Transfer Grilles

G Series

AIR IN MOTION

Weltech Business Centre - Ridgeway - Welwyn Garden City - Hertfordshire AL7 2AA
Tel: 01707 871526 - Fax: 01707 871 527 - email sales@jprservices.co.uk - www.jprservices.co.uk

Transfer Grilles
G Series

Application

The G Series range of Transfer Grilles are suitable for installation in Doors, Walls and Partitions, where the transfer of air from room to room is required.

Description

Within our range of Transfer Grilles, there are three designs of frame and four styles of core providing flexibility of installation, choice of appearance and functionality. In its most simplest format, one of the three steel cores can be supplied loose for beading into the aperture, alternatively the core can be supplied with a 'U' channel panel frame.

When mounted into a door, our telescopic frame can facilitate a door thickness between 28 and 52mm, with light tight or vision proof cores to meet the application requirement.

Model GPS is a Pressed Steel Grille suitable for use with a selection of time rated fire blocks and complies to BS 476 part 20.

Fixing

Cores only are supplied loose for beading into position by others, cores with panel frames are available with or without screw holes. The standard fixing method for both the telescopic frame and pressed steel grille is screw fixing through the face.

Finish

Our range of Transfer Grilles is available as standard, powder coated in 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 upon request.

All grilles are pre-treated utilising a six stage phosphate conversion process conforming to ISO 9171 prior to being powder coated in accordance with BS 6496.

jpr services
Weltech Business Centre - Ridgeway - Welwyn Garden City - Hertfordshire AL7 2AA
Tel: 01707 871526 - Fax: 01707 871527 - email sales@jprservices.co.uk - www.jprservices.co.uk

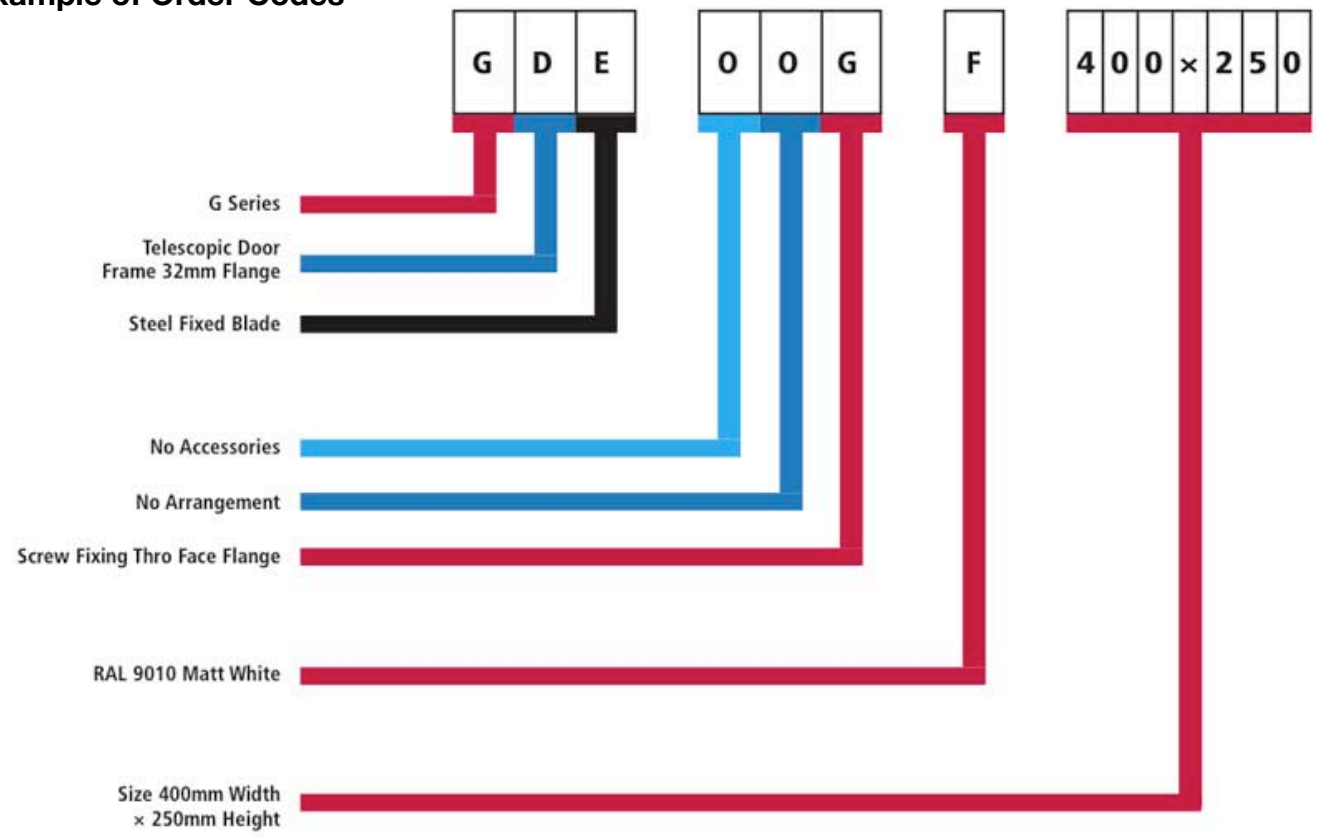
Transfer Grilles
G Series

Options and Order Codes

1	2 FRAME	3 CORE	4 ACCESSORIES	5 ARRANGEMENT	6 FIXING	7 FINISH
G	0 Core only	0 Fireblock	0 None	0 None	0 None	0 Mill Finish
	D Telescopic door frame	E Steel fixed blade	A Up to 1 hour fire block		G Screw fixing	F RAL 9010 Matt White
	P Pressed steel	L Steel light tight	B 4 hour fire block		thro flange	8 Matt Black
	(one pair supplied)	S Pressed steel				C BSOOE55 Gloss
	U U channel	V Steel non-vision				H BSOOE55 Satin
						D BSOOE55 Matt
						E RAL 9010 Gloss
			Note			G RAL 9010 Satin
	Note	Note	Fire blocks only used			3 RAL 9006 Aluminium
	See product data sheet	All steel cores are	with pressed steel grilles.			1 Special colours
	for frame sizes.	without indents.	1 fire block per pair of			
			pressed grilles.			

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 this configuration.

Example of Order Codes



jpr services
Weltech Business Centre - Ridgeway - Welwyn Garden City - Hertfordshire AL7 2AA
Tel: 01707 871526 - Fax: 01707 871527 - email sales@jprservices.co.uk - www.jprservices.co.uk

Performance Data

NR Ratings and Core Areas								
Air Volume m³/s	'V' + E Core							
	Face Velocity (m/s)							
	1.5		2.0		2.5		3.0	
	m²	NR	m²	NR	m²	NR	m²	NR
.050	.033	-	.025	18	.020	24	.017	28
.075	.050	-	.038	20	.030	26	.025	30
.100	.067	-	.050	21	.040	27	.034	31
.125	.083	-	.063	22	.050	28	.042	32
.150	.100	-	.075	23	.060	29	.050	33
.175	.117	-	.088	24	.070	29	.059	34
.200	.133	-	.100	24	.080	30	.067	35
.225	.155	17	.113	25	.090	31	.078	35
.250	.167	17	.125	25	.100	31	.084	36
.275	.183	18	.138	26	.110	32	.092	36
.300	.200	18	.150	26	.120	32	.100	37
.350	.233	19	.175	26	.140	33	.117	37
.400	.267	19	.200	27	.160	33	.134	38
.450	.300	20	.225	28	.180	34	.150	38
.500	.333	20	.250	28	.200	34	.167	38
.550	.367	21	.275	29	.220	35	.184	39
.600	.400	21	.300	29	.240	35	.200	40
.650	.433	22	.325	29	.260	35	.217	40

This table should be used in conjunction with the diffuser core area chart which relates nominal sizes of a diffuser or grille to core area.

(See dimensional data.)

Pressure Drop - Pa			
Face	Core Style		
Velocity (m/s)	E Core	V Core	L Core
0.5	1	2	3
1	3	9	10
1.5	8	20	23
2	14	35	40
2.5	21		
3	31		
3.5	42		
4	55		
4.5	69		
5	85		

Pressure drops for the 'V' cores are for the grilles installed in doors as door transfer grilles. Pressure drops for 'L' core include entrance loss as well as resistance due to two cores placed side to side. The face velocity through return grilles with 'V' core should not exceed 2m/s.

	U Frame Core Areas Width															
Height	150	200	250	300	350	400	450	500	550	600	700	800	900	1000	1100	1200
75	0.01	0.01	0.01	0.01	0.02	0.02	0.02	0.03	0.03	0.03	0.04	0.04	0.05	0.05	0.06	0.06
100	0.01	0.01	0.02	0.02	0.03	0.03	0.03	0.04	0.04	0.05	0.05	0.06	0.07	0.08	0.08	0.09
150	0.02	0.02	0.03	0.04	0.04	0.05	0.05	0.06	0.07	0.07	0.09	0.10	0.11	0.13	0.14	0.15
200		0.03	0.04	0.05	0.06	0.07	0.08	0.09	0.09	0.10	0.12	0.14	0.16	0.17	0.19	0.21
250			0.05	0.06	0.07	0.09	0.10	0.11	0.12	0.13	0.15	0.18	0.20	0.22	0.25	0.27
300				0.08	0.09	0.11	0.12	0.13	0.15	0.16	0.19	0.22	0.24	0.27	0.30	0.33
350					0.11	0.12	0.14	0.16	0.17	0.19	0.22	0.26	0.29	0.32	0.35	0.39
400						0.14	0.16	0.18	0.20	0.22	0.26	0.29	0.33	0.37	0.41	0.45
450							0.18	0.20	0.23	0.25	0.29	0.33	0.38	0.42	0.46	0.50
500								0.23	0.25	0.28	0.32	0.37	0.42	0.47	0.52	0.56
550									0.28	0.31	0.36	0.41	0.46	0.52	0.57	0.62
600										0.33	0.39	0.45	0.51	0.57	0.62	0.68
700											0.46	0.53	0.60	0.66	0.73	0.80
800												0.61	0.68	0.76	0.84	0.92
900													0.77	0.86	0.95	1.03

Transfer Grilles
G Series

Performance Data

	D Frame Core Areas Width															
Height	150	200	250	300	350	400	450	500	550	600	700	800	900	1000	1100	1200
75	0.005	0.007	0.009	0.011	0.013	0.015	0.017	0.019	0.021	0.023	0.027	0.031	0.035	0.039	0.043	0.047
100	0.007	0.011	0.014	0.017	0.020	0.024	0.027	0.030	0.033	0.037	0.043	0.050	0.056	0.063	0.069	0.076
150	0.013	0.019	0.025	0.030	0.036	0.042	0.048	0.053	0.059	0.065	0.076	0.088	0.099	0.111	0.112	0.134
200		0.027	0.035	0.044	0.052	0.060	0.068	0.077	0.085	0.093	0.110	0.126	0.143	0.159	0.176	0.192
250			0.046	0.057	0.068	0.078	0.089	0.100	0.111	0.121	0.143	0.164	0.186	0.207	0.229	0.250
300				0.070	0.083	0.097	0.110	0.123	0.136	0.150	0.176	0.203	0.229	0.256	0.282	0.309
350					0.099	0.115	0.131	0.146	0.162	0.178	0.209	0.241	0.272	0.304	0.335	0.367
400						0.133	0.151	0.170	0.188	0.206	0.243	0.279	0.316	0.352	0.389	0.425
450							0.172	0.193	0.214	0.234	0.276	0.317	0.359	0.400	0.442	0.483
500								0.216	0.239	0.263	0.309	0.356	0.402	0.449	0.495	0.542
550									0.265	0.291	0.342	0.394	0.445	0.497	0.548	0.600
600										0.319	0.376	0.432	0.489	0.545	0.602	0.658
700											0.442	0.509	0.575	0.642	0.708	0.775
800												0.585	0.662	0.738	0.815	0.891
900													0.748	0.835	0.921	1.008

GPSA Transfer Grilles with 1 Hour Rated Intumescent Fire Blocks

Height mm	100		150		200		250		300		350		400		450		500		550		600	
Width mm	Ae	NR	Ae	NR	Ae	NR	Ae	NR	Ae	NR	Ae	NR	Ae	NR	Ae	NR	Ae	NR	Ae	NR	Ae	NR
100	.008	9																				
150	.013	15	.020	20																		
200	.017	19	.027	23	.036	25																
250	.020	20	.032	24	.043	26	.054	27														
300	.025	22	.039	25	.053	27	.066	27	.080	28												
350	.029	23	.046	26	.062	27	.078	28	.095	28	.111	29										
400	.034	24	.053	27	.072	28	.090	28	.109	29	.128	29	.147	29								
450	.036	25	.056	27	.076	28	.096	28	.116	29	.136	29	.156	29	.176	30						
500	.041	26	.063	27	.086	28	.108	28	.131	29	.153	29	.176	30	.198	31	.221	32				
550	.045	26	.070	28	.095	28	.120	29	.145	29	.170	30	.195	31	.220	32	.245	33	.271	34		
600	.050	26	.077	28	.105	28	.132	29	.160	30	.187	30	.215	31	.242	32	.270	34	.298	35	.325	36

Face Vel m/s	1.0	1.2	1.4	1.6	1.8	2.0	2.2	2.4	2.6
NR Corr db	–16	–13	–10	–6	–3	0	+3	+6	+10
Ps Pa	6	9	12	15	19	24	29	35	41

GPSA General Notes

1. The data is based on installation in a partition between two rooms with a pressed steel grille either side of the intumescent fire block.
2. The value Ae is the effective face area and is used to relate the face velocity to the air flow passing through the transfer grille.
3. Face velocity is directly related to the pressure loss across the transfer grille assembly,and also determines the noise correction from the values given in the data. The NR values are based upon a face velocity of 2 m/s and allow a room RA of 8db.
4. Selection of the transfer grille assembly is required to achieve acceptable pressure loss and noise level at the required air flow.
5. The NR selection should be made at least 5db lower than the room NR to allow for other noise sources.
6. If the room RA is likely to be less than 8 then the selection will need to be made at lower NR values to allow for this.
7. The following chart should be used as a starting point for selection of the GPSA,and gives a likely value of face velocity.

GPSA Sample Sections

Example 1

Transfer 150 l/s from an office (NR35) to a toilet area. Select for NR30 at 2.1 m/s so Ae = 0.15 / 2.1 = 0.071 m²
So a possible selection is 400 × 200 (Ae = 0.072)
At 2.1 m/s,NR connection = +2 so Unit NR= 28 + 2 = 30,RA = 8
Pressure Drop = 26 Pa [formula:Ps = 6x(F.Vel)²]

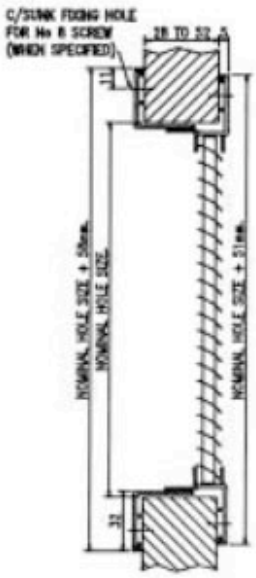
Example 2

Same as 1 but with a maximum pressure drop of 15 Pa.
From Ps chart,Maximum Face Velocity = 1.6 m/s
So minimum Ae = 0.15 / 1.6 = 0.094 m²
A possible selection is 350 × 300 (Ae = 0.095 m²)
NR = 28 – 6 = 22 (with RA = 8)
Toilet NR will be approximately NR22 + 8 = NR30 (RA = 0)

GPSA NR	Air Flow 100 l/s	300 l/s	500 l/s
35	2.4 m/s	2.2 m/s	2.0 m/s
30	2.2 m/s	2.0 m/s	1.8 m/s
25	1.8 m/s	1.6 m/s	1.5 m/s
20	1.4 m/s	1.2 m/s	1.0 m/s*

jpr services
Weltech Business Centre - Ridgeway - Welwyn Garden City - Hertfordshire AL7 2AA
Tel: 01707 871526 - Fax: 01707 871527 - email sales@jprservices.co.uk - www.jprservices.co.uk

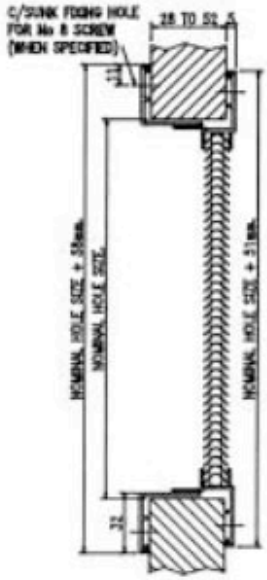
Dimensional Data
Transfer Grilles GPSA,GPSB,GDE,GDV and GDL



GDE

A telescopic aluminium frame fitted with GOE core assembly.

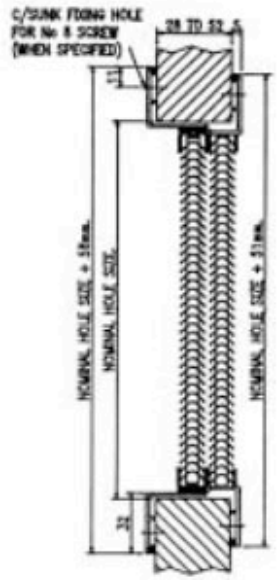
MINIMUM SIZE	150 × 75
MAXIMUM SIZE	1200 × 600
CORE FREE AREA	68%



GDV

A telescopic aluminium frame fitted with GOV core assembly.

MINIMUM SIZE	150 × 75
MAXIMUM SIZE	1200 × 900
CORE FREE AREA	66%

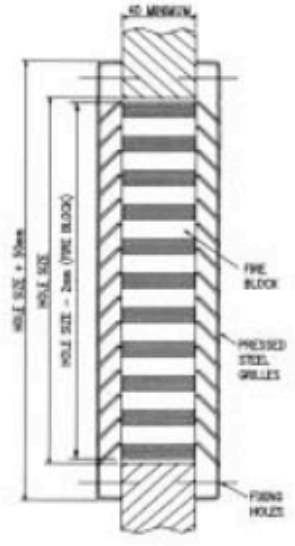


GDL

A telescopic aluminium frame fitted with GOL core assembly.

MINIMUM SIZE	150 × 75
MAXIMUM SIZE	1200 × 900
CORE FREE AREA	66%

Note: For dark room applications the assembly is finished in matt black and must be located well away from light source and photographic work area.

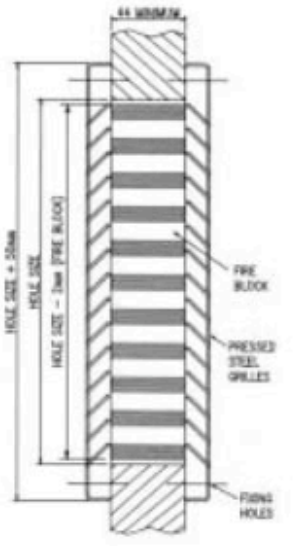


GPSA

A fire block assembly with a rating of 1 hour mounted within a door or partition opening and contained by a pressed steel grille fitted to either side.

MINIMUM SIZE	100 × 100
MAXIMUM SIZE	600 × 600

Available in 50mm INCREMENTS.



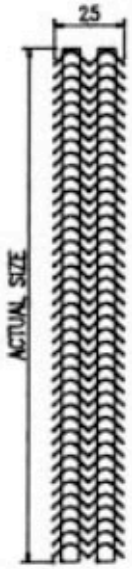
GPSB

A fire block assembly with a rating of 4 hours mounted within a door or partition opening and contained by a pressed steel grille fitted to either side.

MINIMUM SIZE	100 × 100
MAXIMUM SIZE	600 × 600

Available in 50mm INCREMENTS.

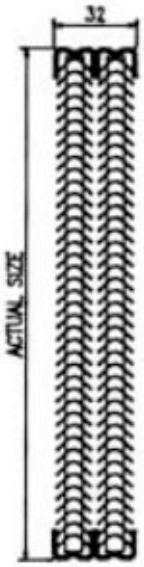
Dimensional Data
Transfer Grilles GOL,GUL,GOE,GUE,GOV and GUV



GOL

A double GOV to form a light-tight assembly.

MINIMUM SIZE	150 × 75
MAXIMUM SIZE	1200 × 900
CORE FREE AREA	66%



GUL

A double GUV to form a light-tight assembly.

MINIMUM SIZE	150 × 75
MAXIMUM SIZE	1200 × 900
CORE FREE AREA	66%

GOE

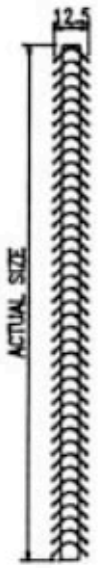
A steel core assembly with blades fixed at 30°.

MINIMUM SIZE	150 × 75
MAXIMUM SIZE	1200 × 600
CORE FREE AREA	68%

GUE

The GOE core assembly fixed into a steel U channel frame.

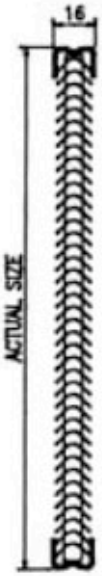
MINIMUM SIZE	150 × 75
MAXIMUM SIZE	1200 × 600
CORE FREE AREA	68%



GOV

A steel core assembly with non-vision V shaped blade.

MINIMUM SIZE	150 × 75
MAXIMUM SIZE	1200 × 600
CORE FREE AREA	68%



GUV

The GOV core assembly fixed into a steel U channel frame.

MINIMUM SIZE	150 × 75
MAXIMUM SIZE	1200 × 900
CORE FREE AREA	66%

jpr services
Weltech Business Centre - Ridgeway - Welwyn Garden City - Hertfordshire AL7 2AA
Tel: 01707 871526 - Fax: 01707 871527 - email sales@jprservices.co.uk - www.jprservices.co.uk