

PROPOSED VENTILATION SYSTEM AT
31 Elm Grove, Hayling Island, PO11 9EA



CONTENTS:

1.0 INTRODUCTION

2.0 PREAMBLE

3.0 INFORMATION ON PREMISES & TYPE OF OPERATION

4.0 PLANS AND DRAWINGS

5.0 DETAILED DESIGN OF VENTILATION SYSTEM

- 5.1 Pre-filters
- 5.2 Electrostatic precipitators
- 5.3 Odour counteracting or neutralising system
- 5.4 Cooker Hood details
- 5.5 System operation
- 5.6 Flue design
- 5.7 Noise
- 5.8 Maintenance
- 5.9 Carbon Filters

6.0 ADDITIONAL NOTES FOR GUIDANCE

APPENDIX 1 – Cold Room and Air Conditioning compressor data sheets

APPENDIX 2 – Supporting Data sheets



1.0 INTRODUCTION:

The information contained within this document should be used as supporting information when applying for Change of Use Planning Approval and is based on the EMAQ publication guidance on the Control of Odour and Noise from Commercial Kitchen Exhaust Systems (September 2018 & any subsequent revisions). This follows feedback from various Local Authorities who use the EMAQ publication as a guide when referring to the extract system as part of the application process.

Annex B advises that the aim of any ventilation/extraction is to ensure that no nuisance, disturbance or loss of amenity is caused by odour, fumes, food droplets or noise, to nearby properties.

Additionally, the visual appearance of the flue may be important and the flue itself may require a separate planning permission. Enquiries should be made to the Local Authority Planning Department regarding this matter.

A suitably qualified and experienced person with specialist knowledge of ventilation schemes should undertake the design and installation of a ventilation system.

Designing and installing appropriate ventilation systems may involve considerable expense.

In circumstances where the end user of the premises is unknown, or where the specific type of food to be cooked is unknown, the installation should be designed to achieve the highest level of odour control in order to cater for a worst-case scenario.

There are many different types of odour abatement available (carbon filters, electrostatic precipitation, high dilution and high velocity extraction) however not all types are suitable for all cooking methods. In each case, grease filters must be installed.

2.0 PREAMBLE

All work is carried out in accordance with the latest relevant British (or Irish regulations where applicable) and European Standards, statutory Regulation and ByeLaws together with the following publications:

- CIBSE Codes and guides to current practice
- Water Authority Bye Laws
- HVCA – DW143 Practical Guide to Ductwork Leakage Testing
- HVCA DW144 Specification for Sheet Metal Ductwork
- HVCA DW172 Guide to Good Practice for Kitchen Ventilation Systems
- HVCA – RUAG70 Guide to Good Practice Refrigeration
- The Building Regulations
- Gas Safety (Installation and Use) Regulations 1998

All plant, ducts, pipe cables etc. shall be adequately protected against accidental damage corrosion and external environment and shall be capable of safe decontamination and removal in the future without disturbing other services. Pipes and ducts shall be adequately sized, kept as short as practicable, leak-proof with a minimum number of joints and have provision for routine maintenance. All facilities shall be designed to prevent the ingress or egress of rodents, vermin, and insects.

The duct will be fixed to the shell of the unit using anti-vibration fixing mounts and under no circumstances will flexible ductwork be used other than the fan connections

The HVAC contractor shall supply the client with system design drawings, prior to manufacture and installation

For projects in England and Wales, the HVAC contractor shall also demonstrate compliance with Building Regulations Approved documents L2A & L2B. This will include:

- (a) Provision of details of the efficiency and controls of heating, cooling and ventilation systems in accordance with Non-Domestic Heating, Cooling and Ventilation compliance Guide (2006)
- (b) Provision of commissioning certificates including air leakage tests on the ductwork

Fire/smoke dampers shall be installed in all fire compartment walls to Building Control requirements

The HVAC contractor shall ensure that externally, the ductwork conforms to the supplied drawings in terms of its route, height and termination. These drawings will have formed part of the planning permission and must not be deviated from without prior consultation with the Project Manager / Architect.

Upon completion of the installation, all shall be fully tested and proved including airflows. The Contractor shall produce an Operating and Maintenance Manual which shall contain details of all equipment supplied; a record drawing of the complete mechanical services installation and copies of all Test Certificates. It shall contain a Maintenance Schedule based on the manufacturer's recommendations.



3.0 INFORMATION ON TYPE OF OPERATION

The proposed operation will produce approximately 100 meals on average per day.

The proposed hours of operation of the business and ventilation plant will be in accordance with the hours stated in the approved Change of Use

4.0 PLANS AND DRAWINGS

Please refer to drawing **13574-AEW-PJ00314-00-DR-0003** of the proposed premises which shows the indicative internal arrangement and location of the ventilation system.

Please refer to drawing **13574-AEW-PJ00314-XX-DR-0004** for proposed elevations of the unit which shows the external location of the ventilation system.

A schematic drawing produced by the HVAC Designer will be provided at a later date.

5.0 DETAILED DESIGN OF VENTILATION SYSTEM

5.1 Pre-filters (fresh air system)

A copy of the manufacturer's product data sheet should be supplied clearly showing:

- Manufacturer's name: **Jasun Filtration**
- Filter name and product code: **Type 90 and VL2 Panel Filter**
- Dimensions of the pre-filter: **45mm thick (rated airflow 2.0m/s) see data sheets**
- Nature of the filter media: **Disposable glass fibre media**
- Manufacturer's recommendations on the frequency and type of maintenance of the pre-filter having regard to the conditions that it will be used under: **3 monthly maintenance**

5.2 Electrostatic precipitators

(NOT REQUIRED ON THIS SITE – REFER TO 5.9 CARBON FILTERS)



5.3 Odour counteracting or neutralising system

(NOT REQUIRED ON THIS SITE – REFER TO 5.9 CARBON FILTERS)

5.4 Cooker hood

The following information on the characteristics of the cooker hood should be supplied that clearly shows:

- The hood will be made of: **Stainless Steel construction with all visible joints to be welded, ground and polished and to incorporate a gutter around all edges with a plugged drain connection at lowest point.**
- Length that the cooker hood overhangs the appliances: **200mm all round**
- Face velocity at the cooker hood (metres per second): **0.25m/s**
- Dimensions of the opening of the cooker hood = **1.36m x 2.75m**

The hood will include 6 no. mesh type grease filters, aluminium frame with mesh inserts:

- Manufacturer's name: **Jasun Filtration**
- Filter name and product code: **Model GF (approx. 450mm x 450mm)**

The extract system is predominantly removing heat and gas combustion fumes. Mesh filters are much more efficient at removing any fine particles which may be caught in the air flow.

There is not barrier to flame within the filter, and it is accepted that mesh filters cannot therefore be used on their own in applications where there is appreciable risk of fire. However, this does not apply in this operation.

5.5 System Operation

In addition to the specification of the components the following must be provided about the system:

- Proposed extract rate (expressed as m³/second): **1.5m³/s**
- Dwell time of the gases in the carbon filtration zone: **0.2 – 0.4s**
- Volume of the kitchen: **based on average prep area size of 100 -150cu/m**
- Efflux velocity: **11m/s**

Note: The system performance is dependant upon the extract rate of the air. Where the rate can be adjusted by the use of dampers or a variable speed fan, then the conditions under which the extract rate can be achieved must be described. **Variable fan with adjustment.**

5.6 Flue Design

The height and velocity of the final discharge are the two important factors. Generally, the greater the flue height, the better the dispersion and dilution of odours. The discharge of air should be at a minimum height of 1m above the roof ridge, especially if there are buildings nearby that may affect odour dispersion and dilution.

Where this is not possible (e.g. because of ownership or structural constraints), additional techniques will be required in order to reduce odours, such as an increase in efflux velocity and additional filters, etc. The final discharge should be vertically upwards, unimpeded by flue terminals. The number of bends in the ducting should be minimised and the ducting should have a smooth internal surface.

Details of proposal: 500mm dia. horizontal oven extract duct to travel internally above suspended ceiling before penetrating rear wall. PPC louvred wall grille (RAL 7043). Extract fan to be fixed to anti-vibration mounts and duct system to be fitted with noise attenuation dampers and atmospheric side silencers to M&E Specialist sub-contractor's design and detail. Extraction system to also be fitted with fine filtration and carbon filters in accordance with Purified Air report ref: RM29552_Hayling Island in accordance with latest EMAQ and Defra guidance.

5.7 Noise

Data on the noise produced by the system as a whole should be provided including:

- Sound power levels or sound pressure levels at given distances (the assumptions to this calculation must be clearly stated);
- An octave band analysis of the noise produced by the system should also be provided, where possible; and
- Hours of operation of the ventilation system (where this differs from the hours of opening).

This information is site dependent and can only be achieved once the system is designed and installed. Please refer to Appendix 1 for data sheets regarding the fans for more information.



5.8 Maintenance

A schedule of maintenance must be provided including details for:

- Cleaning of washable grease filters: **Weekly**
- Frequency of inspection and replacement of all filters (grease filters, pre-filters and carbon filters where proposed): **Monthly**
- Inspection and servicing of fans: **Bi-annually**

Please note that the HVAC contractor will provide 12 months spare filters at each new store.

5.9 Carbon Filters

Please refer to Purified Air risk assessment and specification document reference RM 29552_Hayling Island dated 17/08/2023. Please contact Purified Air directly for any additional information with regards to oven extract filtration details / specification. Contact details as follows:

Contract: Rob Martin
Telephone: 0170 8755 414
Mobile: 07772524488
Email: rob@purifiedair.co.uk

6.0 Additional notes for guidance

The air inlets must not permit pests to enter the kitchen. Fly screens are an example of how this can be achieved.

Sufficient air must be permitted into the premises to replace air extracted. The method for supplying this make-up air should be detailed. The route of the air into the kitchen must not result in its contamination, for example passage through a toilet. Separate provision must be made for ventilation of a toilet.

There must be sufficient access points to permit adequate cleaning of all the ductwork.

Fresh air is introduced via a dedicated air handling unit to supply 80% of the extracted air, fresh air filtered to EU4 – tempered via a low pressure hot water coil - is introduced via ceiling mounted diffusers to the preparation / office and wash-up areas.



APPENDIX 1

COLDROOM AND AIR CONDITIONING COMPRESSORS

AIR CONDITIONING			COLD ROOM	
Model (typical unit)	Mitsubishi H.I. FDC 100VNX		Model (typical unit)	Techumseh Wint Sys WINAJ4519Z
Dimensions	W 970mm D 350mm H 1300mm		Dimensions	W 940 D 655 H 710
Weight	105 kg		Weight	66 kg
Airflow	1620 cu.m/h		Compressor	WINTSYS Outdoor 2HP HBP 50Hz Condensing Unit
Current	Start N/A Max running current 11.1A		Refrigerant Connections	Suction 5/8" Liquid 3/8"
Capacity	Cool 10.0 kW Heat 11.2 kW		Condenser Fan Motor	220-240V IPH 50Hz 1650 m³/hr Air Flow
Noise	50 dBA @ 1m		Watts	3kW
			Electrical Details	RLA 50Hz : 10.2
			Noise	32dBA



APPENDIX 2

PRODUCT DATA SHEETS

- System Air - Prio 315 EC (Fresh air intake fan)
- System Air - VBR 70-40-3 Water Heating Battery (Fresh air intake)
- JASUN Filtration PLC – Model GF mesh grease filters (Canopy Filters)
- System Air - Prio 355 EC (Extract Fan)





Prio Circular Duct Fans

Quiet and compact mixed-flow fan



- Available with AC and EC motors for 50 and 60Hz
- Indoor and outdoor installation
- Sound and energy optimized impellers

[Find more details in our online catalogue](#)

Flexibility

The prio fans are intended to use for **supply** or **extract** air, designed to be installed in **any position**. This ensures that the fans can be used in a variety of **commercial** and **domestic** applications.

Reliability

The unit's **airtight casing** and corrosion resistance permits **outdoor** and **indoor** use. The combination of a reliable casing and motor construction ensures to minimize the need for maintenance of the fans and allows long **continuous operation**.

Performance

The **sound optimized** impellers together with **high efficient** external rotor motors are designed to ensure high-level performance to **minimize power consumption** and **maximize efficiency**.

Accessories

Prio fan can be selected together with variety types of **accessories** as fast clamps, heaters, filters, dampers, etc.

Features

Construction

Casing made out of special composite material or sheet metal, is fully airtight class C according to EN12237.
The Fans are equipped with an external **terminal box with** protection class **IP55**.

Impeller

Prio fans have aerodynamically optimized impellers and guide vanes. These are from lightweight, hard-wearing fiberglass reinforced **polyamide**, dynamically **balanced** and paired with corresponding external rotor motors.

Motor

Depending on the type, prio fans are equipped with **AC** or **EC** external rotor motor. Motors are suitable for **50Hz** and **60Hz**.

Motor protection

Fans with **AC** motors have an **integrated** thermal protection with manual (electrical) reset.
Fans with **EC** motors have an **integrated** electronic **thermal protection** including **locked-rotor protection** and **soft-start**.

Control

EC motors with **built-in potentiometer** to adjust working point can be also controlled by external **signal 0-10V**.
AC motors can be controlled by **5-step** or **stepless** speed regulator.

Installation

Prio fans can be installed in any position **indoor** and **outdoor**. Spigot with 25 mm length is perfectly designed to connect circular duct by **fast clamps preventing vibration** to the duct.

Technical parameters

Nominal data

Voltage (nominal)	230	V
Frequency	60; 50	Hz
Phases	1~	
Input power	528	W
Input current	2.32	A
Impeller speed	2,446	rpm
Air flow	max 1.051	m³/s
Temperature of transported air	max 55	°C
Max temperature of transported air, when speed controlled	55	°C

Sound data

Sound pressure level at 3m (20m² Sabin)	56	dB(A)
---	----	-------

Protection/Classification

Enclosure class, motor	IP54
Insulation class	F

Data according to ErP

ErP ready	ErP 2018
-----------	----------

Dimensions and weights

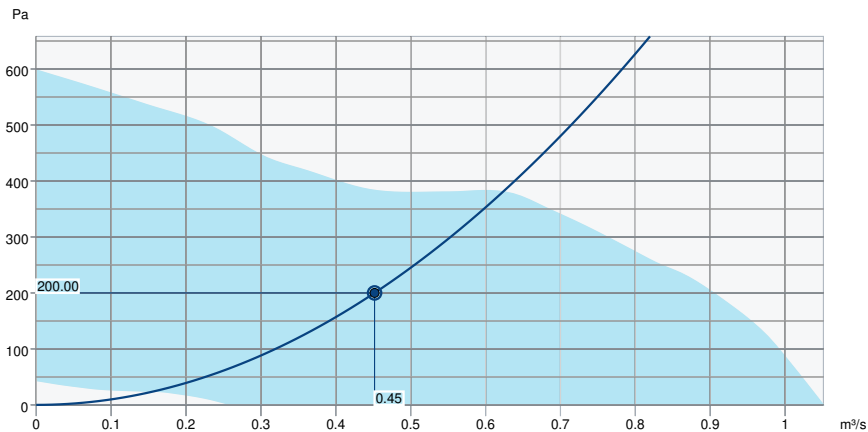
Duct dimension; Circular, inlet	315	mm
Duct dimension; Circular, outlet	315	mm
Weight	8.52	kg

Others

Duct connection type	Circular
Motor type	EC

Performance

Performance curve



Hydraulic data

Required air flow	0.45 m³/s
Required static pressure	200 Pa
Working air flow	0.45 m³/s
Working static pressure	200 Pa
Air density	1.204 kg/m³
Power	183.6 W
Fan control - RPM	1,837 rpm
Current	0.87 A
SFP	0.406 kW/m³/s
Control voltage	7.1 V
Supply voltage	230 V

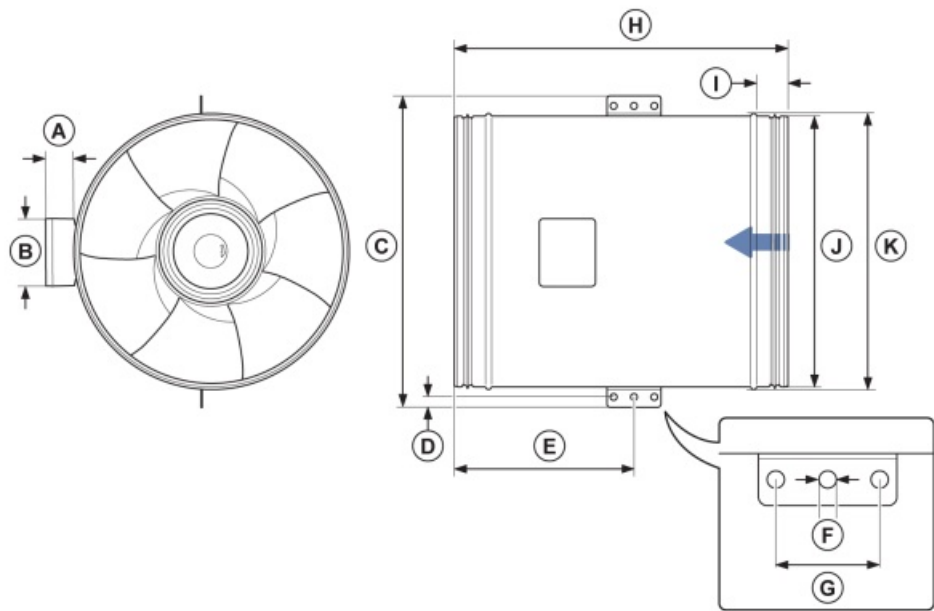
Sound power level		63	125	250	500	1k	2k	4k	8k	Total
Inlet	dB(A)	47	71	66	70	71	68	62	52	77
Outlet	dB(A)	55	61	68	68	70	67	61	51	75
Surrounding	dB(A)	12	41	47	52	50	45	42	27	55
Sound pressure level at 3m (20m² Sabine)	dB(A)	-	-	-	-	-	-	-	-	48
Sound pressure level at 3m free field	dB(A)	-	-	-	-	-	-	-	-	34

Accessories

Ecodesign

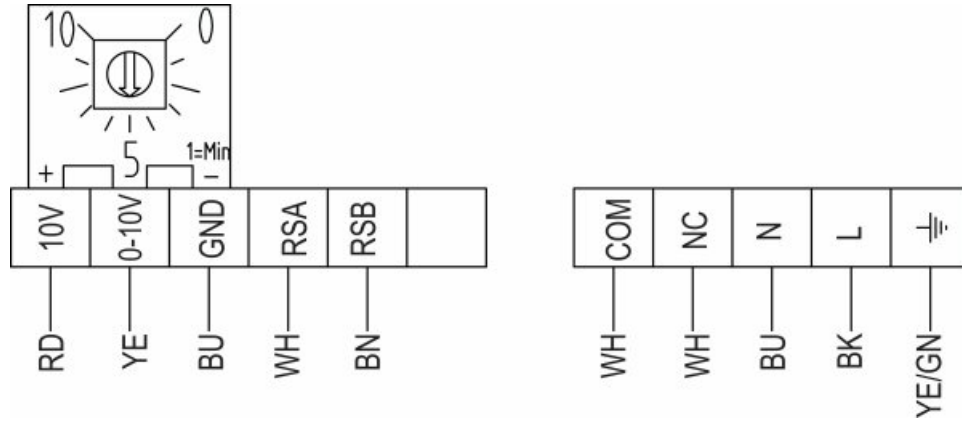
Product		
Trade name	Systemair	
Product name	prio 315 EC	
Ecodesign 327		
Manufacturer	Systemair Sweden AB, Industrivägen 3, Skinnskatteberg, Sweden	
Type	prio 315 EC	
Year of manufacture	See name plate of the fan	
Air flow qv	0.631	m³/s
Efficiency category	total	
Efficiency grade N	70.8	
Efficiency grade target N	58	
Speed (rpm) n	2,501	rpm
Pressure increase total psf	418	Pa
Power consumption Ped	441	W
Overall efficiency	62.3	%
Overall efficiency target	49.4	%
Variable speed drive	Yes	
Additional components	Components used to calculate the energy efficiency that are not apparent from the measurement category are detailed in the CE declaration.	
Maintenance	Information on installation, operation and maintenance is provided in the operating instructions.	
Recycling / disposal	Information on recycling and disposal is provided in the operating instructions.	

Dimension



A	B	C	D	E	ØF	G	H	I	ØJ	ØK
45	100	375	15	205	10	60	407	45	314	322

Wiring



RD	Red
YE	Yellow
BU	Blue
WH	White
GN	Green
BN	Brown
BK	Black

Accessories

- CXE/AVC Modbus (37256)
- EC-Basic-CO2 and temperature (24808)
- EC-Basic-T temperature (24805)
- EC-Selector (9908)
- EC-Vent Room Unit (3018)
- MTV-1/010 Controller 0..10V+ (30650)
- Pressure controller PCA 1000D2 (76739)
- SG 315 Protection guard (5611)
- VKK-315 Back draft damper (1628)
- HR1 Room Humidistat (215150)
- RT 0-30 Room Thermostat (5151)
- CB 315-3,0 230V/1 Duct heater (5386)
- CBM 315-9,0 400V/3 Duct heater (5485)
- CWK 315-3-2,5 Duct cooler,circ (30025)
- FGR 315 Filter cassette (1818)
- LDC 315-900 Silencer (5197)
- VBC 315-2 Water heating batt (5461)
- VBF 315 Water heating battery (1734)
- BMS Trickle & Boost Switch (120363)
- DMD-C Pressure controller (15793)
- EC-Basic-H humidity (24807)
- EC-Basic-U universal 0-10V (24806)
- EC-Vent control board (3115)
- MTP 10, 10K, Speed control (32731)
- Potentiometer MTP 20, 0-10V (310220)
- REV-3POL/03-7,5kW R/Y (33978)
- Step switch S-5EC, 0-10V (76738)
- CB 315-6,0 400V/2 Duct heater (5374)
- Presence detector/IR24-P (6995)
- CB 315-12,0 400V/3 Duct heater (5387)
- CB 315-9,0 400V/3 Duct heater (5375)
- CBMF 315-9,0 400V/3 Duct heater (12354)
- FFR 315 Filter cassette (1779)
- FK 315 Fast clamp (1613)
- RSK-315 Back draft damper (5604)
- VBC 315-3 Water heating batt (9844)
- VK-30 Louvre shutter (5641)

Documents

- INSTALLATION__OPERATION_AND_MAINTENANCE_INSTRUCTION_K__KV__PRIO_273896_EN_008.PDF
- MODBUS LITE V5.01 parameter specification.pdf
- COMMISSIONING_RECCORD_FANS__EN.PDF

VBR 70-40-3 Water heating batt

Item Number: [5476](#)

Water-heating battery

Water-heating battery for heating air in ventilation systems with rectangular ducts. Hot-zinc-coated casing, heat transmission element with copper tubes and aluminium fins. In cold conditions, a frost protection device with sensor should be fitted to reduce the risk of damage from freezing. The water-heating battery can be installed in a horizontal or vertical duct with an optional direction.



Technical parameters

Nominal data

Maximum operating temperature	150 °C
-------------------------------	--------

Dimensions and weights

Rectangular, height, inlet	400 x 700	mm
Rectangular, width, inlet	400 x 700	mm
Rectangular, height, outlet	400 x 700	mm
Rectangular, width, outlet	400 x 700	mm
Weight	12.6	kg

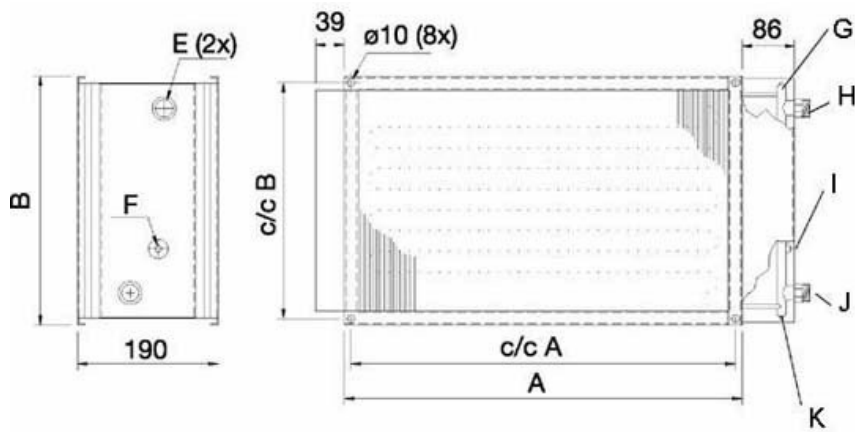
Others

Duct cooler/heater	Heater coil, water
Maximum operating pressure at water temperature 100 °C	1,600,000 Pa
Maximum operating pressure at water temperature 150 °C	1,000,000 Pa
Duct connection type	Rectangular

Performances

Air					Water		
VBR	Water temp. (in/out)	Flow (m3/h)	Pressure drop (Pa)	ΔT	Capacity (kW)	Flow (l/s)	Pressure drop (kPa)

Dimension



F= Thread G 1/4

G= Airing

H= Water out

I= Connection for immersion sensor

J= Water in

K= Draining

	A	c/c A	B	c/c B	E	
VBR 40-20-2	438	420	238	220	R 3/4"	5.5 kg
VBR 50-25-2	538	520	288	270	R 3/4"	7 kg
VBR 50-30-2	538	520	338	320	R 3/4"	8 kg
VBR 60-30-2	638	620	338	320	R 3/4"	9 kg
VBR 60-35-2	638	620	388	370	R 3/4"	10 kg
VBR 70-40-2	738	720	438	420	R 1"	12.5 kg
VBR 80-50-2	838	820	538	520	R 1"	16 kg
VBR 100-50-2	1038	1020	538	520	R 1"	18.5 kg

	A	c/c A	B	c/c B	E	
VBR 40-20-4	438	420	238	220	R 3/4"	7 kg
VBR 50-25-4	538	520	288	270	R 3/4"	9 kg
VBR 50-30-4	538	520	338	320	R 1"	10.5 kg
VBR 60-30-4	638	620	338	320	R 1"	11.5 kg
VBR 60-35-4	638	620	388	370	R 1"	13 kg

	A	c/c A	B	c/c B	E	
VBR 70-40-3	738	720	438	420	R 1"	15.5 kg
VBR 80-50-3	838	820	538	520	R 1"	19 kg
VBR 100-50-3	1038	1020	538	520	R 1"	22.5 kg

Accessories

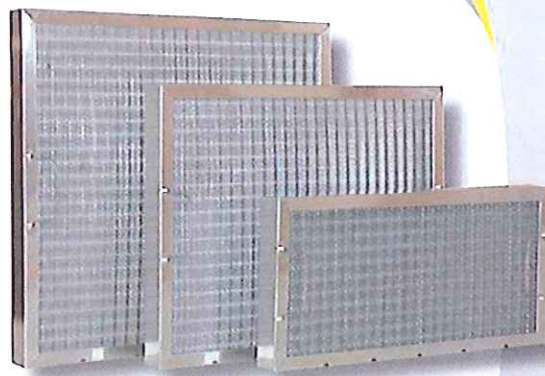
- AQUA 24TF Heat Regulator (5136)
- Optigo OP 10-230 (7283)
- RVAZ4 24A Actuator 0-10V (9862)
- TG-A130 Surface sensor 0-30°C (5159)
- TG-K330 Duct Sensor 0-30°C (5160)
- ZTV 20-6,0 2-way valve (9827)
- Optigo OP 10 (7282)
- Optigo OP 5 (13891)
- RVAZ4-24 Actuator 3points (9798)
- TG-D1/PT1000 Immersion sensor (6773)
- ZTR 20-6,0 valve 3-way (9679)

Documents

- Conformity_decl. PGK_VBR(PGV)_VBC(CWW)_CWK.pdf



Model GF Mesh Grease Filters



GENERAL DESCRIPTION

These filters are designed for use in commercial kitchens and ventilation from food preparation areas where their primary function is to reduce grease carry over from the cooking area.

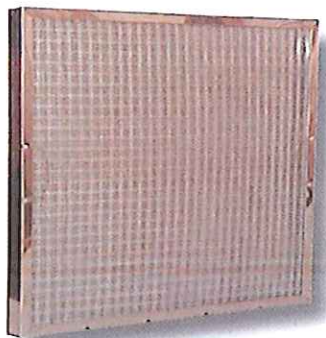
These Filters are rated at 1.5m/sec - where the pressure drop is 15Pa for 45mm filters and less than 10Pa for 20mm filters.

Construction

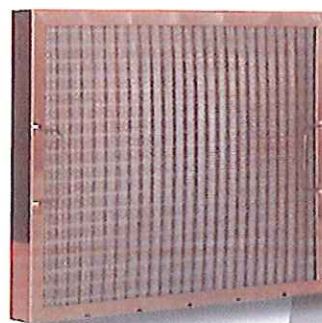
These filters are made from rolled channel frames, with safety edges. Sandwiched between the frame edges are layers of interwoven expanded mesh.

These Filters are available in the frame finishes below - mesh choice is either Galvanised Steel or Stainless Steel.

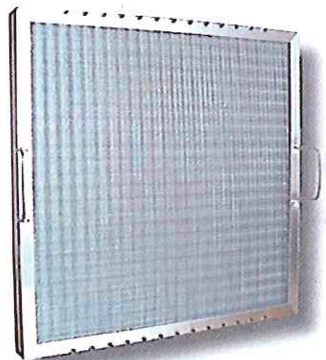
Stainless Steel



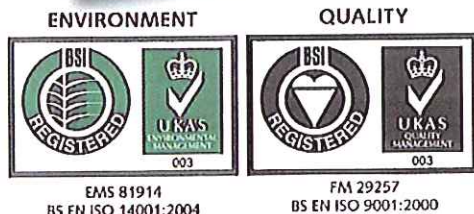
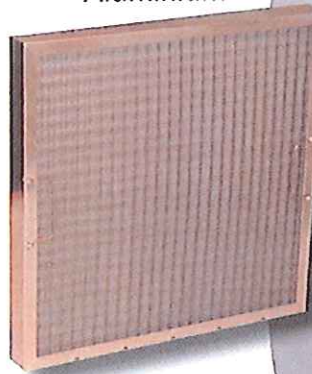
Brushed Stainless Steel



Galvanised Steel



Aluminium



Jasun Filtration Plc
Riverside House, Parrett Way
Bridgwater, Somerset.
TA6 5LB
United Kingdom

Tel.: +44 (0) 1278 452277
Fax: +44 (0) 1278 450873
Info@jfilters.com
[Http://www.jfilters.com](http://www.jfilters.com)

Prio Circular Duct Fans

Quiet and compact mixed-flow fan



- Available with AC and EC motors for 50 and 60Hz
- Indoor and outdoor installation
- Sound and energy optimized impellers

[Find more details in our online catalogue](#)



Flexibility

The prio fans are intended to use for **supply** or **extract** air, designed to be installed in **any position**. This ensures that the fans can be used in a variety of **commercial** and **domestic** applications.

Reliability

The unit's **airtight casing** and corrosion resistance permits **outdoor** and **indoor** use. The combination of a reliable casing and motor construction ensures to minimize the need for maintenance of the fans and allows long **continuous operation**.

Performance

The **sound optimized** impellers together with **high efficient** external rotor motors are designed to ensure high-level performance to **minimize power consumption** and **maximize efficiency**.

Accessories

Prio fan can be selected together with variety types of **accessories** as fast clamps, heaters, filters, dampers, etc.

Features

Construction

Casing made out of special composite material or sheet metal, is fully airtight class C according to EN12237. The Fans are equipped with an external **terminal box with** protection class **IP55**.

Impeller

Prio fans have aerodynamically optimized impellers and guide vanes. These are from lightweight, hard-wearing fiberglass reinforced **polyamide**, dynamically **balanced** and paired with corresponding external rotor motors.

Motor

Depending on the type, prio fans are equipped with **AC** or **EC** external rotor motor. Motors are suitable for **50Hz** and **60Hz**.

Motor protection

Fans with **AC** motors have an **integrated** thermal protection with manual (electrical) reset.

Fans with **EC** motors have an **integrated** electronic **thermal protection** including **locked-rotor protection** and **soft-start**.

Control

EC motors with **built-in potentiometer** to adjust working point can be also controlled by external **signal 0-10V**.

AC motors can be controlled by **5-step** or **stepless** speed regulator.

Installation

Prio fans can be installed in any position **indoor** and **outdoor**. Spigot with 25 mm length is perfectly designed to connect circular duct by **fast clamps preventing vibration** to the duct.

Technical parameters

Nominal data

Voltage (nominal)	230	V
Frequency	50; 60	Hz
Phases	1~	
Input power	738	W
Input current	3.24	A
Impeller speed	1,900	rpm
Air flow	max 1.647	m³/s
Temperature of transported air	max 55	°C
Max temperature of transported air, when speed controlled	55	°C

Sound data

Sound pressure level at 3m (20m² Sabin)	60	dB(A)
---	----	-------

Protection/Classification

Enclosure class, motor	IP44
Insulation class	F

Data according to ErP

ErP ready	ErP 2018
-----------	----------

Dimensions and weights

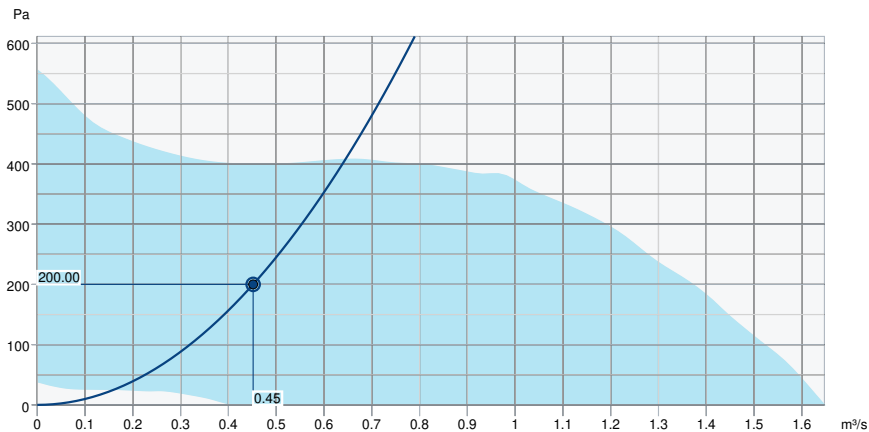
Duct dimension; Circular, inlet	355	mm
Duct dimension; Circular, outlet	355	mm
Weight	15.32	kg

Others

Duct connection type	Circular
Motor type	EC

Performance

Performance curve



Hydraulic data

Required air flow	0.45 m³/s
Required static pressure	200 Pa
Working air flow	0.45 m³/s
Working static pressure	200 Pa
Air density	1.204 kg/m³
Power	238.6 W
Fan control - RPM	1,383 rpm
Current	1.10 A
SFP	0.528 kW/m³/s
Control voltage	6.7 V
Supply voltage	230 V

Sound power level		63	125	250	500	1k	2k	4k	8k	Total
Inlet	dB(A)	50	69	68	69	70	66	59	50	76
Outlet	dB(A)	55	72	71	72	73	68	60	50	79
Surrounding	dB(A)	<10	37	50	55	52	47	44	24	58
Sound pressure level at 3m (20m² Sabine)	dB(A)	-	-	-	-	-	-	-	-	51
Sound pressure level at 3m free field	dB(A)	-	-	-	-	-	-	-	-	37

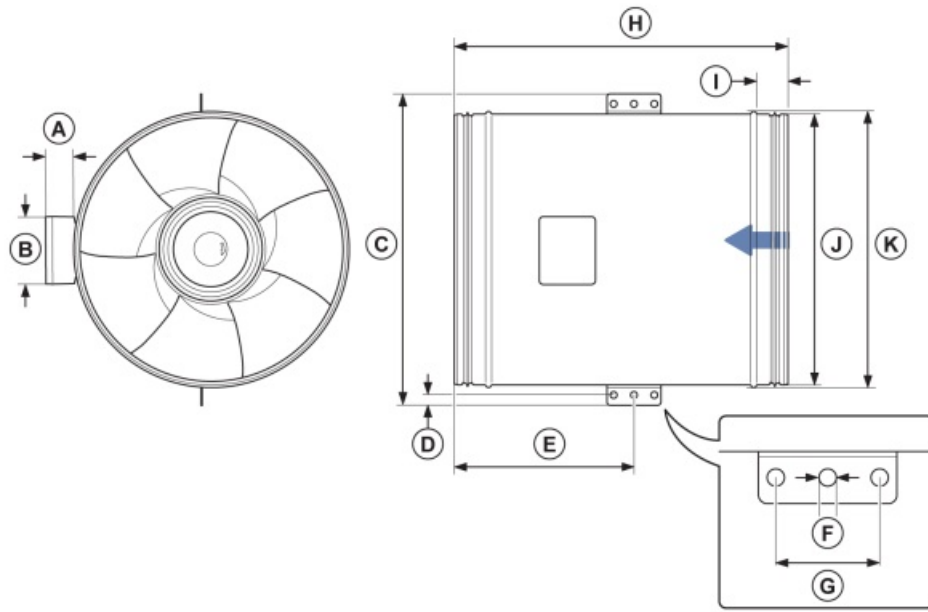
Accessories

Ecodesign

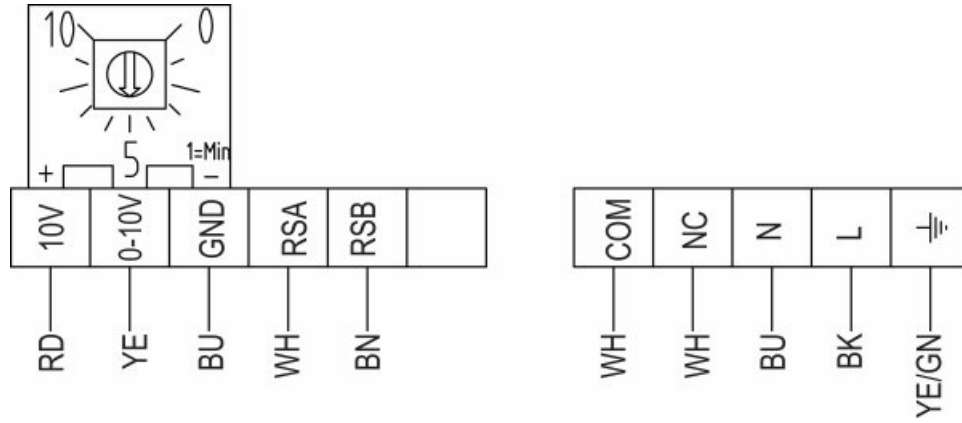
Product			
Trade name	Systemair		
Product name	prio 355 EC		
Ecodesign 327			
Manufacturer	Systemair Sweden AB, Industrivägen 3, Skinnskatteberg, Sweden		
Type	prio 355 EC		
Year of manufacture	See name plate of the fan		
Air flow qv	1.071	m³/s	
Efficiency category	total		
Efficiency grade N	75.3		
Efficiency grade target N	58		
Speed (rpm) n	1,920	rpm	
Pressure increase total psf	414	Pa	
Power consumption Ped	679	W	
Overall efficiency	68	%	
Overall efficiency target	50.6	%	
Variable speed drive	Yes		
Additional components	Components used to calculate the energy efficiency that are not apparent from the measurement category are detailed in the CE declaration.		
Maintenance	Information on installation, operation and maintenance is provided in the operating instructions.		
Recycling / disposal	Information on recycling and disposal is provided in the operating instructions.		

Dimension

A	B	C	D	E	ØF	G	H	I	ØJ	ØK
45	100	459	15	335	10	60	632	45	353	407



Wiring



RD	Red
YE	Yellow
BU	Blue
WH	White
GN	Green
BN	Brown
BK	Black

Accessories

- CXE/AVC Modbus (37256)
- EC-Basic-CO2 and temperature (24808)
- EC-Basic-T temperature (24805)
- EC-Selector (9908)
- EC-Vent Room Unit (3018)
- MTP 10, 10K, Speed control (32731)
- Potentiometer MTP 20, 0-10V (310220)
- REV-3POL/03-7,5kW R/Y (33978)
- Step switch S-5EC, 0-10V (76738)
- Presence detector/IR24-P (6995)
- CB 355-12,0 400V/3 Duct heater (5390)
- CB 355-9,0 400V/3 Duct heater (5389)
- CBMF 355-9,0 400V/3 Duct heater (12443)
- FK 355 Fast clamp (1614)
- RSK-355 Back draft dmp. (9972)
- DMD-C Pressure controller (15793)
- EC-Basic-H humidity (24807)
- EC-Basic-U universal 0-10V (24806)
- EC-Vent control board (3115)
- FFR 355 Filter cassette (1782)
- MTV-1/010 Controller 0..10V+ (30650)
- Pressure controller PCA 1000D2 (76739)
- SG 355 Protection guard (5612)
- HR1 Room Humidistat (215150)
- RT 0-30 Room Thermostat (5151)
- CB 355-6,0 400V/2 Duct heater (5388)
- CBM 355-9,0 400V/3 Duct heater (5486)
- FGR 355 Filter cassette (1821)
- LDC 355-900 Silencer (5399)
- VK-35 Louvre shutter (5642)

Documents

- INSTALLATION_OPERATION_AND_MAINTENANCE_INSTRUCTION_K_KV_Prio_273896_EN_008.PDF
- MODBUS LITE V5.01 parameter specification.pdf
- COMMISSIONING_RECORD_FANS__EN.PDF