANCED CAPITAL ALLOWANCE COMPLIANT

Immediate benefits to your client.

INTEGRATED SILENCER

Sizes 6 and 9.

DUCT MOUNTED VERSION OF DAMPER

For unobtrusive flexibility.

TWIN OR SINGLE

Twin or single fan options are available.

WARRANTY

Ecosmart Constant Pressure has a 5 year warranty.

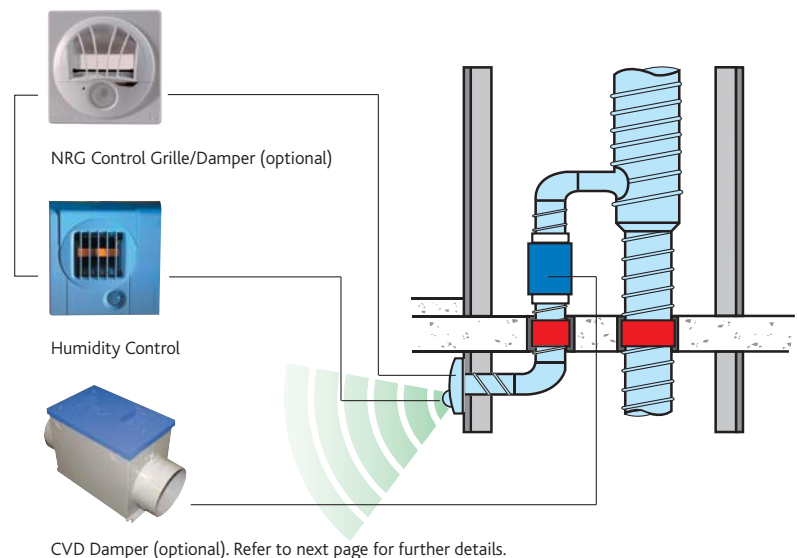
Note: For further details on Constant Pressure single fan options, please contact Nuairé.

Note: These units have the pressure sensor configured for extract application. For supply applications please contact Nuairé.

Larger duties are available please contact Nuairé.

WHAT IS CONSTANT PRESSURE?

Constant Pressure Variable Volume systems (CPVV) are systems of fans, controls & sensors installed in a multi-room ducted system. The system is intended to provide continuous background ventilation when the served spaces are unoccupied and will automatically increase the ventilation rate when any room is occupied to the design requirements. Only the room requiring the increased ventilation will receive the ventilation.



HOW DOES CONSTANT PRESSURE WORK?

Independent extract grilles are installed at duct termination points in each of the spaces served, the grilles (for the benefit of this exercise we will consider our NRG grilles) are set to provide one of four boost ventilation rates. They are connected independently to a 230V AC supply via 230/12V transformers.

The grilles have in built occupancy sensors (PIR) and when the PIR detects movement the grille is driven open, when a grille opens the system pressure falls, the fan control detects the change and adjusts the motor speed to maintain the target pressure.

Grilles will stay open for approximately twenty minutes after the last movement has been seen and when it closes the control again compensates for the change in system pressure by adjusting fan speed.

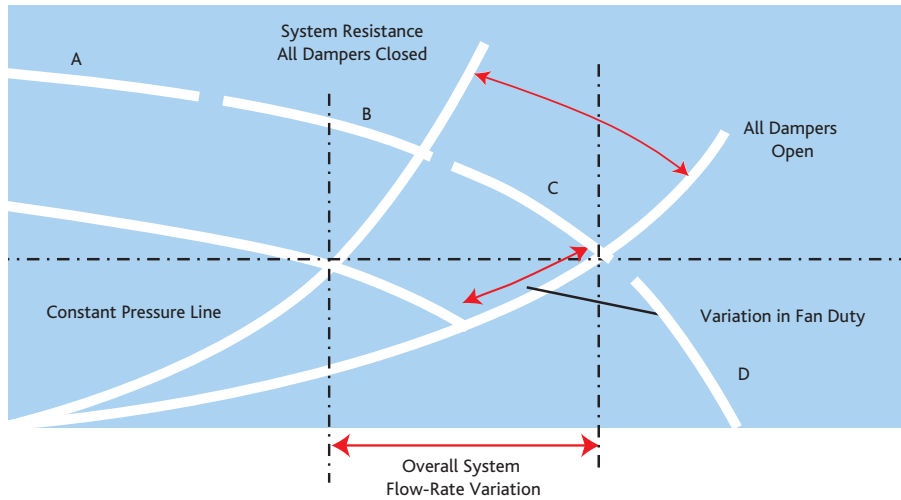
By opening the grilles the pressure in the system will fall. The control system in the fan senses this and automatically speeds up to provide the higher volume and equalise the system pressure. This works in reverse with the grille closing, increasing the system pressure, automatically reducing the fan speed and again equalising the system pressure. Hence a constant pressure variable volume system. There is no inter-connection between grille/damper and fan.



WHAT ARE NRG GRILLES?

A motorised two-position grille offered by Nuaire to compliment the range of constant pressure fans. They have:

- A connecting spigot to suit 125mm duct opening.
- Four settable positions for boost vent rate, Positions 1, 2, 3 & 4 are indicated on the grille by the appropriate number of dots. The grille is pre-set at 5mm open to guarantee the trickle ventilation rate and the other positions are set via a trigger on the front of the grille.



- An integral occupancy sensor (PIR) which is not adjustable.
- They are 12V-AC operating and are supplied with 230/12V AC transformers for installation local to the grille. For ease of installation the transformer can be connected to an independent spur or ring main.
- Integrated run on timer providing approx. twenty minutes overrun, which is non-adjustable.
- Grille resistance is dependent upon the air volume passing through it, see the resistance charts.
- There is no interconnecting wiring between damper/grille & fan.



CVD DAMPER

The CVD damper will work in the same way as the NRG but is mounted in-line and will be 230v operated responding to external switching devices such as humidistat, remote PIR, light switch, door switch etc. The in-line version has an in built motorised volume control damper to regulate the maximum flow through the branch connection. It has an airflow sensor that continuously monitors the airflow and adjusts the damper position accordingly.

THE INTEGRATED CONTROL PACKAGE

Is mounted in the fan chamber and consists of the EST package including:

- The inverter, which is the mechanism that varies the speed of the motors
- A Ecosmart control printed circuit board which converts the data from the pressure transducer to an input signal to the inverter.
- Terminals to connect the incoming mains supply and remote status indicators.

THE PRESSURE TRANSDUCER

Is precisely calibrated and mounted in the fan chamber and is connected to the Ecosmart control board. It continually monitors system pressure, compares the actual to the target allowing the control board to convert the data to an input signal to the inverter, thereby adjusting the motor speed to compensate for the system change.

THE SET-UP BOX

Is mounted on the external face of the unit case, it is connected to the control pack by a low voltage lead and includes

- A potentiometer to set the target pressure.

All achieved whilst fan is running without re accessing the fan chamber.

HOW THE CVD DAMPER INTERACTS WITH CONSTANT PRESSURE

The CVD100/125/150/200 dampers use the latest micro-electro-mechanical system (MEMS) sensor technology to give precise measurement and control of flowrate.

The CVD100/125/150/200 dampers will control the flow rate when the pressure drop across the damper is within the range stated in the performance envelope.

Two flow settings are available; trickle and boost. The damper will operate in the trickle setting when it is powered up and will go into the boost setting when a mains signal is received at the SL terminal or when the CVD-PIR (optional ancillary) is activated.

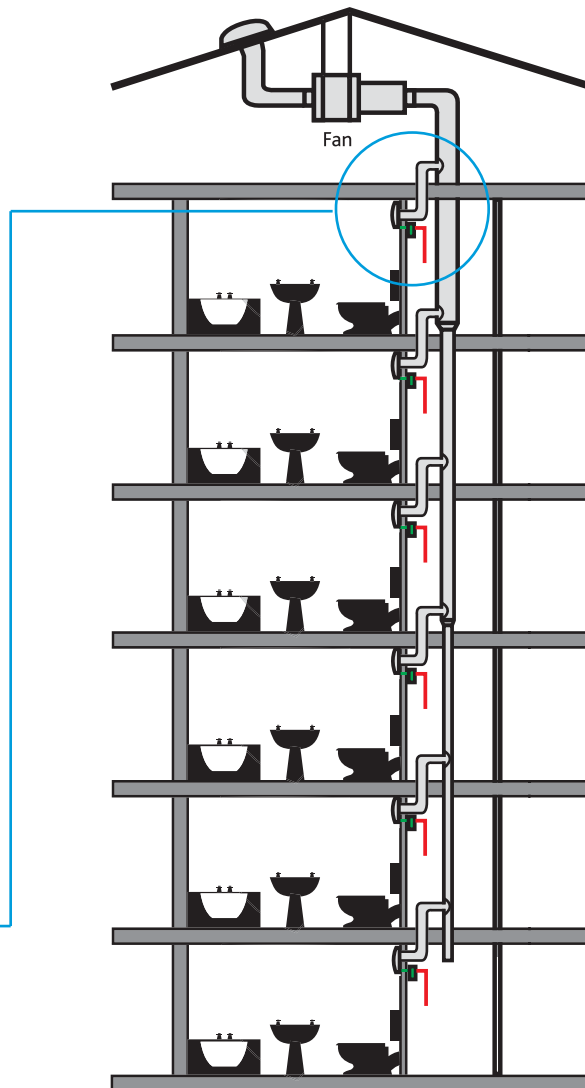
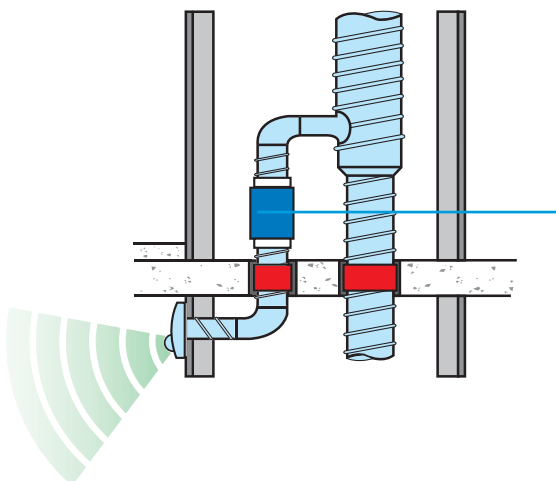
A run-on timer (adjustable between 1 to 60 minutes) will hold the damper in the boost setting for the preset time period.

The application of innovative acoustic design has produced low flowrates at high pressures without the usual associated noise problem. Typical accuracy of the dampers is shown in the table below if the unit is installed in accordance with the Nuaire installation and maintenance instructions.

Unit	Typical Accuracy
CVD 100	+ - 2 l/s
CVD 125	+ - 3 l/s
CVD 150	+ - 3 l/s
CVD 200	+ - 4 l/s

All adjustments can be made without removing the cover.

Location of CVD damper.



PERFORMANCE - CVD DAMPER

A nominal pressure drop must be allowed in order to ensure adequate airflow through the damper. To ensure the airflow pattern through the damper produces consistent readings; the pressure drop across the damper should not exceed the recommended value.

Recommended values are listed in the table below and shown in the performance envelope of each damper.

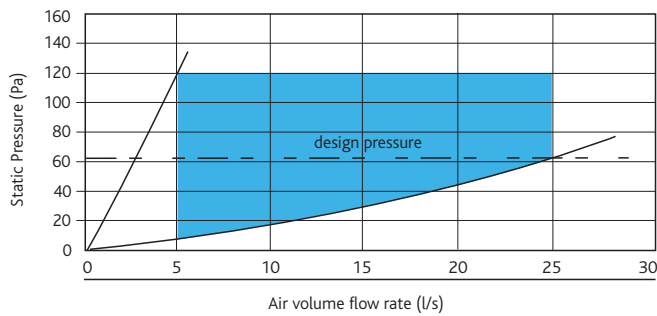
Code	Nominal design pressure drop	Maximum pressure across damper*
CVD100	60Pa	120Pa
CVD125	70Pa	140Pa
CVD150	80Pa	160Pa
CVD200	90Pa**	200Pa

*recommended maximum operating pressure to ensure the damper would work within calibration limits.

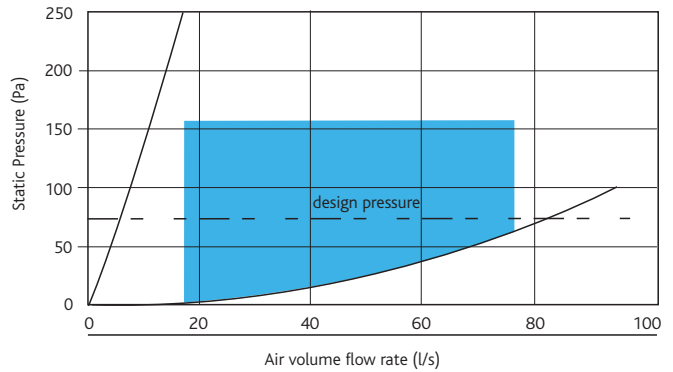
Keep the duct velocity as low as possible to ensure the system produces the lowest energy usage, preferably below 5m/s.

**Allow 90Pa for duties below 100l/s and 150Pa for duties between 100l/s and 125l/s.

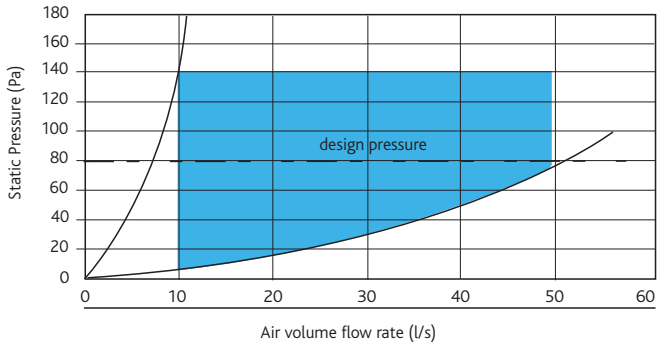
Performance envelope for CVD100



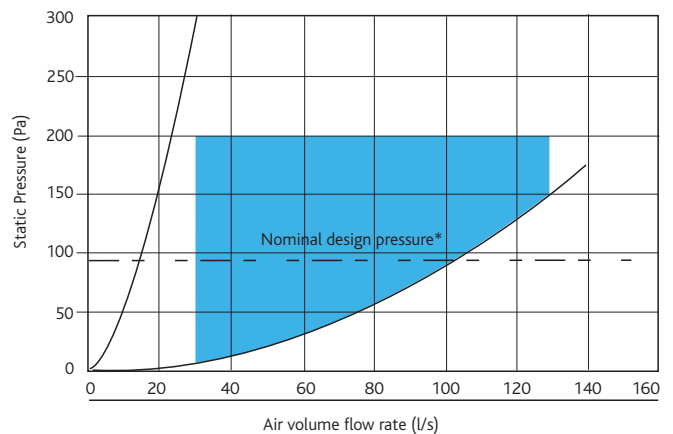
Performance envelope for CVD150



Performance envelope for CVD125

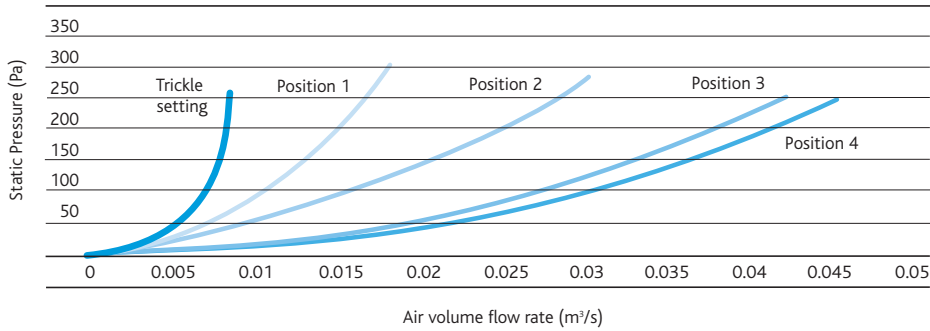


Performance envelope for CVD200

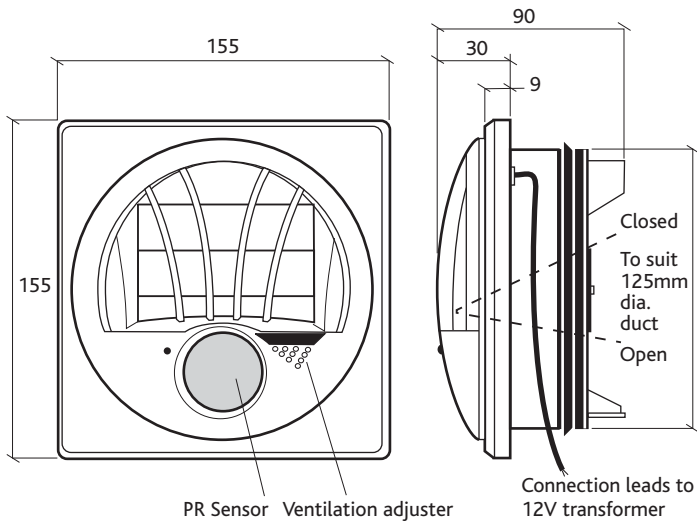


PERFORMANCE - NRG MOTORISED GRILLE/DAMPER

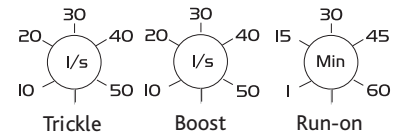
Motorised grille/damper type NRG Acoustic Information



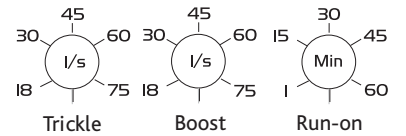
DIMENSIONS NRG GRILLE DAMPER



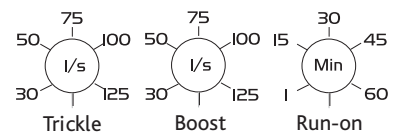
Dial calibration for CVD125



Dial calibration for CVD150



Dial calibration for CVD200

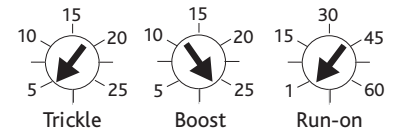


DIMENSIONS CVD DAMPERS

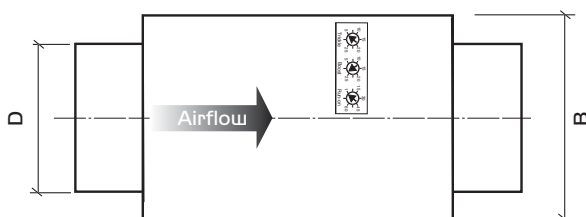
Dimensions in mm.

Code	A	B	C	D	E	F	Weight Kg
CVD100	221	128	165	100	69	295	2
CVD125	300	180	195	125	75	400	3.5
CVD150	300	200	220	150	90	400	3.7
CVD200	300	230	275	200	115	400	4

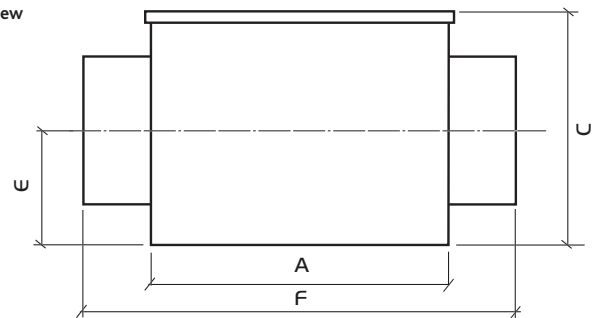
CVD100 Settings



Plan view

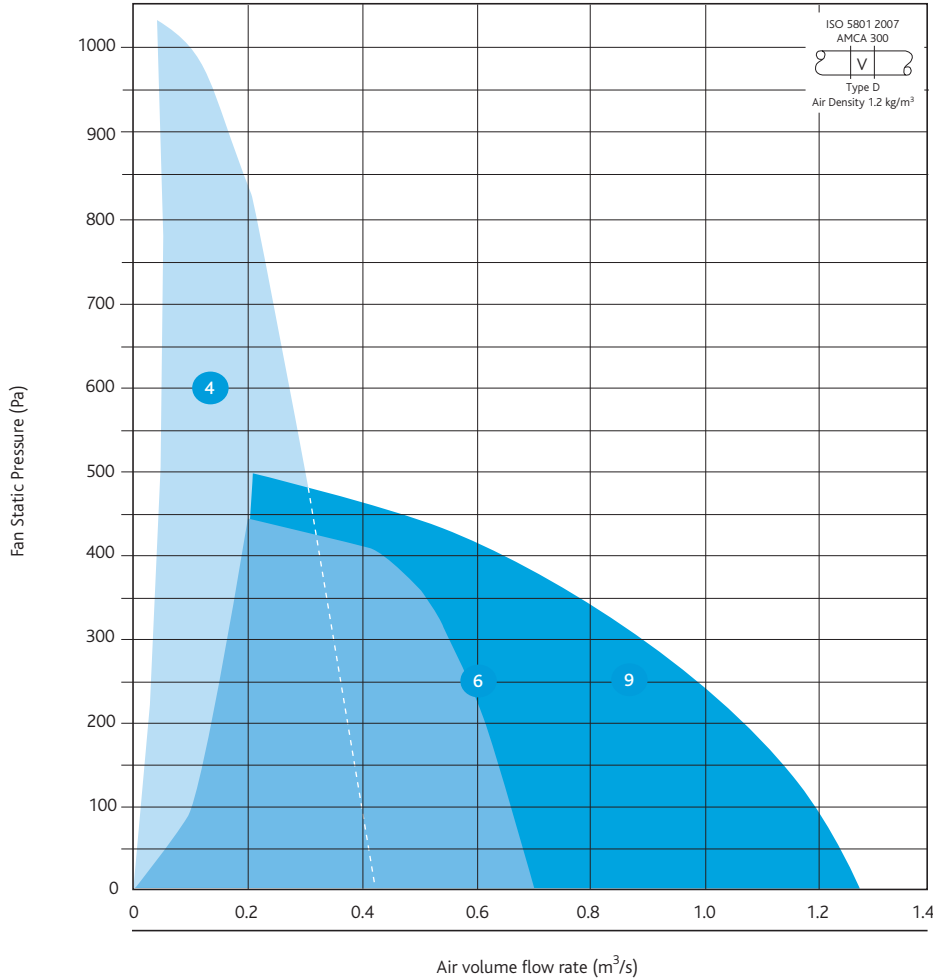


Side view

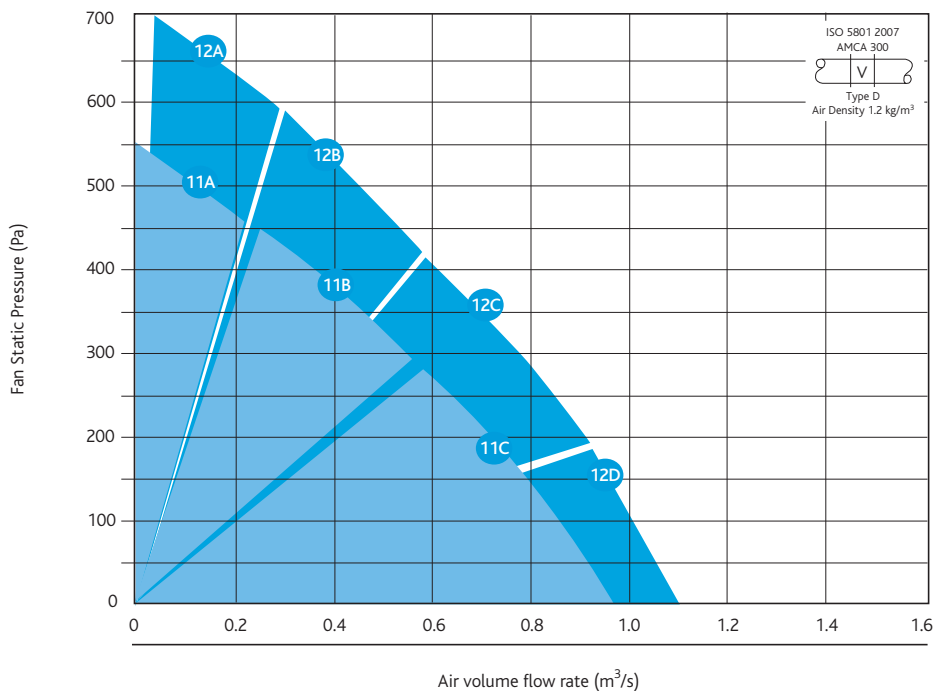


PERFORMANCE - CONSTANT PRESSURE TWIN FANS

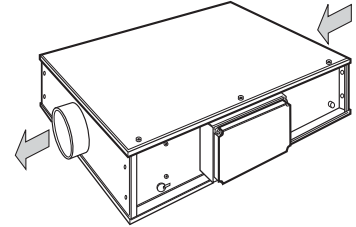
ESTCP Twinfans 4-9



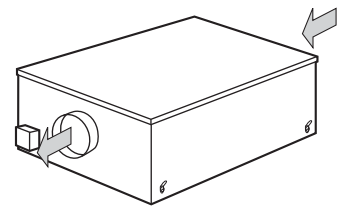
ESTCP Twinfans 11A-12D



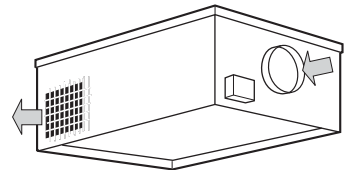
Casing



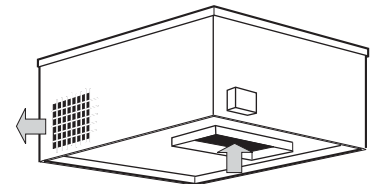
ESTCP Internal In-line Twin Fans



ESTCP-X External In-line Twin Fans



ESTCP-R Roof Twin Fans with end inlet and side discharge



ESTCP-B Roof Twin Fans with bottom inlet and side discharge

NB: Ecosmart Twinfans sizes 11-19 inc must not be mounted more than 5° from the horizontal.

Code descriptions

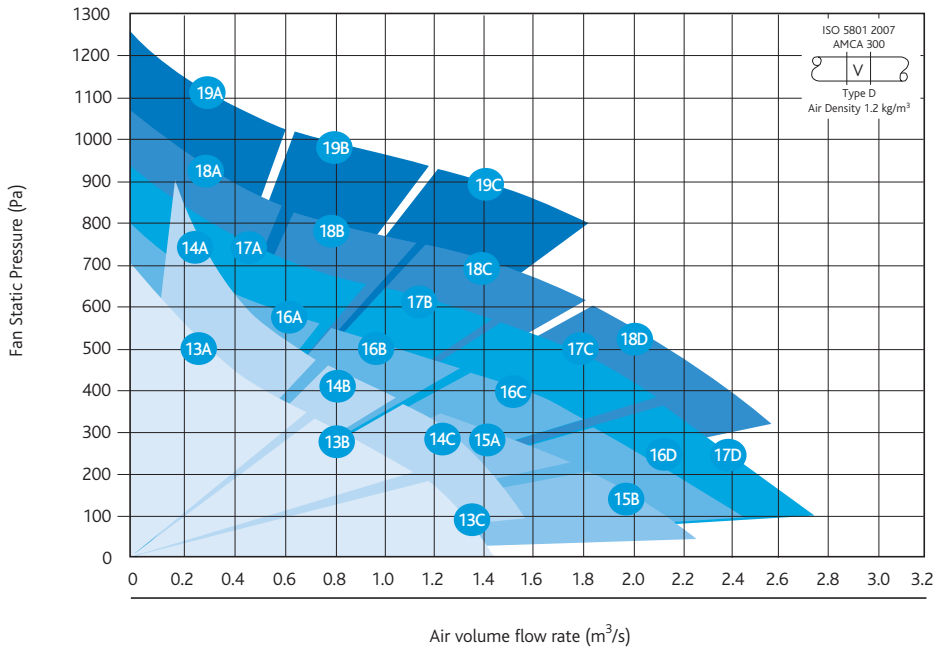
ESTCP 11 B - B



1. Ecosmart Constant Pressure Twin range
2. Case size
3. A, B, C & D refer to motor & pulley combination
4. No suffix - internal in-line unit
 X - External in-line unit
 R - Back inlet, grille outlet external roof mounted unit
 B - Bottom inlet

PERFORMANCE - CONSTANT PRESSURE TWIN FANS CONT.

ESTCP Twinfans 13A-19C



For larger duties please contact Nuair.

CONSTANT PRESSURE INTERNAL TWIN FANS ESTCP

ELECTRICAL, SOUND & WEIGHT

Code/ Curve	Phase	RPM	Motor power (kW)	FLC (amps)	SC (amps)	Induct inlet Sound Power levels dB re lpW (+ correction for outlet)						Breakout dBA@3m	Weight (Kg)	
						125	250	500	1K	2K	4K			8K
ESTCP4	1	3600	0.52	3.1	3.1	78(+8)	72(+6)	60(+20)	52(+24)	46(+29)	40(+30)	31(+30)	45	62
ESTCP6	1	1272	1.23	7.6	7.6	77(+4)	70(+9)	56(+15)	52(+18)	49(+19)	46(+19)	38(+23)	43	79
ESTCP9	1	960	1.6	9.4	9.4	74(+8)	71(+9)	70(+13)	67(+19)	67(+20)	63(+22)	56(+22)	47	154
ESTCP11A	3	1225	0.37	1.3	1.3	73(+1)	67(+7)	62(+10)	63(+11)	55(+9)	49(+11)	45(+9)	46	77.5
ESTCP11B	3	1225	0.55	1.7	1.7	74(+2)	68(+7)	64(+9)	65(+10)	57(+8)	52(+9)	48(+7)	48	82.4
ESTCP11C	3	1225	0.75	2.1	2.1	75(+2)	70(+8)	65(+9)	66(+10)	58(+6)	53(+8)	50(+6)	49	84.4
ESTCP12A	3	1400	0.55	1.7	1.7	75(-1)	71(+4)	66(+7)	66(+9)	58(+7)	51(+8)	45(+5)	48	82.4
ESTCP12B	3	1400	0.75	2.1	2.1	74(+3)	70(+8)	65(+10)	66(+12)	58(+9)	51(+11)	44(+9)	50	84.4
ESTCP12C	3	1400	1.1	2.9	2.9	77(+2)	73(+7)	67(+10)	69(+10)	60(+8)	54(+10)	47(+11)	51	90.4
ESTCP12D	3	1400	1.5	3.7	3.7	79(0)	75(+5)	69(+8)	70(+9)	61(+7)	56(+8)	52(+6)	52	96.4
ESTCP13A	3	1085	0.75	2.1	2.1	70(+5)	67(+8)	67(+8)	63(+8)	56(+8)	57(+7)	51(+7)	48	116
ESTCP13B	3	1085	1.1	2.9	2.9	72(+5)	68(+8)	69(+8)	65(+8)	58(+8)	59(+7)	54(+7)	50	116
ESTCP13C	3	1085	1.5	3.7	3.7	73(+4)	69(+7)	70(+7)	64(+9)	59(+7)	61(+5)	55(+6)	50	125
ESTCP14A	3	1225	1.1	2.9	2.9	73(+5)	68(+7)	68(+7)	62(+10)	56(+8)	58(+6)	48(+7)	48	116

Fan size 11 to 19 inc. are belt drive and cannot be mounted at an angle no greater than 5°. Please contact your local Nuair Technical Sales Engineer or the Technical Department to discuss your application requirements. Breakout dBA@3m is hemispherical free field. The electrical and sound information in the table is nominal.

TWIN FANS

CONSTANT PRESSURE

TECHNICAL INFORMATION

CONSTANT PRESSURE INTERNAL TWIN FANS ESTCP CONT.

ELECTRICAL, SOUND & WEIGHT														
Code/ Curve	Phase	RPM	Motor power (kW)	FLC (amps)	SC (amps)	Induct inlet Sound Power levels dB re 1pW (+ correction for outlet)							Breakout dBA@3m	Weight (Kg)
						125	250	500	1K	2K	4K	8K		
ESTCP14B	3	1225	1.5	3.7	3.7	74(+5)	68(+9)	68(+10)	63(+11)	57(+10)	59(+8)	49(+12)	50	125
ESTCP14C	3	1225	2.2	5.4	5.4	75(+5)	70(+9)	71(+9)	65(+11)	60(+9)	62(+7)	55(+9)	52	134
ESTCP14D	3	1225	3	6.9	6.9	76(+4)	72(+7)	73(+7)	67(+9)	62(+7)	64(+5)	58(+6)	53	140
ESTCP15A	3	925	2.2	5.4	5.4	80(+6)	79(+2)	78(+9)	76(+8)	73(+7)	70(+6)	64(+9)	60	168.7
ESTCP15B	3	925	3	6.9	6.9	83(+8)	81(+3)	79(+9)	78(+9)	76(+9)	74(+10)	68(+12)	62	174.6
ESTCP16A	3	1040	1.5	3.7	3.7	80(+5)	80(+1)	75(+8)	75(+7)	73(+6)	71(+6)	67(+8)	57	159.6
ESTCP16B	3	1040	2.2	5.4	5.4	81(+8)	81(+3)	76(+12)	76(+11)	74(+9)	71(+9)	68(+9)	61	168.7
ESTCP16C	3	1040	3	6.9	6.9	81(+7)	82(+2)	77(+11)	77(+10)	74(+8)	71(+9)	68(+8)	61	174.6
ESTCP16D	3	1040	4	10	10	84(+7)	82(+1)	80(+10)	79(+9)	77(+8)	75(+9)	70(+8)	63	193.6
ESTCP17A	3	1160	2.2	5.4	5.4	83(+4)	81(0)	75(+7)	76(+7)	74(+5)	73(+5)	69(+6)	57	168.7
ESTCP17B	3	1160	3	6.9	6.9	84(+5)	82(+1)	76(+12)	77(+9)	75(+8)	73(+7)	70(+7)	61	174.6
ESTCP17C	3	1160	4	10	10	84(+4)	83(0)	77(+11)	78(+8)	75(+7)	73(+7)	70(+6)	61	193.6
ESTCP17D	3	1160	5.5	12	12	85(+4)	83(-1)	80(+10)	80(+7)	77(+7)	76(+7)	71(+6)	62	231.6
ESTCP18A	3	1260	2.2	5.4	5.4	83(+3)	84(-1)	78(+7)	80(+5)	76(+5)	75(+4)	69(+5)	60	168.7
ESTCP18B	3	1260	3	6.9	6.9	84(+4)	83(-2)	79(+9)	80(+5)	77(+6)	74(+5)	69(+7)	61	174.6
ESTCP18C	3	1260	4	10	10	84(+4)	83(-1)	79(+8)	80(+5)	77(+5)	74(+6)	69(+7)	61	193.6
ESTCP18D	3	1260	5.5	12	12	85(+4)	83(-1)	81(+8)	81(+5)	78(+5)	76(+6)	71(+7)	62	231.6
ESTCP19A	3	1440	3	6.9	6.9	90(+2)	83(-2)	82(+5)	80(+4)	79(+5)	78(+3)	73(+4)	61	174.6
ESTCP19B	3	1440	4	10	10	87(-2)	82(-1)	81(+5)	79(+5)	79(+3)	77(+2)	73(+3)	60	193.6
ESTCP19C	3	1440	5.5	12	12	86(+1)	84(0)	82(+6)	81(+6)	79(+3)	77(+3)	73(+3)	62	231.6

Fan size 11 to 19 inc. are belt drive and cannot be mounted at an angle of no greater than 5°.

Please contact your local Nuair Technical Sales Engineer or the Technical Department to discuss your application requirements.

Breakout dBA@3m is hemispherical free field. The electrical and sound information in the table is nominal.

CONSTANT PRESSURE EXTERNAL TWIN FANS ESTCP-X

ELECTRICAL, SOUND & WEIGHT

Code/ Curve	Phase	RPM	Motor power (kW)	FLC (amps)	SC (amps)	Induct inlet Sound Power levels dB re lpW (+ correction for outlet)						Breakout dBA@3m	Weight (Kg)	
						125	250	500	1K	2K	4K			8K
ESTCP4-X	1	3600	0.52	3.1	3.1	77(+9)	73(+5)	66(+14)	64(+12)	60(+15)	55(+15)	50(+11)	47	86
ESTCP6-X	1	1300	1.1	7.6A	7.6A	73(+7)	66(+13)	54(+16)	50(+19)	49(+19)	47(+19)	41(+20)	47	86
ESTCP9-X	1	1069	1.6	9.4	9.4	82(+10)	70(+6)	66(+6)	62(+8)	61(+6)	56(+9)	50(+10)	50	162
ESTCP11A-X	3	1225	0.37	1.3	1.3	73(+1)	67(+7)	62(+10)	63(+11)	55(+9)	49(+11)	45(+9)	46	77.5
ESTCP11B-X	3	1225	0.55	1.7	1.7	74(+2)	68(+7)	64(+9)	65(+10)	57(+8)	52(+9)	48(+7)	48	82.4
ESTCP11C-X	3	1225	0.75	2.1	2.1	75(+2)	70(+8)	65(+9)	66(+10)	58(+6)	53(+8)	50(+6)	49	84.4
ESTCP11D-X	3	1225	1.1	2.9	2.9	77(+0)	73(+5)	66(+8)	67(+9)	58(+7)	53(+8)	50(+6)	49	90.4
ESTCP12A-X	3	1400	0.55	1.7	1.7	75(-1)	71(+4)	66(+7)	66(+9)	58(+7)	51(+8)	45(+5)	48	82.4
ESTCP12B-X	3	1400	0.75	2.1	2.1	74(+3)	70(+8)	65(+10)	66(+12)	58(+9)	51(+11)	44(+9)	50	84.4
ESTCP12C-X	3	1400	1.1	2.9	2.9	77(+2)	73(+7)	67(+10)	69(+10)	60(+8)	54(+10)	47(+11)	51	90.4
ESTCP12D-X	3	1400	1.5	3.7	3.7	79(0)	75(+5)	69(+8)	70(+9)	61(+7)	56(+8)	52(+6)	52	96.4
ESTCP13A-X	3	1085	0.75	2.1	2.1	70(+5)	67(+8)	67(+8)	63(+8)	56(+8)	57(+7)	51(+7)	48	116
ESTCP13B-X	3	1085	1.1	2.9	2.9	72(+5)	68(+8)	69(+8)	65(+8)	58(+8)	59(+7)	54(+7)	50	116
ESTCP13C-X	3	1085	1.5	3.7	3.7	73(+4)	69(+7)	70(+7)	64(+9)	59(+7)	61(+5)	55(+6)	50	125
ESTCP14A-X	3	1225	1.1	2.9	2.9	73(+5)	68(+7)	68(+7)	62(+10)	56(+8)	58(+6)	48(+7)	48	116
ESTCP14B-X	3	1225	1.5	3.7	3.7	74(+5)	68(+9)	68(+10)	63(+11)	57(+10)	59(+8)	49(+12)	50	125
ESTCP14C-X	3	1225	2.2	5.4	5.4	75(+5)	70(+9)	71(+9)	65(+11)	60(+9)	62(+7)	55(+9)	52	134
ESTCP14D-X	3	1225	3	6.9	6.9	76(+4)	72(+7)	73(+7)	67(+9)	62(+7)	64(+5)	58(+6)	53	140
ESTCP15A-X	3	925	2.2	5.4	5.4	80(+6)	79(+2)	78(+9)	76(+8)	73(+7)	70(+6)	64(+9)	60	168.7
ESTCP15B-X	3	925	3	6.9	6.9	83(+8)	81(+3)	79(+9)	78(+9)	76(+9)	74(+10)	68(+12)	62	174.6
ESTCP16A-X	3	1040	1.5	3.7	3.7	80(+5)	80(+1)	75(+8)	75(+7)	73(+6)	71(+6)	67(+8)	57	159.6
ESTCP16B-X	3	1040	2.2	5.4	5.4	81(+8)	81(+3)	76(+12)	76(+11)	74(+9)	71(+9)	68(+9)	61	168.7
ESTCP16C-X	3	1040	3	6.9	6.9	81(+7)	82(+2)	77(+11)	77(+10)	74(+8)	71(+9)	68(+8)	61	174.6
ESTCP16D-X	3	1040	4	10	10	84(+7)	82(+1)	80(+10)	79(+9)	77(+8)	75(+9)	70(+8)	63	193.6
ESTCP17A-X	3	1160	2.2	5.4	5.4	83(+4)	81(0)	75(+7)	76(+7)	74(+5)	73(+5)	69(+6)	57	168.7
ESTCP17B-X	3	1160	3	6.9	6.9	84(+5)	82(+1)	76(+12)	77(+9)	75(+8)	73(+7)	70(+7)	61	174.6
ESTCP17C-X	3	1160	4	10	10	84(+4)	83(0)	77(+11)	78(+8)	75(+7)	73(+7)	70(+6)	61	193.6
ESTCP17D-X	3	1160	5.5	12	12	85(+4)	83(-1)	80(+10)	80(+7)	77(+7)	76(+7)	71(+6)	62	231.6
ESTCP18A-X	3	1260	2.2	5.4	5.4	83(+3)	84(-1)	78(+7)	80(+5)	76(+5)	75(+4)	69(+5)	60	168.7
ESTCP18B-X	3	1260	3	6.9	6.9	84(+4)	83(-2)	79(+9)	80(+5)	77(+6)	74(+5)	69(+7)	61	174.6
ESTCP18C-X	3	1260	4	10	10	84(+4)	83(-1)	79(+8)	80(+5)	77(+5)	74(+6)	69(+7)	61	193.6
ESTCP18D-X	3	1260	5.5	12	12	85(+4)	83(-1)	81(+8)	81(+5)	78(+5)	76(+6)	71(+7)	62	231.6
ESTCP19A-X	3	1440	3	6.9	6.9	90(+2)	83(-2)	82(+5)	80(+4)	79(+5)	78(+3)	73(+4)	61	174.6
ESTCP19B-X	3	1440	4	10	10	87(-2)	82(-1)	81(+5)	79(+5)	79(+3)	77(+2)	73(+3)	60	193.6
ESTCP19C-X	3	1440	5.5	12	12	86(+1)	84(0)	82(+6)	81(+6)	79(+3)	77(+3)	73(+3)	62	231.6

Fan size 11 to 19 inc. are belt drive and cannot be mounted at an angle no greater than 5°.
Please contact your local Nuair Technical Sales Engineer or the Technical Department to discuss your application requirements.
Breakout dBA@3m is hemispherical free field. The electrical and sound information in the table is nominal.

TWIN FANS

CONSTANT PRESSURE

TECHNICAL INFORMATION

CONSTANT PRESSURE EXTERNAL TWIN FANS ESTCP-R AND B

ELECTRICAL, SOUND & WEIGHT

Code/ Curve	Phase	RPM	Motor power (kW)	FLC (amps)	SC (amps)	Induct inlet Sound Power levels dB re 1pW (+ correction for open outlet)								Open inlet (Open outlet) dBA@3m	Weight (Kg)
						125	250	500	1K	2K	4K	8K			
ESTCP4	1	3600	0.52	3.1	3.1	77(+0)	73(+4)	66(+17)	64(+20)	60(+24)	55(+25)	50(+24)	47	86	
ESTCP6	1	1300	1.23	7.6	7.6	73(+7)	66(+13)	54(+16)	50(+19)	49(+19)	47(+19)	41(+20)	47	86	
ESTCP9	1	1065	1.6	9.4	9.4	82(+10)	70(+6)	66(+6)	62(+8)	61(+6)	56(+9)	50(+10)	48	162	
ESTCP11A	3	1225	0.37	1.3	1.3	73(-3)	67(+3)	62(+9)	63(+11)	55(+9)	49(+11)	45(+9)	47(+11)	77.5	
ESTCP11B	3	1225	0.55	1.7	1.7	74(-2)	68(+4)	64(+8)	65(+10)	57(+8)	52(+9)	48(+7)	49(+10)	82.4	
ESTCP11C	3	1225	0.75	2.1	2.1	75(-2)	70(+4)	65(+8)	66(+10)	58(+6)	53(+8)	50(+6)	51(+9)	84.4	
ESTCP11D	3	1225	1.1	2.9	2.9	77(-4)	73(+2)	66(+7)	67(+9)	58(+7)	53(+8)	50(+6)	52(+8)	90.4	
ESTCP12A	3	1400	0.55	1.7	1.7	75(-5)	71(+1)	66(+6)	66(+9)	58(+7)	51(+8)	45(+5)	51(+8)	82.4	
ESTCP12B	3	1400	0.75	2.1	2.1	74(-1)	70(+5)	65(+9)	66(+12)	58(+9)	51(+11)	44(+9)	50(+11)	84.4	
ESTCP12C	3	1400	1.1	2.9	2.9	77(-2)	73(+4)	67(+9)	69(+10)	60(+8)	54(+10)	47(+11)	53(+10)	90.4	
ESTCP12D	3	1400	1.5	3.7	3.7	79(-4)	75(+2)	69(+7)	70(+9)	61(+7)	56(+8)	52(+6)	54(+9)	96.4	
ESTCP13A	3	1085	0.75	2.1	2.1	70(+5)	67(+8)	67(+8)	63(+8)	56(+8)	57(+7)	51(+7)	50(+6)	116	
ESTCP13B	3	1085	1.1	2.9	2.9	72(-1)	68(+6)	69(+8)	65(+8)	58(+8)	59(+7)	54(+7)	52(+7)	116	
ESTCP13C	3	1085	1.5	3.7	3.7	73(-2)	69(+5)	70(+7)	64(+9)	59(+7)	61(+5)	55(+6)	52(+7)	125	
ESTCP14A	3	1225	1.1	2.9	2.9	73(-1)	68(+5)	68(+7)	62(+10)	56(+8)	58(+6)	48(+7)	50(+8)	116	
ESTCP14B	3	1225	1.5	3.7	3.7	74(-1)	68(+7)	68(+10)	63(+11)	57(+10)	59(+8)	49(+12)	50(+10)	125	
ESTCP14C	3	1225	2.2	5.4	5.4	75(-1)	70(+7)	71(+9)	65(+11)	60(+9)	62(+7)	55(+9)	53(+9)	134	
ESTCP14D	3	1225	3	6.9	6.9	76(-2)	72(+5)	73(+7)	67(+9)	62(+7)	64(+5)	58(+6)	55(+7)	140	
ESTCP15A	3	925	2.2	5.4	5.4	80(+1)	79(+1)	78(+8)	76(+8)	73(+7)	70(+6)	64(+9)	62(+8)	168.7	
ESTCP15B	3	925	3	6.9	6.9	83(+3)	81(+2)	79(+8)	78(+9)	76(+9)	74(+10)	68(+12)	65(+9)	174.6	
ESTCP16A	3	1040	1.5	3.7	3.7	80(0)	80(0)	75(+7)	75(+7)	73(+6)	71(+6)	67(+8)	62(+6)	159.6	
ESTCP16B	3	1040	2.2	5.4	5.4	81(+3)	81(+1)	76(+11)	76(+11)	74(+9)	71(+9)	68(+9)	63(+10)	168.7	
ESTCP16C	3	1040	3	6.9	6.9	81(+2)	82(0)	77(+10)	77(+10)	74(+8)	71(+9)	68(+8)	63(+9)	174.6	
ESTCP16D	3	1040	4	10	10	84(+2)	82(-1)	80(+9)	79(+9)	77(+8)	75(+9)	70(+8)	66(+8)	193.6	
ESTCP17A	3	1160	2.2	5.4	5.4	83(0)	81(-1)	75(+6)	76(+7)	74(+5)	73(+5)	69(+6)	63(+6)	168.7	
ESTCP17B	3	1160	3	6.9	6.9	84(0)	82(0)	76(+11)	77(+9)	75(+8)	73(+7)	70(+7)	64(+9)	174.6	
ESTCP17C	3	1160	4	10	10	84(-1)	83(-1)	77(+10)	78(+8)	75(+7)	73(+7)	70(+6)	64(+8)	193.6	
ESTCP17D	3	1160	5.5	12	12	85(-1)	83(-2)	80(+9)	80(+7)	77(+7)	76(+7)	71(+6)	67(+7)	231.6	
ESTCP18A	3	1260	2.2	5.4	5.4	83(-2)	84(-2)	78(+6)	80(+5)	76(+5)	75(+4)	69(+5)	66(+5)	168.7	
ESTCP18B	3	1260	3	6.9	6.9	84(0)	83(-3)	79(+8)	80(+5)	77(+6)	74(+5)	69(+7)	66(+6)	174.6	
ESTCP18C	3	1260	4	10	10	84(-1)	83(-2)	79(+7)	80(+5)	77(+5)	74(+6)	69(+7)	66(+6)	193.6	
ESTCP18D	3	1260	5.5	12	12	85(-1)	83(-2)	81(+7)	81(+5)	78(+5)	76(+6)	71(+7)	67(+6)	231.6	
ESTCP19A	3	1440	3	6.9	6.9	90(-1)	83(-2)	82(+5)	80(+4)	79(+5)	78(+3)	73(+4)	68(+4)	174.8	
ESTCP19B	3	1440	4	10	10	87(-5)	82(-1)	81(+5)	79(+5)	79(+3)	77(+2)	73(+3)	67(+4)	193.6	
ESTCP19C	3	1440	5.5	12	12	86(-2)	84(0)	82(+5)	81(+6)	79(+3)	77(+3)	73(+3)	68(+5)	231.6	

Fan size 11 to 19 inc. are belt drive and cannot be mounted at an angle no greater than 5°.

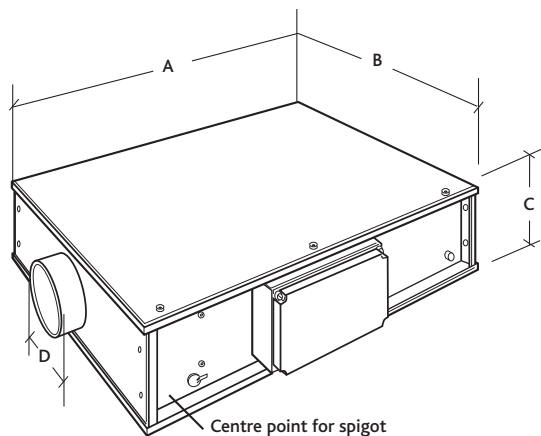
Please contact your local Nuair Technical Sales Engineer or the Technical Department to discuss your application requirements.

Please insert R or B into code for spigot position eg. ESTCP17A - B.

Breakout dBA@3m is hemispherical free field. The electrical and sound information in the table is nominal.

DIMENSIONS

Internal Twin Fans ESTCP



DIMENSIONS (mm)

Fan Code	A	B	C	Circular Spigot D dia	Rectangular Spigot
ESTCP4	1063	1047	360	250	N/A
ESTCP6	1193	1047	423	400	N/A
ESTCP9	1195	1174	575	500	N/A
ESTCP11	974	974	622	400	N/A
ESTCP12	974	974	622	400	N/A
ESTCP13	1233	1233	701	500	N/A
ESTCP14	1233	1233	701	500	N/A
ESTCP15	1430	1635	780	630	N/A
ESTCP16	1430	1635	780	630	N/A
ESTCP17	1430	1635	780	630	N/A
ESTCP18	1430	1635	780	630	N/A
ESTCP19	1430	1635	780	630	N/A

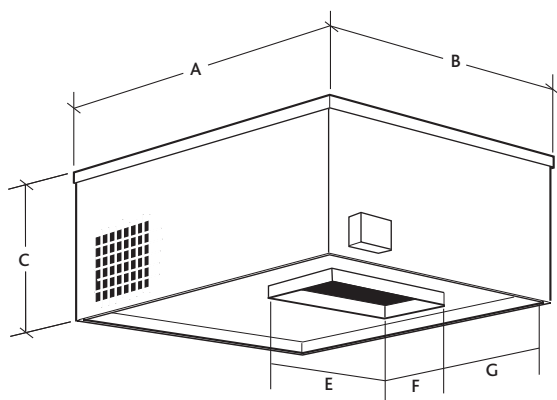
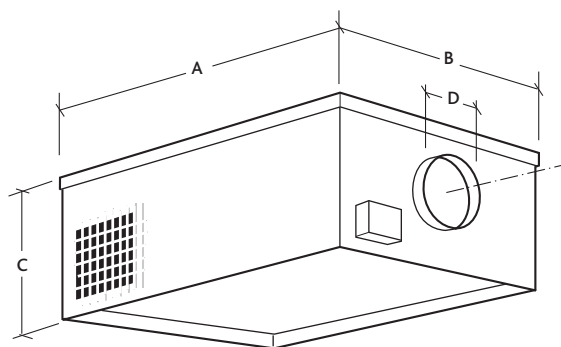
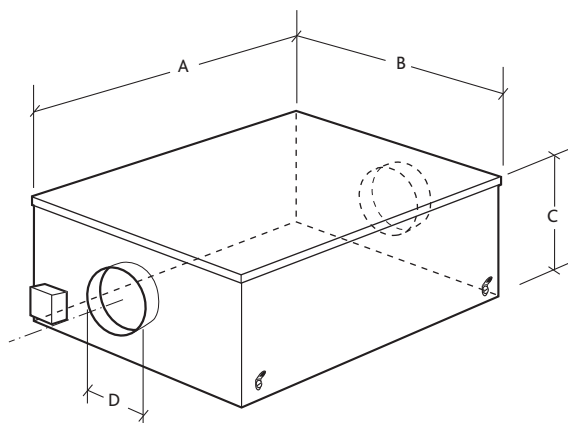
QUICK SELECTION GUIDE

ESTCP TWIN FANS

Fan Code	Circular Duct Mounted Silencer	Standard Flexible Connector	Acoustic Flexible Connector	AV Mounts
ESTCP4	ES4SIL	CFC25	ACFXRD25	NAV2
ESTCP6	ES6SIL	CFC40	ACFXRD400	NAV2
ESTCP9	ES8SIL	CFC50	ACFXRD500	NAV3
ESTCP11	ES6SIL	CFC40	ACFXRD400	INC
ESTCP12	ES6SIL	CFC40	ACFXRD400	INC
ESTCP13	ES7SIL	CFC50	ACFXRD500	INC
ESTCP14	ES8SIL	CFC50	ACFXRD500	INC
ESTCP15	CA63S	CFC63	-	INC
ESTCP16	CA63S	CFC63	-	INC
ESTCP17	CA63S	CFC63	-	INC
ESTCP18	CA63S	CFC63	-	INC
ESTCP19	CA63S	CFC63	-	INC

DIMENSIONS

External Twin Fans ESTCP-X,
 Roof Twin Fans ESTCP-R end connection and
 Roof Twin Fans ESTCP-B bottom connection



QUICK SELECTION GUIDE

ESTCP-X & ESXCP-X TWIN FANS

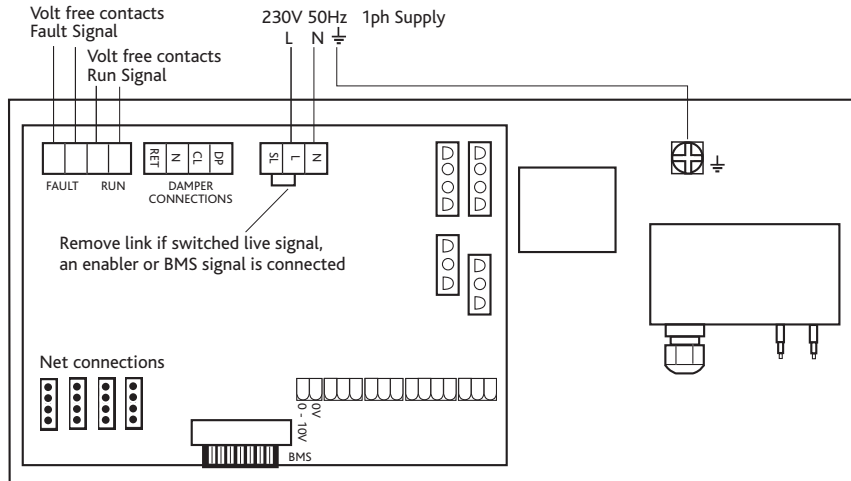
Unit	A	B	C	D	Weight Kg	
					EST	ESX
ESTCP4-X	1165	980	575	250	85	-
ESTCP6-X/ESXCP6-X	1165	980	575	400	86	70
ESTCP9-X/ESXCP9-X	1495	1125	710	500	162	133

ESTCP-R & ESXCP-R, ESTCP-B & ESXCP-B TWIN FANS

Unit	A	B	C	D	E	F	Weight Kg	
							EST	ESX
ESTCP4-R	1165	980	575	250	-	-	85	-
ESTCP4-B	1165	980	575	-	152	305	85	-
ESTCP6-R/ESXCP6-R	1165	980	575	400	-	-	86	70
ESTCP6-B/ESXCP6-B	1165	980	575	-	229	457	86	70
ESTCP9-R/ESXCP9-R	1495	1125	710	500	-	-	162	133
ESTCP9-B/ESXCP9-B	1495	1125	710	-	304	762	162	133

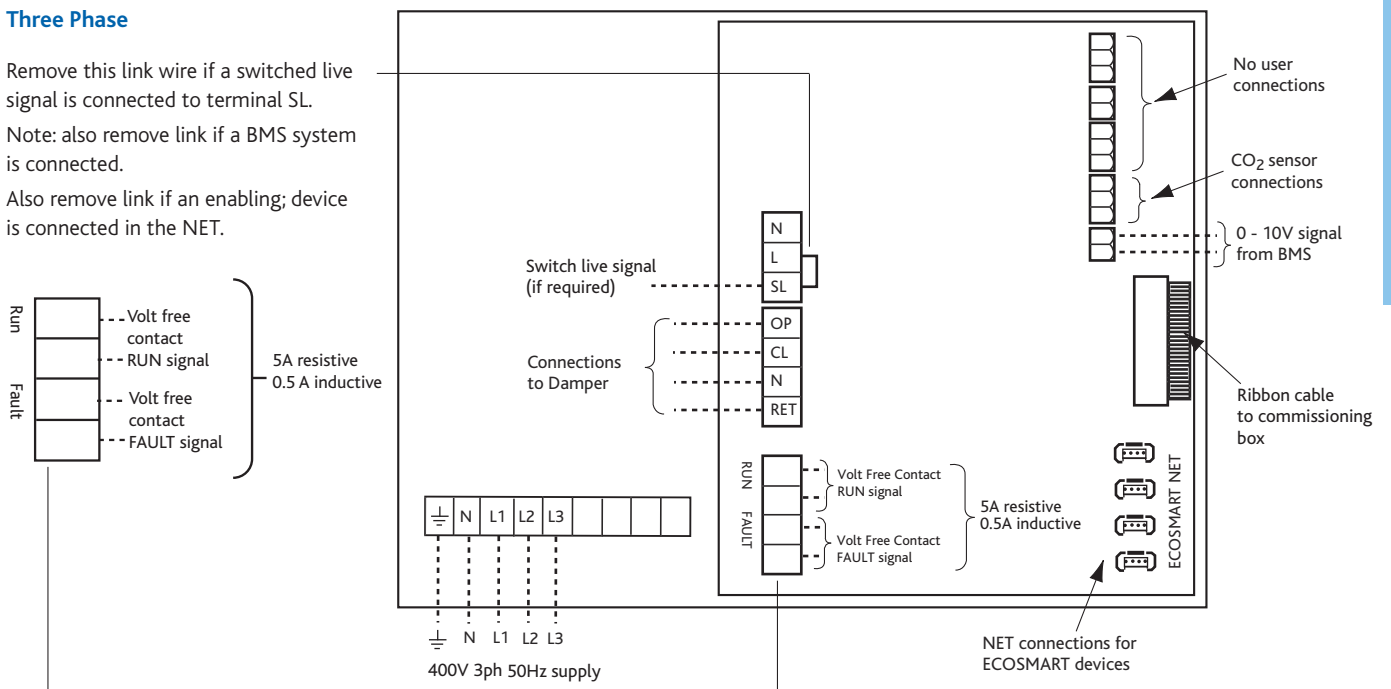
WIRING - CONSTANT PRESSURE

Single Phase



Three Phase

Remove this link wire if a switched live signal is connected to terminal SL.
 Note: also remove link if a BMS system is connected.
 Also remove link if an enabling device is connected in the NET.

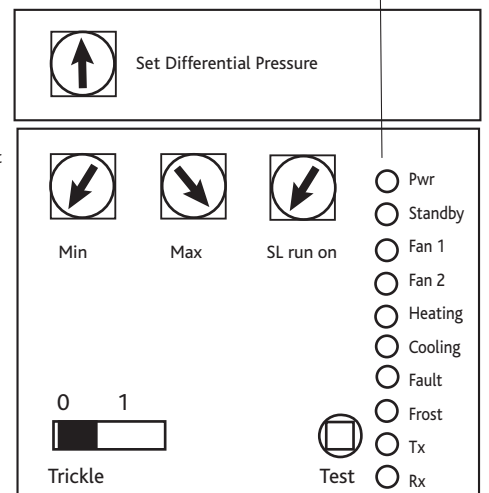


Set Up/Commissioning box

LED Indication

- PWR GREEN: Power on & OK,
- Standby LED on when fan is not running.
- Fan 1 GREEN: Fan 1 is running, RED: Fan 1 faulty.
- Fan 2 GREEN: Fan 2 is running, RED: Fan 2 faulty.
- Heating* Not applicable. See note.
- Cooling* Not applicable. See note.
- Fault LED on when a fault is present on unit.
- Frost* Not applicable. See note.
- Tx LED on when the controller is transmitting data.
- Rx LED on when the controller is receiving data.

- MIN = Minimum speed adjustment
- MAX = Maximum speed adjustment
- SL Run on = Switched Live Run-On Timer adjustment
- TRICKLE = Selects trickle running: 0 = off, 1 = selected
- TEST = Test button



Please refer to our commissioning guide 671405 for more info on Constant Pressure Systems.

*Note that the control panel is common to all the Ecosmart products and will have indicators for functions that are not available in this particular fan. However these indicators will not be illuminated.

CONSULTANTS SPECIFICATION

CONSTANT PRESSURE EXTRACT SYSTEM

The main extract fan shall be as indicated on the drawings and in accordance with the relevant fan schedule. The vitiated air shall be extracted from the space using an energy efficient constant pressure principle via a variable air volume motorised damper/grille installed in each area, as detailed in the schedule.

OPERATION

The extract fan shall automatically vary its speed as the system pressure varies; the variation in pressure is caused by the opening and closing of the Nuair CVD extract damper. The damper is autonomous of the fan and requires no field wiring connecting it to the fan. The damper positions are open (boost) and closed (trickle). The inline damper has an integrated airflow sensor which continuously monitors and controls the amount of air being moved. The air volume is adjusted via minimum and maximum potentiometers on the side of the CVD damper and a run on timer.

The damper/grille shall be as manufactured by Nuair Ltd.

The duct mounted damper CVD requires a 230V connection/power supply. Signal from 230V switch live i.e. light switch, PIR, humidistat etc.

(If the NRG grille is installed it shall be connected to a 12V ac supply via the inclusive 230V transformer unit and has an integral PIR, two position damper and overrun timer).

Once commissioned and set to work, the fan will maintain the preset pressure by varying its speed as the ventilation requirement within each area varies i.e. as dampers open and close. If the requirement exceeds the maximum or minimum limit, the fan will remain at the design/ limiting speed.

FAN SPECIFICATION

Each acoustically lined low noise Twinfan shall be fitted with an integral Ecosmart control inclusive of a specifically calibrated pressure transducer and inverter drive. The fans shall have the following energy saving and operational functions integrally installed within the fan unit, all components will be pre-wired and fitted by the manufacturer:

- Factory calibrated pressure transducer.
- Frequency inverter with pressure transducer interface.
- Integral operating pressure adjustment (target pressure).
- BMS interface 0 - 10V.
- Integral auto changeover/duty share, fans changeover every 12 hours of run time.
- Auto changeover in the event of duty fan failure.
- Volt free run & failure/status indication.
- 4no. low voltage sockets for interconnection of remote failure indicator.

Fan, integrated Ecosmart controls and associated sensors/controllers shall be manufactured by Nuair Ltd.

CVD FEATURES

- Trickle/boost flow rate.
 - Run on timer.
 - Externally adjusted settings.
 - CVD acts as a balancing damper.
 - MEMS (air flow sensor) provide precise measurements and control of flow rate.
- The Fan unit shall have a 5 year warranty, first year parts and labour the remainder parts only.

INSTALLATION

By the appointed contractor.

Mechanical installation requires mounting of the extract unit in the designated position and connection to the associated duct work.

The contractor shall allow for all necessary ductwork transformations to and from the fan unit and any associated components in accordance with the manufacturers recommendations, DW 144 and general good practice.

Electrical installation requires the provision and connection of single phase electrical supply sizes 4, 6 & 9 or three phase sizes 11 to 19 inclusive.

A volt free run/fail status indication at the fan.

A single phase supply to the duct mounted damper version CVD/NRG.

A single phase supply to the transformer feeding the grille with integrated damper and PIR, the 12V output of which is connected to the grille.

COMMISSIONING

By the appointed commissioning engineer.

The systems should be commissioned in the normal way and the operating or target pressure (inlet side of unit only) set via a potentiometer in the integral set-up box within the fan unit. This should be adjusted until the required air volume flow rate is achieved on the approved measuring device.

NOTE: NRG & CVD should not be mixed on same system.

The manufacturer's recommendations must be observed at all times.

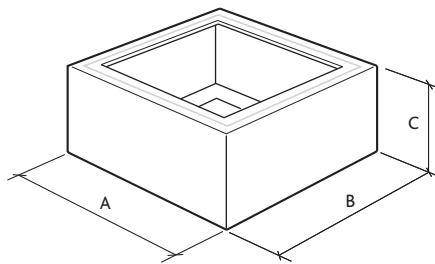
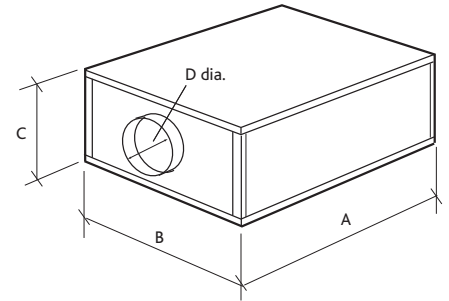
ANCILLARIES FOR QUIETSCROLL AND CONSTANT PRESSURE

MATCHED SILENCER

Silencers have mineral wool packed to a density greater than 45kg/m³. The mineral wool is inert, non combustible and vermin proof for long life and safety. Casing is manufactured from 'Solissime' coated galvanised steel, and designed for fixing directly to the fan outlet. Fan spigot used on open end of matched silencer.

Dimensions (mm)		Attenuation		Dynamic attenuation of silencer in dB												
Unit code	Silencer code	A	B	C	D dia	weight (kg)	Unit code	Octave Band	Mid frequency Hz	125	250	500	1K	2K	4K	8K
ESTCP4	ES4 SIL	613	764	352	250	31	ES4 SIL	1	4	8	12	11	14	16		
ESTCP6	ES6 SIL	613	764	423	400	38	ES6 SIL	2	6	11	16	15	19	20		
ESTCP9	ES8 SIL	613	965	575	500	48	ES8 SIL	1	1	5	8	8	12	14		

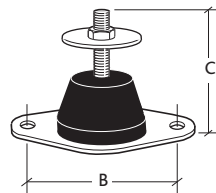
Note: These silencers are for internal use only.



PREFABRICATED CURB

Manufactured in aluminium alloy these curbs will reduce design work and guarantee correct unit mounting when on site. Note: Upper faces of curb are fitted with robust sealing strip.

Dimensions (mm)	A	B	C	D
224PFC/1	225	225	250	50
280PFC/1	350	350	250	50
400PFC/1	450	450	250	75
500PFC/1	550	550	250	45
630PFC/1	650	650	250	45
800PFC/1	750	750	250	75
1000PFC/1	1000	1000	250	100



ANTI-VIBRATION MOUNTINGS

Supplied as a set of 4. To select match isolated assembly weight to max supporting weight shown on the right.

Resilient Rubber

Dimensions (mm)	Type	B	C	Max Supporting Weight Kg Per Set
NAV1	Rubber	30	50	20.0
NAV2	Rubber	40	75	80.0
NAV3	Rubber	40	75	180.0

ANCILLARIES FOR QUIETSCROLL AND CONSTANT PRESSURE CONT.

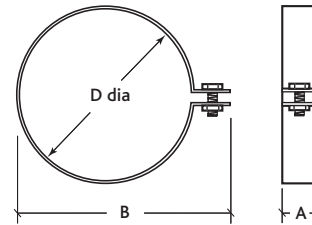
FAST CLAMP

Manufactured from galvanised steel with a gasket liner to provide an air tight joint. Matching fan spigot diameters.

Typical code: FC-100

Dimensions (mm)

Code	A	D	Code	A	D
FC100	90	100	FC250	90	250
FC125	90	125	FC315	90	315
FC150	90	150	FC400	90	400
FC200	90	200	-	-	-



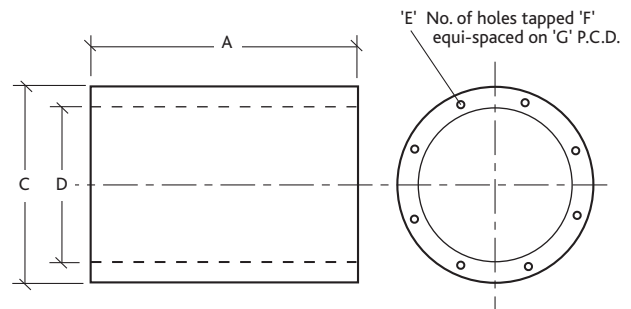
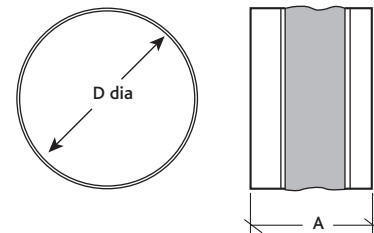
CIRCULAR FLEXIBLE CONNECTOR

Flexible material is flame resistant to BS476 part 7 with galvanised steel spigots. Heat resistant to 132°C with excellent resistance to chemicals, oil and grease. Connector is airtight and waterproof.

Typical code: CFC-10

Dimensions (mm)

Code	A	D	Code	A	D
CFC10	150	102	CFC25	150	252
CFC12	150	127	CFC31	150	317
CFC16	150	152	CFC40	150	402
CFC20	150	202	-	-	-



IN-LINE CIRCULAR ATTENUATORS

Standard - Un-podded - Performance, Dimensions (mm) and Weights

Dia.	Unit Code	Type	Dynamic Attenuation							Dimensions (mm)						Weight Kg
			Octave band mid frequency (Hz)							A	C	D	E	F	G	
			125	250	500	1K	2K	4K	8K							
250mm	CA25S	Standard Un-podded	-1	-2	-4	-7	-9	-7	-5	250	450	250	4	M8	300	6.0
400mm	CA40S	Standard Un-podded	-2	-3	-5	-7	-9	-6	-5	400	600	400	8	M10	450	16.0
500mm	CA50S	Standard Un-podded	-2	-3	-6	-8	-8	-6	-4	500	700	500	12	M10	560	23.0
630mm	CA63S	Standard Un-podded	-2	-4	-8	-9	-8	-5	-4	630	830	630	12	M10	690	30.0
1000mm	CA100S	Standard Un-podded	-3	-6	-9	-8	-6	-4	-2	1000	1200	1000	16	M12	1070	111.0

Long - Un-podded - Performance, Dimensions (mm) and Weights

250mm	CA25L	Long - Un-podded	-2	-3	-6	-12	-15	-13	-9	500	450	250	4	M8	300	11.0
400mm	CA40L	Long - Un-podded	-3	-3	-7	-13	-14	-12	-8	800	600	400	8	M10	450	30.0
500mm	CA50L	Long - Un-podded	-3	-4	-10	-14	-13	-10	-7	1000	700	500	12	M10	560	42.0
630mm	CA63L	Long - Un-podded	-3	-6	-13	-15	-13	-9	-6	1260	830	630	12	M10	690	56.0
1000mm	CA100L	Long - Un-podded	-6	-11	-15	-14	-10	-6	-3	2000	1200	1000	16	M12	1070	203.0

Note: For further attenuation details please refer to Axis section.

ANCILLARIES FOR QUIETSCROLL AND CONSTANT PRESSURE CONT.

TERMINATOR COWLS DIMENSIONS (mm)

To provide a weatherproof route for supply & exhaust air to your ducted system.

Cowls are manufactured from flame retardant polymer and can be supplied with gravity backdraught shutters, bird guards and hand guards. The terminal is finished in BS00A05 Grey as standard. All BS or RAL colours are available. The cowl will normally be fitted to the upstand by a roofing contractor or builder. The Cowl can be fitted without shutters on a 0-60 degree pitched roof with its longer side running down the roof slope. The Cowl can be fitted with its longer side running across a slope of less than 85 degrees from the horizontal. When fitted to a wall the longer side must run horizontal.

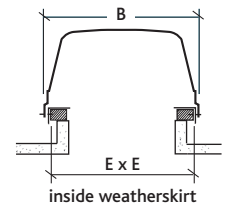
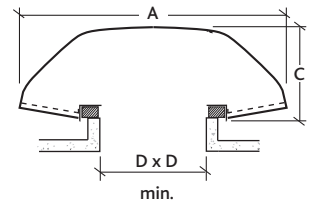
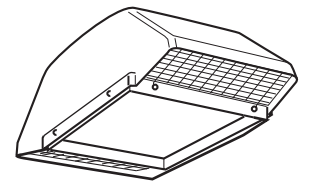
Typical code: TRTS-A Note: S = Shutters

Note: Air Pressure Drop of cowl (Pa) = $Z \times Q^2$

$R = ZQm^2$

where Z = Factor listed in table below Q = Air Volume Flow Rate (m³/s)

Code	A	B	C	D	E	Weight Kg	Discharge	Z Intake
TRTS-A	900	620	340	460	600	12.3	67	118
TRTS-B	1080	740	375	560	695	14.7	39	87
TRTS-C	1320	964	475	700	945	26.0	28	62
TRTS-D	1470	1076	490	800	1050	28.2	19	32
TRTS-E	1780	1170	485	900	1136	50.0	7	11.3
TRTS-F	2260	1476	600	1200	1452	88.0	2.5	3.6



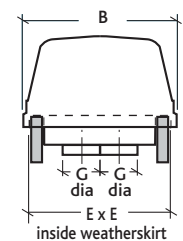
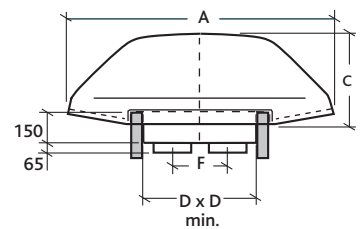
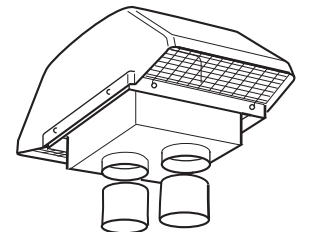
SUPPLY/EXTRACT COWLS DIMENSIONS (mm)

Supply/Extract Cowl: rigid flame retardant cowl, conforming with BS476 (Part 1 class 11) supplied in grey (BS 00 A 05) as standard (any BS or RAL colours available), fixing directly to the base using non-rusting sealed fixings. Air plenum is manufactured from galvanised steel incorporating supply & extract chambers. Rigid spigots are provided for connection of duct work. Supply & extract chamber is fitted with a bird guard.

Typical code: TRSE1

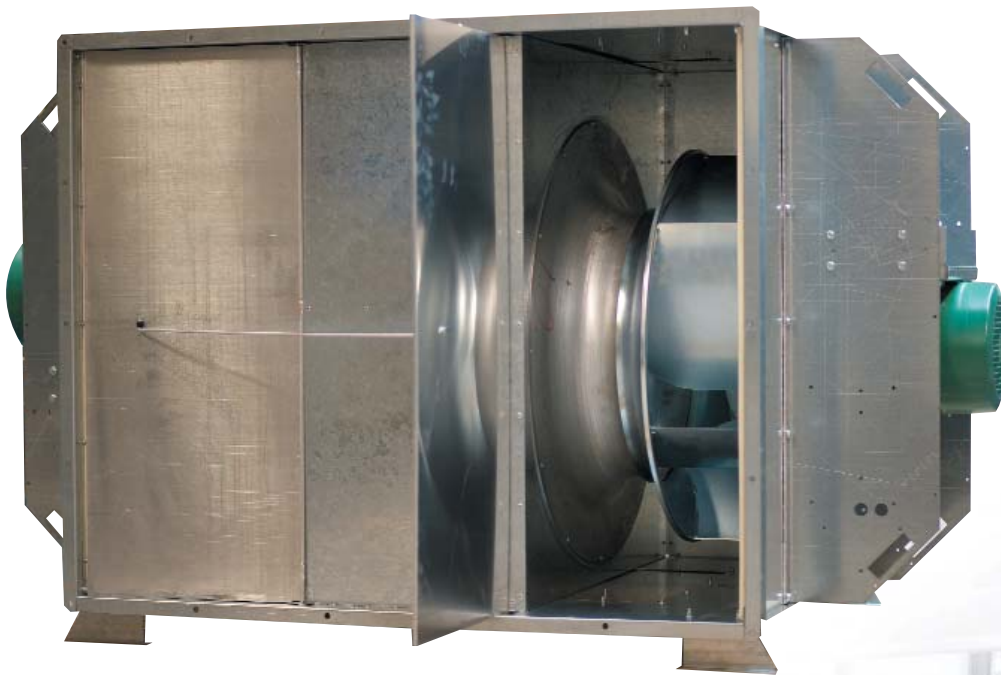
Code	A	B	C	D	E	F	G	Weight Kg
TRSE1	900	620	340	460	600	200	100	14
TRSE2	900	620	340	460	600	200	125	14
TRSE3	900	620	340	460	600	200	150	14
TRSE4	1320	964	475	700	945	345	200	30
TRSE5	1320	964	475	700	945	345	250	30
TRSE6	1320	964	475	700	945	345	315	30
TRSE7	1780	1170	489	900	1150	450	400	57

Resistance to airflow of this item is negligible.



TWIN SQUIF FANS

RUN & STANDBY SOLUTION FOR ALL 'MOTOR OUT
AIRSTREAM' APPLICATIONS.



BENEFITS

QUIET AND POWERFUL SOLUTIONS

High performance centrifugal motor/impeller combination providing a low noise solution. The units should be suitable for operation in airstream temperatures up to 90°C.

CLEANER

'Out of air stream' motors are ideal for dirty extract and greasy environments. Cleaner motor improves cooling and extends motor life.

EASY MAINTENANCE

'Out of air stream' motors allow for quick and easy access. Inspection hatches allow the internal parts to be easily checked and cleaned.

IDEAL FOR HIGH RESISTANCES

High efficiency centrifugal impellers provide high pressure development suitable for ducted systems and kitchen canopy with extreme filtration.

PREVENTS INTERNAL RECIRCULATION

Backdraft dampers inbuilt.

FLEXIBLE SOLUTION

Can be mounted internally, externally, vertically or horizontally. Mounting facilities included.

FAILURE DETECTION

Inverter detects fan failure and Ecosmart control sends signal to 2nd fan.

CONTROLABILITY AS STANDARD

All 3 phase units have the flexibility to be speed controlled utilising Nuaire Ecosmart controls or frequency inverters.

ECOSMART AUTO CHANGE OVER AND DUTY SHARE

Ecosmart models have auto change over in the event of fan/motor failure along with integral duty share.

FAN TO SUIT ALL APPLICATIONS

2-speed motors available for day to day extract.

WARRANTY

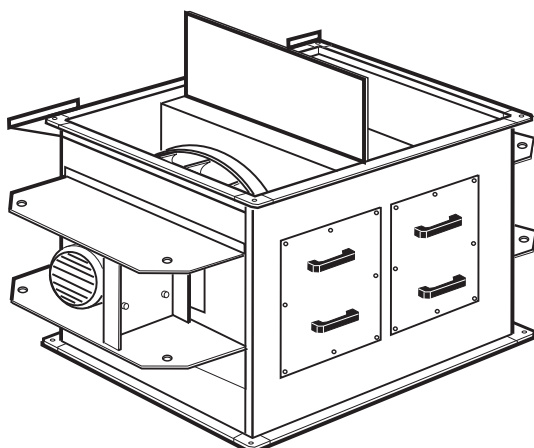
Twin Squif has a 3 year warranty.

Ecosmart Twin Squif (ES) has a 5 year warranty.

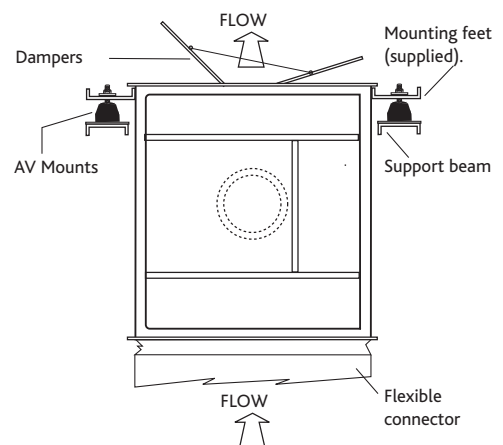
Note: For high temperature enquiries please refer to Smoke section.

Note: For information on Gas Interlock please refer to Single Fan section.

TYPICAL INSTALLATIONS



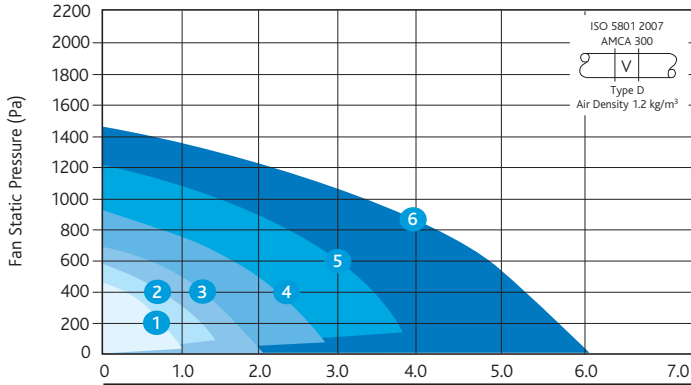
AV mounts fitted to unit mounting feet (supplied) in horizontal discharge mode.



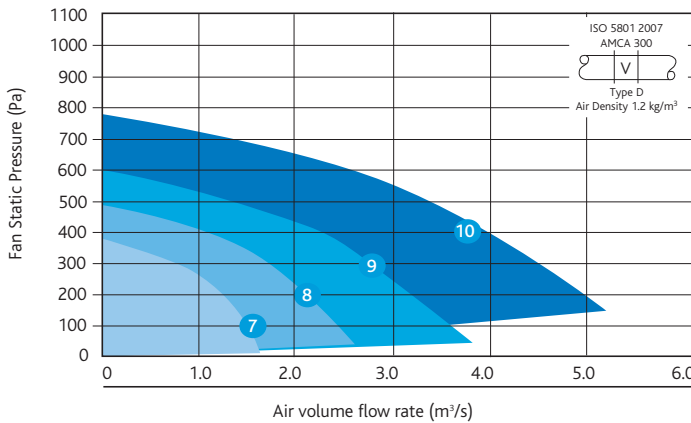
Unit in vertical discharge mode, mounted on support beam using AV mounts.

PERFORMANCE - TWIN SQUIF FANS

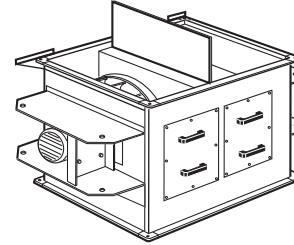
Twin Squif - 4 pole



Twin Squif - 6 pole



Casing



Code descriptions

SQFTA 4 1 - 3ES



- 1. Twin Squif Range
- 2. A = Ambient
- 3. Pole (4 or 6)
- 4. Curve No.
- 5. Phase (1 or 3)
- 6. Ecosmart control

Note: curves include loss through idling fan.

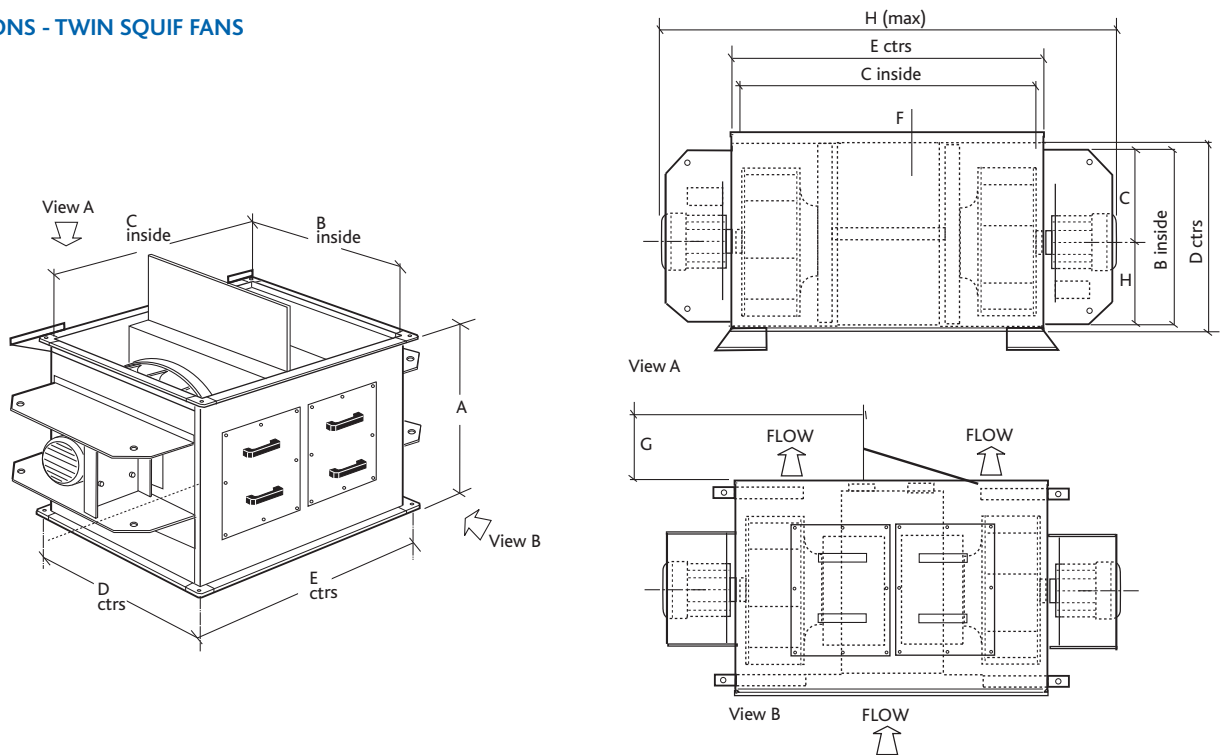
PERFORMANCE - TWIN SQUIF EXTRACT FANS

ELECTRICAL & SOUND

Curve	Code	Phase	RPM	Motor			Data Type	Induct inlet Sound Power levels dB re 1pW							Breakout dBA@ 3m	
				Power (kW)	FLC (amps)	SC (amps)		63	125	250	500	1K	2K	4K		8K
1	SQFTA41-1	1	1410	0.37	2.8	11.2	I	90	93	79	70	70	70	69	62	52
							O	87	94	74	68	74	75	70	64	
1	SQFTA41-3	3	1450	0.37	1.06	5.2	I	90	93	79	70	70	70	69	62	52
							O	87	94	74	68	74	75	70	64	
2	SQFTA42-1	1	1370	0.75	5.4	21	I	88	95	82	77	74	76	75	67	55
							O	85	96	78	74	78	80	77	69	
2	SQFTA42-3	3	1450	0.75	2.01	9.04	I	88	95	82	77	74	76	75	67	55
							O	85	96	78	74	78	80	77	69	
3	SQFTA43-1	1	1420	1.1	7	35	I	92	98	83	79	77	78	78	71	58
							O	89	99	79	77	82	83	79	73	
3	SQFTA43-3	3	1450	1.1	2.5	12	I	92	98	83	79	77	78	78	71	58
							O	89	99	79	77	82	83	79	73	
4	SQFTA44	3	1450	2.2	4.8	28.8	I	86	96	89	82	77	80	80	71	58
							O	87	90	86	87	81	82	82	68	
5	SQFTA45	3	1450	4	9	59	I	92	102	87	85	85	84	83	81	63
							O	90	103	83	82	89	89	84	83	
6	SQFTA46	3	1450	7.5	15.2	108	I	92	106	92	86	86	85	86	83	64
							O	95	95	90	91	89	87	87	81	
7	SQFTA61	3	960	0.75	2.1	8.82	I	84	92	84	75	70	73	73	64	48
							O	85	86	81	80	74	75	75	61	
8	SQFTA62	3	960	1.1	3	13.2	I	90	99	83	78	76	75	74	72	58
							O	87	100	78	76	80	79	75	74	
9	SQFTA63	3	960	2.2	5.9	28.9	I	90	103	87	79	76	76	77	73	61
							O	87	104	82	77	80	80	78	75	
10	SQFTA64	3	960	4	9.4	61.2	I	91	106	91	82	79	77	77	74	64
							O	88	107	86	80	83	82	78	76	

Breakout dBA@3m is hemispherical free field. The electrical and sound information in the table are nominal figures.

DIMENSIONS - TWIN SQUIF FANS

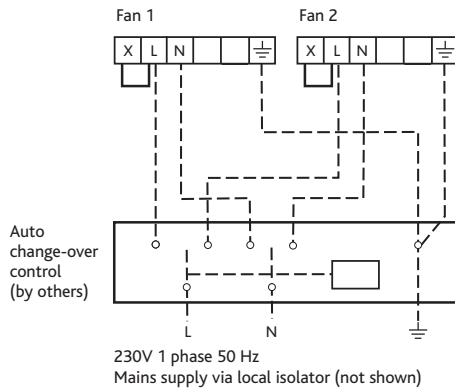


DIMENSIONS (mm) & WEIGHT

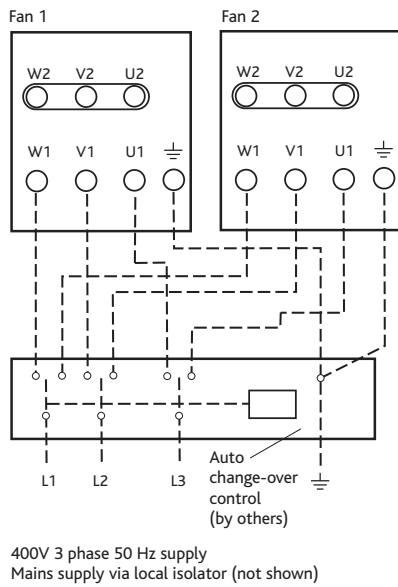
Unit Size	A	B	C	D	E	F	G	H	Motor (kW)	Total Fan Weight (Kg)	AV selection	Mounting Orientation
SQFTA41-3	634	500	710	529	741	26.5	223.5	1110	0.37	52	NAV2	Horizontal discharge or vertically up discharge.
SQFTA41-1	634	500	710	529	741	26.5	223.5	1110	0.37	52	NAV2	
SQFTA41-3ES	634	500	710	529	741	26.5	223.5	1110	0.37	80	NAV2	
SQFTA42-3	692	700	780	730	811	32	248	1220	0.75	77	NAV2	
SQFTA42-1	692	700	780	730	811	32	248	1220	0.75	77	NAV2	
SQFTA42-3ES	692	700	780	730	811	32	248	1220	0.75	77	NAV3	
SQFTA43-3	750	750	882	780	913	32	278	1382	11	102	NAV5	
SQFTA43-1	750	750	882	780	913	32	278	1382	11	102	NAV5	
SQFTA43-3ES	750	750	882	780	913	32	278	1382	11	102	NAV5	
SQFTA44	820	800	970	830	1001	32	303	1550	2.2	100	NAV5	Horizontal discharge only.
SQFTA61	820	800	970	830	1001	32	303	1550	0.75	111	NAV5	
SQFTA44ES	820	800	970	830	1001	32	303	1550	2.2	100	NAV5	
SQFTA61ES	820	800	970	830	1001	32	303	1550	0.75	111	NAV5	
SQFTA45	901	900	1075	930	1106.5	32	333	1655	4.0	150	NAV3	
SQFTA62	901	900	1075	930	1106.5	32	333	1655	1.1	141	NAV3	
SQFTA45ES	901	900	1075	930	1106.5	32	333	1655	4.0	150	NAV3	
SQFTA62ES	901	900	1075	930	1106.5	32	333	2070	1.1	141	NAV3	
SQFTA46	994	1000	1230	1030	1261	32	383	2070	7.5	315	NAV6	
SQFTA63	994	1000	1230	1030	1261	32	383	2070	2.2	180	NAV3	
SQFTA46ES	994	1000	1230	1030	1261	32	383	2070	7.5	315	NAV6	
SQFTA63ES	994	1000	1230	1030	1261	32	383	2070	2.2	180	NAV3	
SQFTA64	1114	1100	1380	1130	1411	32	433	2220	4.0	580	NAV52	
SQFTA64ES	1114	1100	1380	1130	1411	32	433	2220	4.0	580	NAV52	

WIRING - TWIN SQUIIF FANS

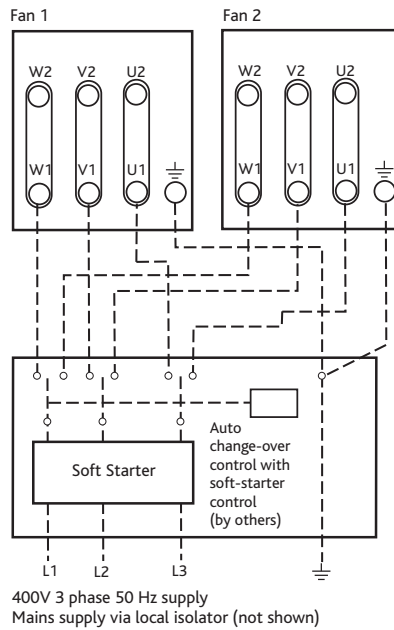
Single Phase Fans - Constant Speed



Three phase fans Single speed - motors up to 3kW inclusive



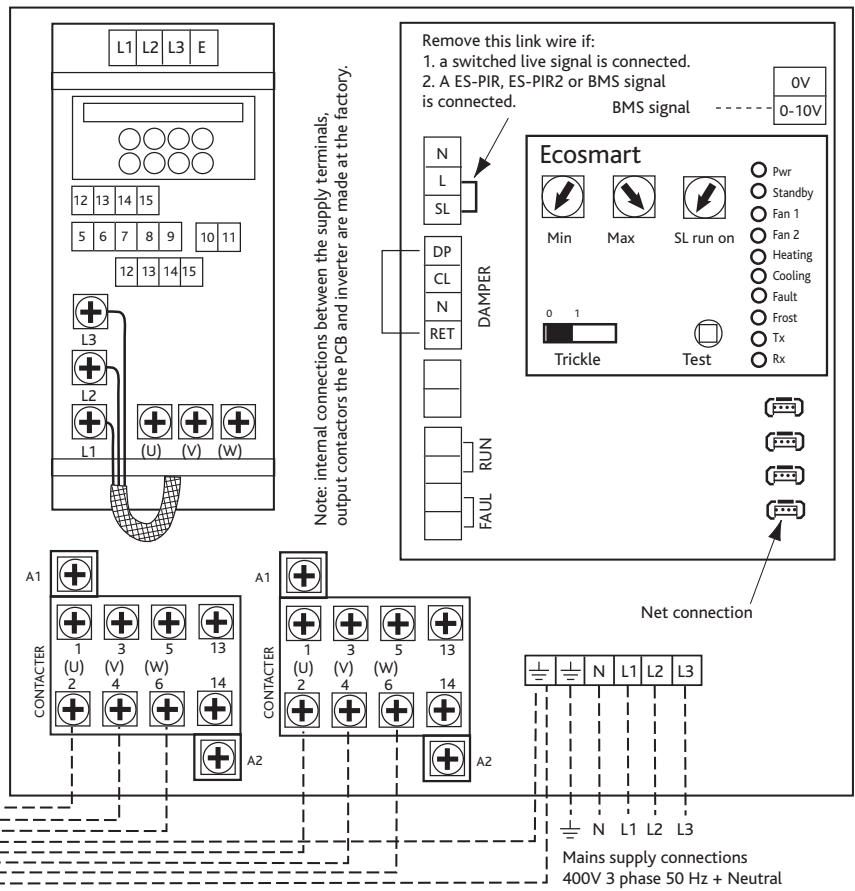
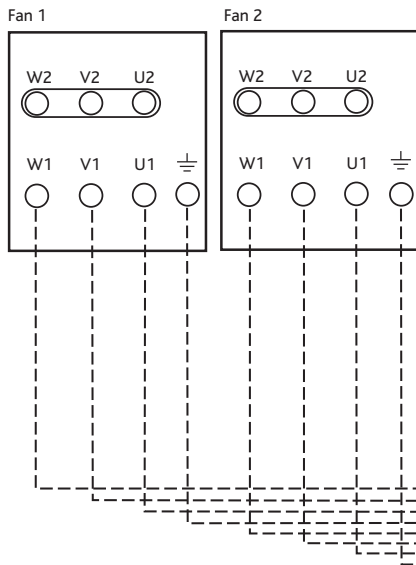
Single speed - motors 4kW or above



Three Phase Fans - with Ecosmart (ES-ISCT) controls Motors up to 3kW inclusive

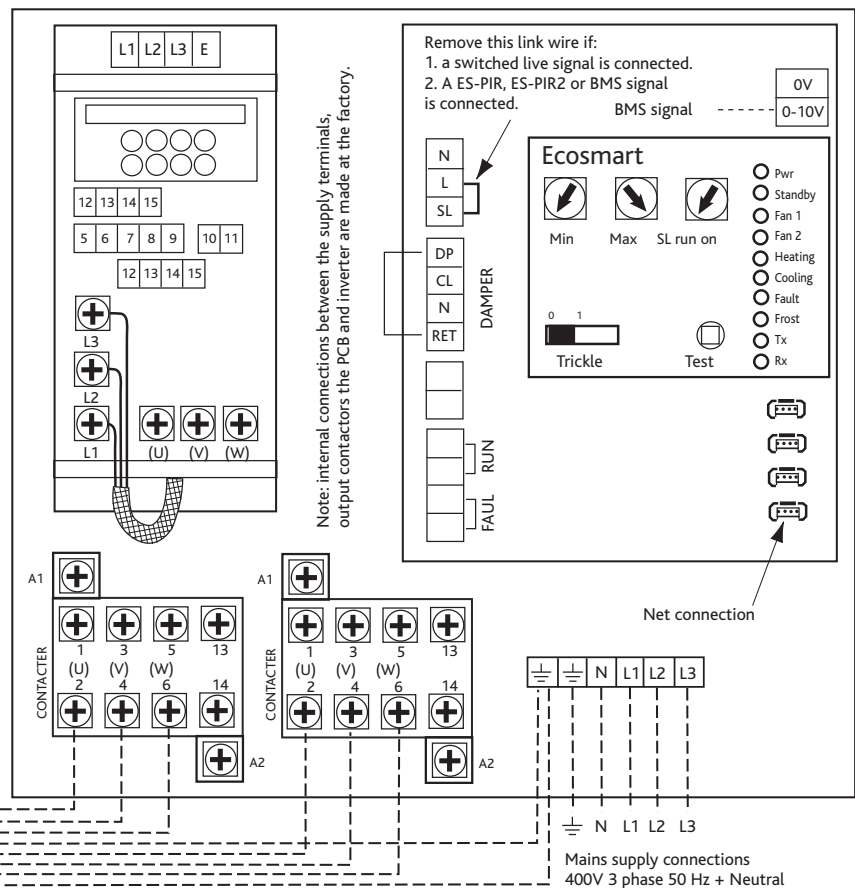
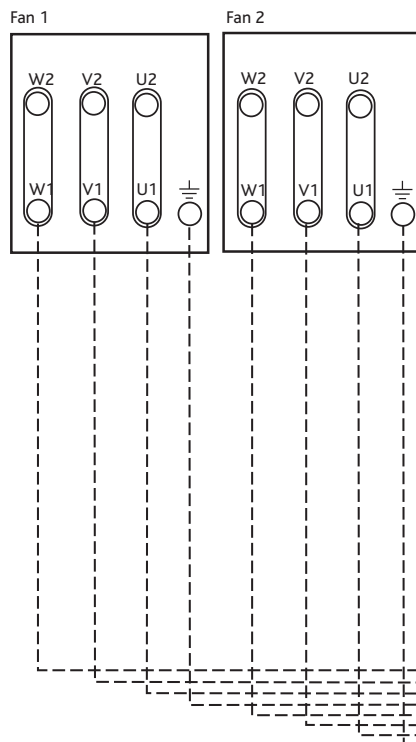
Connections to fans must be via **screened power cables**. Purpose made glands are provided to earth the screening at the control and the fans.

IMPORTANT: the screening of the power cable must be continuous. Bridge any breaks (e.g. at local isolator) using braided earthing cable.



Motors 4kW and above

Important: when the unit is operated in an emergency smoke extract mode all controls must be bypassed.



CONSULTANTS SPECIFICATION

SYSTEM SPECIFICATION

The ventilation fan unit shall be configured and arranged as detailed on the drawings and in accordance with the schedule of equipment and shall be of the SQUIF type as manufactured by Nuair. The units shall be manufactured heavy gauge Aluzinc corrosion resistant steel.

The general construction is to class A leakage.

FAN SPECIFICATION

The fan impeller and motor shall be selected to provide the most energy efficient solution conforming to part L regulations and shall be direct drive with IE2 high efficiency motors to BS5000 as standard. The fan impeller shall be a high efficiency backward curved centrifugal design, manufactured in galvanised steel and the motor shall be positioned outside the ventilation airflow path.

Run and standby fan assemblies to incorporate fan impeller and motors selected to provide the most energy efficient solution conforming to part L regulations and shall be direct with IE2 high efficiency motors to EN60034-30 as standard, belt or direct drive with EN60034-30 motors fitted with "hall effect" air flow failure monitoring, units suitable for operation in ambient temperatures of 40°C.

The contractor shall allow for all necessary ductwork transformations to and from the fan unit and any associated components in accordance with the manufacturers recommendations, DW 144 and general good practice. The unit and ancillaries shall be of the TSQF type as manufactured by Nuair Ltd.

CONTROL SPECIFICATION

The fan unit shall be supplied with one of the following control options:-

ECOSMART CONTROLS - OPTION

Ecosmart control system complete with all necessary controls to facilitate the operation of the ventilation system. It shall be come complete with an integral factory fitted Ecosmart PCB which shall control the fan unit within the desired design parameters and provide the interface between all external control devices and the unit itself.

The fan unit shall have the following energy saving components integrally mounted, pre-wired to interface with the purpose made PCB, all components pre-wired, configured and factory fitted by the manufacturer:

- Auto changeover upon fan failure.
- Auto duty share every 12 hours of run time.
- Integral Frequency inverter/speed controller.
- Integral maximum and minimum speed adjustment for commissioning.
- Integral adjustable run on timer.
- Integral BMS interfaces – 0-10V speed adjustment.
- Integral BMS interfaces – Volt free failure and status indication.
- Integral background ventilation switch (trickle switch).
- Multiple IDC sockets for interconnection of sensors or fans using pre-plugged 4-core low voltage cable.

ECOSMART SYSTEM OPERATION

The Ecosmart controls will enable the unit to automatically vary its speed as it receives signals from one of the interconnected sensors, controls or fans. When the signal is received the fan shall either increase speed gradually until the required level is achieved or it will work on a trickle and boost principle. This will then move the fan duty point from trickle/ background ventilation rate to the required boost ventilation rate. Both the trickle and boost rates are infinitely variable, easy to adjust and remove the need of a main balancing damper.

BMS INTERFACES – OPTION

The fan unit shall be provided with the following integrated BMS interfaces.

- 0 - 10 volt contacts to provide a full BMS interface. This will enable the following functions:-
 - Switch the unit on/off.
 - Switch from low speed to high speed.
 - Full speed control facility.
- 2 No. Volt free contacts to provide fan run and failure indication to provide system status.
- An integrated commissioning/speed control to accurately commission the system, with minimum and maximum speeds easily adjusted via a miniature dial, as recommended in Part L. This will enable the unit to be configured to run between set parameters thus saving motor power and limiting noise.

COMMISSIONING SET UP - OPTION

The fan unit shall be provided with an integrated commissioning/speed control to accurately commission the system, as recommended in Part L, minimum and maximum speeds easily adjusted via miniature dial. The commissioning set up facility directly controls the integrated speed control/frequency inverter.

STANDARD CONTROLS

The unit shall be provided with a standard speed control or starter in accordance with the manufacturers recommendations.

Twin Squif has a 3 year warranty.

Ecosmart Twin Squif has a 5 year warranty.

All equipment shall be as manufactured by Nuair Ltd.

Note: For High Temperature requirements refer to Smoke section.