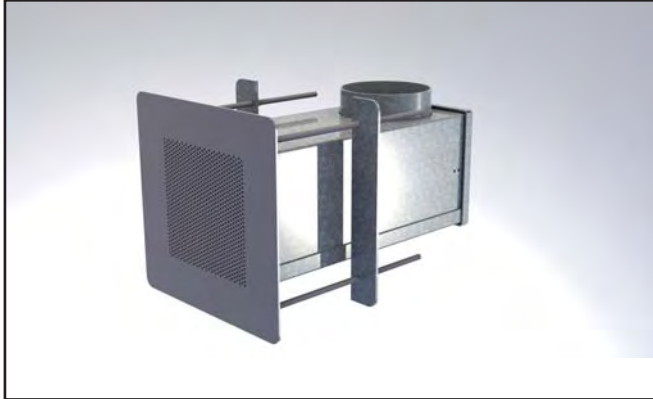

Security Grilles

INDEX

	Page
Introduction	2
Models and dimensions	3 and 5
Technical data and selection tables	4-5 and 7-8
Identification	2

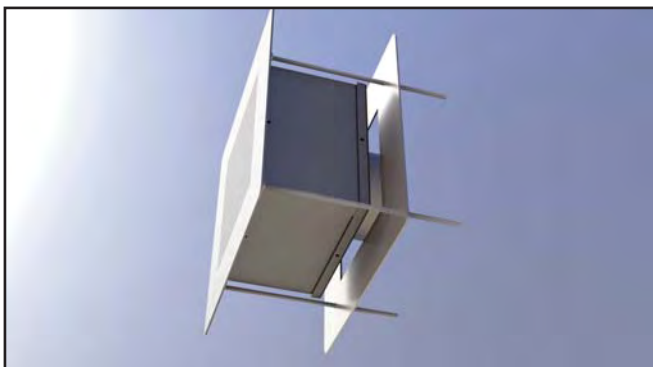
Security Grilles Type KSG



Side plenum KSG-1



Side plenum KSG-3



Top plenum KSG-1

Description:

Mech-Elec range of security grilles are manufactured in line with the latest requirements of the Home Office and Ministry of Justice, for use in all areas requiring a robust grille. They can be used in both supply and extract applications.

Construction:

KSG Security grilles are manufactured in either 2mm thick stainless steel brushed finish or 3mm thick mild steel painted finish, and are available with opposed blade dampers (adjustable from rear of KSG-1) fire rated dampers and circular/rectangular connections.

Dimensions:

General dimensions are as per relevant tables, special sizes are available on request.

Preparation & Finished:

Stainless steel grilles are manufactured from Grade 304 material and have a light brushed finish, steel grilles undergo a passivation process prior to powder coating to any RAL colour.

Identification:

All grille dimensions are defined by perforation length (L) and followed by perforation height (H). LxH is the dimension of the perforated area.

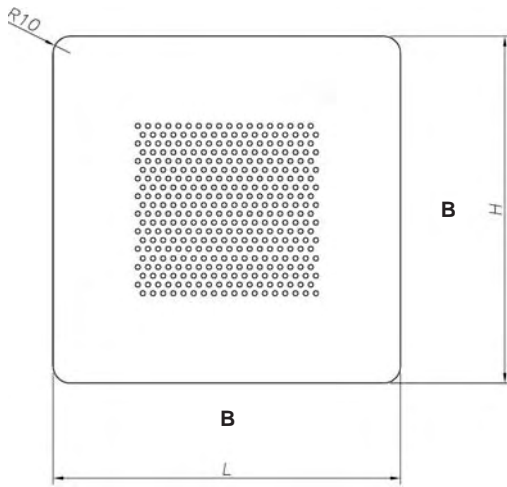
IDENTIFICATION

KSG	Security Grille
Security level	1, 3
Material - CH	Steel sheet
- Inox	Stainless steel
L x H	Length x high (in mm)
Plenum - PL	Side entry
- PS	Top entry
Options	O (regulating damper)
Finished	RAL 9010

Example: **KSG-1 / CH / 250 x 250 / PS / RAL 9010**

High security grille in steel, dimensions 250 x 250 with side entry plenum painted in RAL 9010.

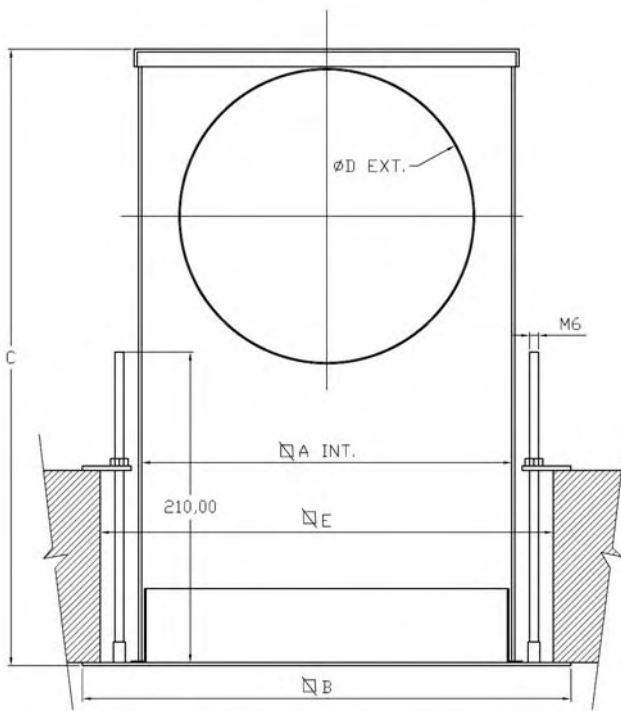
High security grilles type KSG-1



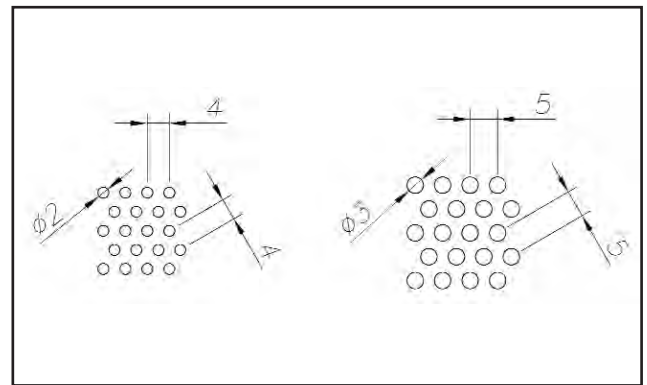
Level 1 Security Grilles are an anti-ligature grille and designed for maximum security applications (Police Custody Cells, Prison Cells), they are available with either top or side entry connection plenum boxes (fire rated on request - subsequent on site application of a fire cladding is required) Regulation dampers can be fitted within the grille assembly (Prior to consultation). Fire dampers can be fitted within the grille assembly. Wall thickness to be stated prior to ordering.

Material:

- 3 mm Thick Mild Steel 3 mm hole @ 5 mm pitch
- 2 mm Thick Stainless Steel 2 mm hole @ 4 mm pitch
- 2 mm Thick Stainless Steel 3 mm hole @ 5 mm pitch

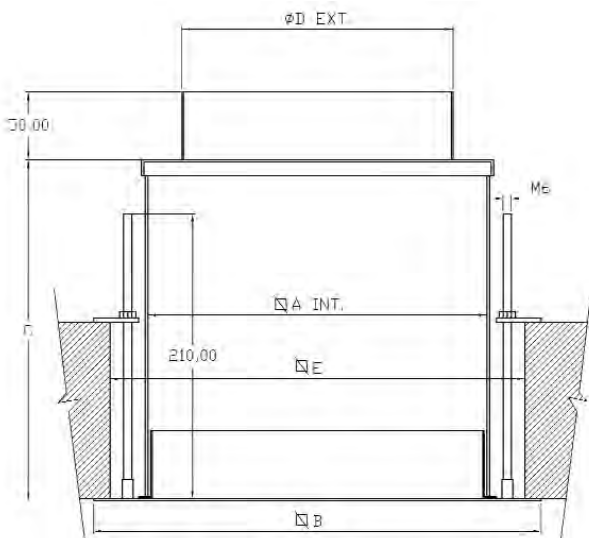


PERFORATION PATTERNS



Dimensions in mm

Model	A	B	C	D	E
125	125	205	317	98	165
150	150	230	317	98	190
200	200	280	367	148	240
250	250	330	417	198	290
300	300	380	467	248	340
350	350	430	517	298	390
400	400	480	567	348	440



Model	A	B	C	D	E
125	125	205	252	98	165
150	150	230	252	98	190
200	200	280	252	148	240
250	250	330	252	198	290
300	300	380	252	248	340
350	350	430	252	298	390
400	400	480	252	348	440

High security grilles Type KSG-1

Quick selection table

KSG-1 - HIGH SECURITY - SIDE ENTRY									
Q		Size	125x125	150x150	200x200	250x250	300x300	350x350	400x400
[m³/s]	[Pa]								
30	8.3	V _f [m/s]	0.5						
		X [m]	0.9						
		P _s [Pa]	3						
		dB(A)	<20						
45	12.5	V _f [m/s]	0.8	0.6					
		X [m]	1.4	1.2					
		P _s [Pa]	7	4					
		dB(A)	<20	<20					
60	16.7	V _f [m/s]	1.1	0.7					
		X [m]	1.9	1.6					
		P _s [Pa]	13	6					
		dB(A)	<20	<20					
75	20.8	V _f [m/s]	1.3	0.9	0.5				
		X [m]	2.4	2.0	1.5				
		P _s [Pa]	20	10	3				
		dB(A)	<20	<20	<20				
100	27.8	V _f [m/s]	1.8	1.2	0.7				
		X [m]	3.2	2.6	2.0				
		P _s [Pa]	35	17	6				
		dB(A)	28	<20	<20				
150	41.7	V _f [m/s]	2.7	1.9	1.0	0.7	0.5		
		X [m]	4.7	3.9	3.0	2.4	2.0		
		P _s [Pa]	79	39	13	6	3		
		dB(A)	40	31	<20	<20	<20		
200	55.6	V _f [m/s]	3.6	2.5	1.4	0.9	0.6	0.5	
		X [m]	6.3	5.3	3.9	3.2	2.6	2.3	
		P _s [Pa]	140	69	23	10	5	3	
		dB(A)	49	40	26	<20	<20	<20	
225	62.5	V _f [m/s]		2.8	1.6	1.0	0.7	0.5	
		X [m]		5.9	4.4	3.6	3.0	2.5	
		P _s [Pa]		66	29	13	6	3	
		dB(A)		43	29	<20	<20	<20	
300	83.3	V _f [m/s]			2.1	1.3	0.9	0.7	0.5
		X [m]			5.9	4.7	3.9	3.4	3.0
		P _s [Pa]			92	23	11	6	3
		dB(A)			38	27	<20	<20	<20
350	97.2	V _f [m/s]			2.4	1.6	1.1	0.8	0.6
		X [m]			6.9	5.5	4.6	3.9	3.5
		P _s [Pa]			71	31	15	6	5
		dB(A)			42	31	22	<20	<20
400	111.1	V _f [m/s]			2.8	1.8	1.2	0.9	0.7
		X [m]			7.9	6.3	5.3	4.5	3.9
		P _s [Pa]			93	41	20	11	6
		dB(A)			46	35	26	<20	<20
500	138.9	V _f [m/s]				2.2	1.5	1.1	0.9
		X [m]				7.9	6.6	5.6	4.9
		P _s [Pa]				64	31	17	10
		dB(A)				42	33	25	<20
600	166.7	V _f [m/s]				2.7	1.9	1.4	1.0
		X [m]				9.5	7.9	6.8	5.9
		P _s [Pa]				92	44	24	14
		dB(A)				48	39	31	24
700	194.4	V _f [m/s]					2.2	1.6	1.2
		X [m]					9.2	7.9	6.9
		P _s [Pa]					60	32	19
		dB(A)					43	36	29
800	222.2	V _f [m/s]					2.5	1.8	1.4
		X [m]					10.5	9.0	7.9
		P _s [Pa]					78	42	25
		dB(A)					47	40	33
900	250.0	V _f [m/s]						2.0	1.6
		X [m]						10.1	8.9
		P _s [Pa]						54	31
		dB(A)						43	36
1000	277.8	V _f [m/s]						2.3	1.7
		X [m]						11.3	9.9
		P _s [Pa]						66	39
		dB(A)						46	40
1250	347.2	V _f [m/s]							2.2
		X [m]							12.3
		P _s [Pa]							61
		dB(A)							46

Symbols

- V_f Face velocity (m/s)
- X Throw (m)
- P_s Static pressure (Pa)
- dB(A) Sound power level

High security grilles Type KSG-1

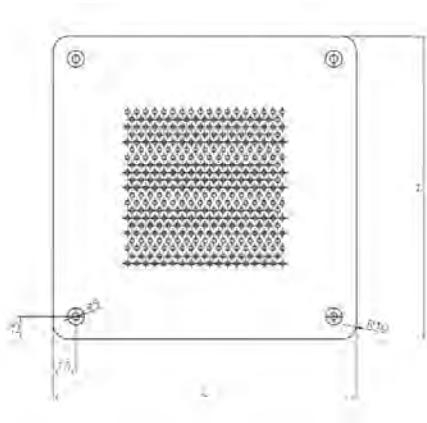
Quick selection table

KSG-1 - HIGH SECURITY - TOP ENTRY									
Q		Size	125x125	150x150	200x200	250x250	300x300	350x350	400x400
[m³/h]	[Us]								
30	8,3	V _f [m/s] X [m] P _s [Pa] dB(A)	0,5 0,9 2 <20						
45	12,5	V _f [m/s] X [m] P _s [Pa] dB(A)	0,8 1,4 5 <20	0,6 1,2 3 <20					
60	16,7	V _f [m/s] X [m] P _s [Pa] dB(A)	1,1 1,9 9 <20	0,7 1,6 5 <20					
75	20,8	V _f [m/s] X [m] P _s [Pa] dB(A)	1,3 2,4 14 <20	0,9 2,0 7 <20	0,5 1,5 2 <20				
100	27,8	V _f [m/s] X [m] P _s [Pa] dB(A)	1,8 3,2 26 <20	1,2 2,6 13 <20	0,7 2,0 4 <20				
150	41,7	V _f [m/s] X [m] P _s [Pa] dB(A)	2,7 4,7 58 32	1,9 3,9 28 23	1,0 3,0 10 <20	0,7 2,4 4 <20	0,5 2,0 2 <20		
200	55,6	V _f [m/s] X [m] P _s [Pa] dB(A)	3,6 6,3 102 41	2,5 5,3 51 32	1,4 3,9 17 <20	0,9 3,2 7 <20	0,6 2,6 4 <20	0,5 2,3 2 <20	
225	62,5	V _f [m/s] X [m] P _s [Pa] dB(A)	4,0 7,1 130 44	2,8 5,9 64 35	1,6 4,4 21 21	1,0 3,6 9 <20	0,7 3,0 5 <20	0,5 2,5 2 <20	
300	83,3	V _f [m/s] X [m] P _s [Pa] dB(A)		3,7 7,9 114 44	2,1 5,9 38 29	1,3 4,7 17 <20	0,9 3,9 8 <20	0,7 3,4 4 <20	0,5 3,0 3 <20
400	111,1	V _f [m/s] X [m] P _s [Pa] dB(A)			2,8 7,9 68 38	1,8 6,3 30 27	1,2 5,3 14 <20	0,9 4,5 8 <20	0,7 3,9 5 <20
500	138,9	V _f [m/s] X [m] P _s [Pa] dB(A)			3,5 9,9 106 45	2,2 7,9 46 34	1,5 6,6 22 25	1,1 5,6 12 <20	0,9 4,9 7 <20
600	166,7	V _f [m/s] X [m] P _s [Pa] dB(A)			4,2 11,8 152 50	2,7 9,5 67 39	1,9 7,9 32 30	1,4 6,8 17 23	1,0 5,9 10 <20
700	194,4	V _f [m/s] X [m] P _s [Pa] dB(A)				3,1 11,0 91 44	2,2 9,2 44 35	1,6 7,9 24 27	1,2 6,9 14 21
800	222,2	V _f [m/s] X [m] P _s [Pa] dB(A)				3,6 12,6 119 48	2,5 10,5 57 39	1,8 9,0 31 31	1,4 7,9 18 25
900	250,0	V _f [m/s] X [m] P _s [Pa] dB(A)					2,8 11,8 73 42	2,0 10,1 39 35	1,6 8,9 23 28
1000	277,8	V _f [m/s] X [m] P _s [Pa] dB(A)					3,1 13,1 90 45	2,3 11,3 48 38	1,7 9,9 28 31
1500	416,7	V _f [m/s] X [m] P _s [Pa] dB(A)							2,6 14,8 64 43

Symbols

- V_f Face velocity (m/s)
- X Throw (m)
- P_s Static pressure (Pa)
- dB(A) Sound power level

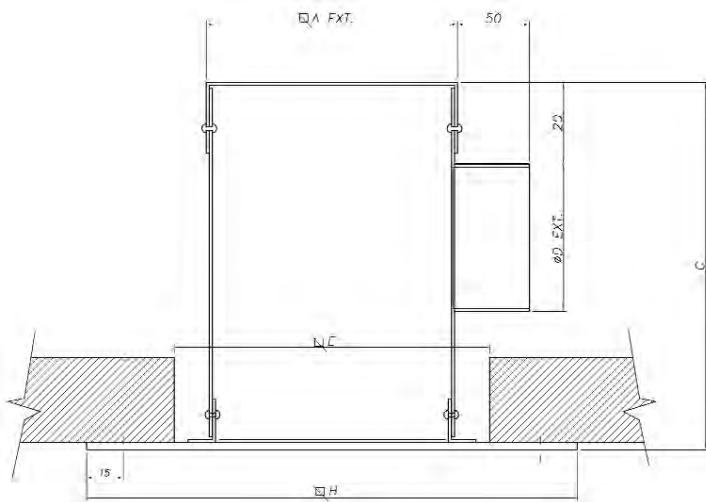
Medium security grilles type KSG-3



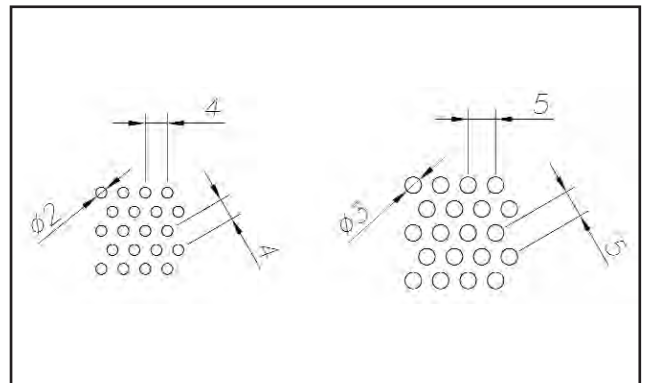
Level 3 Security Grilles are an anti-ligature grille and designed for secure applications (Police Association Areas, Secure Hospitals), they are available with either top or side entry connection plenum boxes (fire rated on request - subsequent on site application of a fire cladding is required) Regulation dampers can be fitted within the grille assembly. Fire dampers can be fitted within the grille assembly. Fixing is by means of security screws (not supplied) into countersunk holes. Wall thickness to be stated prior to ordering.

Material:

- 3 mm Thick Mild Steel 3 mm hole @ 5 mm pitch
- 2 mm Thick Stainless Steel 2 mm hole @ 4 mm pitch
- 2 mm Thick Stainless Steel 3 mm hole @ 5 mm pitch



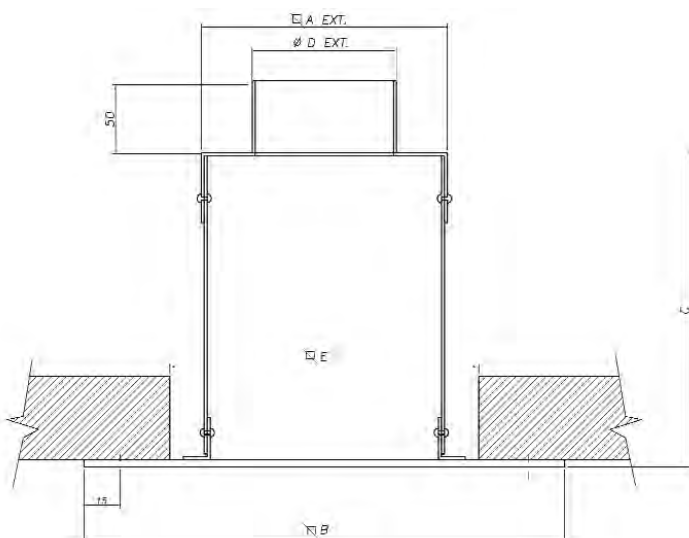
PERFORATION PATTERNS



Dimensions in mm

Model	A	B	C	D	E
125	125	205	250	98	150
150	150	230	250	98	175
200	200	280	250	148	225
250	250	330	300	198	275
300	300	380	350	248	325
350	350	430	400	298	375
400	400	480	450	348	425

Model	A	B	C	D	E
125	125	205	250	98	150
150	150	230	250	98	175
200	200	280	250	148	225
250	250	330	250	198	275
300	300	380	250	248	325
350	350	430	250	298	375
400	400	480	250	348	425



Medium security grilles type KSG-3

Quick selection table

KSG-3 - LOW SECURITY - SIDE ENTRY									
Q		Size	125x125	150x150	200x200	250x250	300x300	350x350	400x400
[m³/h]	[l/s]								
30	8,3	V _f [m/s] X [m] P _s [Pa] dB(A)	0,5 1,0 4 <20						
45	12,5	V _f [m/s] X [m] P _s [Pa] dB(A)	0,8 1,5 10 <20	0,6 1,2 5 <20					
60	16,7	V _f [m/s] X [m] P _s [Pa] dB(A)	1,1 2,0 17 <20	0,7 1,6 8 <20					
75	20,8	V _f [m/s] X [m] P _s [Pa] dB(A)	1,3 2,5 27 24	0,9 2,1 13 <20	0,5 1,5 4 <20				
100	27,8	V _f [m/s] X [m] P _s [Pa] dB(A)	1,8 3,3 48 33	1,2 2,7 24 24	0,7 2,1 8 <20				
150	41,7	V _f [m/s] X [m] P _s [Pa] dB(A)	2,7 4,9 107 45	1,9 4,1 53 36	1,0 3,1 18 22	0,7 2,5 8 <20	0,5 2,1 4 <20		
200	55,6	V _f [m/s] X [m] P _s [Pa] dB(A)		2,5 5,5 94 44	1,4 4,1 32 30	0,9 3,3 14 <20	0,6 2,7 7 <20	0,5 2,4 4 <20	
225	62,5	V _f [m/s] X [m] P _s [Pa] dB(A)		2,8 6,2 119 48	1,6 4,6 40 34	1,0 3,7 18 23	0,7 3,1 8 <20	0,5 2,6 5 <20	
300	83,3	V _f [m/s] X [m] P _s [Pa] dB(A)			2,1 6,2 71 42	1,3 4,9 31 31	0,9 4,1 15 22	0,7 3,5 8 <20	0,5 3,1 5 <20
350	97,2	V _f [m/s] X [m] P _s [Pa] dB(A)			2,4 7,2 97 47	1,6 5,8 42 36	1,1 4,8 20 27	0,8 4,1 11 <20	0,6 3,6 6 <20
400	111,1	V _f [m/s] X [m] P _s [Pa] dB(A)			2,8 8,2 126 51	1,8 6,6 55 40	1,2 5,5 27 31	0,9 4,7 14 23	0,7 4,1 8 <20
500	138,9	V _f [m/s] X [m] P _s [Pa] dB(A)				2,2 8,2 86 47	1,5 6,9 42 38	1,1 5,9 23 30	0,9 5,1 13 23
600	166,7	V _f [m/s] X [m] P _s [Pa] dB(A)				2,7 9,9 124 52	1,9 8,2 60 43	1,4 7,1 32 35	1,0 6,2 19 29
700	194,4	V _f [m/s] X [m] P _s [Pa] dB(A)					2,2 9,6 82 48	1,6 8,2 44 40	1,2 7,2 26 33
800	222,2	V _f [m/s] X [m] P _s [Pa] dB(A)					2,5 11,0 107 52	1,8 9,4 58 44	1,4 8,2 34 37
900	250,0	V _f [m/s] X [m] P _s [Pa] dB(A)						2,0 10,6 73 48	1,6 9,3 43 41
1000	277,8	V _f [m/s] X [m] P _s [Pa] dB(A)						2,3 11,8 90 51	1,7 10,3 53 44
1250	347,2	V _f [m/s] X [m] P _s [Pa] dB(A)							2,2 12,9 82 51

Symbols

- V_f Face velocity (m/s)
- X Throw (m)
- P_s Static pressure (Pa)
- dB(A) Sound power level

Medium security grilles KSG-3

Quick selection table

KSG-3 - LOW SECURITY - TOP ENTRY									
Q		Size	125x125	150x150	200x200	250x250	300x300	350x350	400x400
[m ³ /h]	[l/s]								
30	8,3	V _f [m/s]	0,5						
		X [m]	1,0						
		P _s [Pa]	3						
		dB(A)	<20						
45	12,5	V _f [m/s]	0,8	0,6					
		X [m]	1,5	1,2					
		P _s [Pa]	7	3					
		dB(A)	<20	<20					
60	16,7	V _f [m/s]	1,1	0,7					
		X [m]	2,0	1,6					
		P _s [Pa]	13	6					
		dB(A)	<20	<20					
75	20,8	V _f [m/s]	1,3	0,9	0,5				
		X [m]	2,5	2,1	1,5				
		P _s [Pa]	20	10	3				
		dB(A)	<20	<20	<20				
100	27,8	V _f [m/s]	1,8	1,2	0,7				
		X [m]	3,3	2,7	2,1				
		P _s [Pa]	35	17	6				
		dB(A)	24	<20	<20				
150	41,7	V _f [m/s]	2,7	1,9	1,0	0,7	0,5		
		X [m]	4,9	4,1	3,1	2,5	2,1		
		P _s [Pa]	78	39	13	6	3		
		dB(A)	36	27	<20	<20	<20		
200	55,6	V _f [m/s]	3,6	2,5	1,4	0,9	0,6	0,5	
		X [m]	6,6	5,5	4,1	3,3	2,7	2,4	
		P _s [Pa]	139	69	23	10	5	3	
		dB(A)	45	36	22	<20	<20	<20	
225	62,5	V _f [m/s]	4,0	2,8	1,6	1,0	0,7	0,5	
		X [m]	7,4	6,2	4,6	3,7	3,1	2,6	
		P _s [Pa]	176	87	29	13	6	3	
		dB(A)	49	40	25	<20	<20	<20	
300	83,3	V _f [m/s]		3,7	2,1	1,3	0,9	0,7	0,5
		X [m]		8,2	6,2	4,9	4,1	3,5	3,1
		P _s [Pa]		155	52	23	11	6	3
		dB(A)		48	34	23	<20	<20	<20
400	111,1	V _f [m/s]			2,8	1,8	1,2	0,9	0,7
		X [m]			8,2	6,6	5,5	4,7	4,1
		P _s [Pa]			92	40	19	11	6
		dB(A)			43	32	23	<20	<20
500	138,9	V _f [m/s]			3,5	2,2	1,5	1,1	0,9
		X [m]			10,3	8,2	6,9	5,9	5,1
		P _s [Pa]			144	63	30	16	10
		dB(A)			49	38	29	22	<20
600	166,7	V _f [m/s]				2,7	1,9	1,4	1,0
		X [m]				9,9	8,2	7,1	6,2
		P _s [Pa]				91	44	24	14
		dB(A)				44	35	27	20
700	194,4	V _f [m/s]				3,1	2,2	1,6	1,2
		X [m]				11,5	9,6	8,2	7,2
		P _s [Pa]				124	60	32	19
		dB(A)				48	39	32	25
800	222,2	V _f [m/s]					2,5	1,8	1,4
		X [m]					11,0	9,4	8,2
		P _s [Pa]					78	42	25
		dB(A)					43	36	29
900	250,0	V _f [m/s]					2,8	2,0	1,6
		X [m]					12,4	10,6	9,3
		P _s [Pa]					99	53	31
		dB(A)					47	39	33
1000	277,8	V _f [m/s]						2,3	1,7
		X [m]						11,8	10,3
		P _s [Pa]						66	39
		dB(A)						42	36
1500	416,7	V _f [m/s]							2,6
		X [m]							15,4
		P _s [Pa]							87
		dB(A)							48

Symbols

- V_f Face velocity (m/s)
 X Throw (m)
 P_s Static pressure (Pa)
 dB(A) Sound power level

