

TWIN SQUIF FANS

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



FOR HIGH TEMPERATURE RANGE REFER TO SMOKE SECTION

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

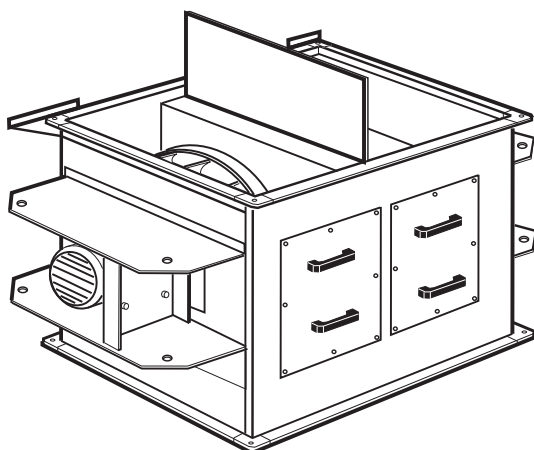
Twin Squif has a 3 year warranty.

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

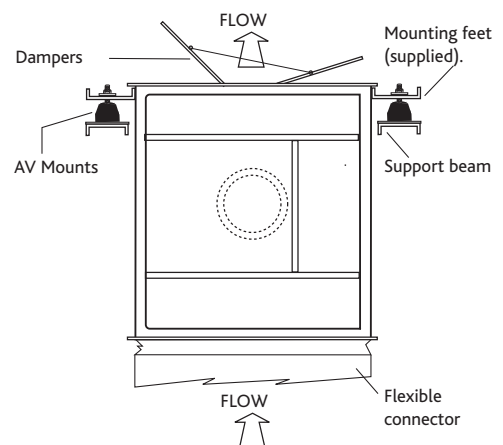
Note: For high temperature enquiries please refer to Smoke section.

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

TYPICAL INSTALLATIONS



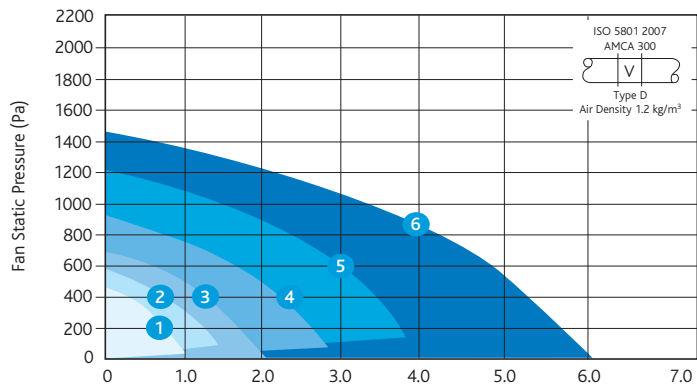
AV mounts fitted to unit mounting feet (supplied) in horizontal discharge mode.



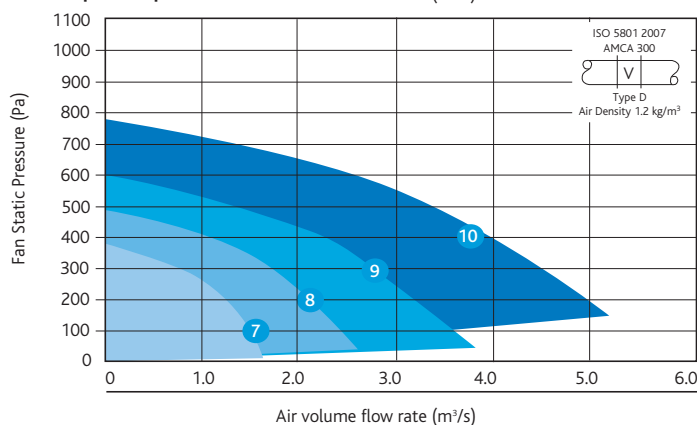
Unit in vertical discharge mode, mounted on support beam using AV mounts.

PERFORMANCE - TWIN SQUIF FANS

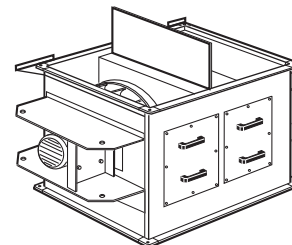
Twin Squif - 4 pole



Twin Squif - 6 pole



Casing



Code descriptions

SQFTA 4 1 - 3ES

1	2	3	4	5	6

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.

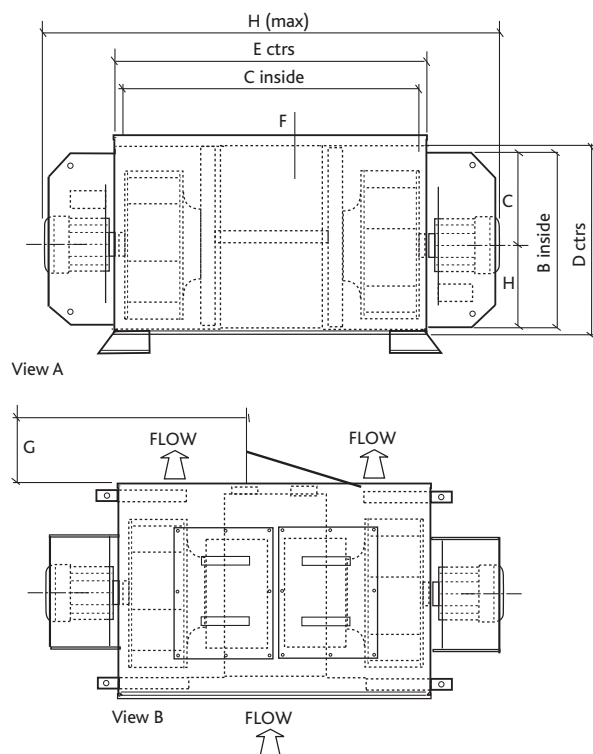
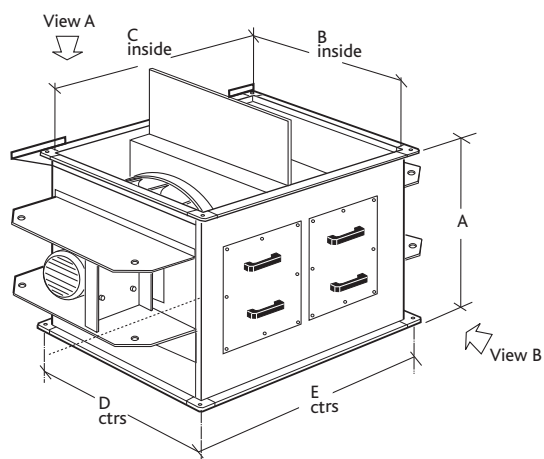
PERFORMANCE - TWIN SQUIF EXTRACT FANS

ELECTRICAL & SOUND

Curve	Code	Phase	RPM	Motor			Data Type	Induct inlet Sound Power levels dB re lpW								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

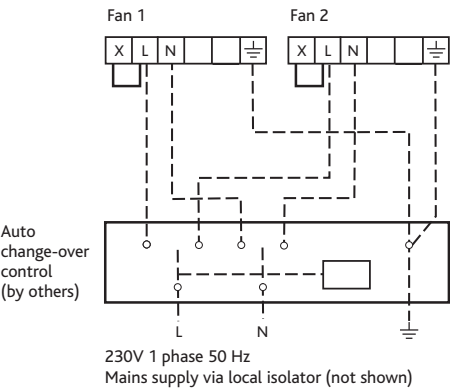


DIMENSIONS (mm) & WEIGHT

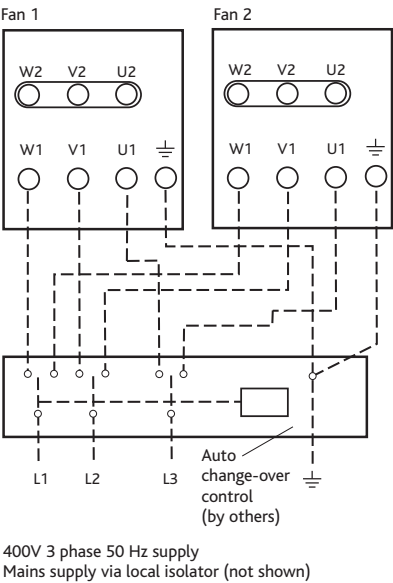
Unit Size	A	B	C	D	E	F	G	H	Motor (kW)	Total Fan Weight (Kg)	AV selection	Mounting Orientation
SQFTA41-3	634	500	710	529	741	26.5	223.5	1110	0.37	52	NAV3/A	Horizontal discharge or vertically up discharge.
SQFTA41-1	634	500	710	529	741	26.5	223.5	1110	0.37	52	NAV3/A	
SQFTA41-3ES	634	500	710	529	741	26.5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

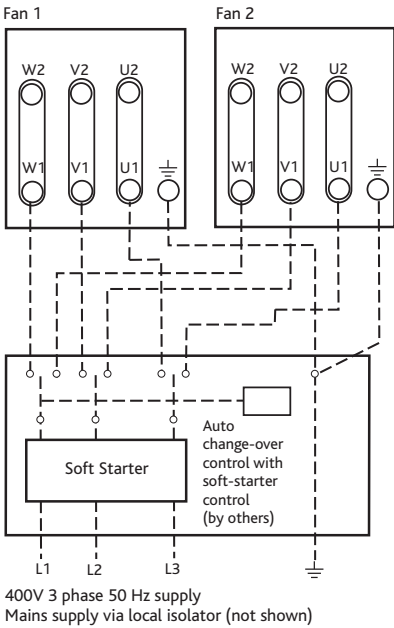
Single Phase Fans - Constant Speed



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



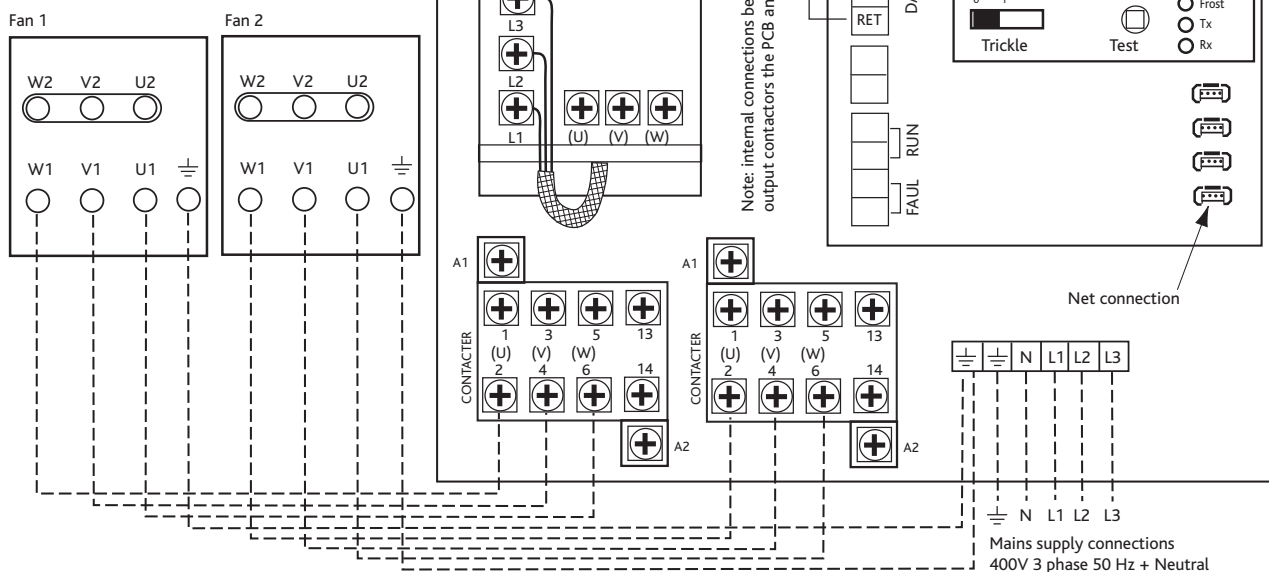
Single speed - motors 4kW or above



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

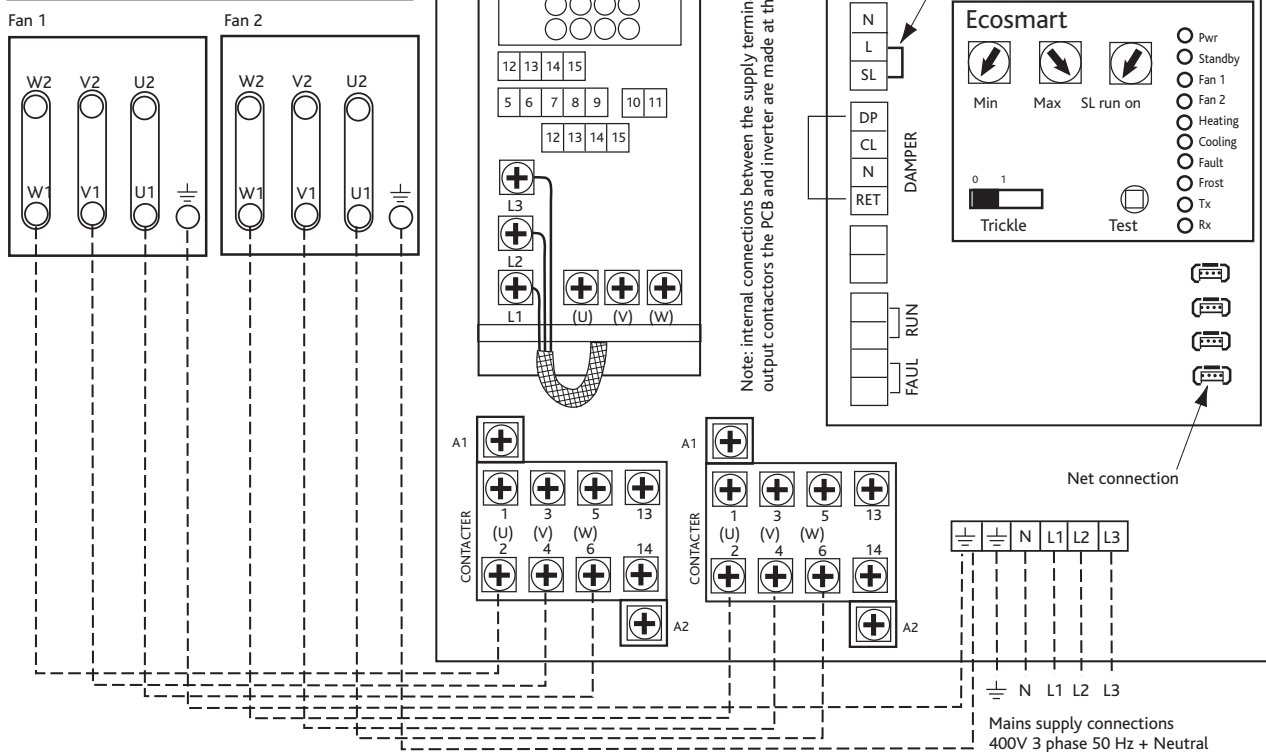
Connections to fans must be via **screened power** cables. Purpose made glands are provided to earth the screening at the control and the fans.

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 Nuaire. 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 Nuaire 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.

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Ecosmart Twin Squif has a 5 year warranty.

All equipment shall be as manufactured by Nuaire Ltd.

Note: For High Temperature requirements refer to Smoke section.