



## Fans – Technical Submittal (TSM)

**Project:** Manchester Metropolitan University – Institute of Sports  
**Project No:** MC1136  
**TSM No:** 1918-AME-XX-XX-TS-M-0014  
**Revision:** -

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**CARBONCONSULTANTS**



**ameon**  
Building Services Engineering

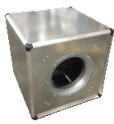
Fans



Project Manchester Metropolitan University - Institute of Sport  
Project No. MC1136  
Tech Submittal No. 1918-AME-XX-XX-TS-M-0014  
Revision -

| Ref.      | Qty. | Location     | Manufacturer | Model      | Description       | System/Mode           | Air Vol<br>(m3/s) | Static Pressure<br>(Pa) | Power<br>Supply<br>(V/Ph/Hz) | FLC<br>(A) | SFP<br>(W/l/s) | Controls/Comments                                                     |
|-----------|------|--------------|--------------|------------|-------------------|-----------------------|-------------------|-------------------------|------------------------------|------------|----------------|-----------------------------------------------------------------------|
| 04/TEF/01 | 1    | Roof Level   | Vent Axia    | Sent500T   | Twin Box Fan      | Toilet Extract        | 0.6               | 375                     | 415/3/50                     | 1.5        | 0.8            | PIR Controlled Via BMS                                                |
| 04/EF/02  | 1    | Roof Level   | Flakt Woods  | epower Box | 4pole Box Fan     | MRI Emergency Extract | 0.711             | 195                     | 230/1/50                     | 2.5        | 0.59           | Speed controlled . Interfaced with MRI Oxygen depletion alarm via BMS |
| 0/EF/01   | 1    | Ground Floor | Vent Axia    | ACM 315    | Inline Mixed Flow | Refuse Store          | 0.477             | 95                      | 230/1/50                     | 1.6        | 0.5            | Speed controlled. Fan controlled via BMS.                             |
|           |      |              |              |            |                   |                       |                   |                         |                              |            |                |                                                                       |

Notes:  
Please refer to separate attenuator technical submittal for attenuator information  
Please refer to separate BMS technical submittal for detailed descriptions of operation  
Full technical details on the fans offered can be found within this submittal



# Northern Fan Supplies Ltd

## Technical Data Sheet

### ePowerBox AC



|                  |   |              |   |
|------------------|---|--------------|---|
| Quotation Number | : | Project Code | : |
| Project Name     | : | Customer     | : |
| Item Reference:  | : | Date:        | : |

Fan Code ePowerBox 67-400-1-4 (5HA)  
Fan Diameter / Size 400  
Velocity 5.7 m/s  
Form of Running B (Horizontal)

Requested Duty (143V) 0.71m³/s @ 195 Pa (static)  
Control Adjustment 143V  
Outlet Dynamic Pressure 19 Pa

Duty Shaft Power 0.424 kW  
Max Shaft Power 0.510 kW

Motor Frame Integral [ Class F ]  
Motor Rating 0.510 kW  
Full Load Current 2.45 A  
Starting Current 7.11 A  
Electrical Supply 220-240 Volts 50 Hz 1 Phase  
Start Type Enquire  
Motor Winding Standard

Regulation 1253/2014  
UVU Efficiency 49.6%  
UVU Target Efficiency 37.8%  
Nominal Flow Rate 0.8 m³/s @ 316 Pa  
Effective Input Power 0.510 kW  
Nominal RPM 1401 rpm

SFP value 0.59 W/(l/s) @ Requested Duty  
Power from mains 0.42 kW  
Energy Consumption 1272 kWh (3000 h/year)  
Running Cost / Year £153

Air Density 1.2 kg/m³ / 20 °C / 0 m / 50% RH  
Smoke Venting Non Smoke Venting  
Product Number BE400018

Acoustic figures for adjusted running speeds have been interpolated and are for reference only.

This Offer is made subject to the latest version of our A100-19 Terms and Conditions, a copy of which can be made available on request.

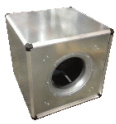
|           | Sound Spectrum (Hz) |     |     |     |    |    |     |     | Overall |             |
|-----------|---------------------|-----|-----|-----|----|----|-----|-----|---------|-------------|
|           | 63                  | 125 | 250 | 500 | 1k | 2k | 4k  | 8k  | Lw*     | LpA @ 3 m** |
| Inlet*    | 66                  | 65  | 66  | 62  | 57 | 54 | 48  | 44  | 71      | 43          |
| Outlet*   | 63                  | 75  | 69  | 65  | 62 | 57 | 53  | 48  | 77      | 47          |
| Breakout* | 60                  | 59  | 49  | 37  | 33 | 23 | <20 | <20 | 63      | 25          |

\* Lw dB re 10<sup>-12</sup> W

\*\* dBA re 2x10<sup>-5</sup> Pa

Sound data at requested duty.

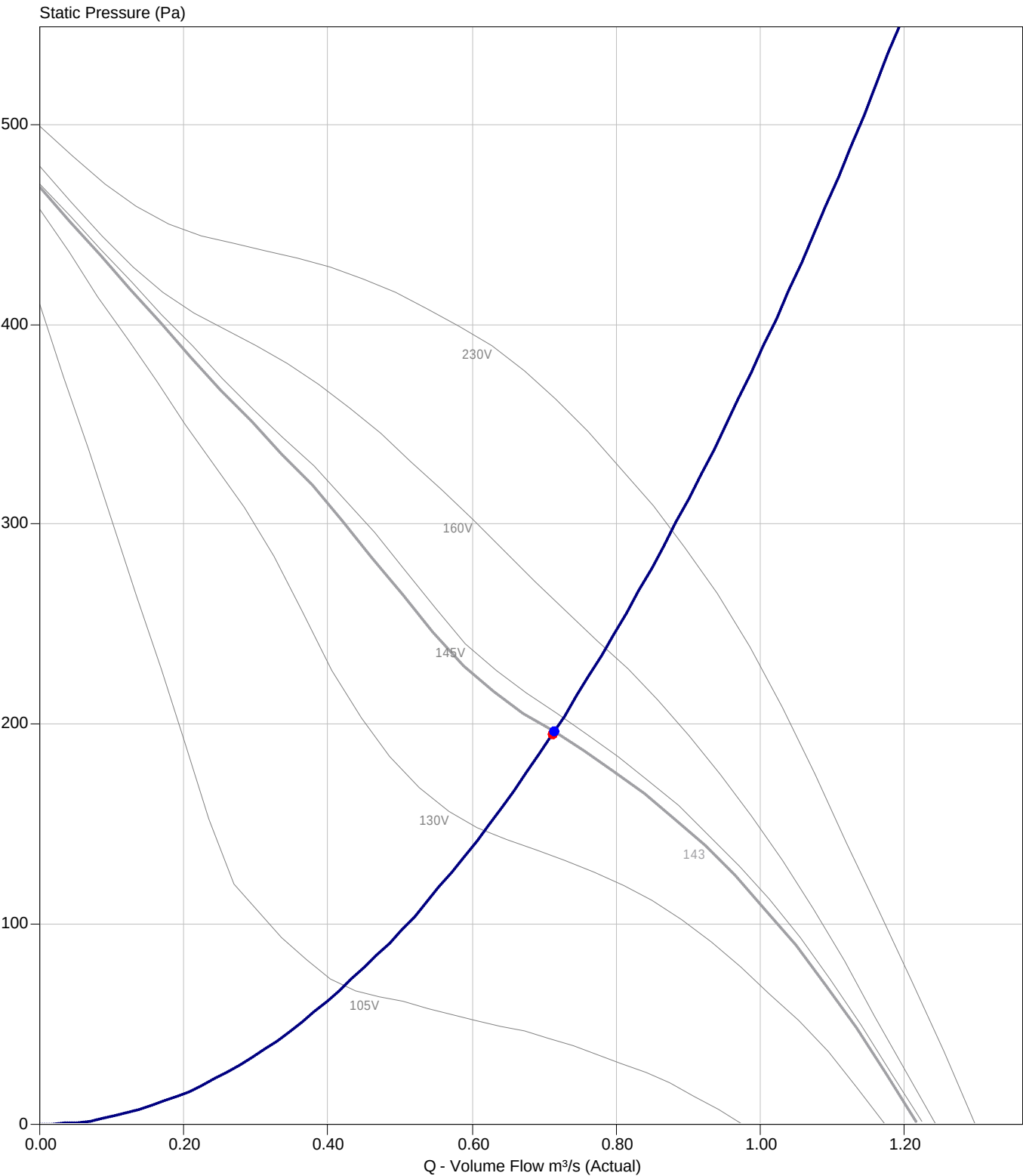
| Description                                                 | Qty |
|-------------------------------------------------------------|-----|
| Fan<br>BE400018 - ePowerBox 67-400-1-4 (5HA)<br>Accessories | 1   |
|                                                             |     |



**Northern Fan Supplies Ltd**  
**Performance Chart**  
**ePowerBox AC**



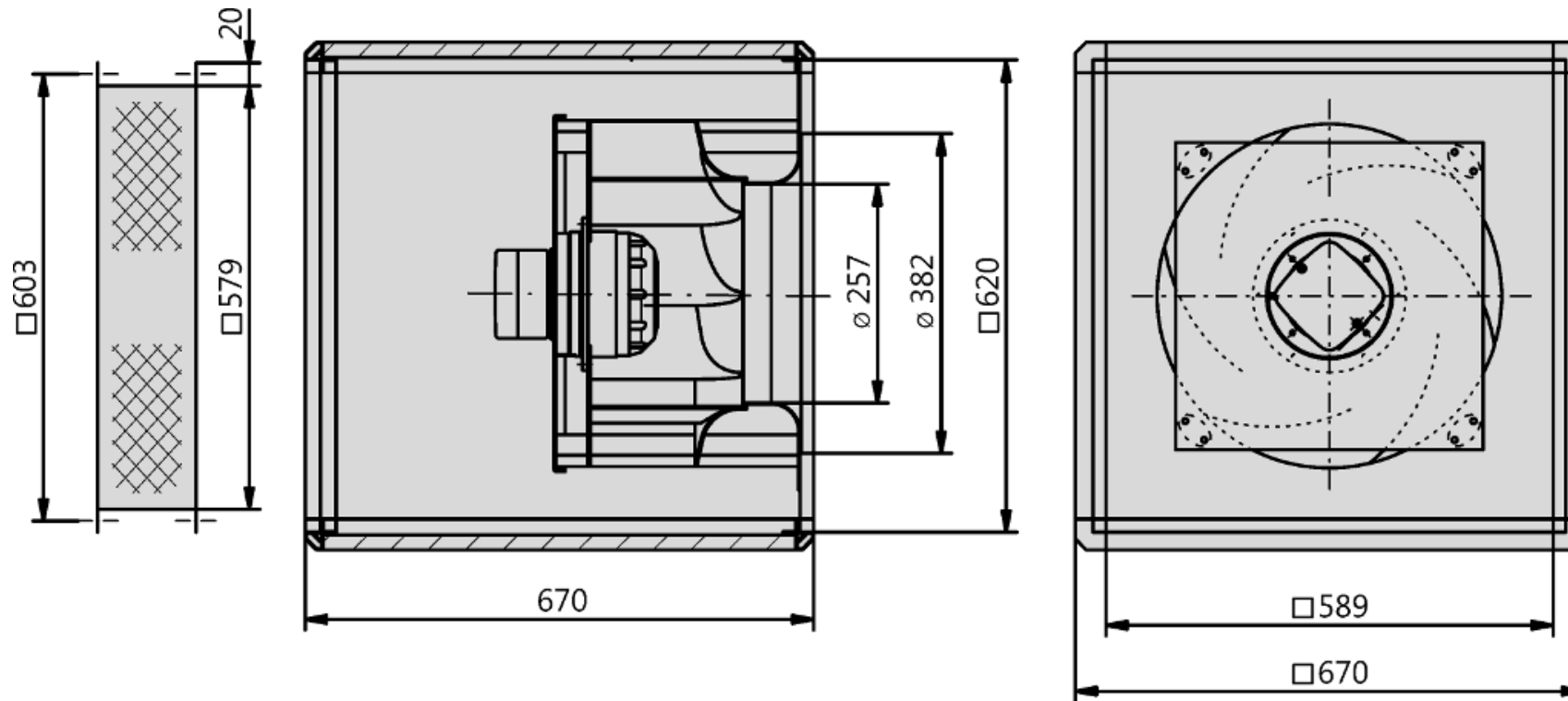
|                  |   |              |   |
|------------------|---|--------------|---|
| Quotation Number | : | Project Code | : |
| Project Name     | : | Customer     | : |
| Item Reference:  | : | Date:        | : |
|                  |   | Fan Code     | : |





Quotation Number :  
Project Name : MMU IOS Fan  
Item Reference: : MRI EMERGENCY EXTRACT

Fan Code : ePowerBox 67-400-1-4 (5HA)  
Customer : Ameen  
Date: :

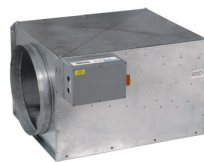
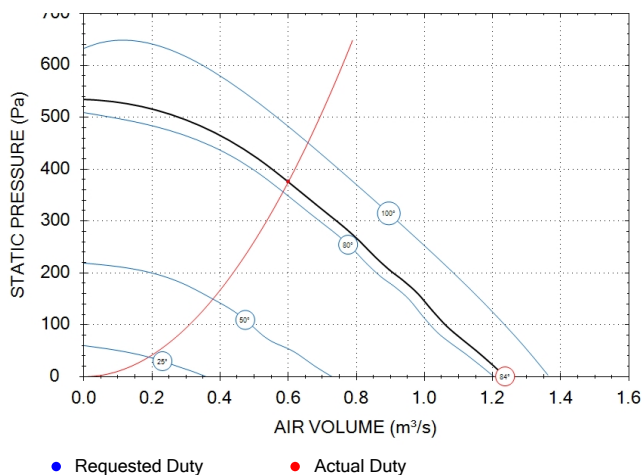


Notes : Dimensions shown in mm / Weight in kg

Reference :Catalogue drawing

This drawing shows dimensions that should be used as a guide only and are subject to change. Certified drawings are available on request.

## Performance Chart



## SENT500T

|                                                     |                         |
|-----------------------------------------------------|-------------------------|
| Tech Ref File:                                      |                         |
| Requested Duty:                                     | 0.6 m³/s @ 375 Pa       |
| Actual Duty:                                        | 100% match              |
| Stock Reference:                                    | SENT500T                |
| Product Description:                                | Sentinel D-Box Twin Fan |
| Product Type:                                       | Ventilation             |
| Product Range:                                      | Twin Fans               |
| Impeller:                                           | Backward Curved         |
| Casing:                                             | Aluzinc                 |
| Speed:                                              | Variable                |
| Airstream Temperature:                              | -25°C to 60°C           |
| Specific Fan Power:                                 | 0.8 W/(l/s)             |
| dBA:                                                | 47                      |
| Specific Fan Power & dB(A) shown are at duty point. |                         |

## Acoustic Information

|          | 63 | 125 | 250 | 500 | 1k | 2k | 4k | 8k | Total | dBA@3m |
|----------|----|-----|-----|-----|----|----|----|----|-------|--------|
| Inlet    | 87 | 92  | 83  | 78  | 68 | 64 | 56 | 50 | 94    | 63     |
| Outlet   | 85 | 89  | 86  | 82  | 80 | 74 | 65 | 58 | 93    | 64     |
| Breakout | 73 | 78  | 73  | 64  | 58 | 50 | 40 | 32 | 80    | 47     |

Sound Power Level Spectra dB (re 10<sup>-12</sup> Watts)

For ducted units, sound power is given as In Duct with end reflections added.

Stated dB(A) levels at 3m with spherical propagation at a reference level of 2 x 10<sup>-12</sup> Pa

Warranty:

Up to 5 years

## Electrical Information

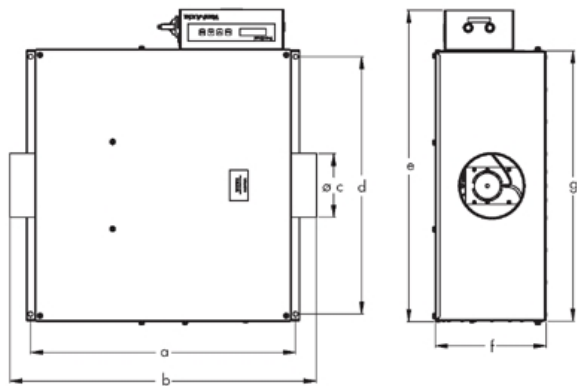
|                     |                 |
|---------------------|-----------------|
| Watts               | 516             |
| Supply Voltage:     | 380-415V/3/50Hz |
| Full Load Current:  | 1.5 A           |
| Starting Current:   | 1.5 A           |
| Insulation:         | F               |
| Motor IP Rating:    | IP55            |
| Speed Controllable: | In Built        |

## Optional Accessories

| Part No   | Description                      |
|-----------|----------------------------------|
| 10532500A | FILTER CASSETTE 500 DIA          |
| 432949    | ECOTRONIC 24V DC SENTINEL        |
| 10533500  | BAG FILTER CASSETTE 500          |
| 432945    | AMB.RESP.HUM.SENSOR 24VDC        |
| 432953    | AIR QUALITY SENSOR 24V DC        |
| 563515    | 7 DAY TIMESWITCH BOXED AS        |
| 68MP133G  | Anti-vibration Mounts (Set of 4) |
| FLX500    | FLEXIBLE CONNECTION 500          |

| Part No    | Description               |
|------------|---------------------------|
| 433162     | VISIONEX 24V DC PIR       |
| 426332     | TSLC1 CONTROLLER BOXED    |
| 433257     | SENTINEL TEMP/CO2 SENSOR  |
| 433259     | SENTINEL CO2 DUCT SENSOR  |
| 433816     | REMOTE INDICATOR SENTINEL |
| 10536500   | IN LINE ATTN. 050-090     |
| 10531500T3 | HEAT.BATTERY+CONTROLS 500 |

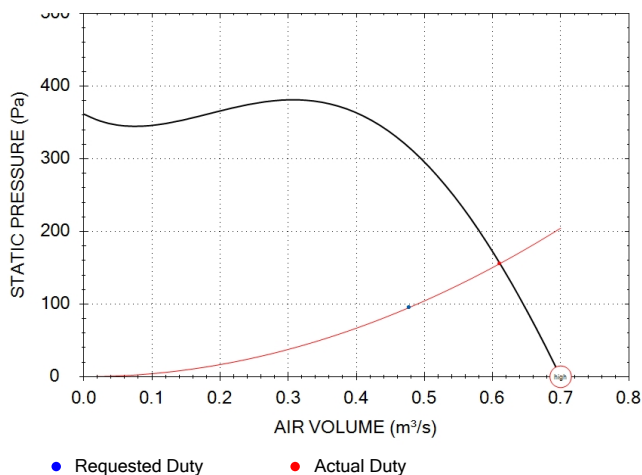
Dimensions



| a    | b    | c   | d    | e    | f   | g    | Weight |
|------|------|-----|------|------|-----|------|--------|
| 1492 | 1590 | 500 | 1533 | 1661 | 675 | 1564 | 175    |

Dimensions  
shown in mm  
Weights in kg

## Performance Chart



## 17112010

|                                                     |                        |
|-----------------------------------------------------|------------------------|
| Tech Ref File:                                      |                        |
| Requested Duty:                                     | 0.477 m³/s @ 95 Pa     |
| Actual Duty:                                        | 128% match             |
| Stock Reference:                                    | 17112010               |
| Product Description:                                | ACM315                 |
| Product Type:                                       | Ventilation            |
| Product Range:                                      | In-Line Fans           |
| Impeller:                                           | Mixed Flow             |
| Casing:                                             | Galvanised sheet metal |
| Speed:                                              | 2840 rpm               |
| Airstream Temperature:                              | -5°C to 40°C           |
| Specific Fan Power:                                 | 0.5 W/(l/s)            |
| dBA:                                                | 34                     |
| Specific Fan Power & dB(A) shown are at duty point. |                        |

## Acoustic Information

|          | 63 | 125 | 250 | 500 | 1k | 2k | 4k | 8k | Total | dBA@3m |
|----------|----|-----|-----|-----|----|----|----|----|-------|--------|
| Inlet    | -  | 45  | 60  | 66  | 68 | 69 | 67 | 56 | 74    | 54     |
| Outlet   | -  | 47  | 69  | 71  | 72 | 72 | 66 | 67 | 78    | 57     |
| Breakout | -  | 38  | 41  | 46  | 50 | 49 | 46 | 41 | 55    | 34     |

Sound Power Level Spectra dB (re 10<sup>-12</sup> Watts)

For ducted units, sound power is given as In Duct with end reflections added.

Stated dB(A) levels at 3m with spherical propagation at a reference level of 2 x 10<sup>-12</sup> Pa

Warranty: 2 Years

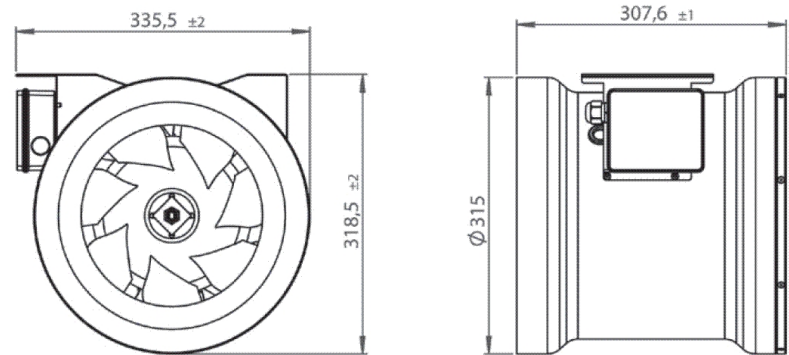
## Electrical Information

|                     |                 |
|---------------------|-----------------|
| Supply Voltage:     | 220-240V/1/50Hz |
| Full Load Current:  | 1.6 A           |
| Starting Current:   | 1.2 A           |
| Motor Poles:        | 2               |
| Motor IP Rating:    | IP54            |
| Speed Controllable: | Yes             |

## Optional Accessories

| Part No  | Description               |
|----------|---------------------------|
| 10314103 | 3 AMP SINGLE PHASE CONTRO |

Dimensions



| A   | B   | C   | D   | E   | F   | G   | H   |
|-----|-----|-----|-----|-----|-----|-----|-----|
| 310 | 335 | 220 | 455 | 190 | 210 | 182 | 178 |

Dimensions  
shown in mm  
Weights in kg