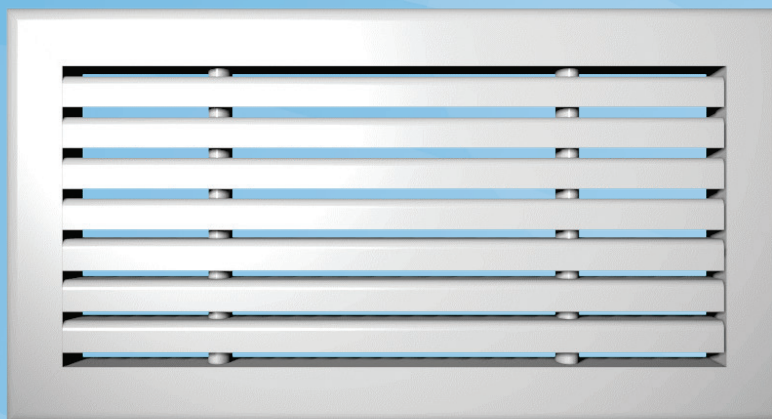


Halton AHD

Exhaust Grille



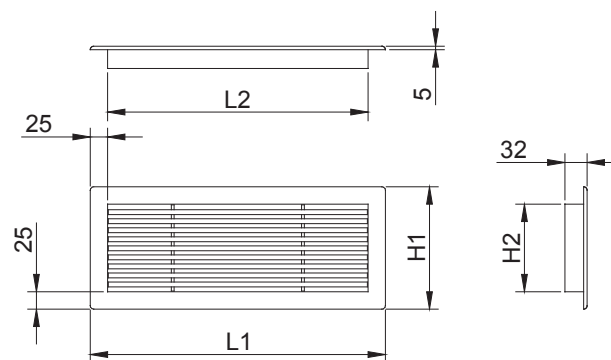
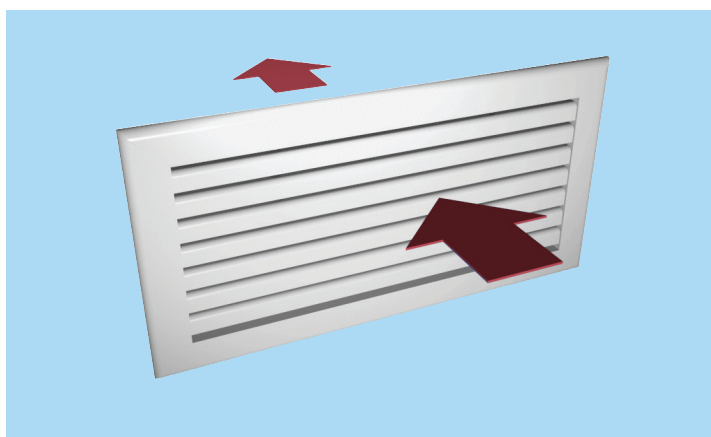
- Large free area, high airflow rates with minimal pressure drop
- Reduced visibility through grille due to shaped horizontal vanes
- Sizes adapted to suit modular 600x600 suspended ceilings
- Detachable grille allows cleaning of the grille and ductwork
- Spring clip fastening

Accessories

- Airflow adjustment damper
- Installation frame
- Balancing plenum with measurement and adjustment functions
- Plenum insulation

MATERIAL AND FINISHING

PART	MATERIAL	FINISHING	NOTE
Frame	Aluminium	Anodised, Polyester-painted, White RAL 9010 50% gloss, Mill finished	Special colours available Epoxy-painting (100 %) available
Fixed vanes	Aluminium	Anodised, Polyester-painted, White RAL 9010 50% gloss, Mill finished	Special colours available Epoxy-painting (100 %) available
Installation frame	Galvanised steel		
Plenum box / spigot	Galvanised steel		



Function

Air is exhausted from the space with a low pressure drop.

Wall or ceiling installation.

DIMENSIONS

LxH	L1	L2	H1	H2
200x100	226	176	126	76
250x100	276	226	126	76
300x150	326	276	176	126
200x200	226	176	226	176
400x200	426	376	226	176
300x300	326	276	326	276
600x300	626	576	326	276
400x400	426	376	426	376
600x400	626	576	426	376
800x400	826	776	426	376
1000x400	1026	976	426	376
1200x400	1226	1176	426	376
500x500	526	476	526	476
570x270	296	546	596	246
570x570	596	546	596	546

Square grilles have symmetrically inverted vanes.

With OD airflow adjustment damper total depth = 32 mm + 45 mm.

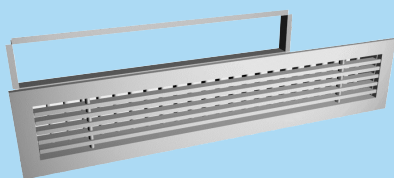
The free area of the AHD grille is 75 %.

Special Dimensions

In addition to these standard sizes, other dimensions can be specially ordered. The maximum size is 1500x600 mm (LxH).

ACCESSORIES

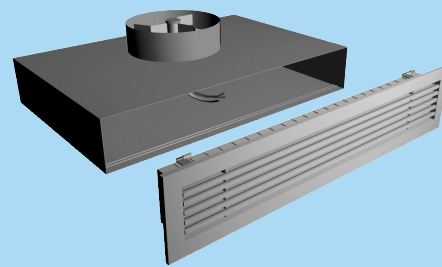
ACCESSORY	CODE	DESCRIPTION
Balancing plenum	PRI	For balancing & equalising the airflow and attenuating the duct noise
Plenum	BDR	Plenum for duct connection (with or without attenuation material)
Airflow measurement and adjustment unit	MEM	For exhaust installation
Sound attenuation	IN	Mineral wool for the BDR plenum box. Polyester fiber for the PRI plenum box.
Flow adjustment damper	OD	Aluminium opposite blade damper for airflow adjustment
Installation frame	IF	For installation without plenum
Concealed screw fixing	CC	Option: Concealed screw fastening
Visible screw fastening	SF	Screw fastening



Installation frame (IF)



PRI balancing plenum

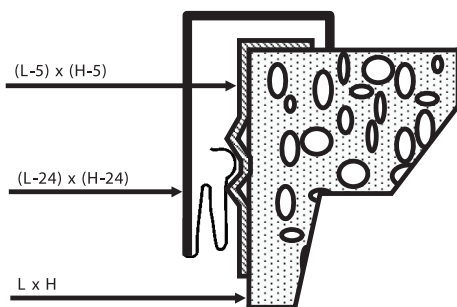


BDR plenum box

Installation

The grille is connected either directly to the duct using the installation frame or a PRI balancing plenum or a BDR plenum.

Clips fastening (standard)



The grilles are supplied with spring fastening as standard.

Spring fastening is used with PRI and BDR plenums and IF installation frames.

Concealed screw fastening

Concealed screw fastening is possible when the grille is installed with an IF installation frame or with a BDR plenum box.

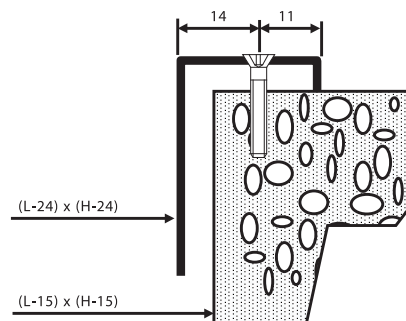
In such cases, small holes are factory-made in the BDR in front of each concealed screw.

Concealed screw fastening is not possible with the PRI plenum.

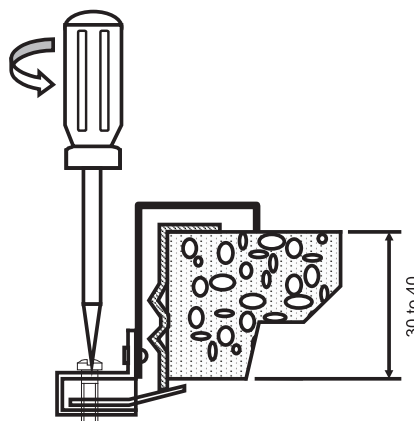
For ceiling installation we recommend the use of concealed screw fastening.

The size of the installation holes is LxH with an installation frame and (L-5)x(H-5) without an installation frame.

Visible screw fastening

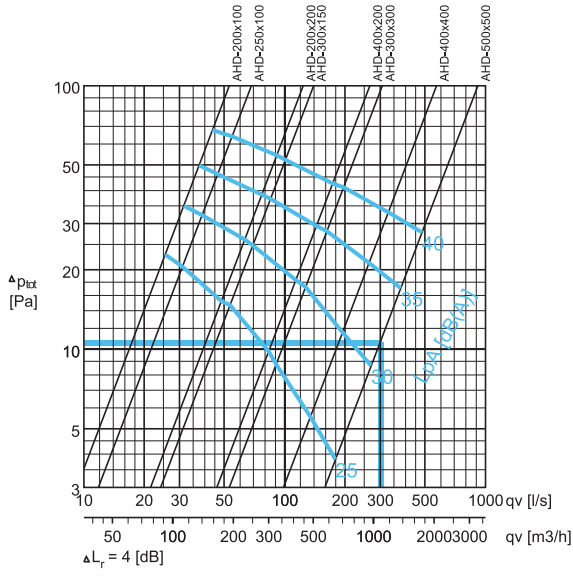


For ceiling installation, we recommend the use of visible screw fastening. Auto screws, 4.2x25 (bevel headed screw) are supplied.

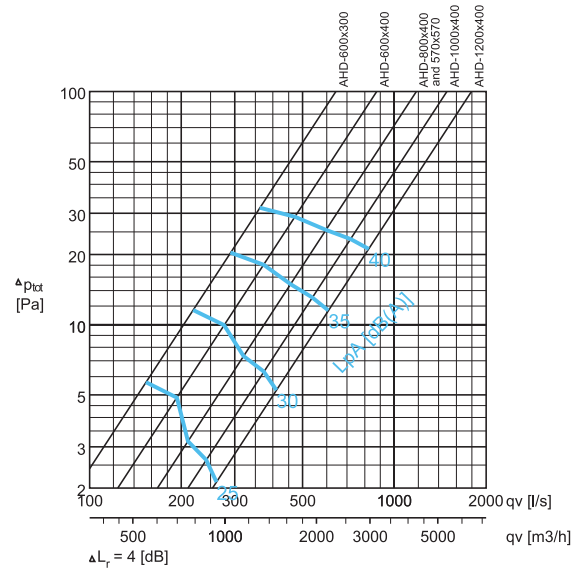


Pressure drop and sound data, exhaust

AHD



AHD



Selection example :

Requirements :
 qv = 300 l/s
 LpA < 35 dB(A)

Selection :
 AHD-500x500
 LpA < 31 dB(A)
 ΔPtot = 11 Pa

SOUND LEVEL DATA

	qv		ΔP_{st} (Pa)	ΔP_{tot} (Pa)	F (Hz)								LpA [dB(A)]	NR	NC
	(l/s)	(m ³ /h)			63	125	250	500	1000	2000	4000	8000			
AHD-200x100	25	90	24	23	38	36	34	26	19	12	10	13	25	20	17
	32	115	37	35	38	38	37	33	26	21	16	15	30	25	23
	38	137	52	50	39	40	40	39	33	28	21	16	35	31	30
	44	158	71	68	39	41	42	44	38	34	25	17	40	36	35
AHD-200x200	48	173	16	15	42	37	36	22	16	7	8	14	25	21	18
	63	227	28	26	42	40	39	31	26	19	16	17	30	25	22
	77	277	41	39	43	42	42	38	32	27	21	19	35	30	28
	92	331	58	55	43	44	44	44	38	34	26	20	40	36	35
AHD-250x100	31	112	22	21	40	36	34	25	18	10	9	13	25	20	17
	39	140	34	32	40	39	38	33	26	20	15	15	30	24	23
	46	166	48	46	40	41	40	39	32	27	21	17	35	31	29
	55	198	67	64	40	43	43	44	38	34	25	18	40	36	35
AHD-300x150	53	191	16	15	43	38	35	23	16	7	7	15	25	21	18
	69	248	26	25	43	41	39	31	25	18	15	17	30	25	22
	85	306	39	37	43	43	42	38	32	26	21	19	35	30	29
	101	364	55	52	43	45	44	44	38	33	26	20	40	36	35
AHD-300x300	91	328	9	9	42	38	36	17	11	3	4	15	25	22	19
	127	457	18	17	44	41	40	29	22	14	14	19	30	26	24
	162	583	30	28	45	44	44	37	31	24	21	21	35	30	27
	197	709	44	41	46	47	46	43	38	32	26	23	40	35	34
AHD-400x200	83	299	10	10	45	39	35	19	12	3	5	15	25	21	18
	114	410	20	18	45	42	40	30	22	14	14	18	30	26	23
	144	518	31	29	45	44	43	37	31	24	20	20	35	29	28
	174	626	45	43	46	46	46	44	37	32	26	22	40	36	35
AHD-400x400	134	482	6	6	43	38	36	13	4	3	3	16	25	22	19
	194	698	12	12	45	42	41	25	17	8	10	20	30	27	24
	264	950	23	21	46	46	45	35	28	21	19	23	35	31	29
	328	1181	36	33	47	48	48	42	36	30	26	25	40	35	34
AHD-500x500	179	644	4	4	47	38	36	9	3	3	3	16	25	21	18
	270	972	9	9	48	43	41	22	16	5	7	20	30	27	24
	379	1364	18	17	49	46	45	34	27	19	18	24	35	32	29
	483	1739	30	28	50	49	49	42	36	29	25	26	40	35	33
AHD-570x570	219	788	4	3	45	38	36	7	3	3	3	16	25	21	18
	327	1177	8	7	47	43	41	21	14	3	6	20	30	27	24
	466	1678	16	15	49	47	46	32	26	17	17	24	35	32	30
	610	2196	28	25	50	50	49	41	35	29	25	27	40	36	34
AHD-600x300	153	551	6	6	46	38	35	14	6	3	3	16	25	21	18
	219	788	12	12	47	42	41	26	19	9	11	20	30	26	24
	290	1044	22	20	48	46	45	35	29	21	19	22	35	31	29
	362	1303	34	32	49	48	48	43	36	30	26	25	40	35	34
AHD-600x400	193	695	5	5	43	39	35	13	5	3	3	18	25	22	18
	277	997	11	10	45	43	40	25	17	7	10	21	30	26	24
	373	1343	20	18	47	47	45	35	27	19	19	24	35	31	29
	472	1699	31	29	48	50	48	42	36	29	25	26	40	35	33
AHD-800x400	210	756	3	3	47	38	35	7	3	3	3	16	25	21	18
	320	1152	8	7	49	43	41	21	14	3	6	20	30	27	24
	457	1645	16	15	50	47	46	32	26	17	17	24	35	32	30
	597	2149	28	26	50	50	49	41	35	29	25	27	40	36	34
AHD-1000x400	242	871	3	3	48	38	35	5	3	3	3	16	25	21	18
	373	1343	7	6	49	43	41	19	12	3	5	21	30	27	24
	538	1937	14	13	50	47	46	31	25	16	16	24	35	32	30
	718	2585	25	23	51	50	49	41	35	28	24	27	40	36	34
AHD-1200x400	261	940	2	2	49	37	35	3	3	3	3	18	25	21	18
	411	1480	6	5	50	43	41	17	9	3	3	22	30	27	24
	608	2189	12	12	51	47	46	30	23	13	15	25	35	32	30
	824	2966	23	21	52	51	50	40	33	26	24	28	40	37	35

LpA values presented with room attenuation 4 dB (red 10m² - sab). When using room attenuation 8 dB (red 25m² - sab): LpA - 4dB.
NR/NC noise criteria

Adjustment

In order to enable adjustment and measurement of the airflow rate it is recommended that you connect the diffuser to the BDR or the PRI balancing plenum equipped with the MEM module.

The airflow rate can only be adjusted and measured when the grille is connected to the BDR or PRI plenum.

Define the exhaust airflow rate by measuring the pressure difference between the measurement tap on the PRI or BDR balancing plenum and the room air. The corresponding airflow rate is calculated using the formula below.

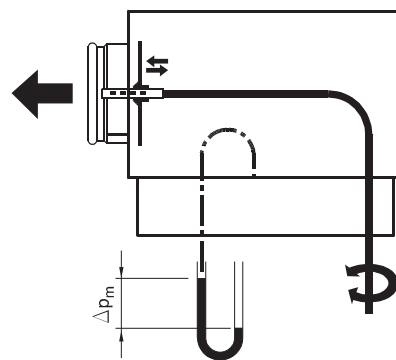
$$q_v = k * \sqrt{\Delta p_m}$$

Adjust the airflow rate by turning the control spindle of the MEM.

K-factor for installations with different safety distances (D= duct diameter)

Airflow adjustment damper OD

The airflow rate is adjusted by turning the damper blades behind the grille with a screwdriver. The measurement is performed when the grille is installed.



EXHAUST AIR, PRI/E

NS	L2xH2	k
125	200x100	12.4
160	300x100	19.7
160	400x100	26.9
200	300x150	31.1
250	400x150	43.3
250	500x150	54.5
250	600x150	61.9
315	800x150	86.9
250	400x200	53.7
315	500x200	64.3
315	600x200	85.6
315	800x200	116.4

BDR

D	>6xD	min 3xD
100	6	7
125	10	12
160	19	22
200	28	32
250	49	51
315	77	83

Servicing

Remove the grille by gently drawing out it by the frame. Use a screwdriver if necessary.
Clean the parts by wiping them with a damp cloth.
Push the grille back into place so that the springs lock (or fix by tightening the concealed screws).

Option: Installation with balancing plenum PRI + MEM or BDR + MEM

Remove the measurement and adjustment module by gently pulling the shaft; (not the control spindle).
Wipe the parts with a damp cloth, instead of immersing in water.
Reassemble the measurement and adjustment module by pushing the shaft until the module meets the stopper.
Push the grille back into place so that the springs lock.

Suggested Specifications

The exhaust grille shall have a large free area.

Pressure loss shall remain minimal, even with high exhaust rates.

Non-clogging lightweight design with fixed curved vanes shall prevent vision through the grille.

The joints of the outer frame shall be practically invisible.

The grille shall be anodized or polyester-painted with a white (RAL 9010) standard colour.

The exhaust shall be adapted for modular 600x600mm suspended ceilings.

The grille shall be connected to the duct using an installation frame.

Option

The grille shall be connected to the duct using a plenum.

The plenum BDR shall comprise sound attenuation material made from mineral wool.

The balancing plenum PRI shall comprise sound attenuation material made from polyester fiber with a washable surface.

The airflow measurement and adjustment unit MEM shall be available as an accessory.

The grille shall be removable in order to provide access to the measurement and adjustment module in the plenum.

Product Code

AHD-LH

L = Length

200,+1,...,1500

H = Height

100,+1,...,670

Specifics and accessories

FS = Fastening

CL Clips

SF Screw fastening

CC Concealed screw fastening

FI = Finishing

AN Anodised

MF Mill finished

PN Painted

CO = Colour

W White

X Special colour

N No color

Code example

AHD-200-100, FS=CL,FI=AN,CO=N

Sub products

BDR Plenum

PRI Plenum

IF Installation frame (Grilles)

OD Opposed blade damper (Grilles)