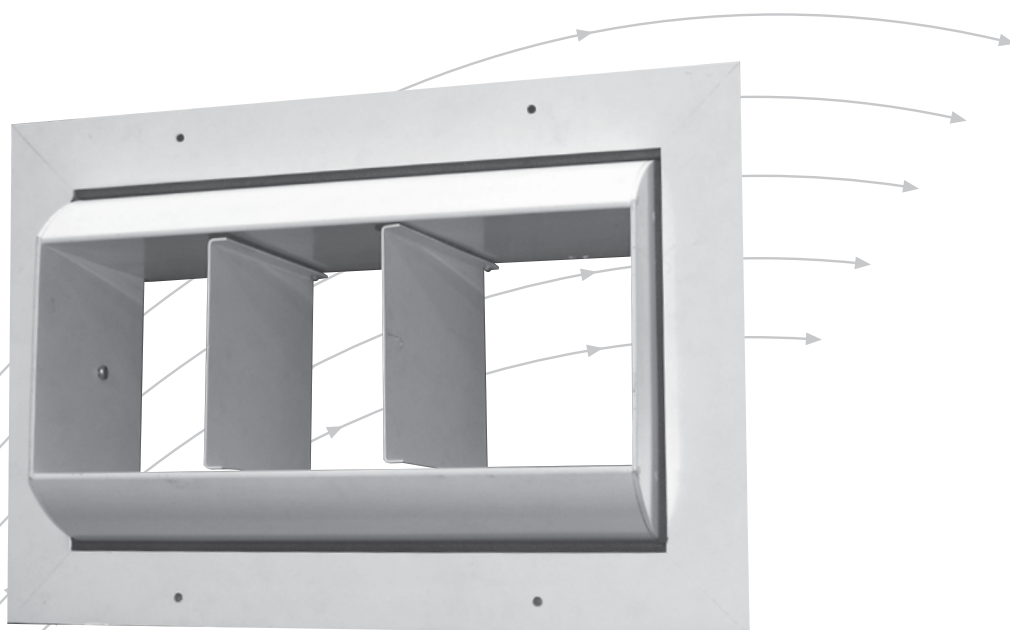


Drum Louvers

Type ALL-A



TROX[®] TECHNIK

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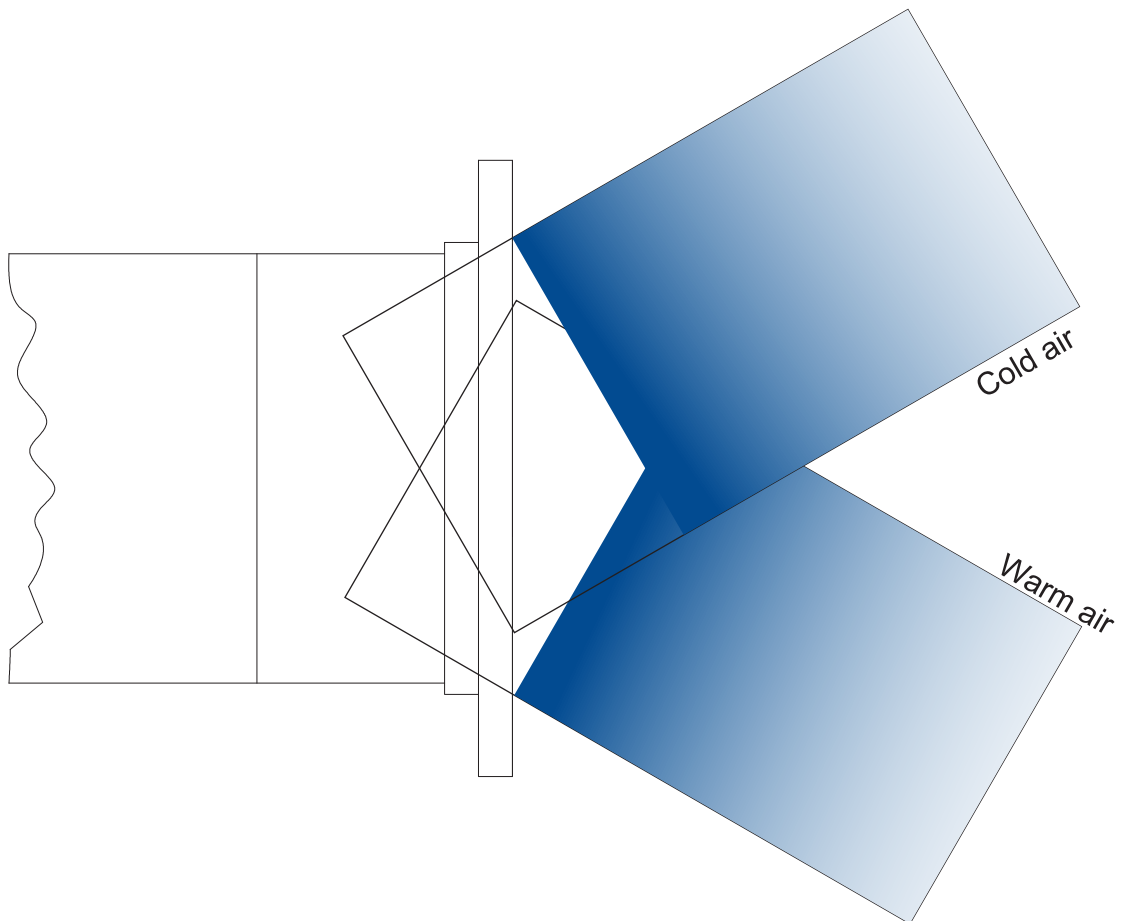
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This Drum Louvre is designed to deliver a high volume of supply air to a space that requires long throw such as assembly halls, auditoriums and convention halls. The Drum Louvre can be installed onto walls or, mounted directly to metal ducting.

It can be manually adjusted in the vertical plain to direct the supply air at any angle between 30° upward and 30° downward direction. Once it is set at a particular angle, it is held at that position by means of friction-held fixings. It is also fitted with manually adjustable guide vanes within the drum louvre to enable the supply airstream to be directed on either side if required.

The drum louvre can also be supplied with opposed blade volume control damper fitted to the rear and, is easily adjustable from the face of the drum louvre.

This drum louvre has been tested in ISO 9000 certified test facilities to international standards, ISO 5219 and ISO 3741, to determine the aerodynamic and acoustics performance data respectively as published in this catalogue.



Construction · Dimensions

Type 'AIL'

This unit comprises of an aluminium drum section with a 50 mm wide border, made from extruded aluminium sections. The 'AIL' Drum Louvre is designed to be installed to the walls or directly onto sheet metal ductwork.

The drum louvre is adjustable between 30° upward and 30° downward direction as shown below (i.e., with up to 60° angle adjustment in the vertical plain). The guide vanes within the drum louvre are manually adjustable in the lateral direction to enable the supply airstream to be directed side way.

Opposed blade volume control damper can be provided to the rear of each drum louver as an optional extra, if required. This damper is manually adjustable from the face of the drum louvre. The damper is painted in black to RAL 9005.

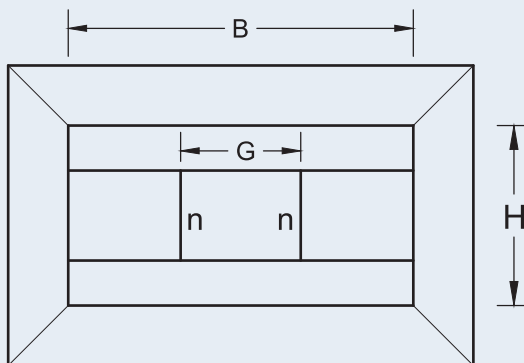
Table 1: Standard AIL Dimensions

SIZE	B	H	G	D	F	n	E
1	250	150	75	81	40	2	104
2	300	150	75	81	40	3	104
3	475	150	75	81	40	5	104
4	625	150	75	81	40	7	104
5	500	250	125	150	60	3	104
6	650	250	125	150	60	4	104
7	750	250	125	150	60	5	104
8	900	250	125	150	60	6	104

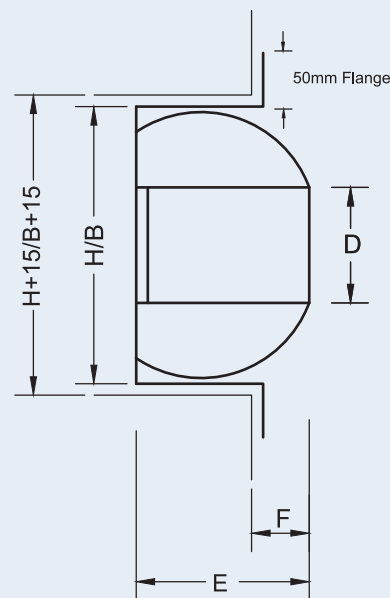
Note: The number of guide vanes in the drum louvre is represented by 'n' in the table above.

The 'B' and 'H' dimensions given in Table 1 above are based on nominal connecting duct sizes. Standard unit sizes as indicated in the table above should be used at all times. Non-standard sizes are not recommended since acoustic and aerodynamic performance data are NOT available.

Diagram 2



Face View

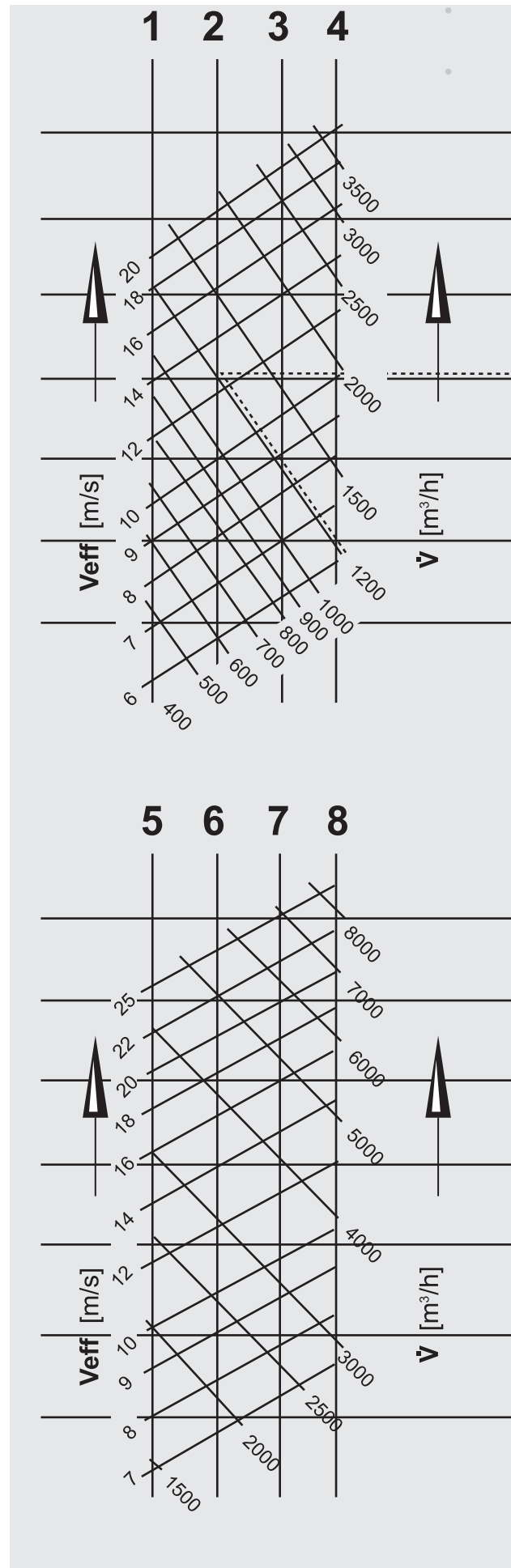


Cross-sectional View

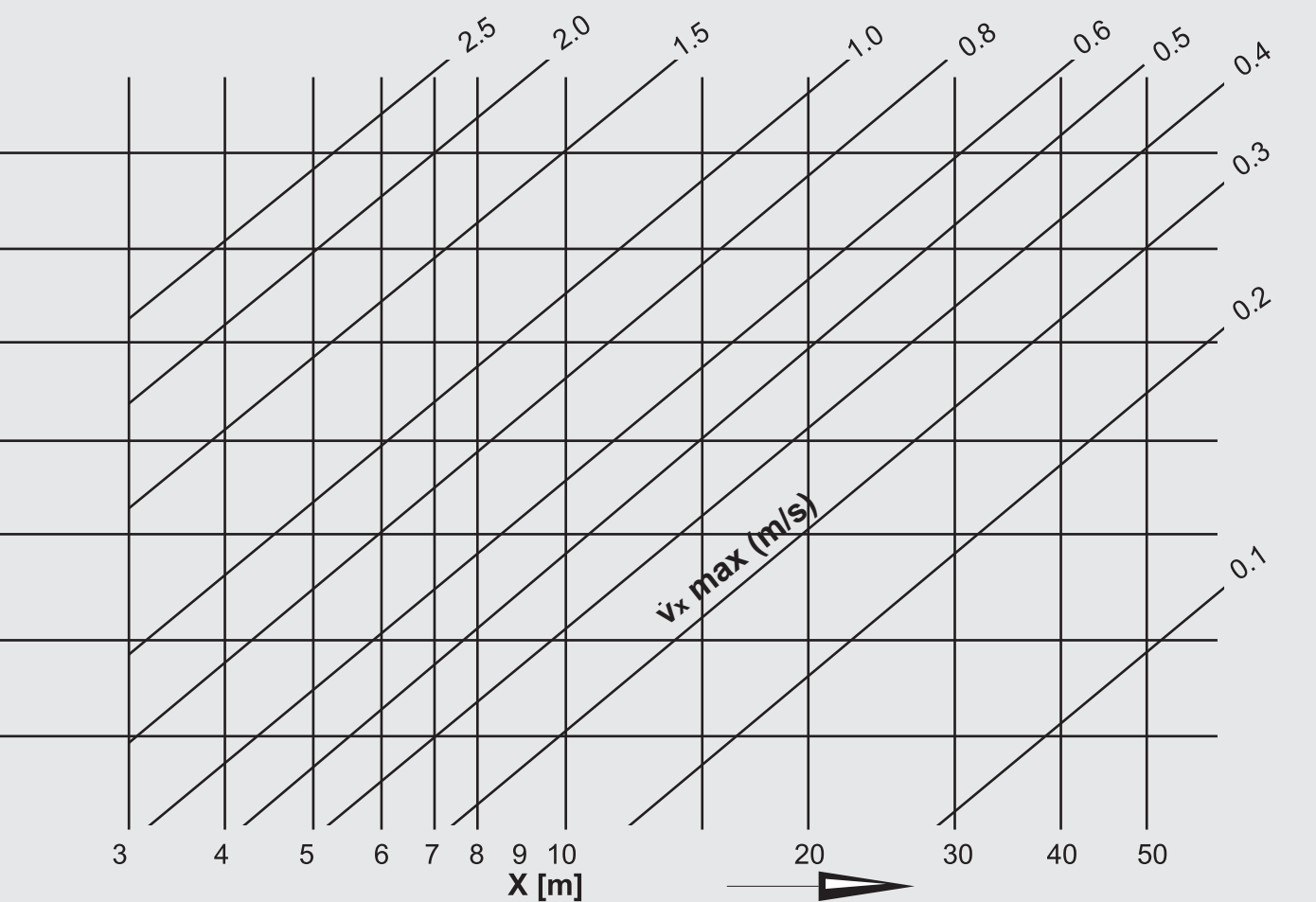
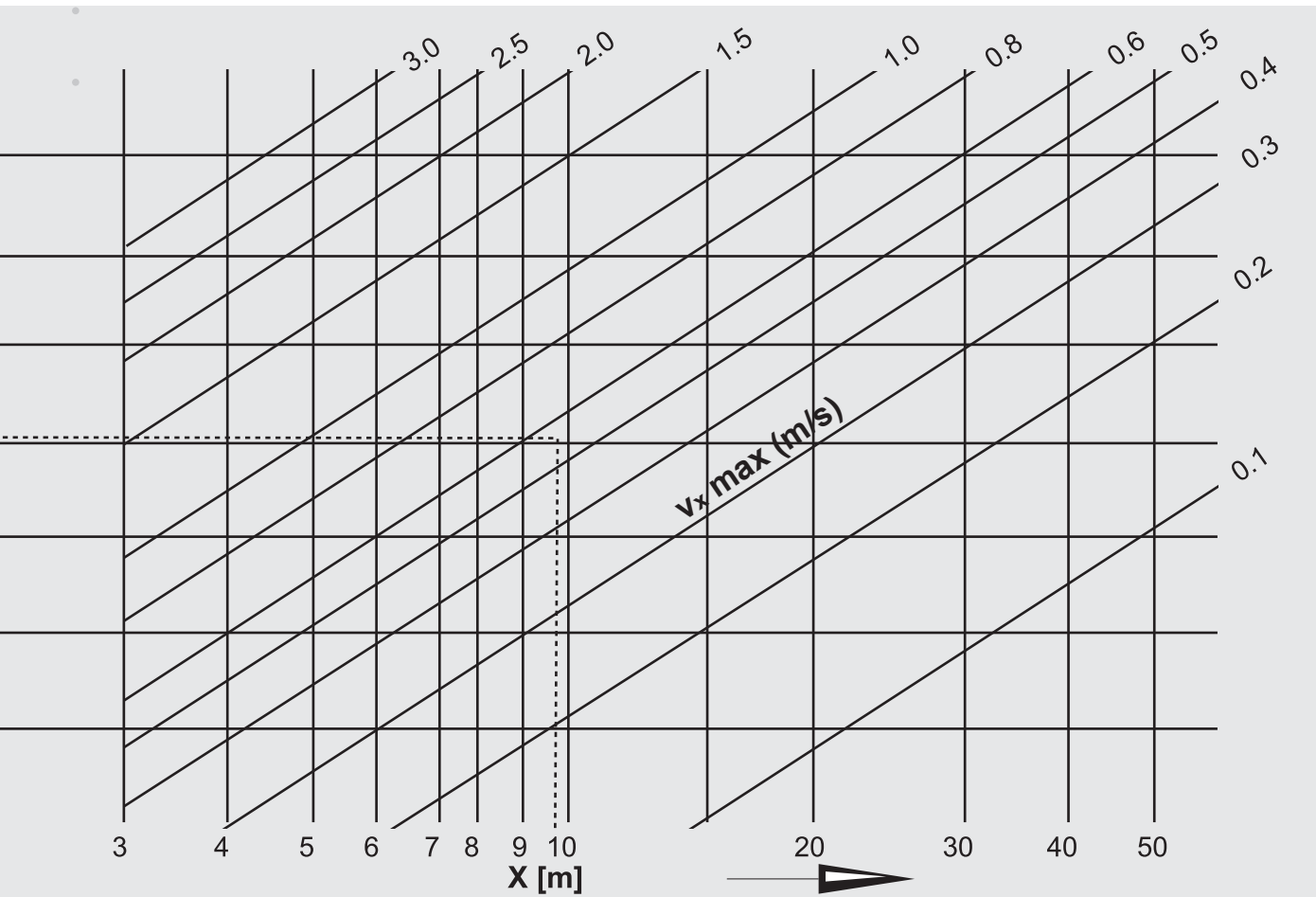
Aerodynamic Data · Nomenclature

Symbol	Unit	Description
\dot{V}	m ³ /h	Supply volume flow rate.
v_{eff}	m/s	Effective jet velocity.
$v_{x\ max}$	m/s	Maximum core velocity at distance 'X'.
X	m	Throw.
Δp_t	Pa	Total pressure drop.
Δt_z	K	Temperature difference between supply air and room temperature.
NC		Noise Criteria (NC) rating (assuming 6 dB room attenuation).
Lp	dB (A)	Sound pressure level with A-weighting (assuming 6 dB room attenuation).

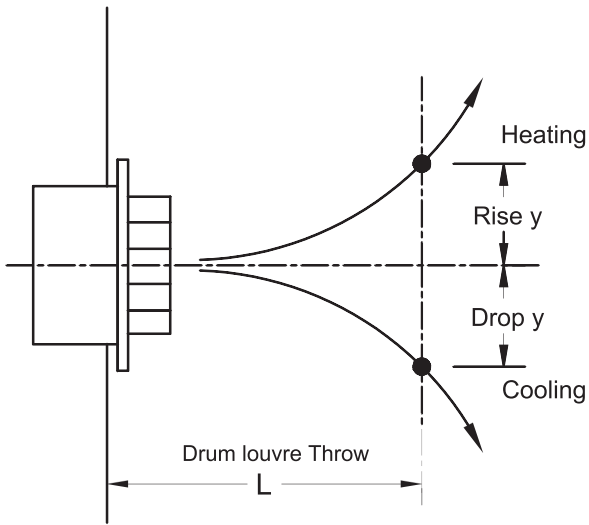
Graph 1: Selection Chart



Aerodynamic Data · Nomenclature



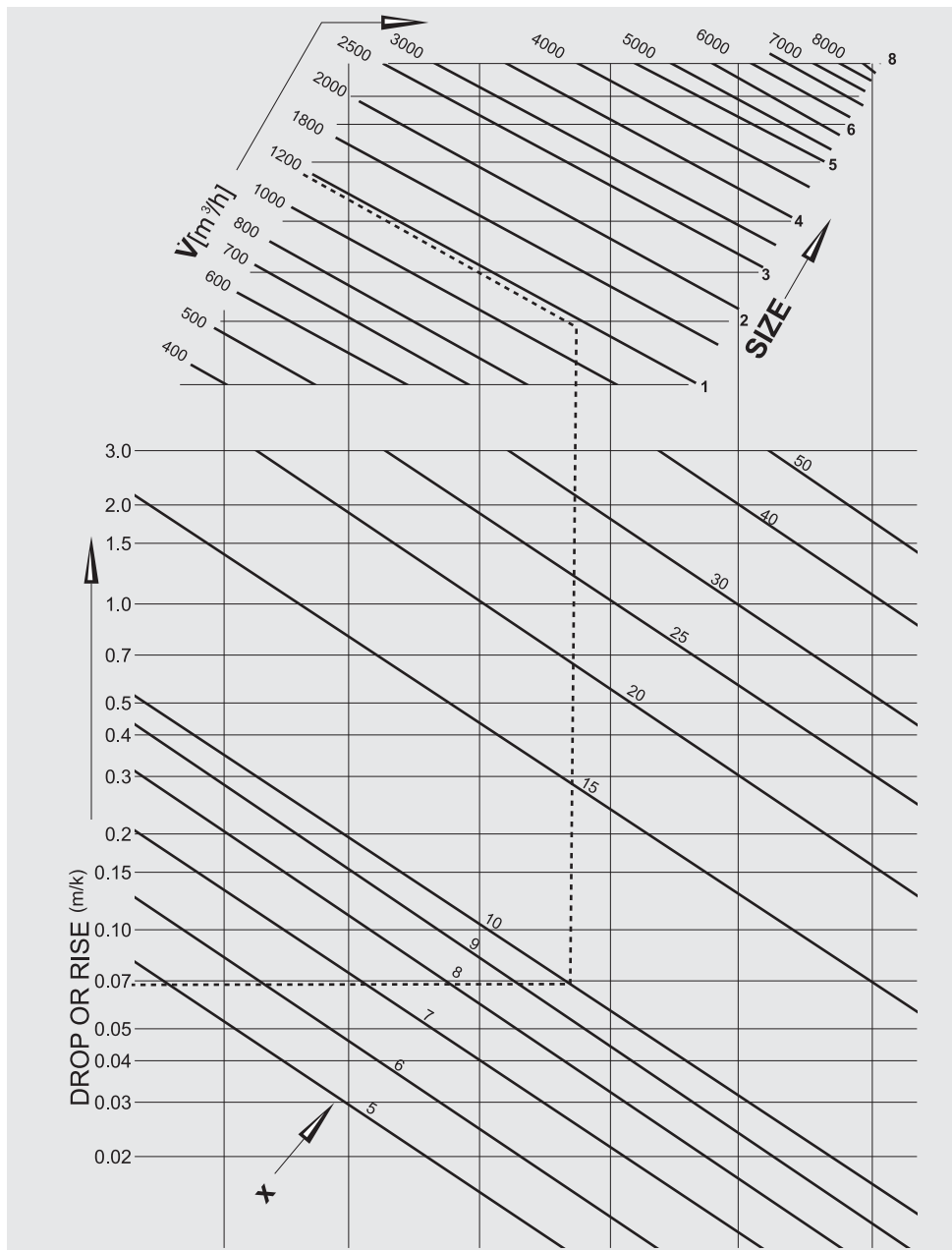
Aerodynamic Data



The drop or rise of supply air with horizontal discharge is dependent on the temperature difference (Δt_z) between the supply air and room temperature.

Drop and rise is directly proportional to Δt_z

Graph 2: Airstream Drop and Rise, y



Aerodynamic Data · Nomenclature

Selection Example

Information given:

Air Flow, \dot{V} is 1,200 m³/h and Δt_z is -16 °C.

Selection:

Louvre Size: 2

From Graph 1;

$v_{\text{eff}} = 13$ m/s; Throw, $X = 10$ m and v_x max is 0.54 m/s.

From Graph 2;

The drop in metres per K is 0.07 m/K. Hence, the total drop, $y = 0.07 \times 16$
 $= 1.12$ m.

From Graph 3;

Where $v_{\text{eff}} = 13$ m/s;

NC rating = NC36 - 1 = NC35

L_p (A) = 41 dB (A) - 1 = 40 dB (A)

$\Delta p_t = 160$ Pa

Graph 3: Pressure Drop and Noise Data

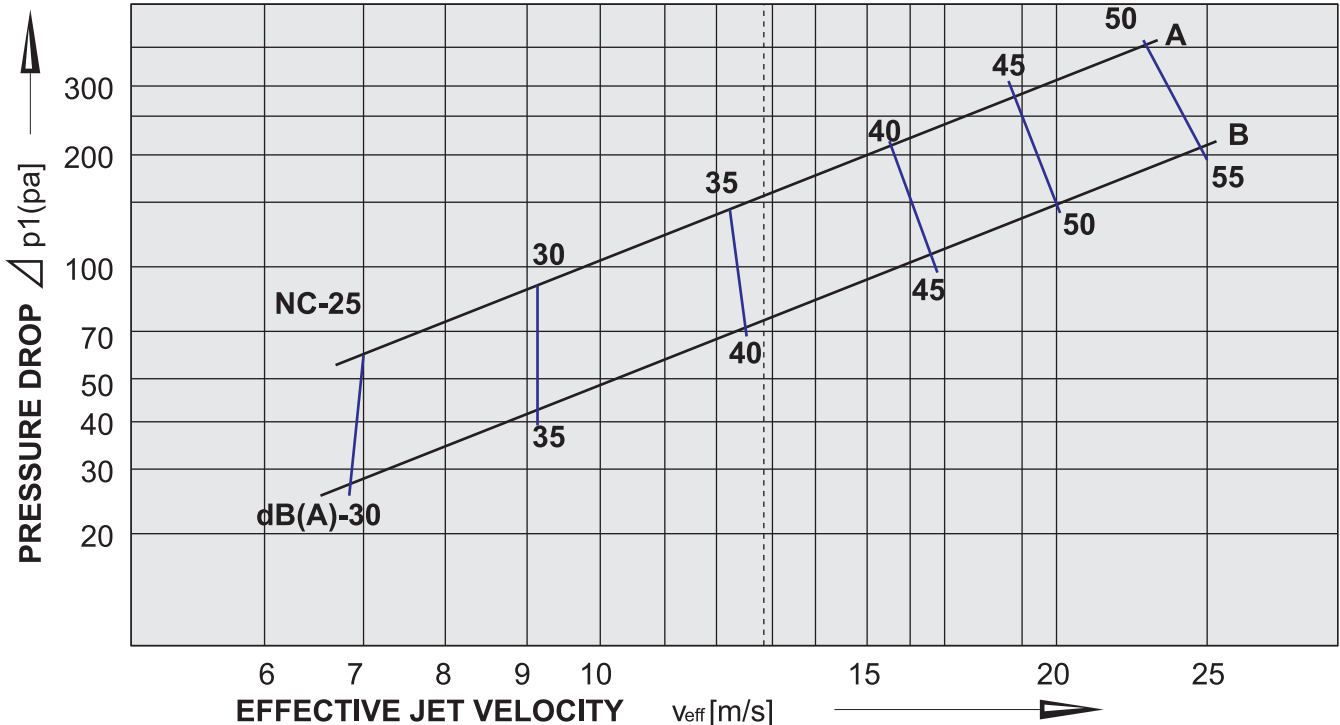
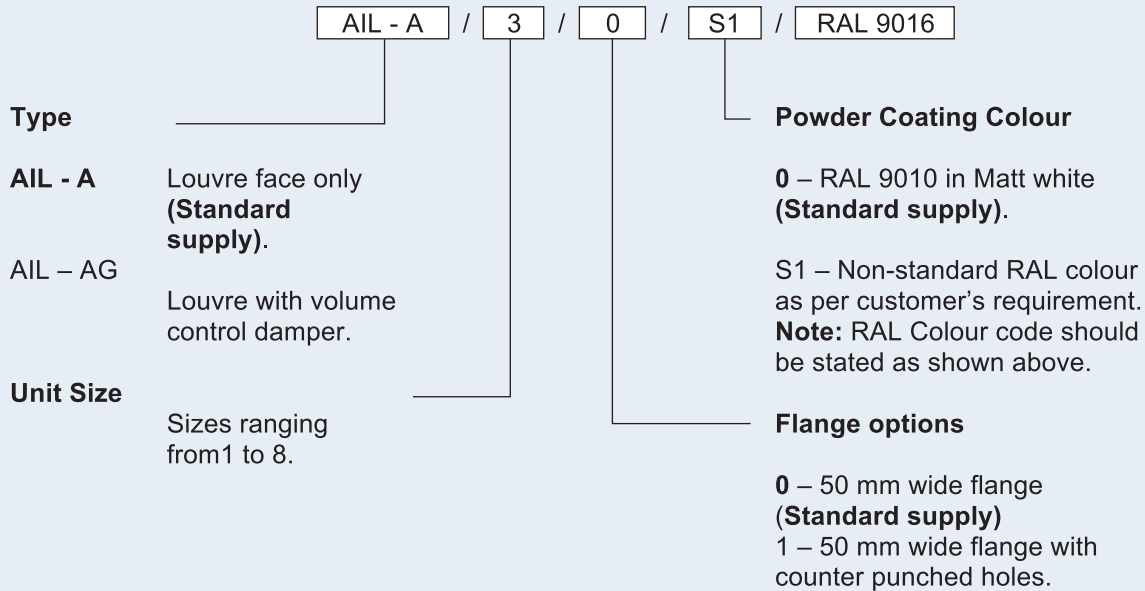


Table 2: Correction Values for Sound Pressure Level and NC Rating

SIZE	1	2	3	4	5	6	7	8
Correction	-3	-1	Nil	+1	-3	-1	Nil	+1

Order Details

Order Code



General Specification

This Drum Louvre is designed to deliver large volume of supply air with long throw, suited for assembly halls, auditoriums, convention halls or, any enclosed space with wide open spaces. The Drum Louvre can be installed onto walls or, mounted directly to supply air ductwork.

It has an aluminium drum section with 50 mm wide border, all made out of extruded aluminium. The drum louvre can be adjusted only in the vertical plain, set to any angle between 30° upward and 30° downward direction (i.e., with up to 60° angle of adjustment). Internal guide vanes are fitted to each drum louvre, which are manually adjusted from the face in the lateral direction to enable the supply air directed to the side, if required.

The drum louver can be supplied with opposed blade volume control damper, if requested. It is fitted to the rear of the drum louvre and is adjustable from the face.

The drum louvre is powder coated in matt white to RAL 9010 as a standard supply and, the damper is painted black to RAL 9005, if required.

The drum louvre has been tested to ISO 5219 and ISO 3741, to determine the aerodynamic and acoustics performance as published in this catalogue.

Order Example

Make: TROX
Type: AIL-AG / 3/ 1 / 0
Quantity: 20 nos.
Description: Drum louvers are powder coated in matt white to RAL 9010 with opposed blade damper and 50 mm wide flanges. The opposed dampers at the rear are painted black to RAL 9005.