

Contents: *(click on page links below)*

General & Performance Data	1
Suggested Spec	3
Accessories	4



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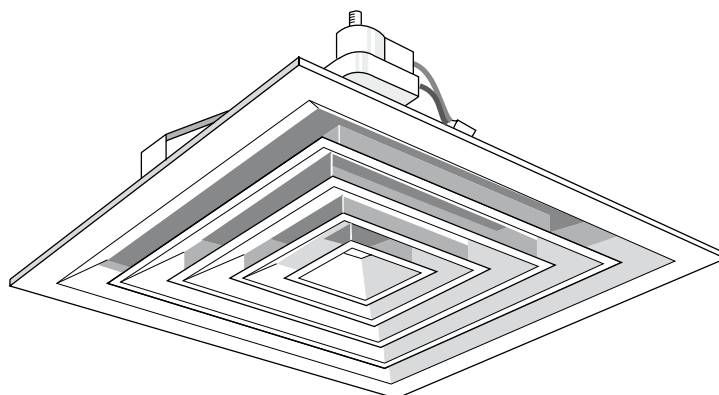
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HAR SERIES

Variable Air Volume (VAV) Diffusers



General

The HAR Variable Air Volume (V.A.V.) diffuser provides a relatively constant air throw while delivering variable quantities of supply air to the air conditioned room.

Availability

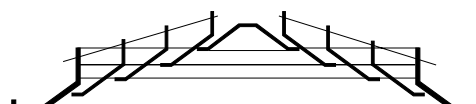
HAR diffusers are available in square, 4-way air pattern only. Sizes: 150 mm, 225 mm, 300 mm, 375 mm. They are identical in appearance to the standard SH diffusers from the face side.

Operation

The HAR maintains its throw by the progressive vertical movement of the central core, operated by a pneumatic or electric actuator in unison with the thermostatic control of the air conditioning system.



Maximum



Minimum

The actuator is factory fitted to ensure correct operation. Provision is made to allow 'on site' adjustment of the 'minimum' setting of the central core, if required.

Construction

The HAR is constructed of corrosion resistant powder coated aluminium.

Selection

The selection tables show data for both maximum volume and minimum volume. This operating range allows for a volume reduction to approximately 40% of the maximum. Note: The HAR is not intended to provide a tight shut-off.

The data given allows for a 'typical' installation including the recommended use of a side-entry plenum (cushion head) fitted to the diffuser.

The selection process should take into consideration: volume, pressure, throw and sound levels, as for fixed diffusers.

HAR DIFFUSER

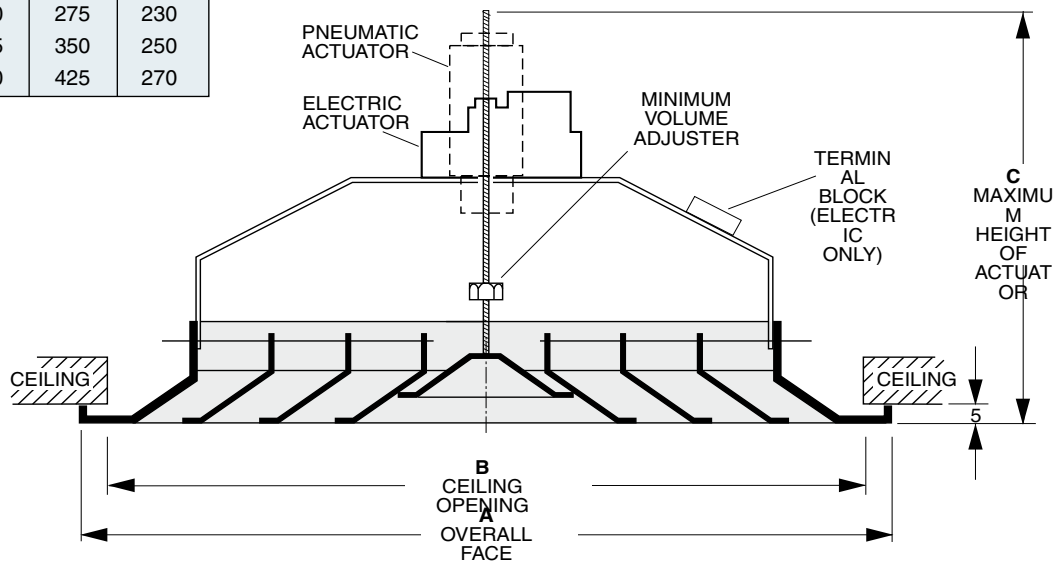
HAR Performance Data

Nominal Size	Flow Rate		Static Pressure (Pa)				
			16	38	50	63	75
150 x 150	Maximum	l/s	42	58	64	75	80
		NC	< 20	< 25	< 30	< 35	< 45
	Minimum	l/s	23	23	28	31	35
		NC	< 20	< 20	< 30	< 35	< 35
		Throw (m)	2.9	3.3	3.6	4.0	4.0
225 x 225	Maximum	l/s	95	125	150	175	190
		NC	< 20	< 30	< 30	< 35	< 35
	Minimum	l/s	50	60	72	80	82
		NC	< 30	< 30	< 35	< 40	< 45
		Throw (m)	4.3	5.2	5.5	5.8	6.1
300 x 300	Maximum	l/s	169	235	265	302	340
		NC	< 20	< 30	< 35	< 40	< 45
	Minimum	l/s	56	85	100	113	127
		NC	< 20	< 30	< 35	< 40	< 45
		Throw (m)	5.8	7.0	7.3	7.6	8.5
375 x 375	Maximum	l/s	265	395	433	472	530
		NC	< 20	< 35	< 40	< 45	< 50
	Minimum	l/s	85	120	156	177	198
		NC	< 25	< 30	< 30	< 40	< 45
		Throw (m)	7.3	9.1	9.5	9.8	10.6

Note: NC Sound levels are based on a room attenuation of 10 dB (SWL re 10^{-12} watts).
Throw values shown are for a terminal velocity of 0.25 m/s.

Dimensions (mm)

Nominal Size	A	B	C
150 x 150	265	200	210
225 x 225	340	275	230
300 x 300	415	350	250
375 x 375	490	425	270



Accessories

Side Entry Plenum: Adapts square neck diffusers to round flexible or rigid ducting.

Plaque: Provides rigid support for diffuser installed in suspended tile ceilings.

ORDER EXAMPLES

Series & Air Pattern / Nominal Size

HAR / 375 x 375

Note: Nominal Sizes (mm):
Minimum: 150
Maximum: HAR 375

SUGGESTED SPECIFICATION

HAR Variable Air Volume Diffuser

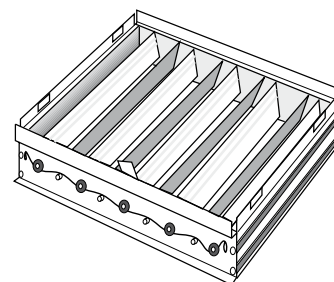
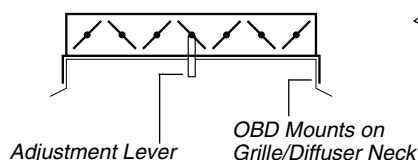
Variable Air Volume 4-way diffusers shall be of aluminium construction frame and core, with core supports and actuator support of corrosion resistant steel. Diffusers shall be pre-treated, followed by gloss powder coating or enamel finish. The diffuser shall be suitable for operation with electric (or pneumatic) linear travel actuator selected to suit the force and control mode requirements. The actuator must be factory fitted and function tested. The minimum volume adjustment mechanism must be accessible from the face of the diffuser. Electric operated diffusers shall be factory wired and labelled for travel direction.

Side entry plenums (cushion heads) shall be provided for each diffuser, sized to suit the diffuser, actuator travel and inlet duct. Plenums shall have 25 mm thick internal insulation, adhesive fixed and cut edges sealed.

ACCESSORIES

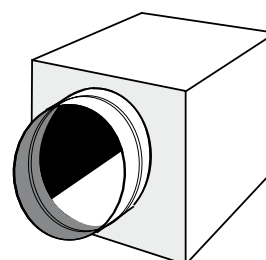
Opposed Blade Damper (OBD)

- Controls air volume for balancing and fine adjustment
- Installs directly to neck with clip fasteners
- Lever operated from the face of the grille/diffuser
- Not intended for use as a shut-off damper
- Aluminium construction
- Sized to suit grilles/diffusers



Side Entry/Exit Plenum (Cushion Head)

- Adapts square neck grilles/diffusers to round flexible or rigid ducting in a restricted ceiling space
- Uninsulated, or Insulated (25 mm) for improved acoustic and thermal properties
- Galvanised steel
- Sized to suit grilles/diffusers and ducting



Plaque (PLQ)

- Provides rigid support for grille/diffuser installed in suspended tile ceilings
- Full or half tile sizes
- Supplied factory fitted to grille/diffuser
- Lay-in or set-down styles
- Powder coated electro-galvanised steel

