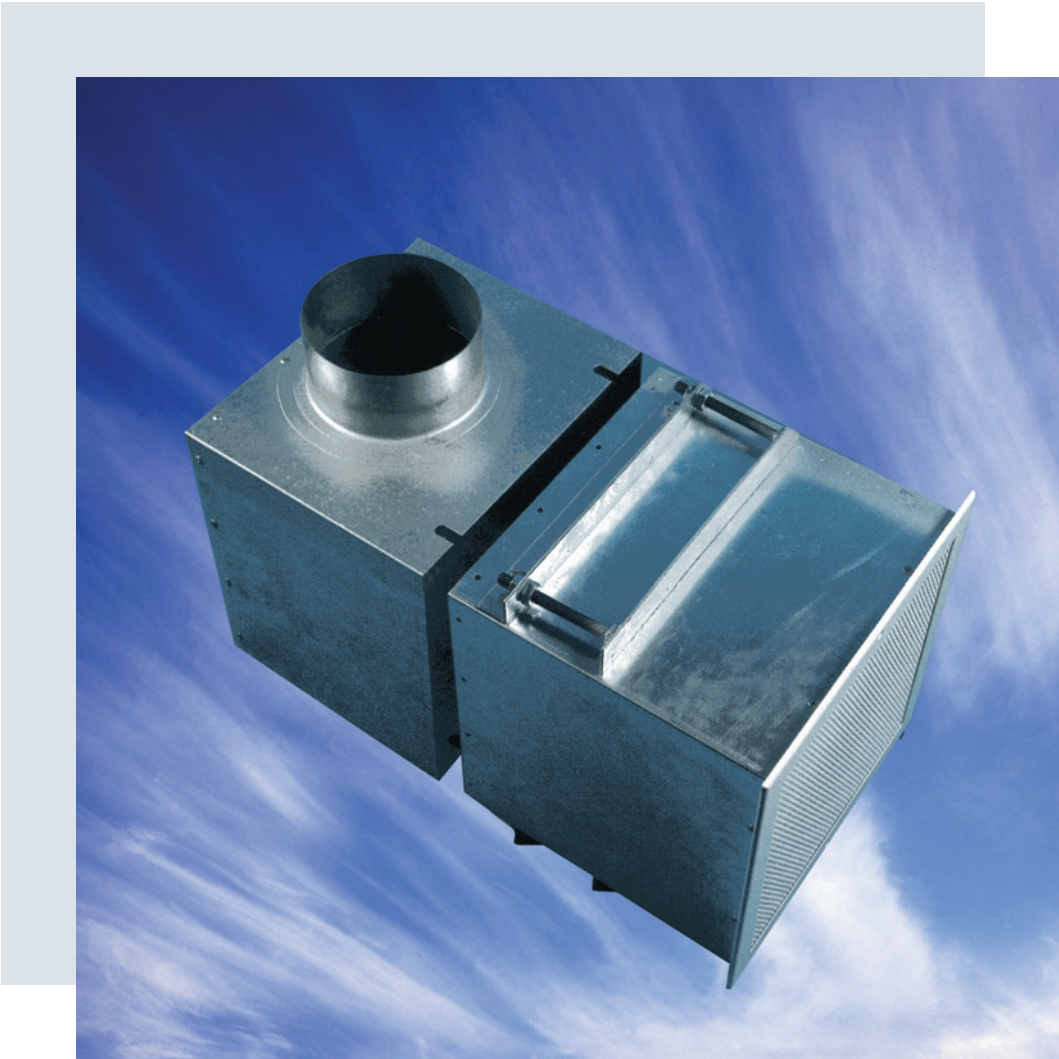




ENGINEERED AIR PRODUCTS

SECURITY GRILLES

G SERIES

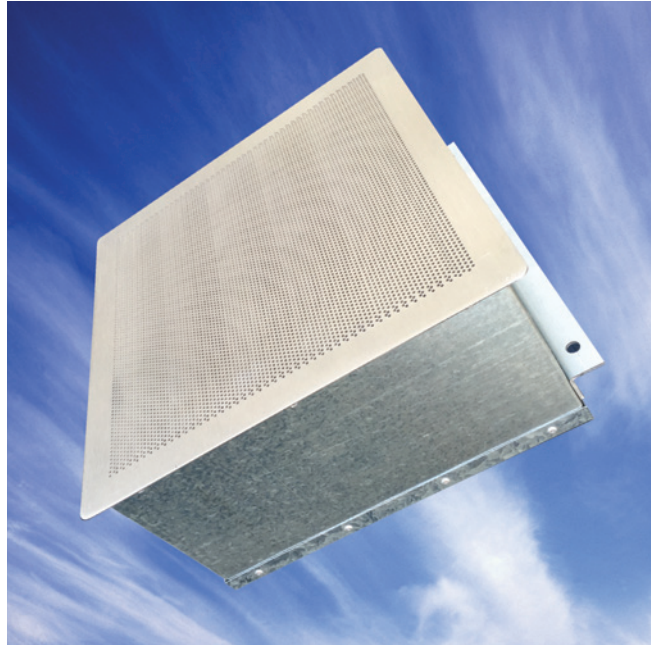


G

SERIES

G SERIES

SECURITY GRILLES MODEL GS



Application

Colman Air Distribution Model GSP & GSS are robust, high quality Security Grilles, designed for use as a supply or extract grille in applications such as Police Cells, Magistrates Courts, Prisons and Detention Centres, where tamperproof and vandal proof features are essential.

Description

The GSP core, is manufactured from 3mm mild steel perforated plate, having 3mm dia holes on a 5mm pitch and equating to a free area of 37%, which is entrapped into a welded aluminium frame.

The GSS is comprised of a 2mm stainless plate perforated with 2 or 3mm holes on a staggered or triangular pitch.

If required the grille can be supplied with an opposed blade volume control damper operable from the face by means of a 4mm A/F Allen key through a 4.5mm hole in the face plate.

GSP security grilles can be supplied with a galvanised steel sleeve and plenum box suitable for fixing through a compartment wall or ceiling. The plenum box can also be provided with a camera access hole (side entry spigot only).



Fixings

Standard fixing for our range of GSP & GSS Security Grilles is via screw fixing through the face flange or neck, with each of these options the fixing screws are by others. When an optional sleeve and plenum box are required, then concealed fixing is achieved by the use of our standard jacking arrangement.

Finishes

Security Grilles are available as standard, in powder coated RAL 9010 Matt White. Please refer to the product coding section within this brochure for a list of other standard finishes. Special finishes are available on request.

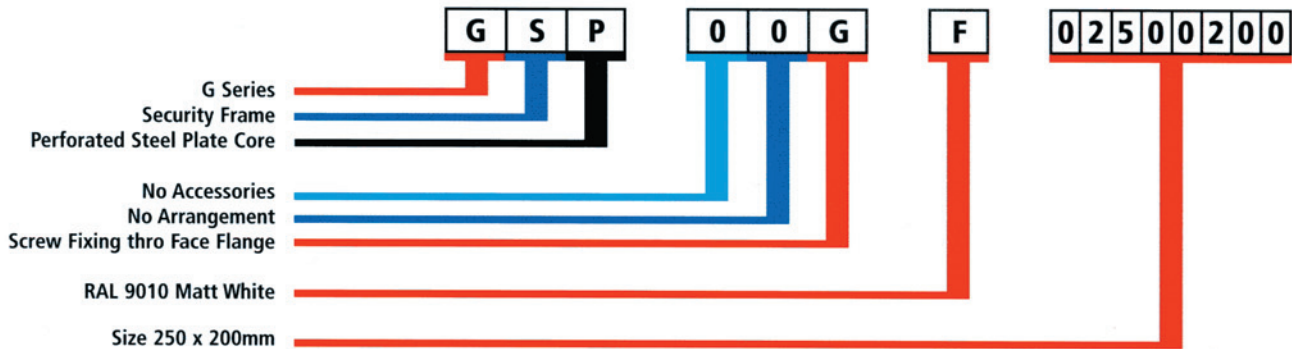
Options and Order Codes

Security Grilles

1	2 FRAME	3 CORE	4 ACCESSORIES	5 ARRANGEMENT	6 FIXING	7 FINISH
G	S Security Frame	P Steel Perforated plate (security) S Stainless Steel Perforated plate (security)	0 None V Face operated volume control damper X Face operated v.c.d powder coated matt black	0 None 2 2mm Perforations (Stainless Steel Only)	0 None A Screw fixing thro neck (screws by others) G Screw fixing thro face flange (screws by others)	0 None - mill finish F RAL 9010 Matt White S Stainless Steel 8 Matt Black C BS00E55 Gloss White H BS00E55 Satin D BS00E55 Matt E RAL 9010 Gloss G RAL 9010 Satin 3 RAL 9006 Silver 1 Special
	Note See Product data sheet for frame sizes					

Note: The items shown in red print above and below in the code example are the standard option for this product. Unless shown otherwise on any quotation or order the units will be supplied in the configuration.

Example of Order Codes

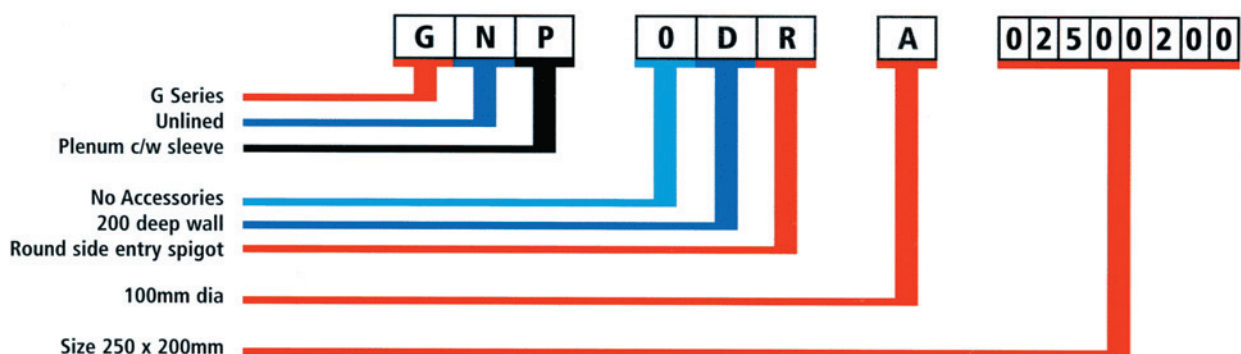


Security Plenums

1	2 LINING	3 INSTALLATIONS	4 ACCESSORIES	5 WALL DEPTH	6 SPIGOT TYPE	7 SPIGOT SIZE
G	N Unlined	S Sleeve P Plenum c/w sleeve C Plenum c/w sleeve and camera hole	0 None P Powder coated matt black (internally only)	A 100mm Deep B 125mm Deep C 150mm Deep D 200mm Deep E 250mm Deep 1 Special Note Sleeve depth equals wall depth plus 100mm	R Round side entry S Square side entry T Round top entry Y Square top entry	A 100mm B 125mm C 150mm D 200mm E 250mm Note All spigots are 75mm deep as standard

Note: The items shown in red print above and below in the code example are the standard option for this product. Unless shown otherwise on any quotation or order the units will be supplied in the configuration.

Example of Order Codes



Performance Data

Data Basis -

Model GSP Security Grilles

1. Since these grilles are normally used in small acoustically hard room the air velocity through the diffusers should be limited to the values indicated in the selection chart in order to achieve a sound level of approximately NC35
2. As both supply and extract grilles effect the noise level the summ of the air volumes should be considered when establishing an acceptable velocity from the selection table. The grille core area can then be determined by dividing the required air volume by the already established acceptable face velocity.
3. It is essential that any damper in the diffuser assembly does not drop excessive pressure of more than 70% of the given pressure drop or there will be a substantial increase in noise level.
4. When used on extract the static pressure drop (Ps) will increase by the value of the velocity head in the extract ductwork connection.

Selection Example:

A small prison cell requiring 0.075m³/s on supply and 0.09m³/s on extract.

TOTAL VOLUME

$$=0.075 + 0.09 = 0.165\text{m}^3/\text{s}$$

MAXIMUM FACE VELOCITY

$$=1.5\text{m/s}$$

SUPPLY FACE VELOCITY

$$=0.075 \div 1.5 = 0.06\text{m}^2$$

EXRTRACT FACE AREA

$$=0.09 \div 1.5 = 0.06\text{m}^2$$

POSSIBLE SELECTIONS

SUPPLY:250 x 250 (A = 0.051)

EXTRACT:300 x 250 (A = 0.062)

RESULTANT VELOCITIES

SUPPLY:0.075 ÷ 0.051 = 1.47m/s

EXTRACT:0.09 ÷ 0.062 = 1.45m/s

Core Area (m ²) - Model GSP						
Width (mm)	Height (mm)					
	75	100	150	200	250	300
150	.006	.009	.016	-	-	-
200	.008	.013	.022	.031	-	-
250	.011	.017	.028	.039	.051	-
300	.014	.021	.034	.048	.062	.076
350	.016	.024	.041	.057	.073	.089
400	.019	.028	.047	.066	.084	.103
450	.021	.032	.053	.074	.096	.117
500	.024	.036	.059	.083	.107	.131
550	.026	.039	.066	.092	.118	.144
600	.029	.043	.072	.101	.129	.158

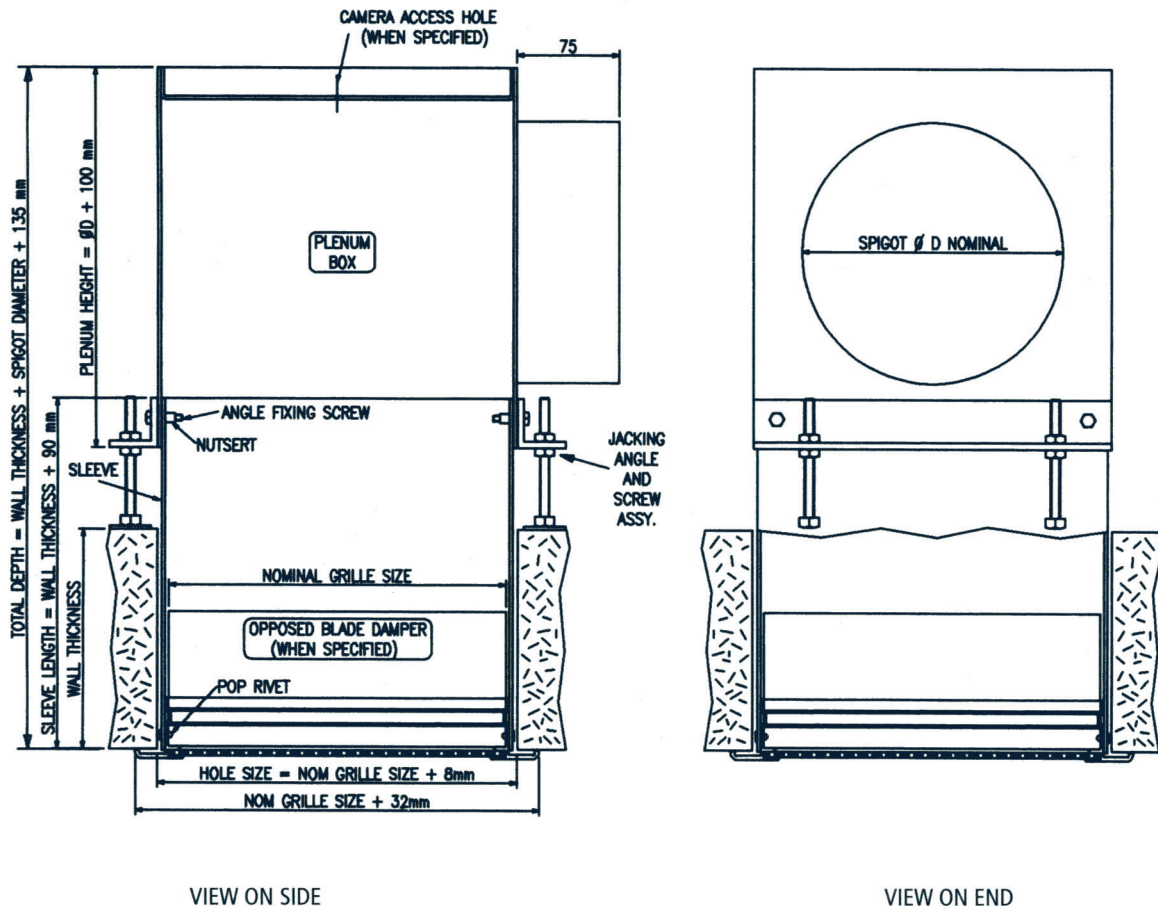
Model GSP		
Total Air Volume m ³ /s	Face Velocity m/s	Pressure Drop Pa
Up To 0.04	2.0	20
0.055	1.9	18
0.07	1.8	16
0.095	1.7	14
0.125	1.6	13
0.165	1.5	11
0.22	1.4	10
0.29	1.3	8
0.38	1.2	7
0.50	1.1	6
0.65	1.0	5

Dimensional Data

GSP & GSS Plenum Box Assembly

The GSP security grille complete with galvanised steel sleeve and plenum box suitable through a compartment wall or ceiling.

The plenum box can be provided with a camera access hole, when specified.
(Applicable on side inlet only.)



Please note that if the security grille is for ceiling installation then a standard plenum box will be provided and the hole size stated above will not apply. Please contact Colman for further details.

PRODUCT RANGES

GRILLES	DIFFUSERS	LOUVRES
Linear Bar	Linear Slot	External
Ceiling	Louvre Face	Circular
Sidewall	Sidewall	Door
Floor	Perforated Face	Screens
Computer Floor	Circular	Penthouse
Cill	Swirl	Sand Louvres
Single & Double Deflection	Ceiling	Roof Louvres
Egg Crate	Sidewall Fixed & Adjustable	
Hinged Core	Jet Flow / Nozzle	
Door Transfer	Repus Displacement Ventilation	
Security and Prison		
Supply and Extract Valves		

BESPOKE SERVICE

We offer a bespoke design service where standard products do not fit the requirements of the build, we also supply products in special colours and finishes including bronze, brass, gold and chrome to meet Architectural design specifications.



ENGINEERED AIR
PRODUCTS

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We reserve the right to alter specifications without notice and products will sometimes be supplied with modifications which do not strictly comply with the descriptions and illustrations in this publication.