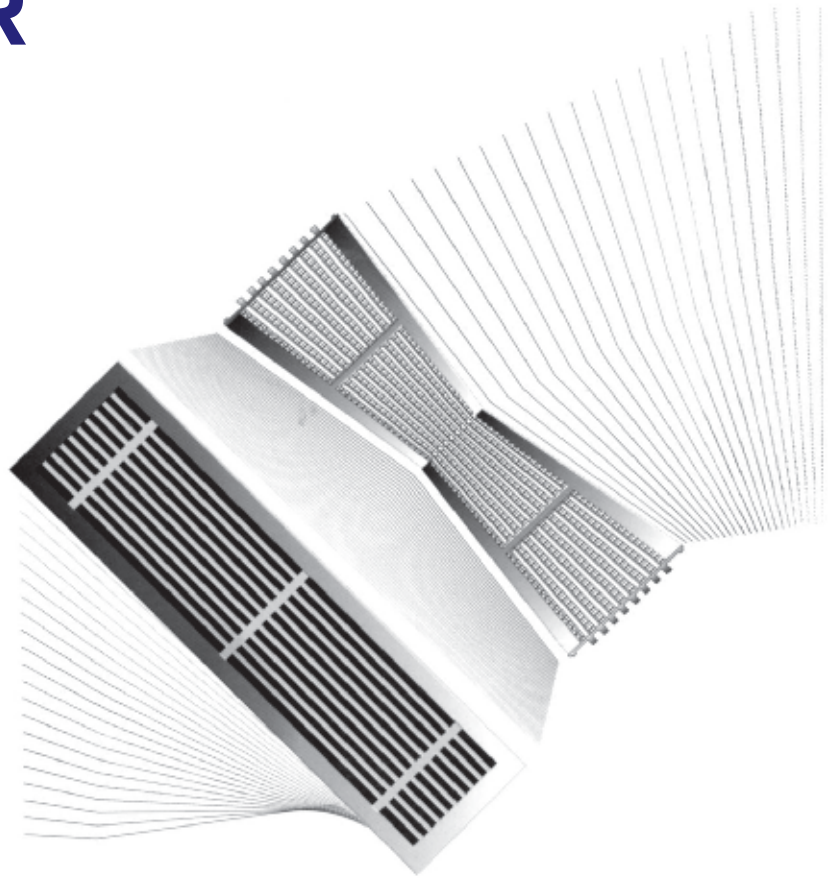


WE SHAPE AIR



BETA
industrial
PRODUCTS CATALOGUE

PRODUCT BULLETIN

2





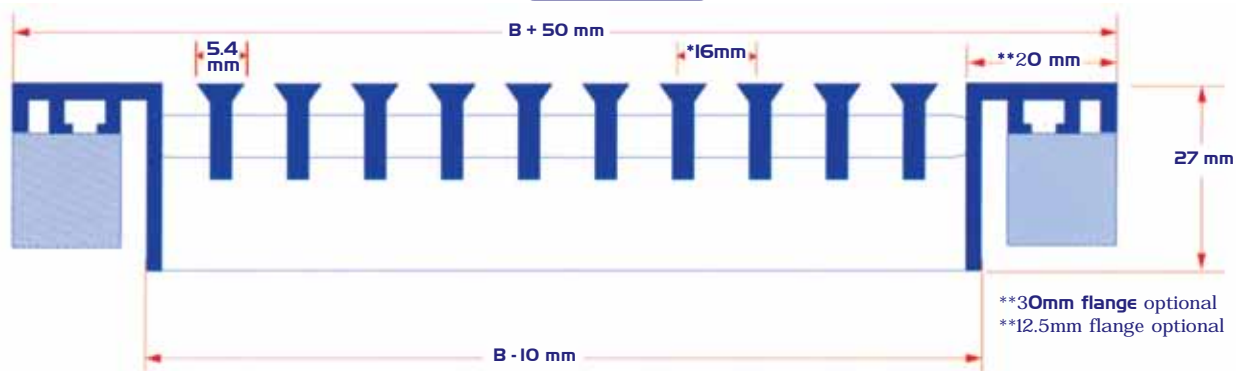
BETA
i n d u s t r i a l

index

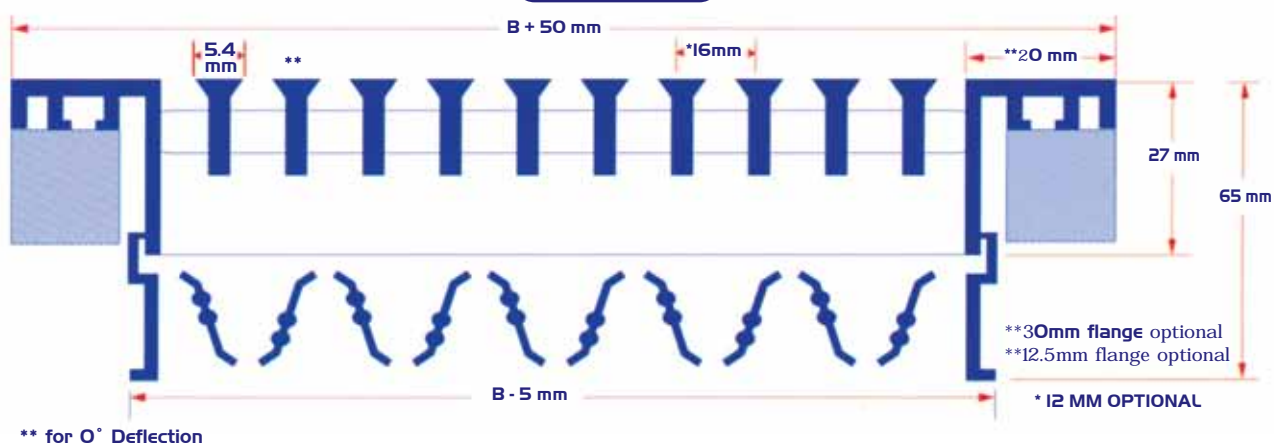
>>	SINGLE DEFLECTION LINEAR GRILLES & REGISTERS	1-2
>>	DOUBLE DEFLECTION LINEAR GRILLES & REGISTERS	3-4
>>	ENDCAPS & CORNERS	5
>>	CURVES	6
>>	PERFORMANCE DATA	7-12



TYPE: RLG



TYPE: RLR



>> The single deflection linear grille is a wall mounted grille, used as an exhaust or return grille in cooling, heating or air ventilation applications.

>> The single deflection linear grille is composed of a set of fixed horizontal straight bars attached to a frame, both are manufactured from extruded aluminium sections.





LINEAR GRILLES & REGISTERS



>> Front bars have one of the following basic designs:

- 0° deflection bars (Standard)
- 15° deflection, one way
- 15° deflection, two way

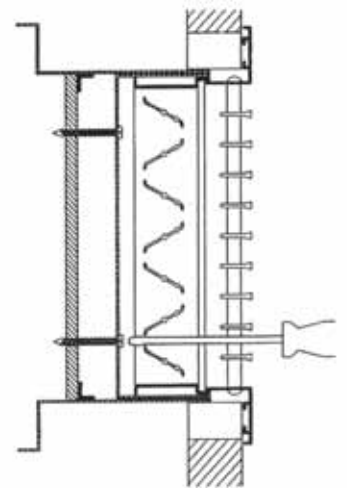
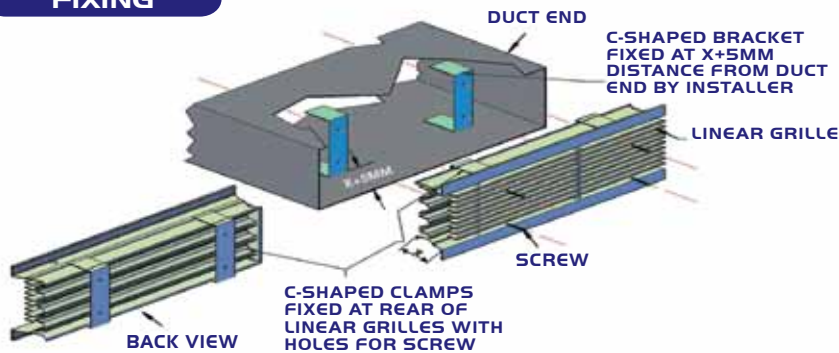
>> Front bars are assembled in horizontal straight lines with a center to center spacing of 16 mm & 12 mm.

>> Available with easily removable opposed blades damper attached to the frame by means of (5) clips to ensure tight attachment and maximum flexibility. The damper is made of extruded aluminium bars and opening of the damper is easily adjusted by means of control lever that is driven by a screw driver from the front face of the register.

Available type of finishings :

- Natural anodized aluminium finish.
- Powder coated to RAL codes.

FIXING



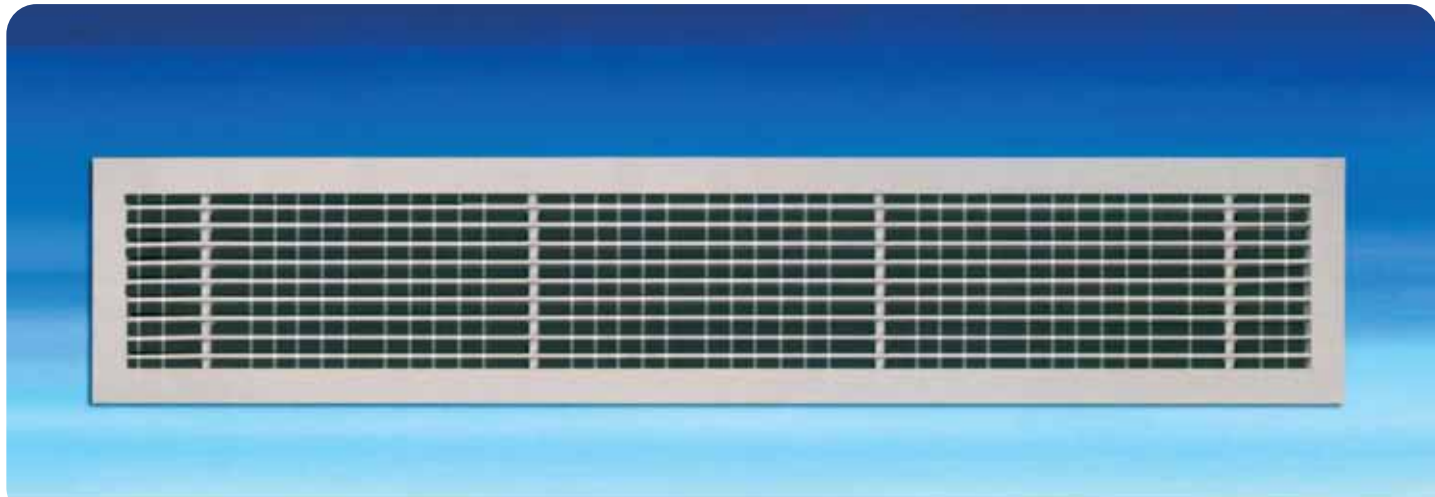
TYPES & MODELS



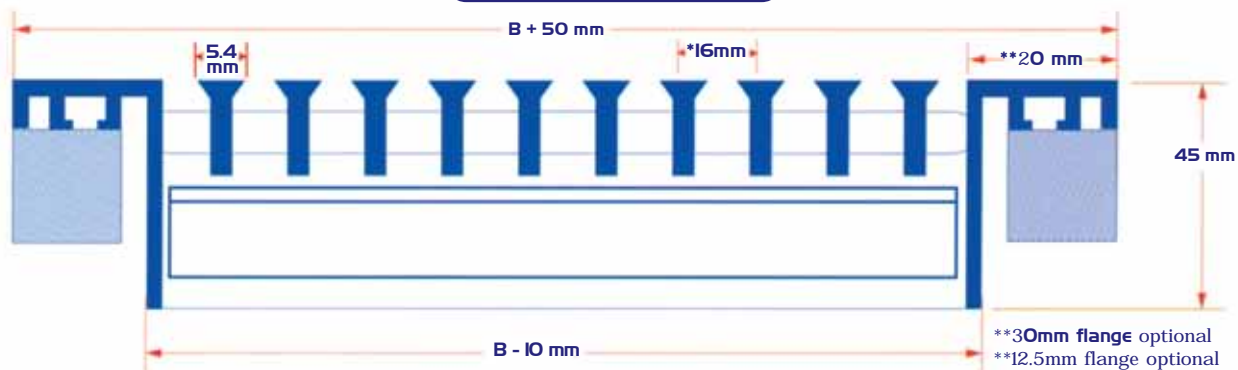
Ordering Key:

R	L	R	B	16	FLANGE	C	R	V	SIZE
RLR: SINGLE DEFLECTION LINEAR REGISTER (WITH OBD)									
RLG: SINGLE DEFLECTION LINEAR GRILLE (WITHOUT OBD)									
RLR/RLG: COMBINED									
-: WITHOUT OBD									
B: WITH BLACK OBD									
M: WITH MILL FINISH OBD									
16: 16MM CENTER-TO-CENTER SPACING									
12: 12MM CENTER-TO-CENTER SPACING									
-: 30MM FLANGE									
20: 20MM FLANGE									
12.5: 12.5MM FLANGE									
- - -: STRAIGHT LINEAR REGISTER/GRILLE									
CRV: CURVED LINEAR REGISTER/GRILLE									
COR: CORNER (STANDARD WITH 2 X 300MM SIDES & 90° ANGLE, OTHER SIDES & ANGLES CAN BE FABRICATED);									
EXAMPLE: RLG(16)/COR 300MM*300MM (90)*150MM									
SIZE: LENGTH X HEIGHT									

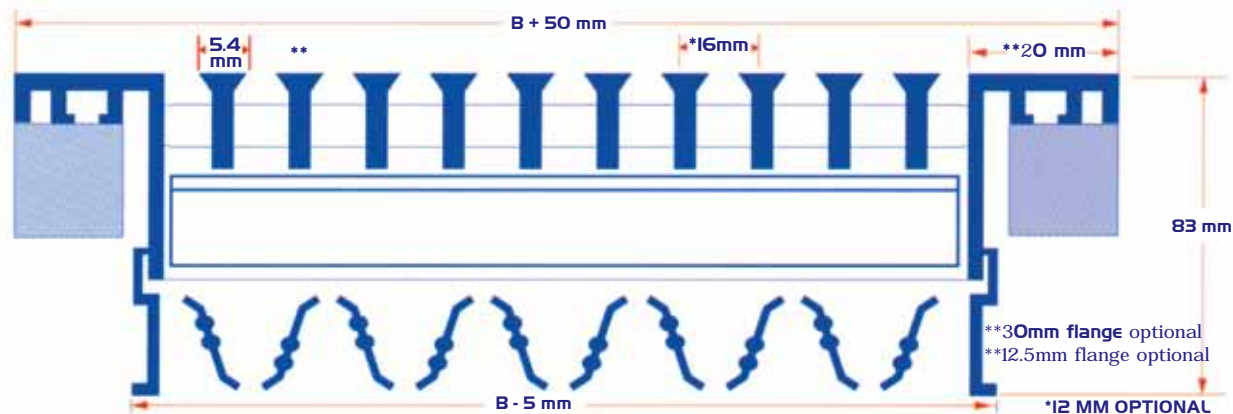




TYPE : SLG



TYPE : SLR



** for 0° Deflection

>> The double deflection linear grille is a wall mounted grille, used as an exhaust or return grille in cooling, heating or air ventilation applications.

>> The double deflection linear grille is composed of a set of fixed horizontal straight bars in the front face and individually adjustable vertical deflectors on the rear to control air flow pattern, both are manufactured from extruded aluminium sections.





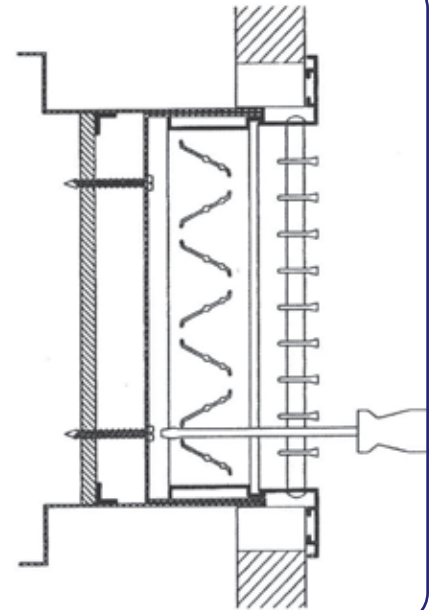
FIXING

>> Front bars have one of the following basic designs:

- 0° deflection bars (Standard)
- 15° deflection, one way
- 15° deflection, two way

>> Front bars are assembled in horizontal straight lines with a center to center spacing of 16 mm & 12 mm.

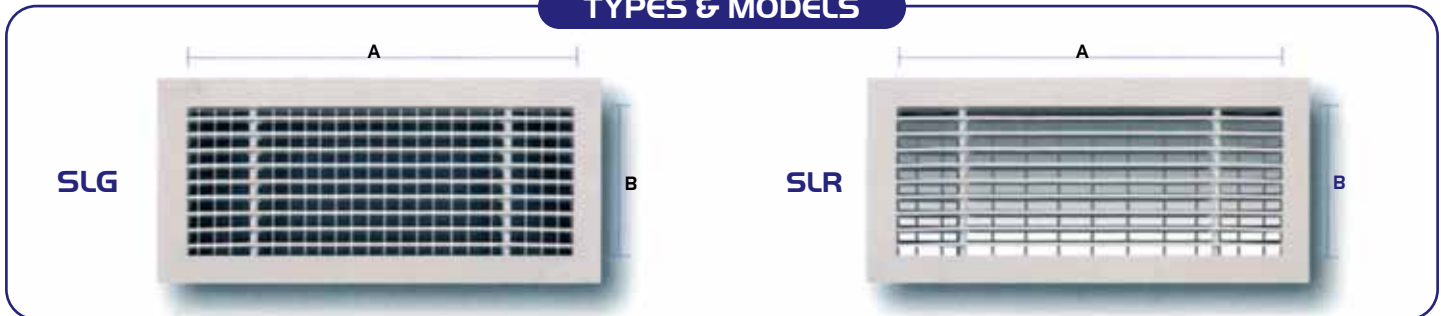
>> Available with easily removable opposed blades damper, attached to the frame by means of (S) clips to ensure tight attachment and maximum flexibility. The damper is made of extruded aluminium bars and opening of the damper is easily adjusted by means of control lever that is driven by a screw driver from the front face of the register.



Available type of finishings :

- Natural anodized aluminium finish.
- Powder coated to RAL codes.

TYPES & MODELS



Ordering Key:

S	L	R	B	I6	FLANGE	C	R	V	SIZE
SLR: DOUBLE DEFLECTION LINEAR REGISTER (WITH OBD) SLG: DOUBLE DEFLECTION LINEAR GRILLE (WITHOUT OBD) SLR/SLG: COMBINED									
-: WITHOUT OBD									
B: WITH BLACK OBD									
M: WITH MILL FINISH OBD									
16: 16MM CENTER-TO-CENTER SPACING									
12: 12MM CENTER-TO-CENTER SPACING									
-: 30MM FLANGE									
20: 20MM FLANGE									
12.5: 12.5MM FLANGE									
- - -: STRAIGHT LINEAR REGISTER/GRILLE									
CRV: CURVED LINEAR REGISTER/GRILLE									
COR: CORNER (STANDARD WITH 2 X 300MM SIDES & 90° ANGLE, OTHER SIDES & ANGLES CAN BE FABRICATED); EXAMPLE: RLG(16)/COR 300MM*300MM (90)*150MM									
SIZE: LENGTH X HEIGHT									



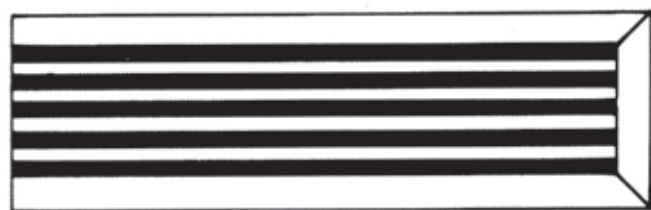


1- ONE END LINEAR GRILLE/REGISTER (D1)
AVAILABLE IN ANY STANDARD SIZE.

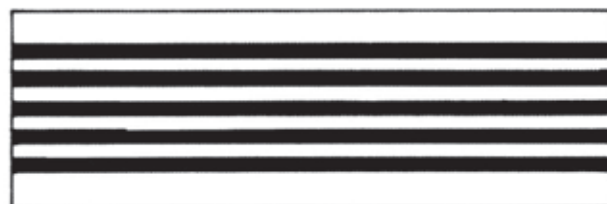
2- INTERMEDIATE LINEAR GRILLE/REGISTER (D2)
AVAILABLE IN ANY STANDARD SIZE.

3- CORNER PIECES (D3,D4,D5)
AVAILABLE IN ANY COMBINATION OF B, X, Y & \angle

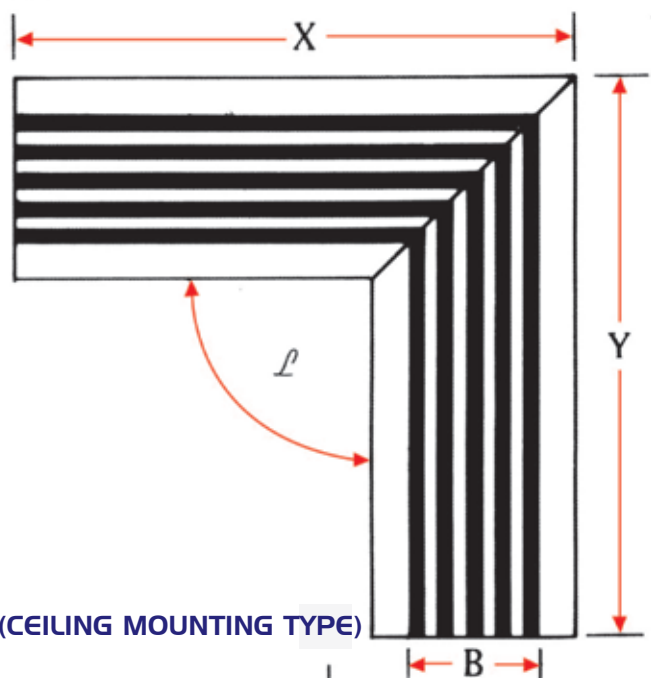
B (mm)	X(mm)	Y(mm)	\angle (degree)
100	300	300	45°
150	600	600	90°
200	800	800	135°
250	1000	1000	
300	1200	1200	



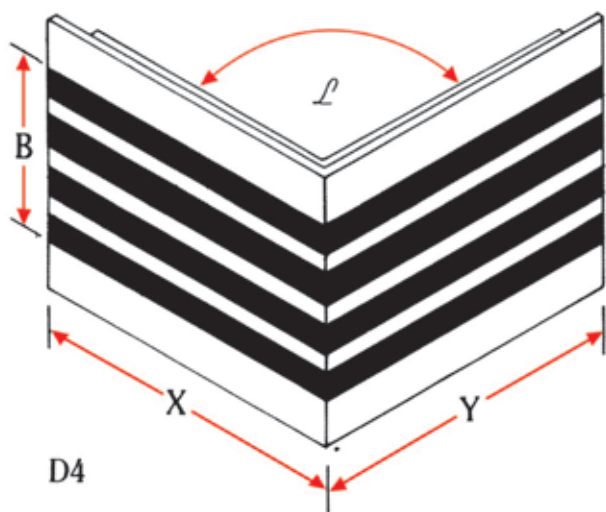
D1



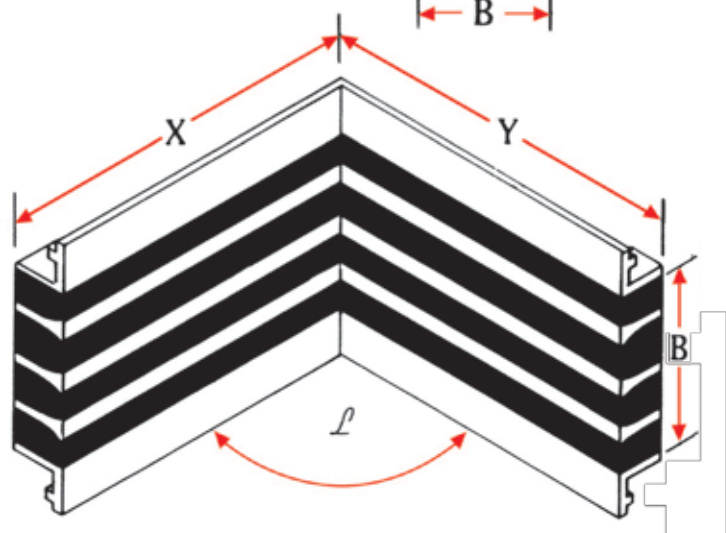
D2



D3 (CEILING MOUNTING TYPE)



D4

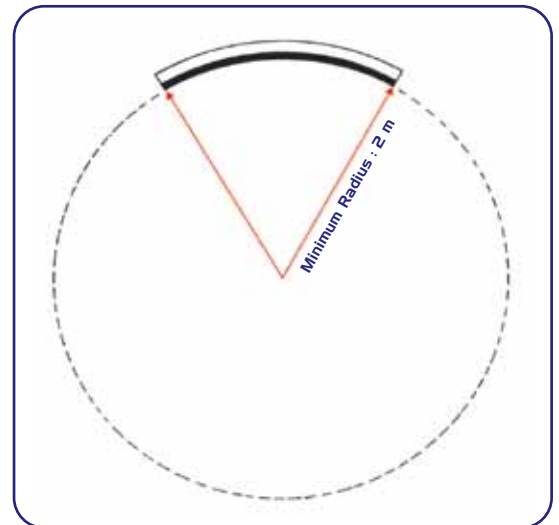
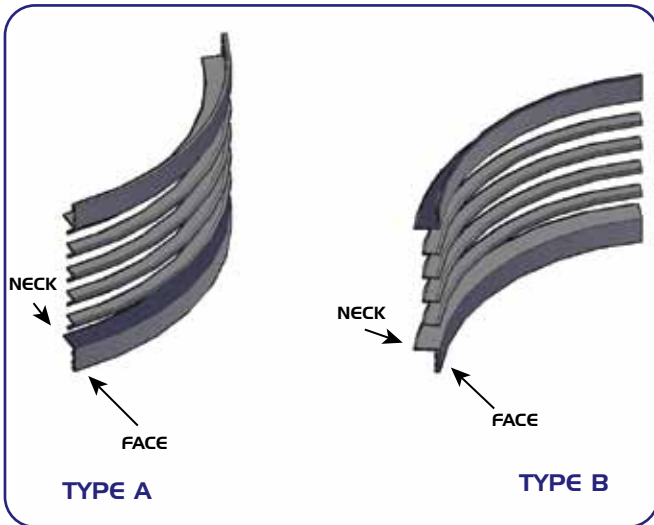


D5 (WALL MOUNTING TYPE)





CURVED LINEAR REGISTERS / GRILLES (D6)



- >> Minimum radius = 2000 mm
- >> Used as Supply/Return linear grille

STANDARDS

ASHRAE 70-1991 "Method of Testing for Rating the Performance of Air Outlets and Inlets"

ADC 1062: GRD-84 "Test Code for Grilles, Registers and Diffusers"

ISO 5219 "Air Distribution and Air Diffusion - Laboratory Aerodynamic Testing and Rating of Air Terminal Devices"



SCOPE OF TESTING

- A) Sound Power Level and Air Velocity versus Static Pressure, 0 and 45 Degree Deflection Supply and 0 Degree Deflection Return (Damper in the Full Open Position)
- B) Area Factor, 0 and 45 Degree Deflection Supply and 0 Degree Deflection Return (Damper in the Full Open Position)
- C) Throw Pattern, 0 and 45 Degree Deflection Supply (Damper in the Full Open Position)





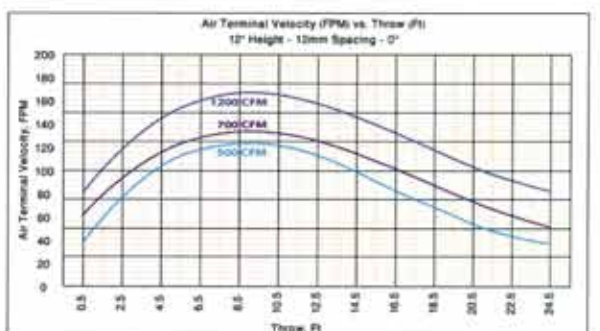
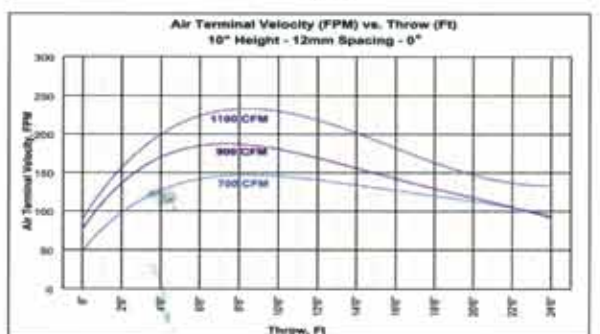
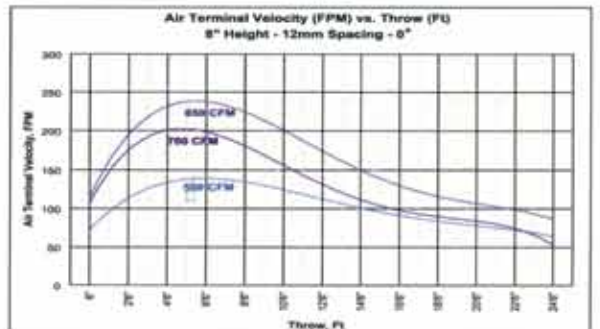
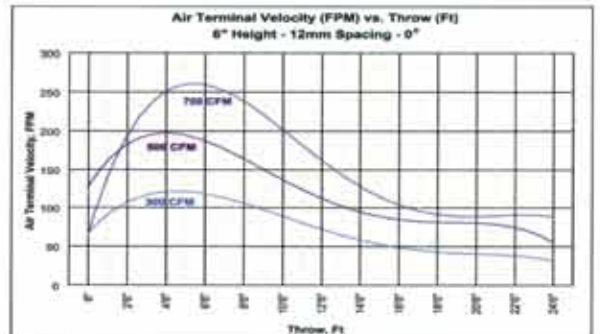
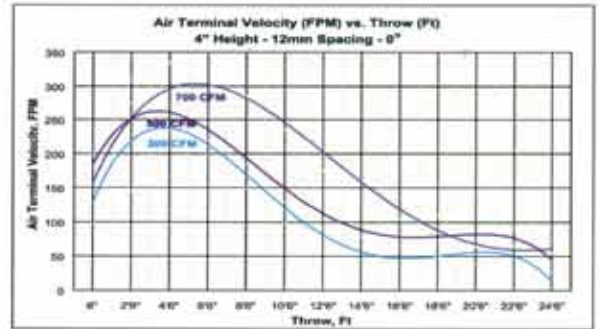
PERFORMANCE DATA - SUPPLY

12mm Spacing - 0° DEFLECTION - VERTICAL BLADES AT 0°

*IMPERIAL UNITS

WIDTH	CFM per foot	Vn	Pt	NC
4 Inch An=0.333 sq.ft Ak=0.243 sq.ft.	90	270	0.024	16
	120	360	0.032	19
	150	450	0.040	20
	180	540	0.050	23
	210	630	0.065	26
	240	720	0.085	30
6 Inch An=0.500 sq.ft. Ak=0.342 sq.ft.	210	420	0.041	18
	240	480	0.054	23
	270	540	0.067	28
	300	600	0.082	32
	330	660	0.096	34
8 Inch An=0.667 sq.ft. Ak=0.478 sqft	240	360	0.023	19
	270	405	0.027	23
	300	450	0.032	27
	360	540	0.047	33
	405	608	0.057	37
10 Inch An=0.834 sq.ft. Ak=0.657 sq.ft.	210	252	0.006	15
	240	288	0.008	18
	270	324	0.010	22
	300	360	0.012	25
	330	396	0.014	29
12 Inch An=1.001 sq.ft. Ak=0.836 sq.ft.	405	486	0.022	36
	450	540	0.027	39
	240	216	0.007	17
	270	243	0.007	21
	300	270	0.008	23
	405	364	0.013	35
	450	405	0.023	33

THROW



SYMBOLS

- CFM : Air Volume in cubic foot per minute
- Ak : Effective Face Area in feet square per feet length
- An : Neck Area in feet square per feet length
- Vn : Neck Velocity in feet per minute
- Pt : Total Pressure in inches water gauge
- Th : Throw in feet
- N.C. : Noise criteria

CONDITIONS

- * Supply
- * Vertical blades deflection: 0° deflection
- * Noise Criteria values are based on (10 dB) room attenuation
- * Throw Figures are measured for Linear Grilles fixed at 6" from the Ceiling
- * Damper is fully open
- * Data is based on 1ft length.

CORRECTIONS ON NOISE CRITERIA FOR OTHER LENGTHS

Length	3ft	6ft	10ft
N.C.	(+4)	(+7)	(+9)





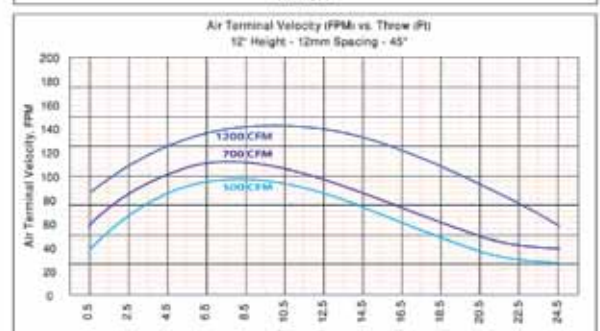
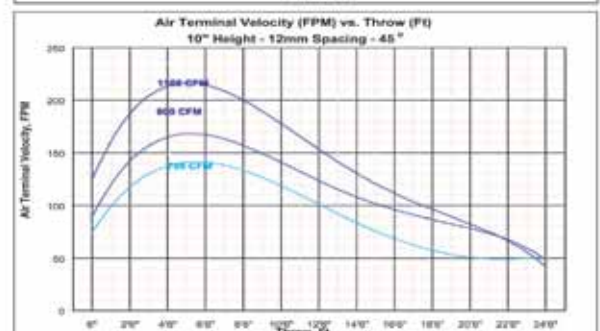
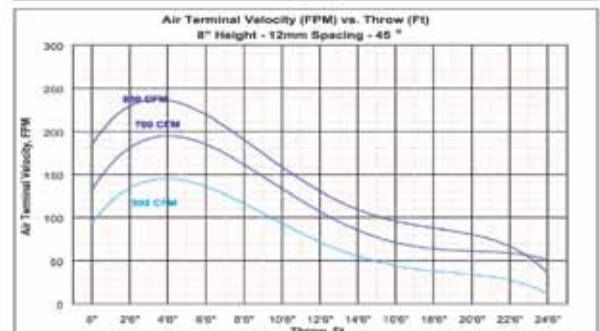
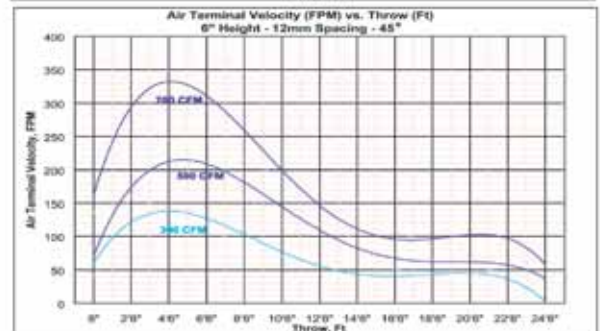
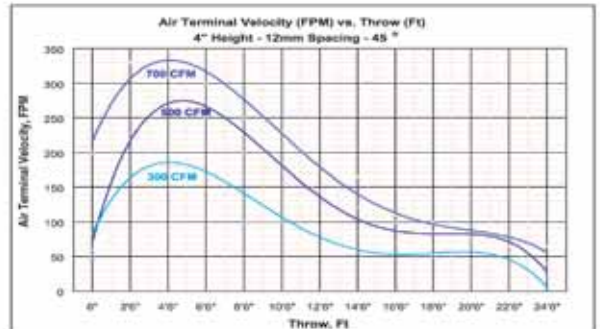
PERFORMANCE DATA - SUPPLY

12mm Spacing - 0° DEFLECTION - VERTICAL BLADES AT 45°

THROW

*IMPERIAL UNITS

WIDTH	CFM per foot	Vn	Pt	NC
4 Inch An=0.333 sq.ft. Ak=0.202 sq.ft.	90	270	0.001	15
	120	360	0.004	16
	150	450	0.043	20
	180	540	0.082	24
	210	630	0.121	30
	240	720	0.160	36
6 Inch An=0.500 sq.ft. Ak=0.283 sq.ft.	270	810	0.194	39
	135	270	0.029	15
	180	360	0.058	20
	210	420	0.071	24
	240	480	0.094	29
	270	540	0.117	33
8 Inch An=0.667 sq.ft. Ak=0.396 sqft	300	600	0.142	36
	330	660	0.167	39
	210	315	0.021	18
	240	360	0.028	22
	270	405	0.040	27
	300	450	0.047	31
10 Inch An=0.834 sq.ft. Ak=0.545 sq.ft.	330	495	0.060	33
	360	540	0.072	36
	405	608	0.092	40
	210	252	0.009	15
	240	288	0.015	20
	270	324	0.016	23
12 Inch An=1.001 sq.ft. Ak=0.700 sq.ft.	300	360	0.023	27
	330	396	0.024	31
	360	432	0.031	34
	405	486	0.039	37
	210	189	0.003	12
	240	216	0.002	18



SYMBOLS

- CFM : Air Volume in cubic foot per minute
- AK : Effective Face Area in feet square per feet length
- AN : Neck Area in feet square per feet length
- Vn : Neck Velocity in feet per minute
- Pt : Total Pressure in inches water gauge
- Th : Throw in feet
- N.C. : Noise Criteria

CONDITIONS

- * Supply
- * Vertical blades deflection: 45° deflection
- * Noise Criteria values are based on (10 dB) room attenuation
- * Throw Figures are measured for Linear Grilles fixed at 6" from the Ceiling
- * Damper is fully open
- * Data is based on 1ft length.

CORRECTIONS ON NOISE CRITERIA FOR OTHER LENGTHS

Length	3ft	6ft	10ft
N.C.	(+4)	(+7)	(+9)





PERFORMANCE DATA - RETURN

12mm Spacing - 0° DEFLECTION

*IMPERIAL UNITS

WIDTH	CFM per foot	Ps	NC
4 Inch	90	0.001	15
	120	0.027	20
	150	0.053	24
	180	0.079	29
	210	0.105	33
	240	0.150	33
	270	0.180	33
6 Inch	135	0.030	19
	180	0.050	20
	210	0.065	24
	240	0.090	29
	270	0.110	33
	300	0.135	37
	330	0.160	41
8 Inch	210	0.025	15
	240	0.030	25
	270	0.040	33
	300	0.050	35
	330	0.060	35
	360	0.070	44
	405	0.090	42
10 Inch	240	0.025	15
	250	0.025	22
	270	0.030	28
	330	0.035	29
	390	0.055	35
	450	0.075	42
	480	0.085	46
12 Inch	240	0.020	<15
	270	0.020	23
	330	0.010	23

SYMBOLS

- CFM : Air volume in cubic feet per minute.
- PS : Negative static pressure in inches water gauge.
- N.C. : Noise Criteria

CONDITIONS

- * Return
- * Noise Criteria is based on (10 dB) room attenuation
- * Damper is fully open
- * Data is based on 1ft length.

CORRECTIONS ON NOISE CRITERIA FOR OTHER LENGTHS

Length	3ft	6ft	10ft
N.C.	(+4)	(+7)	(+9)





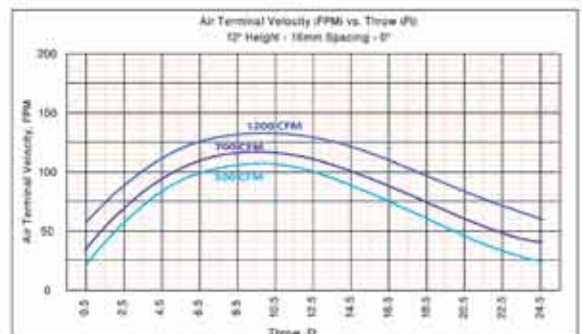
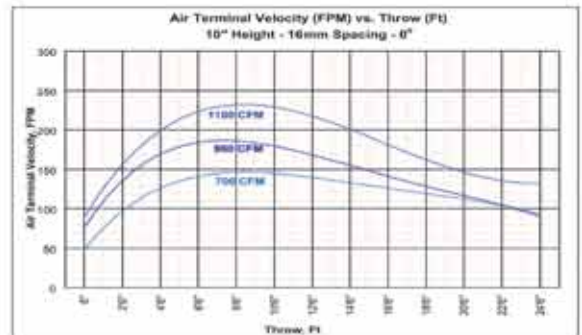
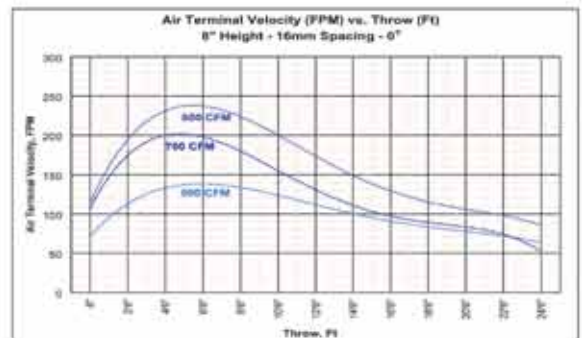
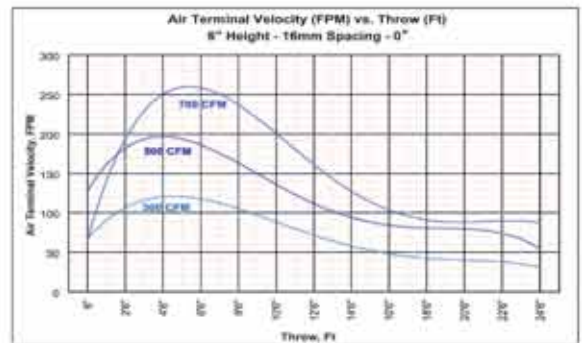
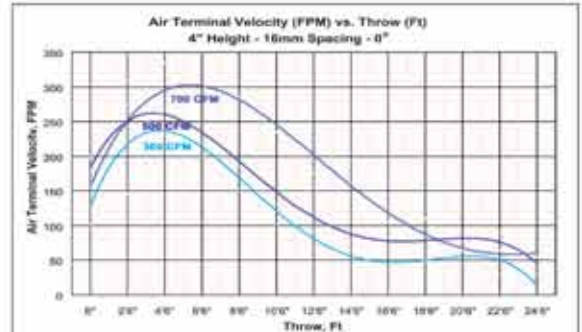
Intertek **PERFORMANCE DATA - SUPPLY**

16mm Spacing - 0° DEFLECTION - VERTICAL BLADES AT 0°

*IMPERIAL UNITS

WIDTH	CFM per foot	Vn	Pt	NC
4 Inch An=0.333 sq.ft. Ak=0.248 sq.ft.	90	270	0.001	15
	120	360	0.014	17
	150	450	0.026	19
	180	540	0.039	21
	210	630	0.051	23
	240	720	0.078	30
	270	810	0.105	37
6 Inch An=0.500 sq.ft. Ak=0.347 sq.ft.	210	420	0.031	19
	240	480	0.049	23
	270	540	0.062	29
	300	600	0.077	32
	330	660	0.096	35
	405	810	0.139	41
8 Inch An=0.667 sq.ft. Ak=0.495 sqft	210	315	0.011	15
	270	405	0.019	21
	300	450	0.023	28
	330	495	0.028	30
	360	540	0.032	32
	405	608	0.042	36
	450	675	0.052	39
10 Inch An=0.834 sq.ft. Ak=0.665 sq.ft.	240	288	0.005	15
	270	324	0.006	21
	300	360	0.008	24
	330	396	0.009	28
	360	432	0.011	31
	405	486	0.014	35
12 Inch An=1.001 sq.ft. Ak=0.835 sq.ft.	270	315	0.003	27
	300	342	0.005	28
	330	369	0.006	32
	360	432	0.004	38
	405	472	0.008	40
	450	515	0.003	27

THROW



SYMBOLS

- CFM : Air Volume in cubic foot per minute
- AK : Effective Face Area in feet square per feet length
- AN : Neck Area in feet square per feet length
- Vn : Neck Velocity in feet per minute
- Pt : Total Pressure in inches water gauge
- Th : Throw in feet
- N.C. : Noise criteria

CONDITIONS

- * Supply
- * Vertical blades deflection: 0° deflection
- * Noise Criteria values are based on (10 dB) room attenuation
- * Throw Figures are measured for Linear Grilles fixed at 6" from the Ceiling
- * Damper is fully open
- * Data is based on ft length.

CORRECTIONS ON NOISE CRITERIA FOR OTHER LENGTHS

Length	3ft	6ft	10ft
N.C.	(+4)	(+7)	(+9)





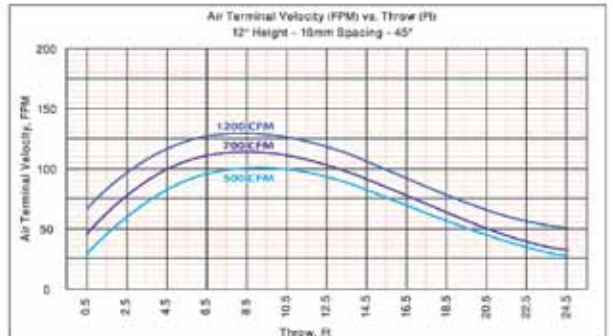
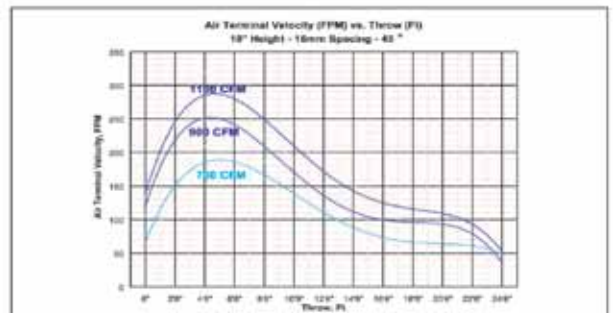
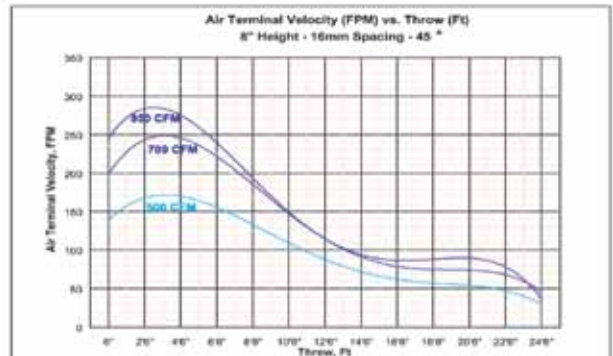
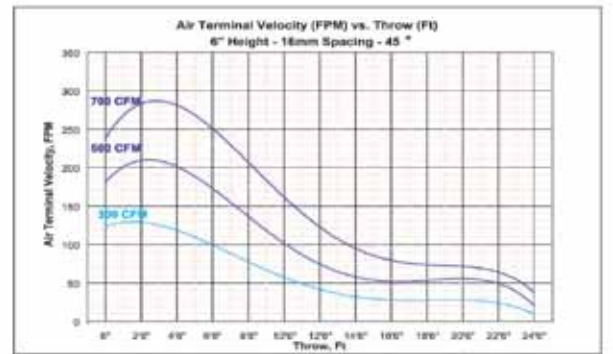
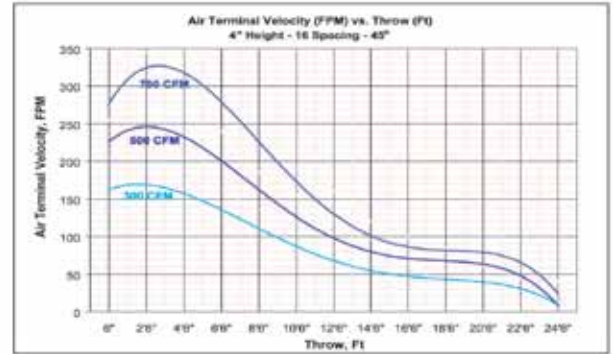
Intertek **PERFORMANCE DATA - SUPPLY**

16mm Spacing - 0° DEFLECTION - VERTICAL BLADES AT 45°

*IMPERIAL UNITS

WIDTH	CFM per foot	Vn	Pt	NC
4 Inch An=0.333 sq.ft. Ak=0.184 sq.ft.	90	270	0.001	15
	120	360	0.026	19
	150	450	0.051	23
	180	540	0.076	27
	210	630	0.101	31
	240	720	0.130	36
6 Inch An=0.500 sq.ft. Ak=0.271 sq.ft.	270	810	0.159	41
	180	360	0.048	19
	210	420	0.061	24
	240	480	0.079	29
	300	540	0.102	33
	360	600	0.132	36
8 Inch An=0.667 sq.ft. Ak=0.384 sqft	420	660	0.161	39
	450	900	0.176	41
	210	315	0.021	17
	240	360	0.028	22
	270	405	0.035	25
	300	450	0.047	30
10 Inch An=0.834 sq.ft. Ak=0.665 sq.ft.	330	495	0.055	33
	360	540	0.067	36
	405	585	0.080	39
	210	252	0.010	15
	240	288	0.013	19
	300	360	0.021	25
12 Inch An=1.001 sq.ft. Ak=0.680 sq.ft.	330	396	0.024	29
	405	486	0.039	36
	450	540	0.047	39
	480	576	0.052	41
	210	189	0.001	13
	240	216	0.002	16
	300	270	0.005	20
	330	297	0.007	25
	405	387	0.002	33

THROW



SYMBOLS

- CFM : Air Volume in cubic foot per minute
- AK : Effective Face Area in feet square per feet length
- AN : Neck Area in feet square per feet length
- Vn : Neck Velocity in feet per minute
- Pt : Total Pressure in inches water gauge
- Th : Throw in feet
- N.C. : Noise criteria

CONDITIONS

- * Supply
- * Vertical blades deflection: 45° deflection
- * Noise Criteria values are based on (10 dB) room attenuation
- * Throw Figures are measured for Linear Grilles fixed at 6" from the Ceiling
- * Damper is fully open
- * Data is based on 1ft length.

CORRECTIONS ON NOISE CRITERIA FOR OTHER LENGTHS

Length	3ft	6ft	10ft
N.C.	(+4)	(+7)	(+9)





PERFORMANCE DATA - RETURN

16mm Spacing - 0° DEFLECTION

*IMPERIAL UNITS

WIDTH	CFM per foot	Ps	NC
4 Inch	90	0.001	15
	120	0.013	21
	150	0.025	26
	180	0.036	32
	210	0.048	37
	240	0.060	43
	270	0.080	44
6 Inch	210	0.030	17
	240	0.040	29
	270	0.055	30
	300	0.070	34
	330	0.085	33
	360	0.105	37
	405	0.140	40
8 Inch	240	0.020	15
	270	0.030	16
	300	0.040	34
	330	0.050	42
	360	0.060	43
	405	0.070	45
	450	0.080	47
10 Inch	300	0.025	15
	330	0.030	17
	360	0.035	21
	390	0.040	37
	405	0.045	43
	450	0.055	40
	480	0.065	56
12 Inch	210	0.030	15
	240	0.030	18
	300	0.020	<15
	330	0.020	31
	405	0.010	39

SYMBOLS

- CFM : Air volume in cubic feet per minute.
- PS : Negative static pressure in inches water gauge.
- N.C. : Noise Criteria

CONDITIONS

- * Return
- * Noise Criteria is based on (10 dB) room attenuation.
- * Damper is fully open.
- * Data is based on 1ft length.

CORRECTIONS ON NOISE CRITERIA FOR OTHER LENGTHS

Length	3ft	6ft	10ft
N.C.	(+4)	(+7)	(+9)





NOTES

Area with horizontal dashed lines for notes.





NOTES

Area with horizontal dashed lines for notes.





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