

## Selection

The acoustic performance as detailed represents a Total Noise Reduction of the Air Relief silencer. These figures incorporate the entry and exit losses of the grilles as well as the internal acoustic absorption. They have been designed to ensure that the acoustic performance for a typical privacy office wall would not be acoustically degraded. A typical privacy wall has been assumed as a composite stud wall or single brick wall with an acoustic rating between STC40 - 50 and a minimal wall area of 12 sq m. To ensure any regenerated grille noise is kept to a minimum it is recommended the pressure loss excluding grilles be limited to between 15 - 25 Pa depending upon the model selected.

## Sizing

The individual data sheets give the acoustic performance for two specific lengths: the standard unit "S" and a longer unit with a higher performance "H". Generally the "S" Rating unit will give adequate performance. The different grille sizes detail the air volume allowed for the indicated pressure loss.

### How to Order

Model	Width	X	Height
ARZ	1200	X	150

## Applications

Air Relief silencers are specifically designed to relieve air from one area to another whilst minimizing the transfer of noise. Their most common application is to allow air from an office to be vented into an adjacent corridor. If the office has privacy concerns then the Air Relief silencer will render the speech of a moderately loud voice or recording unintelligible in the adjoining area. They will not however, totally remove all the noise transfer.



## Installation

Air Relief silencers can be installed in walls, shafts and ceilings. They can be fully exposed, flush or concealed. Large area units in fully exposed or flush installations may also require additional mass lagging to achieve their full potential. Installations that are either non-standard or of a critical nature should be discussed with our in-house design engineers. For Air Relief silencers to reach their full performance the method of installation and the location of the silencer should be given careful attention. Penetrations through any wall or ceiling should be fully sealed and flashed off to minimizing flanking noise problems.

## Construction

Casings are manufactured from 1mm thick pre-galvanised sheet steel with either stand-up or lock-formed seams. All joints and seams are fully sealed. The acoustic absorption is provided by using  $32\text{kg/m}^3$  fibreglass faced with a non-woven tissue. Spigot ends have a standard length of 75mm, other sizes are available and should be discussed at time of order.

## Performance Ratings

The acoustic and aerodynamic performance of the Air Relief silencer range was obtained utilizing twin reverberation rooms with the silencer relieving air from one room to the other. The acoustic performance was determined using the Australian Standard for the measurement of air-borne sound transmission losses of walls in buildings. (AS1191-1985). These results were then used to calculate the Total Noise Reduction figures.

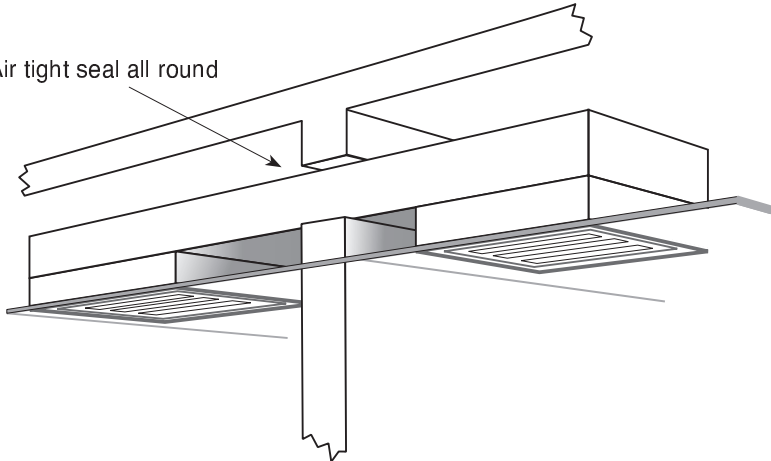
## Care and Maintenance

Being a static silencer similar to duct attenuators, please refer to the maintenance instructions for Duct Silencers Installed Indoors.

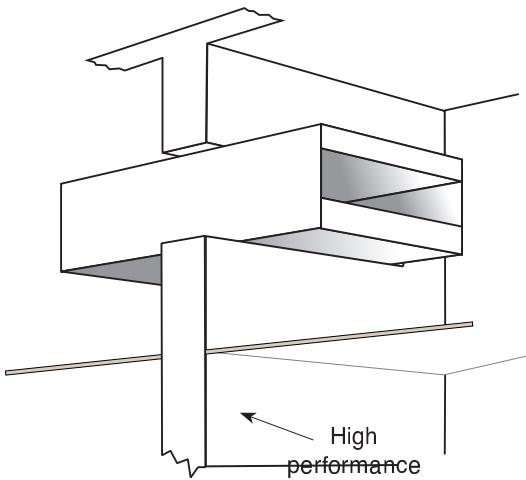


Typical Installations

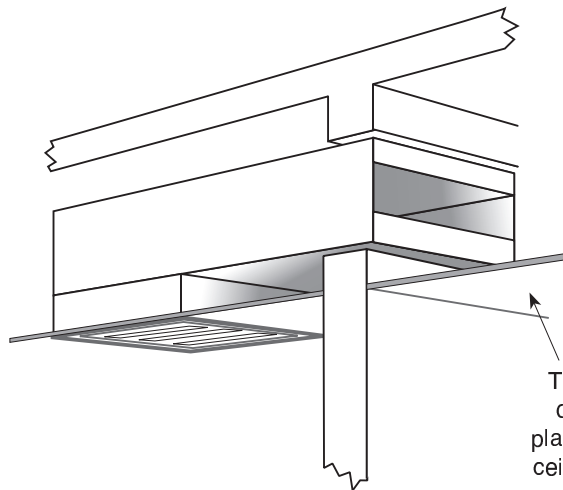
Air tight seal all round



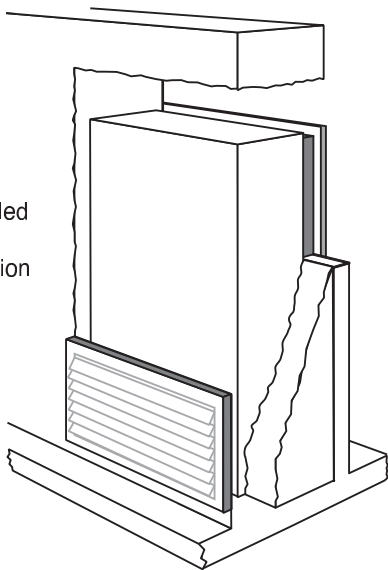
High performance wall



Tile or plaster ceiling



Fully concealed wall installation

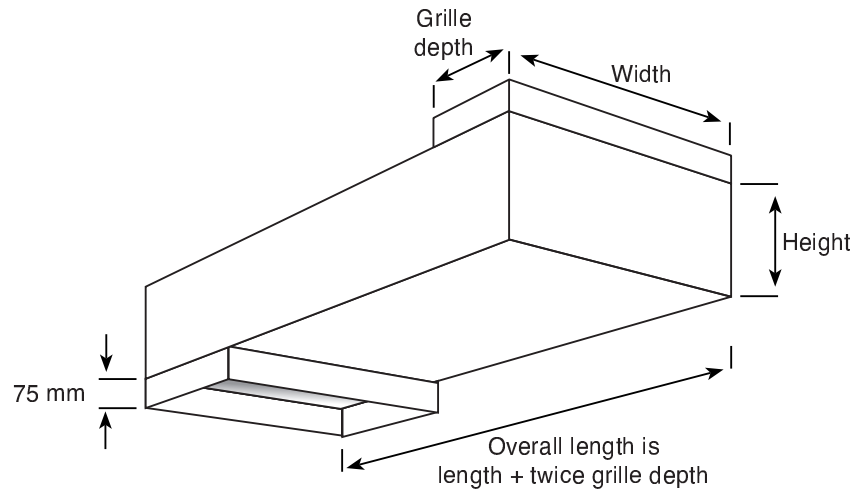


## Acoustic Performance - Model ARZ

### Total Noise Reduction

Type	Height	Length mm	Octave Band Centre Frequency Hz					
			125	250	500	1K	2K	4K
S	150	900	15	23	34	45	45	42
H	150	1800	19	35	45	45	45	45

Type	Height	Length mm	Octave Band Centre Frequency Hz					
			125	250	500	1K	2K	4K
S	300	900	17	24	42	45	45	34
H	300	1800	24	38	45	45	45	45



## Aerodynamic Performance - Model ARZ

### Air Volume in L/S for a 25 Pa Aerodynamic Loss

Type	Height	Width (mm)								
		300	450	600	750	900	1050	1200	1350	1500
S	150	60	90	120	150	180	210	240	270	300
H	150	50	75	100	125	150	175	200	225	250

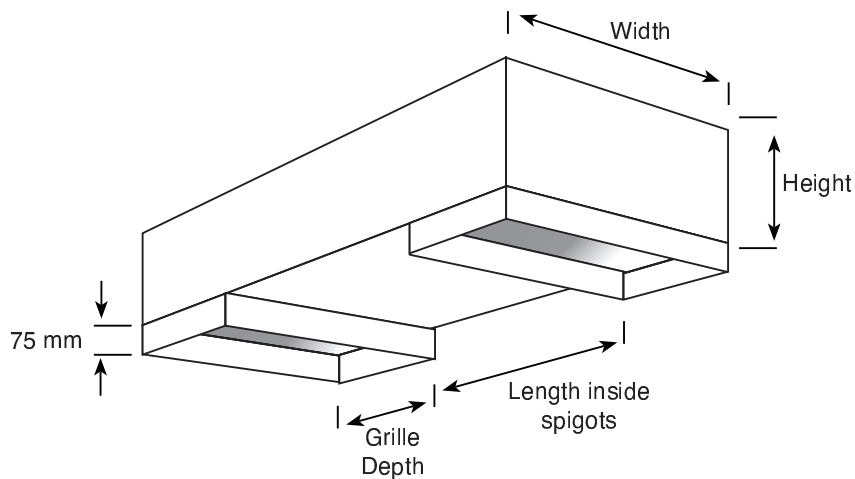
Type	Height	Width (mm)								
		300	450	600	750	900	1050	1200	1350	1500
S	300	120	180	240	300	360	420	480	540	600
H	300	100	150	200	250	300	350	400	450	500

## Acoustic Performance - Model ARU

### Total Noise Reduction

Type	Height	Length mm	Octave Band Centre Frequency Hz					
			125	250	500	1K	2K	4K
S	150	900	15	23	34	45	45	42
H	150	1800	19	35	45	45	45	45

Type	Height	Length mm	Octave Band Centre Frequency Hz					
			125	250	500	1K	2K	4K
S	300	900	17	24	42	45	45	34
H	300	1800	24	38	45	45	45	45



## Aerodynamic Performance - Model ARU

### Air Volume in L/S for a 25 Pa Aerodynamic Loss

Type	Height	Width (mm)								
		300	450	600	750	900	1050	1200	1350	1500
S	150	60	90	120	150	180	210	240	270	300
H	150	50	75	100	125	150	175	200	225	250

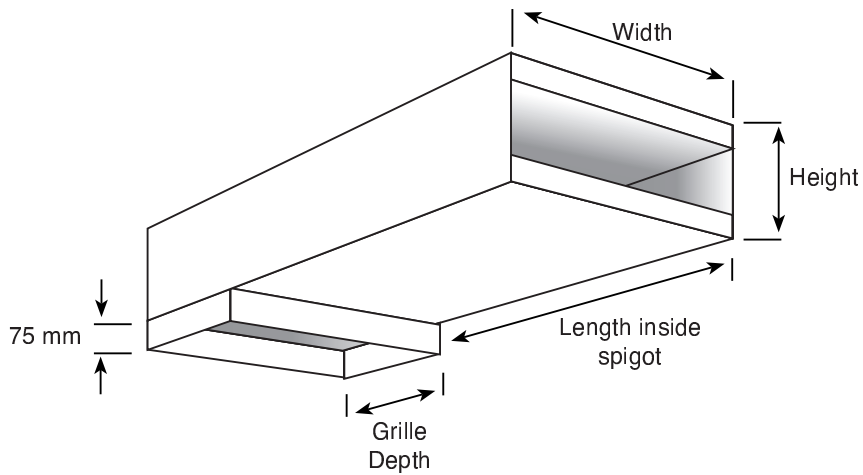
Type	Height	Width (mm)								
		300	450	600	750	900	1050	1200	1350	1500
S	300	120	180	240	300	360	420	480	540	600
H	300	100	150	200	250	300	350	400	450	500

## Acoustic Performance - Model ARL

### Total Noise Reduction

Type	Height	Length mm	Octave Band Centre Frequency Hz					
			125	250	500	1K	2K	4K
S	150	900	15	23	34	42	45	40
H	150	1800	19	35	45	45	45	45

Type	Height	Length mm	Octave Band Centre Frequency Hz					
			125	250	500	1K	2K	4K
S	300	900	17	24	38	38	42	32
H	300	1800	24	38	42	45	45	45



## Aerodynamic Performance - Model ARL

### Air Volume in L/S for a 20 Pa Aerodynamic Loss

Type	Height	Width (mm)								
		300	450	600	750	900	1050	1200	1350	1500
S	150	60	90	120	150	180	210	240	270	300
H	150	50	75	100	125	150	175	200	225	250

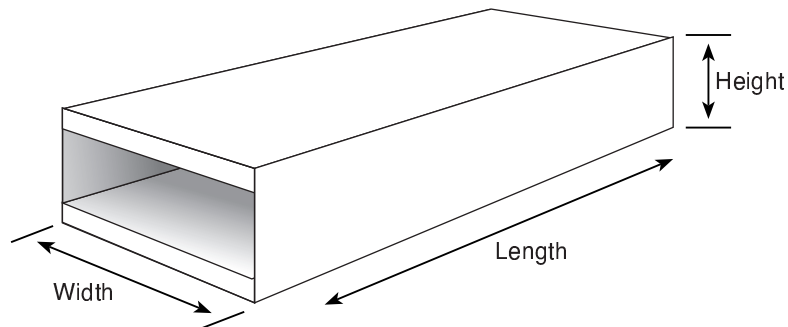
Type	Height	Width (mm)								
		300	450	600	750	900	1050	1200	1350	1500
S	300	120	180	240	300	360	420	480	540	600
H	300	100	150	200	250	300	350	400	450	500

## Acoustic Performance - Model ARI

### Total Noise Reduction

Type	Height	Length mm	Octave Band Centre Frequency Hz					
			125	250	500	1K	2K	4K
S	150	900	15	23	34	39	44	38
H	150	1800	19	35	45	45	45	45

Type	Height	Length mm	Octave Band Centre Frequency Hz					
			125	250	500	1K	2K	4K
S	300	900	17	24	34	33	34	24
H	300	1800	24	38	45	45	45	45



## Aerodynamic Performance - Model ARI

### Air Volume in L/S for a 15 Pa Aerodynamic Loss

Type	Height	Width (mm)								
		300	450	600	750	900	1050	1200	1350	1500
S	150	60	90	120	150	180	210	240	270	300
H	150	50	75	100	125	150	175	200	225	250

Type	Height	Width (mm)								
		300	450	600	750	900	1050	1200	1350	1500
S	300	120	180	240	300	360	420	480	540	600
H	300	100	150	200	250	300	350	400	450	500