



Technical Submittal 13
Supply and Extract Fans - Site Wide

DOCUMENT STATUS

Document Status				
Revision	A (P01)	B (P02)	P03	
Date	27/09/24	11/03/25	16/04/25	
Author	J Lavelle	J Lavelle	B Dickinson	
Checked	C Edwards	A Whitworth	B Green	
Verified	D Hudson	D Hudson	D Hudson	

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Executive Summary

The purpose of this technical submittal is to provide the reader with an overview of the **XXX System** and materials to be provided within the MCFC North Stand Development.

Appended equipment schedules are as per previous revision for North Stand and Hotel, these were given Status B and so procured.

Tech sub has been amended to incorporate the commercial building fan , particularly in this tech sub as it is within the site wide tech subs on 4 projects.

The commercial building equipment schedule reference has now been included within this tech sub.

Appendix A - Basis of Design

- Document No: NSE-MEE-NS-XX-TS-M-008001 RIBA Stage 4a
Interim Revision: P01
- Document No: NSE-MEE-NS-XX-TS-M-008002 RIBA Stage 4a
Revision: P01
- Document No: NSE-MEE-NS-XX-LS-M-008001 RIBA Stage 4a Interim
Revision: P02

Appendix B - Manufacturers Details

Company Name: Flakt Group
Email: doug.hill@flaktgroup.com
Tel: 07971331954

Appendix C - Technical Literature

As per technical data attached - see appendix H.

Appendix D - Compliance

In line with the mechanical specification and equipment schedule:

- Document No: NSE-MEE-NS-XX-TS-E-008001 RIBA Stage 4a Interim
Revision: P01
- Document No: NSE-MEE-NS-XX-TS-E-008002 RIBA Stage 4a
Revision: P01
- Document No: NSE-MEE-NS-XX-LS-E-008001 RIBA Stage 4a Interim
Revision: P02

Appendix E - Non -Compliance

N/A

Appendix F - Programme

The Purpose of this technical submission is to inform the Etihad client team and professional team of SES intent regards to procurement of systems and equipment to enable input into the MEP design and therefore complete the systems MEP design.

The Technical submission is by no means intended to show full systems design by the way of MEP design drawings and schematics.

Drawings and Schematics will follow once technical submissions have reached A or B status and the technical information from within the approved submission has been inputted into the MEP design.

Appendix G - Drawing Reference

- NSE-SEE-NS-ZZ-DR-M-57XXXX
- NSE-SEE-HT-ZZ-DR-M-57XXXX
- NSE-SEE-NS-XX-LS-008308 Kitchen Extract Fans P03
- NSE-SEE-NS-XX-LS-008310 Toilet Extract Fans P03
- NSE-SEE-NS-XX-LS-M-008326 Supply Air Fan Schedule P03
- NSE-SEE-HT-XX-LS-M-008011 - Extract Fans P02
- NSE-SEE-CM-XX-LS-M-008124 - Supply & Extract Fans P01

Appendix H - Attachments

- North Stand Flakts Fans Data Sheet Page 13
- Hotel Flakts Fans Data Sheet Page 39
- Commercial Building Flakts Fans Data Sheet Page 96
- NSE-SEE-NS-XX-LS-M-008308 Kitchen Extract Fans P03
- NSE-SEE-NS-XX-LS-M-008310 - Toilet Extract Fans P03
- NSE-SEE-NS-XX-LS-M-008326 - Supply Air Fan Schedule P03
- NSE-SEE-HT-XX-LS-M-008011- Extract Fans P02
- NSE-SEE-CM-XX-LS-M-008124 - Supply & Extract Fans P01

Project : MCFC North Stand Fitout (P01) Customer : Project Code : BD-12985
Quotation : Date : 11 August 2024

Woods EC Box Fan
BD-12985-1
Woods EC Twin Fan 450 - 3Ph
TEF.3.01
Lead time may vary based on stock availability at time of order. Please refresh the lead time in the project or reselect the fan before placing an order.

PRODUCT
Model Code Woods EC Twin Fan 450 - 3Ph
Fan Diameter 450 mm
Installation Type D

PERFORMANCE
Requested Duty 840 l/s @ 190 Pa (Static)
Outlet Dynamic Pressure 16.8 Pa
Velocity 5.30 m/s

MOTOR
Motor Rating 1.01 kW [Integral Frame]
Full Load Current 1.6 A
Starting Current 1.6 A
Electrical Supply 380 - 415 Volts 50 Hz 3 Phase
Motor Winding Standard
Motor Type Class F Insulation

EFFICIENCY GRADES
Regulation 1253 - 2014
UVU Efficiency 49.0% (ErP Compliant)
Nominal Flow Rate 1.04 m³/s @ 450 Pa
Effective Input Power 0.950 kW

ENVIRONMENT
Air Density 1.2 kg/m³ / 20 °C / 0 m / 40% RH
Smoke Venting No Smoke Venting
Operating Environment Normal

RUNNING COSTS
Power from mains 0.382 KW
Energy Consumption 763.80 kWh (2,000.00 h/Year)
Running Cost / Year £190.95
CO2 per Year 268.52 kgCO2e
SFP value 0.45 W/l/s @ Actual Duty

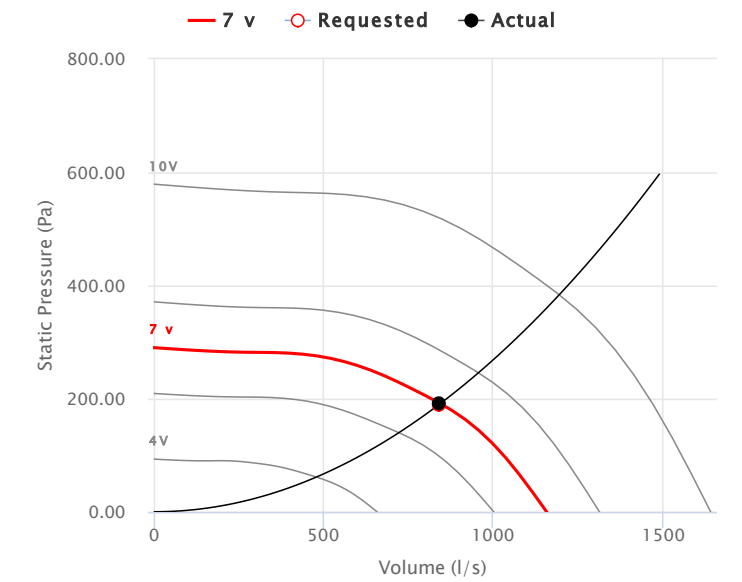
PRODUCT DIMENSIONS

Technical drawing showing dimensions for the Woods EC Twin Fan 450 - 3Ph. Dimensions include 1200mm width, 450mm height, 131kg weight, and 10mm Ø mounting holes. A note states: 'This drawing shows dimensions that should be used as a guide only and are subject to change. Certified drawings are available on request.'

MECHANICAL
Operating Temperatures 0 °C to 50 °C (95% Max Relative Humidity)
Weight 131kg

COMMENTS

FAN PERFORMANCE CURVE



ACOUSTICS

Table with 12 columns: Sound Spectrum (Hz) [63, 125, 250, 500, 1k, 2k, 4k, 8k], Overall [Lw*, LwA*], Distance (3 m) [LpA @ 3 m **]. Rows include Inlet, Outlet, and Breakout noise data.

FAN & ACCESSORIES

Table with 4 columns: Item Description, Part Number, Qty, Lead-Time. Rows include Woods EC Twin Fan 450 - 3Ph and Lang_RubberWoodsBox.

Project : MCFC North Stand Fitout (P01)

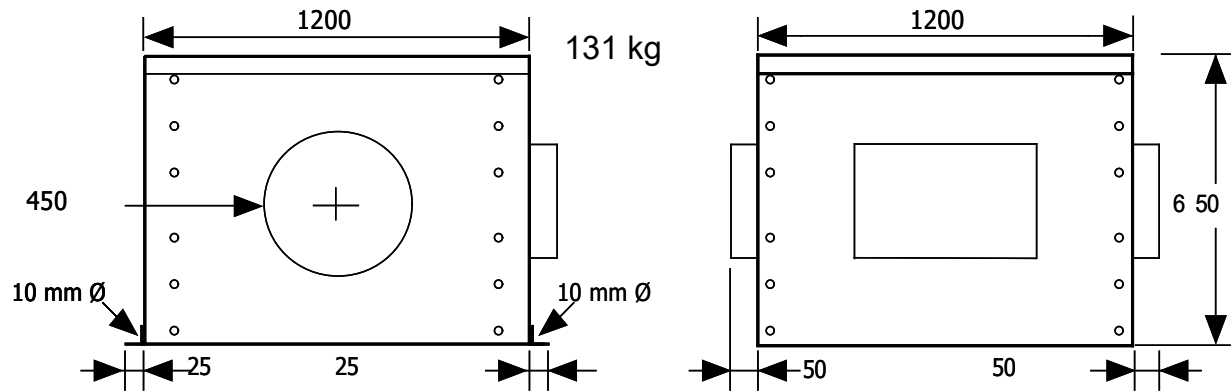
Customer :

Project Code : BD-12985

Quotation :

Date : 11 August 2024

PRODUCT DIMENSIONS



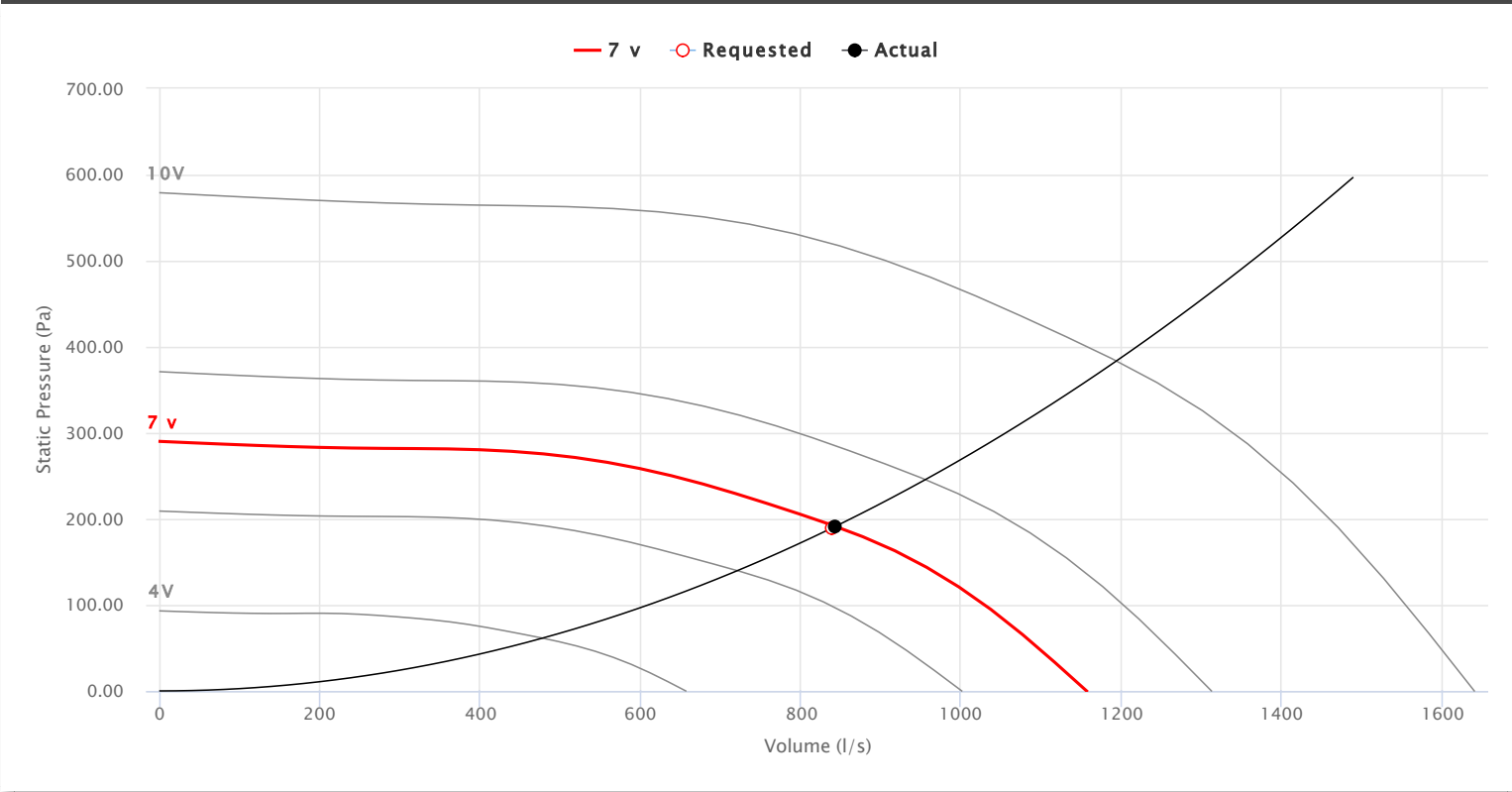
ACCESSORY DIMENSIONS

Project : MCFC North Stand Fitout (P01)
Quotation :

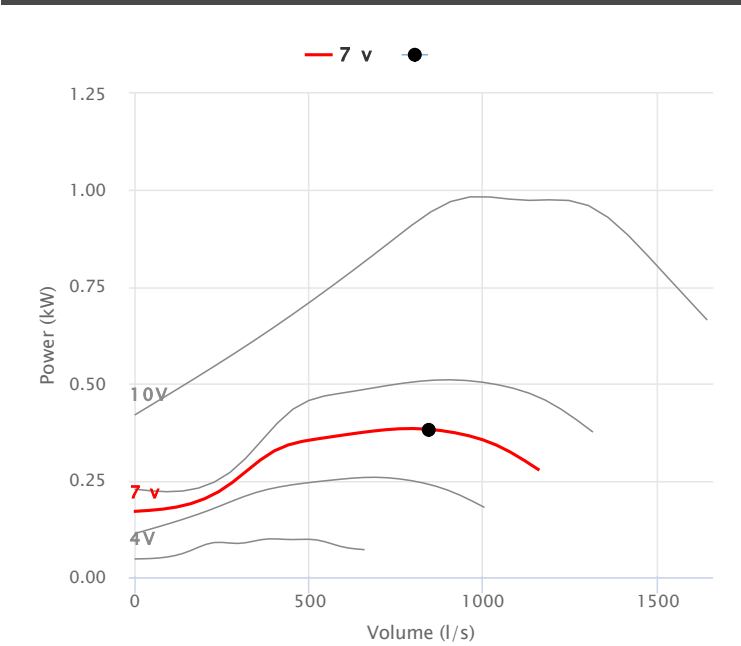
Customer :

Project Code : BD-12985
Date : 11 August 2024

AERODYNAMIC



POWER CHART



EFFICIENCY CHART

ACOUSTICS

	Sound Spectrum (Hz)								Overall	
	63	125	250	500	1k	2k	4k	8k	Lw*	LpA @ 3 m **
Inlet	60	64	63	63	58	59	51	41	69	44
Outlet	61	65	63	66	68	66	57	46	73	51
Breakout	45	51	46	43	41	30	<20	<20	53	24

Sound Data At Requested Duty .

* Lw dB re 10⁻¹² W

** dBA re 2x10⁻⁵ Pa

Project : MCFC North Stand Fitout (P01) Customer : Project Code : BD-12985
Quotation : Date : 11 August 2024

Woods EC Box Fan
BD-12985-2
Woods EC Twin Fan 450 - 3Ph
TEF.3.02
Lead time may vary based on stock availability at time of order. Please refresh the lead time in the project or reselect the fan before placing an order.

Table with 2 columns: Product, Details. Rows include Model Code, Fan Diameter, and Installation.

Table with 2 columns: Performance, Details. Rows include Requested Duty, Outlet Dynamic Pressure, and Velocity.

Table with 2 columns: Motor, Details. Rows include Motor Rating, Full Load Current, Starting Current, Electrical Supply, Motor Winding, and Motor Type.

Table with 2 columns: Efficiency Grades, Details. Rows include Regulation 1253 - 2014, UVU Efficiency, Nominal Flow Rate, and Effective Input Power.

Table with 2 columns: Environment, Details. Rows include Air Density, Smoke Venting, and Operating Environment.

Table with 2 columns: Running Costs, Details. Rows include Power from mains, Energy Consumption, Running Cost / Year, CO2 per Year, and SFP value.

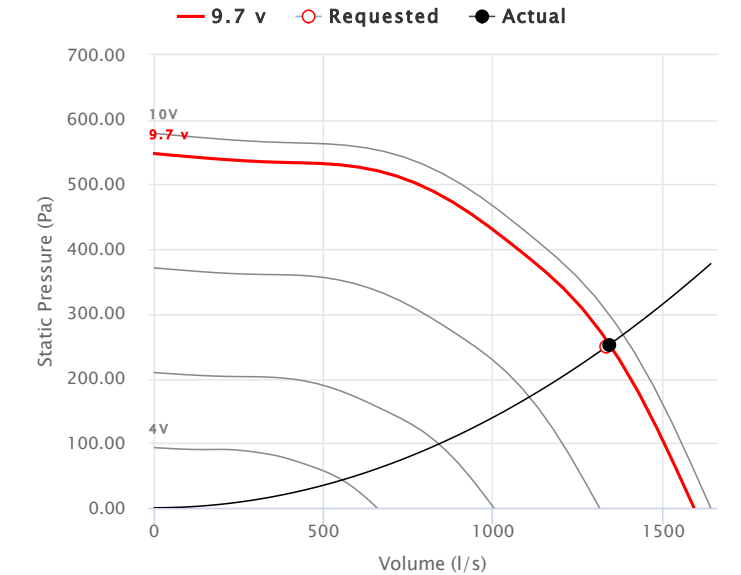
PRODUCT DIMENSIONS

Technical drawing showing front and side views of the fan with dimensions (1200, 450, 131 kg, etc.) and a note: 'This drawing shows dimensions that should be used as a guide only and are subject to change. Certified drawings are available on request.'

Table with 2 columns: Mechanical, Details. Rows include Operating Temperatures and Weight.

COMMENTS

FAN PERFORMANCE CURVE



ACOUSTICS

Table with 3 main sections: Sound Spectrum (Hz), Overall, and Distance (3 m). Rows include Inlet, Outlet, and Breakout data.

Sound Data At Requested Duty. * Lw dB re 10 -12 W ** dBA re 2x10 -5 Pa

FAN & ACCESSORIES

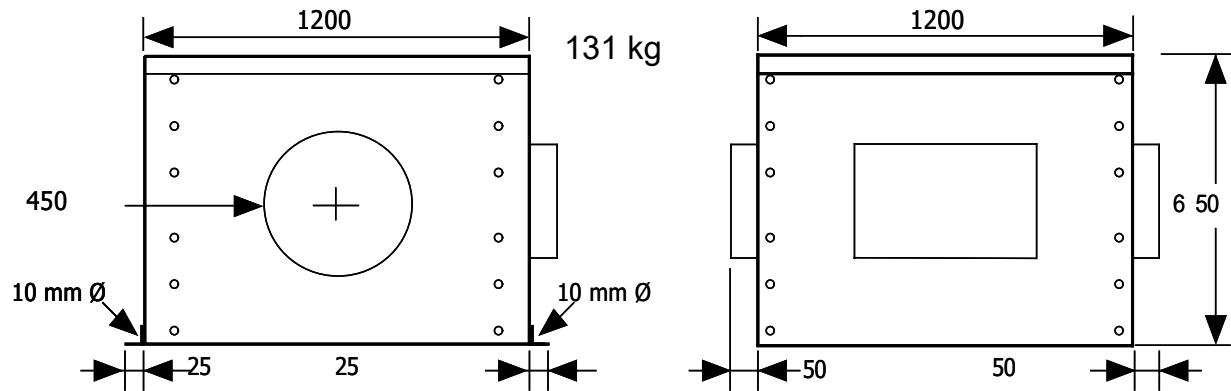
Table with 4 columns: Item Description, Part Number, Qty, Lead-Time. Rows include Woods EC Twin Fan 450 - 3Ph and Lang_RubberWoodsBox.

Project : MCFC North Stand Fitout (P01) Customer :

Quotation :

Project Code : BD-12985
Date : 11 August 2024

PRODUCT DIMENSIONS



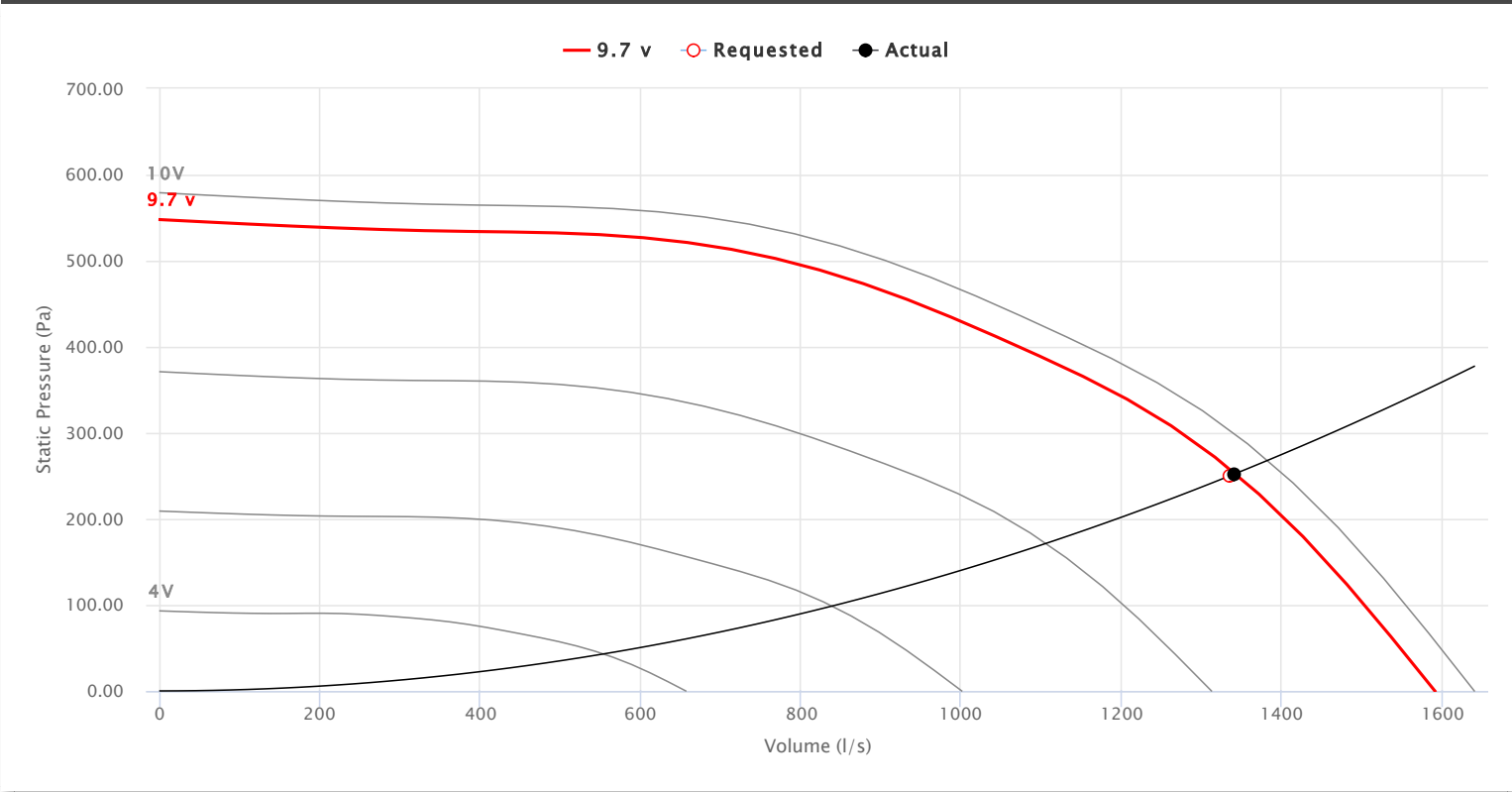
ACCESSORY DIMENSIONS

Project : MCFC North Stand Fitout (P01)
Quotation :

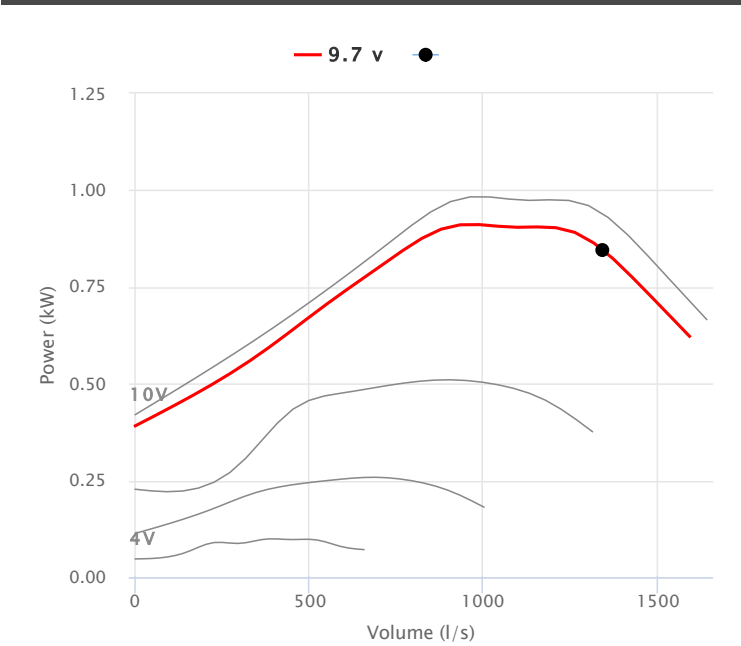
Customer :

Project Code : BD-12985
Date : 11 August 2024

AERODYNAMIC



POWER CHART



EFFICIENCY CHART

ACOUSTICS

	Sound Spectrum (Hz)								Overall	
	63	125	250	500	1k	2k	4k	8k	Lw*	LpA @ 3 m **
Inlet	66	70	70	71	65	67	60	53	77	52
Outlet	67	71	71	74	75	74	66	58	81	59
Breakout	51	57	54	51	48	38	25	<20	61	32

Sound Data At Requested Duty .

* Lw dB re 10⁻¹² W

** dBA re 2x10⁻⁵ Pa

Project : MCFC North Stand Fitout (P01) Customer : Project Code : BD-12985
Quotation : Date : 11 August 2024

Woods EC Box Fan
BD-12985-3
Woods EC Twin Fan 450 - 3Ph
TEF.3.03
Lead time may vary based on stock availability at time of order. Please refresh the lead time in the project or reselect the fan before placing an order.

PRODUCT
Model Code Woods EC Twin Fan 450 - 3Ph
Fan Diameter 450 mm
Installation Type D

PERFORMANCE
Requested Duty 1280 l/s @ 250 Pa (Static)
Outlet Dynamic Pressure 39.0 Pa
Velocity 8.06 m/s

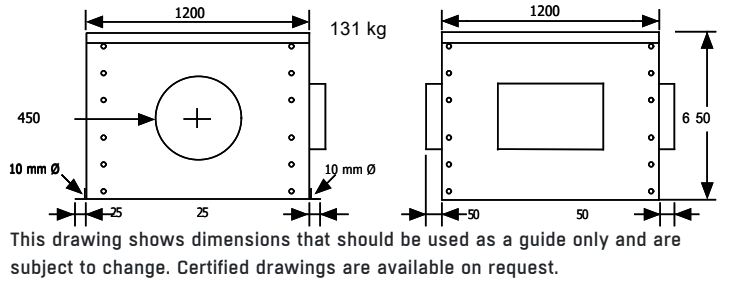
MOTOR
Motor Rating 1.01 kW [Integral Frame]
Full Load Current 1.6 A
Starting Current 1.6 A
Electrical Supply 380 - 415 Volts 50 Hz 3 Phase
Motor Winding Standard
Motor Type Class F Insulation

EFFICIENCY GRADES
Regulation 1253 - 2014
UVU Efficiency 49.0% (ErP Compliant)
Nominal Flow Rate 1.04 m³/s @ 450 Pa
Effective Input Power 0.950 kW

ENVIRONMENT
Air Density 1.2 kg/m³ / 20 °C / 0 m / 40% RH
Smoke Venting No Smoke Venting
Operating Environment Normal

RUNNING COSTS
Power from mains 0.792 kW
Energy Consumption 1,584.60 kWh (2,000.00 h/Year)
Running Cost / Year £396.15
CO2 per Year 557.08 kgCO2e
SFP value 0.62 W/l/s @ Actual Duty

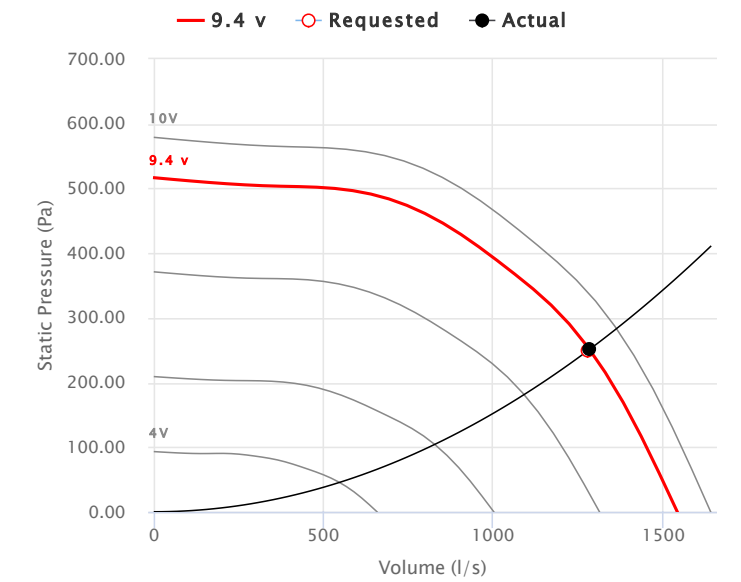
PRODUCT DIMENSIONS



MECHANICAL
Operating Temperatures 0 °C to 50 °C (95% Max Relative Humidity)
Weight 131kg

COMMENTS

FAN PERFORMANCE CURVE



ACOUSTICS

Table with 12 columns: Sound Spectrum (Hz) [63, 125, 250, 500, 1k, 2k, 4k, 8k], Overall [Lw*, LwA*], Distance (3 m) [LpA @ 3 m **]. Rows include Inlet, Outlet, and Breakout data.

Sound Data At Requested Duty. * Lw dB re 10 -12 W ** dBA re 2x10 -5 Pa

FAN & ACCESSORIES

Table with 4 columns: Item Description, Part Number, Qty, Lead-Time. Rows include Woods EC Twin Fan 450 - 3Ph and Lang_RubberWoodsBox.

Project : MCFC North Stand Fitout (P01)

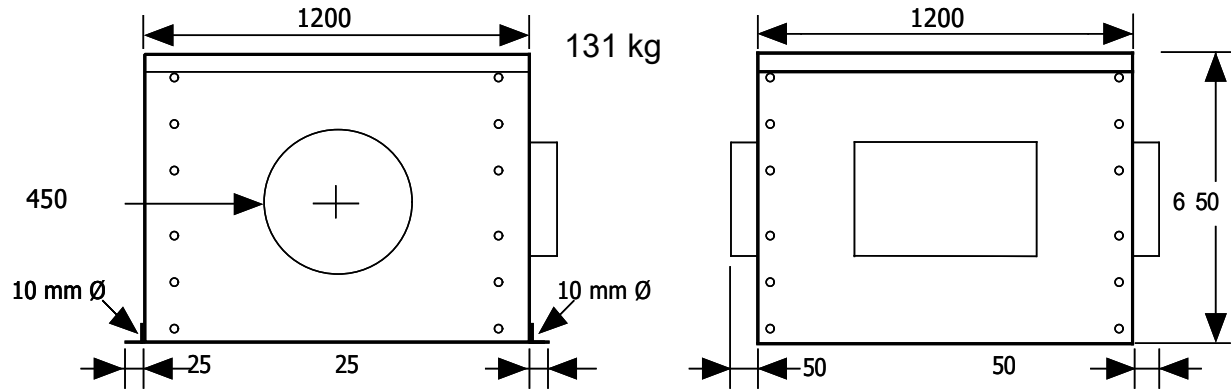
Customer :

Project Code : BD-12985

Date : 11 August 2024

Quotation :

PRODUCT DIMENSIONS



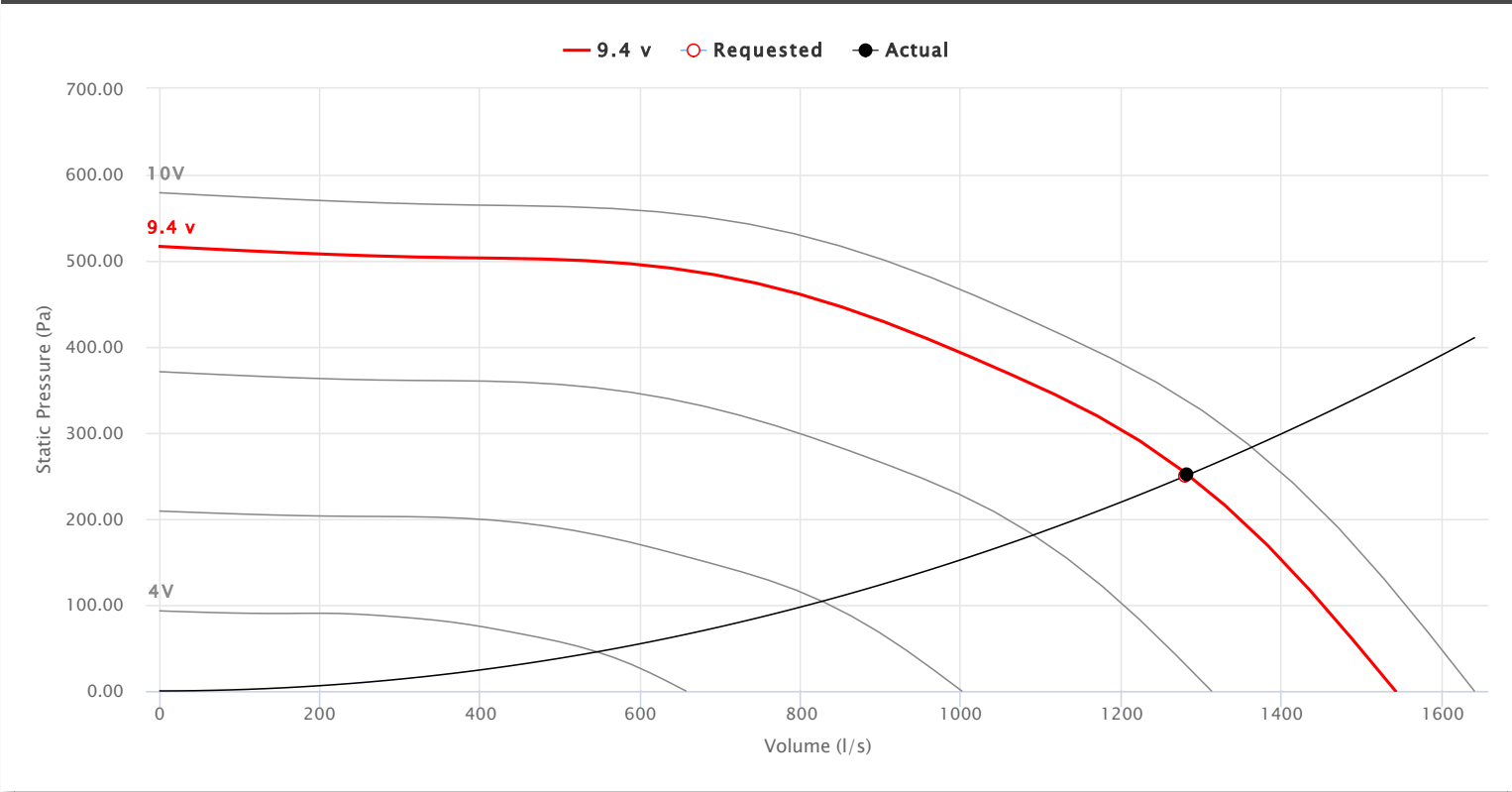
ACCESSORY DIMENSIONS

Project : MCFC North Stand Fitout (P01)
Quotation :

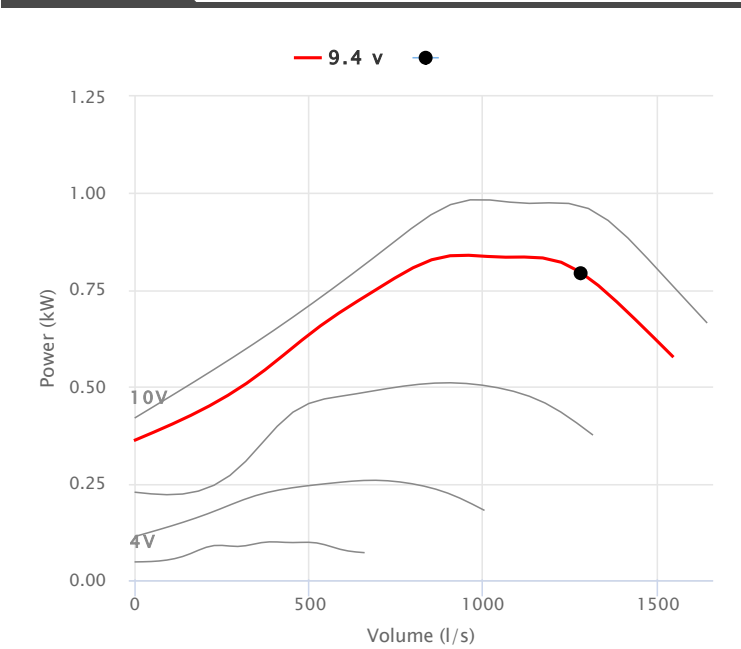
Customer :

Project Code : BD-12985
Date : 11 August 2024

AERODYNAMIC



POWER CHART



EFFICIENCY CHART

ACOUSTICS

	Sound Spectrum (Hz)								Overall	
	63	125	250	500	1k	2k	4k	8k	Lw*	LpA @ 3 m **
Inlet	66	70	70	70	65	66	59	52	76	51
Outlet	67	71	70	73	75	73	65	57	80	58
Breakout	51	57	53	50	48	37	24	<20	60	31

Sound Data At Requested Duty . * Lw dB re 10⁻¹² W ** dBA re 2x10⁻⁵ Pa

Project : MCFC North Stand Fitout (P01) Customer : Project Code : BD-12985
Quotation : Date : 11 August 2024

Woods EC Box Fan
BD-12985-4
Woods EC Twin Fan 450 - 3Ph
TEF.3.04
Lead time may vary based on stock availability at time of order. Please refresh the lead time in the project or reselect the fan before placing an order.

Table with 2 columns: Product, Details. Rows include Model Code (Woods EC Twin Fan 450 - 3Ph), Fan Diameter (450 mm), and Installation (Type D).

Table with 2 columns: Performance, Details. Rows include Requested Duty (1280 l/s @ 250 Pa (Static)), Outlet Dynamic Pressure (39.0 Pa), and Velocity (8.06 m/s).

Table with 2 columns: Motor, Details. Rows include Motor Rating (1.01 kW [Integral Frame]), Full Load Current (1.6 A), Starting Current (1.6 A), Electrical Supply (380 - 415 Volts 50 Hz 3 Phase), Motor Winding (Standard), and Motor Type (Class F Insulation).

Table with 2 columns: Efficiency Grades, Details. Rows include Regulation 1253 - 2014, UVU Efficiency (49.0% (ErP Compliant) ✓), Nominal Flow Rate (1.04 m³/s @ 450 Pa), and Effective Input Power (0.950 kW).

Table with 2 columns: Environment, Details. Rows include Air Density (1.2 kg/m³ / 20 °C / 0 m / 40% RH), Smoke Venting (No Smoke Venting), and Operating Environment (Normal).

Table with 2 columns: Running Costs, Details. Rows include Power from mains (0.792 KW), Energy Consumption (1,584.60 kWh (2,000.00 h/Year)), Running Cost / Year (£396.15), CO2 per Year (557.08 kgCO2e), and SFP value (0.62 W/l/s @ Actual Duty).

PRODUCT DIMENSIONS

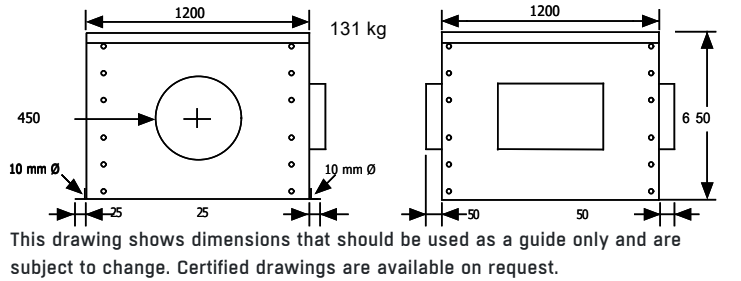
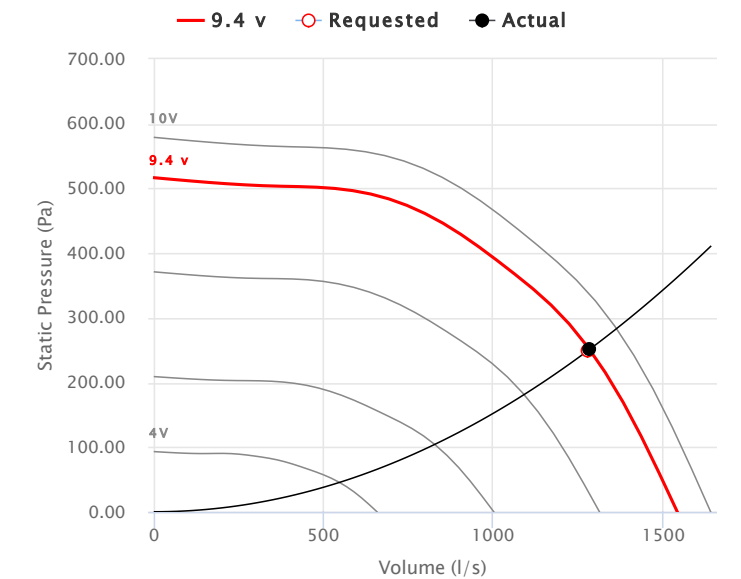


Table with 2 columns: Mechanical, Details. Rows include Operating Temperatures (0 °C to 50 °C (95% Max Relative Humidity)) and Weight (131kg).

COMMENTS

FAN PERFORMANCE CURVE



ACOUSTICS

Table with 3 columns: Sound Spectrum (Hz), Overall, and Distance (3 m). Rows include Inlet, Outlet, and Breakout noise levels across various frequencies (63, 125, 250, 500, 1k, 2k, 4k, 8k Hz) and overall levels (Lw*, LwA*, LpA @ 3 m **).

Sound Data At Requested Duty. * Lw dB re 10 -12 W ** dBA re 2x10 -5 Pa

FAN & ACCESSORIES

Table with 4 columns: Item Description, Part Number, Qty, and Lead-Time. Rows include Woods EC Twin Fan 450 - 3Ph (Part Number: EC450312, Qty: 1, Lead-Time: Enquire) and Lang_RubberWoodsBox (Part Number: 912899, Qty: 1, Lead-Time: Enquire).

Project : MCFC North Stand Fitout (P01)

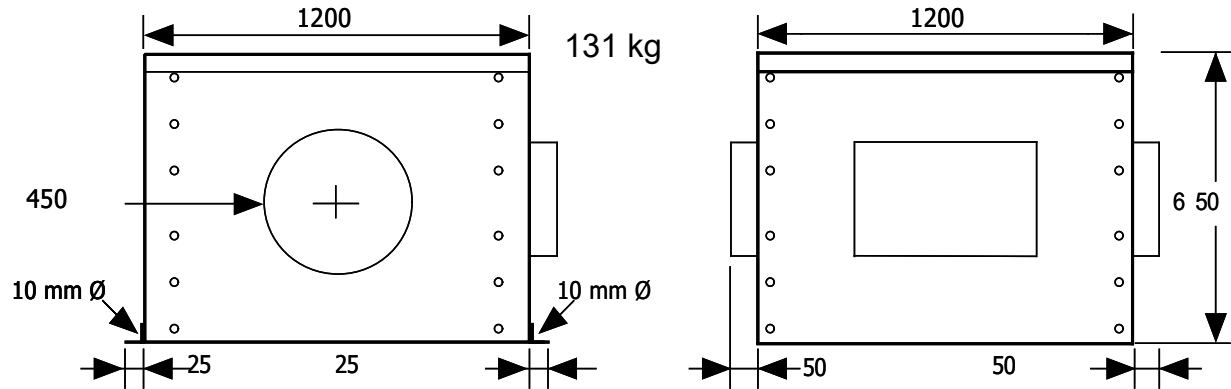
Customer :

Project Code : BD-12985

Date : 11 August 2024

Quotation :

PRODUCT DIMENSIONS



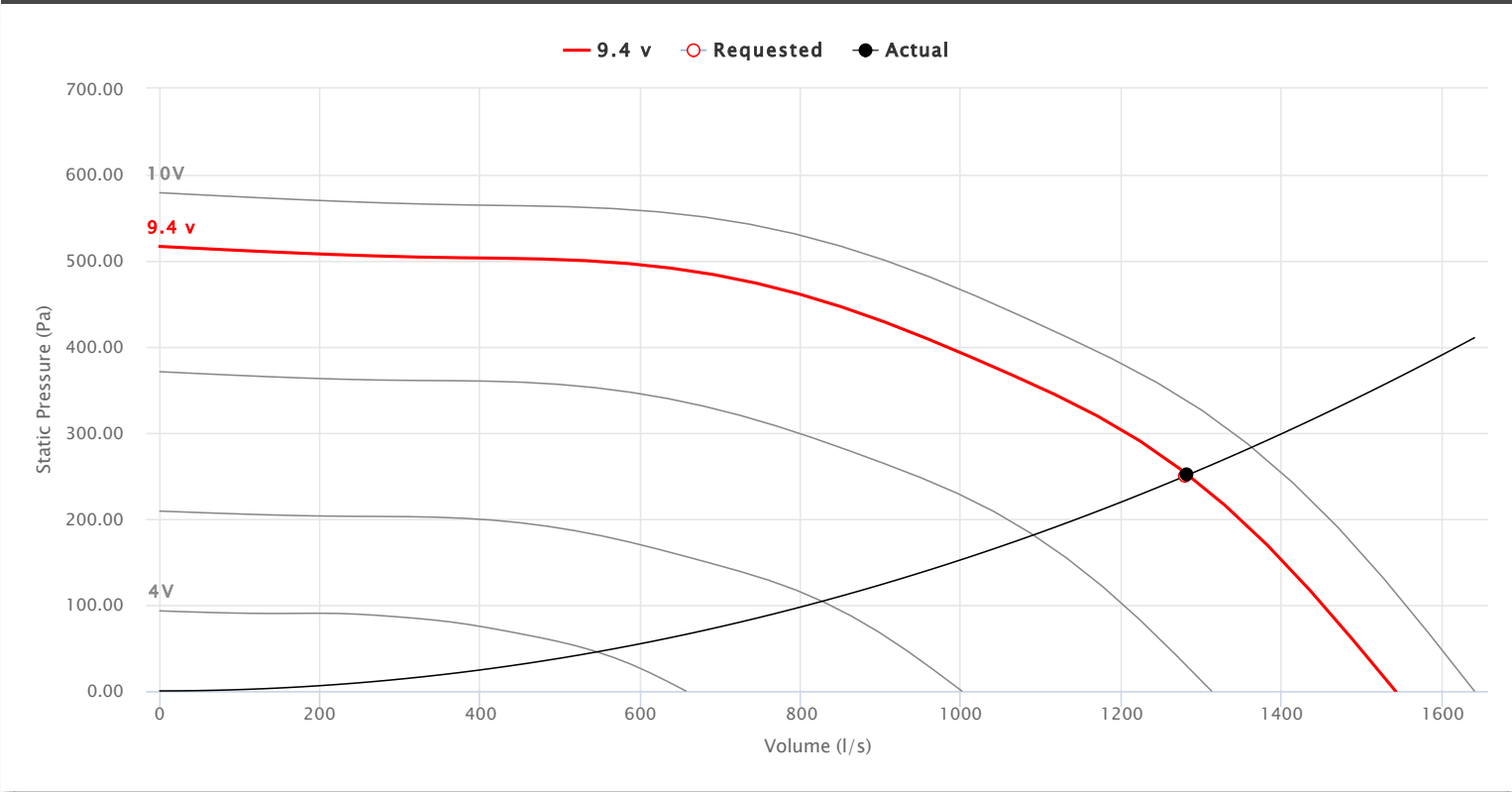
ACCESSORY DIMENSIONS

Project : MCFC North Stand Fitout (P01)
Quotation :

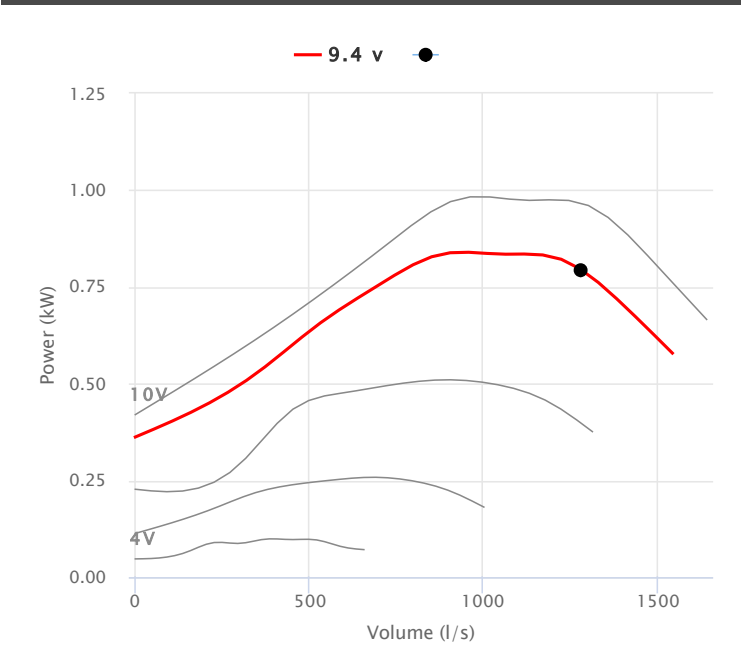
Customer :

Project Code : BD-12985
Date : 11 August 2024

AERODYNAMIC



POWER CHART



EFFICIENCY CHART

ACOUSTICS

	Sound Spectrum (Hz)								Overall	
	63	125	250	500	1k	2k	4k	8k	Lw*	LpA @ 3 m **
Inlet	66	70	70	70	65	66	59	52	76	51
Outlet	67	71	70	73	75	73	65	57	80	58
Breakout	51	57	53	50	48	37	24	<20	60	31

Sound Data At Requested Duty . * Lw dB re 10⁻¹² W ** dBA re 2x10⁻⁵ Pa

Project : MCFC North Stand Fitout (P01) Customer : Project Code : BD-12985
Quotation : Date : 11 August 2024

Woods EC Box Fan
BD-12985-6
Woods EC Twin Fan 450 - 3Ph
TEF.3.05
Lead time may vary based on stock availability at time of order. Please refresh the lead time in the project or reselect the fan before placing an order.

Table with 2 columns: Product, Details. Rows include Model Code, Fan Diameter, and Installation.

Table with 2 columns: Performance, Details. Rows include Requested Duty, Outlet Dynamic Pressure, and Velocity.

Table with 2 columns: Motor, Details. Rows include Motor Rating, Full Load Current, Starting Current, Electrical Supply, Motor Winding, and Motor Type.

Table with 2 columns: Efficiency Grades, Details. Rows include Regulation 1253 - 2014, UVU Efficiency, Nominal Flow Rate, and Effective Input Power.

Table with 2 columns: Environment, Details. Rows include Air Density, Smoke Venting, and Operating Environment.

Table with 2 columns: Running Costs, Details. Rows include Power from mains, Energy Consumption, Running Cost / Year, CO2 per Year, and SFP value.

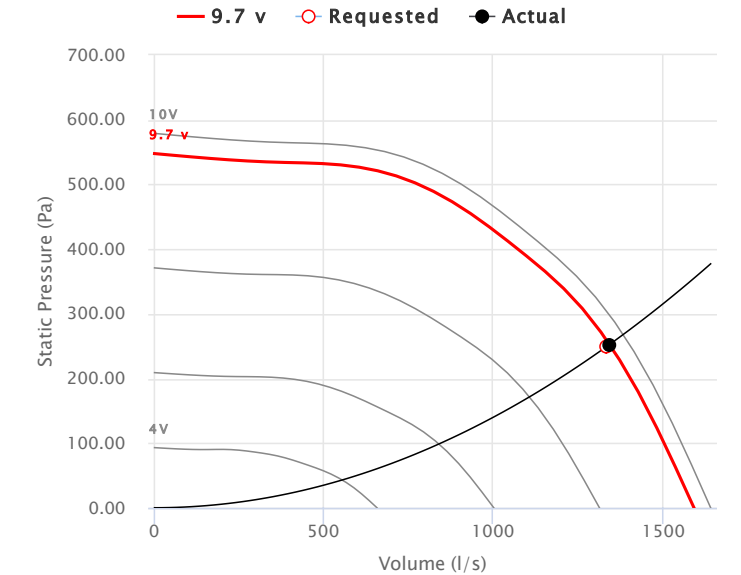
PRODUCT DIMENSIONS

Technical drawing showing front and side views of the fan with dimensions (1200, 450, 131 kg, etc.) and a note about certified drawings.

Table with 2 columns: Mechanical, Details. Rows include Operating Temperatures and Weight.

COMMENTS

FAN PERFORMANCE CURVE



ACOUSTICS

Table with 3 columns: Sound Spectrum (Hz), Overall, Distance (3 m). Rows include Inlet, Outlet, and Breakout noise data.

Sound Data At Requested Duty. * Lw dB re 10 -12 W ** dBA re 2x10 -5 Pa

FAN & ACCESSORIES

Table with 4 columns: Item Description, Part Number, Qty, Lead-Time. Rows include Woods EC Twin Fan 450 - 3Ph and Lang_RubberWoodsBox.

Project : MCFC North Stand Fitout (P01)

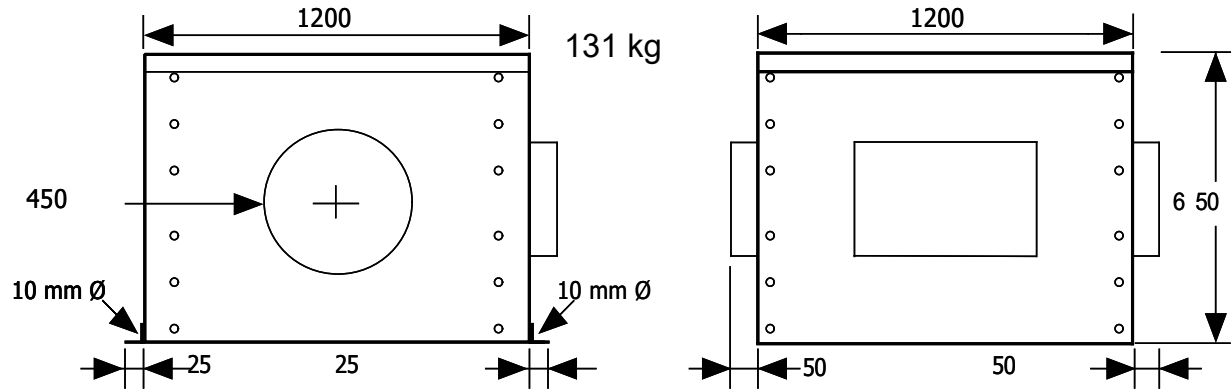
Customer :

Project Code : BD-12985

Date : 11 August 2024

Quotation :

PRODUCT DIMENSIONS



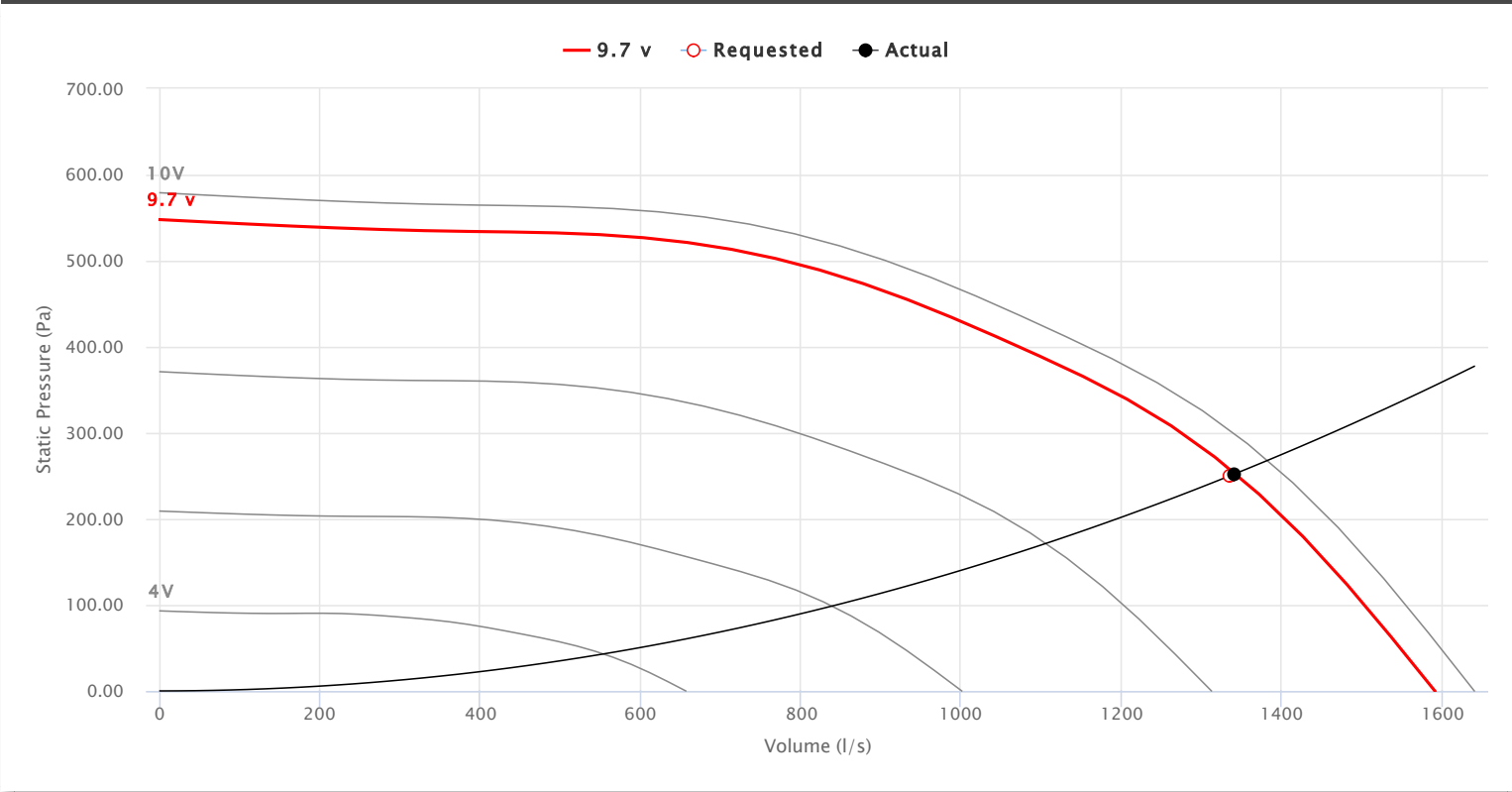
ACCESSORY DIMENSIONS

Project : MCFC North Stand Fitout (P01)
Quotation :

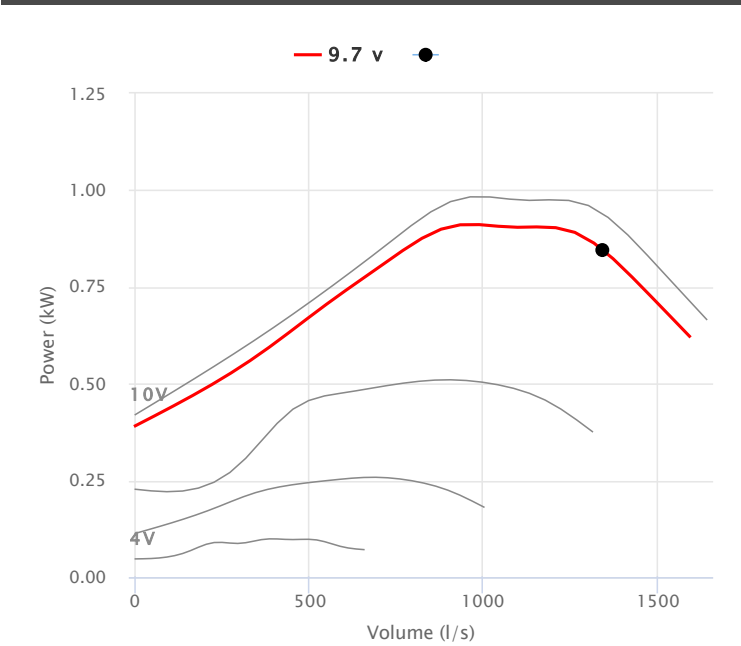
Customer :

Project Code : BD-12985
Date : 11 August 2024

AERODYNAMIC



POWER CHART



EFFICIENCY CHART

ACOUSTICS

	Sound Spectrum (Hz)								Overall	
	63	125	250	500	1k	2k	4k	8k	Lw*	LpA @ 3 m **
Inlet	66	70	70	71	65	67	60	53	77	52
Outlet	67	71	71	74	75	74	66	58	81	59
Breakout	51	57	54	51	48	38	25	<20	61	32

Sound Data At Requested Duty .

* Lw dB re 10⁻¹² W

** dBA re 2x10⁻⁵ Pa

Project : MCFC North Stand Fitout (P01) Customer : Project Code : BD-12985
Quotation : Date : 11 August 2024

Woods EC Box Fan
BD-12985-5
Woods EC Twin Fan 450 - 3Ph
TEF.4.06
Lead time may vary based on stock availability at time of order. Please refresh the lead time in the project or reselect the fan before placing an order.

PRODUCT
Model Code Woods EC Twin Fan 450 - 3Ph
Fan Diameter 450 mm
Installation Type D

PERFORMANCE
Requested Duty 840 l/s @ 190 Pa (Static)
Outlet Dynamic Pressure 16.8 Pa
Velocity 5.30 m/s

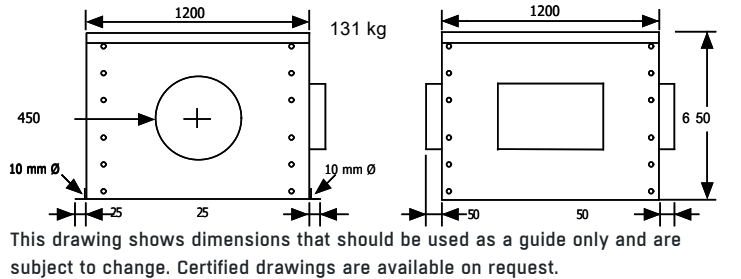
MOTOR
Motor Rating 1.01 kW [Integral Frame]
Full Load Current 1.6 A
Starting Current 1.6 A
Electrical Supply 380 - 415 Volts 50 Hz 3 Phase
Motor Winding Standard
Motor Type Class F Insulation

EFFICIENCY GRADES
Regulation 1253 - 2014
UVU Efficiency 49.0% (ErP Compliant)
Nominal Flow Rate 1.04 m³/s @ 450 Pa
Effective Input Power 0.950 kW

ENVIRONMENT
Air Density 1.2 kg/m³ / 20 °C / 0 m / 40% RH
Smoke Venting No Smoke Venting
Operating Environment Normal

RUNNING COSTS
Power from mains 0.382 KW
Energy Consumption 763.80 kWh (2,000.00 h/Year)
Running Cost / Year £190.95
CO2 per Year 268.52 kgCO2e
SFP value 0.45 W/l/s @ Actual Duty

PRODUCT DIMENSIONS

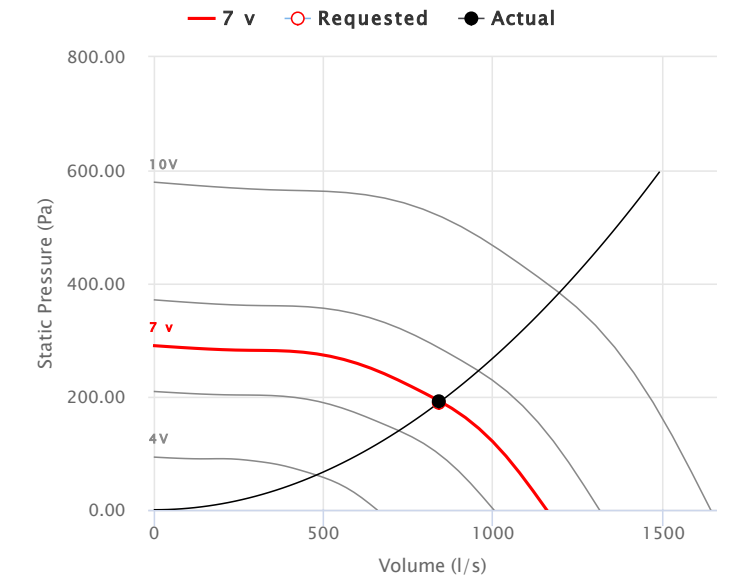


This drawing shows dimensions that should be used as a guide only and are subject to change. Certified drawings are available on request.

MECHANICAL
Operating Temperatures 0 °C to 50 °C (95% Max Relative Humidity)
Weight 131kg

COMMENTS

FAN PERFORMANCE CURVE



ACOUSTICS

Table with 12 columns: Sound Spectrum (Hz) [63, 125, 250, 500, 1k, 2k, 4k, 8k], Overall [Lw*, LwA*], Distance (3 m) [LpA @ 3 m **]. Rows include Inlet, Outlet, and Breakout noise data.

FAN & ACCESSORIES

Table with 4 columns: Item Description, Part Number, Qty, Lead-Time. Rows include Woods EC Twin Fan 450 - 3Ph and Lang_RubberWoodsBox.

Project : MCFC North Stand Fitout (P01)

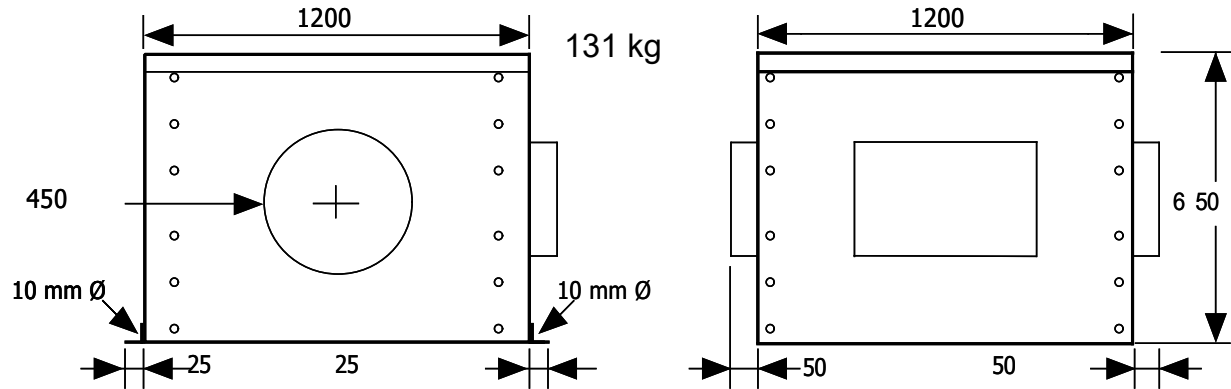
Customer :

Project Code : BD-12985

Date : 11 August 2024

Quotation :

PRODUCT DIMENSIONS



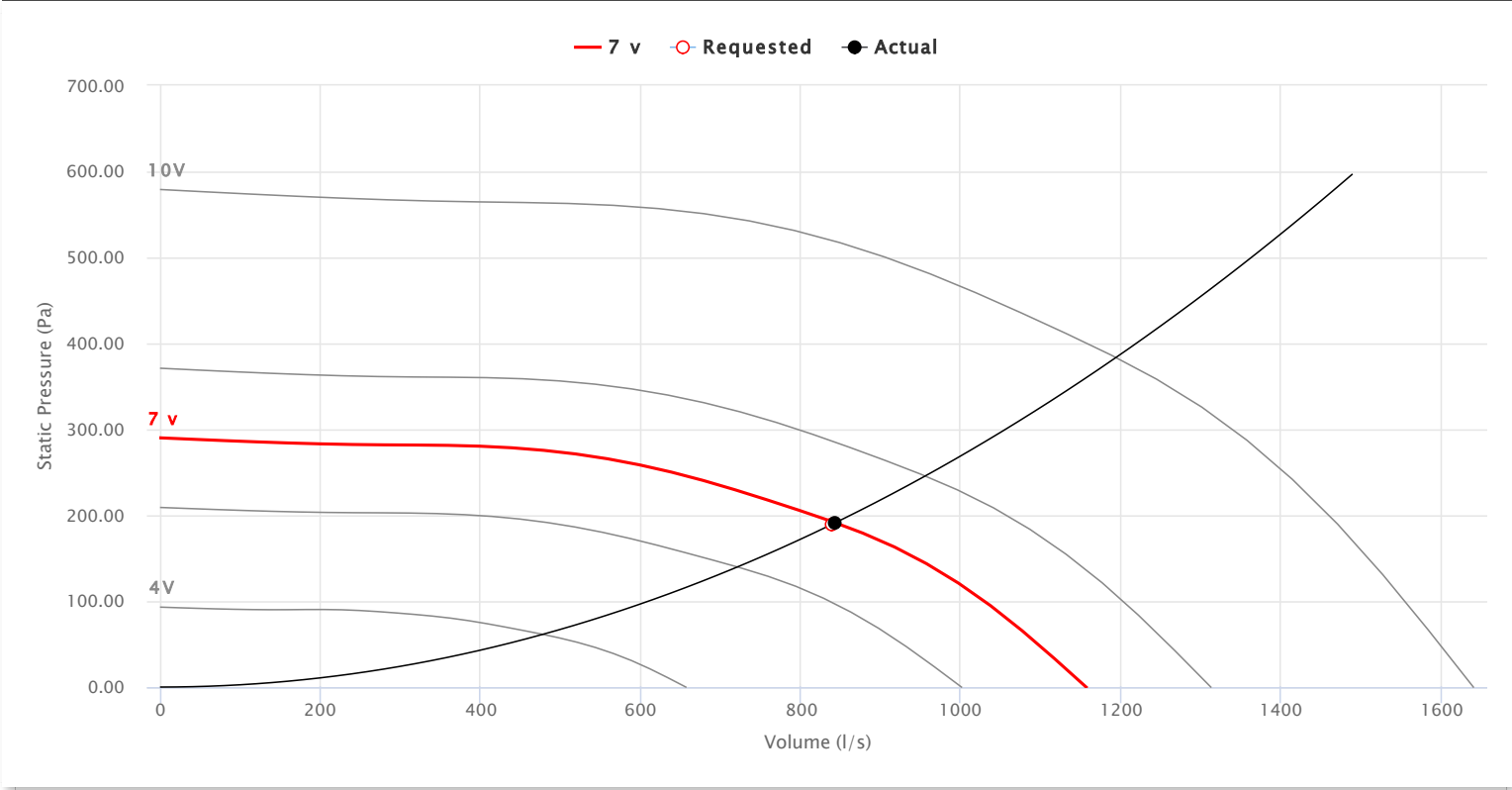
ACCESSORY DIMENSIONS

Project : MCFC North Stand Fitout (P01)
Quotation :

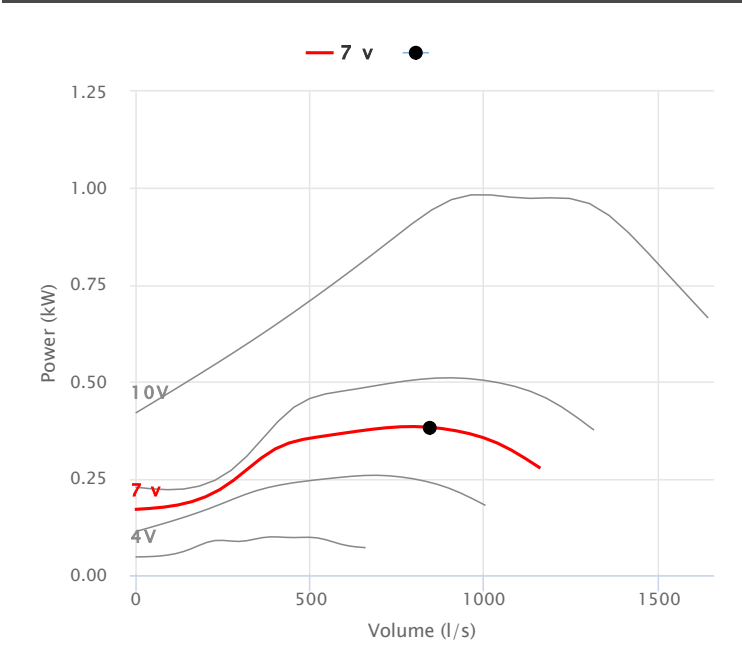
Customer :

Project Code : BD-12985
Date : 11 August 2024

AERODYNAMIC



POWER CHART



EFFICIENCY CHART

ACOUSTICS

	Sound Spectrum (Hz)								Overall	
	63	125	250	500	1k	2k	4k	8k	Lw*	LpA @ 3 m **
Inlet	60	64	63	63	58	59	51	41	69	44
Outlet	61	65	63	66	68	66	57	46	73	51
Breakout	45	51	46	43	41	30	<20	<20	53	24

Sound Data At Requested Duty .

* Lw dB re 10⁻¹² W

** dBA re 2x10⁻⁵ Pa

Project	Customer :	Project Code : BD-14102
: MCFC North Expansion - Supply Fans		
Quotation :		Date : 26 September 2024

Sales Contact :	Line Items:
	Quantity of Products:

Reference	Product Code	Qty	KW	Motor	SFP	dBA	Efficiency	FLC	Temperature	Duty
SAF.1.01-02 & SAF.1.03-04 (1Phase)	ePowerBox EC 67-400-1-4 (G.5FA)	2	1.04 kW	Integral	0.31	72 dBW	-	4.6	Standard	1,010 l/s @ 153 Pa (Static)
KEF.3.01 & KEF.3.02 & KEF.3.03 & KEF.3.04	50JM.BIF/20/2/6/8	4	2.20 kW - [IE3]	90S/L	1.14	98 dBW	53.7	4.43	Standard	610 l/s @ 400 Pa (Static)
EF.0.01	eSabina EC 400mm (Compact)	1	0.420 kW - [IE4]	Integral	0.44	68 dBW	-	1.86	Standard	576 l/s @ 151 Pa (Static)
EF.0.02	eSabina EC 355mm (Compact)	1	0.290 kW - [IE4]	Integral	0.41	78 dBW	-	1.3	Standard	323 l/s @ 153 Pa (Static)
EF.0.04	eSabina EC 400mm (Compact)	1	0.420 kW - [IE4]	Integral	0.39	67 dBW	-	1.86	Standard	285 l/s @ 152 Pa (Static)

Project	Customer :	Project Code : BD-14102
: MCFC North Expansion - Supply Fans		
Quotation :		Date : 26 September 2024



Lang_ESTOC
BD-14102-1

ePowerBox EC 67-400-1-4
(G.5FA)
SAF.1.01-02 & SAF.1.03-04
(1Phase)
18 weeks - (Fan Only)
Lead time may vary based on stock availability at time of order. Please refresh the lead time in the project or reselect the fan before placing an order.

PRODUCT	
Model Code	ePowerBox EC 67-400-1-4 (G.5FA)
Fan Diameter	400 mm
Installation	Type D

PERFORMANCE	
Requested Duty	1,000 l/s @ 150 Pa (Static)
Outlet Dynamic Pressure	38.7 Pa
Velocity	8.03 m/s

MOTOR	
Motor Rating	1.04 kW [Integral Frame - 4 Pole]
Full Load Current	4.6 A
Starting Current	0 A
Electrical Supply	220 - 240 Volts 50 Hz 1 Phase
Motor Winding	Standard
Motor Type	Class F Insulation

EFFICIENCY GRADES	
Regulation 1253 - 2014	
UVU Efficiency	61.2% (ErP Compliant) ✓
Nominal Flow Rate	1.20 m³/s @ 528 Pa
Effective Input Power	1.03 kW
Nominal RPM	1875 rpm
Internal Fan Efficiency	60.5%

ENVIRONMENT	
Air Density	1.2 kg/m³ / 20 °C / 0 m / 40% RH
Smoke Venting	No Smoke Venting
Operating Environment	Normal

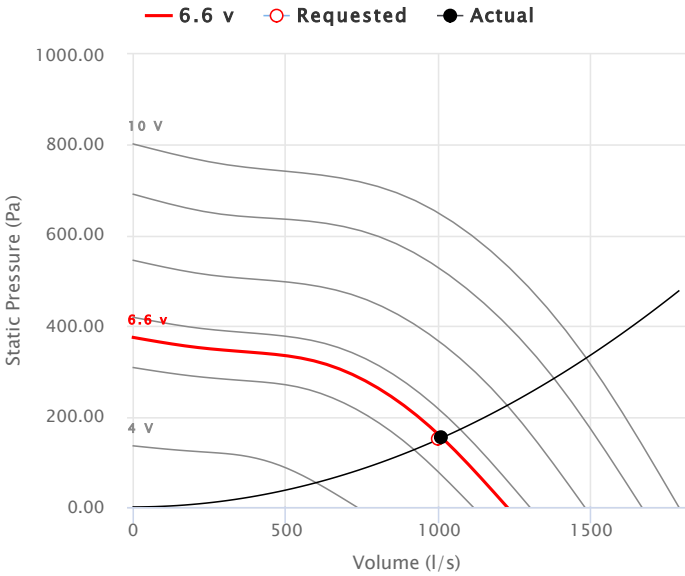
RUNNING COSTS	
Power from mains	0.309 KW
Energy Consumption	617.55 kWh (2,000.00 h/Year)
Running Cost / Year	£154.39
CO2 per Year	217.11 kgCO2e
SFP value	0.31 W/l/s @ Actual Duty

PRODUCT DIMENSIONS	
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MECHANICAL	
Operating Temperatures	0 °C to 40 °C (95% Max Relative Humidity)
Weight	42.5kg

COMMENTS	
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FAN PERFORMANCE CURVE	
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ACOUSTICS											
Sound Spectrum (Hz)									Overall		Distance (3 m)
	63	125	250	500	1k	2k	4k	8k	Lw*	LwA*	LpA @ 3 m **
Inlet	37	46	59	61	60	58	53	47	72	66	46
Outlet	37	55	63	64	64	63	57	51	76	70	50
Breakout	33	40	46	37	37	29	22	<20	62	48	28
Sound Data At Requested Duty.					* Lw dB re 10 ⁻¹² W					** dBA re 2x10 ⁻⁵ Pa	

FAN & ACCESSORIES			
Item Description	Part Number	Qty	Lead-Time
ePowerBox EC 67-400-1-4 (G.5FA)	BE400009	2	18 Weeks
Mounting Track	BI101136	2	18 Weeks
Flexible Connector Square	BI101031	4	18 Weeks
Lang_Sensor_MTCUnit	862118	2	18 Weeks

42.5 kg

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

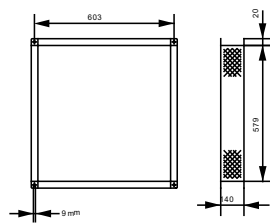
Project	Customer :	Project Code : BD-14102
: MCFC North Expansion - Supply Fans		
Quotation :		Date : 26 September 2024

PRODUCT DIMENSIONS

42.5 kg

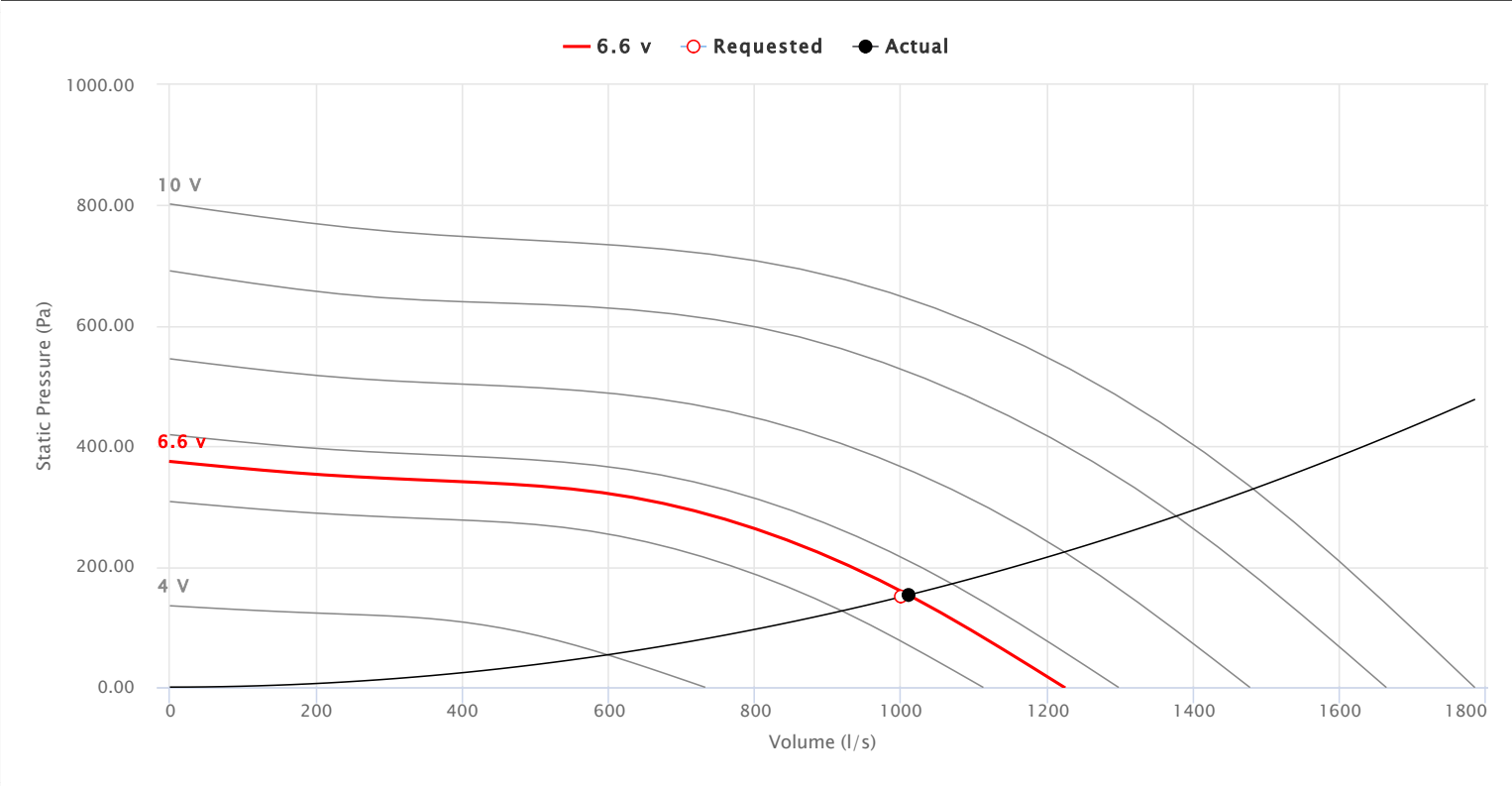
ACCESSORY DIMENSIONS

FLEXIBLE CONNECTOR

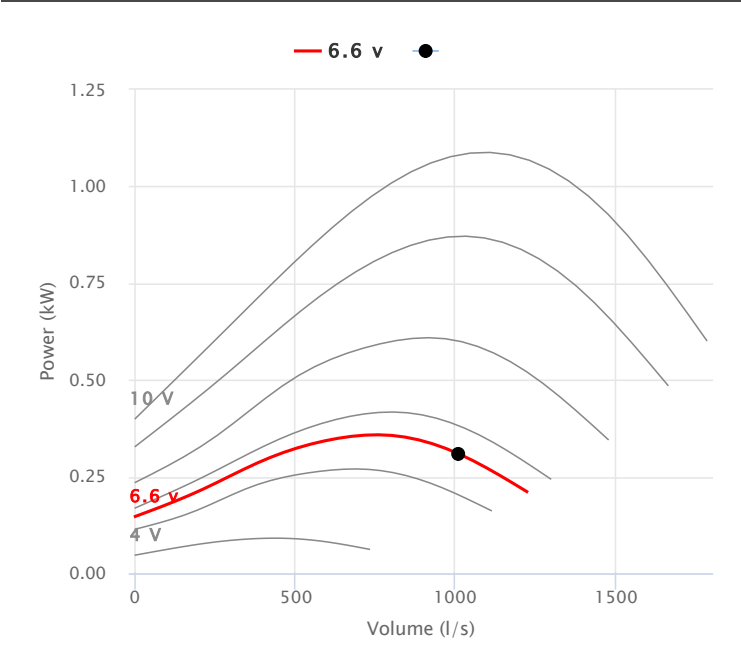


Project : MCFC North Expansion - Supply Fans
Customer :
Project Code : BD-14102
Quotation :
Date : 26 September 2024

AERODYNAMIC



POWER CHART



EFFICIENCY CHART

ACOUSTICS

Table with 10 columns: Sound Spectrum (Hz) [63, 125, 250, 500, 1k, 2k, 4k, 8k], Overall [Lw*, LpA @ 3 m **]. Rows include Inlet, Outlet, and Breakout noise data.

Project : MCFC North Expansion - Supply Fans
Customer :
Project Code : BD-14102
Quotation :
Date : 26 September 2024

JM Bifurcated
BD-14102-2
50JM.BIF/20/2/6/8
KEF.3.01 & KEF.3.02 &
KEF.3.03 & KEF.3.04
8 weeks - (Fan Only)
Lead time may vary based on stock availability at time of order. Please refresh the lead time in the project or reselect the fan before placing an order.

Table with 2 columns: Product, Value. Rows include Model Code, Fan Diameter, Fan Speed, Impeller, Installation, Fan Casing.

Table with 2 columns: Performance, Value. Rows include Requested Duty, Outlet Dynamic Pressure, Velocity, Absorbed Power, Peak Power, Efficiency (Total / Static).

Table with 2 columns: Motor, Value. Rows include Motor Rating, Full Load Current, Starting Current, Electrical Supply, Motor Winding, Motor Type.

Table with 2 columns: Efficiency Grades, Value. Rows include ErP [FMEG] Rating.

Table with 2 columns: Environment, Value. Rows include Air Density, Smoke Venting, Operating Environment.

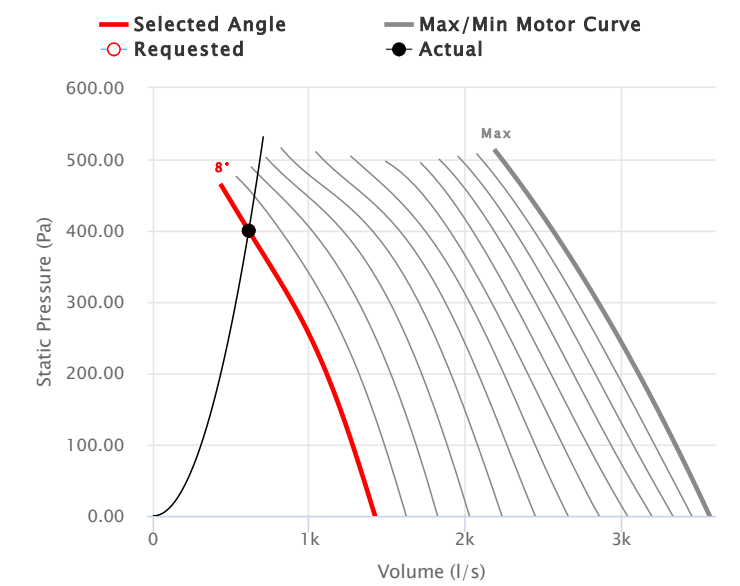
Table with 2 columns: Running Costs, Value. Rows include Power from mains, Energy Consumption, Running Cost / Year, CO2 per Year, SFP value.

PRODUCT DIMENSIONS
61.9 kg
12 x Ø12 mm
P Ø 560
This drawing shows dimensions that should be used as a guide only and are subject to change. Certified drawings are available on request.

Table with 2 columns: Mechanical, Value. Rows include Casing, Impeller, Operating Temperatures, Maximum Running Speed, Minimum Running Speed, Weight.

COMMENTS

FAN PERFORMANCE CURVE



ACOUSTICS

Table with 3 columns: Sound Spectrum (Hz), Overall, Distance (3 m). Rows include Inlet, Outlet.

Sound Data At Requested Duty. * Lw dB re 10 -12 W ** dBA re 2x10 -5 Pa

FAN & ACCESSORIES

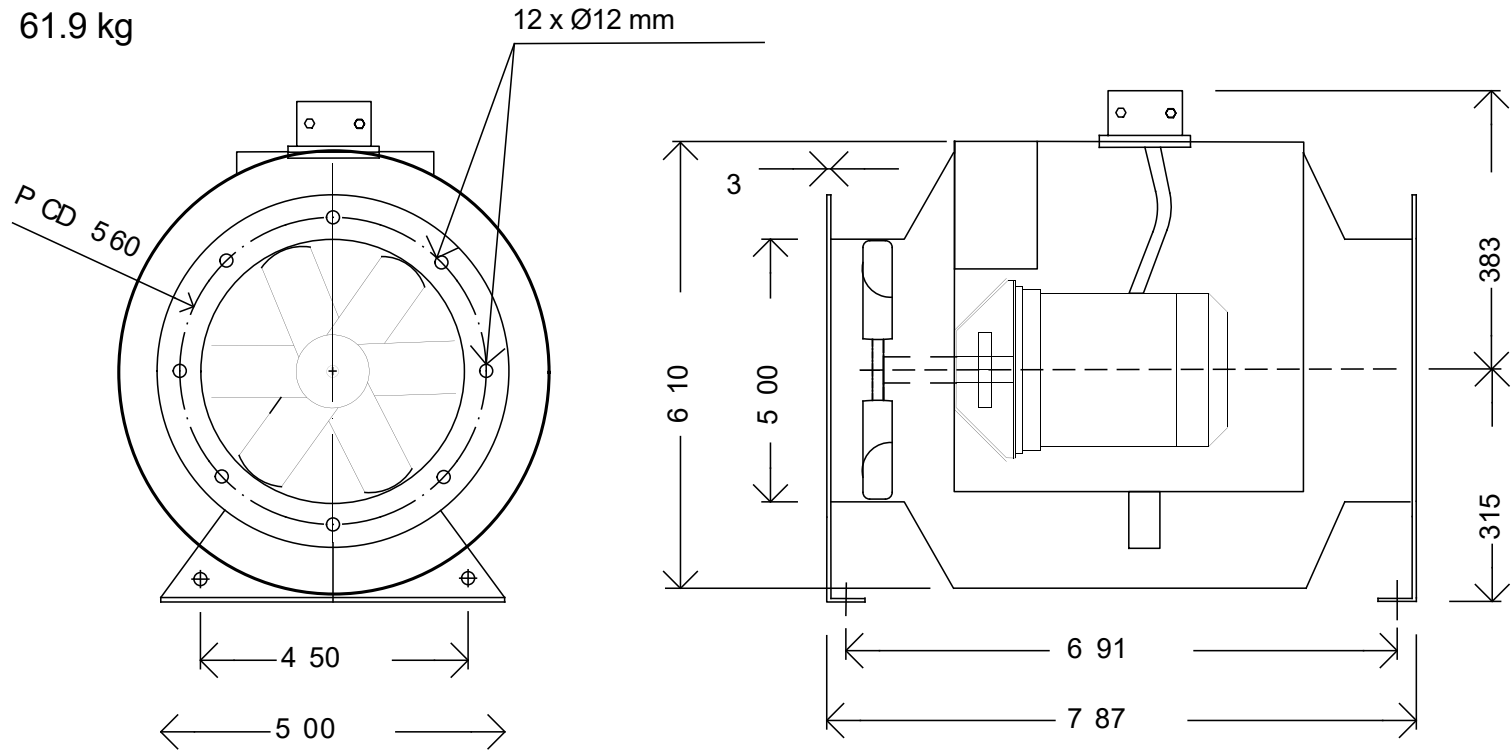
Table with 4 columns: Item Description, Part Number, Qty, Lead-Time. Rows include 50JM.BIF/20/2/6/8, Mounting Feet Set, Matching Flange, Flexible Connector & Clips, IDDXF54 FC101 5.3 Amp Inverter, Rubber AV mount.

Project : MCFC North Expansion - Supply Fans
Quotation :

Customer :

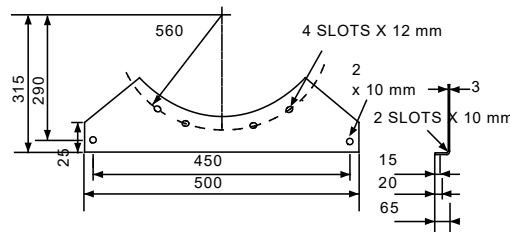
Project Code : BD-14102
Date : 26 September 2024

PRODUCT DIMENSIONS

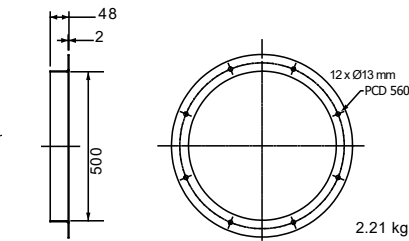


ACCESSORY DIMENSIONS

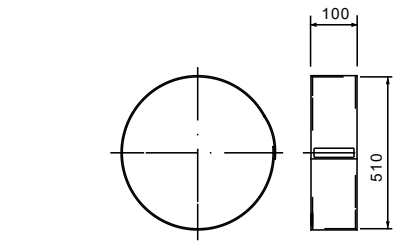
MOUNTING FEET SET (408203X2)



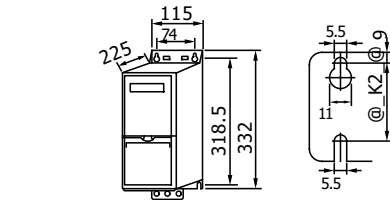
MATCHING FLANGE



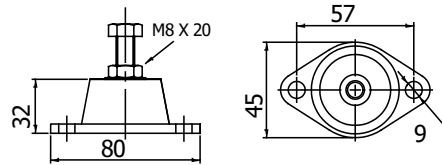
FLEXIBLE CONNECTOR & CLIPS



IDDXF54 FC101 5.3 AMP INVERTER



RUBBER AV MOUNT (SET OF 505000X4)

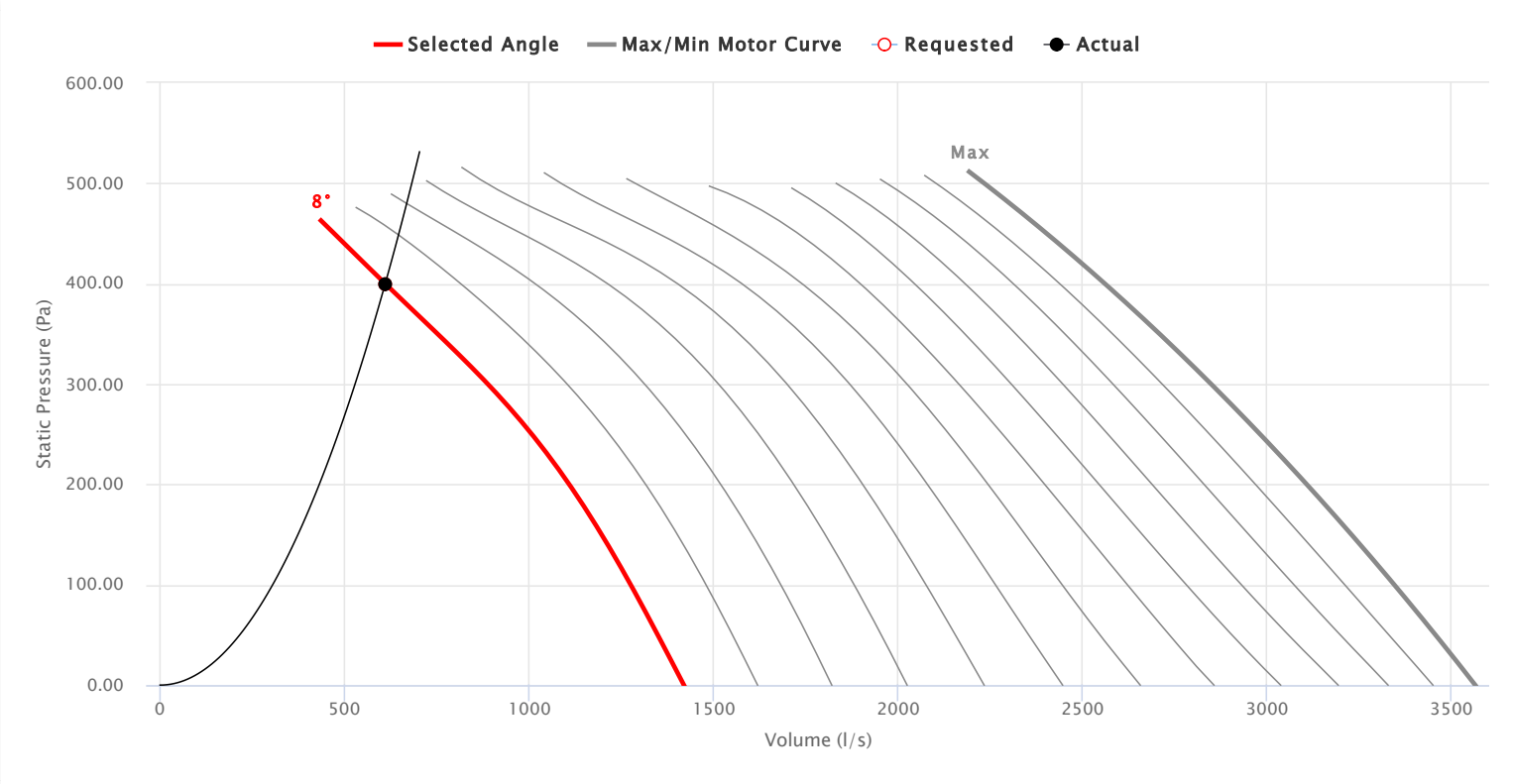


Project : MCFC North Expansion - Supply Fans
Quotation :

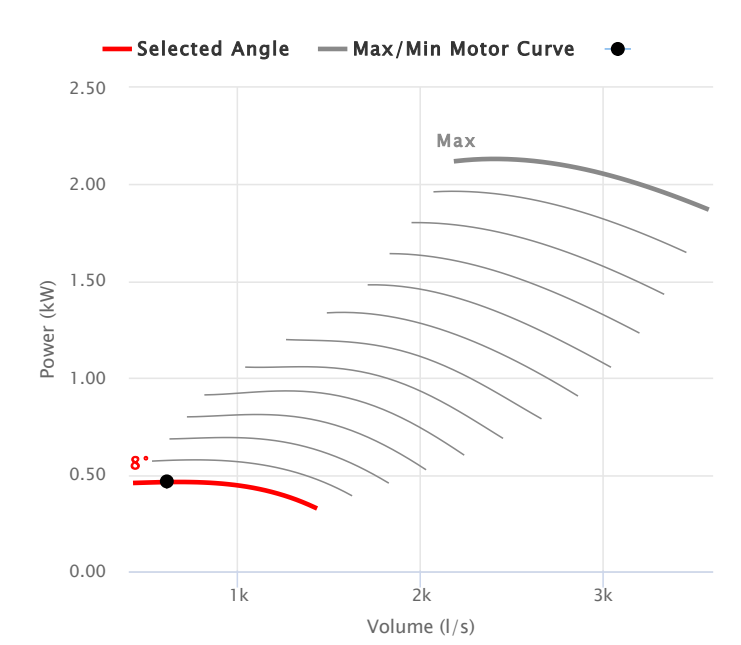
Customer :

Project Code : BD-14102
Date : 26 September 2024

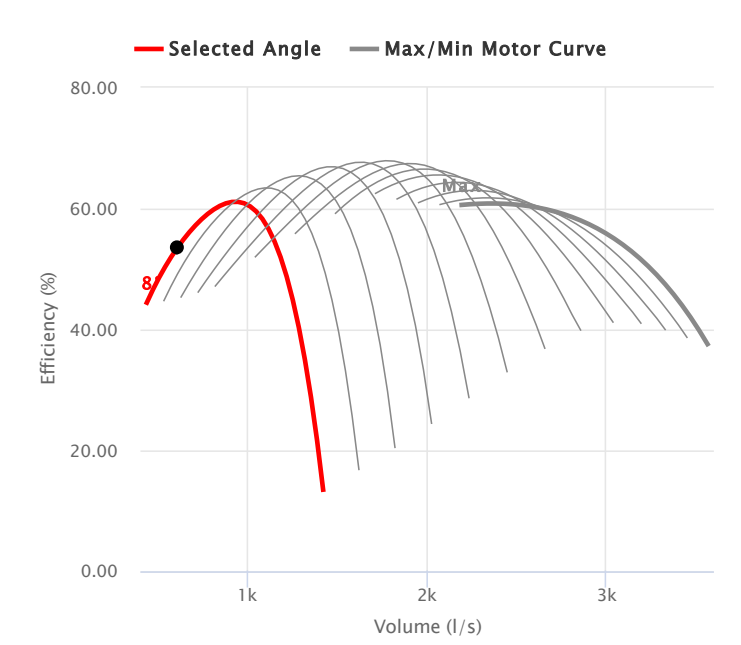
AERODYNAMIC



POWER CHART



EFFICIENCY CHART



ACOUSTICS

	Sound Spectrum (Hz)								Overall	
	63	125	250	500	1k	2k	4k	8k	Lw*	LpA @ 3 m **
Inlet	80	78	87	91	94	91	82	75	98	77
Outlet	76	80	87	91	95	94	83	76	99	79

Sound Data At Requested Duty . * Lw dB re 10⁻¹² W ** dBA re 2x10⁻⁵ Pa

Project : MCFC North Expansion - Supply Fans
Customer :
Project Code : BD-14102
Quotation :
Date : 26 September 2024

Lang_Box_Sabina
BD-14102-5
eSabina EC 400mm (Compact)
EF.0.01
11 weeks - (Fan Only)
Lead time may vary based on stock availability at time of order. Please refresh the lead time in the project or reselect the fan before placing an order.

Table with 2 columns: Product, Value. Rows: Model Code (eSabina EC 400mm (Compact)), Fan Diameter (400-e mm), Installation (Type D).

Table with 2 columns: Performance, Value. Rows: Requested Duty (573 l/s @ 150 Pa (Static)), Outlet Dynamic Pressure (12.6 Pa), Velocity (4.58 m/s).

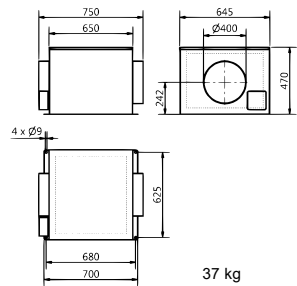
Table with 2 columns: Motor, Value. Rows: Motor Rating (0.420 kW [Integral Frame]), Full Load Current (1.86 A), Starting Current (0 A), Electrical Supply (220 - 240 Volts 50 Hz 1 Phase), Motor Winding (Standard), Motor Type (IE4 - Class F Insulation).

Table with 2 columns: Efficiency Grades, Value. Rows: Regulation 1253 - 2014, UVU Efficiency (42.2% (ErP Compliant) ✓), Nominal Flow Rate (0.471 m³/s @ 355 Pa), Effective Input Power (0.400 kW), Nominal RPM (1650 rpm), Internal Fan Efficiency (58.0%).

Table with 2 columns: Environment, Value. Rows: Air Density (1.2 kg/m³ / 20 °C / 0 m / 40% RH), Smoke Venting (No Smoke Venting), Operating Environment (Normal).

Table with 2 columns: Running Costs, Value. Rows: Power from mains (0.251 KW), Energy Consumption (501.15 kWh (2,000.00 h/Year)), Running Cost / Year (£125.29), CO2 per Year (176.19 kgCO2e), SFP value (0.44 W/l/s @ Actual Duty).

PRODUCT DIMENSIONS

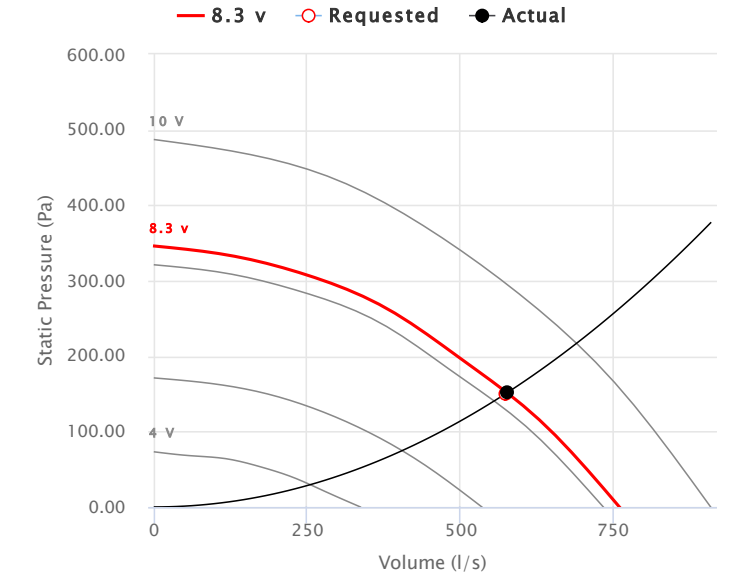


This drawing shows dimensions that should be used as a guide only and are subject to change. Certified drawings are available on request.

Table with 2 columns: Mechanical, Value. Rows: Operating Temperatures (-25 °C to 45 °C (95% Max Relative Humidity)), Weight (37kg).

COMMENTS

FAN PERFORMANCE CURVE



ACOUSTICS

Table with 13 columns: Sound Spectrum (Hz) and Overall. Rows: Inlet, Outlet, Breakout. Includes LpA @ 3 m **.

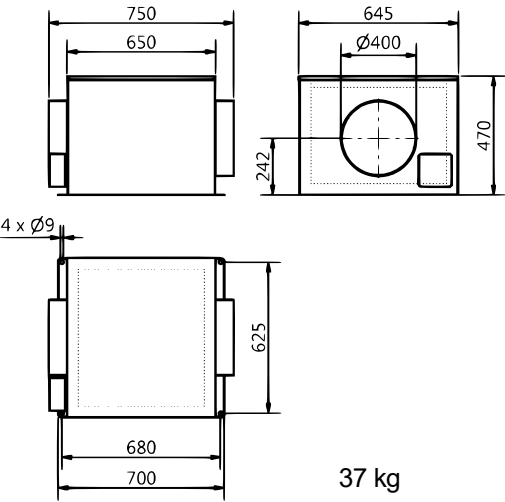
Sound Data At Requested Duty. * Lw dB re 10 -12 W ** dBA re 2x10 -5 Pa

FAN & ACCESSORIES

Table with 4 columns: Item Description, Part Number, Qty, Lead-Time. Rows: eSabina EC 400mm (Compact), Lang_MountKit, Flexible Connector & Clips.

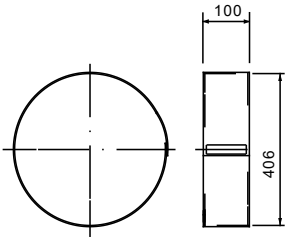
Project	Customer :	Project Code : BD-14102
: MCFC North Expansion - Supply Fans		
Quotation :		Date : 26 September 2024

PRODUCT DIMENSIONS



ACCESSORY DIMENSIONS

FLEXIBLE CONNECTOR & CLIPS



Project

: MCFC North Expansion - Supply Fans

Customer :

Project Code :

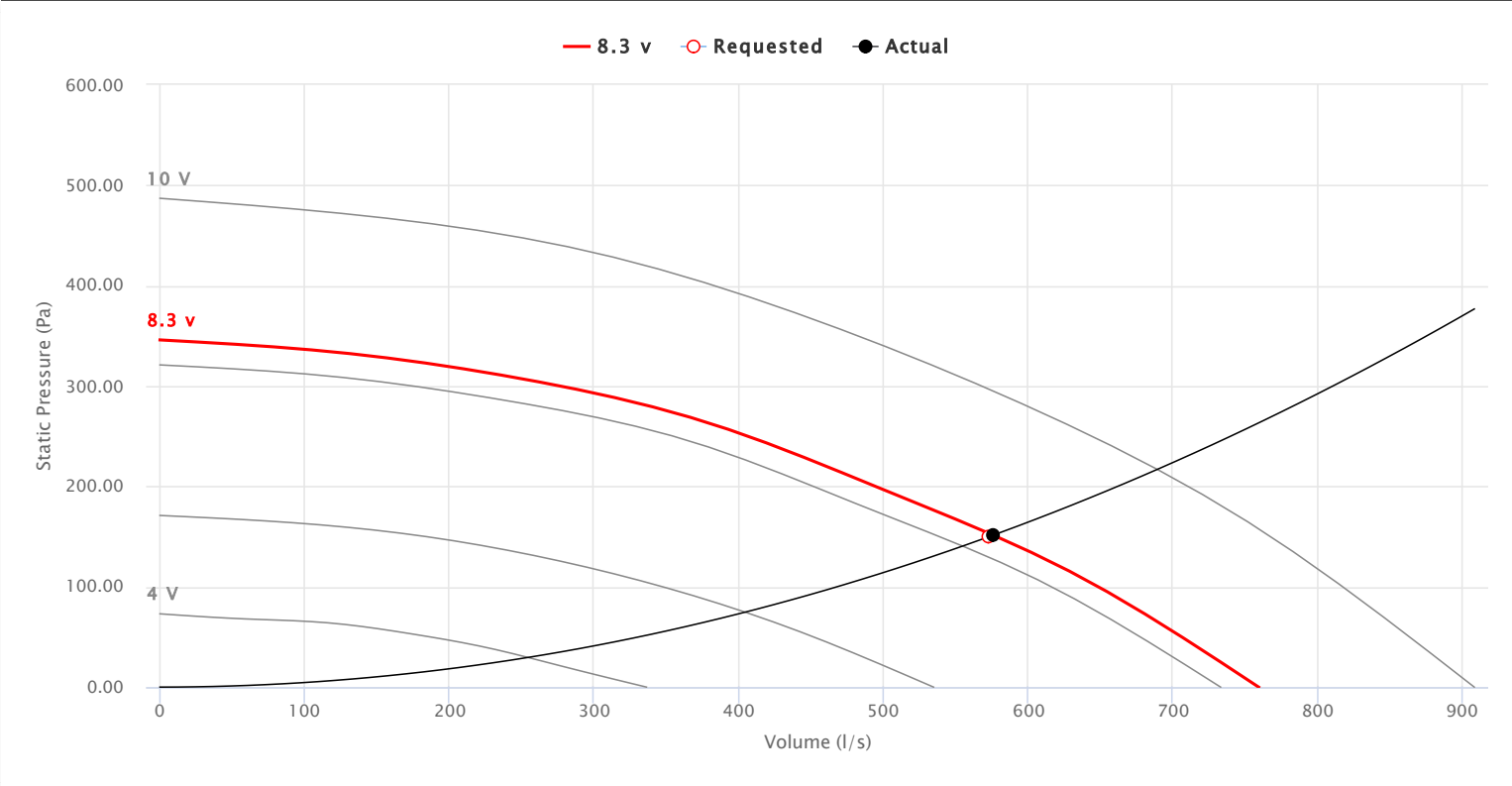
BD-14102

Quotation :

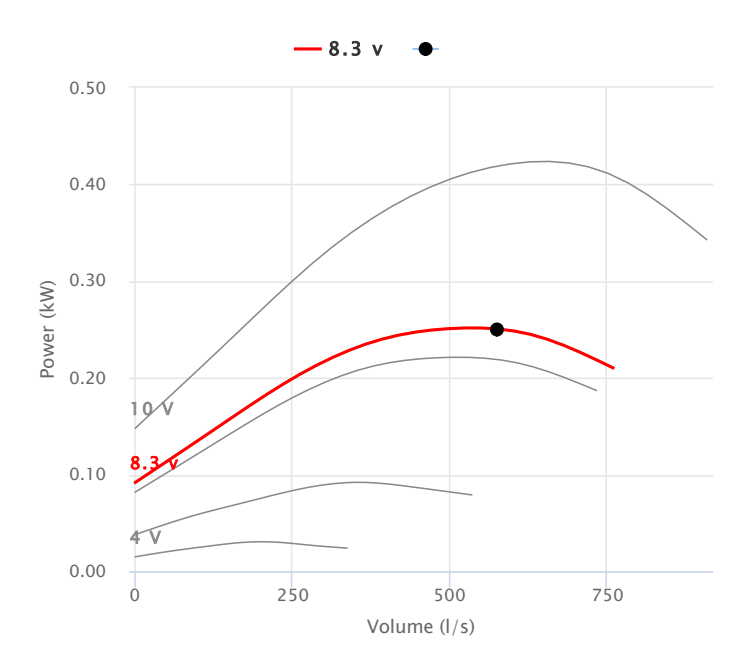
Date :

26 September 2024

AERODYNAMIC



POWER CHART



EFFICIENCY CHART

ACOUSTICS

	Sound Spectrum (Hz)								Overall	
	63	125	250	500	1k	2k	4k	8k	Lw*	LpA @ 3 m **
Inlet	33	51	48	43	43	41	37	32	68	33
Outlet	31	53	53	52	51	49	44	37	70	38
Breakout	25	42	41	32	30	<20	<20	<20	59	24

Sound Data At Requested Duty . * Lw dB re 10⁻¹² W ** dBA re 2x10⁻⁵ Pa

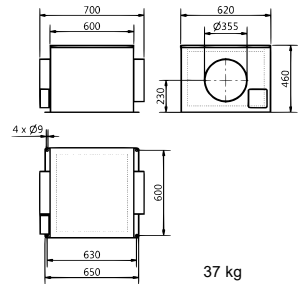
Project	Customer :	Project Code : BD-14102
: MCFC North Expansion - Supply Fans		
Quotation :		Date : 26 September 2024



Lang_Box_Sabina
BD-14102-6

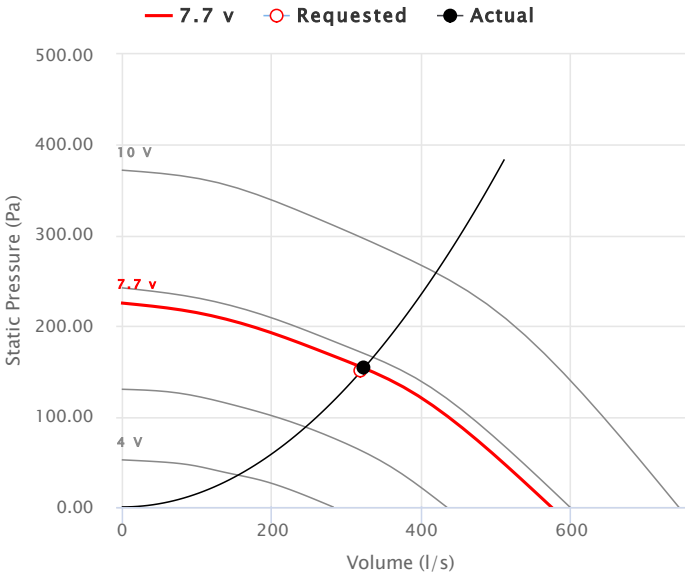
eSabina EC 355mm
(Compact)
EF.0.02
11 weeks - (Fan Only)
Lead time may vary based on stock availability at
time of order. Please refresh the lead time in the
project or reselect the fan before placing an order.

PRODUCT	
Model Code	eSabina EC 355mm (Compact)
Fan Diameter	355-e mm
Installation	Type D
PERFORMANCE	
Requested Duty	319 l/s @ 150 Pa (Static)
Outlet Dynamic Pressure	6.37 Pa
Velocity	3.26 m/s
MOTOR	
Motor Rating	0.290 kW [Integral Frame]
Full Load Current	1.3 A
Starting Current	0 A
Electrical Supply	220 - 240 Volts 50 Hz 1 Phase
Motor Winding	Standard
Motor Type	IE4 - Class F Insulation
EFFICIENCY GRADES	
Regulation 1253 - 2014	
UVU Efficiency	39.6% (ErP Compliant) ✓
Nominal Flow Rate	0.336 m³/s @ 294 Pa
Effective Input Power	0.250 kW
Nominal RPM	1450 rpm
Internal Fan Efficiency	59.9%
ENVIRONMENT	
Air Density	1.2 kg/m³ / 20 °C / 0 m / 40% RH
Smoke Venting	No Smoke Venting
Operating Environment	Normal
RUNNING COSTS	
Power from mains	0.132 KW
Energy Consumption	263.51 kWh (2,000.00 h/Year)
Running Cost / Year	£65.88
CO2 per Year	92.64 kgCO2e
SFP value	0.41 W/l/s @ Actual Duty
PRODUCT DIMENSIONS	



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

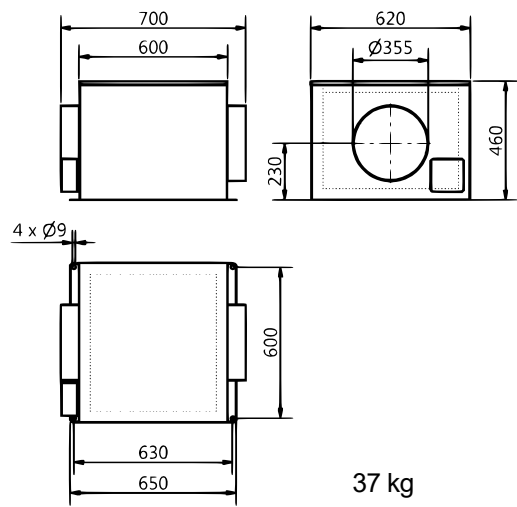
MECHANICAL	
Operating Temperatures	-25 °C to 50 °C (95% Max Relative Humidity)
Weight	37kg
COMMENTS	
FAN PERFORMANCE CURVE	



ACOUSTICS											
Sound Spectrum (Hz)									Overall		Distance (3 m)
	63	125	250	500	1k	2k	4k	8k	Lw*	LwA*	LpA @ 3 m **
Inlet	52	49	46	41	41	39	35	30	78	55	34
Outlet	57	51	51	50	49	47	42	35	83	60	39
Breakout	46	43	42	33	31	21	<20	<20	72	49	28
Sound Data At Requested Duty.									* Lw dB re 10 ⁻¹² W		** dBA re 2x10 ⁻⁵ Pa
FAN & ACCESSORIES											
Item Description								Part Number		Qty	Lead-Time
eSabina EC 355mm (Compact)								ZE355014		1	11 Weeks
Lang_MountKit								428348		1	11 Weeks
Flexible Connector & Clips								AS040355		2	11 Weeks

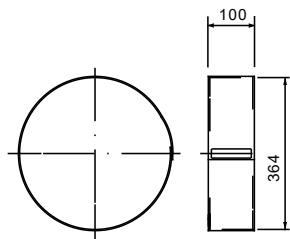
Project	Customer :	Project Code : BD-14102
: MCFC North Expansion - Supply Fans		
Quotation :		Date : 26 September 2024

PRODUCT DIMENSIONS



ACCESSORY DIMENSIONS

FLEXIBLE CONNECTOR & CLIPS



Project

: MCFC North Expansion - Supply Fans

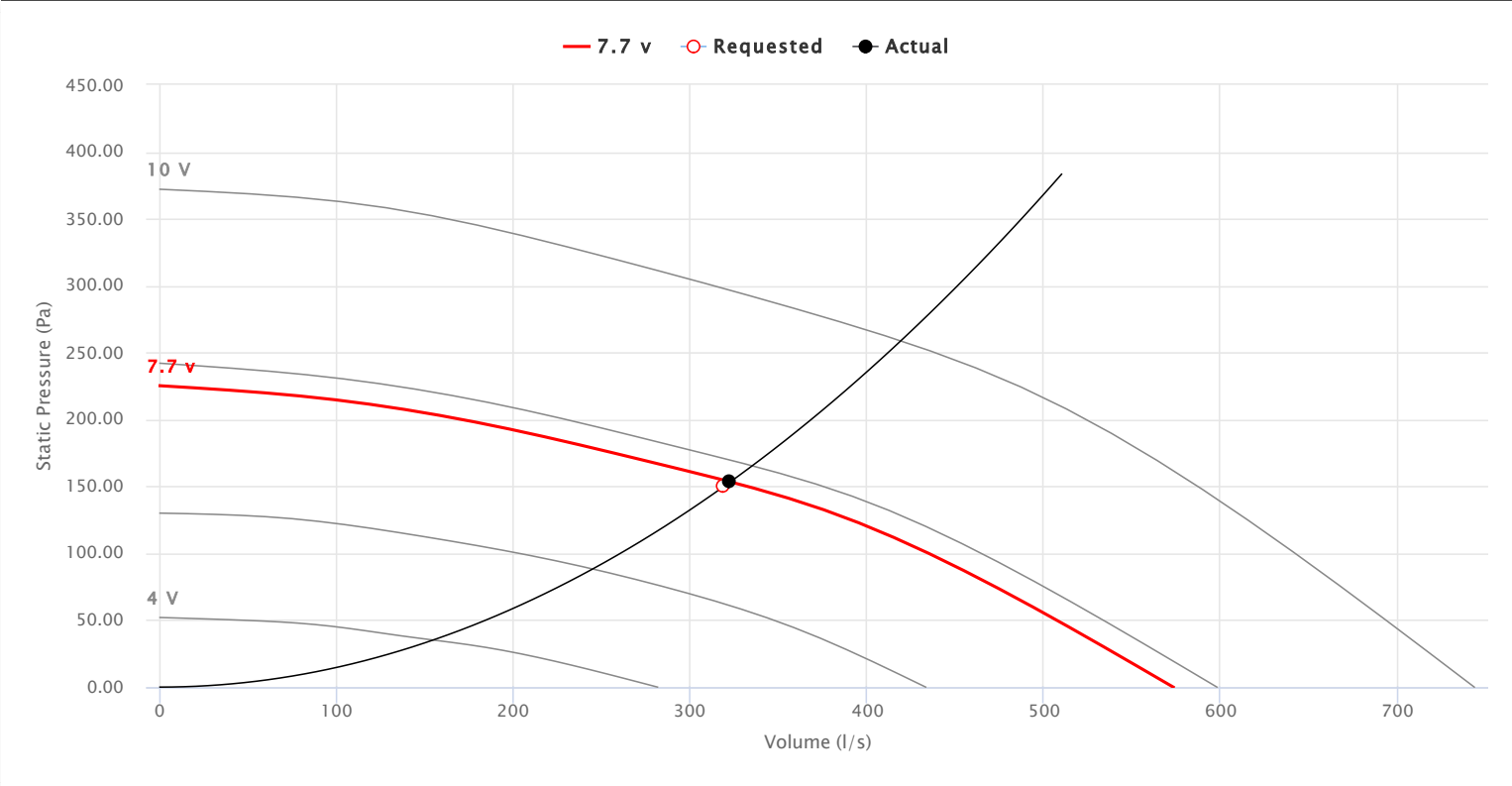
Quotation :

Customer :

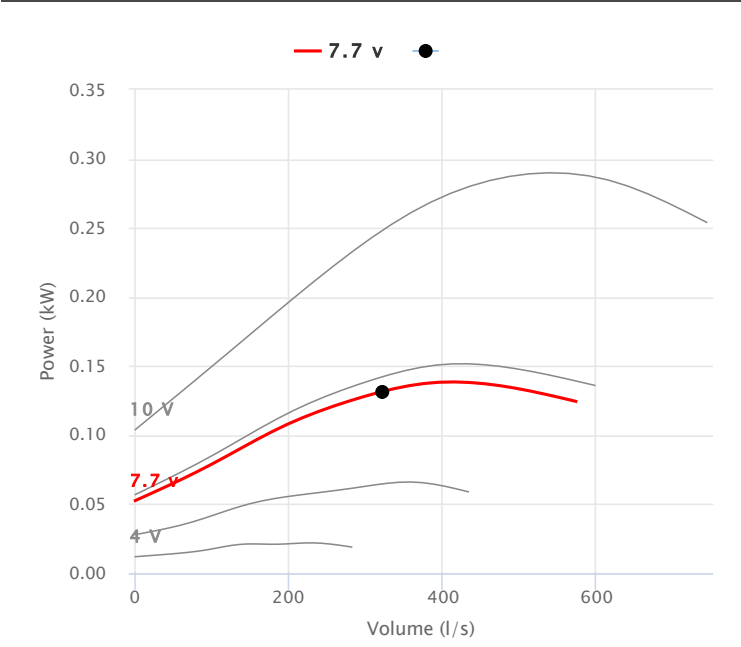
Project Code : BD-14102

Date : 26 September 2024

AERODYNAMIC



POWER CHART



EFFICIENCY CHART

ACOUSTICS

	Sound Spectrum (Hz)								Overall	
	63	125	250	500	1k	2k	4k	8k	Lw*	LpA @ 3 m**
Inlet	52	49	46	41	41	39	35	30	78	34
Outlet	57	51	51	50	49	47	42	35	83	39
Breakout	46	43	42	33	31	21	<20	<20	72	28

Sound Data At Requested Duty . * Lw dB re 10⁻¹² W ** dBA re 2x10⁻⁵ Pa

Project : MCFC North Expansion - Supply Fans
Customer :
Project Code : BD-14102
Quotation :
Date : 26 September 2024

Lang_Box_Sabina
BD-14102-7
eSabina EC 400mm (Compact)
EF.0.04
11 weeks - (Fan Only)
Lead time may vary based on stock availability at time of order. Please refresh the lead time in the project or reselect the fan before placing an order.

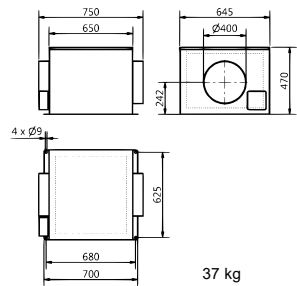
Table with 2 columns: Parameter, Value. Includes sections for PRODUCT (Model Code, Fan Diameter, Installation), PERFORMANCE (Requested Duty, Outlet Dynamic Pressure, Velocity), and MOTOR (Motor Rating, Full Load Current, Starting Current, Electrical Supply, Motor Winding, Motor Type).

Table with 2 columns: Parameter, Value. Includes sections for EFFICIENCY GRADES (Regulation 1253 - 2014, UVU Efficiency, Nominal Flow Rate, Effective Input Power, Nominal RPM, Internal Fan Efficiency) and ENVIRONMENT (Air Density, Smoke Venting, Operating Environment).

Table with 2 columns: Parameter, Value. Includes ENVIRONMENT (Air Density, Smoke Venting, Operating Environment).

Table with 2 columns: Parameter, Value. Includes RUNNING COSTS (Power from mains, Energy Consumption, Running Cost / Year, CO2 per Year, SFP value).

PRODUCT DIMENSIONS

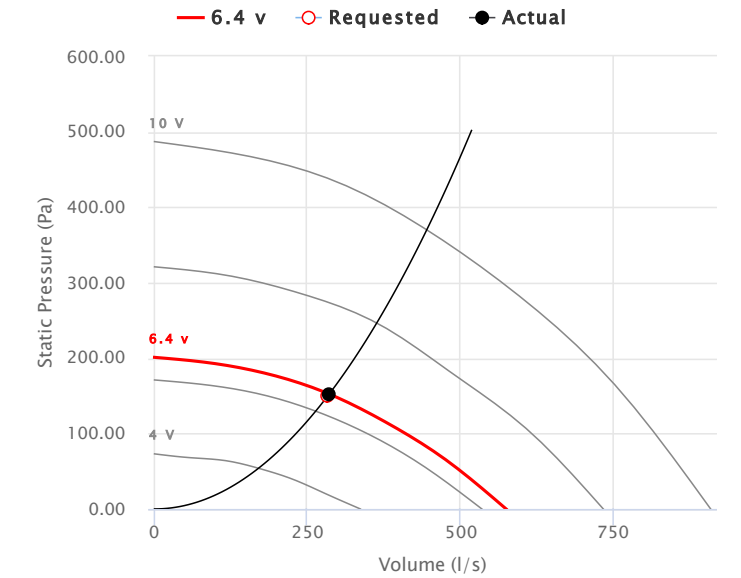


This drawing shows dimensions that should be used as a guide only and are subject to change. Certified drawings are available on request.

Table with 2 columns: Parameter, Value. Includes MECHANICAL (Operating Temperatures, Weight).

COMMENTS

FAN PERFORMANCE CURVE



ACOUSTICS

Table with 12 columns: Sound Spectrum (Hz), Overall, Distance (3 m). Rows include Inlet, Outlet, and Breakout noise data.

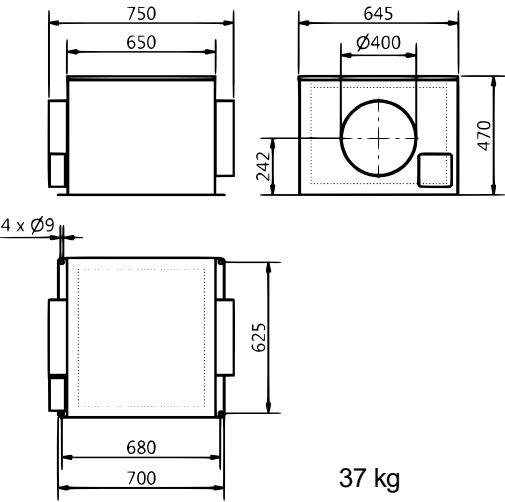
Sound Data At Requested Duty. * Lw dB re 10 -12 W ** dBA re 2x10 -5 Pa

FAN & ACCESSORIES

Table with 4 columns: Item Description, Part Number, Qty, Lead-Time. Includes eSabina EC 400mm (Compact), Lang_MountKit, and Flexible Connector & Clips.

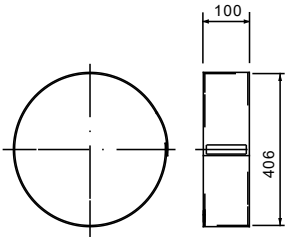
Project	Customer :	Project Code : BD-14102
: MCFC North Expansion - Supply Fans		
Quotation :		Date : 26 September 2024

PRODUCT DIMENSIONS



ACCESSORY DIMENSIONS

FLEXIBLE CONNECTOR & CLIPS



Project

: MCFC North Expansion - Supply Fans

Customer :

Project Code :

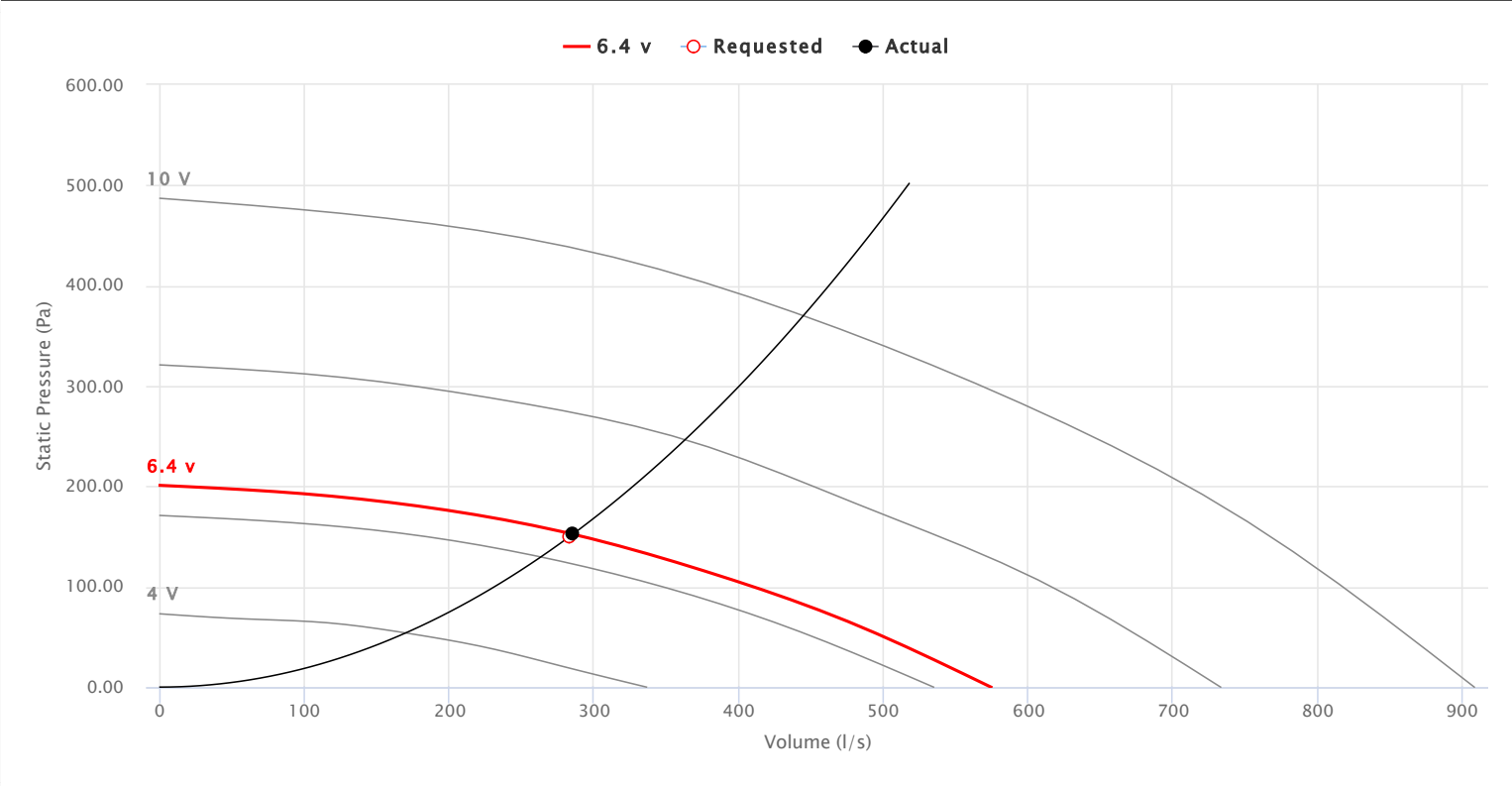
BD-14102

Quotation :

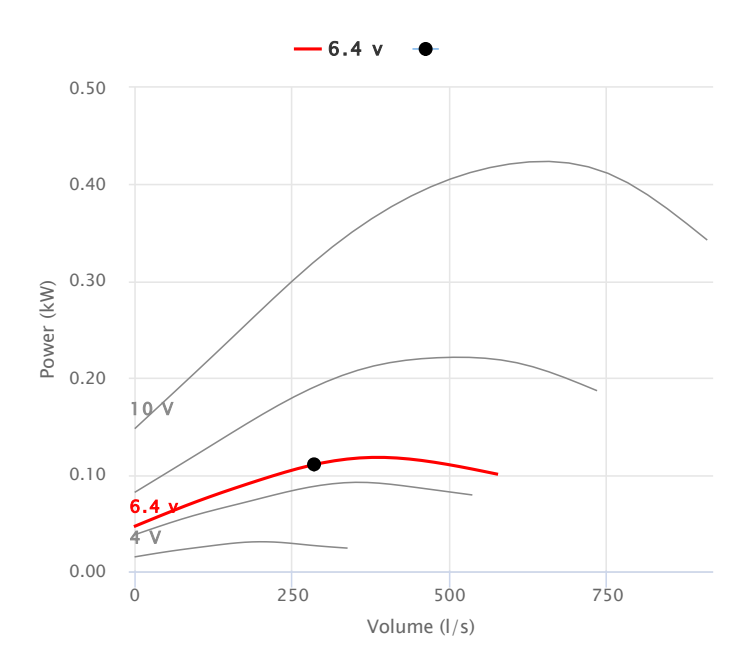
Date :

26 September 2024

AERODYNAMIC



POWER CHART



EFFICIENCY CHART

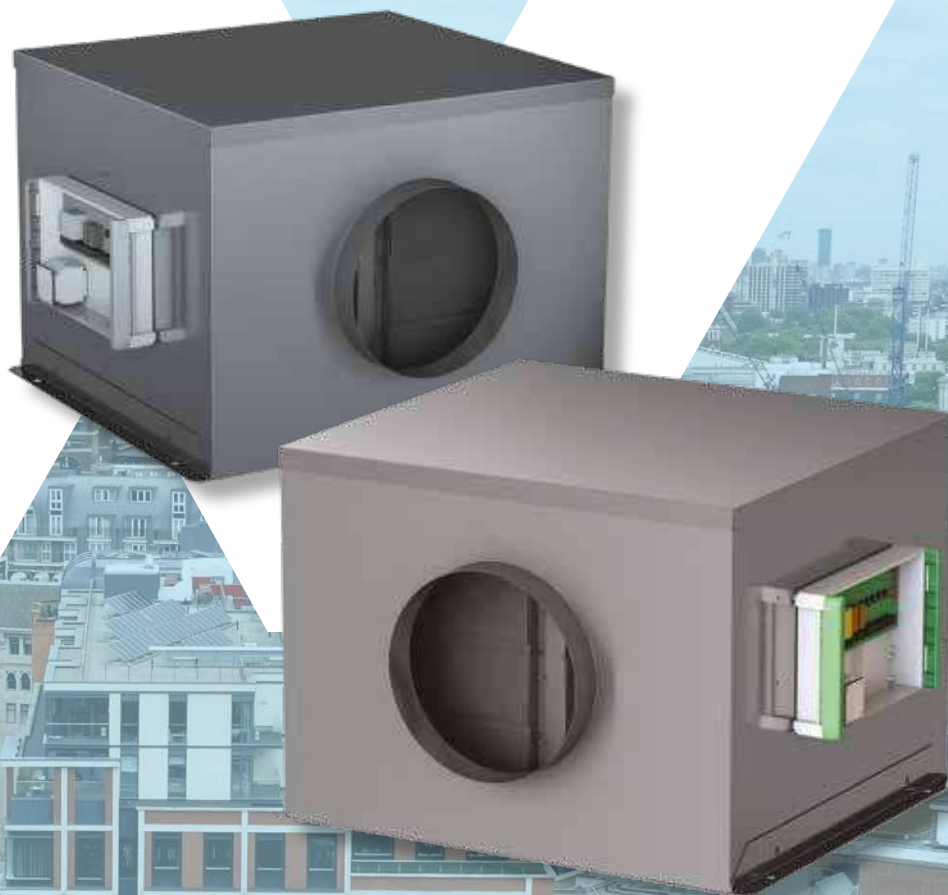


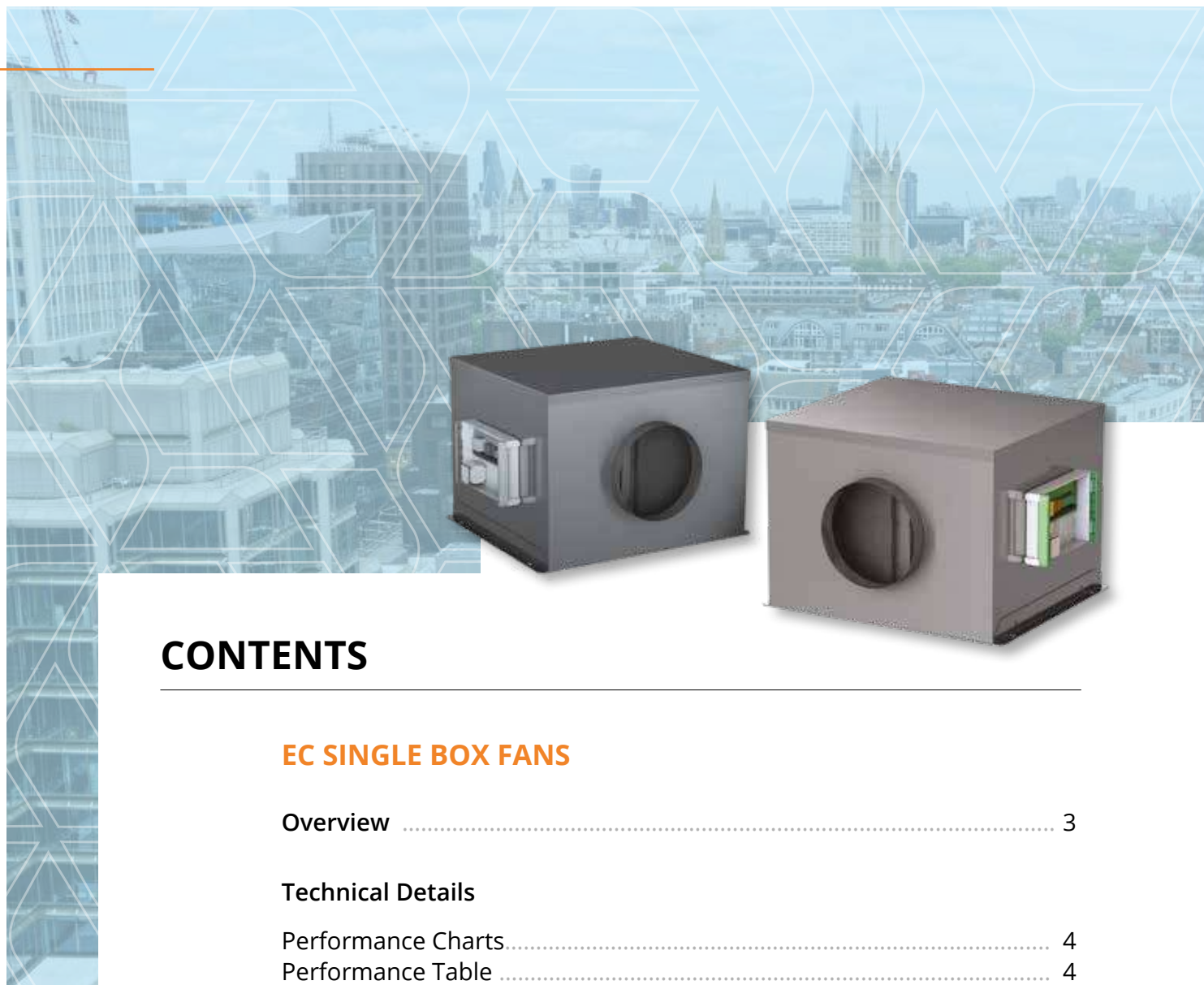
ACOUSTICS

	Sound Spectrum (Hz)								Overall	
	63	125	250	500	1k	2k	4k	8k	Lw*	LpA @ 3 m **
Inlet	32	50	47	42	42	40	36	31	67	32
Outlet	30	52	52	51	50	48	43	36	69	37
Breakout	24	41	40	31	29	<20	<20	<20	58	23

Sound Data At Requested Duty . * Lw dB re 10⁻¹² W ** dBA re 2x10⁻⁵ Pa

WOODS BOX FANS EC SINGLE AND TWIN





CONTENTS

EC SINGLE BOX FANS

Overview	3
Technical Details	
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Drawings and Dimensions	5
Wiring Diagrams	6

EC TWIN BOX FANS

Overview	9
Technical Details	
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Performance Tables	10
Product and Electrical Data	11
Drawings and Dimensions	11
Wiring Diagrams	12

PRODUCT FACTS

- Volume flows up to 3.55 m³/s
- Static pressures up to 1100 Pa
- EC motors
- Available in 50 Hz only
- Sound-proof cabinets, low breakout noise levels
- Low SFP to help achieve L2 regulations
- Speed controllable
- ErP compliant
- Plug and play fitted control panel
- Compact design

ELECTRICAL SUPPLY

- 220-240V / 50Hz / 1Ph
- 380-420V / 50Hz / 3Ph (450 and 560 size only)

TEMPERATURE RANGE

- Maximum working temperature: 50°C

SIZES

- 150, 200, 250, 315, 350, 450 & 560 mm

CONSTRUCTION

Galvanised steel casing of thickness 0.9mm to 1.2mm depending on the size and model. Standard construction suitable for internal and/or external application, power coated on request.

Top access is provided as standard, bottom access option is available on request.

The units are lined with 20mm Barafoam 'O' class liner with 6mm barrier mat layer which significantly reduces noise breakout.

IMPELLER

High efficiency backward curved centrifugal impeller.

MOTOR

This product is fitted with EC motors to optimize energy savings and can be controlled via a 0-10V signal providing highest degree of controllability.

INSTALLATION

These fans can be mounted vertically or horizontally. The external use models are fitted with removable discharge cowl. Bottom inlet also available on request.

FAN CONTROLLER

The fans are fitted with plug and play control unit designed to work with BMS systems as:

- Fault Out
- VFC Enable
- VFC Boost
- Remote Speed control

ACCESSORIES - CONTROLLERS

The range of accessories include duct clamps and silencers. A quick reference guide is shown below.



CFC



BDER



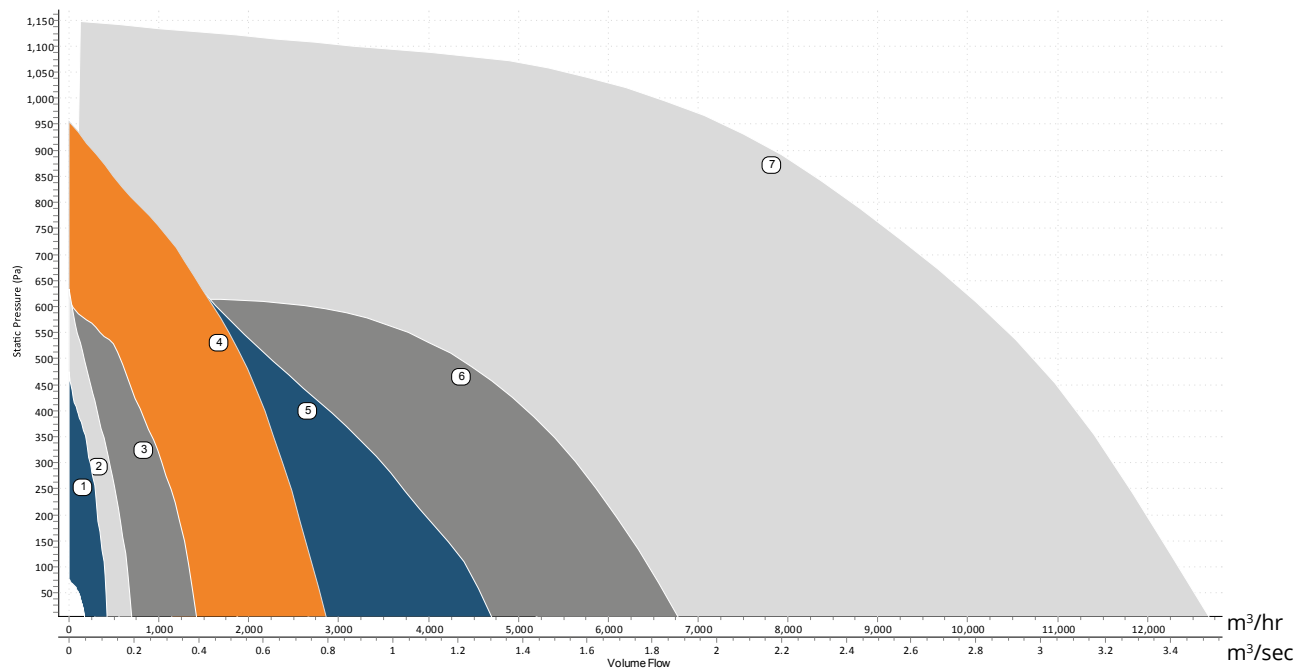
0-10V Pot



PIR

Note: The ErP legislation Reg 1253 states that a multi-speed drive or a variable speed drive must be used with this range of products.

Performance Charts



Performance Table

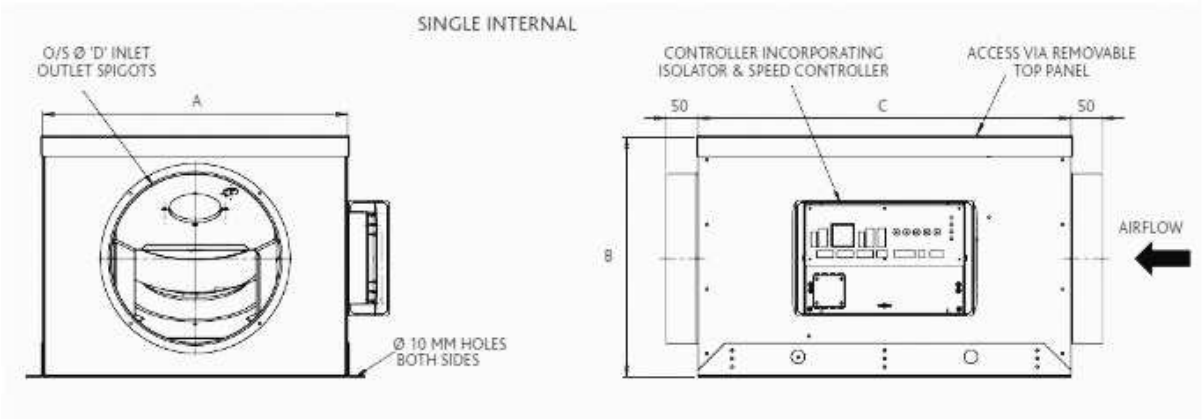
Ref	Product Code	M3/s @ Pa (Static)																							
		0	50	100	150	200	250	300	350	400	450	500	550	600	650	700	750	800	850	900	950	1000	1050	1100	
1	Woods EC Single Box 150	0.12	0.11	0.11	0.1	0.09	0.08	0.06	0.05	0.03	0.01														
2	Woods EC Single Box 200	0.19	0.19	0.18	0.17	0.16	0.14	0.12	0.11	0.09	0.07	0.05	0.03	0.1											
3	Woods EC Single Box 250	0.4	0.38	0.37	0.36	0.34	0.31	0.29	0.26	0.22	0.19	0.16	0.1	0.1											
4	Woods EC Single Box 315	0.8	0.77	0.75	0.73	0.71	0.69	0.66	0.63	0.06	0.57	0.54	0.49	0.45	0.4	0.34	0.28	0.21	0.14	0.07	0.01				
5	Woods EC Single Box 350	1.31	1.27	1.23	1.17	1.1	1.03	0.97	0.89	0.08	0.71	0.62	0.54	0.46	0.38	0.28	0.15	0.05							
6	Woods EC Single Box 450	1.89	1.84	1.79	1.74	1.69	1.63	1.57	1.5	1.42	1.32	1.2	1.05	0.75											
7	Woods EC Single Box 560	3.53	3.48	3.43	3.38	3.33	3.28	3.23	3.17	3.11	3.05	2.98	2.9	2.82	2.73	2.52	2.52	2.42	2.32	2.18	2.02	1.82	1.54	0.88	

Product and Electrical Data

Ref	Product Code	Product Number	Electrical Supply	Rating (kW)	Full Load Current (A)	Starting Current (A)	Sound level dB(A) (3m)*
1	Woods EC Single Box 150	EC150101	230 V/50Hz/1ph	0.052	0.4	0.4	47
2	Woods EC Single Box 200	EC200101	230 V/50Hz/1ph	0.07	0.55	0.55	46
3	Woods EC Single Box 250	EC250101	230 V/50Hz/1ph	0.17	1.4	1.4	48
4	Woods EC Single Box 315	EC315101	230 V/50Hz/1ph	0.51	3.1	3.1	58
5	Woods EC Single Box 350	EC350101	230 V/50Hz/1ph	0.45	2.9	2.9	52
6	Woods EC Single Box 450	EC450101	400 V/50Hz/3ph	1.01	1.6	1.6	54
7	Woods EC Single Box 560	EC560101	400 V/50Hz/3ph	3.1	4.9	4.9	65

* Sound power levels are average dB(A) at 3m distance over sphere, under free field conditions and are presented for comparative purposes only. Values shown are those at the mid-point of the performance curve. For ErP efficiency ratings and grades, please refer to our Fan Selector for more information.

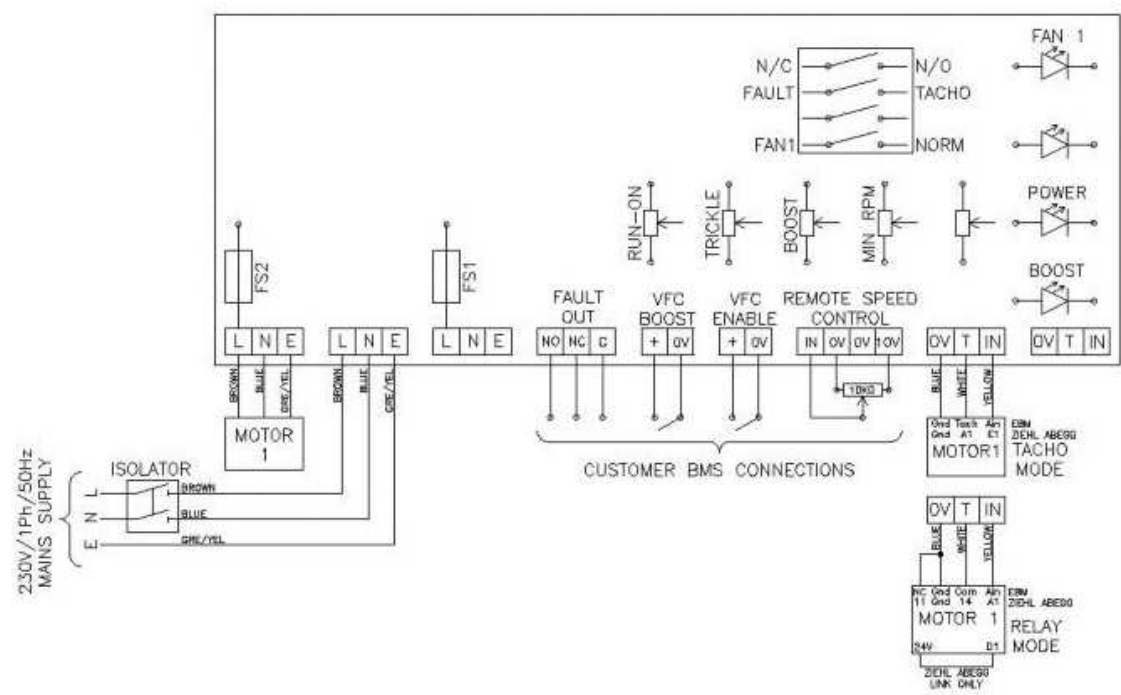
Drawings and Dimensions



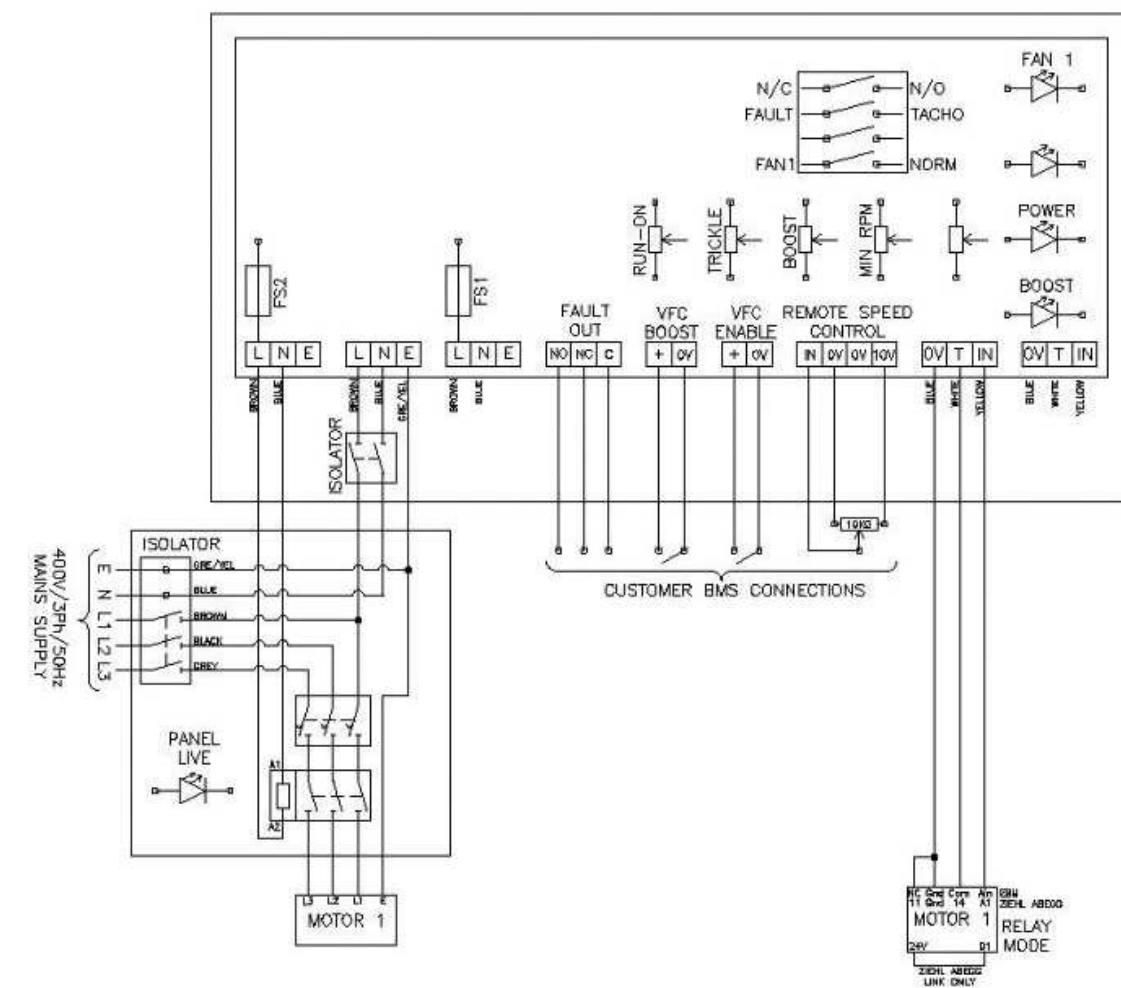
Ref	Product Code	A	B	C	D	Weight in kg
1	Woods EC Single Box 150	250	250	300	150	10
2	Woods EC Single Box 200	350	250	400	200	15
3	Woods EC Single Box 250	450	350	550	250	27
4	Woods EC Single Box 315	550	400	600	310	33
5	Woods EC Single Box 350	650	550	650	350	47
6	Woods EC Single Box 450	750	650	975	450	80
7	Woods EC Single Box 560	900	800	1100	560	118

WIRING DIAGRAMS

1 Phase Wiring Diagram



3 Phase Wiring Diagram





PRODUCT FACTS

- EC Motors
- Suitable for internal & external as standard
- Plug & play fitted control panel
- Low breakout noise levels
- Low SFP to help achieve L2 regulations
- Compact design
- As standard supplied with TOP access
- ErP Compliant
- Auto Changeover Panel IP65

ELECTRICAL SUPPLY

220-240V / 50Hz / 1Ph

380-420V / 50Hz / 3Ph (450 and 560 size only)

SIZES

150, 200, 250, 315, 350, 450 & 560 mm

CONSTRUCTION

Casings is manufactured from galvanised steel 0.99mm to 1.2mm thick depending on the model.

Standard construction suitable for internal & external mounting, however, powder coated upon request.

Bottom access option is available upon request.

MOUNTING

Suitable for mounting in horizontal applications.

IMPELLER

Impellers high efficiency backward curved centrifugal impeller design.

MOTOR

This product is fitted with EC motors to optimise energy savings and can be controlled via a 0-10V signal providing highest degree of controllability.

AUTO CHANGEOVER PANEL

The fans are fitted with plug and play control unit designed to work with BMS systems as:

- Volt free contact BMS enable
- Volt free contact BMS boost
- BMS fan fault signal
- 0-10 Volt speed control inputs
- Adjustable duty share
- Run on Timer (0-20 minutes)
- Trickle and boost
- PIR enabled boost function

ACCESSORIES - CONTROLLERS

The range of accessories include duct clamps and silencers. A quick reference guide is shown below.



CFC



BDER

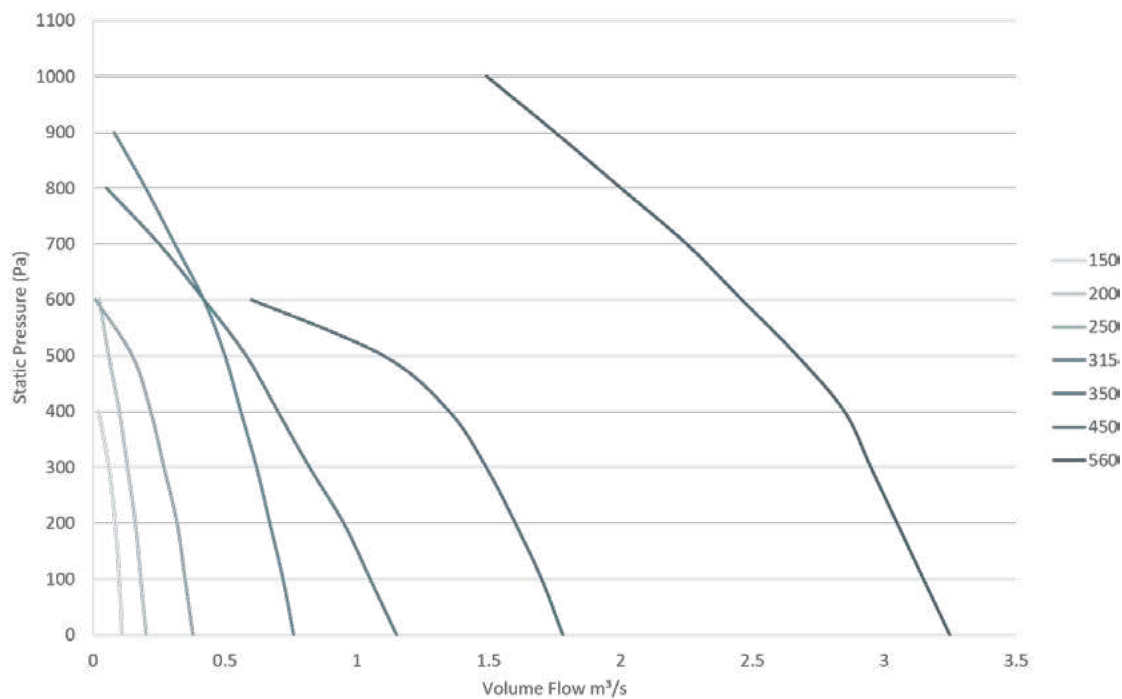


0-10V Pot



PIR

Performance Charts



Performance Tables

Product Code	M3/s @ Pa (Static)																
	0	100	150	200	250	300	350	400	450	500	550	600	650	700	750	800	850
Woods EC Twin Box 150	0.11	0.10	0.07	0.8	0.07	0.06	0.03	0.02									
Woods EC Twin Box 200	0.20	0.19	0.18	0.16	0.15	0.13	0.20	0.10	0.08	0.06	0.03	0.025					
Woods EC Twin Box 250	0.38	0.35	0.35	0.32	0.31	0.27	0.26	0.22	0.20	0.15	0.133	0.01					
Woods EC Twin Box 315	0.76	0.72	0.7	0.67	0.65	0.62	0.6	0.56	0.53	0.50	0.48	0.42	0.37	0.31	0.27	0.20	0.08
Woods EC Twin Box 350	1.15	1.05	1.00	0.95	0.9	0.82	0.78	0.7	0.68	0.58	0.55	0.42	0.38	0.25	0.105	0.05	

Product Code	M3/s @ Pa (Static)										
	0	100	200	300	400	500	600	700	800	900	1000
Woods EC Twin Box 450	1.78	0.7	1.6	1.49	1.35	1.1	0.6				
Woods EC Twin Box 560	3.25	3.15	3.05	2.85	2.85	2.67	2.46	2.25	2.0	1.75	1.49

Product and Electrical Data

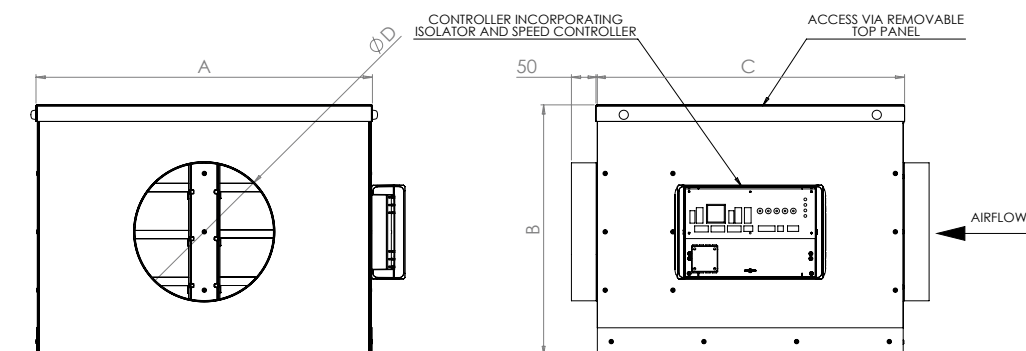
Product Code	Product Number	Voltage	Motor Frame	Electrical Current		Full Load Current (A)	Wiring Diagrams	Breakout
				Electrical Supply	Motor (kW)			Sound Level dB(A) (3m)*
Woods EC Twin Box 150	EC150202	10	Integral	220-240 V/50 Hz/1 Ph	0.052	0.4	CD4044	24
Woods EC Twin Box 200	EC200202	10	Integral	220-240 V/50 Hz/1 Ph	0.07	0.55	CD4044	21
Woods EC Twin Box 250	EC250202	10	Integral	220-240 V/50 Hz/1 Ph	0.17	1.4	CD4044	24
Woods EC Twin Box 315	EC315202	10	Integral	220-240 V/50 Hz/1 Ph	0.51	3.10	CD4044	38
Woods EC Twin Box 350	EC350202	10	Integral	220-240 V/50 Hz/1 Ph	0.45	2.9	CD4044	35

Product Code	Product Number	Voltage	Motor Frame	Electrical Current		Full Load Current (A)	Wiring Diagrams	Breakout
				Electrical Supply	Motor (kW)			Sound Level dB(A) (3m)*
Woods EC Twin Box 450	EC450202	10	Integral	380-420 V/50 Hz/3 Ph	1.01	1.6	CD4045	32
Woods EC Twin Box 560	EC560202	10	Integral	380-420 V/50 Hz/3 Ph	3.1	4.9	CD4045	41

* Sound power levels are average dB(A) at 3m distance over sphere, under free field conditions and are presented for comparative purposes only. Values shown are those at the mid-point of the performance curve. For ErP efficiency ratings and grades, please refer to our Fan Selector for more information.

Drawings and Dimensions

EC TWIN FAN - 150, 200, 250, 315, 350, 450 and 560

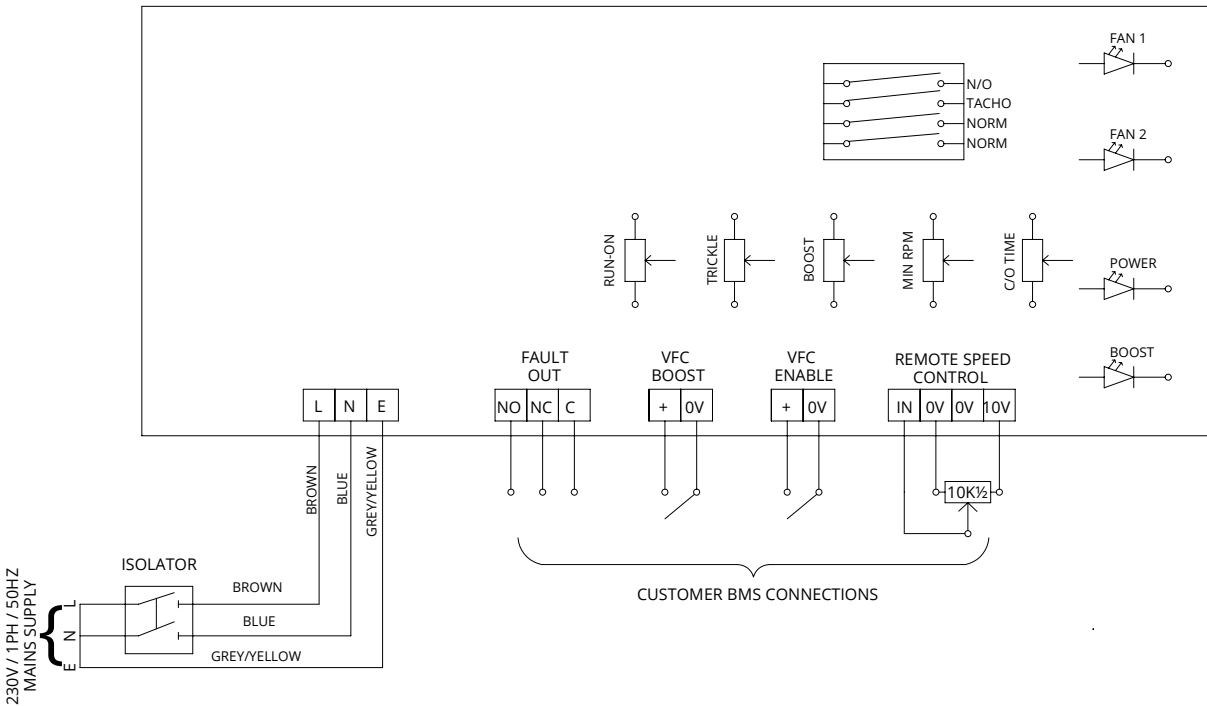


Size	A	B	C	D	E	Weight in kg
150 - EC	450	250	400	150	180	20
200 - EC	450	350	450	200	210	27
250 - EC	600	450	550	250	240	40
315 - EC	850	450	550	250	240	40
350 - EC	950	550	900	350	295	80
450 - EC	1200	650	1200	450	350	131
560 - EC	1500	750	1500	560	415	217

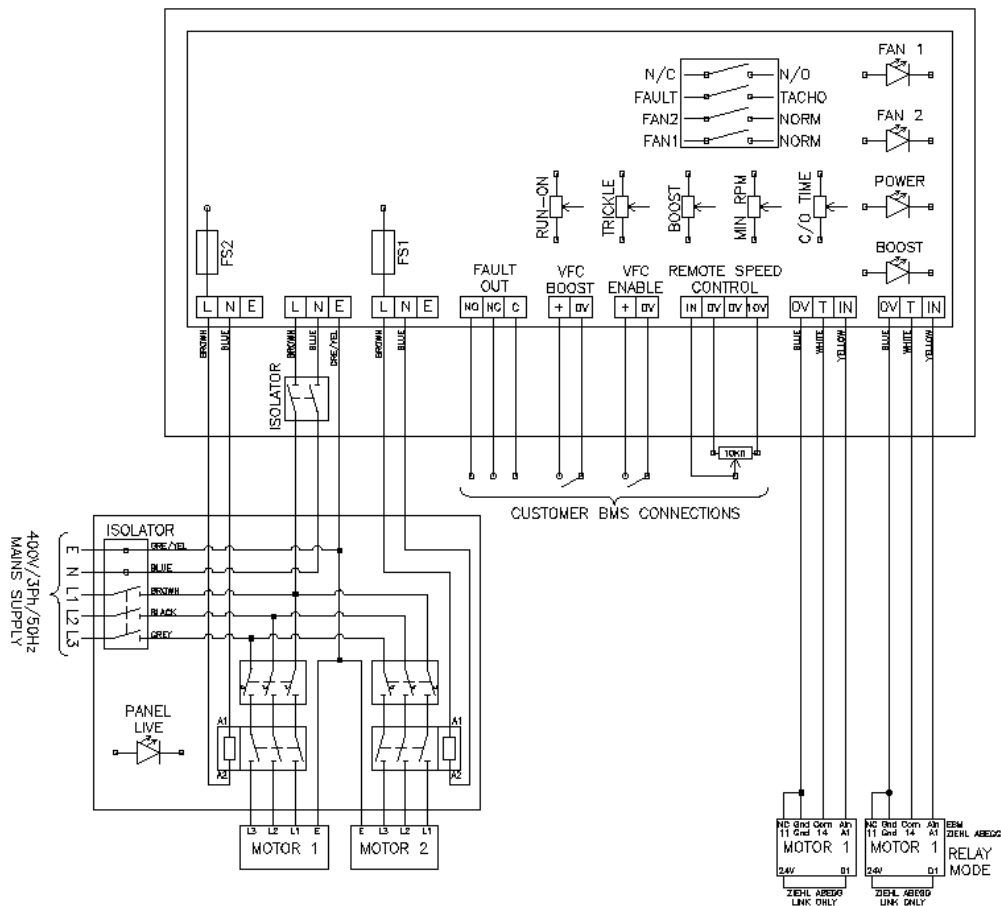
All dimensions shown in mm

WIRING DIAGRAMS

1 Phase Wiring Diagram



3 Phase Wiring Diagram





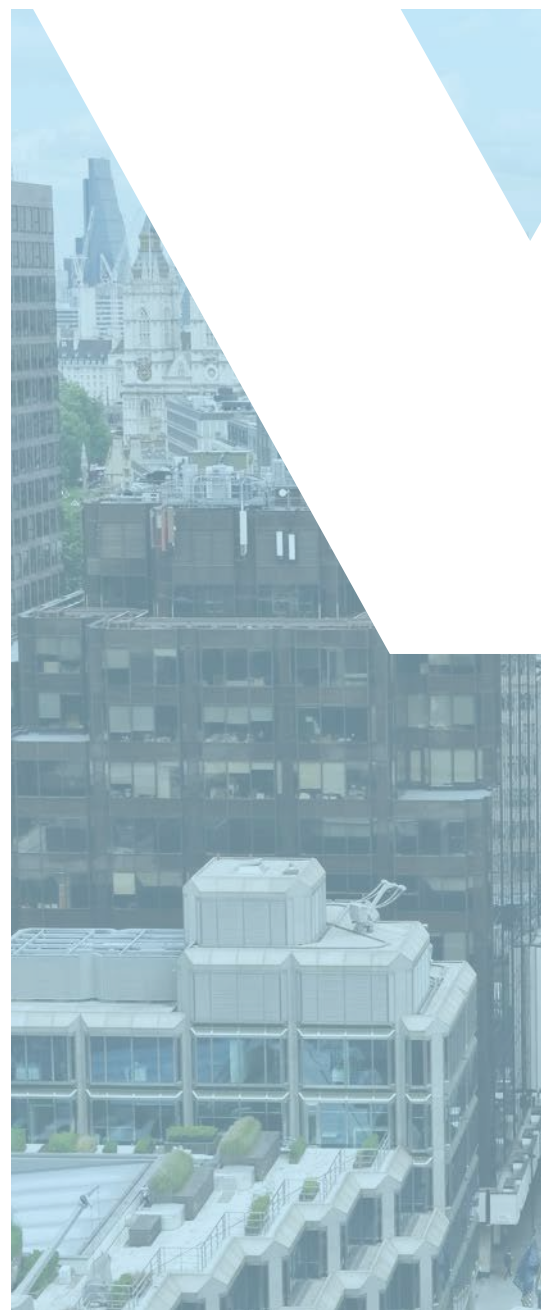
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www.woodsairmovement.com



Duct Fans - ESTOC EC Range



Features

- Sizes from 355 to 630 mm diameter
- Air flow 19,000 m³/h (4.3 m³/s)
- Static pressures up to 840 Pa
- Maximum temperature up to 60°C
- Controllable external rotor motors
- Multiple outlet orientations

Electrical Supply

380 - 420V / 50Hz / 3 Ph

Sizes

355, 400, 450, 500, 560 and 630.

Features and Construction

The Estoc EC casing is galvanized and made from sheet steel with PentaPost Construction and acoustic insulation made from fibre glass with a thickness of 20 mm.

Impeller

The Estoc EC has a backward curved centrifugal impellers made of plastic with galvanised steel support plates for those up to 450 mm. Fans with a diameter of 500 mm and larger have high efficiency backward curved centrifugal impellers made of aluminium.

Motor

The impellers together with the EC (electronically controlled) external rotor motors are dynamically balanced to quality standard G2,5 DIN ISO 19410

Speed Controllers

Speed is variable using auto transformers and includes a integrated emergency switch which is controllable using a 0-10v signal (please see page 99).

Product Code

Estoc EC 50-355

- ESTOC = Product Name
- EC = EC Motor
- 50 = Box Size ie, 50 = 500mm; 67 = 670mm;
80 = 800mm; 102 = 1020mm
- 355 = Spigot diameter size

Accessories

The range of accessories include dampers, flexible connectors, service doors, outlet covers, guards, side covering and insulating connections. A quick reference guide is shown below. For full details on these items please see pages 57-62.



SFC



SSC



SSD



SAD



SOC



SWR



CIG



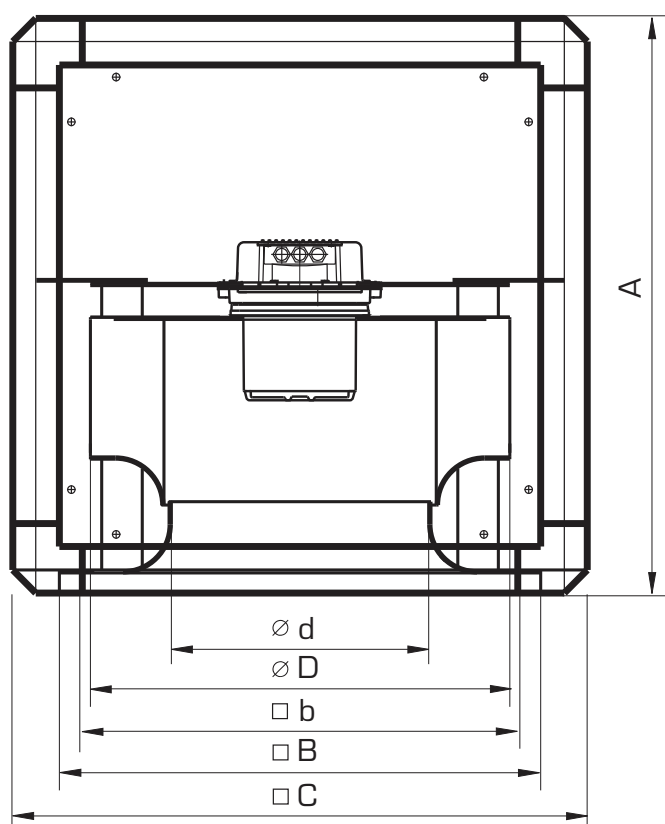
SWR

Electrical Details and Sound Levels

Product Code	Product Number	Speed rpm	Motor Frame	Electrical Supply	Electrical Current			Wiring Diagrams	Maximum Operating Temp °C	Breakout *Sound Level db(A) (3m)	**Speed Controllers Potentiometer
					Motor (kW)	Full Load Current (A)	Starting Current (A)				
ESTOC EC 50-355	UB503559	1500	Integral	220-240 V/50 Hz/1 Ph	0.35	2.1	2.1	CD3013	50	37	✓
ESTOC EC 67-400	UB674059	1500	Integral	220-240 V/50 Hz/1 Ph	0.62	3.7	3.7	CD3015	50	43	✓
ESTOC EC 67-450	UB674559	1450	Integral	220-240 V/50 Hz/1 Ph	1	5.7	5.7	CD3015	50	47	✓
ESTOC EC 80-500	UB805069	1500	Integral	380-420 V/50 Hz/3 Ph	1.9	3	3	CD3010	50	50	✓
ESTOC EC 80-560	UB805669	1400	Integral	380-420 V/50 Hz/3 Ph	2.8	4.3	4.3	CD3010	50	50	✓
ESTOC EC 102-630	UB106369	1100	Integral	380-420 V/50 Hz/3 Ph	2.3	3.7	3.7	CD3010	50	43	✓

*Sound power levels are average dBA at 3 metres distance over sphere, under free field conditions and are presented for comparative purposes only. Values taken at the mid point on the wave at the highest point. **For speed controllers, please see page 99.

Drawings and Dimensions



Product Code	A	□ B	□ b	□ C	Ø D	Ø d	Max Weight Kg
ESTOC EC 50-355	500	450	420	500	359	228	36
ESTOC EC 67-400	670	620	590	670	404	257	47
ESTOC EC 67-450	670	620	590	670	454	289	53
ESTOC EC 80-500	800	720	690	800	510	325	84
ESTOC EC 80-560	800	720	690	800	570	362	86
ESTOC EC 102-630	1020	940	910	1020	640	410	102

All dimensions shown in mm

Wiring Diagrams

CD3013



CD3015

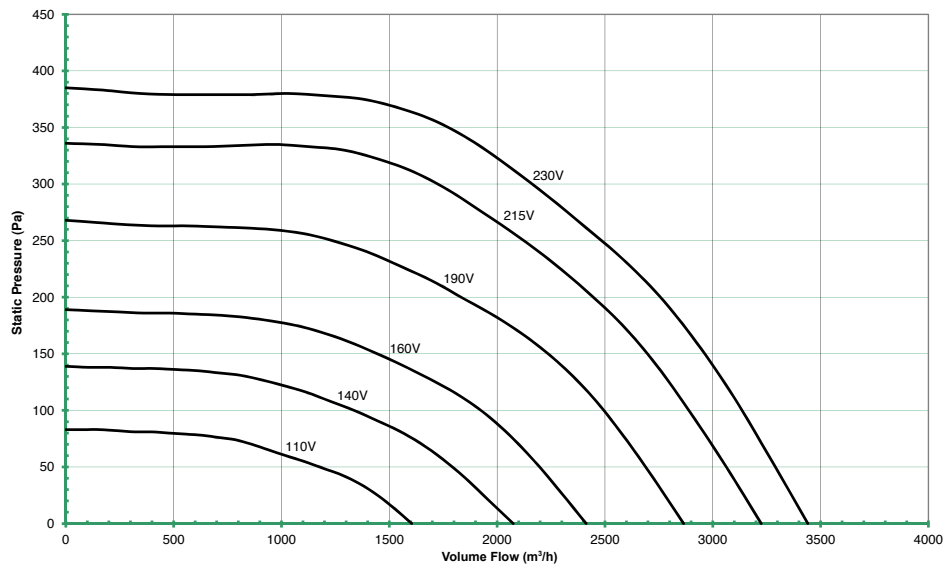


CD3010

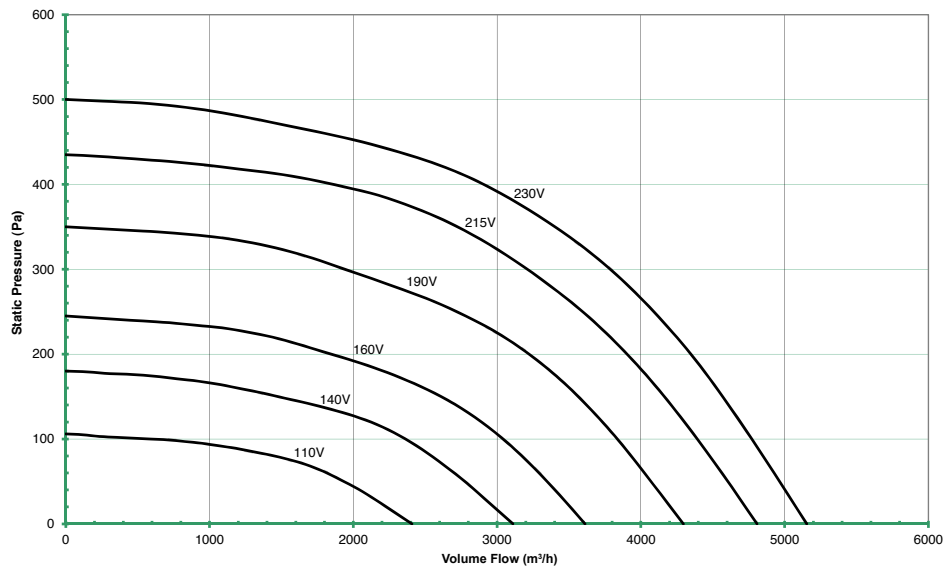


Performance Data

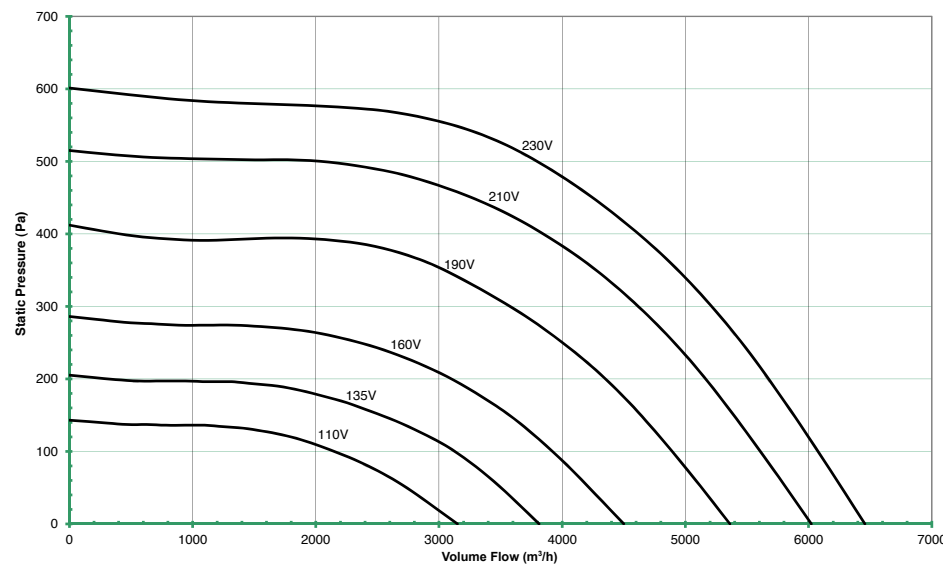
ESTOC EC 50-355



ESTOC EC 67-400

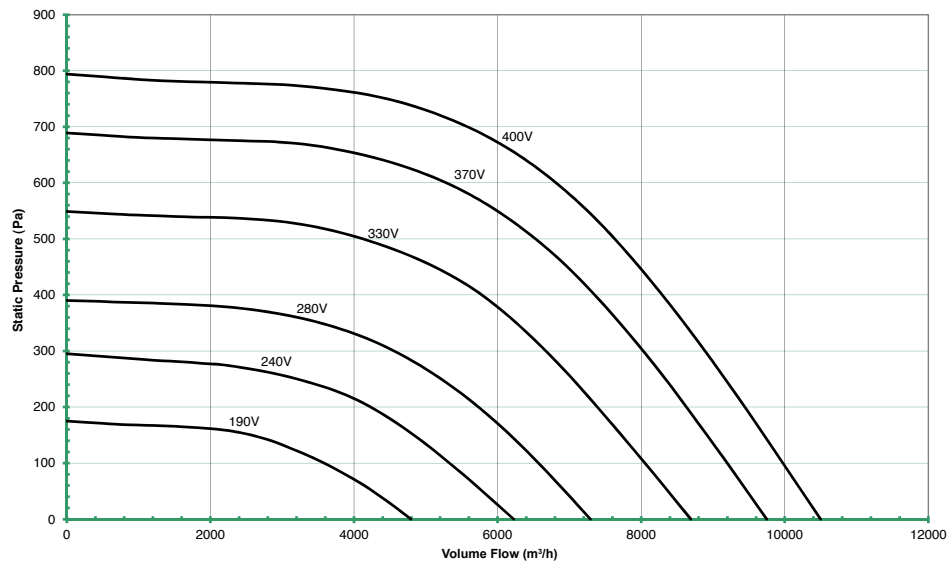


ESTOC EC 67-450

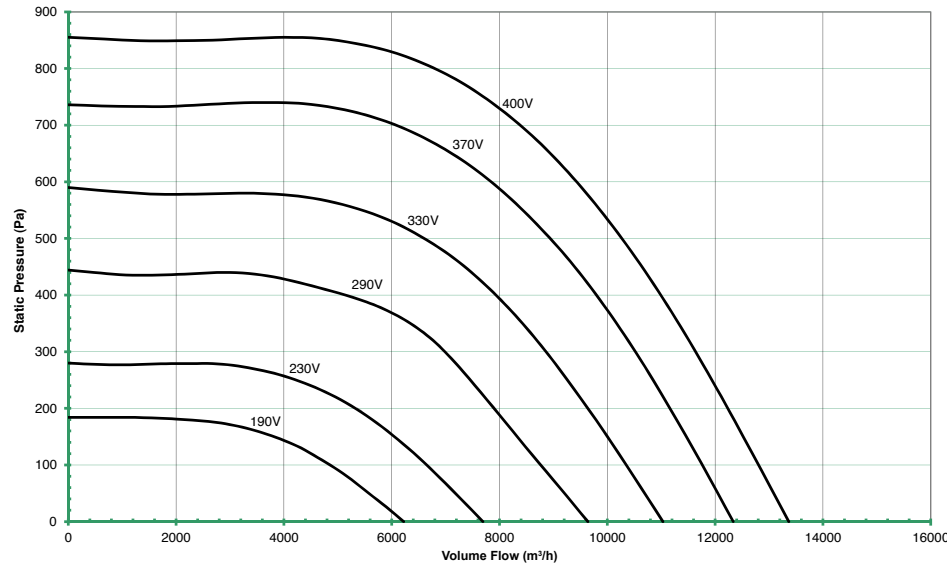


Performance Data

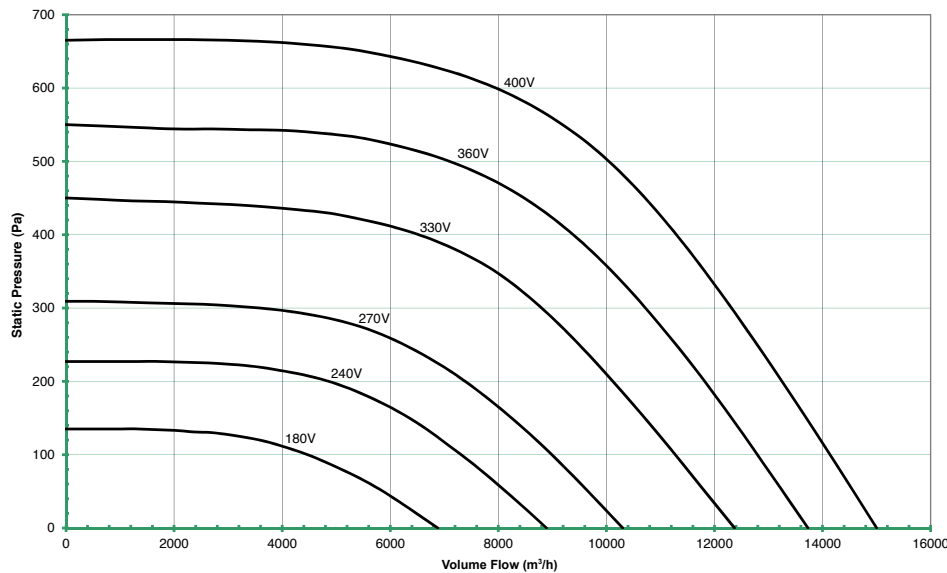
ESTOC EC 80-500



ESTOC EC 80-560



ESTOC EC 102-630



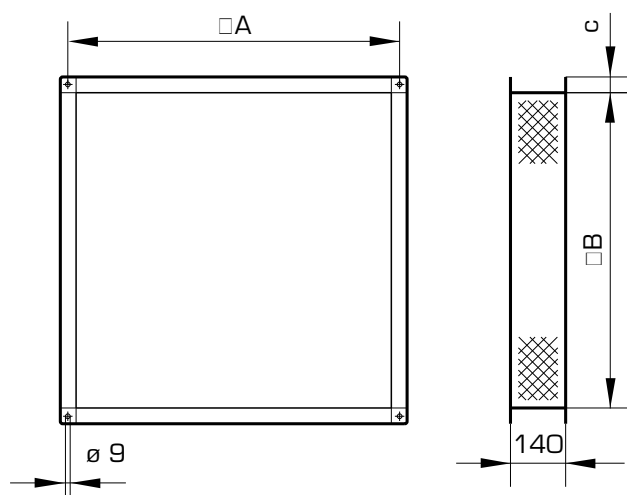
Accessories

SFC - Flexible Connection



Estoc and Estoc EC SFC connections are made of galvanized sheet steel. Flexible middle section made of PVC woven cloth with a temperature range up to +70°C.

Estoc Targe connections are made of galvanized sheet steel. Flexible middle section made of PU coated fibre glass cloth with a temperature range up to +180°C.



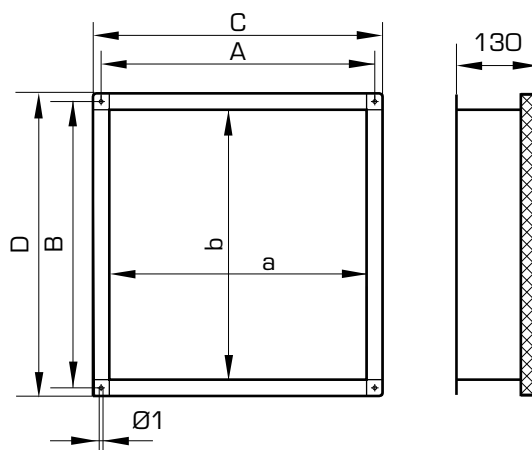
Product Code	Product Number	A	B	C
ESTOC/ESTOC EC 50-355	BI101030	433	409	20
ESTOC/ESTOC EC 67-400	BI101031	603	579	20
ESTOC/ESTOC EC 67-500	BI101031	603	579	20
ESTOC/ESTOC EC 80-560	BI101033	697	659	30
ESTOC/ESTOC EC 80-630	BI101033	697	659	30
ESTOC/ESTOC EC 102-710	BI101035	917	879	30

Product Code	Product number	Inlet or Outlet	A	B	C
ESTOC TARGE 50-355	BI101073	Outlet	398	218	30
ESTOC TARGE 50-355	BI101074	Inlet	388	388	30
ESTOC TARGE 67-400+450	BI101075	Outlet	568	258	30
ESTOC TARGE 67-400+450	BI101076	Inlet	488	488	30
ESTOC TARGE 80-500+630	BI101077	Outlet	698	338	30
ESTOC TARGE 80-500+630	BI101078	Inlet	618	618	30
ESTOC TARGE 102-630	BI101079	Outlet	918	398	30
ESTOC TARGE 102-630	BI101080	Outlet	788	788	30

SIC - Insulating Connection



Insulating connection made of galvanized sheet steel for easy cleaning. Mechanical isolation through EPDM - foamed rubber



Part Number	Product Number	a	b	A	B	C	D
ESTOC TARGE 50-355	BI101142	360	180	390	210	420	240
ESTOC TARGE 50-355	BI101143	350	350	380	380	410	410
ESTOC TARGE 67-400	BI101144	530	220	560	250	590	280
ESTOC TARGE 67-400	BI101145	450	450	480	480	510	510
ESTOC TARGE 67-450	BI101144	530	220	560	250	590	280
ESTOC TARGE 67-450	BI101145	450	450	480	480	510	510
ESTOC TARGE 80-500	BI101148	660	300	690	330	720	360
ESTOC TARGE 80-500	BI101149	580	580	610	610	640	640
ESTOC TARGE 80-560	BI101148	660	300	690	330	720	360
ESTOC TARGE 80-560	BI101149	580	580	610	610	640	640
ESTOC TARGE 80-630	BI101148	660	300	690	330	720	360
ESTOC TARGE 80-630	BI101149	580	580	610	610	640	640
ESTOC TARGE 102-630	BI101154	880	360	910	390	940	420
ESTOC TARGE 102-630	BI101155	750	750	780	780	810	810

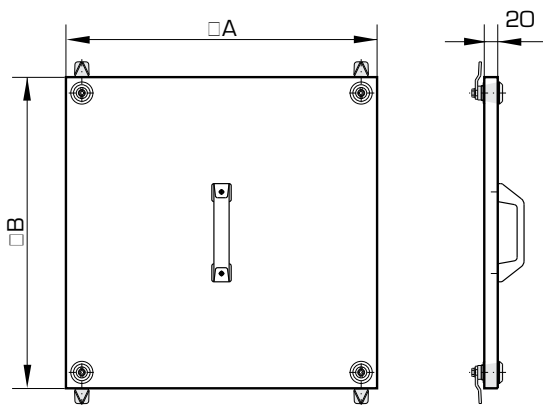
All dimensions shown in mm

Accessories

SSD - Service Door



Service door for an easy access to the motorized impeller.



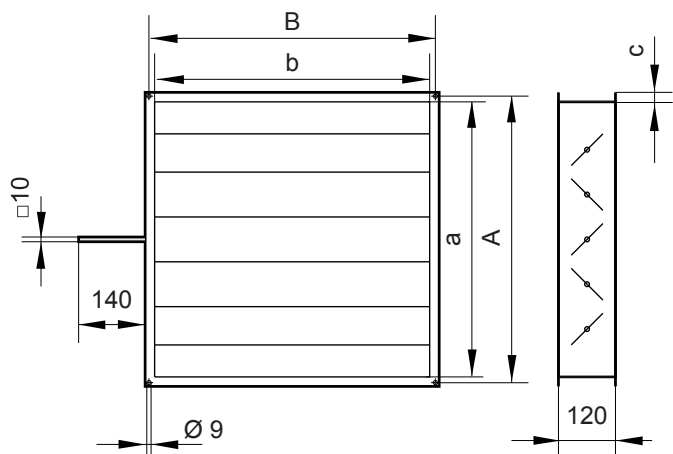
Product Code	Product Number	A	B
ESTOC/ESTOC EC 50-355	BI101042	450	450
ESTOC/ESTOC EC 67-400	BI101043	620	620
ESTOC/ESTOC EC 67-500	BI101043	620	620
ESTOC/ESTOC EC 80-560	BI101045	720	720
ESTOC/ESTOC EC 80-630	BI101045	720	720
ESTOC/ESTOC EC 102-710	BI101047	940	940

Product Code	Product Number	A	B
ESTOC TARGE 50-355	BI101093	450	340
ESTOC TARGE 67-400	BI101094	620	420
ESTOC TARGE 67-450	BI101094	620	420
ESTOC TARGE 67-500	BI101096	620	510
ESTOC TARGE 80-560	BI101097	720	360
ESTOC TARGE 80-630	BI101097	720	360

SAD - Air Damper



For mounting on estoc. Casings made of galvanized sheet steel, lamellas of aluminium. Exterior adjusting lever for regulating mechanism of lamellas.



Product Code	Product Number	a	b	A	B	c
ESTOC/ESTOC EC 50-355	BI101048	409	409	433	433	20
ESTOC/ESTOC EC 67-400	BI101049	579	579	603	603	20
ESTOC/ESTOC EC 67-500	BI101049	579	579	603	603	20
ESTOC/ESTOC EC 80-560	BI101051	659	659	697	697	30
ESTOC/ESTOC EC 80-630	BI101051	659	659	697	697	30
ESTOC/ESTOC EC 102-710	BI101053	879	879	917	917	30

Product Code	Product Number	a	b	A	B	c
ESTOC TARGE50-355	BI101100	359	180	397	218	30
ESTOC TARGE 67-400	BI101101	529	220	567	258	30
ESTOC TARGE 67-450	BI101101	529	220	567	258	30
ESTOC TARGE 80-500	BI101103	659	300	697	338	30
ESTOC TARGE 80-560	BI101103	659	300	697	338	30
ESTOC TARGE 80-630	BI101103	659	300	697	338	30
ESTOC TARGE 102-630	BI101106	879	359	917	397	30

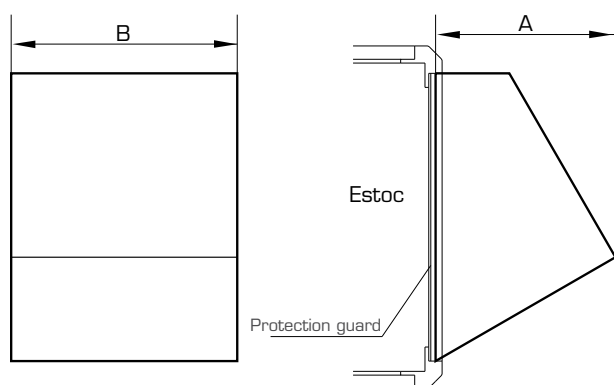
All dimensions shown in mm

Accessories

SOC - Outlet Cover



Rain safe outlet cover made of galvanized sheet steel, for installation in free-blowing unit.



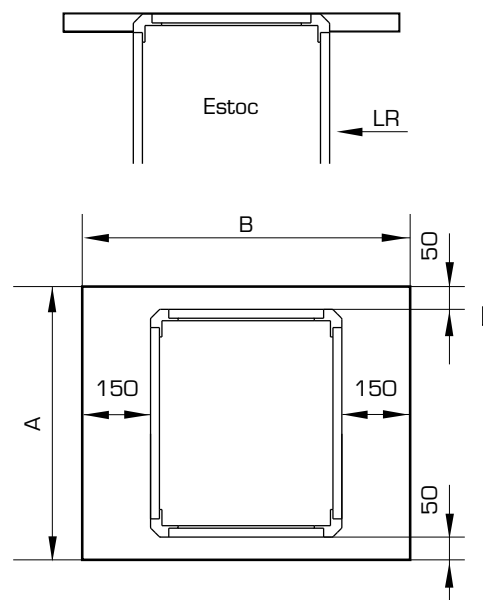
Product Code	Product Number	A	B
ESTOC/ESTOC EC 50-355	BI101054	300	450
ESTOC/ESTOC EC 67-400	BI101055	380	620
ESTOC/ESTOC EC 67-500	BI101055	380	620
ESTOC/ESTOC EC 80-560	BI101057	430	720
ESTOC/ESTOC EC 80-630	BI101057	430	720
ESTOC/ESTOC EC 102-710	BI101059	520	940

Product Code	Product Number	A	B
ESTOC TARGE 50-355	BI101107	300	240
ESTOC TARGE 67-400	BI101108	380	280
ESTOC TARGE 67-450	BI101108	380	280
ESTOC TARGE 80-500	BI101110	430	360
ESTOC TARGE 80-560	BI101110	430	360
ESTOC TARGE 80-630	BI101110	430	360
ESTOC TARGE 102-630	BI101113	520	420

SWR - Roof Weather Protection



Additional protection when mounted outside made of corrosion-resistant aluminium.



Product Code	Product Number	A	B
ESTOC/ESTOC EC 50-355	BI101060	600	800
ESTOC/ESTOC EC 67-400	BI101061	770	970
ESTOC/ESTOC EC 67-450	BI101061	enq	enq
ESTOC/ESTOC EC 67-500	BI101061	770	970
ESTOC/ESTOC EC 80-560	BI101063	900	1100
ESTOC/ESTOC EC 80-630	BI101063	900	1100
ESTOC/ESTOC EC 102-710	BI101065	1120	1320

Product Code	Product Number	A	B
ESTOC TARGE 50-355	BI101121	600	720
ESTOC TARGE 67-400	BI101122	770	800
ESTOC TARGE 67-450	BI101122	770	800
ESTOC TARGE 67-500	BI101124	900	890
ESTOC TARGE 80-560	BI101125	900	1040
ESTOC TARGE 80-630	BI101126	900	1100
ESTOC TARGE 102-710	BI101127	1120	1180

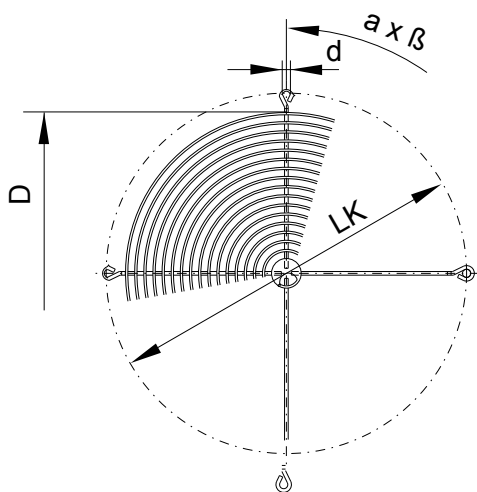
All dimensions shown in mm

Accessories

SIG - Protection Guard



Protection guard for suction side cover made of steel.

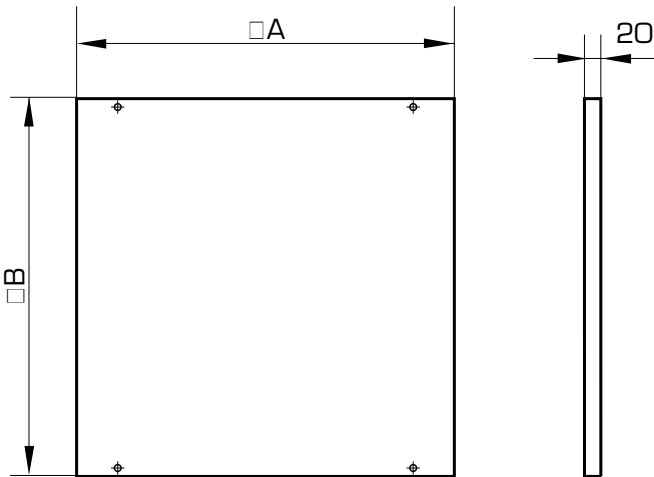


Product Code	Product Number	D	LK	d	a x β
ESTOC/ESTOC EC 50-355	BI101066	270	320	9	3x120°
ESTOC/ESTOC EC 67-400	BI101067	310	356	9	3x120°
ESTOC/ESTOC EC 67-450	BI101068	350	395	9	4x90°
ESTOC/ESTOC EC 67-500	BI101069	390	438	9	4x90°
ESTOC/ESTOC EC 80-560	BI101070	450	490	11,5	4x90°
ESTOC/ESTOC EC 80-630	BI101071	490	541	11,5	4x90°
ESTOC/ESTOC EC 102-710	BI101072	630	674	11,5	8x45°

SSC - Side Covering



For covering of casing sides with integrated insulating.



Product Code	Product Number	A	B
ESTOC/ESTOC EC 50-355	BI101036	450	450
ESTOC/ESTOC EC 67-400	BI101037	620	620
ESTOC/ESTOC EC 67-500	BI101037	620	620
ESTOC/ESTOC EC 80-560	BI101039	720	720
ESTOC/ESTOC EC 80-630	BI101039	720	720
ESTOC/ESTOC EC 102-710	BI101041	940	940

Product Code	Product Number	A	B
ESTOC TARGE 50-355	BI101081	450	340
ESTOC TARGE 67-400	BI101082	590	420
ESTOC TARGE 67-450	BI101082	590	420
ESTOC TARGE 80-500	BI101084	720	510
ESTOC TARGE 80-560	BI101085	720	220
ESTOC TARGE 80-560	BI101086	720	360
ESTOC TARGE 80-560	BI101087	720	280
ESTOC TARGE 80-630	BI101085	720	220
ESTOC TARGE 80-630	BI101086	720	360
ESTOC TARGE 80-630	BI101087	720	280
ESTOC TARGE 102-630	BI101091	940	300
ESTOC TARGE 102-630	BI101092	940	420

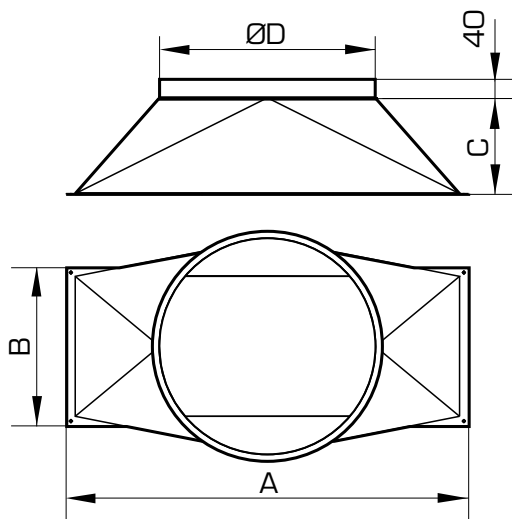
All dimensions shown in mm

Accessories

STP - Adapter Piece (Estoc Targe only)



Allows seamless intersection on outlet side on a standard diameter, made of galvanized sheet steel.

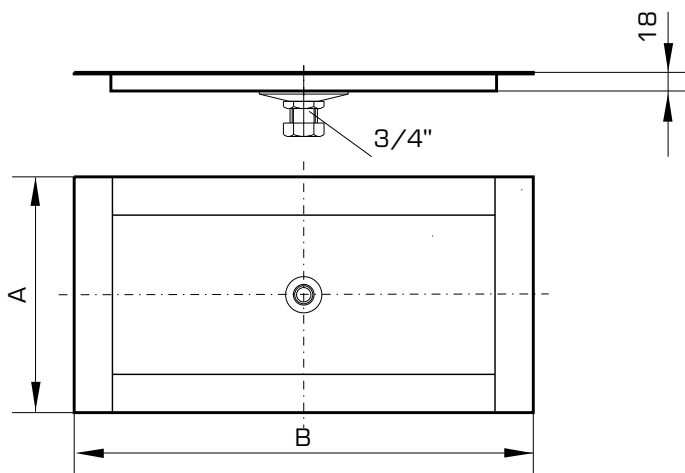


Product Code	Product Number	A	B	C	ØD	Hole (St./Pcs.)
ESTOC TARGE 50-355	BI101114	418	238	250	355	4
ESTOC TARGE 67-400	BI101115	588	278	280	450	6
ESTOC TARGE 67-450	BI101115	588	278	280	450	6
ESTOC TARGE 80-500	BI101117	718	358	320	560	6
ESTOC TARGE 80-560	BI101117	718	358	320	560	6
ESTOC TARGE 80-630	BI101117	718	358	320	560	6
ESTOC TARGE 102-630	BI101120	938	418	400	630	8

SDT - Drip Tray (Estoc Targe only)



For absorbing of condensation with discharge nozzles for flexible tube connection. Connection: 3/4".



Product Code	Product Number	A	B
ESTOC TARGE 50-355	BI101128	268	448
ESTOC TARGE 67-400	BI101129	308	618
ESTOC TARGE 67-450	BI101129	308	618
ESTOC TARGE 80-500	BI101131	368	748
ESTOC TARGE 80-560	BI101132	388	748
ESTOC TARGE 80-630	BI101132	388	748
ESTOC TARGE 102-630	BI101134	448	968

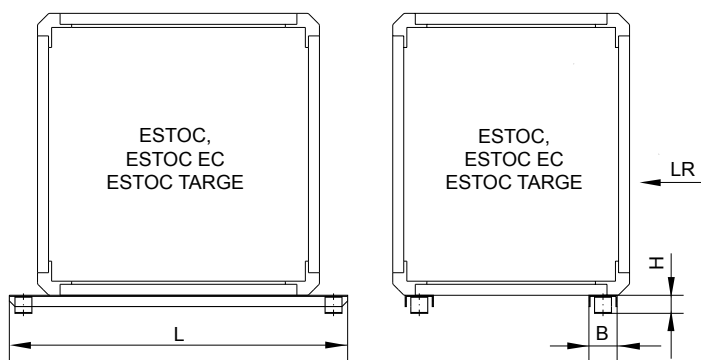
All dimensions shown in mm

Accessories

SMT - Mounting Track



For quick and easy assembly. One delivery set contains two pieces.



	Part Code	Part Number	L	B	H
ESTOC TARGE 50-355	ESTOC/ESTOC EC 50-355	BI101135	600	50	32
ESTOC TARGE 67-400	ESTOC/ESTOC EC 67-400	BI101136	770	50	32
ESTOC TARGE 67-450	ESTOC/ESTOC EC 67-450	BI101136	770	50	32
ESTOC TARGE 80-500	ESTOC/ESTOC EC 80-500	BI101136	900	60	52.5
ESTOC TARGE 80-560	ESTOC/ESTOC EC 80-560	BI101138	900	60	52.5
ESTOC TARGE 80-630	ESTOC/ESTOC EC 80-630	BI101138	900	60	52.5
ESTOC TARGE 102-630	ESTOC/ESTOC EC 102-630	BI101141	1120	60	52.5

All dimensions shown in mm

MTC - MultiControl

Control and regulating device

- Display with text display
- Weekly program
- Modbus Slave communication
- Alarm function
- Damper actuator function



Description:

You receive with the MTC-MultiControl a multi-function controller with integrated display. The housing is made of plastic and can be easily installed on the desired mounting location for example wall by using two screws. The integrated week timer is adjustable through a Day/Night-Set point and is able to switch on/off the controller. The varied areas of use characterise this controller. There are no limits for the controller with the predefined programs e.g., pressure-, volume flow-, temperature-, humidity-, CO₂-, speed control and more directors.

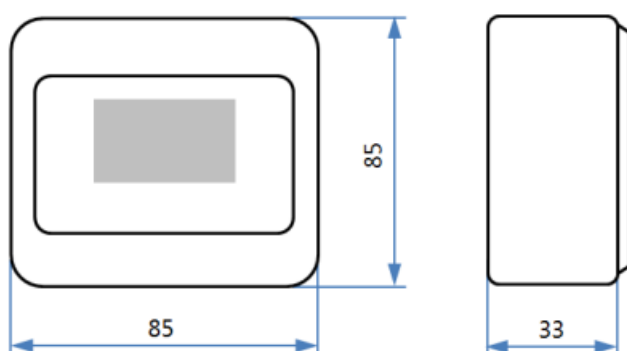
The MTC is equipped with two control loops (two outputs 0-10Vdc) and a relay output. Various adjustable parameters are available for the optimal use of the controller. The MTC was specially developed for the usage of EC-Fans. Through a MicroSD-Card the predefined parameters can be transferred in a simple way to the controller, perfectly suited for use in a wide variety of applications.

The setting parameters were described in the controller manual.

Technical Data:

Type	Art.-No.	Voltage/ Frequency	Protection class	Ambiente temperature	Output current 0-10V	Relais output	Weight
MTC	H55-00073	230V AC / 50Hz	IP40	0-50°C	10mA	5A	100 g

Dimensions:



Applications:



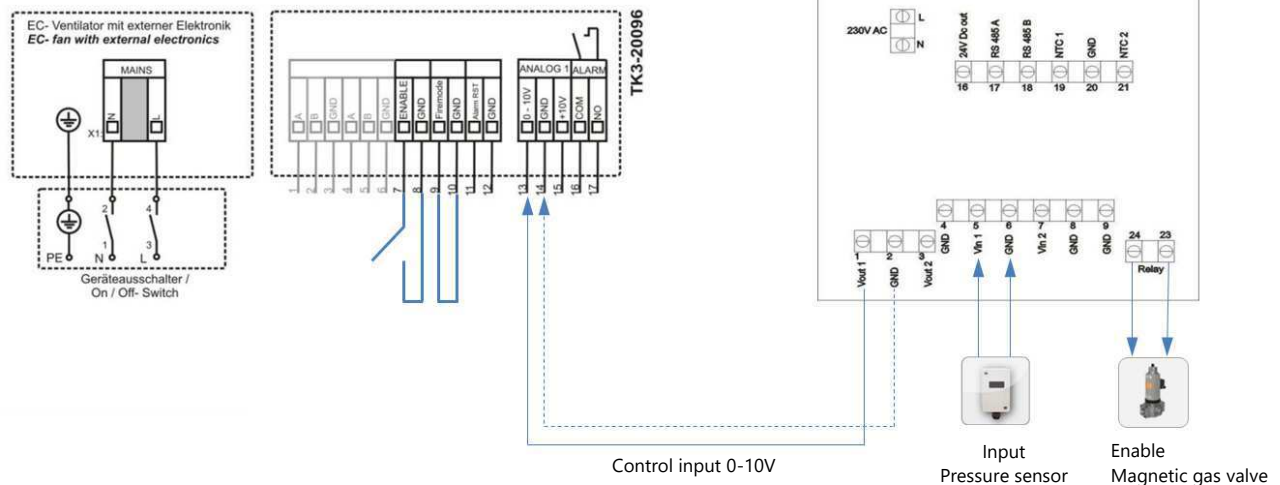
Kitchen exhaust air in connection with magnetic gas valve



EC-Unobox-ME



MTC 230V



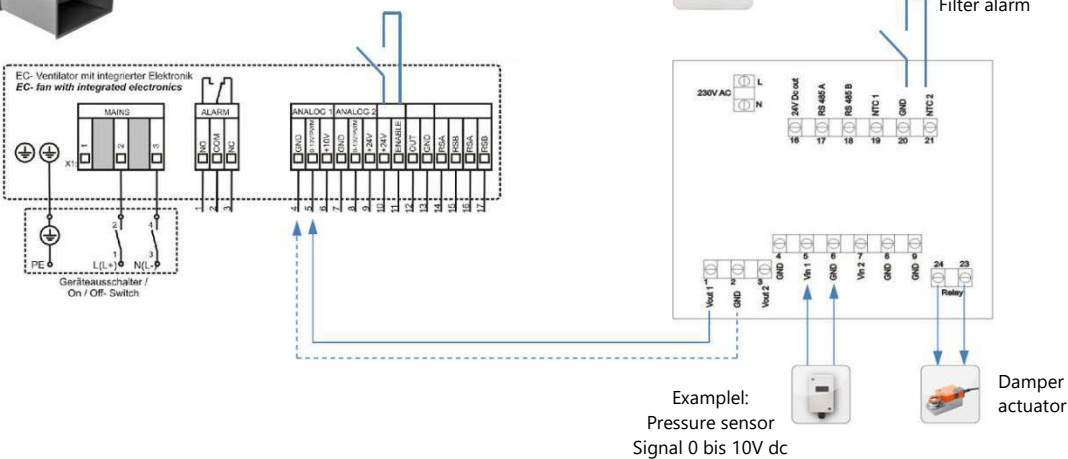
Fans in connection with Dampers control and Filter monitor



EC-Duct fan



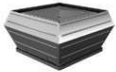
MTC 230V



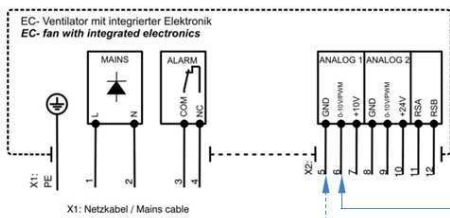
Applications:



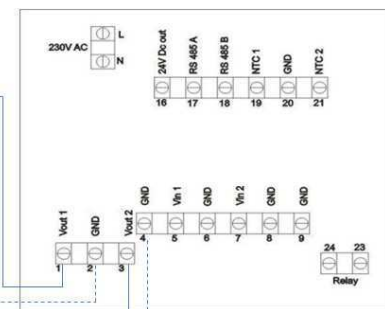
EC-Fans
Two fans with different speed



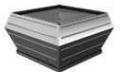
EC-Roof fan (1)



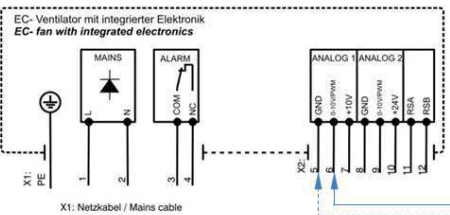
MTC 230V
Software 2.4



Control input 0-10V e.g. 8V



EC-Roof fan (2)



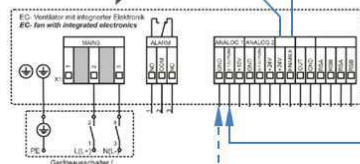
Control input 0-10V
(follow Roof fan 1 e.g. with 75% of 8V = 6V)



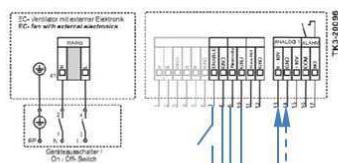
AHU 2 (Note: For this application you need a another MTC)
EC-Supply air unit und EC-Exhaust air unit



EC-Supply air unit



EC-Exhaust air unit



Control input 0-10V e.g. 8V

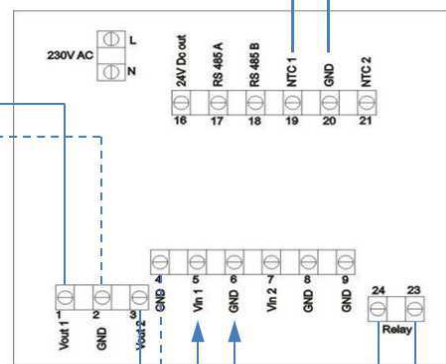
Control input 0-10V
(follow Supply air unit e.g. with 75% of 8V = 6V)



MTC 230V
Software 2.4



Filter Alarm



Example:
Pressure sensor Signal 0-10V dc



Damper actuator
Attention:
With spring return!

Scope of delivery:

- MTC (MultiControl)
- Documentation

CASED AXIAL JM AEROFOIL BIFURCATED

PRODUCT FACTS

- Air flow up to 17.3 m³/s
- Static pressures up to 995 Pa
- Motor protection and terminal block IP55
- Fans tested to ISO5801 and BS848
- Overheat protection available
- Motor is external to air stream
- DW172 compliant for solid fuel cooking applications

ELECTRICAL SUPPLY

380-420V/50Hz/3φ

1 phase is available via inverter drive - dependent on fan size

TEMPERATURE RANGE

Suitable for temperatures between 100°C and 200°C (continuous operation) - exempt from ErP legislation.

SIZES

400, 500, 560, 630, 800 & 1000 mm

IMPELLERS

A unique high efficiency aerofoil section blade with a smoothed hub and clamp plate for adjustable pitch angle availability.

Woods impellers are die cast to offer thin aerofoil sections for low generation of noise. Every component is X-rayed using Real Time Radiography inspection prior to assembly. The maximum pitch angles shown allow for speed control by frequency inverter.

MOTORS

All motors are totally enclosed fan cooled class F insulation with protection to IP55 and are IE1/IE3 compliant. All motors are supplied with sealed for life bearings or extended lubricators. These motors are suitable for inverter speed control down to 20% of full speed.

CASING

Bifurcated fans are available long case only. Long casing covers impeller and motor and has duct mounted terminal box. The hot dipped galvanised casing gives a high resistance to corrosion. Motor is mounted inside a tunnel, so is 'out of air stream'.

Bifurcated fans for external roof mounting, please ensure the motor tunnel is mounted vertically downwards to avoid water ingress.



TEMPERATURE RANGE

If the temperature of airflow within a bifurcated fan system is excessive, Woods recommend that the fan is allowed to overrun so that any heat is removed from the system. Failure to do this could mean that heat will transfer via the shaft/casing to the motor tunnel, which could cause degradation of the grease and lead to premature failure.

PRODUCT CODE

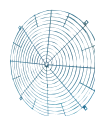
63JMBif/20/4/6/30

- 63 - denotes the fan impeller diameter in centimetres
- JM. Bif - denotes bifurcated variant
- 20 - denotes impeller hub diameter in centimetres
- 4 - denotes a nominal 8 pole speed
- 6 - denotes the number of blades
- 30 - denotes the pitch angle for the required duty

ACCESSORIES (Pages 230-227) - CONTROLLERS (Pages 249-297)



Damper



Guard



Bellmouth



Flange



Mounting Feet



Silencer



Spring AV's



Flexible Connector



Controls Inverter

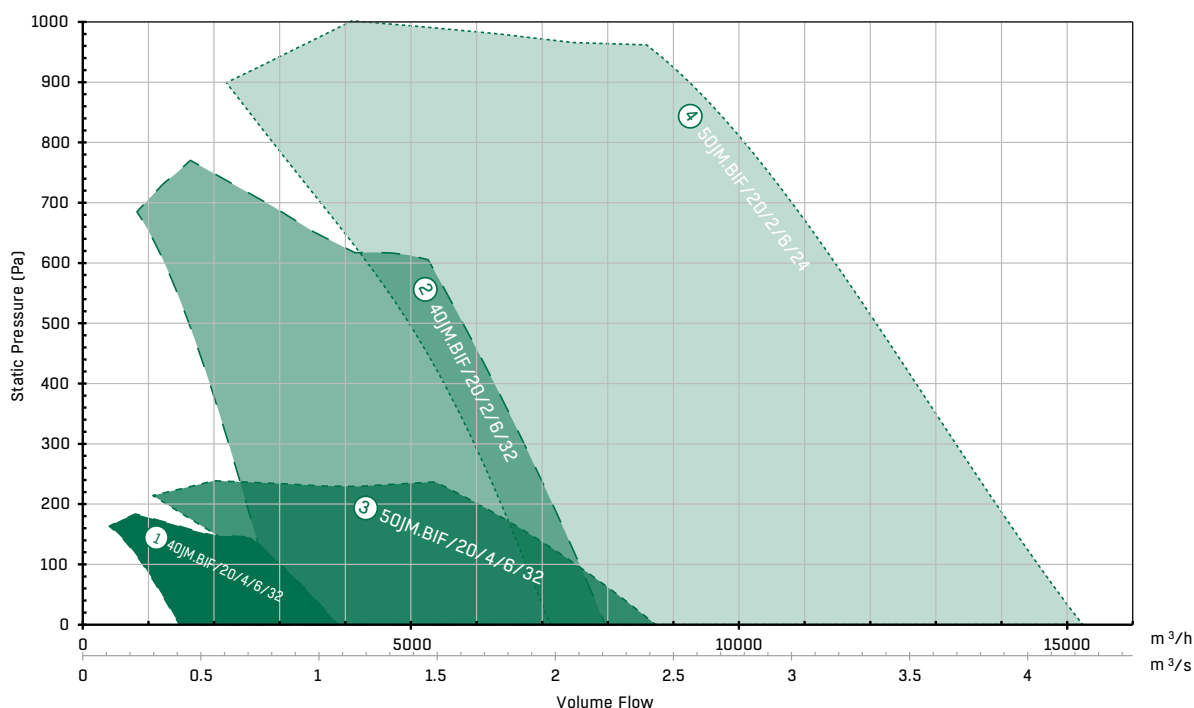


Rubber AV's

JM BIFURCATED PERFORMANCE AND ELECTRICAL DATA

380-420V/50HZ/3 ϕ

PERFORMANCE CHART - 400-500 MM



As standard 3 phase JM Aerofoils are supplied at the maximum pitch angle, the envelope curve above illustrates the pitch angle range available on request.

PERFORMANCE TABLE - 400-500 MM

Ref	Product Code	m³/s @ Pa (Static)												
		0	50	100	150	200	250	300	400	500	600	700	800	900
1	40JM.BIF/20/4/6/32	1.07	0.96	0.83										
2	40JM.BIF/20/2/6/32	2.21	2.15	2.1	2.04	1.98	1.92	1.86	1.74	1.6	1.46			
3	50JM.BIF/20/4/6/32	2.42	2.26	2.08	1.89	1.67								
4	50JM.BIF/20/2/6/24	4.23	4.13	4.04	3.95	3.86	3.78	3.69	3.52	3.35	3.18	3	2.8	2.56

PRODUCT & ELECTRICAL DETAILS - 400-500 MM

Ref	Product Code	Product Number	Pitch Angle (°)		Speed rev/min	Motor	Rating (kW)	Full Load Current (A)	Starting Current (A)	Wiring Diagram (CD)	Inverter 3-3Ph	Inverter 1-3Ph	Inlet Sound Levels
			Min	Max									
1	40JM.BIF/20/4/6/32	JN245011	8	32	1440	90S (IE1)	0.55	1.36	8.7	CD2416	IDDXF54-2.2	IEDXB20 4.2	58
3	40JM.BIF/20/2/6/32	JN245009	8	32	2950	90L (IE3)	2.2	4.58	30.2	CD2416	IDDXF54-5.3	IEDXB20 9.6	75
2	50JM.BIF/20/4/6/32	JN275012	8	32	1440	90S (IE3)	0.75	1.69	9.97	CD2416	IDDXF54-2.2	IEDXB20 4.2	62
4	50JM.BIF/20/2/6/24	JN275011	8	24	2950	112M (IE3)	4.0	7.72	50.2	CD2417	IDDXF54-9	-	80

Sound pressure levels quoted are at the inlet, and are average dBA at 3m distance over a sphere at the mid point at the highest angle given, under free field conditions. These are presented for comparative purposes only. For speed controllers please see pages 250-297.

1 phase inverter drives are available on request, please contact our sales office for more information.

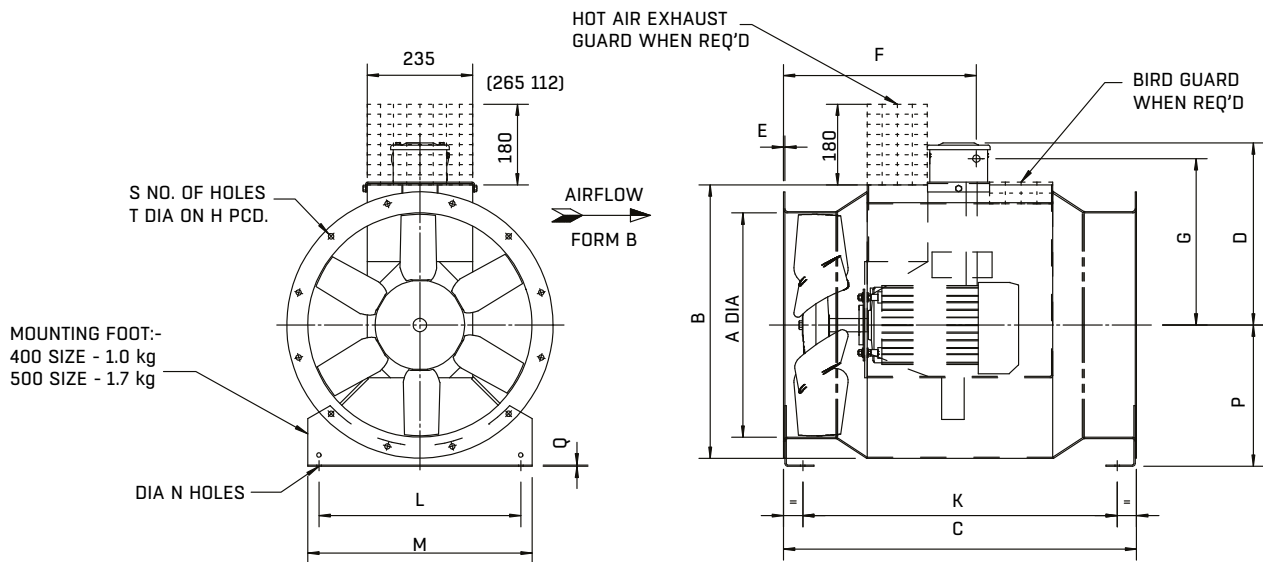
Please note the fan must be re-connected in Delta when using the 1-3 phase inverter drive.

Products in **bold** are available from our UK Distributors on next day delivery, if ordered by 4pm. Please call to confirm availability on 01206 222 580.





DRAWING - 40JM.BIF-50JM BIF



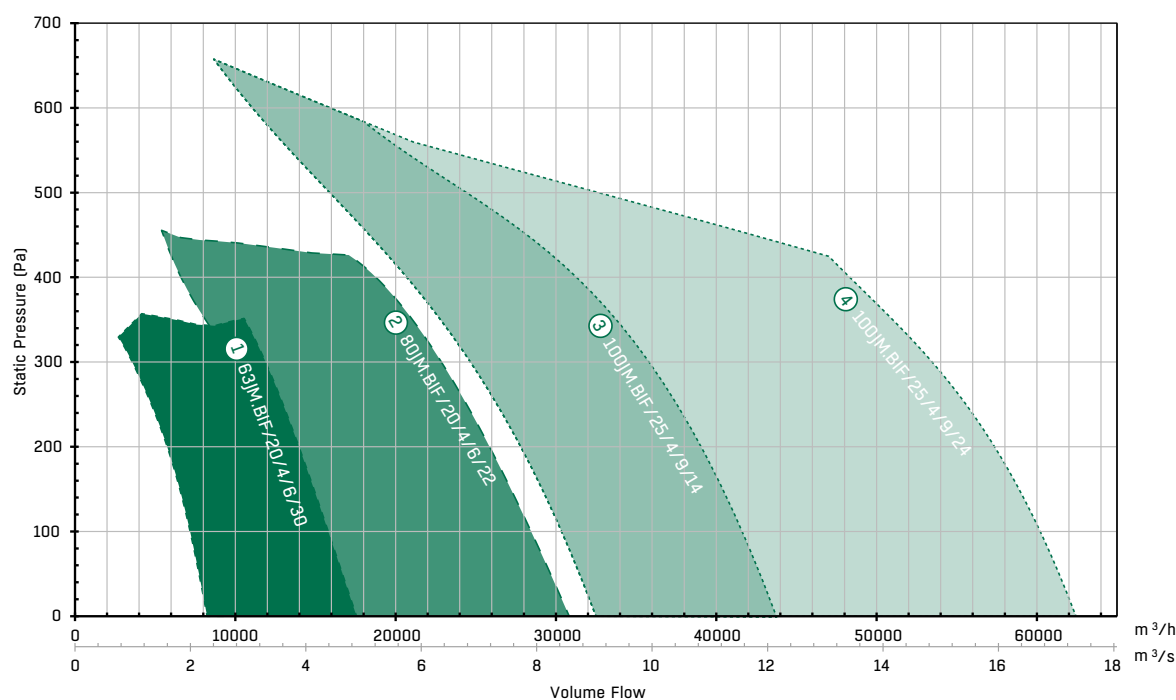
Product Code	Motor Range	A	B	C	D	E	F	G	H	K	L	M	N	P	Q	S	T	Max. Fan Weight (kg)
40JM.Bif/20/4/6/32	90S	400	524	726	334	3	407	356	450	641	350	400	10	250	3	8	12	55
40JM.Bif/20/2/6/32	90L	400	524	726	334	3	407	356	450	641	350	400	10	250	3	8	12	57
50JM.Bif/20/4/6/32	90S	500	610	787	383	3	397	361	560	691	450	500	10	315	3	12	12	62
50JM.Bif/20/2/6/24	112M	500	610	787	383	3	397	361	560	691	450	500	10	315	3	12	12	76

All dimensions in mm.

JM BIFURCATED PERFORMANCE AND ELECTRICAL DATA

380-420V/50HZ/3 ϕ

PERFORMANCE CHART - 630-1000 MM



As standard 3 phase JM Aerofoils are supplied at the maximum pitch angle, the envelope curve above illustrates the pitch angle range available on request.

PERFORMANCE TABLE - 630-1000 MM

Ref	Product Code	m³/s @ Pa (Static)								
		0	50	100	150	200	250	300	400	500
1	63JM.BIF/20/4/6/30	4.87	4.63	4.38	4.13	3.88	3.6	3.3		
2	80JM.BIF/20/4/6/22	8.56	8.23	7.9	7.55	7.18	6.78	6.34	5.21	
3	100JM.BIF/25/4/9/14	12.15	11.86	11.56	11.22	10.84	10.42	9.94	8.69	6.78
4	100JM.BIF/25/4/9/24	17.34	17.05	16.72	16.35	15.93	15.43	14.85	13.42	

PRODUCT & ELECTRICAL DETAILS - 630-1000 MM

Ref	Product Code	Product Number	Pitch Angle (°)		Speed rev/min	Motor	Rating (kW)	Full Load Current (A)	Starting Current (A)	Wiring Diagram (CD)	Inverter 3-3Ph	Inverter 1-3Ph	Inlet Sound Levels
			Min	Max									
1	63JM.BIF/20/4/6/30	JN305003	10	30	1440	100L (IE3)	2.2	4.43	32.8	CD2416	IDDXF54-5.3	IEDXB20 9.6	72
2	80JM.BIF/20/4/6/22	JN839013	8	22	1440	112M (IE3)	4.0	8.11	49.5	CD2417	IDDXF54-9	-	72
3	100JM.BIF/25/4/9/14	JN139425	8	14	1470	132 (IE3)	7.5	14.1	101.5	CD2417	IDDXF54-15.5	-	84
4	100JM.BIF/25/4/9/24	JN139430	8	24	1470	160 (IE3)	15	28.7	177.9	CD2417	IDDXF54-31	-	88

Sound pressure levels quoted are at the inlet, and are average dBA at 3m distance over a sphere at the mid point at the highest angle given, under free field conditions. These are presented for comparative purposes only. For speed controllers please see pages 250-297.

1 phase inverter drives are available on request, please contact our sales office for more information.

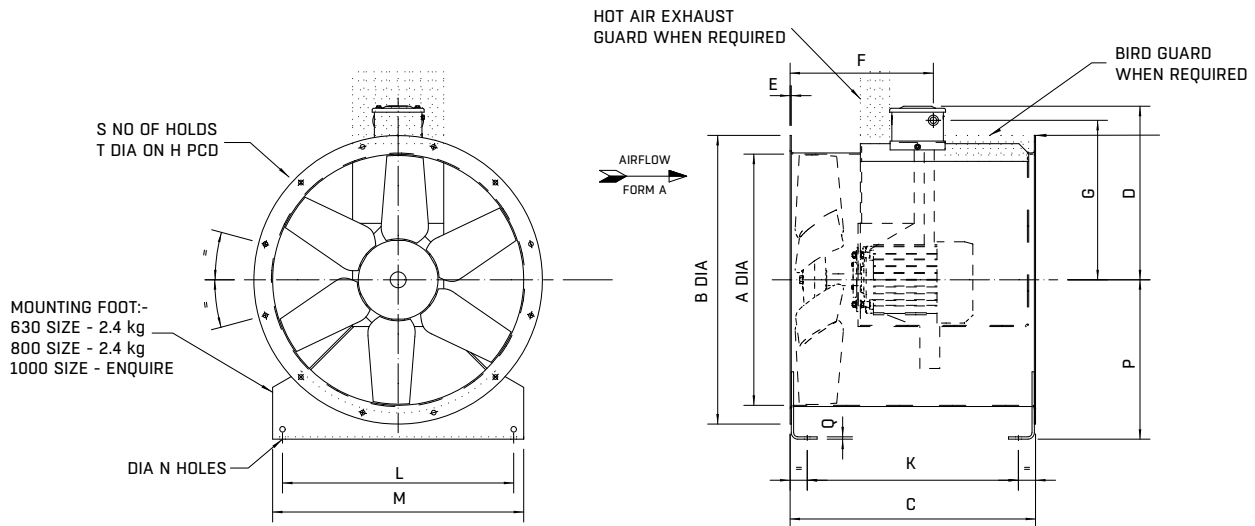
Please note the fan must be re-connected in Delta when using the 1-3 phase inverter drive, use CD2417.

Products in **bold** are available from our UK Distributors on next day delivery, if ordered by 4pm. Please call to confirm availability on 01206 222 580.





DRAWING - 63JM.BIF-100JM BIF

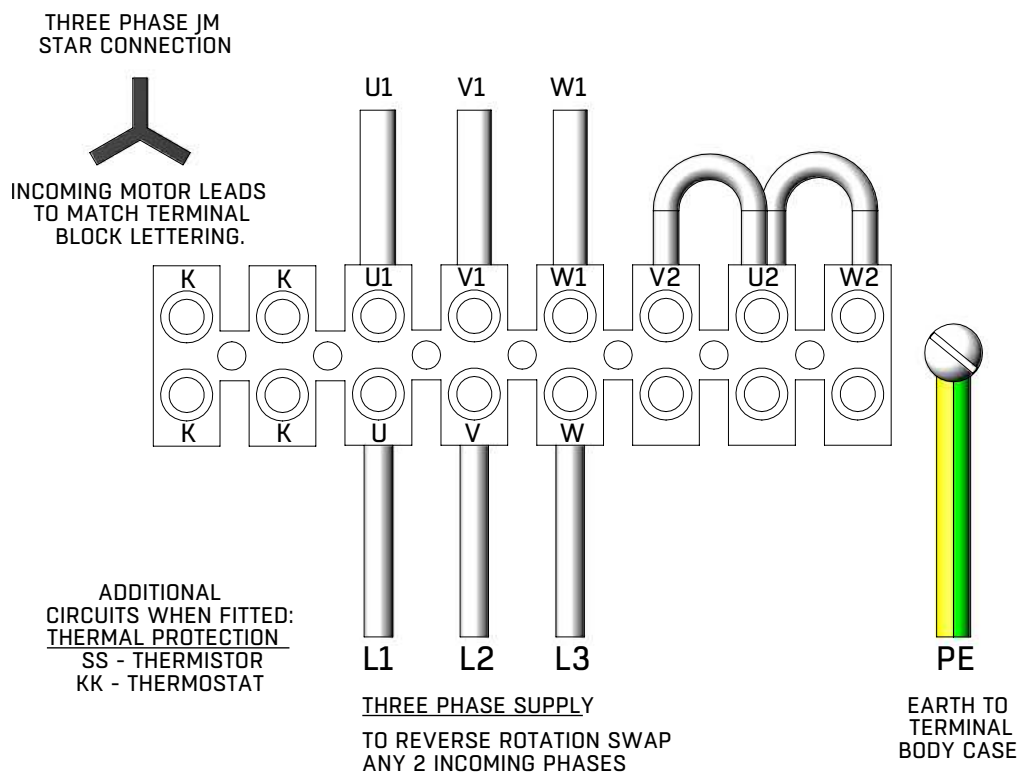


Product Code	Motor Range	A	B	C	D	E	F	G	H	K	L	M	N	P	Q	S	T	Max. Fan Weight (kg)
63JM.Bif/20/4/6/30	100L	630	724	616	412	3	390	434	690	530	580	630	10	400	3	12	12	71
80JM.Bif/20/4/6/22	112M	800	894	660	495	3	434	517	860	544	750	800	10	510	5	16	12	107
100JM.Bif/25/4/9/14	132L	1000	1138	800	650	5	492	608	1070	730	950	1000	12	630	6	16	15	280
100JM.Bif/25/4/9/24	160L	1000	1138	1000	689	5	536	604	1070	930	950	1000	12	630	6	16	15	335

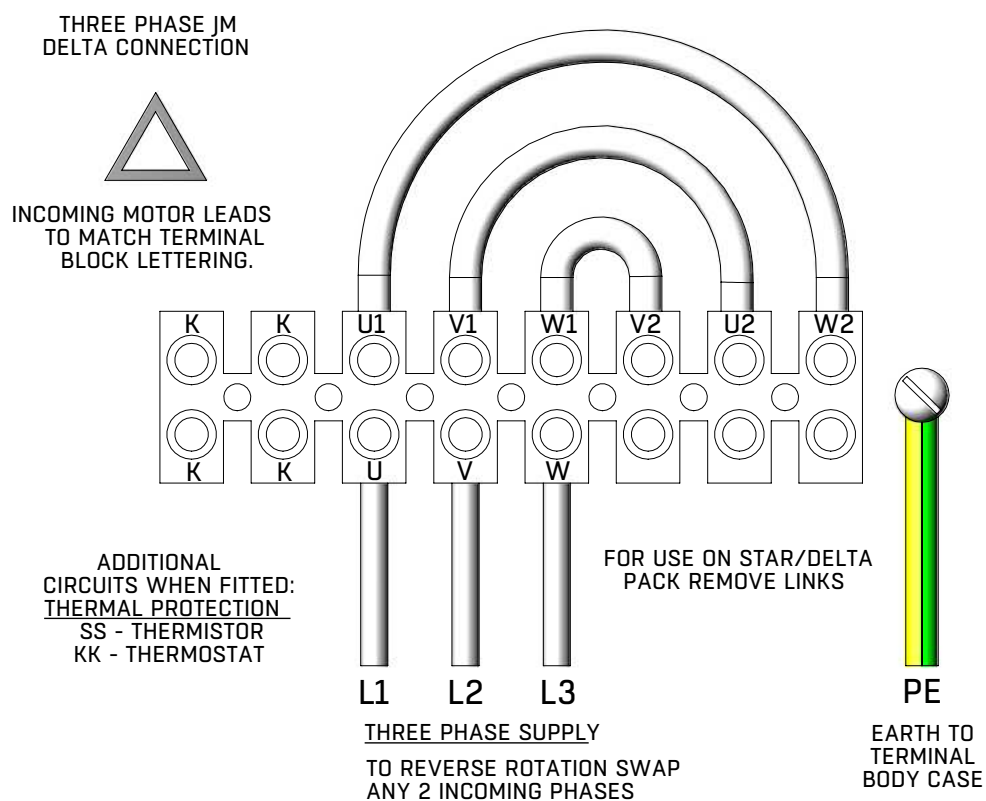
All dimensions in mm.

WIRING DIAGRAMS - JM BIFURCATED AEROFOIL

CD2416



CD2417



IDDXF54 – HVAC INVERTER THREE PHASE IP54

DEMAND INDEPENDENT, SWITCHED AND PROPORTIONAL DRIVE – FOR AXIAL AND CENTRIFUGAL FANS

FEATURES

- 400V, 2.2-177A, 0.75-90kW 3 Ph
- Designed for HVAC applications i.e. Fire mode, Flying Start...
- Enclosures IP54 (see IDDXF20 for IP20 and IDDXF66 for IP66)
- Asynch and PM motor control. Max shielded cable length 25m
- Simple installation wizard.
Alpha-numeric display
- In built motor overheat protection via motor thermistors
- EMC A1/C2 integrated filters and DC choke for harmonic mitigation
- 4xDI, 2xAI, 1xAO/DO and 2xRO / RS485. Modbus RTU, N2, FLN and BACnet
- Maximum ambient 50°C

OPTIONAL ACCESSORIES

- PIR
- Temp Sensor
- CO₂ Sensor
- Pressure Sensor
- 0-10 V pot - (10 volt)

DESCRIPTION

Designed specifically for three phase fan applications our IDDXF Frequency converters control speed, torque, and the overall performance of AC and PM motors by controlling the power input. Independent, Switched and Proportional demand control from the included digital, and HVAC protocols ensures maximum efficiency and comfort to the level required.

A safety isolator/switch disconnecter should be installed on the mains side of all motor drives; refer to SISO.

RANGE

Model	Ph.	V	IP	Amps	kW	FWG Part	Enc.
IDDXF-54-2.2	3-3	400V	54	2.2	0.75	EA901016	I2
IDDXF-54-3.7	3-3	400V	54	3.7	1.5	EA901017	I2
IDDXF-54-5.3	3-3	400V	54	5.3	2.2	EA901018	I2
IDDXF-54-7.2	3-3	400V	54	7.2	3.0	EA901019	I2
IDDXF-54-9	3-3	400V	54	9	4.0	EA901020	I2
IDDXF-54-12	3-3	400V	54	12	5.5	EA901021	I3
IDDXF-54-15.5	3-3	400V	54	15.5	7.5	EA901022	I3
IDDXF-54-23	3-3	400V	54	23	11.0	EA901023	I4
IDDXF-54-31	3-3	400V	54	31	15.0	EA901024	I4
IDDXF-54-37	3-3	400V	54	37	18.5	EA901025	I4
IDDXF-54-42.5	3-3	400V	54	42.5	22.0	EA901026	I6
IDDXF-54-61	3-3	400V	54	61	30.0	EA901027	I6
IDDXF-54-73	3-3	400V	54	73	37.0	EA901028	I6
IDDXF-54-90	3-3	400V	54	90	45.0	EA901029	I7
IDDXF-54-106	3-3	400V	54	106	55.0	EA901069	I7
IDDXF-54-147	3-3	400V	54	147	75.0	EA901070	I8
IDDXF-54-177	3-3	400V	54	177	90.0	EA901071	I8

Please note:

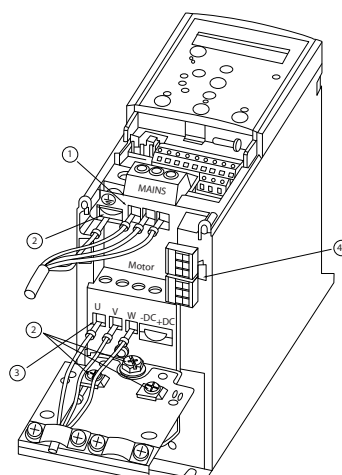
If running in hand (manual) mode a external link is required between 12 and 27. If running in auto mode a external link is required between 12 and 18.



Description	FWG Part
Local Control Panel	EA901031
Local Control Panel mounting kit inc. 3m cable	EA901032
Decoupling plate H1 & H2	EA901033
Decoupling plate H3	EA901034
Decoupling plate H4 & H5	EA901035
IP21 option H1	EA901036
IP21 option H2	EA901037
IP21 option H3	EA901038
IP21 option H4	EA901039
IP21 option H5	EA901040

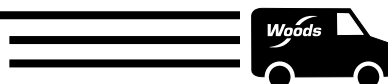
WIRING DIAGRAM

For detail please refer to the specific diagrams supplied with each drive.

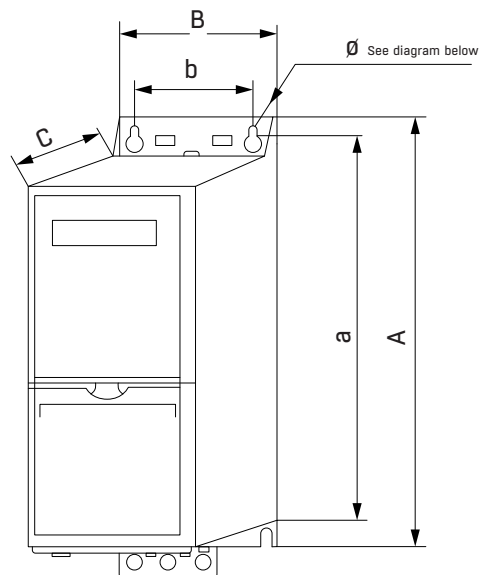
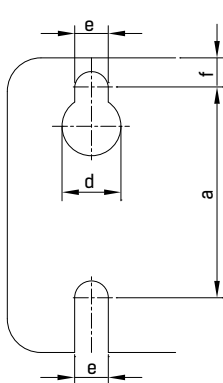
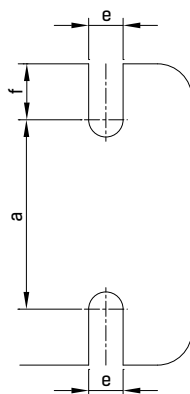


- 1 - Line
- 2 - Earth
- 3 - Motor
- 4 - Relay

Products in **bold** are available from our UK Distributors on next day delivery, if ordered by 4pm. Please call to confirm availability on 01206 222 555.



DIMENSIONS AND WEIGHTS

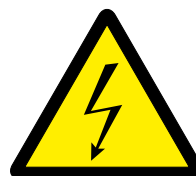


COMPATIBILITY

Please refer to the specific instructions & software supplied with each drive.



General danger



Electrical hazard

All works may only be carried out by skilled personnel following the local regulations, reference to the installation guide and AFTER the controller is completely isolated from the mains.

Enclosure		Power [kW]			Height [mm]	Width [mm]	Depth [mm]	Mounting hole [mm]				Max Weight
Frame	IP Class	3x 380-480 V	A	"A incl Decoupling Plate"	a	B	b	C	d	e	f	kg
I2	IP54	0.75-4.0	332	-	318.5	115	74	225	11	5.5	9	5.3
I3	IP54	5.5-7.5	368	-	354	135	89	237	12	6.5	9.5	7.2
I4	IP54	11-18.5	476	-	460	180	133	290	12	6.5	9.5	13.8
I5	IP54	11-18.5	480	-	454	242	210	260	19	9	9	23
I6	IP54	22-37	650	-	624	242	210	260	19	9	9	27
I7	IP54	45-55	680	-	648	308	272	310	19	9	9.8	45
I8	IP54	75-90	770	-	739	370	334	335	19	9	9.8	65

ALSO AVAILABLE FROM THE **WOODS** RANGE



**JMv
Aerofoil**



MaXfan²



**JM
Aerofoil**



**HT JM
Aerofoil**



**JM
Bifurcated**



Series 33



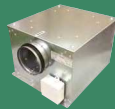
Plate Fans



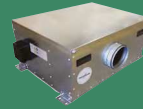
**Cased &
Plate Axial
Accessories**



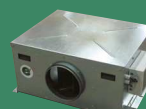
Tube Fans



**Sabina EC
Box Fans**



**Daisho AC
Box Fans**



**Daisho EC
Box Fans**



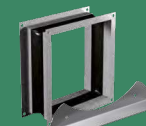
Estoc



Estoc Targe



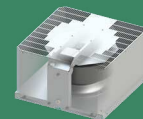
Estoc EC



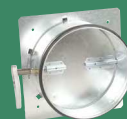
**Tube & Box
Accessories**



**Roof Units
Horizontal**



**Roof Units
Vertical**



**Fire
Dampers**



**Iris
Dampers**



Fire Valves



**Valves
Supply KE**



**Valves
Extract KK**



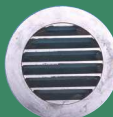
**Valves
Exhaust
VEFS**



**Nozzles DK
& DR**



**Louvres/
Cowls
EYMA and
DYMA**



**External
Louvres
USAV**



Controllers

Selected products available from our UK Distributors on next day delivery, if ordered by 4pm. Please call 01206 222 555 for more information.





CIRCULAR SINGLE BOX FANS SABINA EC (COMPACT)

PRODUCT FACTS

- Air flow up to 0.72 m³/s
- Static pressures up to 850 Pa
- Low noise levels
- Corrosion resistant design
- Easy electrical connection via terminal box
- Backward curved impeller in all orientation

ELECTRICAL SUPPLY

220-240V/50Hz/1φ

TEMPERATURE RANGE

Up to 50°C

SIZES

125, 160, 200, 250, 315, 355 and 400mm

CONSTRUCTION

The Sabina has casing which is galvanized and made from sheet steel. Within the unit there is acoustic insulation made from fibre glass with a thickness of 40 mm.

MOUNTING

The integral fan allows the Sabina EC Compact to be installed in any position, whether it's a wall, ceiling installation or inverted for bottom access.

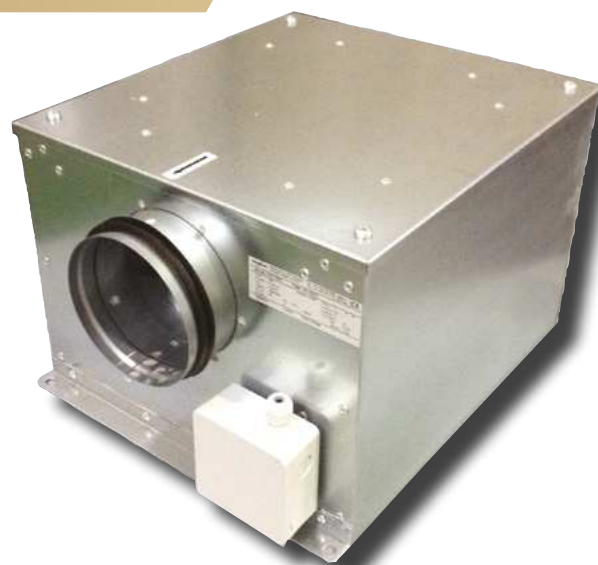
IMPELLER

External rotor motors are used in protection class IP44/54 with humidity protection, ball bearing-mounted and with built-in thermal contacts for motor protection. In the Evolution version, the impeller is forward curved and has double-sided inlets. The impellers are mounted directly on the rotors of the external rotor motors and are dynamically balanced on two levels with the rotor according to quality level G2.5 as per DIN ISO 1940.

MOTOR

This product incorporates EC motor technology which is designed to optimise energy savings. Motor speed control is via a 0-10v signal giving a high degree of controllability.

The electrical connection is made through a terminal box with protection class IP44.



SPEED CONTROLLERS

All units are fully speed controllable using our 2nd generation integral intelligent fan controller or 0-10 volt potentiometer.

PRODUCT CODE

SABINA EC 125 (Compact)

- SABINA - Product Name
- EC - EC Motor
- 125 = Diameter size (mm)

ACCESSORIES (Pages 238-248) - CONTROLLERS (Pages 249-297)

The range of accessories include duct clamps, filters, guards, dampers, silencers, mounting brackets, shutters. A quick reference guide is shown below.



CFC



BDS



FLS



BDR



CFB



Controls Potentiometer



iFan

PERFORMANCE & ELECTRICAL DATA

220-240V/50HZ/1 ϕ



PERFORMANCE TABLE

Product Code	m ³ /s @ Pa (Static)																	
	0	50	100	150	200	250	300	350	400	450	500	550	600	650	700	750	800	850
Sabina EC 125mm (Compact)	0.11	0.1	0.09	0.08	0.08	0.07	0.06											
Sabina EC 160mm (Compact)	0.16	0.15	0.14	0.12	0.11	0.08												
Sabina EC 200mm (Compact)	0.22	0.2	0.19	0.18	0.17	0.16	0.15	0.13	0.11	0.1	0.07	0.03	0.01					
Sabina EC 250mm (Compact)	0.3	0.29	0.27	0.26	0.25	0.23	0.21	0.19	0.17	0.14	0.09							
Sabina EC 315mm (Compact)	0.49	0.47	0.46	0.44	0.42	0.4	0.38	0.36	0.33	0.31	0.28	0.24	0.2	0.16	0.11			
Sabina EC 355mm (Compact)	0.54	0.52	0.5	0.48	0.46	0.44	0.42	0.4	0.38	0.36	0.33	0.3	0.27	0.23	0.19	0.15	0.09	
Sabina EC 400mm (Compact)	0.72	0.7	0.67	0.65	0.63	0.61	0.59	0.56	0.54	0.52	0.49	0.47	0.44	0.4	0.36	0.31	0.25	0.19

PRODUCT AND ELECTRICAL DETAILS

Product Code	Product Number	Speed	Motor Frame	Electrical Current			Wiring Diagrams	**Speed Controllers Potentiometer	Maximum Operating Temp°C	Breakout Sound Level db(A) (3m)*
				Motor (kW)	Full Load Current (A)	Starting Current (A)				
Sabina EC 125mm (Compact)	ZE125003	2600	Integral	0.065	0.45	0.45	CD3026	SDPV	50	20
Sabina EC 160mm (Compact)	ZE160003	2400	Integral	0.12	0.81	0.81	CD3026	SDPV	50	25
Sabina EC 200mm (Compact)	ZE200003	2470	Integral	0.16	1.14	1.14	CD3026	SDPV	50	30
Sabina EC 250mm (Compact)	ZE250004	2540	Integral	0.22	0.95	0.95	CD3026	SDPV	50	30
Sabina EC 315mm (Compact)	ZE315003	2550	Integral	0.33	1.9	1.9	CD3011	SDPV	50	36
Sabina EC 355mm (Compact)	ZE355003	2700	Integral	0.4	2.3	2.3	CD3011	SDPV	50	37
Sabina EC 400mm (Compact)	ZE400003	2600	Integral	0.6	2.6	2.6	1.444	SDPV	50	47

*Sound power levels are average dBA at 3 metres distance over sphere, under free field conditions and are presented for comparative purposes only. Values shown are those at the mid-point of the performance curve. For ErP efficiency ratings and grades please refer to our Fan Selector for more information.

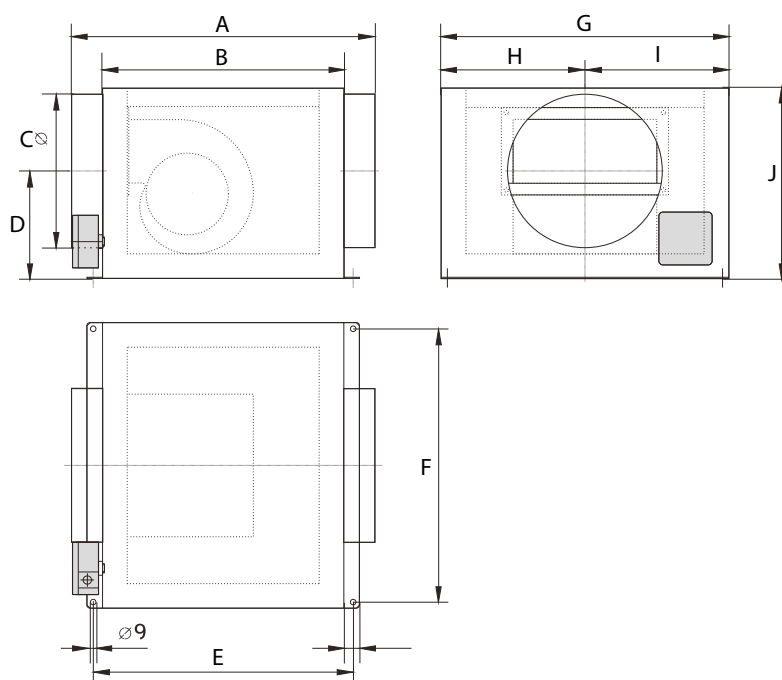
Products in **bold** are available from our UK Distributors on next day delivery, if ordered by 4pm. Please call to confirm availability on 01206 222 580.





DRAWINGS AND DIMENSIONS

SABINA EC 125, 160, 200, 250, 315, 355 AND 400

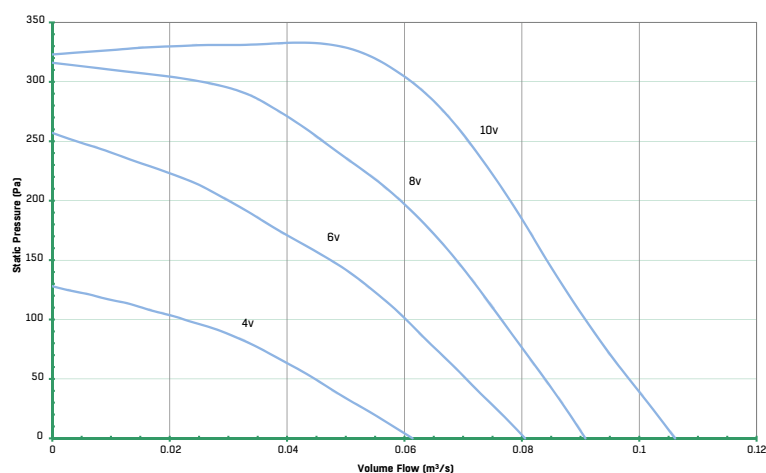


Size	A	B	C	D	E	F	G	H	I	J	Weight (kg)
Sabina 125	400	300	122	97	332	270	300	205	170	260	11
Sabina 160	460	360	160	185	390	320	340	170	170	280	12.5
Sabina 200	490	390	200	200	420	345	365	183	183	315	14.4
Sabina 250	490	390	250	175	420	445	465	233	233	315	18.5
Sabina 315	680	580	315	228	610	575	595	210	385	425	40
Sabina 355	680	580	355	228	610	575	595	230	365	425	40
Sabina 400	680	650	400	250	610	625	645	250	395	475	46

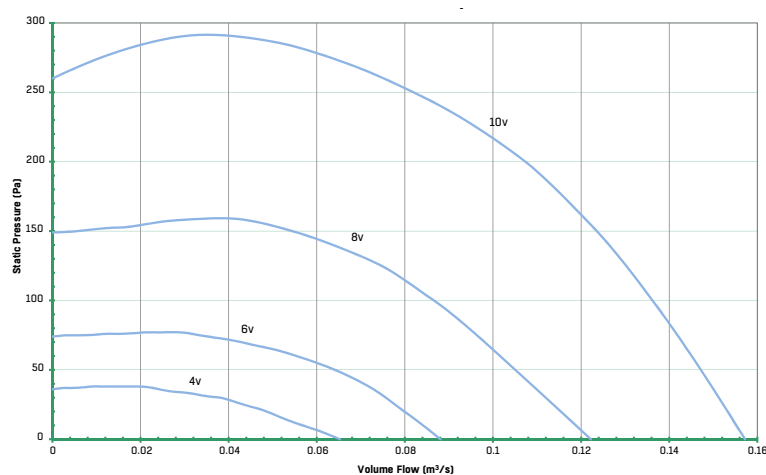
All dimensions shown in mm

PERFORMANCE CHARTS

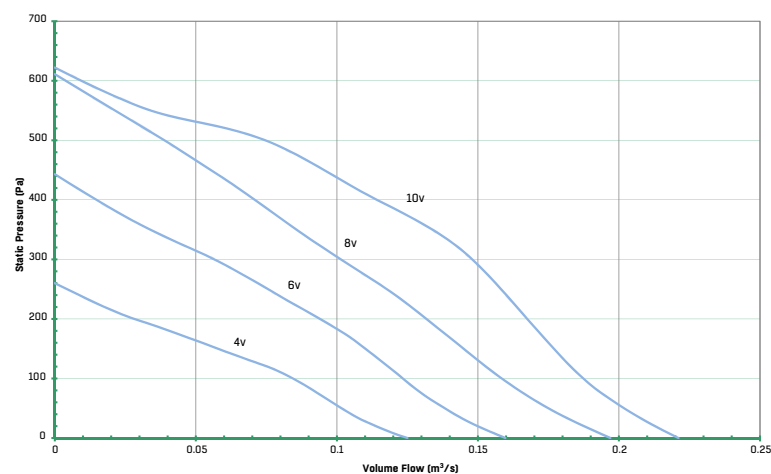
SABINA EC - 125 (COMPACT) - ZE125003



SABINA EC - 160 (COMPACT) - ZE160003



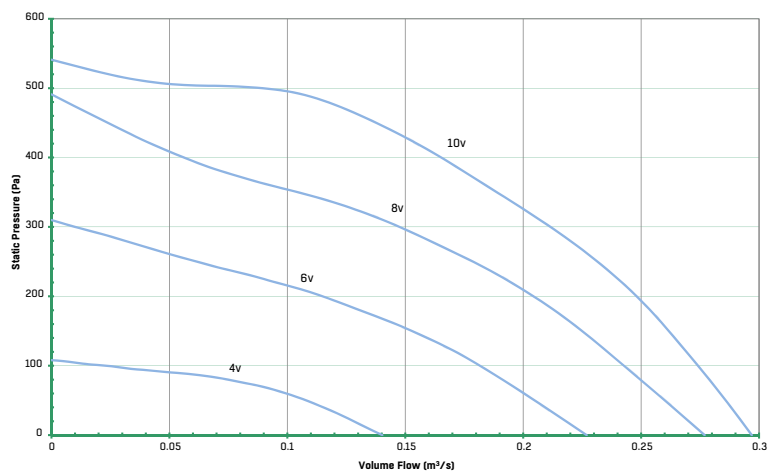
SABINA EC - 200 (COMPACT) - ZE200003



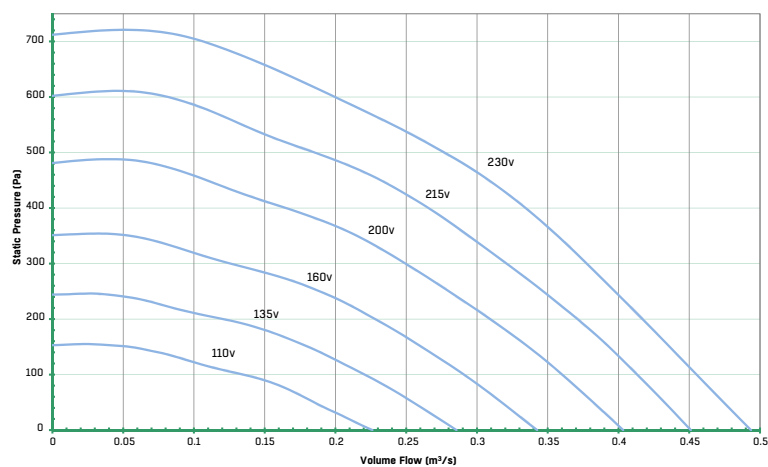


PERFORMANCE CHARTS

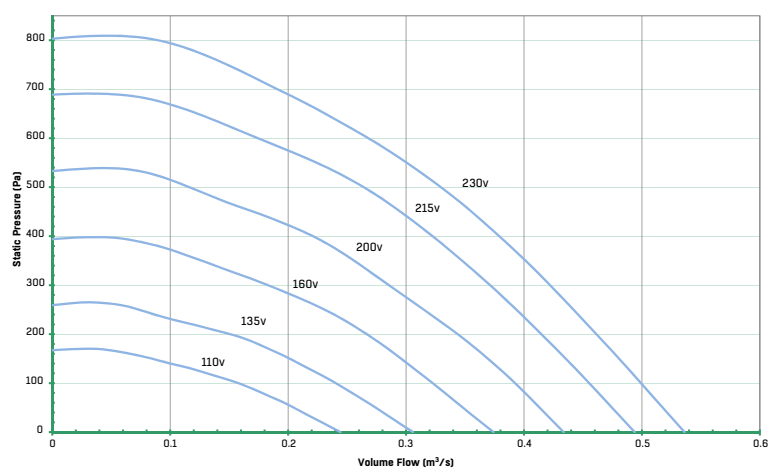
SABINA EC - 250 (COMPACT) - ZE250004



SABINA EC - 315 (COMPACT) - ZE315003

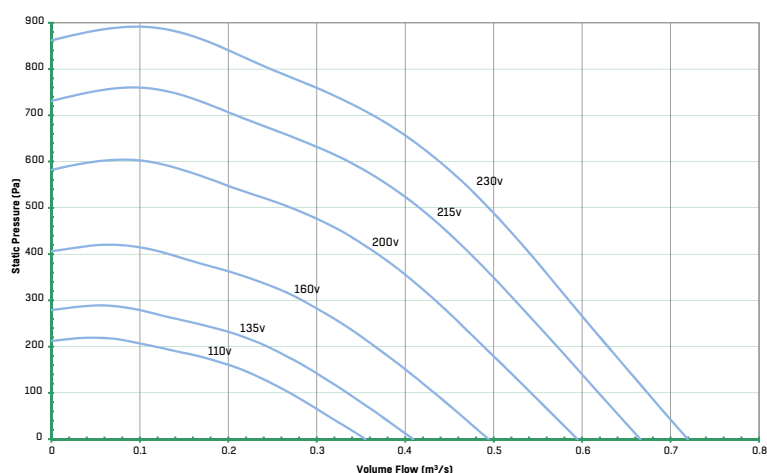


SABINA EC - 355 (COMPACT) - ZE355003



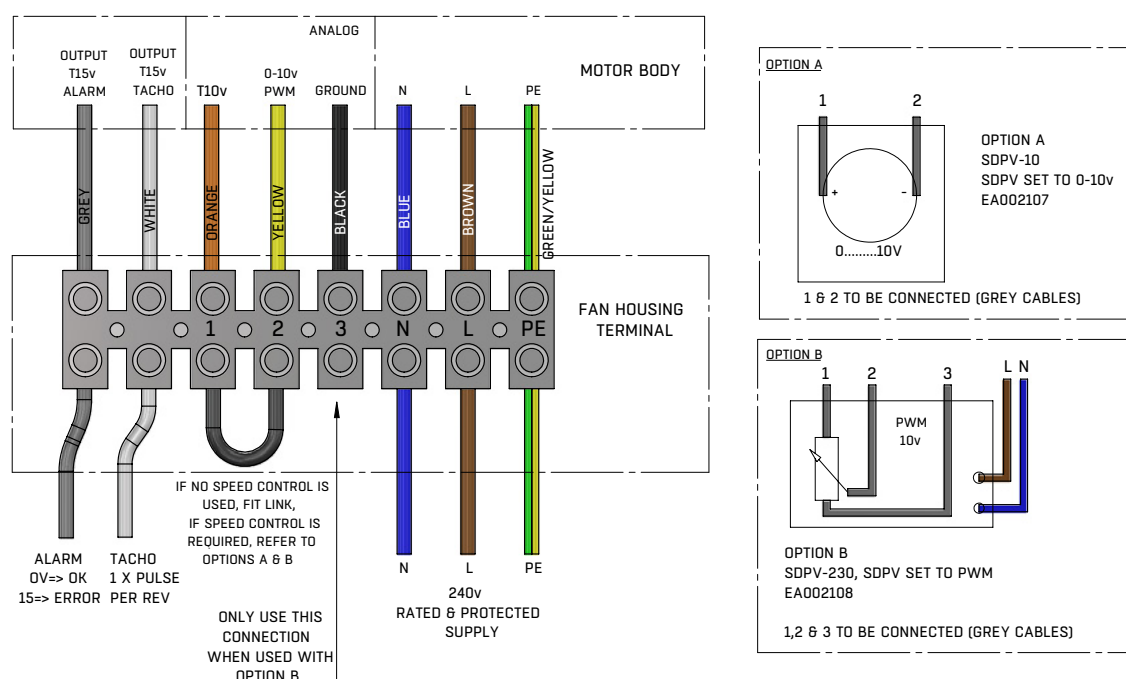
PERFORMANCE CHARTS

SABINA EC - 400 (COMPACT) - ZE400003



WIRING DIAGRAM - SABINA EC (COMPACT)

CD3026



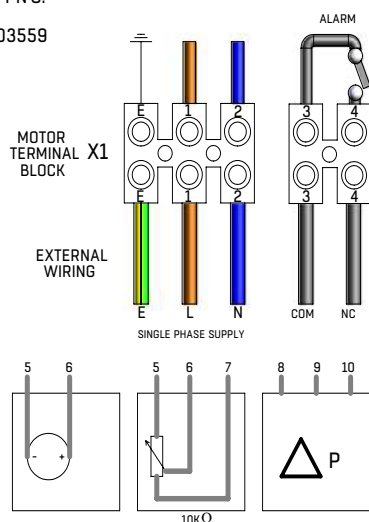
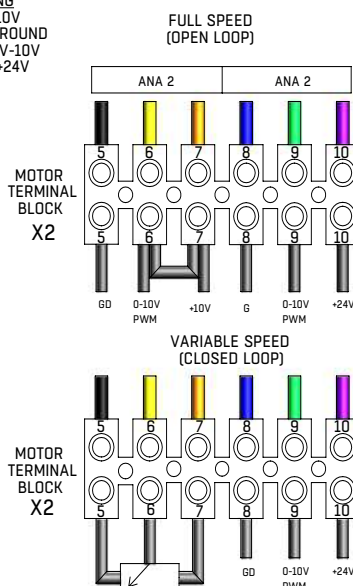
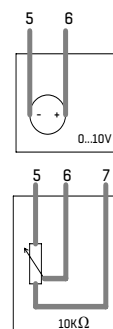


WIRING DIAGRAM - SABINA EC (COMPACT)

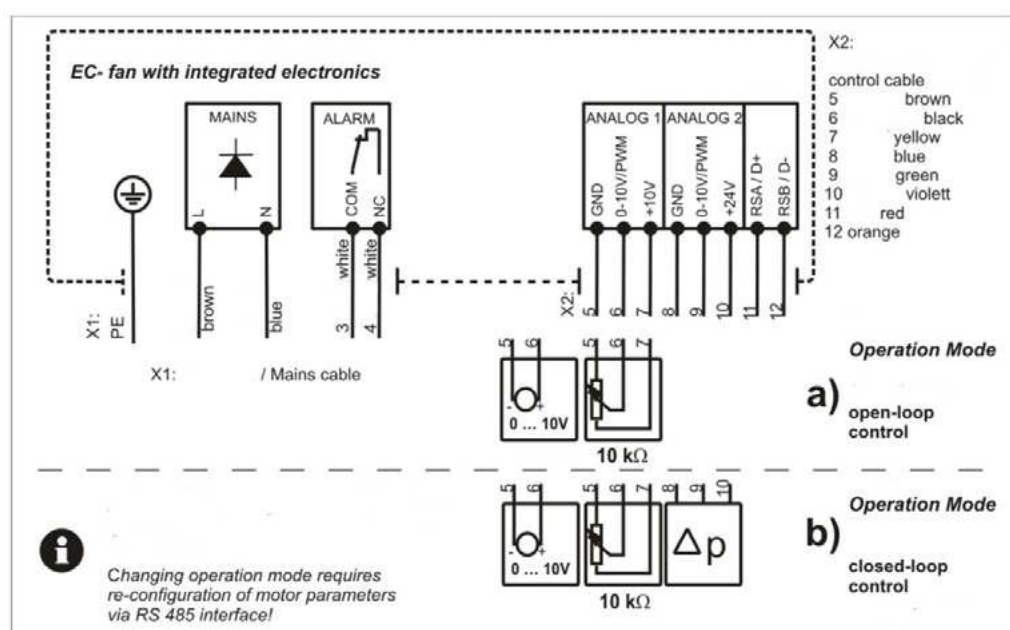
CD3011

SINGLE PHASE

UNIT PN'S:
1PH
UB503559



1.444



Project : MCFC North Stand Expansion
Quotation :

Customer :

Project Code : BE-1991
Date : 22 January 2025



Lang_Box_Sabina
BE-1991-3

eSabina EC 125mm
(Compact)
SF.0.01
11 weeks - (Fan Only)
Lead time may vary based on stock availability at
time of order. Please refresh the lead time in the
project or reselect the fan before placing an order.

PRODUCT	
Model Code	eSabina EC 125mm (Compact)
Fan Diameter	125-e mm
Installation	Type D

PERFORMANCE	
Requested Duty	50 l/s @ 125 Pa (Static)
Outlet Dynamic Pressure	10.2 Pa
Velocity	4.12 m/s

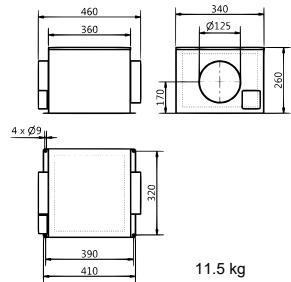
MOTOR	
Motor Rating	0.087 kW [Integral Frame]
Full Load Current	0.75 A
Starting Current	0 A
Electrical Supply	220 - 240 Volts 50 Hz 1 Phase
Motor Winding	Standard
Motor Type	Class F Insulation

EFFICIENCY GRADES	
Regulation 1253 - 2014	
UVU Efficiency	26.7% (ErP Compliant) ✓
Nominal Flow Rate	0.054 m³/s @ 400 Pa
Effective Input Power	0.082 kW
Nominal RPM	3600 rpm

ENVIRONMENT	
Air Density	1.2 kg/m³ / 20 °C / 0 m / 40% RH
Smoke Venting	No Smoke Venting
Operating Environment	Normal

RUNNING COSTS	
Power from mains	0.031 KW
Energy Consumption	61.79 kWh (2,000.00 h/Year)
Running Cost / Year	£15.45
CO2 per Year	21.72 kgCO2e
SFP value	0.61 W/l/s @ Actual Duty

PRODUCT DIMENSIONS



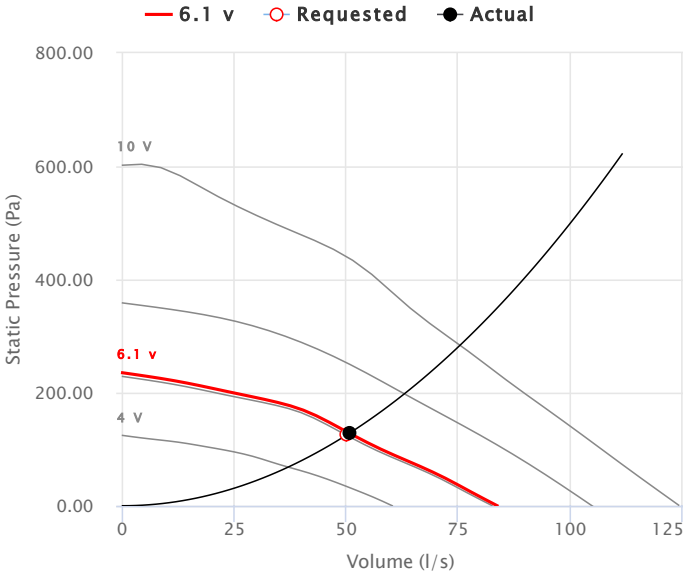
This drawing shows dimensions that should be used as a guide only and are
subject to change. Certified drawings are available on request.

MECHANICAL

Operating Temperatures	-25 °C to 50 °C (95% Max Relative Humidity)
Weight	11.5kg

COMMENTS

FAN PERFORMANCE CURVE



ACOUSTICS

Sound Spectrum (Hz)									Overall		Distance (3 m)
	63	125	250	500	1k	2k	4k	8k	Lw*	LwA*	LpA @ 3 m **
Inlet	47	35	42	41	39	39	33	26	73	50	30
Outlet	52	39	44	45	46	46	41	32	78	55	35
Breakout	38	29	35	32	24	21	20	<20	64	41	20

Sound Data At Requested Duty.

* Lw dB re 10⁻¹² W

** dBA re 2x10⁻⁵ Pa

FAN & ACCESSORIES

Item Description	Part Number	Qty	Lead-Time
eSabina EC 125mm (Compact)	ZE125014	1	11 Weeks
Potentiometer	EA002107	1	11 Weeks
Rigid Duct Clamp	CP125000	2	11 Weeks
Lang_MountKit	428348	1	11 Weeks

Project : MCFC North Stand Expansion

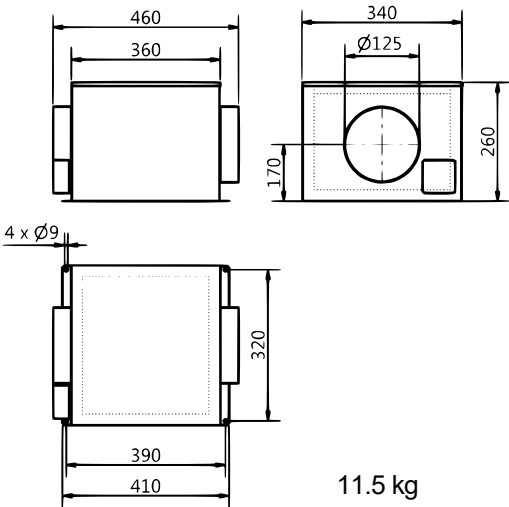
Customer :

Project Code : BE-1991

Date : 22 January 2025

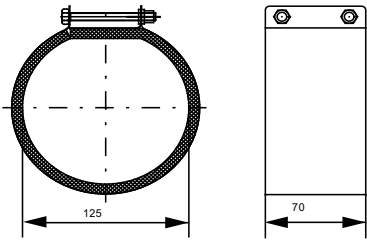
Quotation :

PRODUCT DIMENSIONS



ACCESSORY DIMENSIONS

RIGID DUCT CLAMP - DN 125

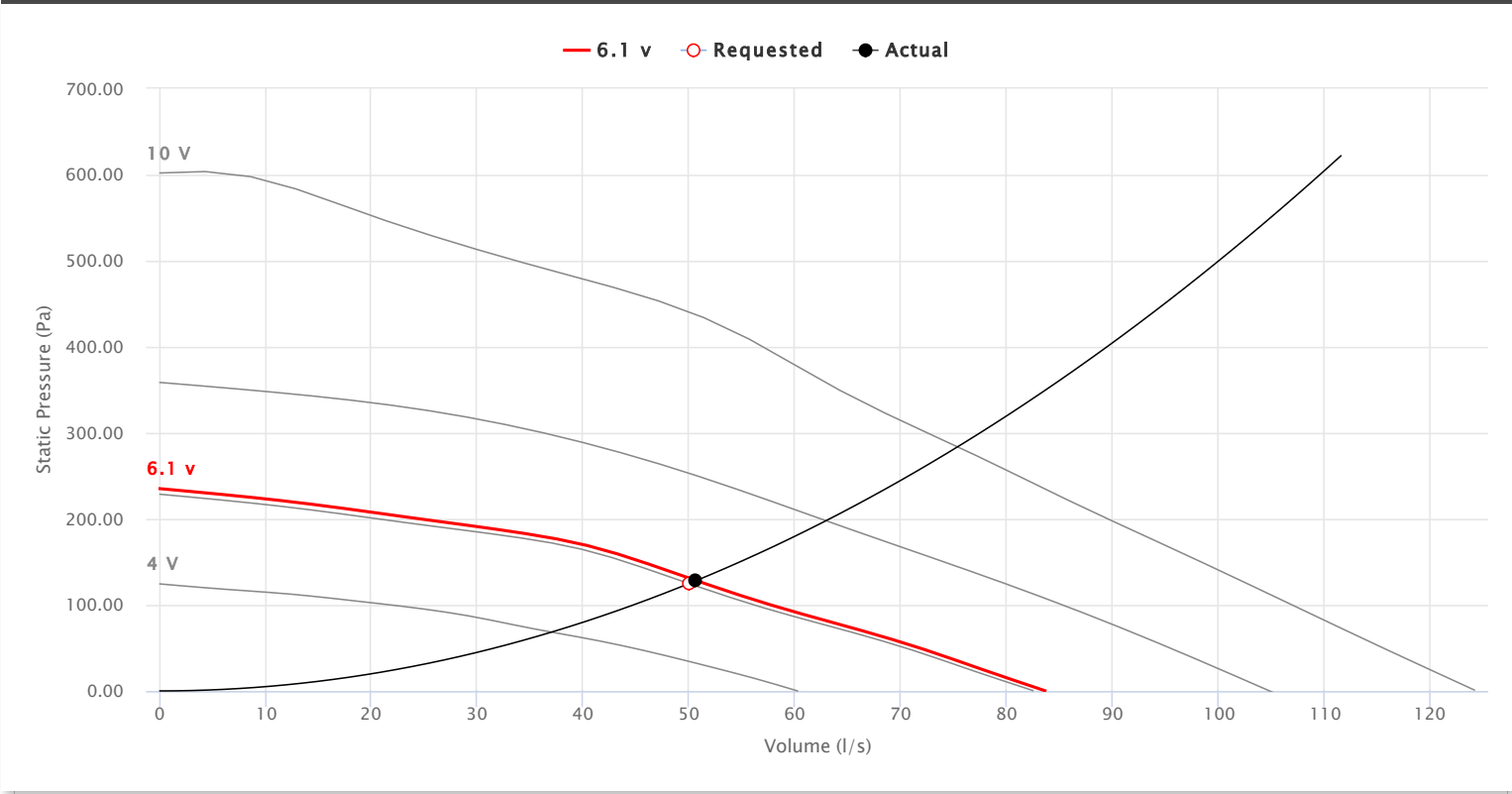


Project : MCFC North Stand Expansion
Quotation :

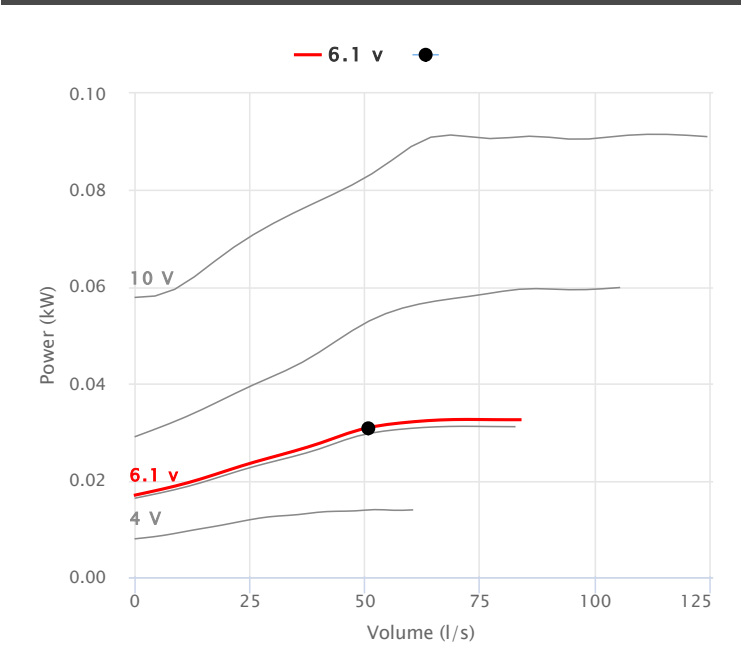
Customer :

Project Code : BE-1991
Date : 22 January 2025

AERODYNAMIC



POWER CHART



EFFICIENCY CHART

ACOUSTICS

	Sound Spectrum (Hz)								Overall	
	63	125	250	500	1k	2k	4k	8k	Lw*	LpA @ 3 m **
Inlet	47	35	42	41	39	39	33	26	73	30
Outlet	52	39	44	45	46	46	41	32	78	35
Breakout	38	29	35	32	24	21	20	<20	64	20

Sound Data At Requested Duty . * Lw dB re 10⁻¹² W ** dBA re 2x10⁻⁵ Pa



CIRCULAR SINGLE BOX FANS SABINA EC (COMPACT)

PRODUCT FACTS

- Air flow up to 0.72 m³/s
- Static pressures up to 850 Pa
- Low noise levels
- Corrosion resistant design
- Easy electrical connection via terminal box
- Backward curved impeller in all orientation

ELECTRICAL SUPPLY

220-240V/50Hz/1φ

TEMPERATURE RANGE

Up to 50°C

SIZES

125, 160, 200, 250, 315, 355 and 400mm

CONSTRUCTION

The Sabina has casing which is galvanized and made from sheet steel. Within the unit there is acoustic insulation made from fibre glass with a thickness of 40 mm.

MOUNTING

The integral fan allows the Sabina EC Compact to be installed in any position, whether it's a wall, ceiling installation or inverted for bottom access.

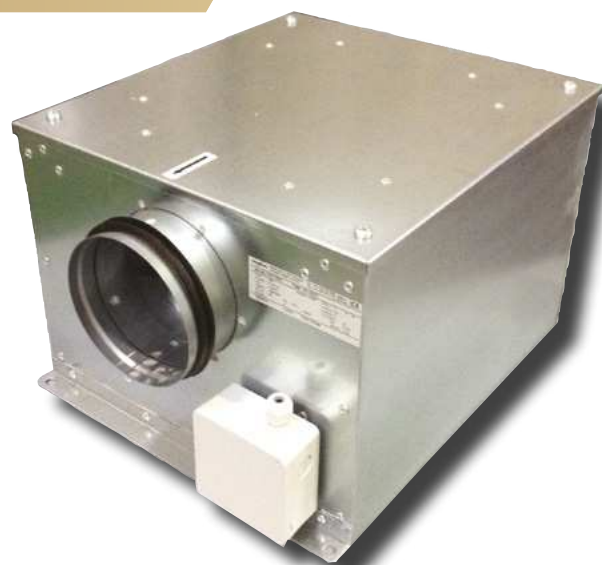
IMPELLER

External rotor motors are used in protection class IP44/54 with humidity protection, ball bearing-mounted and with built-in thermal contacts for motor protection. In the Evolution version, the impeller is forward curved and has double-sided inlets. The impellers are mounted directly on the rotors of the external rotor motors and are dynamically balanced on two levels with the rotor according to quality level G2.5 as per DIN ISO 1940.

MOTOR

This product incorporates EC motor technology which is designed to optimise energy savings. Motor speed control is via a 0-10v signal giving a high degree of controllability.

The electrical connection is made through a terminal box with protection class IP44.



SPEED CONTROLLERS

All units are fully speed controllable using our 2nd generation integral intelligent fan controller or 0-10 volt potentiometer.

PRODUCT CODE

SABINA EC 125 (Compact)

- SABINA - Product Name
- EC - EC Motor
- 125 = Diameter size (mm)

ACCESSORIES (Pages 238-248) - CONTROLLERS (Pages 249-297)

The range of accessories include duct clamps, filters, guards, dampers, silencers, mounting brackets, shutters. A quick reference guide is shown below.



CFC



BDS



FLS



BDER



CFB



Controls Potentiometer



iFan

PERFORMANCE & ELECTRICAL DATA

220-240V/50HZ/1 ϕ



PERFORMANCE TABLE

Product Code	m ³ /s @ Pa (Static)																	
	0	50	100	150	200	250	300	350	400	450	500	550	600	650	700	750	800	850
Sabina EC 125mm (Compact)	0.11	0.1	0.09	0.08	0.08	0.07	0.06											
Sabina EC 160mm (Compact)	0.16	0.15	0.14	0.12	0.11	0.08												
Sabina EC 200mm (Compact)	0.22	0.2	0.19	0.18	0.17	0.16	0.15	0.13	0.11	0.1	0.07	0.03	0.01					
Sabina EC 250mm (Compact)	0.3	0.29	0.27	0.26	0.25	0.23	0.21	0.19	0.17	0.14	0.09							
Sabina EC 315mm (Compact)	0.49	0.47	0.46	0.44	0.42	0.4	0.38	0.36	0.33	0.31	0.28	0.24	0.2	0.16	0.11			
Sabina EC 355mm (Compact)	0.54	0.52	0.5	0.48	0.46	0.44	0.42	0.4	0.38	0.36	0.33	0.3	0.27	0.23	0.19	0.15	0.09	
Sabina EC 400mm (Compact)	0.72	0.7	0.67	0.65	0.63	0.61	0.59	0.56	0.54	0.52	0.49	0.47	0.44	0.4	0.36	0.31	0.25	0.19

PRODUCT AND ELECTRICAL DETAILS

Product Code	Product Number	Speed	Motor Frame	Electrical Current			Wiring Diagrams	**Speed Controllers Potentiometer	Maximum Operating Temp°C	Breakout Sound Level db(A) (3m)*
				Motor (kW)	Full Load Current (A)	Starting Current (A)				
Sabina EC 125mm (Compact)	ZE125003	2600	Integral	0.065	0.45	0.45	CD3026	SDPV	50	20
Sabina EC 160mm (Compact)	ZE160003	2400	Integral	0.12	0.81	0.81	CD3026	SDPV	50	25
Sabina EC 200mm (Compact)	ZE200003	2470	Integral	0.16	1.14	1.14	CD3026	SDPV	50	30
Sabina EC 250mm (Compact)	ZE250004	2540	Integral	0.22	0.95	0.95	CD3026	SDPV	50	30
Sabina EC 315mm (Compact)	ZE315003	2550	Integral	0.33	1.9	1.9	CD3011	SDPV	50	36
Sabina EC 355mm (Compact)	ZE355003	2700	Integral	0.4	2.3	2.3	CD3011	SDPV	50	37
Sabina EC 400mm (Compact)	ZE400003	2600	Integral	0.6	2.6	2.6	1.444	SDPV	50	47

*Sound power levels are average dBA at 3 metres distance over sphere, under free field conditions and are presented for comparative purposes only. Values shown are those at the mid-point of the performance curve. For ErP efficiency ratings and grades please refer to our Fan Selector for more information.

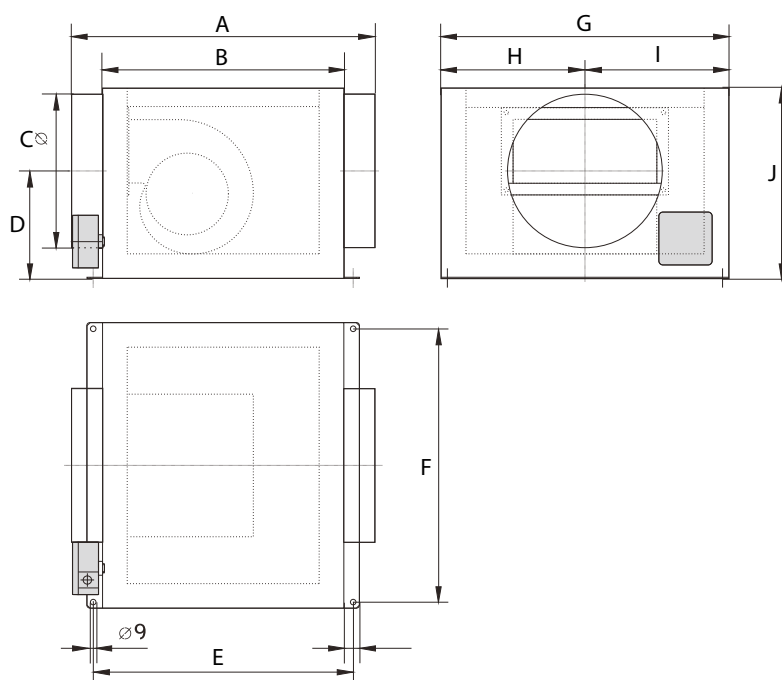
Products in **bold** are available from our UK Distributors on next day delivery, if ordered by 4pm. Please call to confirm availability on 01206 222 580.





DRAWINGS AND DIMENSIONS

SABINA EC 125, 160, 200, 250, 315, 355 AND 400

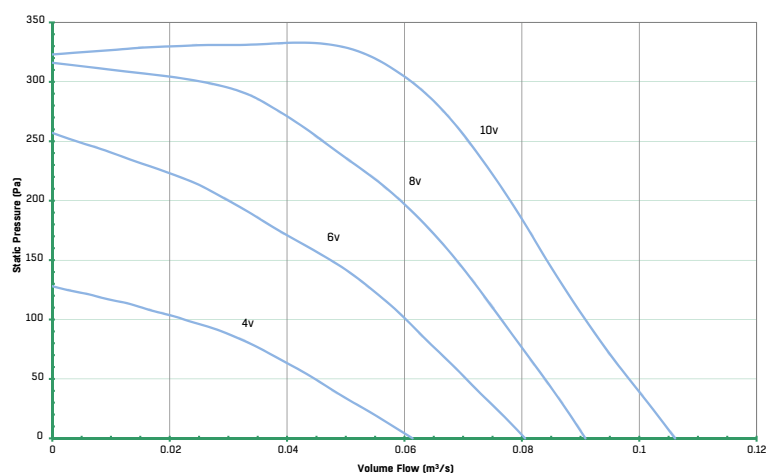


Size	A	B	C	D	E	F	G	H	I	J	Weight (kg)
Sabina 125	400	300	122	97	332	270	300	205	170	260	11
Sabina 160	460	360	160	185	390	320	340	170	170	280	12.5
Sabina 200	490	390	200	200	420	345	365	183	183	315	14.4
Sabina 250	490	390	250	175	420	445	465	233	233	315	18.5
Sabina 315	680	580	315	228	610	575	595	210	385	425	40
Sabina 355	680	580	355	228	610	575	595	230	365	425	40
Sabina 400	680	650	400	250	610	625	645	250	395	475	46

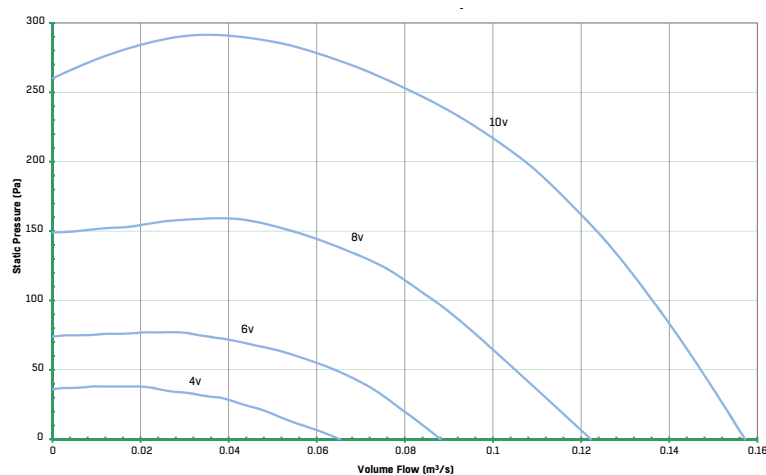
All dimensions shown in mm

PERFORMANCE CHARTS

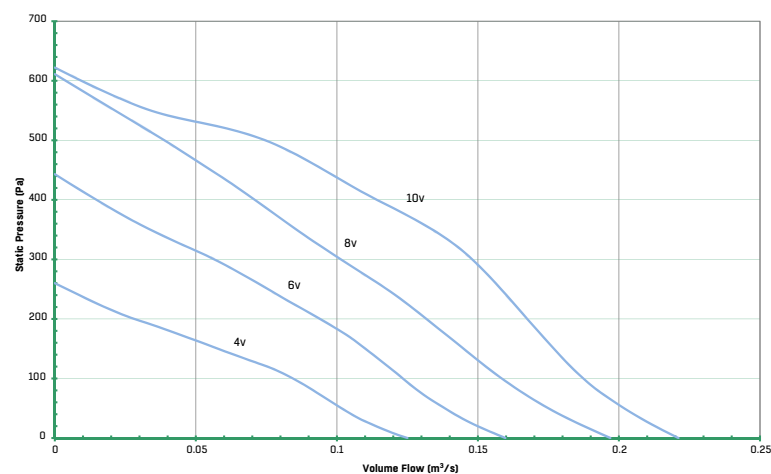
SABINA EC - 125 (COMPACT) - ZE125003



SABINA EC - 160 (COMPACT) - ZE160003



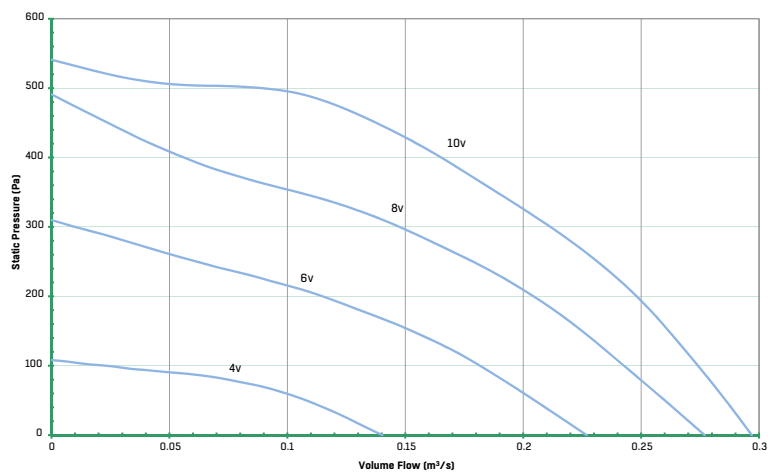
SABINA EC - 200 (COMPACT) - ZE200003



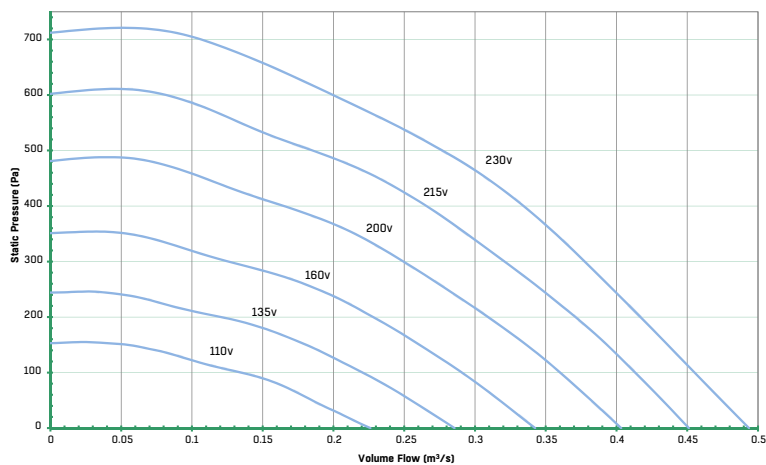


PERFORMANCE CHARTS

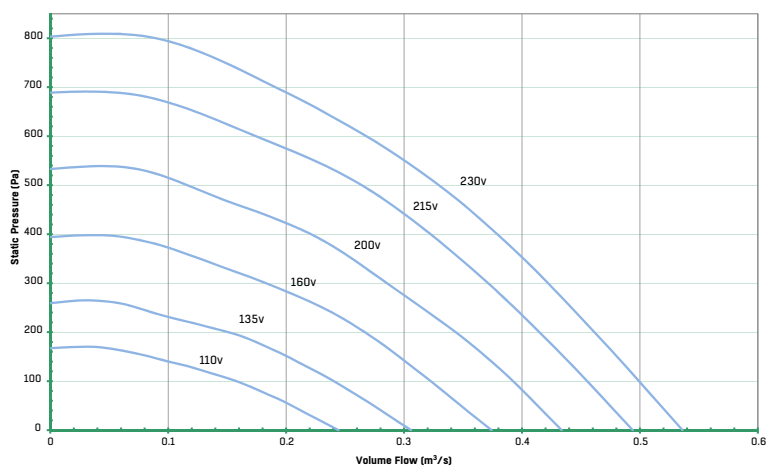
SABINA EC - 250 (COMPACT) - ZE250004



SABINA EC - 315 (COMPACT) - ZE315003

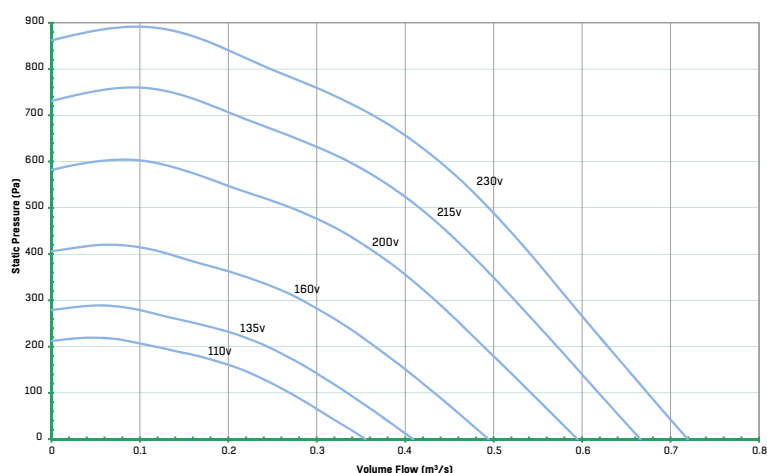


SABINA EC - 355 (COMPACT) - ZE355003



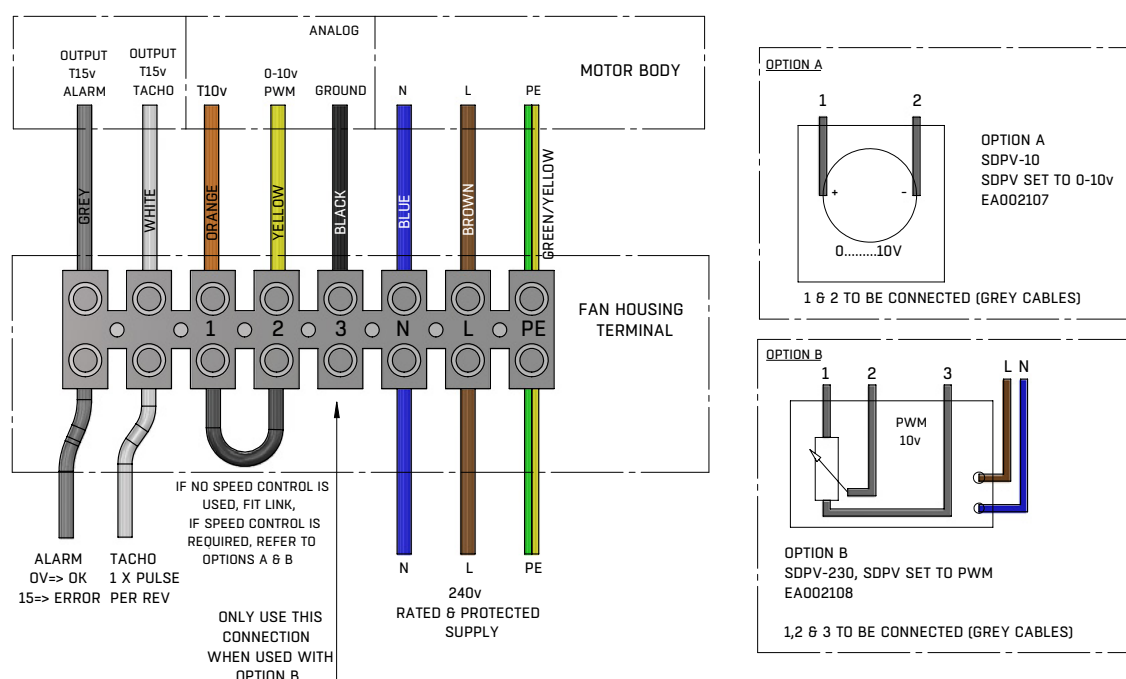
PERFORMANCE CHARTS

SABINA EC - 400 (COMPACT) - ZE400003



WIRING DIAGRAM - SABINA EC (COMPACT)

CD3026



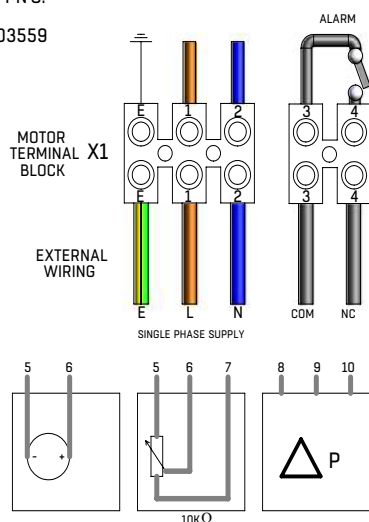


WIRING DIAGRAM - SABINA EC (COMPACT)

CD3011

SINGLE PHASE

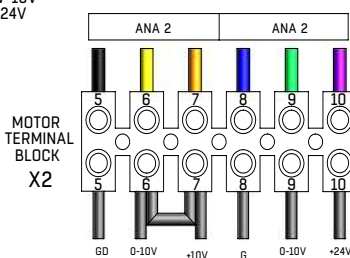
UNIT PN'S:
1PH
UB503559



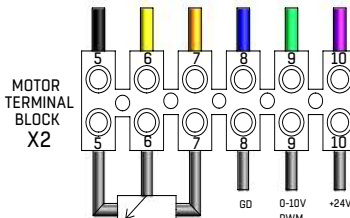
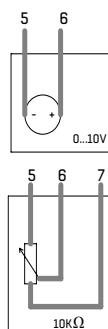
TERMINAL LETTERING

E - EARTH 7 - +10V
1 - LIVE 8 - GROUND
2 - NEUTRAL 9 - 0V-10V
5 - GROUND 10 - +24V
6 - 0V-10V

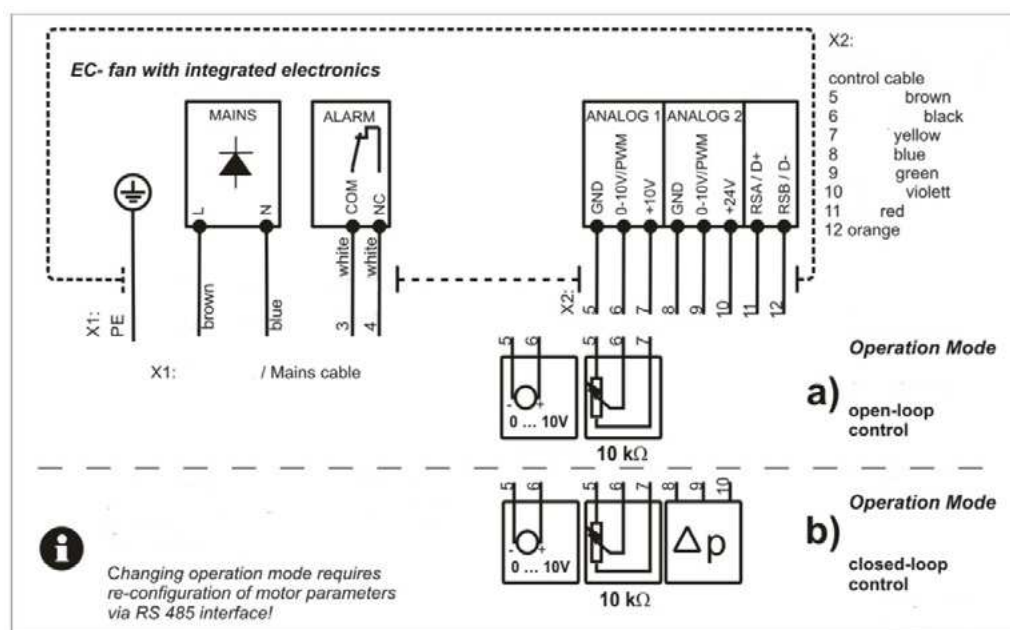
FULL SPEED (OPEN LOOP)



VARIABLE SPEED (CLOSED LOOP)



1.444





**MCFC North Expansion
North Stand Fitout**

**Mechanical Services
Toilet Extract Fan Schedules**

**Document No:
NSE-SEE-NS-XX-LS-M-008310
RIBA Stage 4i
Revision:
P03**

MCFC North Expansion - North Stand Fitout
Mechanical Services Toilet Extract Fans Schedule

Issue and Revision Schedule

Rev / Issue	Date	Description	Revision Details	Prepared	Checked
P01	28/06/2024	Stage 4a Issue	S3 – For Review and Comment	BW	AW
P02	05/07/2024	Stage 4i - Full Pack Issue	S3 – For Review and Comment	BW	JMD
P03	30/08/2024	Stage 4i - Full Pack Issue	S3 – For Review and Comment	BW	JMD

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EQUIPMENT SCHEDULE

FANS - TOILET EXTRACT

Reference	TEF.3.01	TEF.3.02	TEF.3.03	TEF.3.04	TEF.3.05	TEF.4.06
Location	Level 03 Plant Level	Level 03 Plant Level	Level 03 Plant Level	Level 03 Plant Level	Level 03 Plant Level	Level 03 Plant Level
System	Toilet Extract System - L02 West	Toilet Extract System - L01&2 West	Toilet Extract System - L01&2 Central West	Toilet Extract System - L01&2 Central East	Toilet Extract System - L01&2 East	Toilet Extract System - L02 East
Air Volume Flow Rate (l/s)	840 l/s	1,335 l/s	1,260 l/s	1,260 l/s	1,335 l/s	840 l/s
External Static Pressure (Pa)	190Pa	250 Pa	250 Pa	250 Pa	250 Pa	190Pa
Fan Type	Box Fan	Box Fan	Box Fan	Box Fan	Box Fan	Box Fan
Maximum Fan Specific power (W/l/s)	0.5 W/l/s	0.75 W/l/s	0.75 W/l/s	0.75 W/l/s	0.75 W/l/s	0.5 W/l/s
Weight (kg)	80 kg	131 kg	131 kg	131 kg	131 kg	80 kg
Number of Fans	2	2	2	2	2	2
Unit Size (L x W x H / L × ø)	950 x 900 x 550	1200 x 1200 x 650	1200 x 1200 x 650	1200 x 1200 x 650	1200 x 1200 x 650	950 x 900 x 550
Sound Power Spectrum dB (HZ 63 to 8K)	62 / 64 / 66 / 47 / 36 / 36 / 36 / 22	62 / 64 / 66 / 47 / 36 / 36 / 36 / 22	62 / 64 / 66 / 47 / 36 / 36 / 36 / 22	62 / 64 / 66 / 47 / 36 / 36 / 36 / 22	62 / 64 / 66 / 47 / 36 / 36 / 36 / 22	62 / 64 / 66 / 47 / 36 / 36 / 36 / 22
Electrical Details						
Electrical Power Input (kW)	0.45 kW	1.01 kW	1.01 kW	1.01 kW	1.01 kW	0.45 kW
Running Current (Amps)	2.90 Amps	1.60 Amps	1.60 Amps	1.60 Amps	1.60 Amps	2.90 Amps
Starting Current (Amps)	2.90 Amps	8.00 Amps	8.00 Amps	8.00 Amps	8.00 Amps	2.90 Amps
Electrical Supply (V,Ø,HZ)	230/1/50	400/3/50	400/3/50	400/3/50	400/3/50	230/1/50
Type of Starter	--	--	--	--	--	--
Supplier Details						
Manufacturer	FlaktGroup	FlaktGroup	FlaktGroup	FlaktGroup	FlaktGroup	FlaktGroup
Model Reference	Woods EC Twin Fan 350	Woods EC Twin Fan 450	Woods EC Twin Fan 450	Woods EC Twin Fan 450	Woods EC Twin Fan 450	Woods EC Twin Fan 350
Acoustic Treatment	Attenuators (Supplied by others)	Attenuators (Supplied by others)	Attenuators (Supplied by others)	Attenuators (Supplied by others)	Attenuators (Supplied by others)	Attenuators (Supplied by others)
Controls / Accessories	Integrated BMS Control	Integrated BMS Control	Integrated BMS Control	Integrated BMS Control	Integrated BMS Control	Integrated BMS Control
Notes						

- Notes:
1.

Maximum Fan specific power must NOT exceed the figures as set out in Table 36 of the HM Government Building Regulations Non-Domestic Building Services Design Guide. All fans must be selected with specific fan powers in compliance with this document.
2.

Scheduled external static pressures are provisional only and are subject to confirmation by independent calculation by the contractor from his installation drawings
3.

All other components have been calculated based on design selections. The Contractor must substitute actual resistances of ALL installed system components when selecting any fans - prior to ordering equipment.
4.

Prior to ordering equipment the Mechanical Contractor shall issue a full technical system proposal submission for this schedule including all component details, any wiring and controls diagrams and layout drawings showing the locations of all components - for approval by the design team.
5.

All equipment to be issued with a full and detailed manual for installation, operating / maintenance and fault finding.
6.

All fans with a rated electrical input of 10kW or greater shall have separate electrical metering (by the electrical contractor). Where required and where fans are power fed from motor control centre the electrical metering shall be installed in the MCC. The electrical input for all fans shall be confirmed in the Mechanical Contractor's technical submission.
7.

FAT required for acoustic criteria for all units
8.

The contractor shall make all final plant selections against their co-ordinated design drawings.



**MCFC North Expansion
North Stand**

**Mechanical Services
Kitchen Extract Fan Schedules**

**Document No:
NSE-SEE-NS-XX-LS-M-008308
RIBA Stage 4i
Revision:
P03**

MCFC North Expansion

Mechanical Services Kitchen Extract Fans Schedule

Issue and Revision Schedule

Rev / Issue	Date	Description	Revision Details	Prepared	Checked
P01	28/06/2024	RIBA Stage 4a Issue	S3 – For Review and Comment	MD	JM
P02	05/07/2024	RIBA Stage 4i - Full Pack Issue	S3 – For Review and Comment	BW	JMD
P03	30/08/2024	RIBA Stage 4i - Full Pack Issue	S3 – For Review and Comment	BW	JMD

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Project: MCFC North Expansion

Date:	30-Aug-24
Revision	P03
Project No.:	24032

EQUIPMENT SCHEDULE

FANS - KITCHEN EXTRACT

Reference	KEF.3.01	KEF.3.02	KEF.3.03	KEF.3.04		
Location	Level 03 Plant Level	Level 03 Plant Level	Level 03 Plant Level	Level 03 Plant Level		
System	Level 01 Kitchen Kiosk West	Level 02 Kitchen Kiosk West	Level 02 Kitchen Kiosk East	Level 01 Kitchen Kiosk East		
Air Volume Flow Rate (l/s)	610 l/s	610 l/s	610 l/s	610 l/s		
External Static Pressure (Pa)	400 Pa	400 Pa	400 Pa	400 Pa		
Fan Type	Bifurcated Fan	Bifurcated Fan	Bifurcated Fan	Bifurcated Fan		
Maximum Fan Specific power (W/l/s)	1.1 W/l/s	1.1 W/l/s	1.1 W/l/s	1.1 W/l/s		
Actual Fan Specific power (W/l/s)	0.79 W/l/s	0.79 W/l/s	0.79 W/l/s	0.79 W/l/s		
Weight (kg)	40 kg	40 kg	40 kg	40 kg		
Number of Fans	1	1	1	1		
Unit Size (mm l × mm w × mm h / mm l × mm ø)	500 x 500 x 500	500 x 500 x 500	500 x 500 x 500	500 x 500 x 500		
Sound Power Spectrum dB (HZ 63 to 8K)	81 - 80 - 66 - 59 - 54 - 50 - 44 - 31	81 - 80 - 66 - 59 - 54 - 50 - 44 - 31	82 - 80 - 66 - 59 - 54 - 50 - 44 - 31	83 - 80 - 66 - 59 - 54 - 50 - 44 - 31		
Electrical Details						
Electrical Power Input (kW)	0.63 kW	0.63 kW	0.63 kW	0.63 kW		
Running Current (Amps)	4.14 Amps	4.14 Amps	4.14 Amps	4.14 Amps		
Starting Current (Amps)	4.70 Amps	4.70 Amps	4.70 Amps	4.70 Amps		
Electrical Supply (V,Ø,HZ)	230/1/50	230/1/50	230/1/50	230/1/50		
Type of Starter	--	--	--	--		
Supplier Details						
Manufacturer	Elta Fans	Elta Fans	Elta Fans	Elta Fans		
Model Reference	SQUHT50.355-EC-1	SQUHT50.355-EC-1	SQUHT50.355-EC-1	SQUHT50.355-EC-1		
Acoustic Treatment	N/A	N/A	N/A	N/A		
Controls / Accessories	EC 0-10V Signal Control	EC 0-10V Signal Control	EC 0-10V Signal Control	EC 0-10V Signal Control		
Notes						

- Notes:
- Maximum Fan specific power must NOT exceed the figures as set out in Table 36 of the HM Government Building Regulations Non-Domestic Building Services Design Guide. All fans must be selected with specific fan powers in compliance with this document.
 - Scheduled external static pressures are provisional only and are subject to confirmation by independent calculation by the contractor from his installation drawings
 - All other components have been calculated based on design selections. The Contractor must substitute actual resistances of ALL installed system components when selecting any fans - prior to ordering equipment.
 - Prior to ordering equipment the Mechanical Contractor shall issue a full technical system proposal submission for this schedule including all component details, any wiring and controls diagrams and layout drawings showing the locations of all components - for approval by the design team.
 - All equipment to be issued with a full and detailed manual for installation, operating / maintenance and fault finding.
 - All fans with a rated electrical input of 10kW or greater shall have separate electrical metering (by the electrical contractor). Where required and where fans are power fed from motor control centre the electrical metering shall be installed in the MCC. The electrical input for all fans shall be confirmed in the Mechanical Contractor's technical submission.
 - FAT required for acoustic criteria for all units
 - The contractor shall make all final plant selections against their co-ordinated design drawings.



**MCFC North Expansion
North Stand**

**Mechanical Services
Supply Air Fan Schedule**

**Document No:
NSE-SEE-NS-XX-LS-M-008326
RIBA Stage 4i
Revision:
P03**

MCFC North Expansion

Mechanical Services Supply Air Fan Schedule

Issue and Revision Schedule

Rev / Issue	Date	Description	Revision Details	Prepared	Checked
P01	28/06/2024	RIBA Stage 4a	S3 - For Review and Comment	MD	JM
P02	05/07/2024	RIBA Stage 4i - Full Pack Issue	S3 - For Review and Comment	BW	JmD
P03	30/08/2024	RIBA Stage 4i - Full Pack Issue	S3 - For Review and Comment	BW	JmD

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Project: MCFC North Expansion

Date:	30-Aug-24
Revision:	P03
Project No.:	24032

EQUIPMENT SCHEDULE

FANS - EXTRACT

Reference	SAF.1.01-02	SAF.1.03-04				
Location	Level 01 Concourse West	Level 01 Concourse East				
System	Concourse Boost Fans	Concourse Boost Fans				
Air Volume Flow Rate (l/s)	1,000 l/s	1,000 l/s				
Static Pressure (Pa)	150 Pa	150 Pa				
Fan Type	Backward Curved EC Plenum	Backward Curved EC Plenum				
Maximum Fan Specific power (W/l/s)	0.42 W/l/s	0.42 W/l/s				
Weight (kg)	348 kg	348 kg				
Number of Fans	1	1				
Unit Size (mm l × mm w × mm h / mm l × mm ø)	3100 x 720 x 1060	3100 x 720 x 1060				
Sound Power Spectrum dB (Hz 63 to 8K)						
Electrical Details						
Electrical Power Input (kW)	3.30 kW	3.30 kW				
Running Current (Amps)	5.40 A	5.40 Amps				
Starting Current (Amps)	--	--				
Electrical Supply (V / Ø / Hz)	380 / 3 / 50	380 / 3 / 50				
Type of Starter	--	--				
Supplier Details						
Manufacturer	AHS	AHS				
Model Reference	Air Flex 4 F	Air Flex 4 F				
Acoustic Treatment	Inlet & Exhaust Attenuators	Inlet & Exhaust Attenuators				
Controls / Accessories	0-10V Speed Control	0-10V Speed Control				
Notes						

- Notes:
- Maximum Fan specific power must NOT exceed the figures as set out in Table 36 of the HM Government Building Regulations Non-Domestic Building Services Design Guide. All fans must be selected with specific fan powers in compliance with this document.
 - Scheduled external static pressures are provisional only and are subject to confirmation by independent calculation by the contractor from his installation drawings
 - All other components have been calculated based on design selections. The Contractor must substitute actual resistances of ALL installed system components when selecting any fans - prior to ordering equipment.
 - Prior to ordering equipment the Mechanical Contractor shall issue a full technical system proposal submission for this schedule including all component details, any wiring and controls diagrams and layout drawings showing the locations of all components - for approval by the design team.
 - All equipment to be issued with a full and detailed manual for installation, operating / maintenance and fault finding.
 - All fans with a rated electrical input of 10kW or greater shall have separate electrical metering (by the electrical contractor). Where required and where fans are power fed from motor control centre the electrical metering shall be installed in the MCC. The electrical input for all fans shall be confirmed in the Mechanical Contractor's technical submission.
 - FAT required for acoustic criteria for all units.
 - The contractor shall make all final selections based on their co-ordinated design drawings.



**MCFC North Expansion
Hotel Building**

**Mechanical Services
Extract Fan Schedules**

**Document No:
NSE-SEE-HT-XX-LS-M-008011
RIBA Stage 4i
Revision:
P02**

MCFC North Expansion - Hotel Building
Mechanical Services Extract Fans Schedule

Issue and Revision Schedule

Rev / Issue	Date	Description	Revision Details	Prepared	Checked
P01	09/08/2024	RIBA Stage 4i	S3 - For Review and Comment	HC	JMD
P02	10/09/2024	RIBA Stage 4i	S3 - For Review and Comment	HC	JMD

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EQUIPMENT SCHEDULE

FANS - EXTRACT

Reference	EF.0.01	EF.0.02	EF.0.03	EF.0.04		
Location	Level 00 Refuse Store	Level 00 Loading Bay	Level 00 Potwash	Level 00 Mechanical Room		
System	Extract System	Extract System	Extract System	Extract System		
Air Volume Flow Rate (l/s)	573 l/s	319 l/s	225 l/s	283 l/s		
External Static Pressure (Pa)	150 Pa	150 Pa	150 Pa	150 Pa		
Fan Type	Box Fan	Box Fan	Box Fan	Box Fan		
Maximum Fan Specific power (W/l/s)	0.27 W/l/s	0.29 W/l/s	0.30 W/l/s	0.29 W/l/s		
Weight (kg)	43 kg	30 kg	TBC	30 kg		
Number of Fans	1	1	1	1		
Unit Size (mm l × mm w × mm h / mm l × mm ø)	500 x 500 x 500	500 x 500 x 500	TBC	500 x 500 x 500		
Sound Power Spectrum dB (HZ 63 to 8K)	--	--	--	--		
Electrical Details						
Electrical Power Input (kW)			0.25 kW			
Running Current (Amps)	1.12 Amps	1.12 Amps	1.12 Amps	1.12 Amps		
Starting Current (Amps)	--	--	--	--		
Electrical Supply (V,Ø,HZ)	230/1/50	230/1/50	230/1/50	230/1/50		
Type of Starter	--	--	--	--		
Supplier Details						
Manufacturer	FlaktWoods		Refer to preferred manufacturers list			
Model Reference	PowerBox3 50-315-1	ePowerBox EC 50-315-1-4	--	ePowerBox EC 50-315-1-4		
Acoustic Treatment	Attenuators (Supplied by others)	Attenuators (Supplied by others)	Attenuators (Supplied by others)	Attenuators (Supplied by others)		
Controls / Accessories	Integrated BMS Control	Integrated BMS Control	Integrated BMS Control	Integrated BMS Control		
Notes						

- Notes:
1.

Maximum Fan specific power must NOT exceed the figures as set out in Table 36 of the HM Government Building Regulations Non-Domestic Building Services Design Guide. All fans must be selected with specific fan powers in compliance with this document.
2.

Scheduled external static pressures are provisional only and are subject to confirmation by independent calculation by the contractor from his installation drawings
3.

All other components have been calculated based on design selections. The Contractor must substitute actual resistances of ALL installed system components when selecting any fans - prior to ordering equipment.
4.

Prior to ordering equipment the Mechanical Contractor shall issue a full technical system proposal submission for this schedule including all component details, any wiring and controls diagrams and layout drawings showing the locations of all components - for approval by the design team.
5.

All equipment to be issued with a full and detailed manual for installation, operating / maintenance and fault finding.
6.

All fans with a rated electrical input of 10kW or greater shall have separate electrical metering (by the electrical contractor). Where required and where fans are power fed from motor control centre the electrical metering shall be installed in the MCC. The electrical input for all fans shall be confirmed in the Mechanical Contractor's technical submission.
7.

FAT required for acoustic criteria for all units
8.

The contractor shall make all final plant selections against their co-ordinated design drawings.
9.

Items that have been struck through are located within whiteboxed areas.



**MCFC North Expansion
Commercial Building**

**Mechanical Services
Supply & Extract Fan Schedules**

**Document No:
NSE-MEE-CM-XX-LS-M-008124
RIBA Stage 4i
Revision:
P01**

MCFC North Expansion
Mechanical Services Toilet Extract Fans Schedule

Issue and Revision Schedule

Rev / Issue	Date	Description	Revision Details	Prepared	Checked
P01	17/10/2025	RIBA Stage 4i	S3 – For Review and Comment	HC	BW

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EQUIPMENT SCHEDULE

FANS - TOILET EXTRACT

Reference	SF.0.01				
Location	Level 00 Reception				
System	Fresh Air Fan				
Air Volume Flow Rate (l/s)	50 l/s				
External Static Pressure (Pa)	125 Pa				
Fan Type	Box Fan				
Maximum Fan Specific power (W/l/s)	0.61 W/l/s				
Weight (kg)	12 kg				
Number of Fans	1				
Unit Size (mm l × mm w × mm h / mm l × mm ø)	340x460x260				
Sound Power Spectrum dB (HZ 63 to 8K)	52 / 39 / 44 / 45 / 46 / 46 / 41 / 32				
Electrical Details					
Electrical Power Input (kW)	0.03 kW				
Running Current (Amps)	0.75 Amps				
Starting Current (Amps)					
Electrical Supply (V,Ø,HZ)	230/1/50				
Type of Starter	--				
Supplier Details					
Manufacturer	FlaktGroup				
Model Reference	eSabina EC 125				
Acoustic Treatment	Attenuators (Supplied by others)				
Controls / Accessories	Integrated BMS Control				
Notes					

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