





PRODUCT BULLETIN

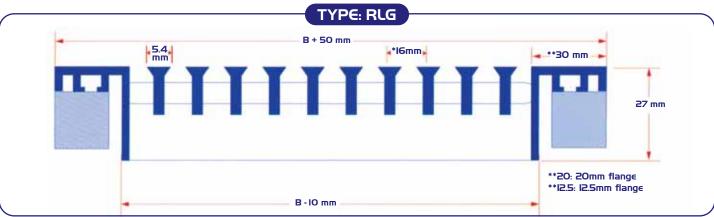
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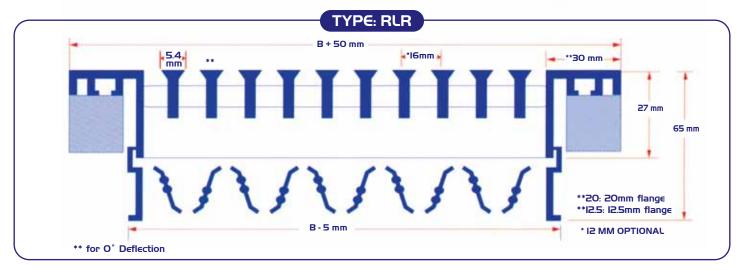


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>>	SINGLE DEFLECTION LINEAR GRILLES & REGISTERS	1-2
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- >> The single deflection linear grille is a wall mounted grille, used as an exhaust or return grille in cooling, heating or air ventilation applications.
- >> 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.

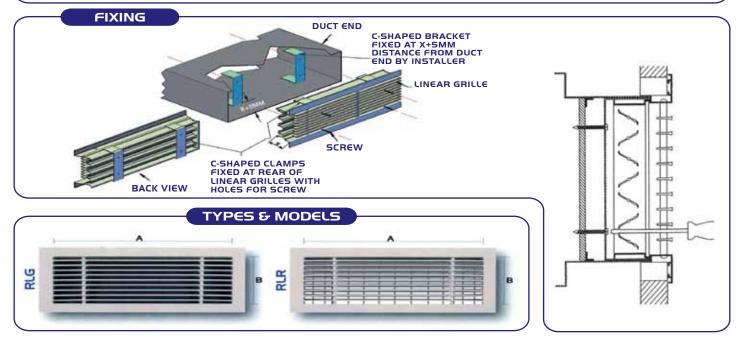




- >> Front bars have one of the following basic designs:
- O°deflection bars (Standard)
- I5°deflection, one way
- I5°deflection, two way
- >> Front bars are assembled in horizontal straight lines with a center to center spacing of I6 mm & I2 mm.
- >> Available with easily removable opposed blades damper 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 :

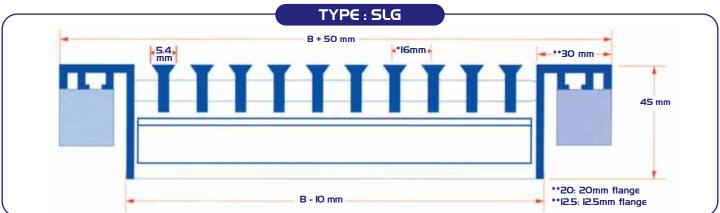
- Natural anodized aluminium finish.
- Powder coated to RAL codes.

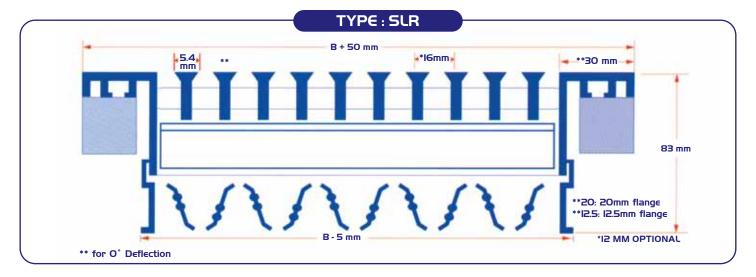


Ordering Key:

R	L	R	В	16	FLANGE	C	R	V	SIZE
RLR: SINGLE	DEFLECTION L	INEAR							
REGISTER (W	(ITH OBD)								
RLG: SINGLE	DEFLECTION L	.INEAR							
GRILLE (WITH	HOUT OBD)								
RLR/RLG: CO	MBINED								
-: WITHOUT	OBD								
B: WITH BLA	CK OBD								
M: WITH MIL	LL FINISH OBD								
16: 16MM C	NTER-TO-CEN	ITER SPACING							
12: 12MM CE	ENTER-TO-CEN	ITER SPACING							
-: 30MM FLA	NGE				-				
20: 20MM FL	.ANGE								
12.5: 12.5MM	M 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									





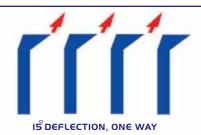


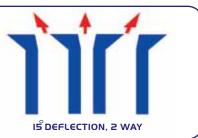
- >> The double deflection linear grille is a wall mounted grille, used as an exhaust or return grille in cooling, heating or air ventilation applications.
- >> The double deflection linear grille is composed of a set of fixed horizontal straight bars in the front face and individually adjustable vertical 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:
- O°deflection bars (Standard)
- I5°deflection, one way
- I5°deflection, two way
- >> Front bars are assembled in horizontal straight lines with a center to center spacing of I6 mm & I2 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.

TYPES & MODELS A SLG B SLR B B SLR

Ordering Key:

S	L	R	В	16	FLANGE	С	R	V	SIZE
SLR: DOUBLE	DEFLECTION	LINEAR							
REGISTER (W	/ITH OBD)								
SLG: DOUBLE	DEFLECTION	LINEAR							
GRILLE (WITH	HOUT OBD)								
SLR/SLG: CO	MBINED								
-: WITHOUT	OBD								
B: WITH BLA	CK OBD								
M: WITH MII	LL FINISH OBD								
16: 16MM CI	ENTER-TO-CEN	ITER SPACING							
		ITER SPACING							
-: 30MM FLANGE									
20: 20MM FL									
12.5: 12.5MI									
: STRAIGHT LINEAR REGISTER/GRILLE									
CRV: CURVED LINEAR REGISTER/GRILLE									
	•	WITH 2 X 300 COR 300MM*3			HER SIDES & A	NGLES CAN B	E FABRICATED	P);	
SIZE: LENGTH	X HEIGHT								•

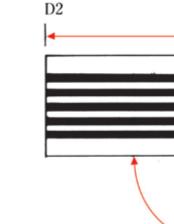


I- ONE END LINEAR GRILLE/REGISTER (DI) AVAILABLE IN ANY STANDARD SIZE.

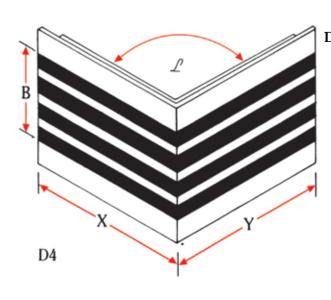
2- INTERMEDIATE LINEAR GRILLE/REGISTER (D2) AVAILABLE IN ANY STANDARD SIZE.

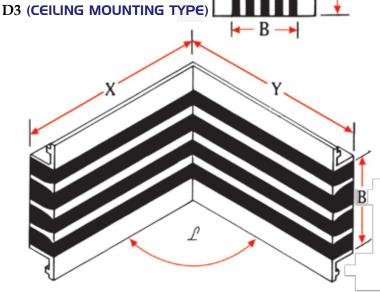
3- CORNER PIECES (D3,D4,D5) AVAILABLE IN ANY COMBINATION OF B, X, Y & \mathcal{L}

B (mm)	X(mm)	Y(mm)	
100	300	300	45°
150	600	600	90°
200	800	800	135°
250	1000	1000	
300	1200	1500	



D1



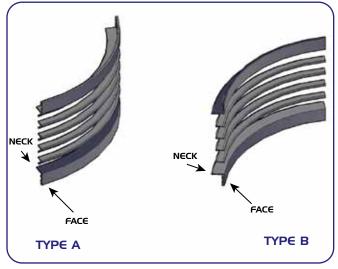


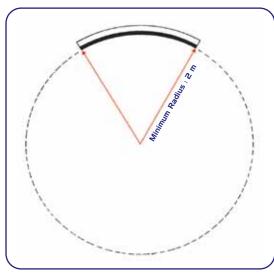
D5 (WALL MOUNTING TYPE)



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, O and 45

 Degree Deflection Supply and O Degree Deflection Return (Damper in the Full Open Position)
- B) Area Factor, O and 45 Degree Deflection Supply and O Degree Deflection Return (Damper in the Full Open Position)
- C) Throw Pattern, O 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
	90	270	0.024	16
	120	360	0.032	19
4 Inch	150	450	0.040	20
An-0.333 sq.ft	180	540	0.050	23
Ak=0.243 sq.ft.	210	630	0.065	26
	240	720	0.085	30
	270	810	0.107	35
	210	420	0.041	18
	240	480	0.054	23
6 Inch	270	540	0.067	28
An=0.500 sq.ft.	300	600	0.082	32
Ak=0.342 sq.ft.	330	660	0.096	34
	360	720	0.121	37
	405	810	0.146	40
	240	360	0.023	19
	270	405	0.027	23
8 Inch	300	450	0.032	27
An=0.667 sq.ft.	360	540	0.047	33
Ak=0.478 sqft	405	608	0.057	37
	420	630	0.067	41
	450	675	0.077	45
	210	252	0.006	15
	240	288	0.008	18
10 Inch	270	324	0.010	22
An=0.834 sq.ft.	300	360	0.012	25
Ak=0.657 sq.ft.	330	396	0.014	29
	405	486	0.022	36
	450	540	0.027	39
	240	216	0.007	17
12 Inch	270	243	0.007	21
An=1.001 sq.ft.	300	270	0.008	23
Ak=0.836 sq.ft.	405	364	0.013	35
	450	405	0.023	33

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

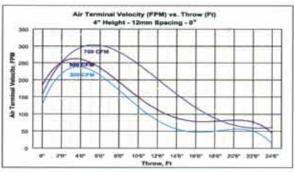
Th : Throw in feet N.C. : Noise criteria

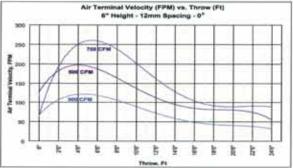
CONDITIONS

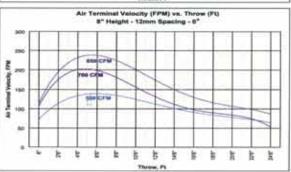
- * Supply
- * Vertical blades deflection: O° deflection
- * Noise Criteria values are based on (IO dB) room attenuation
- * Throw Figures are measured for Linear Grilles fixed at 6" from the Ceiling
- * Damper is fully open
- * Data is based on Ift length.

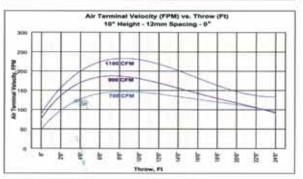
CORRECTIONS ON NOISE CRITERIA FOR OTHER LENGTHS

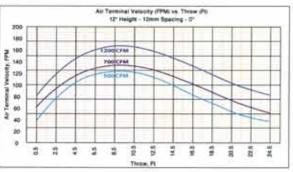
Length	3ft	6 ft	IOft
N.C.	(+4)	(+7)	(+9)





















PERFORMANCE DATA - SUPPLY

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

*IMPERIAL UNITS

			*IMPERIAL	UNITS
WIDTH	CFM per foot	Vn	Pt	NC
	90	270	0.001	15
	120	360	0.004	16
4 Inch	150	450	0.043	20
An-0.333 sq.ft	180	540	0.082	24
Ak=0.202 sq.ft.	210	630	0.121	30
	240	720	0.160	36
	270	810	0.194	39
	135	270	0.029	15
	180	360	0.058	20
6 Inch	210	420	0.071	24
An=0.500 sq.ft.	240	480	0.094	29
Ak=0.283 sq.ft.	270	540	0.117	33
	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
8 Inch	300	450	0.047	31
An=0.667 sq.ft.	330	495	0.060	33
Ak=0.396 sqft	360	540	0.072	36
	405	608	0.092	40
	210	252	0.009	15
	240	288	0.015	20
10 Inch	270	324	0.016	23
An=0.834 sq.ft.	300	360	0.023	27
Ak=0.545 sq.ft.	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
12 Inch	270	243	0.008	19
An=1.001 sq.ft.	300	270	0.001	23
Ak=0.700 sq.ft.	330	297	0.012	27
	360	324	0.010	32
	405	364	0.014	34

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

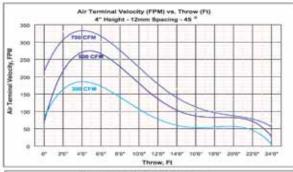
Th : Throw in feet N.C. : Noise Criteria

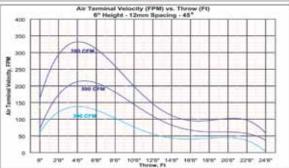
CONDITIONS

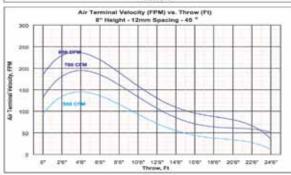
- * Supply
- * Vertical blades deflection: 45° deflection
- * Noise Criteria values are based on (IO dB) room attenuation
- * Throw Figures are measured for Linear Grilles fixed at 6" from the Ceiling
- * Damper is fully open
- * Data is based on Ift length.

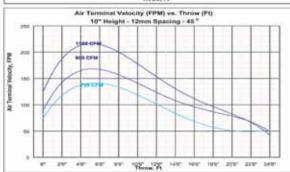
CORRECTIONS ON NOISE CRITERIA FOR OTHER LENGTHS

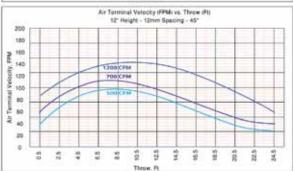
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Length	3ft	6ft	IOft			
N.C.	(+4)	(+7)	(+9)			



















PERFORMANCE DATA - RETURN

12mm Spacing - 0° DEFLECTION

*IMPERIAL UNITS

WIDTH	CFM per foot	Ps	NC
	90	0.001	15
	120	0.027	20
4 Inch	150	0.053	24
4 111011	180	0.079	29
	210	0.105	33
	240	0.150	33
	270	0.180	33
	135	0.030	19
	180	0.050	20
6 Inch	210	0.065	24
O IIICII	240	0.090	29
	270	0.110	33
	300	0.135	37
	330	0.160	41
	210	0.025	15
	240	0.030	25
8 Inch	270	0.040	33
O IIICII	300	0.050	35
	330	0.060	35
	360	0.070	44
	405	0.090	42
	240	0.025	15
	250	0.025	22
	270	0.030	28
10 Inch	330	0.035	29
TO IIICII	390	0.055	35
	450	0.075	42
	480	0.085	46
	240	0.020	<15
12 Inch	270	0.020	23
12 111011	330	0.010	23

CORRECTIONS ON NOISE CRITERIA FOR OTHER LENGTHS

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

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 (IO dB) room attenuation

* Damper is fully open

* Data is based on Ift length.









PERFORMANCE DATA - SUPPLY

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

*IMPERIAL UNITS

			*IMPERIAL	UNITS
WIDTH	CFM per foot	Vn	Pt	NC
	90	270	0.001	15
	120	360	0.014	17
4 Inch	150	450	0.026	19
An-0.333 sq.ft	180	540	0.039	21
Ak=0.248 sq.ft.	210	630	0.051	23
	240	720	0.078	30
	270	810	0.105	37
	210	420	0.031	19
	240	480	0.049	23
6 Inch	270	540	0.062	29
An=0.500 sq.ft.	300	600	0.077	32
Ak=0.347 sq.ft.	330	660	0.096	35
	360	720	0.111	38
	405	810	0.139	41
	210	315	0.011	15
	270	405	0.019	21
8 Inch	300	450	0.023	28
An=0.667 sq.ft.	330	495	0.028	30
Ak=0.495 sqft	360	540	0.032	32
	405	608	0.042	36
	450	675	0.052	39
	240	288	0.005	15
	270	324	0.006	21
10 Inch	300	360	0.008	24
An=0.834 sq.ft.	330	396	0.009	28
Ak=0.665 sq.ft.	360	432	0.011	31
	405	486	0.014	35
	450	540	0.017	38
	270	315	0.003	27
12 Inch	300	342	0.005	28
An=1.001 sq.ft.	330	369	0.006	32
Ak=0.835 sq.ft.	360	432	0.004	38
	405	472	0.008	40
	450	315	0.003	27

SYMBOLS

CFM : Air Volume in cubic foot per minute

: Effective Face Area in feet square per feet length ΔK

ΑN : Neck Area in feet square per feet length Vn : Neck Velocitu in feet per minute Pt : Total Preasure in inches water gauge

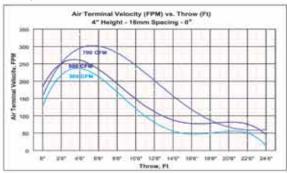
Th : Throw in feet N.C. Noise criteria

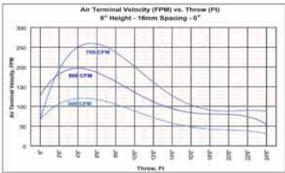
CONDITIONS

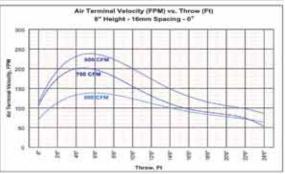
- * Supply
- * Vertical blades deflection: O° deflection
- * Noise Criteria values are based on (IO dB) room attenuation
- * Throw Figures are measured for Linear Grilles fixed at 6" from the Ceiling
- * Damper is fully open
- * Data is based on ft length.

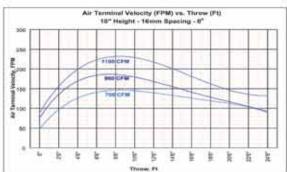
CORRECTIONS ON NOISE CRITERIA FOR OTHER LENGTHS

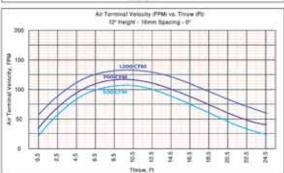
CONNECTIONS ON NOISE CHITCHIA FOR OTHER CENTURY					
	Length	3ft	6ft	IOft	
	N.C.	(+4)	(+7)	(+9)	

















PERFORMANCE DATA

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

*IMPERIAL UNITS

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

SYMBOLS

CFM : Air Volume in cubic foot per minute

ΔK : Effective Face Area in feet square per feet length

ΑN : Neck Area in feet square per feet length : Neck Velocitu in feet per minute Vn Pt : Total Preasure in inches water gauge

Th : Throw in feet N.C. Noise criteria

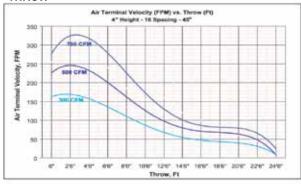
CONDITIONS

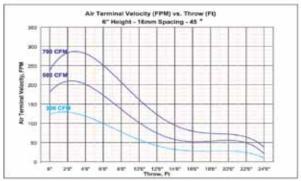
- * Supply
- * Vertical blades deflection: 45° deflection
- * Noise Criteria values are based on (IO dB) room attenuation
- st Throw Figures are measured for Linear Grilles fixed at 6" from the Ceiling
- * Damper is fully open
- * Data is based on Ift length.

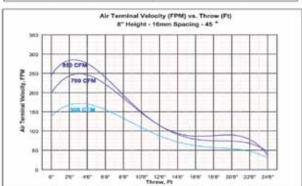
CORRECTIONS ON NOISE CRITERIA FOR OTHER LENGTHS

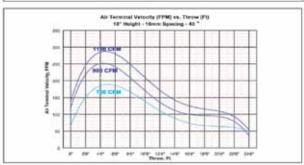
CONNECTIONS ON NOISE CHITCHIA FOR OTHER CENTILIS					
	Length	3ft	6ft	IOft	
	N.C.	(+4)	(+7)	(+9)	

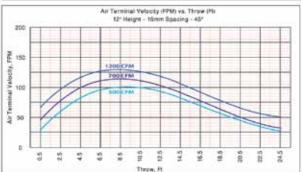
SUPPLY



















PERFORMANCE DATA - RETURN

16mm Spacing - 0° DEFLECTION

*IMPERIAL UNITS

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

CORRECTIONS ON NOISE CRITERIA FOR OTHER LENGTHS

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

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 (IO dB) room attenuation.

* Damper is fully open.

* Data is based on Ift length.





NOTES





NOTES





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