

# **"SMOKEX"®**

## **EMERGENCY SMOKE EXTRACT FANS**

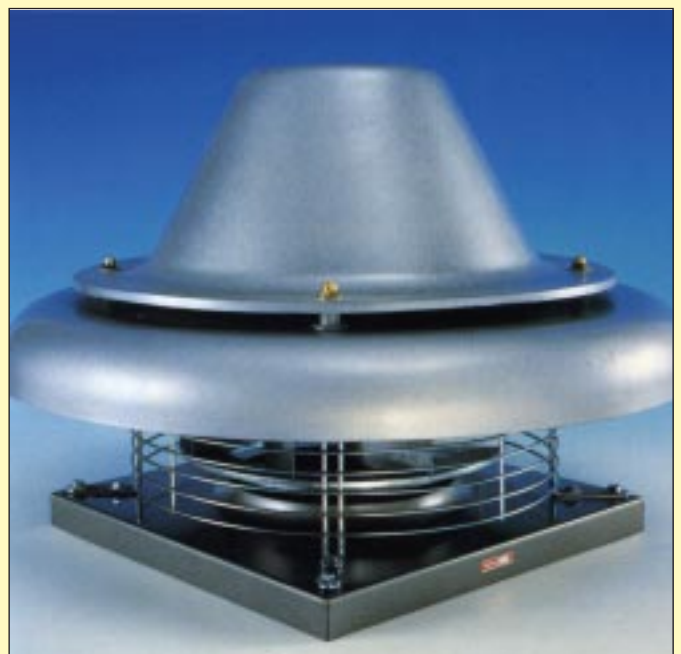
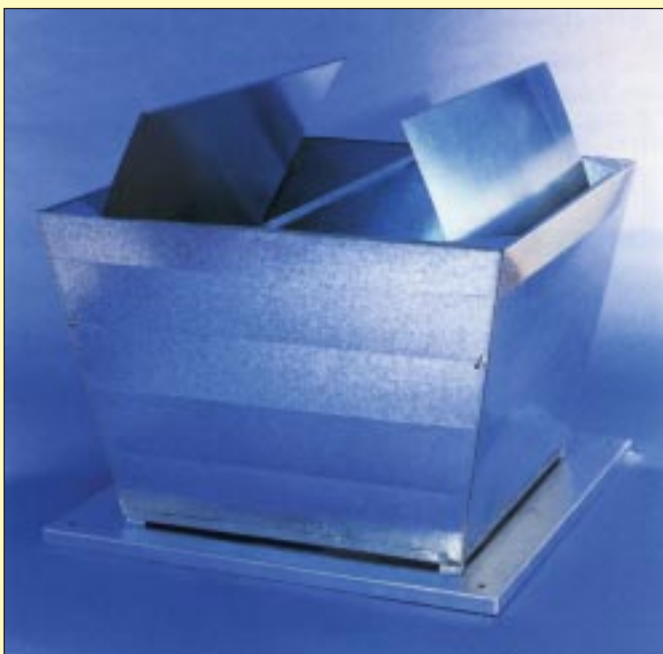
- ◆ **Axial Fans**
  - Long Cased
  - Wall Mounted
- ◆ **Roof Mounted**
  - Vertical Discharge (Axial)
  - Centrifugal



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Uniclass L7534



# "SMOKEX"® - A COMPLETE RANGE OF EMERGENCY SMOKE EXTRACT FANS

## General

Emergency smoke extract fans are installed in a wide variety of public and private buildings.

The **"Smokex"®** range of fans ensures that, in the event of a fire, smoke and toxic fumes are extracted leaving escape and access routes clear for evacuation.

There are four basic types of fan available in the Vectaire **"Smokex"®** range:

**"RVHT" - Vertical Discharge Axial**

**"LCAHT" - Cased Axial**

**"PAHT" - Wall Mounted Axial**

**"CRHHT" - Centrifugal Roof**

The extensive choice of size and performance means that there is a fan which will cope with every installation situation.



All the fans have been designed and manufactured to meet the current exacting and varying demands which are associated with providing public safety in the event of fire.

## Reliability

Vectaire's **"Smokex"®** fans are produced to the most rigorous standards in order to ensure the highest level of reliability and performance.

Backed by independent testing and approval, the **"Smokex"®** range gives the necessary confidence to ensure performance to specification in an emergency situation.

The fans are manufactured within the ISO9002 quality standard and comply with BS7346, Part 2. **"Smokex"®** axial fans have been tested and approved by the Warrington Fire Research Establishment, and are categorised into two rating classes:

**Class D: 300°C for 1 hour**

**Class E: 400°C for 2 hours**

The **"CRHHT"** centrifugal roof fans have been tested and approved by



CTICM (Centre Technique Industriel de la Construction Métallique - the French Government Approved Testing Authority).

## Motors

All the motors for the axial fans have been chosen to withstand the heat and smoke generated during a fire, according to the classifications shown above.

A rugged cast iron casing and high temperature (Class H) winding insulation allows the fans to be used in temperatures up to 400°C for 2 hours.

High quality caged bearings and dynamic balancing ensure smooth and reliable operation.

## Flexibility

Three-phase versions of the **"Smokex"®** fans are available with the option of a two speed motor. This enables them to be used as conventional continuous running fans at the lower speed, with the facility of being switched to the maximum speed for emergency smoke extraction.

Explosion proof (E Ex d) rated versions are also available for installation into hazardous locations.

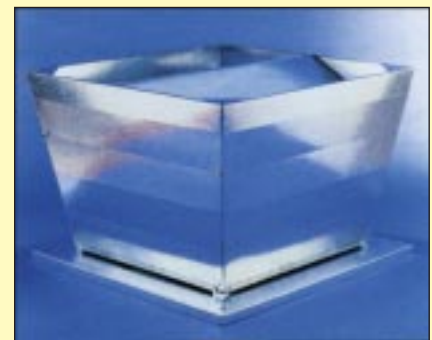
**"RVHT"**, **"LCAHT"** and **"PAHT"** axial fans are available with three phase motors only, and the **"CRHHT"** centrifugal fan is available in single or three phase versions.



## Impellers

The impellers on the axial fans (**"RVHT"**, **"LCAHT"** and **"PAHT"**) are constructed of die-cast aluminium on an aluminium alloy hub. The aerofoil section blades have a fully adjustable pitch. With either three, six or nine blades, each impeller can be accurately selected to provide the precise performance required.

The **"CRHHT"** is fitted with a backward bladed impeller in galvanised steel, which has been dynamically balanced to ensure that it operates at the correct performance and pressure.



## Construction

### "RVHT" - Vertical Discharge Axial Fans

- robust steel casing.
- fans and base in resilient epoxy paint finish.
- galvanised steel base and funnel.
- weatherproof shutters in galvanised steel.

### "LCAHT" - Cased Axial Fans

- robust steel casing.
- with resilient epoxy paint finish.

### "PAHT" - Wall Mounted Axial Fans

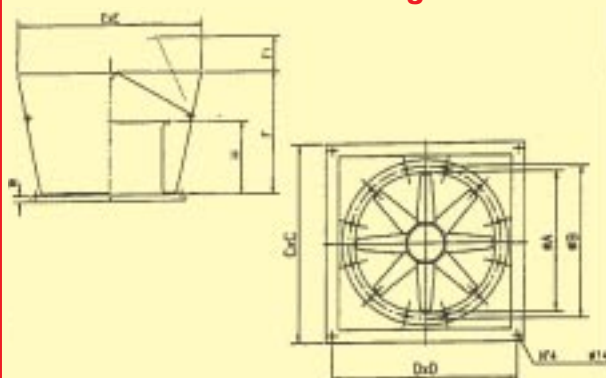
- robust steel casing.
- with resilient epoxy paint finish.
- wall plate in steel with resilient epoxy paint finish.

### "CRHHT" - Centrifugal Roof Fans

- lower frame in galvanised sheet steel.
- protection guard in galvanised steel rod.
- cooling fan on motor shaft.
- double cover (for effective motor cooling) in polyester glass-fibre.
- durable weather resistant glass-fibre cowl.

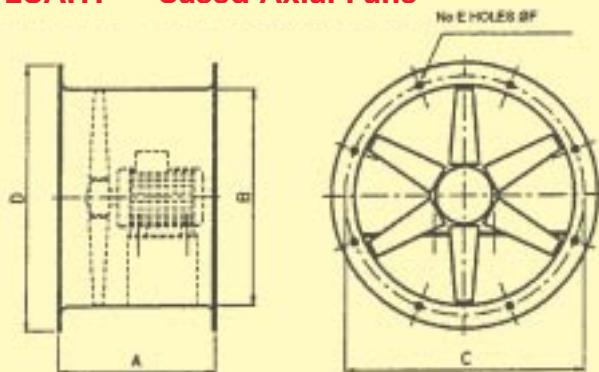
## "SMOKEX"<sup>®</sup> - TECHNICAL DATA - AXIAL FANS

### "RVHT" - Vertical Discharge Axial Fans



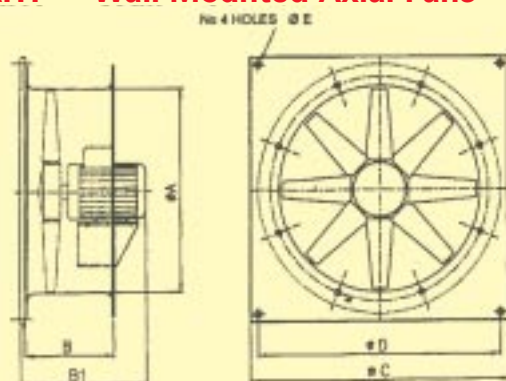
| Model     | Fan Size |     | Dimensions (mm) |     |      |      |      |      |      |     |    |                     | Airflow |     | Sound |
|-----------|----------|-----|-----------------|-----|------|------|------|------|------|-----|----|---------------------|---------|-----|-------|
|           | ins      | cm  | ØA              | H   | ØB   | CxC  | DxD  | ExE  | F    | F1  | W  | m <sup>3</sup> /sec | c.f.m.  | dbA |       |
| RVHT404T  | 16       | 40  | 406             | 350 | 450  | 650  | 600  | 940  | 600  | 150 | 38 | 1.3                 | 2750    | 62  |       |
| RVHT454T  | 18       | 45  | 456             | 350 | 500  | 650  | 600  | 940  | 600  | 150 | 38 | 1.8                 | 3810    | 65  |       |
| RVHT504T  | 20       | 50  | 508             | 450 | 560  | 760  | 710  | 1000 | 690  | 200 | 38 | 2.5                 | 5300    | 69  |       |
| RVHT564T  | 22       | 56  | 568             | 450 | 620  | 760  | 710  | 1000 | 690  | 200 | 38 | 3.5                 | 7410    | 72  |       |
| RVHT634T  | 25       | 63  | 640             | 500 | 690  | 930  | 870  | 1150 | 750  | 220 | 38 | 5.4                 | 11500   | 75  |       |
| RVHT714T  | 28       | 71  | 710             | 500 | 770  | 930  | 870  | 1150 | 750  | 220 | 38 | 7.3                 | 15470   | 84  |       |
| RVHT804T  | 32       | 80  | 810             | 600 | 860  | 1100 | 1030 | 1300 | 900  | 250 | 38 | 10.8                | 22880   | 85  |       |
| RVHT904T  | 36       | 90  | 910             | 750 | 970  | 1200 | 1120 | 1470 | 1100 | 280 | 50 | 15.6                | 33050   | 89  |       |
| RVHT1004T | 40       | 100 | 1010            | 750 | 1070 | 1300 | 1220 | 1470 | 1100 | 320 | 50 | 22.4                | 47460   | 90  |       |

### "LCAHT" - Cased Axial Fans



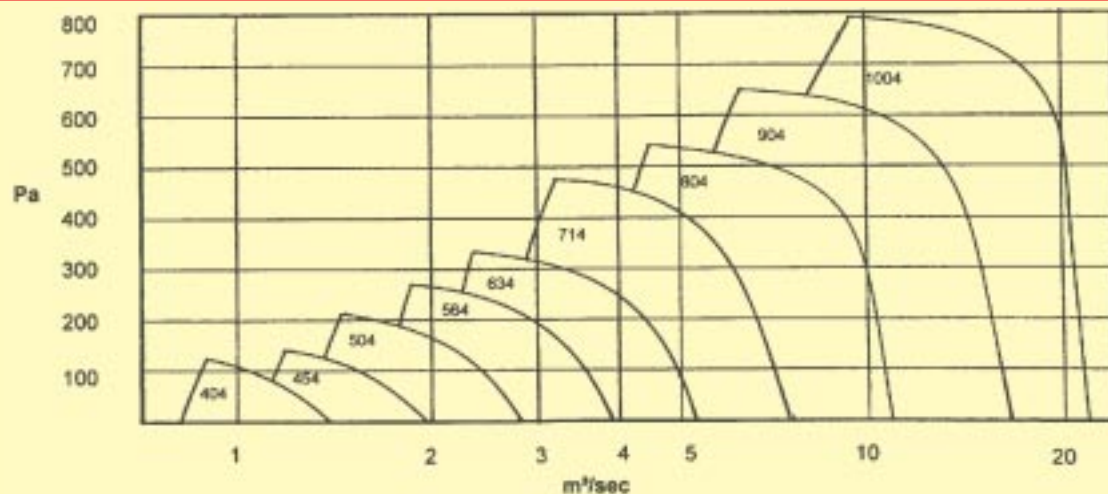
| Model      | Fan Size |     | Dimensions (mm) |      |      |      |    |    | Airflow |        | Sound |
|------------|----------|-----|-----------------|------|------|------|----|----|---------|--------|-------|
|            | ins      | cm  | A               | B    | C    | D    | E  | F  | m³/sec  | c.f.m. | dbA   |
| LCAHT404T  | 16       | 40  | 320             | 406  | 450  | 486  | 8  | 12 | 1.5     | 3180   | 62    |
| LCAHT454T  | 18       | 45  | 350             | 456  | 500  | 536  | 8  | 12 | 2.0     | 4240   | 65    |
| LCAHT504T  | 20       | 50  | 400             | 508  | 560  | 588  | 12 | 12 | 2.8     | 5930   | 69    |
| LCAHT564T  | 22       | 56  | 400             | 568  | 620  | 648  | 12 | 12 | 3.9     | 8260   | 72    |
| LCAHT634T  | 25       | 63  | 400             | 640  | 690  | 720  | 12 | 12 | 6.0     | 12650  | 75    |
| LCAHT714T  | 28       | 71  | 500             | 710  | 770  | 800  | 12 | 12 | 7.9     | 16770  | 84    |
| LCAHT804T  | 32       | 80  | 600             | 810  | 860  | 900  | 16 | 12 | 11.4    | 24160  | 85    |
| LCAHT904T  | 36       | 90  | 700             | 910  | 970  | 1010 | 16 | 15 | 16.4    | 34750  | 89    |
| LCAHT1004T | 40       | 100 | 700             | 1010 | 1070 | 1110 | 16 | 15 | 23.6    | 50000  | 90    |

### "PAHT" - Wall Mounted Axial Fans



| Model     | Fan Size |     | Dimensions (mm) |     |     |      |      |    | Airflow |        | Sound |
|-----------|----------|-----|-----------------|-----|-----|------|------|----|---------|--------|-------|
|           | ins      | cm  | A               | B   | B1  | C    | D    | E  | m³/sec  | c.f.m. | dbA   |
| PAHT404T  | 16       | 40  | 406             | 220 | 380 | 490  | 450  | 9  | 1.5     | 3180   | 62    |
| PAHT454T  | 18       | 45  | 456             | 220 | 400 | 540  | 500  | 9  | 2.0     | 4240   | 65    |
| PAHT504T  | 20       | 50  | 508             | 250 | 430 | 650  | 600  | 9  | 2.8     | 5930   | 69    |
| PAHT564T  | 22       | 56  | 568             | 250 | 430 | 700  | 630  | 12 | 3.9     | 8260   | 72    |
| PAHT634T  | 25       | 63  | 640             | 250 | 460 | 800  | 730  | 12 | 6.0     | 12650  | 75    |
| PAHT714T  | 28       | 71  | 710             | 250 | 500 | 850  | 800  | 12 | 7.9     | 16770  | 84    |
| PAHT804T  | 32       | 80  | 810             | 300 | 520 | 950  | 900  | 16 | 11.4    | 24160  | 85    |
| PAHT904T  | 36       | 90  | 910             | 300 | 710 | 1060 | 1010 | 16 | 16.4    | 34750  | 89    |
| PAHT1004T | 40       | 100 | 1010            | 350 | 770 | 1160 | 1110 | 16 | 23.6    | 50000  | 90    |

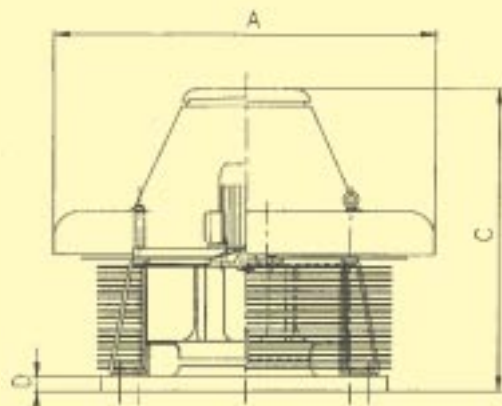
### Performance - Axial Fans



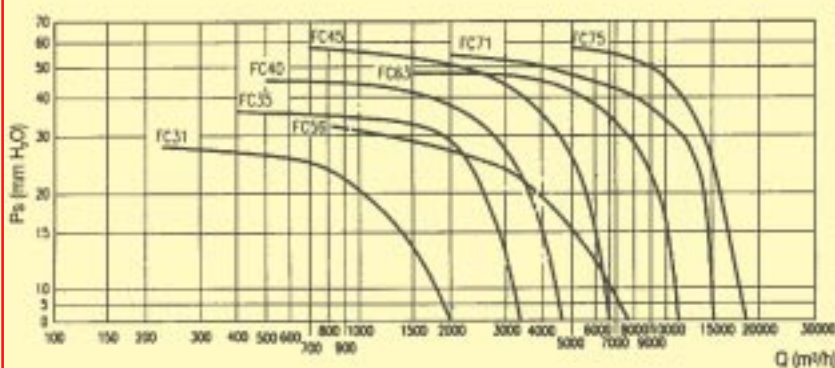
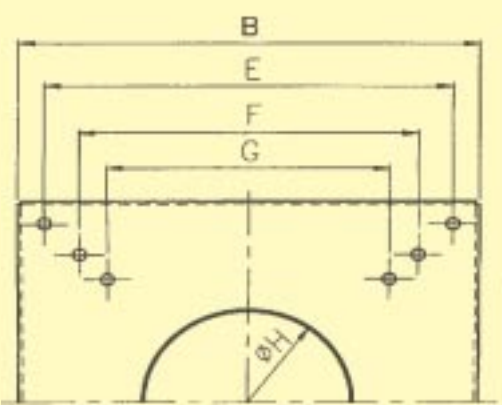


## "SMOKEX"<sup>®</sup> - TECHNICAL DATA - CENTRIFUGAL FANS

### "CRHHT" - Centrifugal Roof Fan



| Model    | Fan Size |    | Dimensions (mm) |     |     |    |     |     |     |     | Power<br>Kw | Airflow             |        | Sound<br>dbA |
|----------|----------|----|-----------------|-----|-----|----|-----|-----|-----|-----|-------------|---------------------|--------|--------------|
|          | ins      | cm | A               | B   | C   | D  | E   | F   | G   | ØH  |             | m <sup>3</sup> /sec | c.f.m. |              |
| CRHHT314 | 12       | 31 | 540             | 400 | 530 | 38 | -   | 360 | 307 | 220 | 0.12        | 0.53                | 1120   | 58           |
| CRHHT354 | 14       | 35 | 800             | 500 | 600 | 38 | -   | 450 | 380 | 270 | 0.25        | 0.68                | 1445   | 63           |
| CRHHT404 | 16       | 40 | 800             | 650 | 650 | 38 | 600 | 530 | 471 | 296 | 0.37        | 1.17                | 2480   | 68           |
| CRHHT454 | 18       | 45 | 800             | 650 | 650 | 38 | 600 | 530 | 471 | 296 | 0.75        | 1.47                | 3130   | 72           |
| CRHHT566 | 22       | 56 | 950             | 760 | 730 | 38 | 710 | 650 | 550 | 398 | 0.55        | 1.88                | 4010   | 66           |
| CRHHT636 | 25       | 63 | 1100            | 930 | 890 | 38 | 870 | 775 | 665 | 439 | 1.1         | 2.77                | 5980   | 68           |
| CRHHT716 | 28       | 71 | 1100            | 930 | 890 | 38 | 870 | 775 | 665 | 484 | 1.5         | 3.47                | 7375   | 72           |
| CRHHT756 | 31       | 75 | 1100            | 930 | 890 | 38 | 870 | 775 | 665 | 484 | 1.8         | 4.3                 | 9110   | 77           |



## "SMOKEX"<sup>®</sup> ACCESSORIES

There is a wide range of accessories available for the "Smokex"<sup>®</sup> fans. They include:

- Soaker sheets - in moulded glass-fibre. Most common roof profiles available.
- Purlin support boxes - in galvanised steel.
- Anti-vibration mounts - robust steel construction with adjustable height.
- Connecting flanges - for connection to circular ductwork.
- Mounting feet - to provide sturdy support.
- Flexible connectors - in high temperature woven glass-fibre.
- Speed changeover switch - allows use of fans in two speed modes: low speed for continuous general ventilation; high speed for emergency smoke extraction.

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