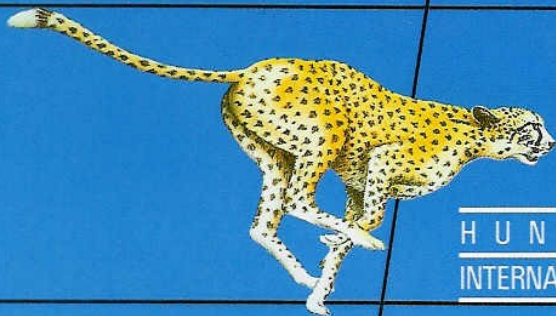
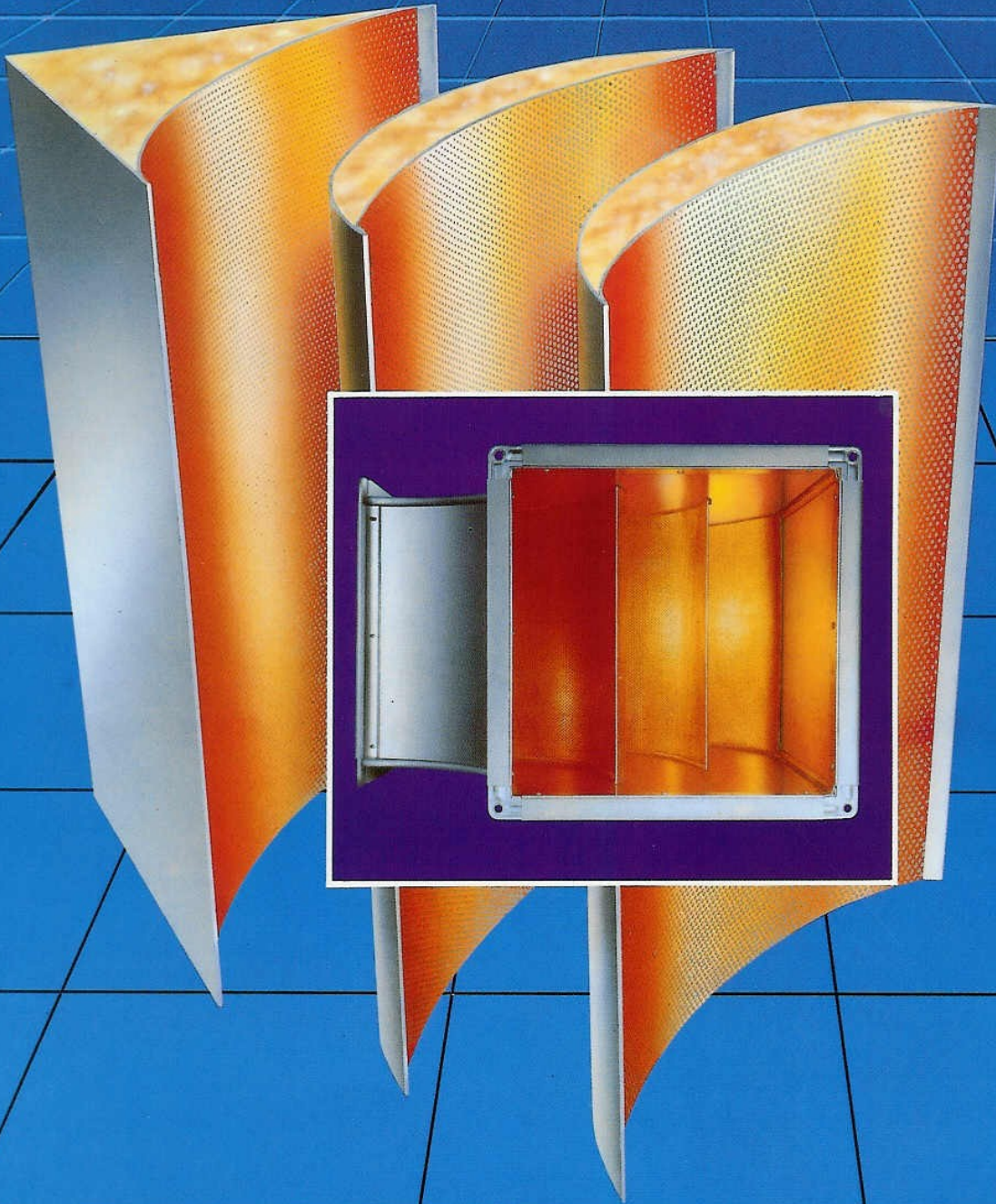


ACOUSTIC TURNING VANES



HUNTER
INTERNATIONAL

SABERGHENTIS

THE CONCEPT

SARGENT'S ACOUSTIC TURNING VANES (A.T.V.s) have been designed to maximise the inherent attenuation characteristics which occur in a ducting system with no physical or pressure drop penalties.

A.T.V.s are protected by British Patent Number 9026077.9.

APPLICATION

A.T.V.s can be used to provide secondary or tertiary attenuation in any air moving system.

Several sets installed in series can be used in place of primary attenuators but care should be taken to avoid "breakout" noise from unsilenced sections of the system.

Where A.T.V.s are used as secondary or tertiary attenuators close to the system exit, the units must be selected to ensure that the generated sound power level does not compromise the target criterion.

PERFORMANCE

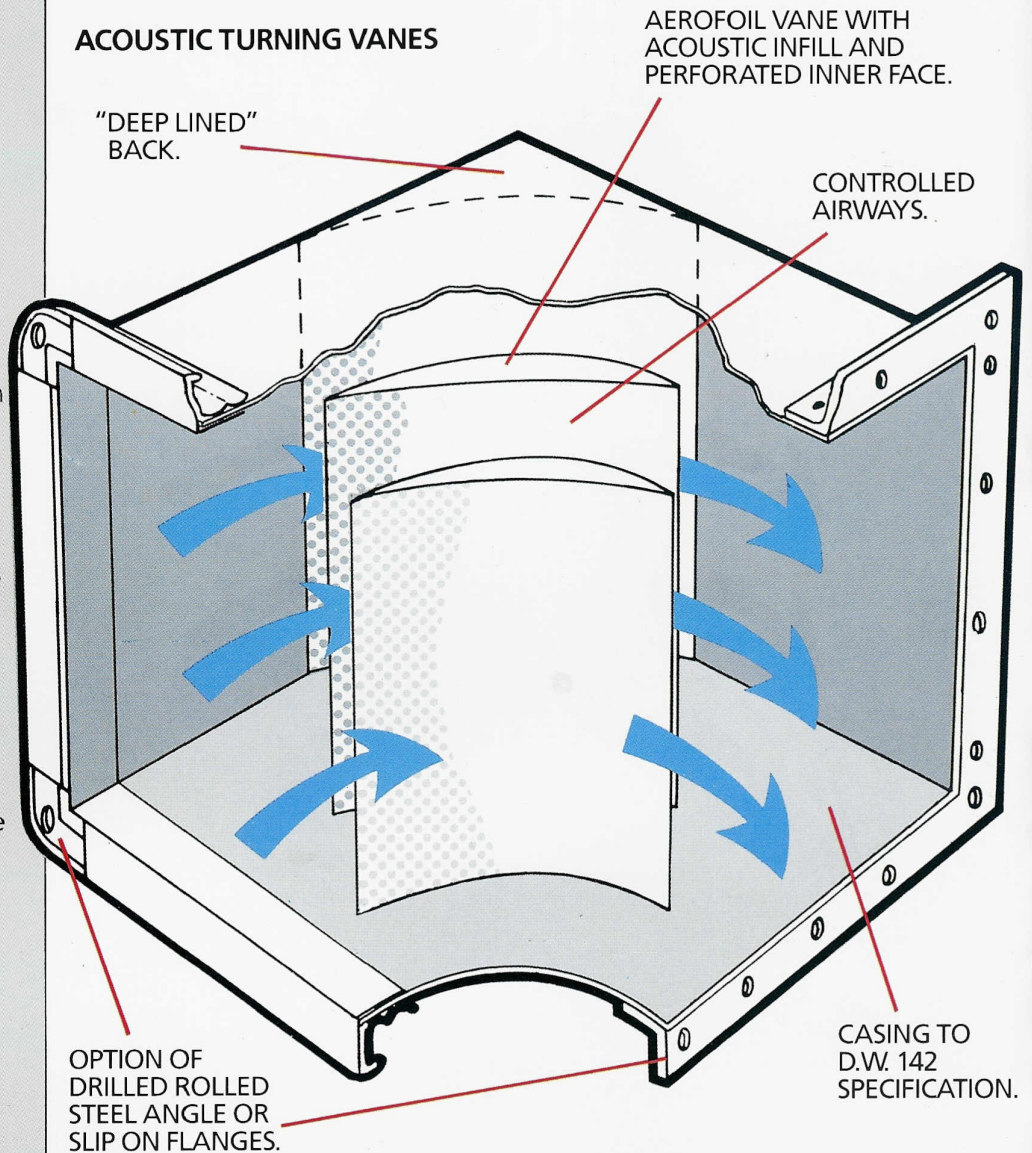
Normally the installation of air turning vanes to improve airflow performance decreases the attenuation characteristics of the bend. The acoustical properties of A.T.V.s increase the bend's attenuating properties whilst the aerofoil section of the vanes minimise the generated noise and improve airflow.

TESTING

All performance data has been derived from tests carried out generally in accordance with BS 4718-1971.

INSERTION LOSS, GENERATED NOISE and PRESSURE LOSS were measured within a system where the attenuator forms part of a ducted system discharging into a reverberant chamber having characteristics as required by ISO 3743.

ACOUSTIC TURNING VANES



SPECIFICATION

Bend casing from pre-galvanised mild steel sheet constructed in accordance with H.V.C.A. specification D.W. 142.

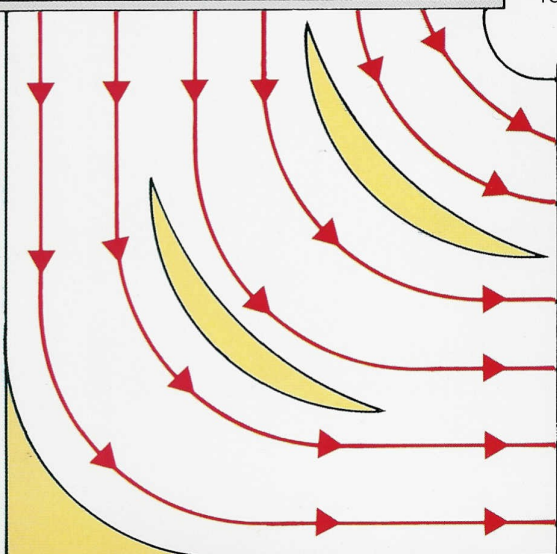
Turning Vanes from formed pre-galvanised mild steel outer skin having highly absorbent incombustible, non-hygroscopic mineral wool infill with glass tissue facing retained under minimum 10%

compression behind a pre-galvanised perforated mild steel facing.

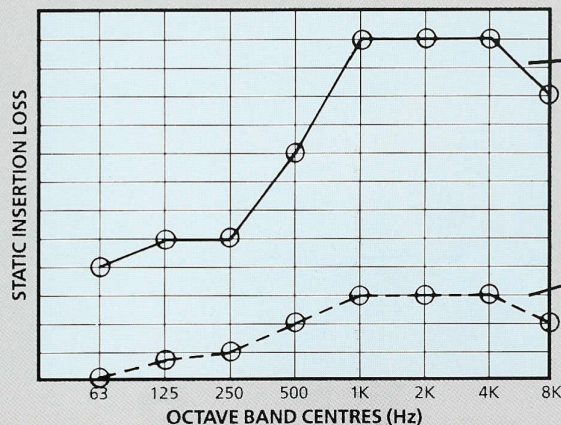
MANUFACTURE

Manufacture and assembly of ACOUSTIC TURNING VANES is carried out to stringent quality standards at our modern plant in Mereworth.

SARGENTS IS A B.S.I. 5750 Part 1 REGISTERED COMPANY.



COMPARISON A.T.V. AND TYPICAL RADIUS BEND



ACOUSTIC TURNING VANE.

TYPICAL RADIUS BEND.

THE APPLICATIONS

FITTING A NEW SARGENT'S ACOUSTIC TURNING VANE UNIT

A.T.V.s can be installed in any bend more than 300mm wide and are provided in modules to suit any height.

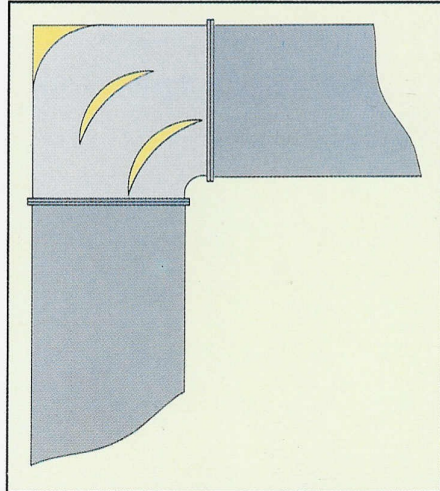


MANUFACTURING AND ASSEMBLY OF A.T.V.s

They can be ordered as a ducted bend for installation with the duct-work system or partly assembled for installation into existing ducting.

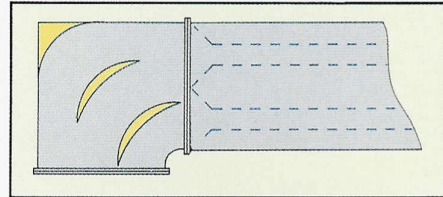


A.T.V. IN DUCTED SYSTEM



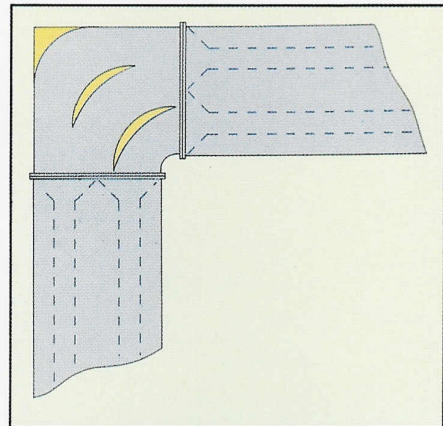
A.T.V./SINGLE ATTENUATOR BEND

A.T.V. combined with SIL duct attenuator to form bend.



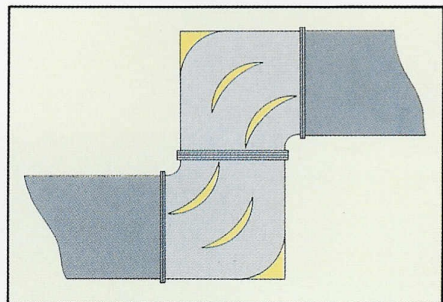
A.T.V./DOUBLE ATTENUATOR BEND

A.T.V. combined with two SIL duct attenuators to form high performance bend.



DOUBLE A.T.V.

A.T.V.s combined to give extra performance.

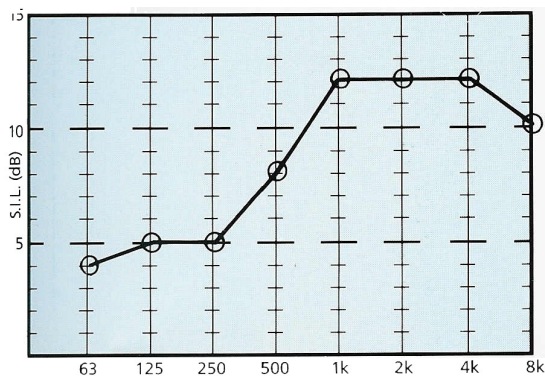


PERFORMANCE DATA

SELECTION

Selection tables/graphs show STATIC INSERTION LOSS, GENERATED SOUND POWER LEVEL and AIRFLOW/PRESSURE DROP performance.

STATIC INSERTION LOSS



OCTAVE BAND CENTRES (Hz)	63	125	250	500	1k	2k	4k	8k
S.I.L. (dB)	4	5	5	8	12	12	12	10

DYNAMIC INSERTION LOSS can be obtained by adding the sound energy generated by the bend to the theoretical level leaving the unit and requires the entering SYSTEM SOUND POWER LEVEL before this can be quantified.

Our technical department will be pleased to provide D.I.L.s on receipt of the necessary information.

GENERATED SOUND POWER LEVEL

FACE VELOCITY m/s	OCTAVE BAND CENTRES (Hz)							
	63	125	250	500	1k	2k	4k	8k
2	37	35	29	25	<20	<20	<20	<20
3	41	39	33	28	<20	<20	<20	<20
4	43	41	38	36	28	28	<20	<20
5	49	47	44	42	36	32	<20	23
6	53	51	48	43	40	38	33	28
7	58	56	52	46	42	40	37	32
8	61	59	55	50	47	43	41	36
9	64	62	58	53	51	46	44	39

FACE AREA ADJUSTMENT

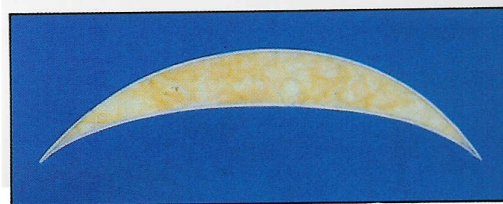
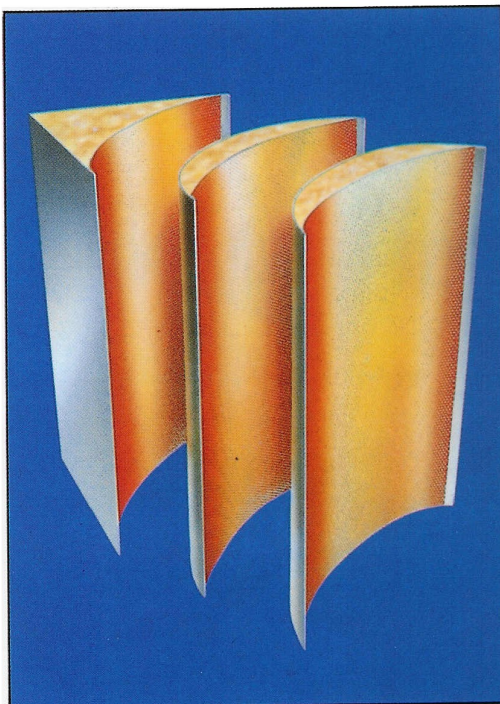
FACE AREA (m ²)	0.13	0.25	0.5	1.0	2.0	4.0	8.0	16.0
ADJUSTMENT (dB)	-6	-3	0	+3	+6	+9	+12	+15

AIRFLOW/PRESSURE DROP

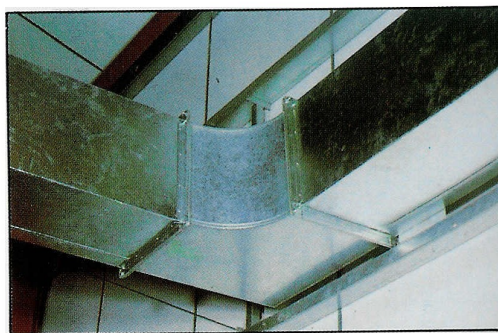
FACE VELOCITY m/s	2	3	4	5	6	7	8	9	10
PRESSURE DROP N/m ²	NEG	2	3	5	7	9	11	13	15

THE PRODUCT

Sargent's Acoustic Turning Vanes are an entirely new concept in ducted system attenuation. They can be supplied either as a complete unit for installation with the ductwork or as a tracked turning vane for installation into an existing bend.



The aerofoil section of the vane ensures minimum airflow resistance and generated noise.



Acoustic Turning Vanes can be substituted for existing ducted bends with no space penalty.

SARGENTS ACOUSTICS LIMITED
THE ALDERS, MEREWORTH,
MAIDSTONE, KENT ME18 5JG.
TEL: (0622) 812861. FAX: (0622) 813649.



SARGENTS' EXPERTISE IN THE FIELD OF NOISE CONTROL HAS HELPED

**Property Services Agency
National Westminster Bank**

J. Sainsbury

Rolls-Royce

British Airways

British Gas

British Telecom

Shell UK

BBC

London Weekend TV

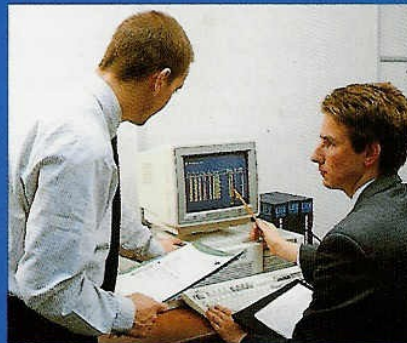
Thames TV

Nationwide Anglia BS

Marks & Spencer

Tesco

and many other household names



H U N T E R I N T E R N A T I O N A L P L C

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Waterloo-Ozonair, Quarry Wood Industrial Estate, Aylesford, Maidstone, Kent ME20 7NB. Tel: 0622 717861. Fax: 0622 719291

Greenwood Airvac, PO Box 3 Brookside Industrial Estate, Rustington, West Sussex BN16 3LH. Tel: 0903 771021. Fax: 0903 782398

Waterloo B.V., Industriestraat 3, Postbus 28, NL-7450 AA Holten, Netherlands. Tel: 01031 548364065. Fax: 01031 548364165

Waterloo BV Hamburg, Kapallinstrasse 15, Postfach 740824, D-2000 Hamburg 74, West Germany. Tel: 01049 407121064. Fax: 01049 407121245

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