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Extraction System Statement

40 Market Street
Wymondham
NR18 0BB

Undertaken on behalf of: Caprinos Pizza



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The extraction system will be installed (EOA) to the below specification and in compliance with the Environmental Health Officer's comments.

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 proposed kitchen canopy will be fitted with baffle type grease filters and drain points for the collection of grease,

Ductwork will discharge from canopy and out of the side elevation where we will have a set of pre filters followed by the extract fan the duct work will terminate via an external louvre box grille. This type of outlet has been chosen due to the low level odour generated from the oven baked foods.

Technical Details (spec sheets included)

Grease filters – 16 x 16 304 grade stainless steel

Pre-Filters- 24 x 24 g4 grade v panel x 2

Silencers- CP03- 0560 1D x 2no

Extract fan – S&P TCCBX 2/4 500mm, with termination via a louvre box grille

System Maintenance

Daily,Wipe down canopy and filters - Weekly, Remove canopy filters clean and soak overnight- Monthly, change disposable prefilters

Annual TR19 clean by contract cleaning company



Range of cylindrical cased axial fans fitted with aluminium impellers and manufactured from high grade rolled galvanised steel and protected against corrosion by cataforesis primer and black polyester paint finish. Fited with 2 contra rotating complementary impellers manufactured from die-cast aluminium. All models are supplied with pre-wired wiring junction box located on the outside of the fan casing for easy wiring access. Available with single or three phase 4 poles motors.

Motors

All the motors are IP65, Class F insulation (1), equipped with thermal protection. Single phase motors are variable voltage (Excepted TCBBX2/4-630). Three phase motors suitable for inverter control.

Electrical supplies:

- Single phase 230V-50Hz (Capacitor located inside the wiring terminal box)
- Three phase 230/400V-50Hz.

(1) Working temperatures from -40°C up to 70°C.



Contra rotating: High pressure

Contra rotating system with two complementary impellers allowing the duplication of the pressure with the same air volume.



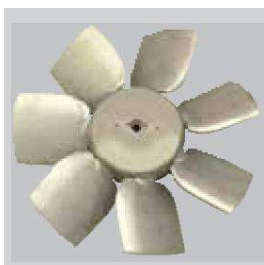
Corrosion resistance

Rolled steel casings and motor support protected by cataforesis primer and black polyester paint finish. Stainless steel screws.



Terminal box

Wiring terminal box with cable gland PG-11.



Impeller dynamically balanced

Impellers are dynamically balanced, according to ISO 1940 standard, giving vibration free operation.

TECHNICAL CHARACTERISTICS

Before installation check that the product electrical characteristics listed on the data plate label (voltage, power, frequency, etc.) match those of the intended electrical supply.

Model	speed (rpm)	Diameter (mm)	Maximum absorbed power (W)	Maximum absorbed current (a)		sound pressure level* (dB(a))	Maximum air volume (m³/h)	Weight (kg)	speed controller rMB/T	Variable frequency inverter			
				to 230 V	to 400 V					VFTM		VFKB	
										1/230V**	3/400V	1/230V**	3/400V
SINGLE PHASE													
TCBBx2/4-450	1420	450	1316	5,7	–	74	7.430	42	RMB-8	–	–	–	–
TCBBx2/4-500	1370	500	1957	9,0	–	76	9.950	50	RMB-10	–	–	–	–
TCBBx2/4-560	1370	560	2972	13,6	–	78	13.930	66	–	–	–	–	–
TCBBx2/4-630	1400	630	3671	16,3	–	79	16.560	80	–	–	–	–	–
THREE PHASE													
TCBTx2/4-450	1430	450	1309	5,2	3	74	7.250	42	RMT-5	VFTM MONO 1,1	VFTM TRI 1,1	VFKB 27	VFKB 45
TCBTx2/4-500	1390	500	1700	5,8	3,4	76	9.800	50	RMT-5	VFTM MONO 1,1	VFTM TRI 1,5	VFKB 27	VFKB 45
TCBTx2/4-560	1390	560	3173	10,0	5,8	78	15.170	66	–	VFTM MONO 2,2	VFTM TRI 3	–	VFKB 48
TCBTx2/4-630	1445	630	4014	–	7,4	79	17.810	80	–	–	VFTM TRI 4	–	VFKB 48

* Sound pressure level, measured in free field condition at a distance equivalent of three times the diameter of the impeller or a minimum of 1.5 meters whichever is the greater.

** Only for fans fitted with three phase motors 230/400V.

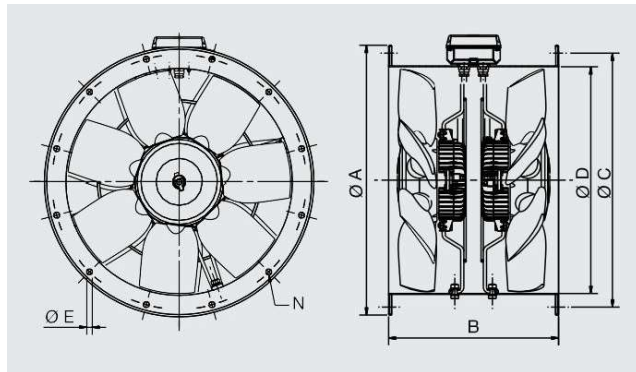
ACOUSTIC CHARACTERISTICS

The sound levels–NPS–shown in the technical characteristic chart, correspond to the value of sound pressure dB(A), measured in free field conditions at a distance equivalent to three times the diameter of the impeller with a minimum of 1.5 meters.

The following table shows the sound power level spectrums in dB(A) measured with the fan ducted, at both inlet and discharge sides.

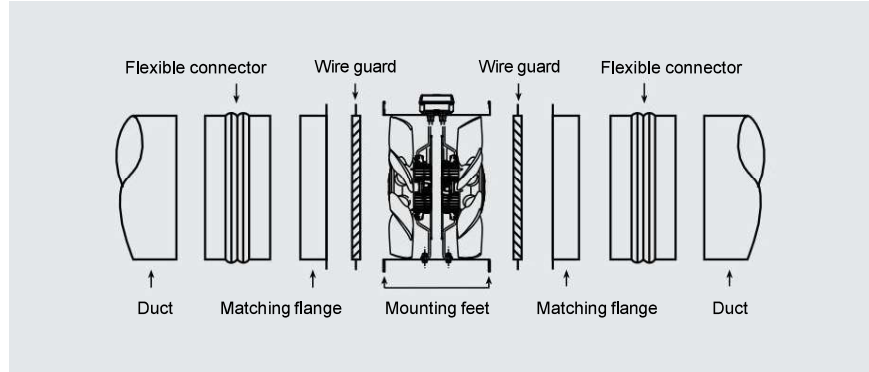
Model	air volume m³/h	63	125	250	500	1000	2000	4000	8000	Global
450 Inlet	6.600	46	73	85	82	85	79	72	64	90
	5.850	46	73	84	81	83	79	71	64	88
	4.300	58	70	80	80	83	79	71	64	87
450 Outlet	6.600	63	75	86	85	87	82	74	67	92
	5.850	53	73	85	84	87	81	74	67	91
	4.300	58	70	82	83	86	82	74	67	90
500 Inlet	9.000	48	78	87	85	87	81	74	67	92
	7.500	52	76	85	85	85	80	73	65	90
	6.000	60	73	83	82	85	80	73	66	89
500 Outlet	9.000	65	76	87	88	90	84	77	70	94
	7.500	62	75	86	87	88	83	76	69	92
	6.000	59	72	86	85	88	83	76	69	92
560 Inlet	13.720	50	85	87	88	91	85	78	73	95
	10.800	57	79	83	86	89	84	78	72	93
	9.000	63	79	81	86	89	84	78	72	92
560 Outlet	13.720	74	86	85	91	94	88	81	75	97
	10.800	70	82	84	88	92	87	81	74	95
	9.000	74	81	85	89	92	87	81	74	95
630 Inlet	17.500	51	85	91	89	93	87	80	74	97
	15.600	55	85	85	88	91	86	80	73	95
	12.000	64	80	84	88	90	86	80	73	94
630 Outlet	17.500	73	87	88	93	95	89	83	77	99
	15.600	71	87	86	91	94	89	83	76	98
	12.000	67	84	86	90	94	89	84	76	97

DIMENSIONS (mm)



Model	Ø a	B	Ø C	Ø D	Ø e	number of holes n
450	537	375	500	450	12	8
TCBBx2/4-500	595	520	560	500	12	12
TCBTx2/4-500	595	375	560	500	12	12
560	655	520	620	560	12	12
630	725	520	690	630	12	12

MounTInG aCCessorIes

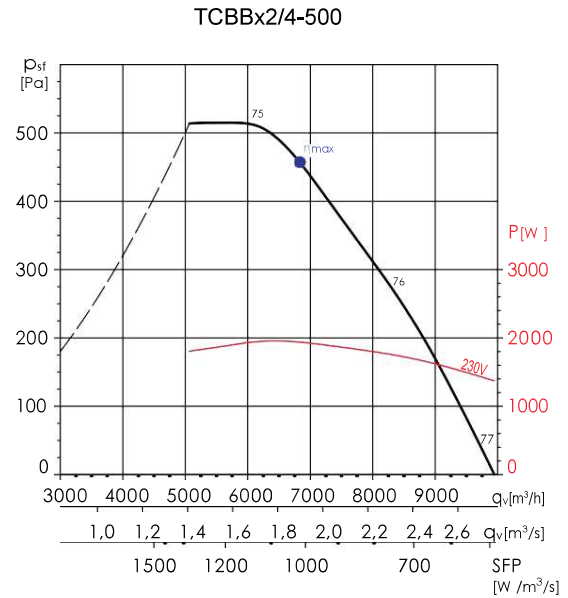


PerForManCe CurVes TCBBx2 / TCBTx2

- q_v : Air volume in m^3/h and m^3/s .
- p_{st} : Static pressure in Pa.
- SFP: Specific fan power in $W/m^3/s$.
- P: Input power in W.
- Measurement category: C or D depending on the models.
- Efficiency category: Static or Total depending on the models.
- Fan tested with inlet bellmouth.
- Fan efficiency without VSD.
- Air flow data in accordance with ISO 5801.
- Sound pressure level dB(A), measured in a free field distance equal to 3 times the diameter, with a minimum of 1,5 m.

- MC** Measurement category
- eC** Efficiency category
- VsD** Speed control: supplied with the fan
- sr** Specific ratio
- η [%] Efficiency
- n** Efficiency grade
- [kW]** Absorbed power
- [m³/h]** Air volume
- [Pa]** Static pressure
- [rPM]** Speed

eXaMPlE CurVe

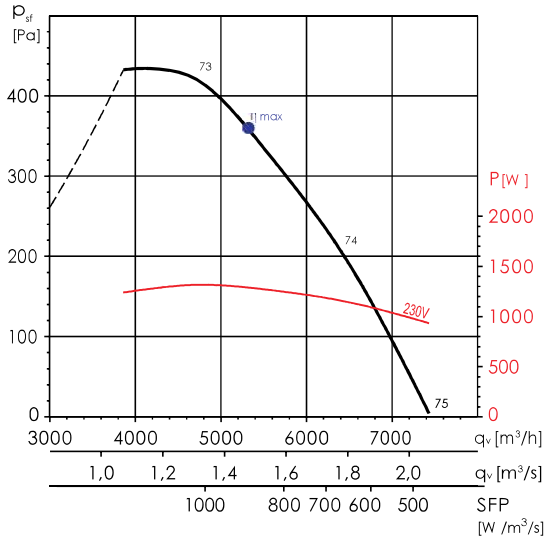


MC*	EC*	VSD*	SR*	η [%]*	N*	[kW]	[m ³ /h]	[Pa]	[RPM]
C	Static	No	1	45,1	49,6	1,957	6383	498	1394

* See example curve.

PerForManCe CurVes – 4 Pole MoTor

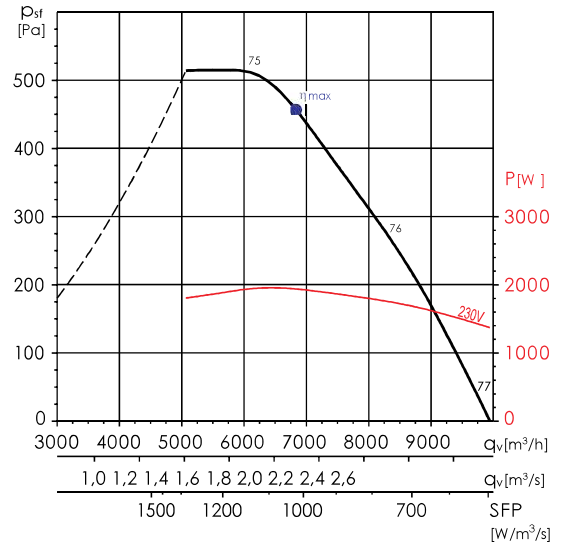
TCBBx2/4-450



MC*	EC*	VSD*	SR*	η [%]*	N*	[kW]	[m³/h]	[Pa]	[RPM]
C	Static	No	1	41,9	47,5	1,316	4842	411	1349

* See example curve.

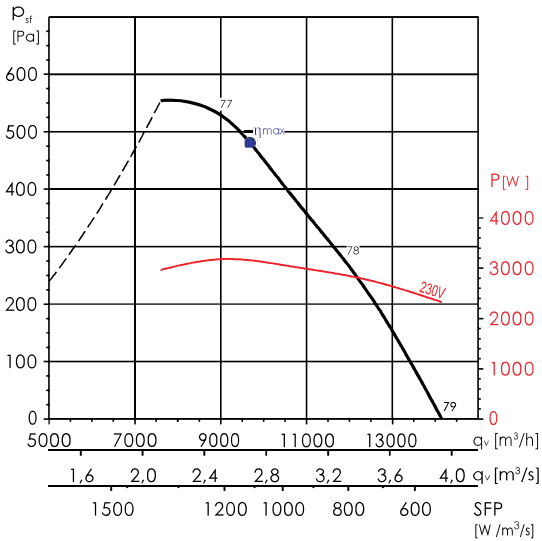
TCBBx2/4-500



MC*	EC*	VSD*	SR*	η [%]*	N*	[kW]	[m³/h]	[Pa]	[RPM]
C	Static	No	1	45,1	49,6	1,957	6383	498	1394

* See example curve.

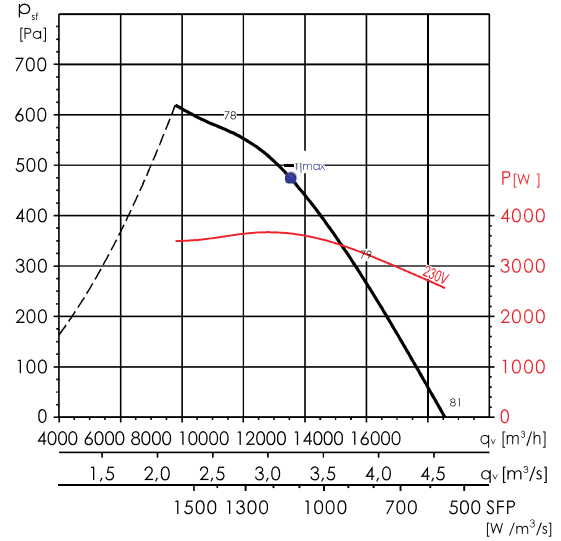
TCBBx2/4-560



MC*	EC*	VSD*	SR*	η [%]*	N*	[kW]	[m³/h]	[Pa]	[RPM]
C	Static	No	1	41,9	45,2	2,970	8741	513	1311

* See example curve.

TCBBx2/4-630

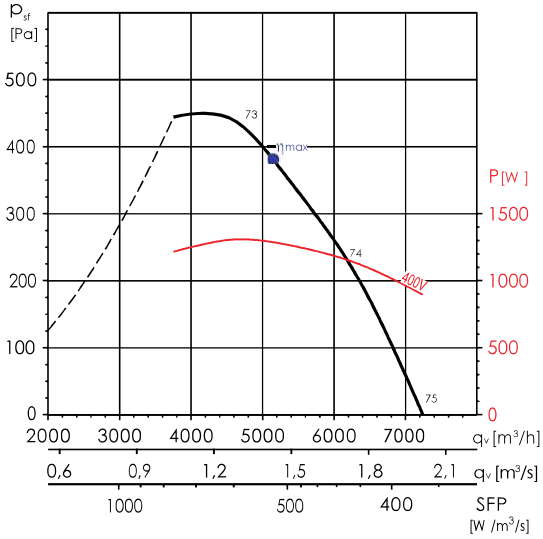


MC*	EC*	VSD*	SR*	η [%]*	N*	[kW]	[m³/h]	[Pa]	[RPM]
C	Static	No	1	42,4	45,2	3,665	10542	536	1285

* See example curve.

PerForManCe CurVes – 4 Pole MoTor

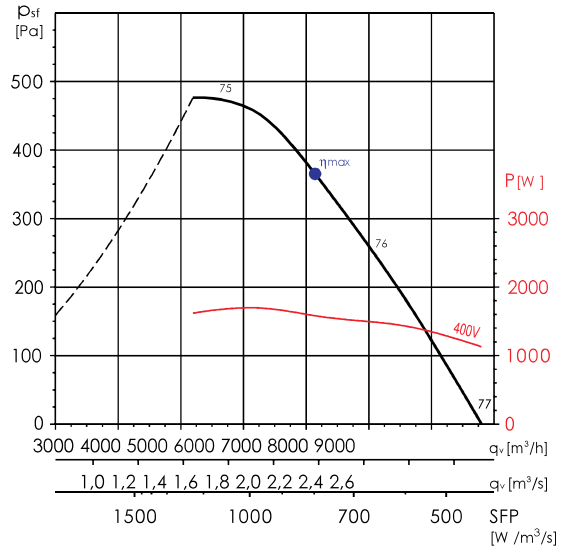
TCBTx2/4-450



MC*	EC*	VSD*	SR*	η [%]*	N*	[kW]	[m³/h]	[Pa]	[RPM]
C	Static	No	1	43,0	48,6	1,309	4705	432	1375

* See example curve.

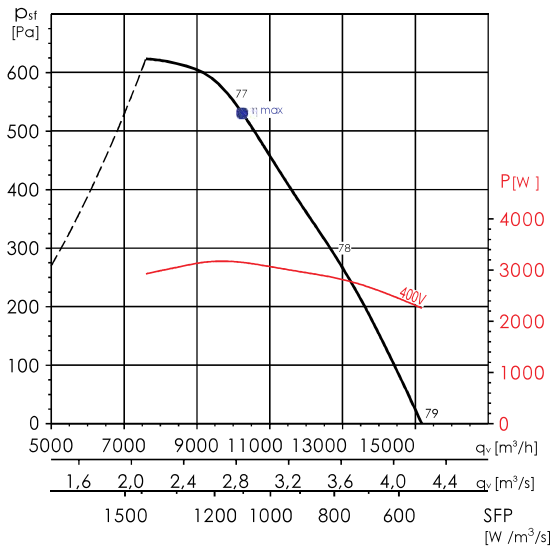
TCBTx2/4-500



MC*	EC*	VSD*	SR*	η [%]*	N*	[kW]	[m³/h]	[Pa]	[RPM]
D	Total	No	1	53,5	58,6	1,581	7145	427	1348

* See example curve.

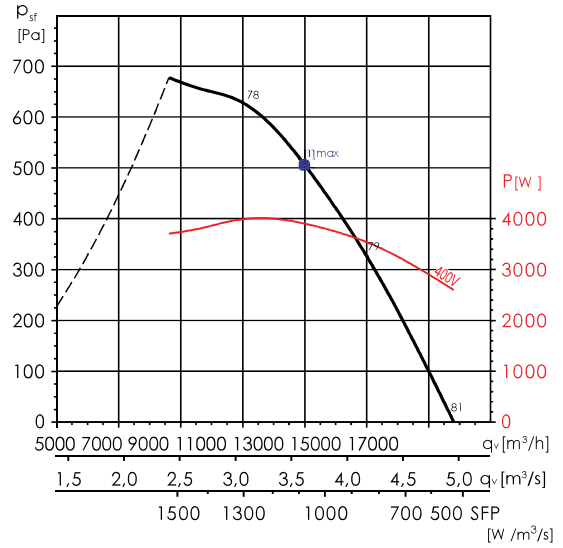
TCBTx2/4-560



MC*	EC*	VSD*	SR*	η [%]*	N*	[kW]	[m³/h]	[Pa]	[RPM]
D	Total	No	1	55,0	58,2	3,148	10254	611	1365

* See example curve.

TCBTx2/4-630



MC*	EC*	VSD*	SR*	η [%]*	N*	[kW]	[m³/h]	[Pa]	[RPM]
D	Total	No	1	54,2	56,8	3,903	12997	587	1387

* See example curve.

Baffle Type Grease Filters for Kitchen Extracts and Canopies

Applications

The Airclean Baffle Type Grease Filter is designed for use in commercial kitchens to remove airborne grease prior to entering the extraction system.

It is recognised that there is an increasing need to maintain and improve hygiene standards in kitchens and to reduce the fire hazards above the heat source.

The Airclean Baffle Type Grease Filter reduces fire hazard with their unique design concept of non-grease loading (negligible grease accumulation), and interlocking baffle walls which restrict the passage of flames into the ductwork.

The Baffle Type Grease Filter's smooth surface enables deposited grease to run off via the drainage holes, to grease collecting trays in the canopy or grease filter housing, where it can be easily disposed of. Efficient grease removal by Baffle Type Grease Filters minimises grease build-up in the kitchen extract ductwork system and ensures that duct cleaning requirements are kept to a minimum.

Description

Airclean Baffle Type Grease Filters are manufactured in either Aluminium or Stainless Steel (Mirrored Finish Stainless Steel Grade 430, or Dull Polished Finish Stainless Steel Grade 304).

Housed in a channel framework, a series of vertical air baffles are strategically aligned to change the direction of the grease-laden air. This action causes the deposition of the grease quickly, without re-entrainment onto the baffles, whilst the grease-free air passes through the filter. The Baffle Type Grease Filter's smooth surface enables deposited grease to run off via the drainage holes into collecting trays within the housing, minimising grease build-up.

Baffle type Grease Filters each have layflat handles to facilitate easy removal from the kitchen canopy or grease filter housing.



Size		Flow Rate		Part Numbers	
OT Inches	Actual mm	m ³ /s based on FV 1.5m/s	Pressure Drop Pa	ST STEEL ECO 2" (47mm) Grade 430 St/St	ST STEEL HD 2" (47mm) Grade 304 St/St
16 x 16	394 x 394	0.25	125	1321119	1320119
20 x 10	495 x 242	0.19	125	1321120	1320120
20 x 16	495 x 394	0.31	125	1321121	1320121
20 x 20	495 x 495	0.39	125	1321122	1320122
18 x 18	445 x 445	0.31	125	1321123	1320123
24 x 24	597 x 597	0.54	125	1321124	1320124

FOR NON-STANDARD SIZES CONTACT THE SALES TEAM

Notes

- * Actual sized filters will be manufactured as ordered +/- 3mm
- * Handles and Drain Holes come as standard
- * Handles are located on the shortest side of the grease filter as standard.

CP03 - CA - 0560 Silencer

Available in two standard lengths C Series silencers have excellent attenuation properties, achieved with sound absorbing infill retained in the attenuator casing by a perforated liner. The central pod (code P) is an option to increase the insertion loss, however it will add resistance.

- Fits directly onto 560mm diameter fans Standard lengths 560mm (1D) & 1120mm (2D) Use up to
- 70°C (standard construction) Systems up to 1000 Pascals
- Special lengths on request



Insertion Loss (dB) - Centre Band Frequency

Product Code	63 Hz	125 Hz	250 Hz	500 Hz	1000 Hz	2000 Hz	4000 Hz	8000 Hz
CP03 - C* - 0560 - 1D	2	4	7	14	14	9	9	7
CP03 - C* - 0560 - 2D	3	6	10	19	20	14	12	10
CP03 - C*P - 0560 - 1D	3	7	9	18	24	24	20	15
CP03 - C*P - 0560 - 2D	4	9	17	27	29	28	23	23

Replace * in code with A or B for connection pattern. Insertion loss data is derived from continual testing to BS4718 and other standards in independent UKAS certified laboratories, which includes where appropriate, re-generated or self noise testing in both forward and reverse flow conditions. If you request system analysis from our technicians all predictions will be assessed using the relevant certified insertion loss data together with relevant dynamic corrections.

Dimensional Data

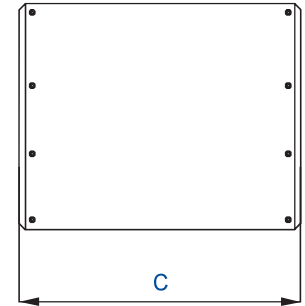
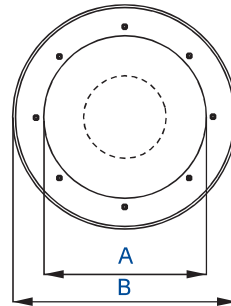
Product Code	A (mm)	B (mm)	C (mm)	Weight (kg)
CP03 - CA - 0560 - 1D	560	712	560	22
CP03 - CA - 0560 - 2D	560	712	1120	48
CP03 - CAP - 0560 - 1D	560	712	560	26
CP03 - CAP - 0560 - 2D	560	712	1120	57

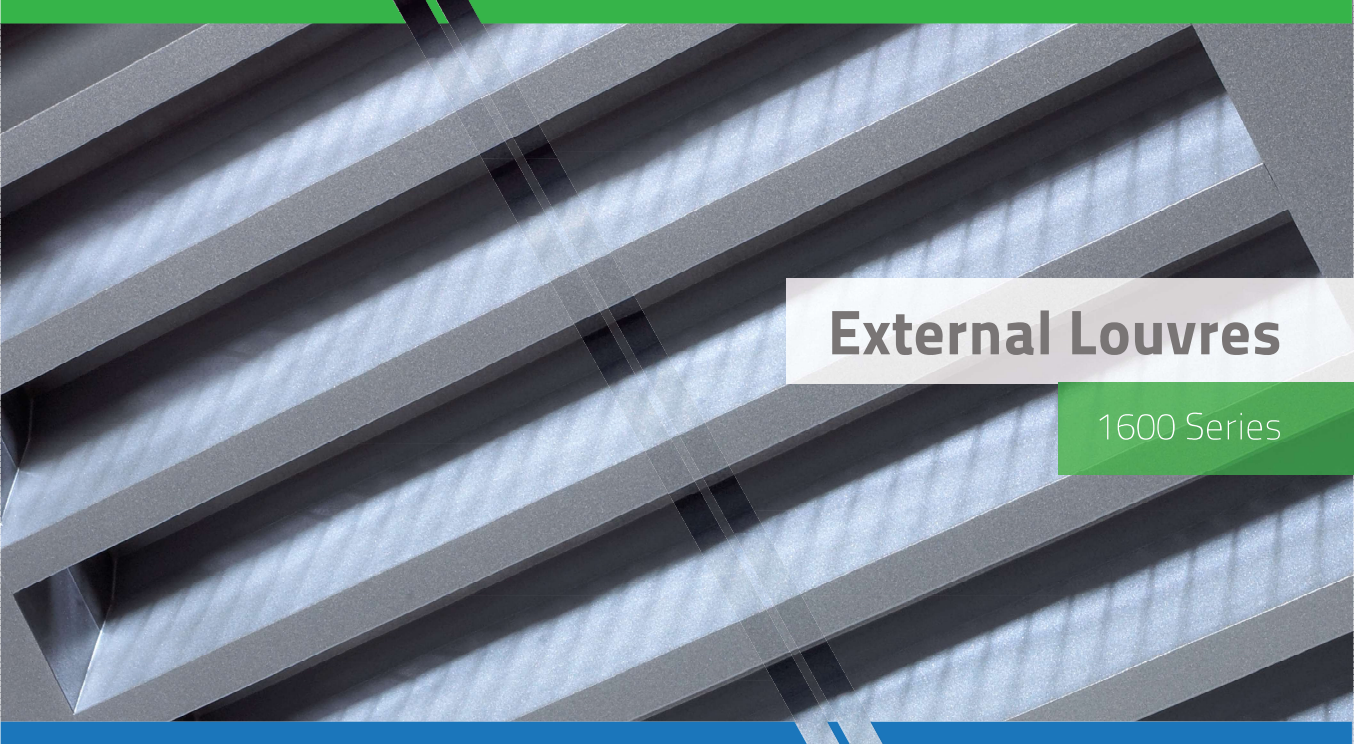
Pattern A

12 x M10 - 620 PCD

Pattern B

16- M8 - 605 PCD





External Louvres

1600 Series



General Product Overview

External Louvres

Advanced Air External Louvres feature an architecturally appealing straight blade design with smooth, clean lines that visually compliment any structure's exterior styling. Available in flanged or optional recessed frame, the frame installs easily in most common wall configurations. Suitable for use in exhaust and low to medium velocity intake applications, the blade design features a rear water baffle and provides reasonable protection against general weather conditions. The models exhibit low pressure drop characteristics and a high free area. Reinforcing bosses run the full length of each blade for superior strength. Advanced Air External Louvres are engineered to be architecturally appealing as well as mechanically enduring.

Features & Benefits of Advanced Air Louvres:

- Extruded aluminium blades and frames for high durability and quality fit and finish.
- Reinforcing bosses run the full length of each blade for superior strength.
- Low pressure drop characteristics require less fan energy and contribute to efficient system operation.
- Selection of finishes.
- Bird Mesh fitted as standard, Insect mesh optional.
- Flange frame and recessed frame options.
- Available in multi section modules for site assembly giving continuous blade appearance.

- **Standard Blade Style**
- **Weather Resistant**
- **Clean Architectural Appearance**
- **Extruded Aluminium**

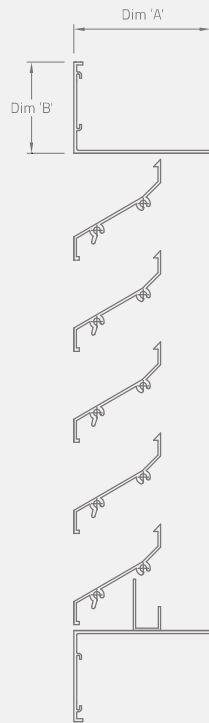


External Louvres

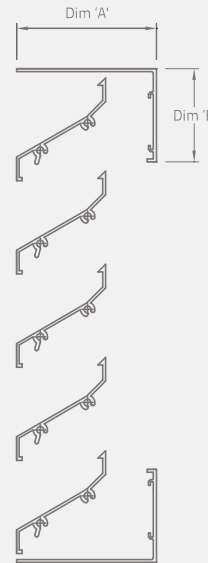
1600 Series ■ Standard Blade Type

The Advanced Air 1600 Series is an architecturally styled louvre designed with smooth, clean lines that visually compliment any structure's exterior styling. It is ideal for use in both standard and thin wall applications or a/c units. Suitable for use in exhaust and low to medium velocity intake applications, the J-style blade design features a rear water baffle and provides good protection against general weather conditions, with low pressure drop characteristics. Reinforcing bosses run the full length of each blade for superior strength. Available with flanged or recessed frames, the 1600 series design is styled to please and engineered to perform.

Standard Flanged Frame



Optional Recessed Frame



Models: 1638 38mm Blade Pitch 40mm Deep
 1650 50mm Blade Pitch 80mm Deep
 1675 75mm Blade Pitch 108mm Deep

Model	Dim A	Dim B
1638	40mm	30mm
1650	80mm	50mm
1675	108mm	50mm

1600 Series Construction

Frame:	Type 6063-T6 extruded aluminium.
Nominal wall thickness	Model 1638: 1.3mm Model 1650: 1.6mm Model 1675: 1.8mm
Blades:	Type 6063-T6 extruded aluminium.
Nominal wall thickness	Model 1638: 1.3mm Model 1650: 1.4mm Model 1675: 1.6mm
Effective Blade Angle:	45 degrees.
Blade Spacing:	Model 1638: 38mm Model 1650: 50mm Model 1675: 75mm
Blade Support Brackets:	On models 1650 and 1675 only, Concealed type, factory installed on rear of louvre on maximum 1000mm centres. Reinforced with extruded mullion.
Mullions:	Concealed architectural type.
Screen:	13mm x 13mm x 1.0mm ga. galvanised bird screen.
Finish:	Mill. Special Finishes are available.
Minimum Size:	Model 1638: 100mm wide x 100mm high Model 1650,1675: 200mm wide x 200mm high.
Maximum Size:	Model 1638: 1200mm wide x 1200mm High Model 1650, 1675: 2000mm wide x 2000mm high.

Larger sizes will be manufactured in sections with hidden architectural style rear mullions for assembly in the site.



Performance Data

Models: 1638SB, 1650SB & 1675SB ■ Free Area (m²)

Model: 1638SB

Height (m)	Width (m)									
	0.20	0.40	0.60	0.80	1.00	1.20	1.40	1.60	1.80	2.00
0.20	0.02	0.05	0.08	0.10	0.13	0.16	0.18	0.21	0.23	0.26
0.40	0.06	0.11	0.17	0.23	0.29	0.35	0.41	0.47	0.53	0.59
0.60	0.09	0.18	0.27	0.37	0.46	0.55	0.65	0.74	0.83	0.92
0.80	0.12	0.25	0.37	0.50	0.63	0.75	0.88	1.01	1.13	1.26
1.00	0.15	0.31	0.47	0.63	0.79	0.95	1.11	1.27	1.43	1.59
1.20	0.18	0.38	0.57	0.76	0.96	1.15	1.34	1.54	1.73	1.93
1.40	0.21	0.44	0.67	0.90	1.13	1.35	1.58	1.81	2.04	2.26
1.60	0.25	0.51	0.77	1.03	1.29	1.55	1.81	2.07	2.33	2.59
1.80	0.28	0.57	0.87	1.16	1.46	1.75	2.04	2.34	2.63	2.93
2.00	0.31	0.64	0.97	1.30	1.62	1.95	2.28	2.61	2.94	3.27

Model: 1650SB

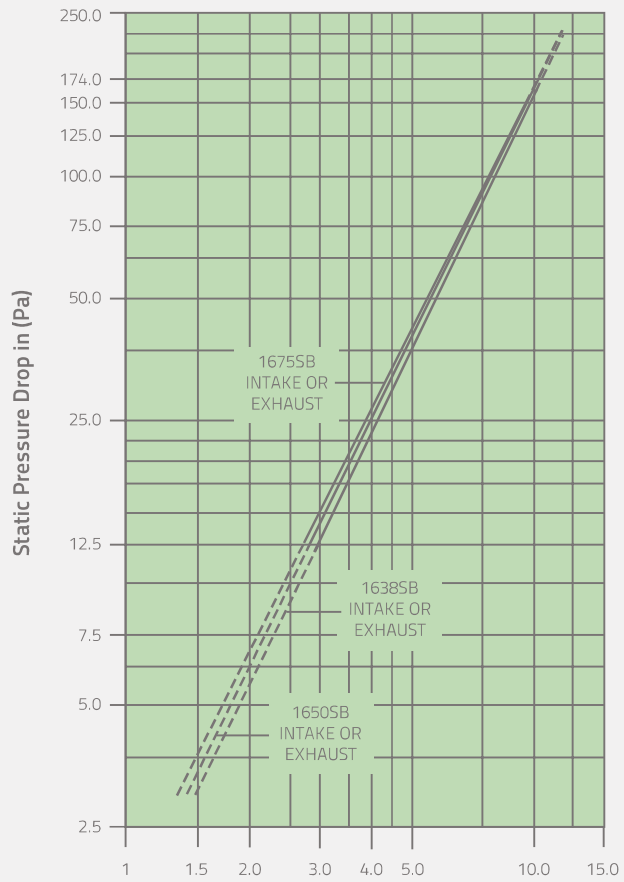
Height (m)	Width (m)									
	0.20	0.40	0.60	0.80	1.00	1.20	1.40	1.60	1.80	2.00
0.20	0.02	0.04	0.07	0.09	0.12	0.14	0.17	0.19	0.21	0.24
0.40	0.04	0.11	0.17	0.24	0.30	0.37	0.43	0.50	0.56	0.63
0.60	0.07	0.17	0.28	0.38	0.49	0.59	0.70	0.80	0.91	1.01
0.80	0.10	0.24	0.38	0.53	0.67	0.82	0.96	1.11	1.25	1.40
1.00	0.12	0.31	0.49	0.68	0.86	1.04	1.23	1.41	1.60	1.78
1.20	0.15	0.37	0.60	0.82	1.05	1.27	1.50	1.72	1.94	2.17
1.40	0.17	0.44	0.70	0.97	1.23	1.50	1.76	2.03	2.29	2.56
1.60	0.20	0.50	0.81	1.11	1.42	1.72	2.03	2.33	2.64	2.94
1.80	0.23	0.57	0.92	1.26	1.60	1.95	2.29	2.64	2.98	3.33
2.00	0.25	0.64	1.02	1.41	1.79	2.18	2.56	2.94	3.33	3.71

Model: 1675SB

Height (m)	Width (m)									
	0.20	0.40	0.60	0.80	1.00	1.20	1.40	1.60	1.80	2.00
0.20	0.01	0.03	0.05	0.06	0.08	0.09	0.11	0.13	0.14	0.16
0.40	0.04	0.09	0.14	0.19	0.24	0.29	0.34	0.39	0.44	0.49
0.60	0.07	0.15	0.23	0.31	0.40	0.48	0.56	0.64	0.72	0.80
0.80	0.10	0.21	0.32	0.44	0.55	0.66	0.77	0.88	1.00	1.11
1.00	0.13	0.28	0.42	0.57	0.71	0.86	1.01	1.15	1.30	1.44
1.20	0.16	0.33	0.51	0.69	0.87	1.04	1.22	1.40	1.57	1.75
1.40	0.19	0.39	0.60	0.81	1.02	1.22	1.43	1.64	1.85	2.06
1.60	0.22	0.46	0.70	0.94	1.18	1.43	1.67	1.91	2.15	2.39
1.80	0.24	0.52	0.79	1.06	1.33	1.61	1.88	2.15	2.43	2.70
2.00	0.27	0.57	0.88	1.18	1.49	1.79	2.09	2.40	2.70	3.01

Performance Data

Models: 16385B, 16505B & 16755B
Pressure Drop



Face Velocity (m/s)

Louvre test size: 1220mm x 1220 mm.

Standard air density @ 1.20 kg/m³.

How To Specify or To Order

Extruded Aluminium Louvres ■ Models 1638SB, 1650SB, 1675SB

