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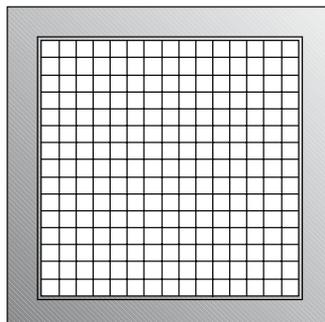
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EGG CRATE GRILLE

Series EGC-5



General

Return/exhaust air grille suitable for ceiling or wall mounting. Options include straight or slant core, perforated face, and hinged outer frame with or without washable panel filter.

Design

A squared lattice core of nominal 13 mm x 13 mm squares in a 13 mm deep panel, fixed into a flat surface mounting frame.

Model	Core	Feature
EGC-5	Straight	Maximum free area
EGC-5S	Slant (45°)	Obscures ceiling interior from most viewpoints
EGC-5P	Perforated	Easy to clean face, matches Series F1100 diffuser

A Hinged Frame (HF) version with optional filter is available for each of the above models and has an additional sub-frame, sized to fit into the same opening size as non-hinged grilles. The hinged part of the grille is removable for easy access.

Sizes (mm)

Available square or rectangular.

Minimum Nominal (hole) size : 100 mm x 100 mm (HF: 200 mm x 200 mm)

Maximum Nominal (hole) size : 1800 mm x 1800 mm (HF: 1200 mm x 600 mm)

Standard size increment : 25 mm width or height

When ordering, specify nominal width followed by nominal height: e.g. 500 mm wide x 200 mm high

EGC-5S has the slant on the width dimension.

Finishes

Standard finish is gloss powder coat. Alternative colours and finishes are available.

Construction

Frames and cores are of corrosion resistant aluminium construction.

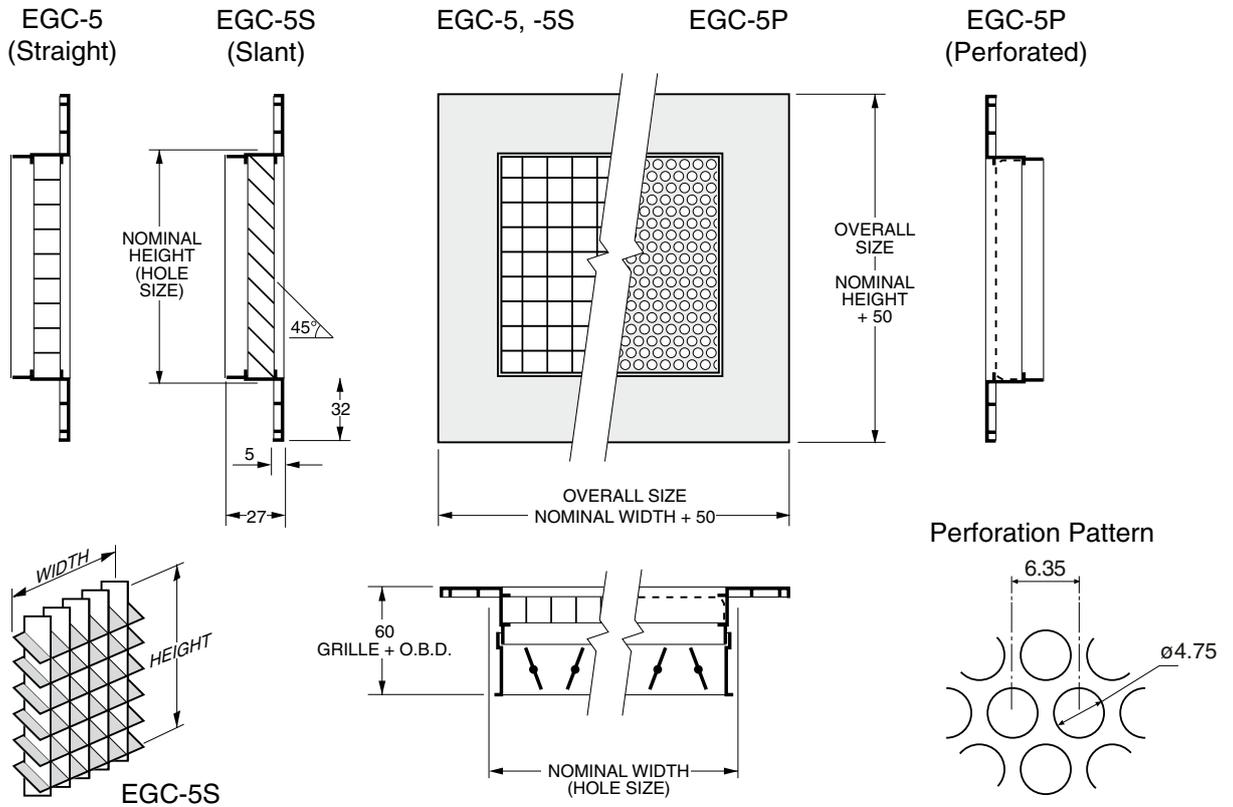
Accessories

Optional accessories include plastic framed washable panel filters, opposed blade dampers (OBD), and square-to-round (SRA) ducting adaptors.

Dimensions (mm)

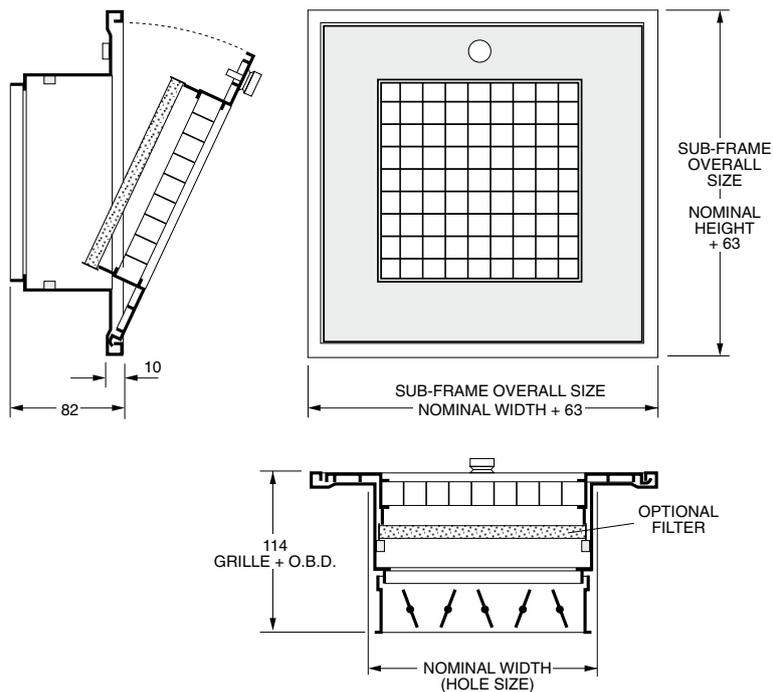
EGG CRATE GRILLE

Series EGC-5



Series EGC-5 / HF

Also available: EGC-5S / HF and EGC-5P / HF



Performance Data

EGG CRATE GRILLE

Series EGC-5

Nominal Size (mm) (W x H)	Core Area (m ²)	Vel. m/s	1.5	2.0	2.5	3.0	3.5	4.0	5.0	6.0	8.0
		Vel. P Pa	1	2	4	6	8	10	15	22	40
		Stat. P Pa	- 3	- 5	- 8	- 12	- 16	- 22	- 35	- 48	- 85

150 x 150 200 x 125 250 x 100 300 x 75	0.019	Vol. l/s	29	38	48	57	67	76	95	115	150
		N.C.	< 20	< 20	< 20	< 20	< 20	21	27	33	45
200 x 200 300 x 150 350 x 125 450 x 100 550 x 75	0.035	Vol. l/s	53	70	88	105	120	140	175	210	280
		N.C.	< 20	< 20	< 20	< 20	21	24	31	37	49
250 x 250 300 x 200 350 x 150 550 x 100 850 x 75	0.056	Vol. l/s	84	110	140	170	195	225	280	335	450
		N.C.	< 20	< 20	< 20	20	23	27	33	40	52
300 x 300 400 x 250 450 x 200 650 x 150 1000 x 100	0.082	Vol. l/s	125	165	205	245	285	330	410	490	655
		N.C.	< 20	< 20	< 20	21	25	29	36	42	54
350 x 350 400 x 300 450 x 250 550 x 200 800 x 150	0.114	Vol. l/s	170	230	285	340	400	455	570	685	910
		N.C.	< 20	< 20	< 20	23	27	31	38	44	56
400 x 400 450 x 350 550 x 300 600 x 250 750 x 200	0.150	Vol. l/s	225	300	375	450	525	600	750	900	1 200
		N.C.	< 20	< 20	20	25	28	32	39	46	58
450 x 450 500 x 400 650 x 300 750 x 250 950 x 200	0.191	Vol. l/s	285	380	480	575	670	765	955	1 145	1 530
		N.C.	< 20	< 20	22	26	30	33	40	47	59
500 x 500 550 x 400 700 x 350 850 x 300 1000 x 250	0.237	Vol. l/s	355	475	590	710	830	950	1 185	1 420	1 895
		N.C.	< 20	< 20	23	27	31	34	41	48	60
550 x 550 600 x 500 750 x 400 950 x 300 1150 x 250	0.288	Vol. l/s	430	575	720	865	1 010	1 150	1 440	1 730	2 305
		N.C.	< 20	< 20	23	28	32	35	42	49	61
600 x 600 700 x 500 900 x 400 1200 x 300 1500 x 250	0.345	Vol. l/s	520	690	860	1 035	1 210	1 380	1 725	2 070	2 760
		N.C.	< 20	< 20	24	29	32	36	43	50	62
650 x 650 800 x 600 950 x 500 1200 x 400 1600 x 300	0.405	Vol. l/s	610	810	1 010	1 215	1 420	1 620	2 025	2 430	3 240
		N.C.	< 20	20	26	30	33	37	44	51	63
700 x 700 800 x 600 950 x 500 1200 x 400 1600 x 300	0.472	Vol. l/s	710	945	1 180	1 415	1 650	1 890	2 830	2 830	3 775
		N.C.	< 20	22	27	32	36	40	46	54	67
750 x 750 900 x 600 1100 x 500 1200 x 450 1500 x 350	0.543	Vol. l/s	815	1 085	1 360	1 630	1 900	2 170	2 715	3 260	4 345
		N.C.	< 20	22	27	31	35	38	46	52	64
800 x 800 1000 x 600 1200 x 500 1500 x 400 1800 x 350	0.619	Vol. l/s	930	1 240	1 550	1 860	2 165	2 475	3 095	3 715	4 950
		N.C.	< 20	22	28	32	36	39	46	53	63

Vel. = Neck Velocity (m/s) Vel. P. = Velocity Pressure (Pa) Stat. P. = Static Pressure (Pa)

Vol. = Volume (l/s) N.C. = Noise Criteria level

Note: All pressures are negative

GRILLES & DIFFUSERS

PERFORMANCE DATA

The data in the Performance Tables was obtained from tests conducted in accordance with ISO Standard 5219, ISO Standard 3741 and ADC Test Code 1062 GRD84.

Additional performance details are included, where applicable, within each product section.

For performance data beyond the tables' range, consult your nearest temperzone sales office.

Definitions:

Core Area (m²)

The total plane area within the frame opening through which air passes.

Isothermal Air

Air with a nil temperature difference between primary (supply) air and secondary (room) air.

Neck Velocity (m/s)

Neck Velocity = Volume (flow rate) ÷ Neck Core Area.

Measured in metres per second at the neck - the point where the grille/diffuser attaches to the duct.

Noise Criteria (NC)

The Noise Criteria (NC) system curves define the limits which the octave band spectrum of a continuous noise source must not exceed to achieve compliance with the design goal and a level of occupant acceptance.

Standard (Dry) Air

Density of 1.2 kg/m³ at 21°C and 760 mm Hg (barometric pressure).

Static Pressure (Pa)

The Static pressure (of an air stream) is the force per unit area exerted in all directions, irrespective of the air flow direction. Can be positive or negative. Measured in pascals, perpendicular to the air flow direction.

Terminal Velocity (m/s)

The specific velocity in metres per second used to define the throw distance.

Throw (m)

The horizontal or vertical distance, in metres, that the air stream travels from the outlet face to where the specific terminal velocity occurs. Each Performance Data Chart states throw values in metres at the terminal velocities noted. Throw distances are based on isothermal air, for grilles/diffusers flush mounted in a wall, sill or ceiling. For grilles/diffusers, mounted on exposed ductwork, throws will be approximately 70% of performance data values.

Total Pressure (Pa)

The Total Pressure (of an air stream) equals the sum of its Static Pressure and its Velocity Pressure. Measured in pascals, parallel and counter to the air flow direction. Tabled values do not include allowance for Opposed Blade Dampers (OBDs), except Series 5180.

Velocity (Dynamic) Pressure (Pa)

The Velocity pressure (of an air stream) is the force per unit area equivalent to the transformation of the kinetic energy into pressure energy. Always positive. Obtained from the difference between Total and Static pressure.

Volume (l/s)

Volume of air per unit of time (flow rate) entering or leaving the grille or diffuser. Measured in litres per second.

GRILLES & DIFFUSERS

Noise Criteria (Sound)

The information presented below is included to assist in the design and/or selection of air distribution equipment for the intended end-use environment. 'NC' curves are shown, together with the suggested design goal NC range table.

The NC levels in the performance data tables are for the grille/diffuser alone, and assume a room attenuation of 10 dB across the octave band spectrum with a single outlet operating. Upstream duct-generated noise is not considered in the data. By selecting grille/diffuser sizes in accordance with the performance data tables and at the appropriate NC level, there will be no significant contribution to the overall system sound levels by the grille/diffuser. All data presented is in accordance with international standards, i.e. SWL re: 10^{-12} watts.

Sound level measurements, taken in a calibrated reverberant room, can be read directly as Sound Power Levels (SWL) in decibels (dB) whereas measurements taken in the installed environment are Sound Pressure Levels (SPL) in decibels (dB) which can be plotted on the NC curves.

By utilising the NC curves and NC range table, compliance with the design goal can be confirmed by:

- (i) predicting the Sound Pressure Levels (SPL) which can be calculated from published Sound Power Level (SWL) data and specified room characteristics,
- (ii) measuring Sound Pressure Levels (SPL) directly in an existing installation - preferably using an octave band sound pressure level meter.

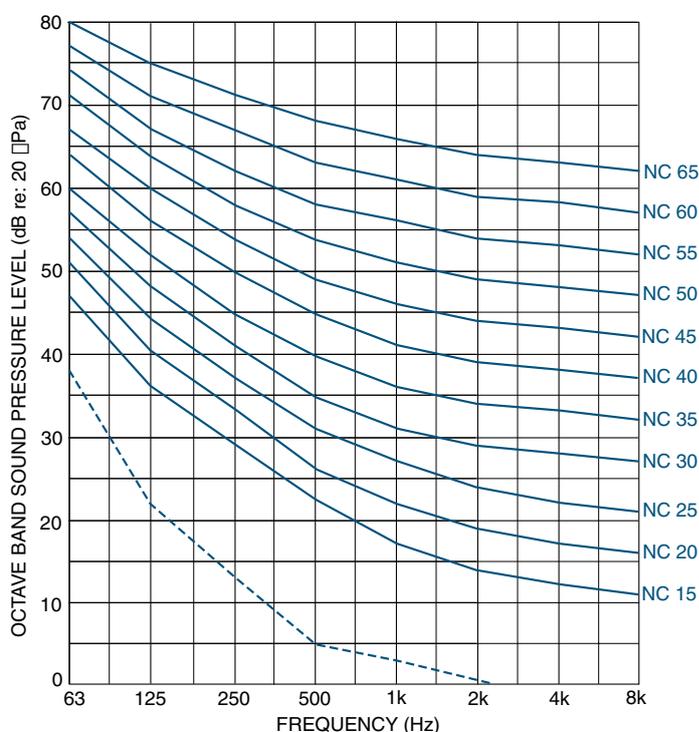
Where measurements cannot be carried out with an octave-band sound level meter, an approximation of an NC level can be calculated from an 'A' scale sound level meter reading, as follows:

$$\text{NC Level} = \text{'A' scale reading in dB} - 6 \pm 2$$

Guide for Environmental Sound Level Design

<i>Environment</i>	<i>Suggested NC Range</i>
Broadcast, Recording Studios	15 - 20
Concert / Opera Halls	20 - 25
Residences, Bedrooms	25 - 35
Hospitals	25 - 35
Theatres, Halls, Churches	25 - 30
Cinemas	30 - 35
Private Offices, Libraries	30 - 35
Restaurants, Bars	35 - 45
Retail Stores & Shops	35 - 45
General Offices, Schools	35 - 45
Swimming Centres, Gymnasiums	35 - 50
Kitchens	40 - 50
Factories	
- Light Engineering	45 - 65
- Heavy Engineering	55 - 75

NC Curves



For more specific information on allowable noise levels, consult the latest issue of 'ASHRAE Guide and Data Book - Fundamentals and Equipment'.

SUGGESTED SPECIFICATIONS

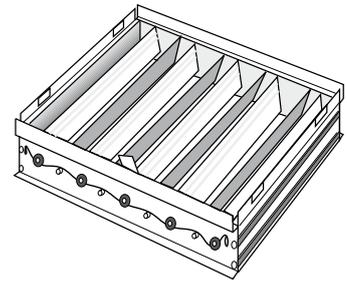
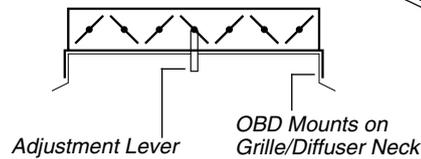
Egg Crate Grille (Fixed or Hinged Type) - Series EGC-5/EGC-5S/EGC-5P

All squared lattice type fixed return/exhaust air grilles shall have an aluminium core of 13 mm x 13 mm squares in a 13 mm deep panel housed in a flanged grille frame of aluminium alloy sections, all finished in commercial grade powder or stoving enamel coating, all as manufactured by **temperzone** Limited. Core style shall be 'straight' or '45° slant' as specified. Where perforated core grilles are specified, the core face shall be 1.0 mm galvanised steel with 4.76 mm diameter perforations at 6.35 mm centres in staggered pattern, housed in an aluminium frame. Where hinged filter return grilles are specified they shall be constructed as for the fixed grille, but shall have an additional aluminium sub-frame allowing the grille to be opened for access to the filter. The plastic framed washable panel filter with EU2 grade media shall be easily removable from the grille neck when unlatched. The hinged/removable grille shall be latched with a suitable fastener. Where grilles (registers) are fitted with opposed blade volume regulating dampers (OBD), the adjustment lever shall be accessible from the register face, or by opening the grille in hinged filter models.

ACCESSORIES

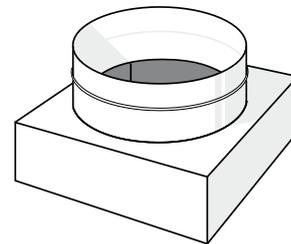
Opposed Blade Damper (OBD)

- Controls air volume for balancing and fine adjustment
- Installs directly to neck with clip fasteners
- Lever operated from the face of the grille/diffuser
- Not intended for use as a shut-off damper
- Aluminium construction
- Sized to suit grilles/diffusers



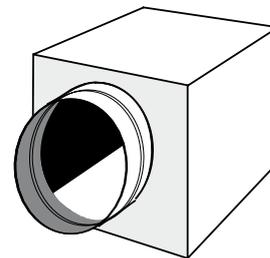
Square to Round Adaptor (SRA)

- Adapts square neck grilles/diffusers to round flexible or rigid ducting
- Black Satin enamel finish on inside surfaces
- Galvanised steel construction; black polyethylene construction for size 300 sq. to 200/250 round
- Sized to suit grilles/diffusers and ducting



Side Entry/Exit Plenum (Cushion Head)

- Adapts square neck grilles/diffusers to round flexible or rigid ducting in a restricted ceiling space
- Uninsulated, or Insulated (25 mm) for improved acoustic and thermal properties
- Galvanised steel
- Sized to suit grilles/diffusers and ducting



Plaque (PLQ)

- Provides rigid support for grille/diffuser installed in suspended tile ceilings
- Full or half tile sizes
- Supplied factory fitted to grille/diffuser
- Lay-in or set-down styles
- Powder coated electro-galvanised steel

