

SQUIF SINGLE FANS

HIGH PRESSURE AND VOLUME CENTRIFUGAL EXTRACT FAN WITH MOTOR OUT OF AIRSTREAM, IDEAL FOR KITCHEN CANOPY APPLICATIONS.



BENEFITS

QUIET OPERATION

One of the quietest solutions for motor unit out of airstream applications. The units shall be suitable for operation in airstream temperatures up to 90°C.

CLEANER OPERATION

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

IDEAL FOR HIGH RESISTANCES

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

FLEXIBLE SOLUTION

Can be mounted internally, externally, vertically or horizontally.

CONTROL-ABILITY AS STANDARD

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

INSPECTION PANELS

Allow for easy access.

FAN TO SUIT ALL APPLICATIONS

2-speed motors available for day-to-day extract.

EASY MAINTENANCE

'Out of air stream' allows for quick and easy access and lower maintenance costs.

ECOSMART COMPATIBILITY

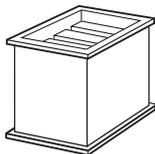
Three phase units can be supplied with Ecosmart controls, providing a simple to install, easy to commission, energy efficient solution. Also facilitates the interconnection of supply AHU.

WARRANTY

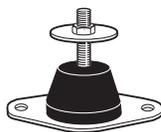
Squif has a 3 year warranty.

Ecosmart Squif has a 5 year warranty.

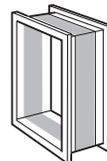
SQUIF ANCILLARIES



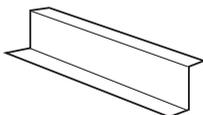
Splitter Attenuator.



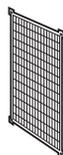
AV Mounts.



Flexible Connector.

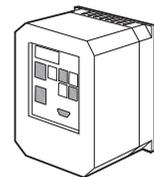


Feet built in.



Guard for square units.

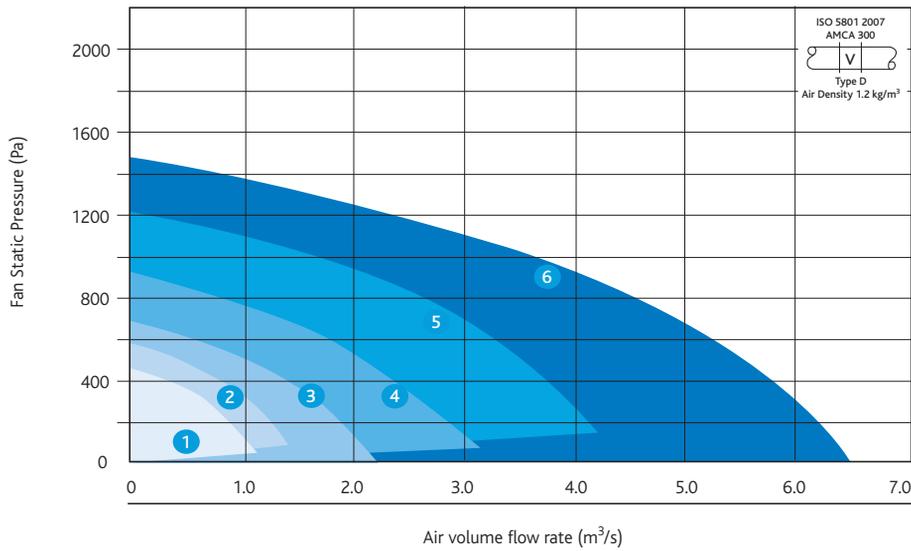
CONTROLS



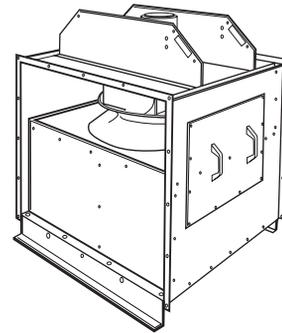
Inverter Speed Control. (Three phase).

PERFORMANCE - SQUIF SINGLE FANS

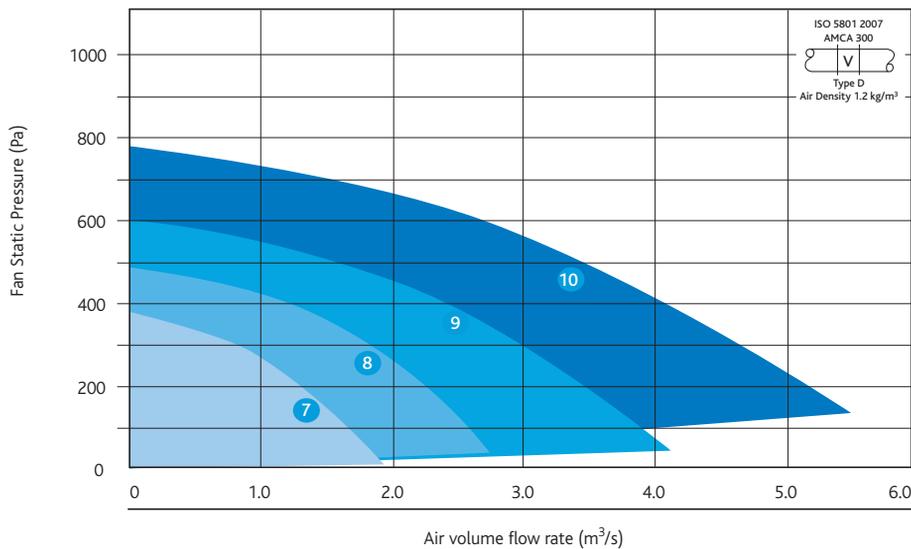
Squif - 4 pole



Casing



Squif - 6 pole



Code descriptions

SQFA 4 1 - 3 ES B C



1. Squif range
2. A = Ambient
3. Pole (4 or 6)
4. Curve No.
5. Phase (1 or 3)
6. ES = Full Ecosmart controls – BMS interfaces and commissioning controls (as 6 & 7 below) full compatibility with Ecosmart sensors.
7. B = BMS interfaces 0-10V, volt free run and fail indication.
Commissioning/speed control built in Adjustable trickle and boost if required.
8. C = Commissioning/speed control built in.
Adjustable trickle and boost if required.
All the above control options are pre-programmed with a soft start function
The above control options are provided in a purpose made module, mounted remote from the unit.
Other controls to be specified separately please contact Nuair for details.

SQUIF EXTRACT FANS

ELECTRICAL & SOUND

| Curve | Code | Phase | RPM | Motor Power (kW) | FLC (amps) | SC (amps) | SC ★/▲ | Data Type | Sound Power Levels (dB re 10 ⁻¹² W) | | | | | | | dBA @ 3m |
|-------|----------|-------|------|------------------|------------|-----------|--------|-----------|------------------------------------------------|-----|-----|----|----|----|----|----------|
| | | | | | | | | | Octave band mid frequency (Hz) | | | | | | | |
| | | | | | | | | | 125 | 250 | 500 | 1K | 2K | 4K | 8K | |
| 1 | SQFA41-3 | 3 | 1450 | 0.37 | 1.1 | 5.2 | - | I | 90 | 79 | 70 | 70 | 70 | 69 | 62 | 50 |
| | SQFA41-1 | 1 | 1410 | 0.37 | 2.8 | 11.2 | | O | 91 | 74 | 68 | 74 | 75 | 70 | 64 | |
| 2 | SQFA42-3 | 3 | 1450 | 0.75 | 2 | 9.0 | - | I | 92 | 82 | 77 | 74 | 76 | 75 | 67 | 53 |
| | SQFA42-1 | 1 | 1370 | 0.75 | 5.4 | 21 | | O | 93 | 78 | 74 | 78 | 80 | 77 | 69 | |
| 3 | SQFA43-3 | 3 | 1450 | 1.1 | 2.5 | 12 | - | I | 95 | 83 | 79 | 77 | 78 | 78 | 71 | 56 |
| | SQFA43-1 | 1 | 1420 | 1.1 | 7 | 35 | | O | 96 | 79 | 77 | 82 | 83 | 79 | 73 | |
| 4 | SQFA44 | 3 | 1450 | 2.2 | 4.8 | 28.8 | - | I | 93 | 89 | 82 | 77 | 80 | 80 | 71 | 58 |
| | | O | 87 | 86 | 87 | 81 | 82 | 82 | 68 | | | | | | | |
| 5 | SQFA45 | 3 | 1450 | 4 | 9.1 | 59 | - | I | 99 | 87 | 85 | 85 | 84 | 83 | 81 | 62 |
| | | O | 100 | 83 | 82 | 89 | 89 | 84 | 83 | | | | | | | |
| 6 | SQFA46 | 3 | 1450 | 7.5 | 15.2 | 108 | - | I | 103 | 92 | 86 | 86 | 85 | 86 | 83 | 63 |
| | | O | 92 | 90 | 91 | 89 | 87 | 87 | 81 | | | | | | | |
| 7 | SQFA61 | 3 | 960 | 0.75 | 2.1 | 8.82 | - | I | 89 | 84 | 75 | 70 | 73 | 73 | 64 | 47 |
| | | O | 83 | 81 | 80 | 74 | 75 | 75 | 61 | | | | | | | |
| 8 | SQFA62 | 3 | 960 | 1.1 | 3 | 13.2 | - | I | 96 | 83 | 78 | 76 | 75 | 74 | 72 | 56 |
| | | O | 97 | 78 | 76 | 80 | 79 | 75 | 74 | | | | | | | |
| 9 | SQFA63 | 3 | 960 | 2.2 | 5.9 | 28.9 | - | I | 100 | 87 | 79 | 76 | 76 | 77 | 73 | 59 |
| | | O | 101 | 82 | 77 | 80 | 80 | 78 | 75 | | | | | | | |
| 10 | SQFA64 | 3 | 960 | 4 | 9.4 | 61.2 | 20.4 | I | 103 | 91 | 82 | 79 | 77 | 77 | 74 | 62 |
| | | O | 104 | 86 | 80 | 83 | 82 | 78 | 76 | | | | | | | |

The electrical and sound information in the table is nominal. Breakout dBA@3m is spherical, free field. Start currents (sc) are DOL. * Motor electrical supply, 1=1 phase (230V, 50Hz) 3=3phase (400V, 50Hz) I - Induct Inlet O - Induct Outlet.

QUICK SELECTION GUIDE

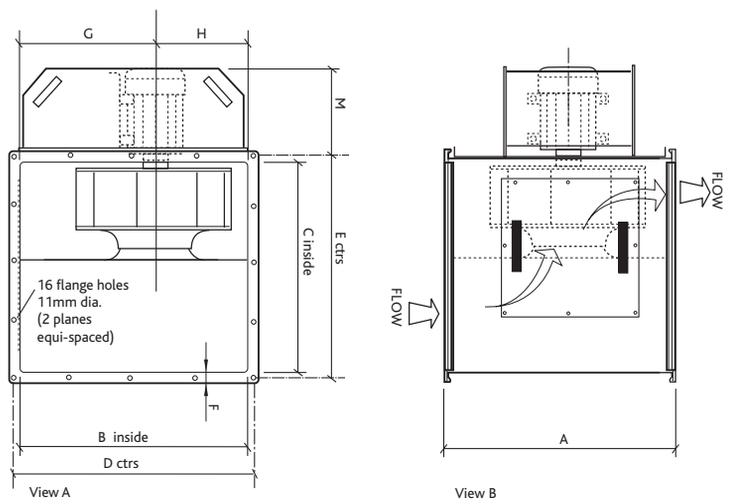
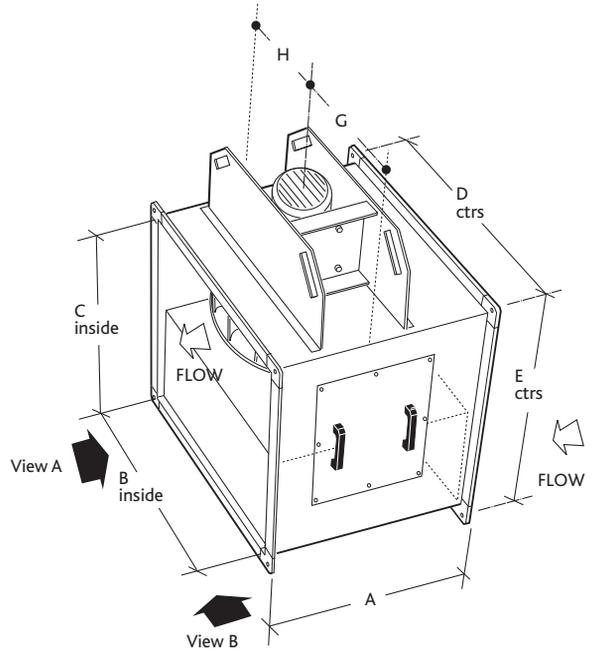
SQUIF

| Fan unit | Frequency Inverter | Standard silencers | Long silencers | Flexible Connectors | Fan Guards | AV Mounts |
|----------|--------------------|--------------------|----------------|---------------------|------------|-----------|
| SQFA41-3 | 3ISC1.2A | SQFS1S | SQFS1L | SQFF1 | SQFGD1 | NAV2 |
| SQFA41-1 | - | SQFS1S | SQFS1L | SQFF1 | SQFGD1 | NAV2 |
| SQFA42-3 | 3ISC2.6A | SQFS2S | SQFS2L | SQFF2 | SQFGD2 | NAV2 |
| SQFA42-1 | - | SQFS2S | SQFS2L | SQFF2 | SQFGD2 | NAV2 |
| SQFA43-3 | 3ISC3.3A | SQFS3S | SQFS3L | SQFF3 | SQFGD3 | NAV2 |
| SQFA43-1 | - | SQFS3S | SQFS3L | SQFF3 | SQFGD3 | NAV2 |
| SQFA44 | 3ISC5.6A | SQFS4S | SQFS4L | SQFF4 | SQFGD4 | NAV5 |
| SQFA45 | 3ISC12.5A | SQFS5S | SQFS5L | SQFF5 | SQFGD5 | NAV5 |
| SQFA46 | 3ISC15.6A | SQFS6S | SQFS6L | SQFF6 | SQFGD6 | NAV3 |
| SQFA61 | 3ISC7.3A | SQFS4S | SQFS4L | SQFF4 | SQFGD4 | NAV3 |
| SQFA62 | 3ISC5.6A | SQFS5S | SQFS5L | SQFF5 | SQFGD5 | NAV4 |
| SQFA63 | 3ISC5.6A | SQFS7S | SQFS7L | SQFF6 | SQFGD6 | NAV4 |
| SQFA64 | 3ISC8.8A | SQFS8S | SQFS8L | SQFF7 | SQFGD7 | NAV6 |

DIMENSIONS

SQUIF DIMENSIONS (mm) AND WEIGHTS

| Unit size | A | B | C | D | E | F | G | H | M | Weight (Kg) |
|-----------|------|------|------|------|------|------|-----|-----|-----|-------------|
| SQFA41-3 | 634 | 500 | 500 | 532 | 532 | 26.5 | 273 | 227 | 193 | 52 |
| SQFA41-1 | 634 | 500 | 500 | 532 | 532 | 26.5 | 273 | 227 | 193 | 52 |
| SQFA42-3 | 692 | 700 | 600 | 730 | 630 | 32 | 382 | 318 | 215 | 60 |
| SQFA42-1 | 692 | 700 | 600 | 730 | 630 | 32 | 382 | 318 | 215 | 60 |
| SQFA43-3 | 750 | 750 | 650 | 780 | 680 | 32 | 412 | 338 | 231 | 70 |
| SQFA43-1 | 750 | 750 | 650 | 780 | 680 | 32 | 412 | 338 | 231 | 70 |
| SQFA44 | 820 | 800 | 700 | 830 | 730 | 32 | 440 | 360 | 290 | 100 |
| SQFA61 | 820 | 800 | 700 | 830 | 730 | 32 | 440 | 360 | 290 | 100 |
| SQFA45 | 901 | 900 | 800 | 930 | 830 | 32 | 490 | 410 | 290 | 150 |
| SQFA62 | 901 | 900 | 800 | 930 | 830 | 32 | 490 | 410 | 290 | 150 |
| SQFA46 | 994 | 1000 | 900 | 1030 | 930 | 32 | 546 | 454 | 387 | 255 |
| SQFA63 | 994 | 1000 | 900 | 1030 | 930 | 32 | 546 | 454 | 387 | 255 |
| SQFA64 | 1114 | 1100 | 1000 | 1130 | 1030 | 32 | 600 | 500 | 387 | 315 |

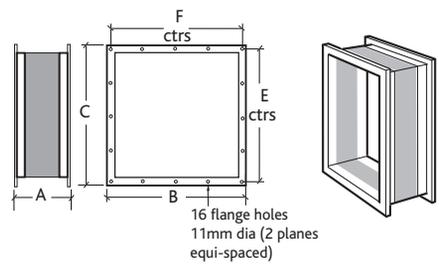


ANCILLARIES FOR SQUIF UNITS

DOUBLE FLANGED FLEXIBLE CONNECTOR (mm)

Flexible duct material is flame proof. Heat resistance is 400°C with excellent resistance to chemicals, ozone, oil and grease. The connector is air-tight, waterproof and tested to BS476 Part 7.

| Code | Squif Fan | A | B | C | F | E |
|--------|----------------------|-----|------|------|------|------|
| SQFF 1 | SQFA41-3 SQFA41-1 | 150 | 560 | 560 | 532 | 532 |
| SQFF 2 | SQFA42-3 SQFA42-1 | 150 | 760 | 660 | 730 | 630 |
| SQFF 3 | SQFA43-3 SQFA43-1 | 150 | 810 | 710 | 780 | 680 |
| SQFF 4 | SQFA44 SQFA61 | 150 | 860 | 760 | 830 | 730 |
| SQFF 5 | SQFA45 SQFA62 | 150 | 980 | 880 | 930 | 830 |
| SQFF 6 | SQFA46 SQFA63 | 150 | 1080 | 980 | 1030 | 930 |
| SQFF 7 | SQFA64 | 150 | 1180 | 1080 | 1130 | 1030 |



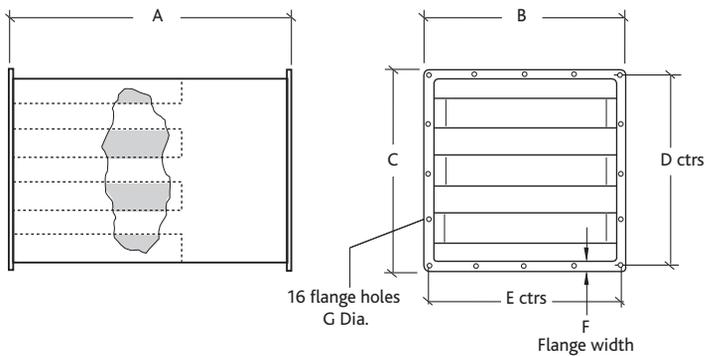
ANCILLARIES FOR SQUIF UNITS CONT.

GUARD FOR SQUARE FANS (mm)

Manufactured from galvanised steel wire or polyester coated mild steel.
 Resistance to airflow is negligible.

| Code | Squif Fan | A | B | C |
|---------|----------------------|------|------|----|
| SQFGD 1 | SQFA41-3 SQFA41-1 | 532 | 532 | 11 |
| SQFGD 2 | SQFA42-3 SQFA42-1 | 730 | 630 | 13 |
| SQFGD 3 | SQFA43-3 SQFA43-3 | 780 | 680 | 13 |
| SQFGD 4 | SQFA44 SQFA61 | 830 | 730 | 13 |
| SQFGD 5 | SQFA45 SQFA62 | 930 | 830 | 13 |
| SQFGD 6 | SQFA46 SQFA63 | 1030 | 930 | 13 |
| SQFGD 7 | SQFA64 | 1130 | 1030 | 13 |

Silencers



NOTE: The above diagram is for illustration purposes only. The splitter should be orientated vertically.

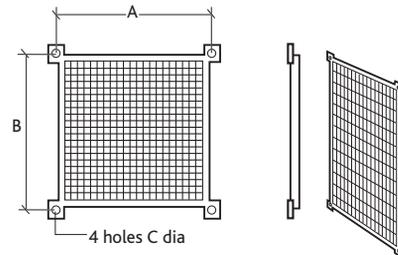


Figure 1. End view of recommended vertically mounted unit installation (bracket supplied).

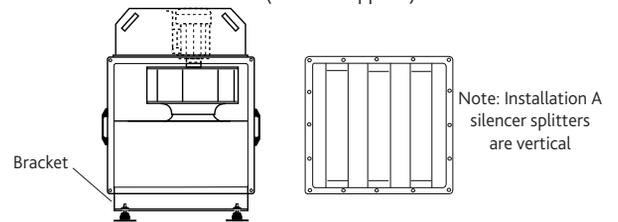
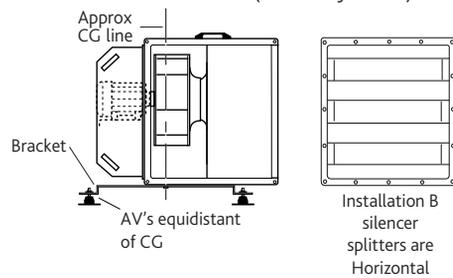


Figure 2. End view of non-recommended horizontally mounted unit installation (bracket by others).



SQUIF LONG SILENCERS DIMENSIONS (mm) & WEIGHTS

| Matching Unit | Attenuator Code | Dynamic insertion loss (db) | | | | | | | Dimensions & Weights | | | | | | | Weight | |
|---------------|-----------------|-----------------------------|-----|-----|-----|-----|-----|-----|----------------------|------|------|------|------|------|------|--------|-------|
| | | 125 | 250 | 500 | 1K | 2K | 4K | 8K | A | B | C | D | E | F | G | Kg | Z |
| SQFA41-3 | SQFS1L | -8 | -12 | -32 | -42 | -33 | -32 | -18 | 1200 | 560 | 560 | 532 | 532 | 26.5 | 11 | 38 | 36.8 |
| SQFA41-1 | SQFS1L | -8 | -12 | -32 | -42 | -33 | -32 | -18 | 1200 | 560 | 560 | 532 | 532 | 26.5 | 11 | 38 | 36.8 |
| SQFA42-3 | SQFS2L | -8 | -12 | -32 | -42 | -33 | -32 | -18 | 1200 | 760 | 660 | 630 | 730 | 32 | 11 | 43 | 30.5 |
| SQFA42-1 | SQFS2L | -8 | -12 | -32 | -42 | -33 | -32 | -18 | 1200 | 760 | 660 | 630 | 730 | 32 | 11 | 43 | 30.5 |
| SQFA43-3 | SQFS3L | -8 | -12 | -32 | -42 | -33 | -32 | -18 | 1200 | 810 | 710 | 680 | 780 | 32 | 11 | 46 | 30.5 |
| SQFA43-1 | SQFS3L | -8 | -12 | -32 | -42 | -33 | -32 | -18 | 1200 | 810 | 710 | 680 | 780 | 32 | 11 | 46 | 30.5 |
| SQFA44 | SQFS4L | -8 | -12 | -32 | -42 | -33 | -32 | -18 | 1200 | 860 | 760 | 730 | 830 | 32 | 11 | 60 | 10.9 |
| SQFA61 | SQFS4L | -8 | -12 | -32 | -42 | -33 | -32 | -18 | 1200 | 860 | 760 | 730 | 830 | 32 | 11 | 60 | 10.9 |
| SQFA45 | SQFS5L | -8 | -12 | -32 | -42 | -33 | -32 | -18 | 1200 | 980 | 880 | 830 | 930 | 32 | 12.5 | 91 | 5.47- |
| SQFA62 | SQFS5L | -8 | -12 | -32 | -42 | -33 | -32 | -18 | 1200 | 980 | 880 | 830 | 930 | 32 | 12.5 | 91 | 5.47 |
| SQFA46 | SQFS6L | -8 | -12 | -32 | -42 | -33 | -32 | -18 | 1200 | 1080 | 980 | 930 | 1030 | 32 | 12.5 | 98 | 5.47 |
| SQFA63 | SQFS7L | -8 | -12 | -32 | -42 | -33 | -32 | -18 | 1200 | 1080 | 980 | 930 | 1030 | 32 | 12.5 | 116 | 1.54 |
| SQFA64 | SQFS8L | -8 | -12 | -32 | -42 | -33 | -32 | -18 | 1200 | 1180 | 1080 | 1030 | 1130 | 32 | 12.5 | 122 | 1.54 |

Note: Air Pressure Drop of Attenuator (Pa) = Z x Q² where Z = Factor listed in table above Q = Air Volume Flow Rate (m³/s)

SILENCERS CONT.

SQUIF SHORT SILENCERS DIMENSIONS (mm) & WEIGHTS

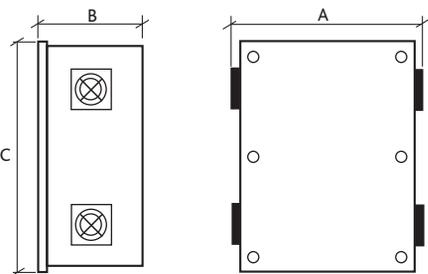
| Matching Unit | Attenuator Code | Dynamic insertion loss (db) | | | | | | | Dimensions & Weights | | | | | | | Weight | |
|---------------|-----------------|-----------------------------|-----|-----|-----|-----|-----|-----|----------------------|------|------|------|------|------|------|--------|------|
| | | 125 | 250 | 500 | 1K | 2K | 4K | 8K | A | B | C | D | E | F | G | Kg | Z |
| SQFA41-3 | SQFS1S | -4 | -8 | -18 | -24 | -19 | -16 | -11 | 900 | 560 | 560 | 532 | 532 | 26.5 | 11 | 15 | 36.8 |
| SQFA41-1 | SQFS1S | -4 | -8 | -18 | -24 | -19 | -16 | -11 | 900 | 560 | 560 | 532 | 532 | 26.5 | 11 | 15 | 36.8 |
| SQFA42-3 | SQFS2S | -4 | -8 | -18 | -24 | -19 | -16 | -11 | 900 | 760 | 660 | 630 | 730 | 32 | 11 | 29 | 30.5 |
| SQFA42-1 | SQFS2S | -4 | -8 | -18 | -24 | -19 | -16 | -11 | 900 | 760 | 660 | 630 | 730 | 32 | 11 | 29 | 30.5 |
| SQFA43-3 | SQFS3S | -4 | -8 | -18 | -24 | -19 | -16 | -11 | 900 | 810 | 710 | 680 | 780 | 32 | 11 | 32 | 30.5 |
| SQFA43-1 | SQFS3S | -4 | -8 | -18 | -24 | -19 | -16 | -11 | 900 | 810 | 710 | 680 | 780 | 32 | 11 | 32 | 30.5 |
| SQFA44 | SQFS4S | -4 | -8 | -18 | -24 | -19 | -16 | -11 | 900 | 860 | 760 | 730 | 830 | 32 | 11 | 42 | 10.9 |
| SQFA61 | SQFS4S | -4 | -8 | -18 | -24 | -19 | -16 | -11 | 900 | 860 | 760 | 730 | 830 | 32 | 11 | 42 | 10.9 |
| SQFA45 | SQFS5S | -4 | -8 | -18 | -24 | -19 | -16 | -11 | 900 | 980 | 880 | 830 | 930 | 32 | 12.5 | 61 | 5.47 |
| SQFA62 | SQFS5S | -4 | -8 | -18 | -24 | -19 | -16 | -11 | 900 | 980 | 880 | 830 | 930 | 32 | 12.5 | 61 | 5.47 |
| SQFA46 | SQFS6S | -4 | -8 | -18 | -24 | -19 | -16 | -11 | 900 | 1080 | 980 | 930 | 1030 | 32 | 12.5 | 68 | 5.47 |
| SQFA63 | SQFS7S | -4 | -8 | -18 | -24 | -19 | -16 | -11 | 900 | 1080 | 980 | 930 | 1030 | 32 | 12.5 | 81 | 1.54 |
| SQFA64 | SQFS8S | -4 | -8 | -18 | -24 | -19 | -16 | -11 | 900 | 1180 | 1080 | 1030 | 1130 | 32 | 12.5 | 86 | 1.54 |

Note: Air Pressure Drop of Attenuator (Pa) = Z x Q² where Z = Factor listed in table above Q = Air Volume Flow Rate (m³/s)

CONTROLS

ECOSMART CONTROL (mm)

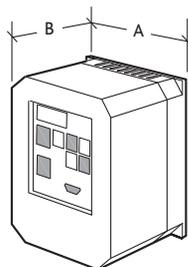
| Fan code | A (mm) | B (mm) | C (mm) | Weight Kg | Drill D (mm) | Pattern E (mm) |
|-------------|--------|--------|--------|-----------|--------------|----------------|
| ES-ISC1.2A | 230 | 325 | 410 | 6 | 340 | 298 |
| ES-ISC2.4A | 230 | 325 | 410 | 6 | 340 | 298 |
| ES-ISC3.3A | 230 | 325 | 410 | 6 | 340 | 298 |
| ES-ISC4.1A | 230 | 325 | 410 | 6 | 340 | 298 |
| ES-ISC5.6A | 290 | 390 | 455 | 14 | 470 | 373 |
| ES-ISC7.3A | 290 | 390 | 455 | 14 | 470 | 373 |
| ES-ISC8.8A | 290 | 390 | 455 | 14 | 470 | 373 |
| ES-ISC12.5A | 290 | 390 | 455 | 20 | 470 | 373 |
| ES-ISC15.6A | 290 | 390 | 455 | 20 | 470 | 373 |
| ES-ISC23.1A | 290 | 390 | 455 | 20 | 470 | 373 |
| ES-ISC38.0A | 355 | 525 | 805 | 40 | 710 | 510 |



Please note:

- Control selected by ensuring the fan's flc is below stated in the ES-ISC code e.g. fan is 7 amps then controller will be ES-ISC7.7A.
- The mains power supply to the controller must be appropriately sized and installed via a local isolation switch (by others). The isolator must also accommodate the switched live (if used). The mains supply from the ecosmart controller to the fan must be appropriately sized, not exceeding 25 metres and must be a screened power cable, earthed at both ends. A four point glanding plate is formed from the base of the control and in order to main EMC compliance, a Zerohm EMC glanding kit is supplied. An isolator should be located adjacent to the fan.
- Contra and run and standby fans will require two controls, one for each fan for run and standby use ES-ISCT cone control.
- All integrated sensors plug directly into the control panel.
- Refer to product datasheet No. 671432 for further information.

CONTROLS CONT.



INVERTER SPEED CONTROL (mm)

| Code | Motor Kw | A | B | C | Weight Kg |
|-----------|----------|-----|-----|-----|-----------|
| 3ISC1.2A | 0.37 | 70 | 142 | 280 | 1.5 |
| 3ISC1.9A | 0.55 | 70 | 142 | 280 | 1.5 |
| 3ISC2.4A | 0.75 | 70 | 142 | 280 | 1.7 |
| 3ISC3.3A | 1.1 | 70 | 142 | 280 | 1.7 |
| 3ISC4.1A | 1.5 | 70 | 142 | 280 | 1.7 |
| 3ISC5.6A | 2.2 | 70 | 142 | 280 | 1.7 |
| 3ISC7.3A | 3 | 70 | 142 | 280 | 1.7 |
| 3ISC8.8A | 4 | 70 | 142 | 280 | 1.7 |
| 3ISC12.5A | 5.5 | 169 | 177 | 299 | 3.5 |
| 3ISC15.6A | 7.5 | 169 | 177 | 299 | 3.5 |
| 3ISC23.1A | 11 | 169 | 177 | 299 | 3.5 |
| 3ISC31.0A | 15 | 260 | 177 | 320 | 5 |
| 3ISC38.0A | 18.5 | 260 | 177 | 320 | 5 |
| 3ISC44.0A | 22 | 260 | 177 | 320 | 5 |
| 3ISC59.0A | 30 | 260 | 177 | 320 | 24 |
| 3ISC72.0A | 37 | 260 | 177 | 320 | 24 |
| 3ISC87.0A | 45 | 260 | 177 | 320 | 24 |

The inverters are microprocessor controlled and use state of the art technology to produce variable output frequency to control the speed of 3 phase squirrel cage motors. In addition to speed control, the inverters offer a number of built in features:

- Soft start to reduce electrical and mechanical load.
- Infinitely variable speed adjustment or pre-set steps.
- Motor over-current detection.
- Alarm signals.
- Proportional control using a 0-10V signal from an external sensor.

All inverters are supplied complete with EMC filter with external filters being used for units above 7.5kW. To ensure the installation complies with EMC requirements, the use of screened power and signal cables are essential. The inverter can be operated over a wide ambient temperature range, 0°C to 50°C and in any clean indoor environments. To ensure safe and trouble-free operations, do not install the inverter near any heat source or in environment containing pollutants, e.g. dust, corrosive gas/vapours or be subjected to water spray or condensation. The inverter can be configured to suit the control regime required for the ventilation system. This can be simple manual control using the front panel of the inverter through to fully automated control via BMS. Please contact our technical support department to discuss your specific needs. All inverters use 400V 3 phase 50Hz power supply.

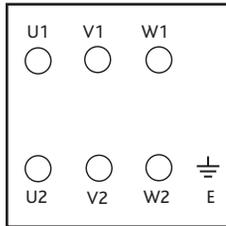
Please note that the selection should be based on the full load current of the fan NOT the motor rating.

WIRING - SQUIF

Two speed motors DOL starting on both speeds

Motor Terminal Box

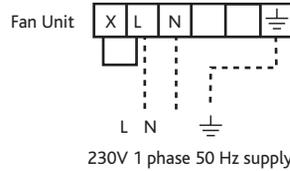
Note: HIGH SPEED -
Supply U2 V2 W2
Link U1 V1 W1
LOW SPEED
Supply U1 V1 W1



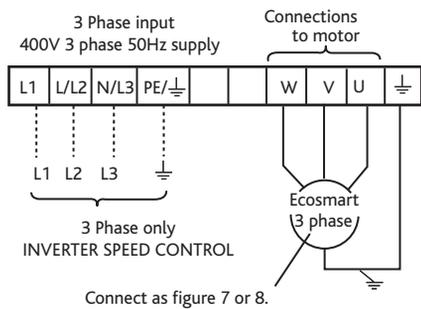
400V 3 phase 50Hz supply

Observe the motor plate and connection details.
3 phase two speed tap/pam wound motors require a three contactor control. 3 phase Dual wound motors require a two contactor control.

Single phase single speed



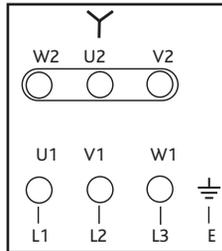
3 phase units with matched frequency inverter



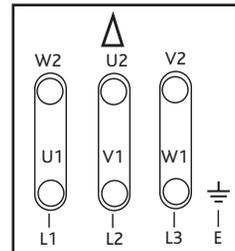
Notes:
Total length of motor leads should not exceed 50 mtrs. If a screened motor cable is used, maximum length should be 30 mtrs. Consult our Technical Department if you wish to use longer leads. Inverters are configured to suit specific fans and control applications as described on the Customer Order.

3 phase units up to 3KW

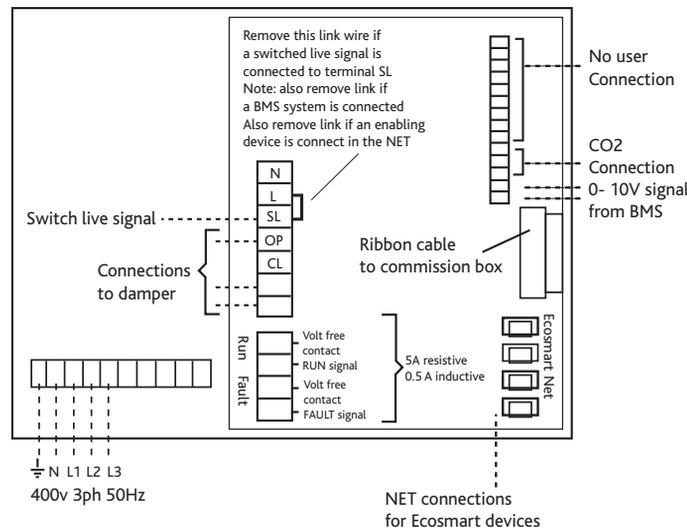
3 phase motors are connected directly to the Motor Terminal Box.



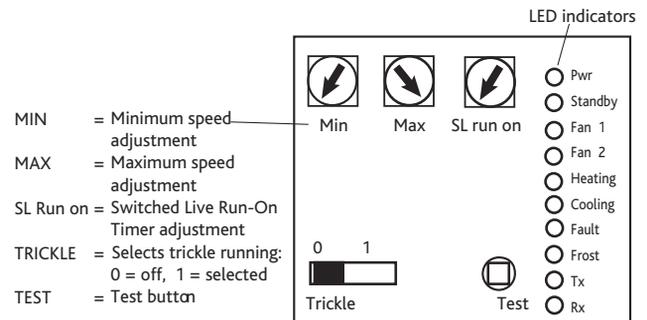
3 phase units 4KW and above



3 phase (ESISC - Ecosmart Control)



Set up/Commissioning Box



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 galvanised steel. The general construction is to class A leakage.

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 EN60034-30 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.

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 SQUIF type as manufactured by Nuair Ltd.

CONTROL SPECIFICATION

All three phase units can be supplied with the following controls. Single phase units cannot be speed controlled

1. ECOSMART CONTROLS

The compact Ecosmart control system complete with all necessary controls to facilitate the operation of the ventilation system. It shall be come complete with factory fitted Ecosmart PCB which will 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: -

- 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. 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.

2. BMS INTERFACES

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.

3. COMMISSIONING SET UP

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.

The Fan unit shall have a 3 year warranty.
Ecosmart Squif shall have a 5 year warranty.

All equipment shall be as manufactured by Nuair Ltd.