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Acoustic Report
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INTRODUCTION

The proposal is for the provision of an extract system to the existing A3 unit located on the ground floor of the existing building. The proposed position of the new kitchen extract systems for the premises indicated on drawing no 318-01-202 is to vent upwards through the flat roof and terminate above the existing building's roofline where the byproducts of any cooking will be removed.

FOOD PROCESSING

The relevant kitchen equipment using the extract consists of three shwarma machines, two small fryers, and one salamander grill. The proposed menu is below.

KITCHEN EXTRACTION SYSTEM

The proposed new kitchen will be located at the rear of ground floor. The proposed extraction ducts are to pass through the flat roof and discharge the extracted air above the existing roof structure as indicated on drawing no 318-01-302.

The proposed model of extract fan incorporates a fan that produces 79dBA sound pressure level. Data below. The extractor fan model proposed is a MUB 042 500EC Multibox extractor fan. The proposed model incorporates a fan that produces about 79dBA sound pressure level. It is assumed that the noise attenuator will reduce the noise level by an additional 7-10dBA.

NOISE CONTROL

The unit will operate as a takeaway with approx. 20 covers.

Ventilation equipment is designed and will be installed to avoid noise and vibration nuisance to any neighbours. The fan and motor will be fixed on anti-vibration mounts, joined to ductwork using flexible couplings preventing the transmission of vibrations either to the structure or along the ducting and minimizing outdoor noise.

The extract ducting will be rigid in construction and installed with anti-vibration mountings. Bracing may be provided to prevent drumming and fire damping provided where necessary.

Sandwiches (Pita)	Chicken Shawarma
	Meat Shawarma
	Mix Shawarma
	Vegan Shawarma
	Falafel Sandwich
	Veggie (Potato) Sandwich
	Haloumi Sandwich
Sandwiches (Wrap)	Chicken Shawarma
	Meat Shawarma
	Mix Shawarma
	Vegan Shawarma
	Falafel Sandwich
	Veggie (Potato) Sandwich
	Haloumi Sandwich
Sandwiches (Baguette)	Chicken Shawarma
	Meat Shawarma
	Mix Shawarma
	Vegan Shawarma
	Falafel Sandwich
	Veggie (Potato) Sandwich
	Haloumi Sandwich
Platters	Chicken Shawarma Platter
	Beef Shawarma Platter
	Combo Platter
	Vegan Shawarma
	Falafel
	Veggie Platter
	Halloumi
Salads	Tabouli
	Fattoush
	Coleslaw
Appetizers	HUMMUS
	HUMMUS SHAWARMA CHICKEN
	HUMMUS SHAWARMA BEEF
	FALAFEL (6 PCS)
	FRENCH FRIES
	LOADED FRIES (CHICKEN)
	LOADED FRIES (MEAT)
	LOADED FRIES (VEGAN DONAR)
	Batata Harra
	Halloumi Fries
	Kebba (Potato)
Kebba (Meat)	
Other	Extra Sauce
	Extra Potato
	Soft Drinks (Can)
Bread	Baggett
	Lebanese/Pitta
	Tortilla
	Gluten Free
Ilings	Lettuce
	Tomatoes
	Pickles
	Red Pickles (turnip)
	White Onions

Cold Fi	Parsley with white Onions (Bawaz)
	Cucumber
	Cole slaw
	Radish
	Hummus
	Green Chilli pickles / jalapenos
Warm Fillings	Halloumi
	aubergine / Eggplant
	Fries Colliflower
	Moussaka
	Crispy Chips
	Rice with vermicelli
	Burghul with Tomato & Chick Peas
	Mujadara (Lentils& Rice)
	Falafel
Fired Onions (Caramelized)	
Deserts	Sweat Balls
	Nutella Balls
	Luttus Balls
	Pistachio Balls
	Classic Rice Pudding (Cinnamon & Rasin)
	Nutella (Hazelnut Chocolate) Rice Pudding
	Luttus Rice Pudding
	Pistachio Rice Pudding
	3 Pcs Baklava
	6 Pcs Baklava
2 Pcs Mamoul	
4 Pcs Mamoul	
Sauces	White Sauce (Garlic)
	Mayonnaise
	aioli Sauce
	Red Chili sauce
	Tzatziki Sauce
	Perri Peri
	Tahini Sauce
	Dibs Rumman (Pomegranate Molasses)
	Pesto Sauce
	Korean Sauce

Acoustic

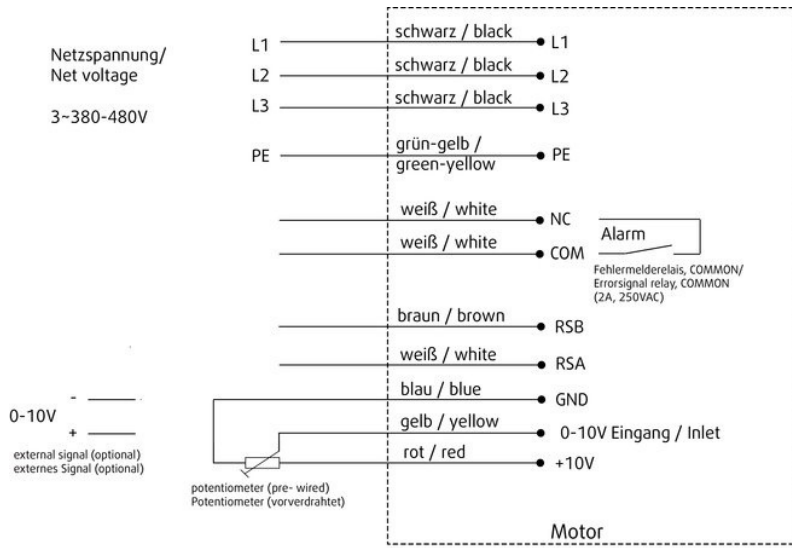
Mid-frequency band; 90°	Hz	63	125	250	500	1k	2k	4k	8k	Tot
LwA Inlet	dB(A)	41	60	64	70	74	71	63	57	77
LwA Outlet	dB(A)	43	62	66	72	76	73	65	58	79
LwA Surrounding	dB(A)	50

Measuring point: $q_v = 4539 \text{ m}^3/\text{h}$, $P_s = 505 \text{ Pa}$

The Level of Casing-Breakout-Noise depends on the quality of shielding the acoustic inlet and outlet noises.

The shown Level of Casing-Breakout-Noise will be reached only in case of 100 % shielding the acoustic inlet and outlet noise and a correspondingly low environment noise.

Wiring



wiring_09-29-400V_101108_daten_001_315311

Ecodesign

Product	
Trade name	Systemair
Product name	MUB 042 500EC
Ecodesign	
ErP compliance	2018
Unit category	NRVU
Drive	Integrated VSD
Unit type	UVU
Heat recovery type	None
Temperature ratio (UVU)	Not applicable
qv nom	1.261 m ³ /s
P nom	1.315 kW
Ps nom	125,790 Pa
Fan efficiency	48.4 %
External Leakage	5 %
Sound power level LWA	79 dB(A)

MUB 042 500EC Multibox

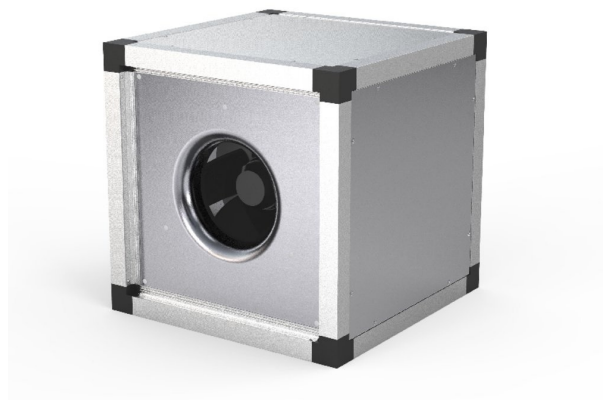
Centrifugal box fan, insulated, flexible outlet

Item Number: 235427

Variant: 400V 3~ 50/60Hz - 90° air flow



- 100 % speed controllable
- Integrated electronic motor protection
- Low noise level
- Flexible airflow direction due to removable panels
- Installation in any mounting position
- Safe and maintenance free operation
- Energy-saving
- Potentiometer included for ease of commissioning
- RS-485 interfaces for networking via MODBUS RTU from size 355
- AMCA-certified performance curves



The MUB-EC fans are driven by EC-external rotor motors. These are energy saving motors with high efficiency. The power electronics are integrated in the motor housing. From size 355 all models have one potential-free terminal for error message.

All motors are suitable to be used for 50/60Hz. The input voltage for single phase units can vary between 200 and 277V, for three phase units between 380 and 480V. Speed control by a 0-10V signal.

The fans are delivered with a pre-wired potentiometer (0-10 V) that allows you to easily find the desired working point.

All models are equipped with impellers with backward curved blades, manufactured from polypropylen PP .The casing consists of an aluminium frame with fibreglass reinforced plastic corners of PA6; highly shock-resistant.

The double skin panels are manufactured from galvanized steel with 30 mm mineralwool insulation. To avoid condensation the profile is provided with a separate chamber to fix the screws.

The panels are removable, any outlet side can be chosen, allowing flexible ventilation solutions.

The Multibox can also be used as extract- or supply air unit in air handling units. Installation in any mounting position is possible.

MUB with additional modules (filters, heaters etc.) are available as air handling units "K025, K042 or K062" on request!

The MUB-EC series in sizes 315 to 710 is licensed to bear the AMCA seal. The ratings shown are based on tests and procedures performed in accordance with AMCA Publication 211 and AMCA Publication 311 and comply with the requirements of the AMCA Certified Ratings Program.

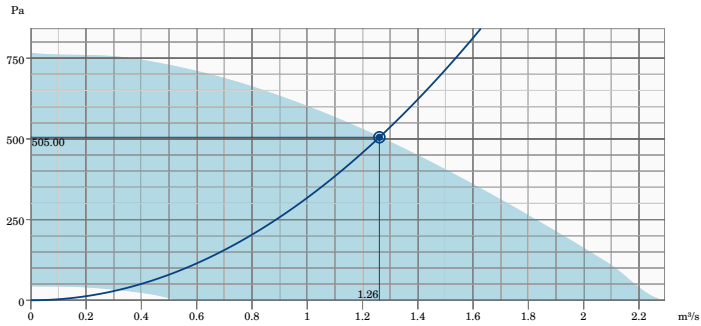
Technical parameters

Normal data	
Voltage (Nominal)	400 V
Frequency	50; 60 Hz
Phase(s)	3~
Input power	1,315 W
Input current	1.96 A
Impeller speed	1,340 r.p.m.
Air flow	max 2.293 m ³ /s
Temperature of transported air	max 55 °C
Max temperature of transported air, when speed controlled	55 °C

Protection/Classification	
Enclosure class, motor	IP55
Insulation class	F
Data according to ErP	
ErP ready	ErP 2016; ErP 2018
Dimensions and weights	
Weight	54.5 kg
Others	
Motor type	EC

Performance

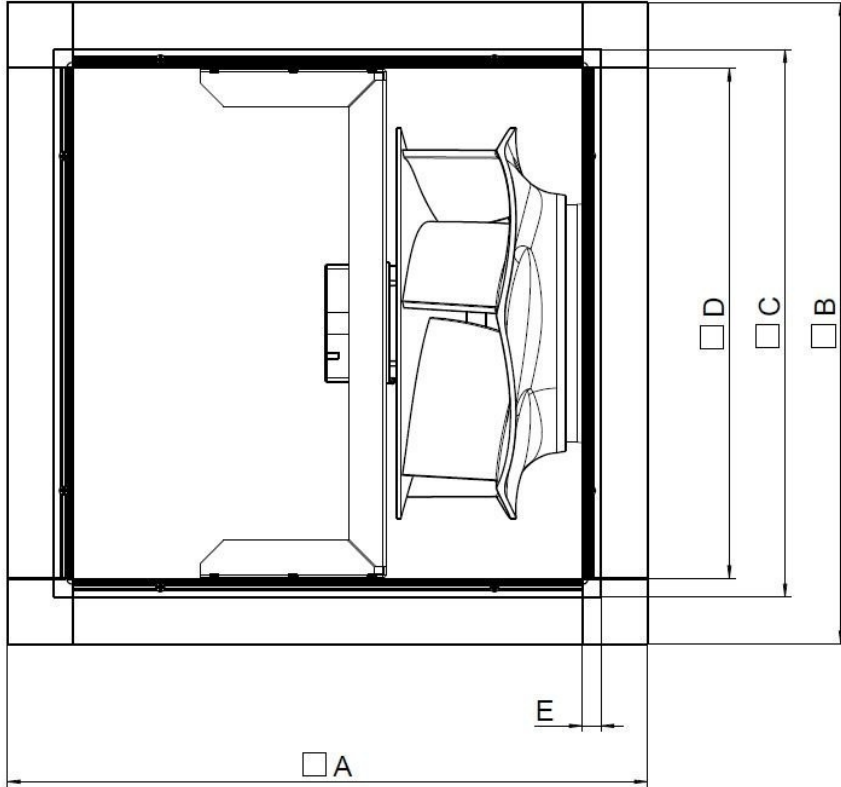
Performance curve



Hydraulic data	
Required air flow	1.26 m³/s
Required static pressure	505 Pa
Working air flow	1.26 m³/s
Working static pressure	505 Pa
Air density	1.204 kg/m³
Power	1314.6 W
Fan control - RPM	1354 rpm
Current	1.96 A
SFP	1.043 kW/m³/s
Control voltage	10.0 V
Supply voltage	400 V

Dimension

MUB 042	□A	□B	□C	□D	E
400/450/500	690	690	590	548	21



Accessories

- [CXE/AVC Modbus \(37256\)](#)
- [EC-Basic-CO2 and temperature \(24808\)](#)
- [EC-Basic-T temperature \(24805\)](#)
- [EC-Vent control board \(3115\)](#)
- [FGV 042/586-586 flex. conn. \(4605\)](#)
- [MTP 20, on/off, 3-step \(310220\)](#)
- [REV-5POL/05 EC,3~,REV-switch \(35757\)](#)
- [SD-MUB Vibration pad set \(37324\)](#)
- [UGS 042/500 adapter flex. \(4357\)](#)
- [WSG 042 MUB complete \(31485\)](#)
- [HR1 Room Humidistat \(215150\)](#)
- [RT 0-30 Room Thermostat \(5151\)](#)
- [CCM inlet MUB042 d400 \(311780\)](#)
- [CCM outlet MUB042 d400 \(311682\)](#)
- [CCMI outlet 042 d400 KIT 30mm \(239093\)](#)
- [DMD-C Pressure controller \(15793\)](#)
- [EC-Basic-H humidity \(24807\)](#)
- [EC-Basic-U universal 0-10V \(24806\)](#)
- [EC-Vent Room Unit \(3018\)](#)
- [MTP 10, 10K, Speed control \(32731\)](#)
- [MTV-1/010 Controller 0..10V+ \(30650\)](#)
- [S-5EC/FRO \(76738\)](#)
- [TUNE-AHU-DE007-042-588x588-M0 \(79881\)](#)
- [WSD 042 \(730x730x70\) complete \(31481\)](#)
- [CO2RT-R-D Transmitter \(6993\)](#)
- [Presence detector/IR24-P \(6995\)](#)
- [TFR Temp. Sensor \(5158\)](#)
- [CCM inlet MUB042 d500 \(311781\)](#)
- [CCM outlet MUB042 d500 \(311683\)](#)
- [CCMI outlet 042 d500 KIT 30mm \(239094\)](#)

Documents

- [imo_mub_all_010_en_248056](#)
- [UKCA DECLARATION OF CONFORMITY_MUB_EN_0011.PDF](#)
- [COMMISSIONING REPORT_FANS_160628_EN_001.PDF](#)

