

SILDUCT N RANGE

Rectangular Attenuators

Sargents Acoustics have been designing and manufacturing duct mounted Attenuator units since 1945. This Data Sheet gives full performance data on the latest developments in the SILduct range.

Application

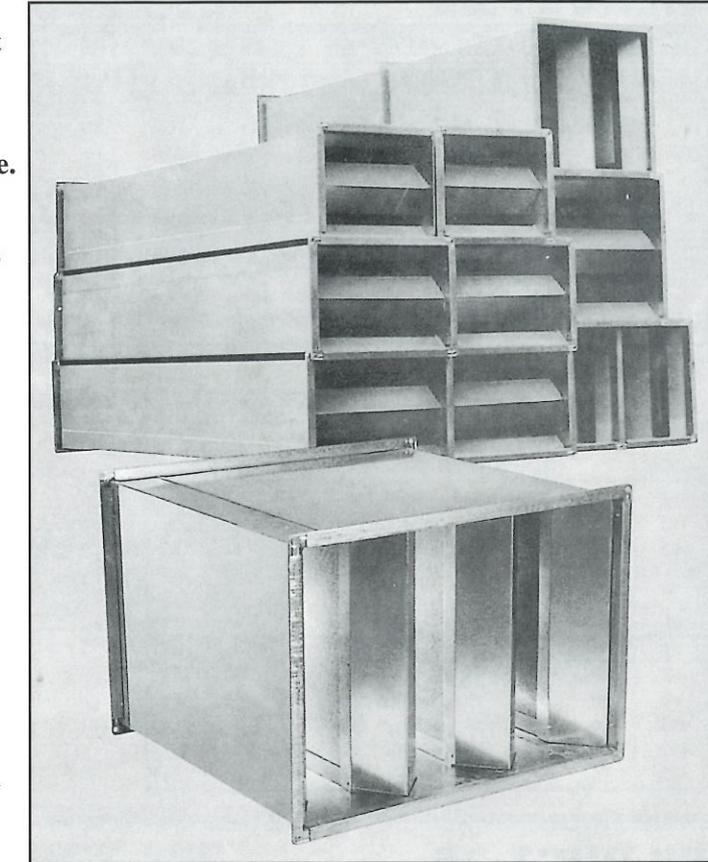
The SILduct range of Attenuators is designed for inclusion in ductwork systems or for direct connection to fan or A.H.U., inlet and discharge.

The SILduct range offers infinite flexibility of size and performance and all models can be supplied in any of the nine different material specifications including PVC, glass fibre, aluminium and stainless steel, in addition to the standard pre-galvanised steel construction.

SILduct Silencer Units may be used in high or low velocity systems; process air handling; dust extraction; wet or dry fume extraction; offshore installations and gas turbine intake systems.

In addition there is a special SILduct range available for hospital installations.

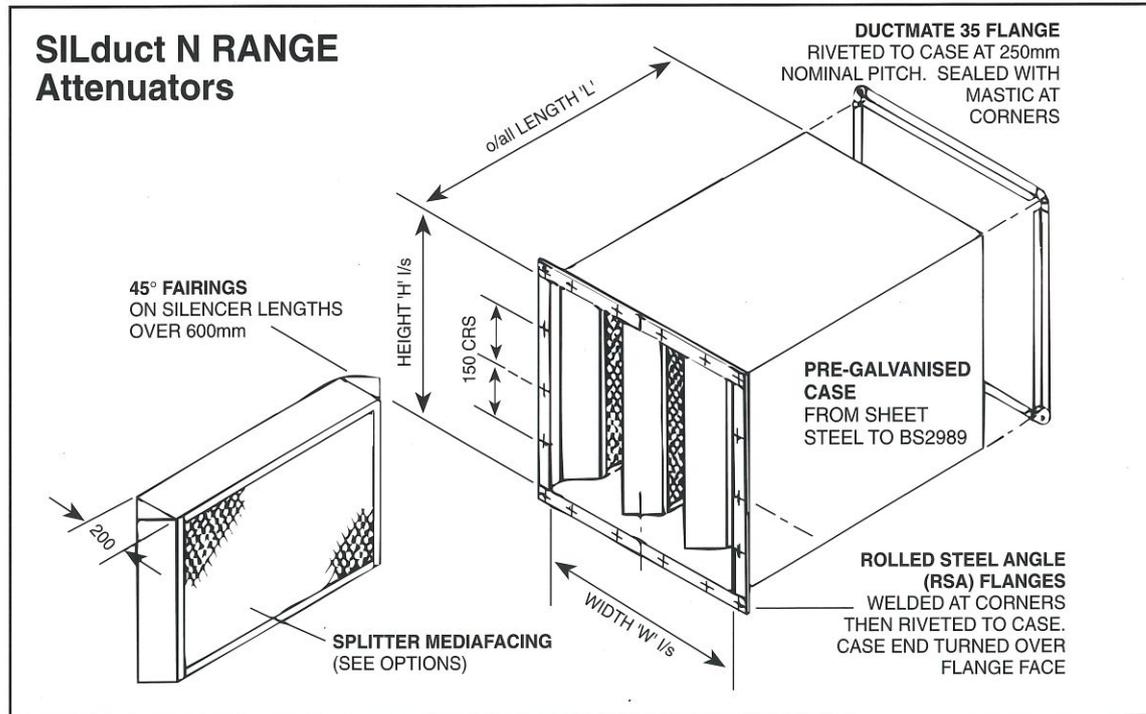
Full easy to use selection data



including airflow/pressure drops and static insertion losses are

shown on the following pages of the brochure.

SILduct N RANGE Attenuators



SARGENTS IS A
BS 5750 PART 1
REGISTERED COMPANY



SARGENTS
ACOUSTICS
A DIVISION OF HUNTER INTERNATIONAL PLC



HUNTER
INTERNATIONAL

SARGENTS

SARGENTS ACOUSTICS

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SILDUCT

N RANGE (A selection of Configurations available)

Rectangular Attenuators

The Company

Sargents Acoustics, a member of the Hunter International Group, has been operating in the specialist field of noise and vibration control since 1945.

The Company specialises only in these areas and offers equipment that is original in both concept and design. It does not manufacture under license to foreign designs.

Construction & Specification

Standard SILduct attenuators have cases from pre-galvanised mild steel sheet having a minimum thickness of 0.8mm constructed in accordance with HVCA specification DW/142.

Attenuating splitters are constructed from a formed framework of pre-galvanised mild steel sheet and incorporate a highly absorbent, inert fibreglass protected by perforated galvanised steel sheet facing to the airway surfaces.

Units over 600mm long incorporate faired entry and exit noses to minimise pressure drop.

SILDUCT 50

OCTAVE BAND CRS - HZ	63	125	250	500	1K	2K	4K	8K	K-FACTOR	
SILDUCT REF	LENGTH									
50/6	600	6	11	18	30	36	40	35	29	3.38
50/9	900	7	13	23	42	48	50	45	38	4.62
50/12	1200	9	16	30	50	50	50	50	50	5.85
50/15	1500	11	20	34	50	50	50	50	50	7.09
50/18	1800	13	24	38	50	50	50	50	50	8.33
50/21	2100	15	27	43	50	50	50	50	50	9.57
50/24	2400	17	34	48	50	50	50	50	50	10.81

GENERATED POWER LEVEL

FACE VEL. M/SEC.	OCTAVE BAND CENTRES HZ							
	63	125	250	500	1K	2K	4K	8K
	GENERATED SWL-dB re 10 ⁻¹² WATTS							
-15	68	63	63	64	62	64	67	64
-13	65	61	61	61	60	63	64	59
-11	62	58	58	57	58	61	60	53
-9	58	54	55	52	56	58	55	45
-7	53	50	51	47	53	55	50	36
-5	45	44	45	40	49	51	43	23
+5	43	33	36	34	30	33	30	21
+7	53	44	44	42	38	40	38	33
+9	60	51	49	48	45	46	45	41
+11	66	57	54	53	50	50	50	47
+13	70	62	58	57	54	54	55	53
+15	74	65	62	60	57	58	60	58

FACE AREA ADJUSTMENT

Face Area(M ²)	0.13	0.25	0.5	1.0	2.0	4.0	8.0
Adjustment	-6	-3	0	+3	+6	+9	+12

SILDUCT 75

OCTAVE BAND CRS - HZ	63	125	250	500	1K	2K	4K	8K	K-FACTOR	
SILDUCT REF	LENGTH									
75/6	600	5	9	15	24	28	30	28	24	3.23
75/9	900	7	12	21	35	41	45	39	35	3.69
75/12	1200	8	15	25	46	49	50	47	43	4.16
75/15	1500	10	18	29	50	50	50	50	50	4.62
75/18	1800	12	22	36	50	50	50	50	50	5.08
75/21	2100	14	26	41	50	50	50	50	50	5.54
75/24	2400	17	30	46	50	50	50	50	50	6.01

GENERATED POWER LEVEL

FACE VEL. M/SEC.	OCTAVE BAND CENTRES HZ							
	63	125	250	500	1K	2K	4K	8K
	GENERATED SWL-dB re 10 ⁻¹² WATTS							
-15	66	62	62	63	60	63	66	63
-13	63	60	60	60	59	62	63	58
-11	59	57	57	56	57	59	59	52
-9	55	53	54	51	55	57	54	44
-7	50	48	50	46	52	54	49	35
-5	42	40	44	39	48	50	42	22
+5	41	31	33	32	29	31	29	20
+7	50	41	41	40	35	38	37	31
+9	58	49	47	46	43	44	43	39
+11	63	55	52	51	48	49	49	45
+13	68	59	55	55	52	53	54	51
+15	71	63	60	58	55	56	58	55

FACE AREA ADJUSTMENT

Face Area(M ²)	0.13	0.25	0.5	1.0	2.0	4.0	8.0
Adjustment	-6	-3	0	+3	+6	+9	+12

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TESTING

All performance data has been derived from tests carried out 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.

SILDUCT

N RANGE

Rectangular Attenuators

Overall Tolerances

Unit Size +/-3mm
Flange Drilling +/-1mm
Airway +/-5mm
Splitters +/-2.5mm

Technical Support

Sargents offers customers and specifiers of acoustical equipment a comprehensive technical support service. Experienced engineering teams can undertake project management, negotiations with Planning Authorities and Environmental Health Departments and provide measurement and analysis at all stages.

The Company's support services include measurement of the finished installation and provide "before" and "after" comparisons.

Bend Attenuators

For applications where space limitations preclude the installation of a straight attenuator, angled units are available both in standard sizes and as "specials" to suit the physical limitations of the installation.

SILDUCT 100

OCTAVE BAND CRS - HZ		63	125	250	500	1K	2K	4K	8K	K-FACTOR
SILDUCT REF	LENGTH	ATTENUATOR STATIC INSERTION LOSS - dB								
100/6	600	5	8	14	20	27	29	23	18	2.36
100/9	900	6	10	17	27	34	35	27	22	2.60
100/12	1200	7	13	21	36	42	44	34	29	2.84
100/15	1500	9	16	26	42	47	49	39	33	3.08
100/18	1800	10	18	30	47	50	50	45	40	3.32
100/21	2100	11	21	34	50	50	50	49	45	3.56
100/24	2400	13	25	38	50	50	50	50	50	3.80

GENERATED POWER LEVEL

FACE VEL. M/SEC.	OCTAVE BAND CENTRES HZ							
	63	125	250	500	1K	2K	4K	8K
GENERATED SWL-dB re 10 ⁻¹² WATTS								
-15	64	60	61	62	59	62	65	61
-13	62	58	59	58	57	60	61	56
-11	58	55	56	55	55	58	57	50
-9	54	52	53	50	54	56	53	43
-7	49	47	49	45	51	53	47	34
-5	41	39	43	38	49	49	41	22
+5	39	29	32	31	27	30	28	19
+7	49	40	40	38	35	36	35	30
+9	56	47	46	45	42	42	42	38
+11	62	53	51	50	46	47	47	44
+13	66	58	55	53	50	51	52	49
+15	70	62	58	57	53	54	56	54

FACE AREA ADJUSTMENT

Face Area(M ²)	0.13	0.25	0.5	1.0	2.0	4.0	8.0
Adjustment	-6	-3	0	+3	+6	+9	+12

SILDUCT 125

OCTAVE BAND CRS - HZ		63	125	250	500	1K	2K	4K	8K	K-FACTOR
SILDUCT REF	LENGTH	ATTENUATOR STATIC INSERTION LOSS - dB								
125/6	600	4	6	12	18	22	24	16	13	1.28
125/9	900	5	9	16	26	32	33	21	14	1.43
125/12	1200	7	12	19	32	38	39	23	18	1.58
125/15	1500	8	14	23	38	44	46	28	20	1.73
125/18	1800	9	16	26	42	48	50	32	22	1.88
125/21	2100	10	18	29	45	50	50	35	25	2.03
125/24	2400	11	21	32	48	50	50	38	29	2.18

GENERATED POWER LEVEL

FACE VEL. M/SEC.	OCTAVE BAND CENTRES HZ							
	63	125	250	500	1K	2K	4K	8K
GENERATED SWL-dB re 10 ⁻¹² WATTS								
-15	63	59	59	61	58	61	63	59
-13	60	57	57	57	56	59	60	54
-11	57	54	55	54	55	57	56	48
-9	53	50	52	49	53	55	52	42
-7	48	45	47	44	50	52	46	33
-5	40	38	41	37	47	49	40	22
+5	38	28	31	30	26	29	27	18
+7	48	38	38	37	34	35	34	29
+9	55	45	44	43	40	41	41	36
+11	60	51	49	48	45	45	46	42
+13	64	56	53	52	49	49	51	47
+15	68	60	57	55	52	53	55	52

FACE AREA ADJUSTMENT

Face Area(M ²)	0.13	0.25	0.5	1.0	2.0	4.0	8.0
Adjustment	-6	-3	0	+3	+6	+9	+12

SPECIAL FEATURES

SILduct Attenuators are also available with special internal and external finishes and can be manufactured to individual material specifications including PVC, GRP, stainless steel and aluminium.

SILDUCT N RANGE

Rectangular Attenuators

Attenuation Application & Principles

Attenuators basically consist of an arrangement of duct mounted absorbent splitters arranged with airflow passages between them.

Attenuation is achieved by reflection, impedance and absorption. These are dependent upon:

*The airway width in relation to splitter width

*The splitter absorption coefficient

*The overall attenuator length.

At the entry to and the exit from an attenuator a resistance to airflow is created. The entry loss and the internal frictional losses are normally considerably less than the discharge loss.

Sargents range of SILduct and SILcular silencers minimise the resistance to airflow by incorporating faired airway entry and discharge sections.

SILDUCT 150

OCTAVE BAND CRS - HZ	63	125	250	500	1K	2K	4K	8K	K-FACTOR	
SILDUCT REF	LENGTH									
ATTENUATOR STATIC INSERTION LOSS - dB										
150/6	600	4	5	11	18	23	22	15	11	0.89
150/9	900	5	9	15	23	28	30	17	13	0.99
150/12	1200	6	11	18	29	34	35	19	15	1.10
150/15	1500	7	13	21	36	42	43	23	17	1.20
150/18	1800	8	15	25	40	47	49	28	21	1.30
150/21	2100	9	17	28	43	50	50	32	24	1.41
150/24	2400	10	18	32	47	50	50	35	25	1.51
150/27	2700	11	20	37	50	50	50	38	27	1.61

GENERATED POWER LEVEL

FACE VEL. M/SEC.	OCTAVE BAND CENTRES HZ							
	63	125	250	500	1K	2K	4K	8K
GENERATED SWL-dB re 10 ⁻¹² WATTS								
-15	62	58	58	59	56	59	61	57
-13	59	56	56	56	55	58	58	52
-11	56	54	53	52	54	56	54	47
-9	52	49	50	48	52	54	50	40
-7	47	43	46	43	49	52	45	32
-5	38	35	40	36	46	48	38	21
+5	35	26	30	29	25	28	26	18
+7	45	37	37	36	34	34	34	28
+9	53	44	43	42	39	40	40	35
+11	58	50	48	47	44	44	45	41
+13	63	54	52	50	47	48	49	46
+15	67	58	55	54	51	51	53	50

FACE AREA ADJUSTMENT

Face Area(M ²)	0.13	0.25	0.5	1.0	2.0	4.0	8.0
Adjustment	-6	-3	0	+3	+6	+9	+12

SILDUCT 175

OCTAVE BAND CRS - HZ	63	125	250	500	1K	2K	4K	8K	K-FACTOR	
SILDUCT REF	LENGTH									
ATTENUATOR STATIC INSERTION LOSS - dB										
175/6	600	4	7	11	16	23	20	12	8	0.69
175/9	900	5	8	13	20	27	26	14	10	0.77
175/12	1200	6	9	15	24	31	32	16	12	0.85
175/15	1500	6	10	17	28	35	38	18	14	0.92
175/18	1800	7	11	20	32	39	42	20	16	1.00
175/21	2100	7	12	22	36	42	45	22	18	1.08
175/24	2400	8	13	25	41	45	48	24	20	1.16
175/27	2700	9	14	28	46	49	50	26	22	1.23
175/30	3000	10	15	33	50	50	50	28	24	1.31

GENERATED POWER LEVEL

FACE VEL. M/SEC.	OCTAVE BAND CENTRES HZ							
	63	125	250	500	1K	2K	4K	8K
GENERATED SWL-dB re 10 ⁻¹² WATTS								
-15	61	57	57	58	55	58	60	56
-13	58	55	55	55	54	57	56	51
-11	55	52	53	51	53	55	53	45
-9	50	48	49	47	51	53	49	39
-7	45	43	45	42	48	51	44	31
-5	37	34	40	35	45	48	37	21
+5	35	26	29	28	25	27	25	17
+7	44	35	36	35	32	34	33	27
+9	52	43	42	41	38	38	38	34
+11	57	48	47	45	43	43	44	40
+13	61	53	51	49	47	47	48	45
+15	65	57	54	52	50	50	52	48

FACE AREA ADJUSTMENT

Face Area(M ²)	0.13	0.25	0.5	1.0	2.0	4.0	8.0
Adjustment	-6	-3	0	+3	+6	+9	+12

DESIGN SERVICE

Sargents offer a design service to ensure that equipment of the most suitable type and construction is selected to meet customers' specific requirements.

SILDUCT N RANGE

Rectangular Attenuators

Pressure Drop

The pressure drop (in Pascal) is the in-duct pressure loss across the attenuator which is the product of the square of the face velocity in meter per second and the K-factor that corresponds to the attenuator selected. Face velocity is obtained from dividing the air flow by the cross-section area of the attenuator.

Dynamic Insertion Loss

The Dynamic Insertion Loss (D.I.L.) of an Attenuator is the resultant noise reduction achieved under specific conditions of airflow.

The D.I.L., is obtained by adding the sound energy generated by the Attenuator to the theoretical sound level leaving the unit.

In practice this can be calculated by arithmetic subtraction of the Static Insertion Loss (S.I.L.) from the entering system Sound Power Level and adding the result logarithmically to the Attenuator Generated Sound Power Level.

SILDUCT 200

OCTAVE BAND CRS - HZ	63	125	250	500	1K	2K	4K	8K	K-FACTOR	
SILDUCT REF	LENGTH									
200/6	600	3	5	10	16	18	16	10	6	0.56
200/9	900	4	6	12	19	22	19	12	8	0.62
200/12	1200	4	7	13	22	26	22	14	10	0.68
200/15	1500	5	8	14	25	30	25	16	12	0.74
200/18	1800	5	9	15	28	34	27	18	14	0.80
200/21	2100	7	10	17	32	38	32	20	16	0.86
200/24	2400	7	11	19	36	44	35	23	18	0.92
200/27	2700	8	12	21	40	47	39	25	20	0.98
200/30	3000	9	13	23	44	50	43	27	21	1.04

GENERATED POWER LEVEL

FACE VEL. M/SEC.	OCTAVE BAND CENTRES HZ							
	63	125	250	500	1K	2K	4K	8K
	GENERATED SWL-dB re 10 ⁻¹² WATTS							
-15	60	55	55	56	54	57	58	54
-13	57	53	53	53	53	56	55	49
-11	53	50	51	50	52	54	52	44
-9	49	47	48	46	50	53	48	38
-7	43	42	44	41	47	50	43	30
-5	35	34	39	34	44	47	36	20
+5	34	25	28	27	24	27	25	17
+7	43	34	35	34	31	32	32	26
+9	51	41	41	39	36	38	38	33
+11	56	47	46	44	41	42	43	38
+13	60	51	50	48	45	45	47	43
+15	64	55	53	51	48	49	50	47

FACE AREA ADJUSTMENT

Face Area(M ²)	0.13	0.25	0.5	1.0	2.0	4.0	8.0
Adjustment	-6	-3	0	+3	+6	+9	+12

SILDUCT 225

OCTAVE BAND CRS - HZ	63	125	250	500	1K	2K	4K	8K	K-FACTOR	
SILDUCT REF	LENGTH									
225/6	600	2	4	7	12	17	8	6	4	0.46
225/9	900	3	5	9	15	19	11	8	5	0.51
225/12	1200	4	6	11	18	21	14	10	6	0.56
225/15	1500	4	7	13	21	23	17	12	7	0.61
225/18	1800	5	8	14	24	27	20	14	8	0.66
225/21	2100	6	9	15	27	32	23	16	9	0.71
225/24	2400	6	10	17	30	37	26	18	10	0.76
225/27	2700	7	11	18	34	40	29	20	11	0.81
225/30	3000	8	12	19	38	43	32	22	12	0.86

GENERATED POWER LEVEL

FACE VEL. M/SEC.	OCTAVE BAND CENTRES HZ							
	63	125	250	500	1K	2K	4K	8K
	GENERATED SWL-dB re 10 ⁻¹² WATTS							
-15	59	54	54	55	53	56	57	52
-13	56	52	52	52	52	55	54	48
-11	53	49	50	48	50	53	50	42
-9	48	45	47	44	49	52	46	36
-7	42	40	43	39	46	49	42	29
-5	34	32	38	33	43	47	35	20
+5	33	24	27	26	23	26	24	16
+7	42	33	35	33	30	32	31	25
+9	49	40	40	38	35	37	36	32
+11	54	45	45	43	40	41	42	37
+13	59	50	49	46	48	44	46	41
+15	53	54	52	49	47	47	49	45

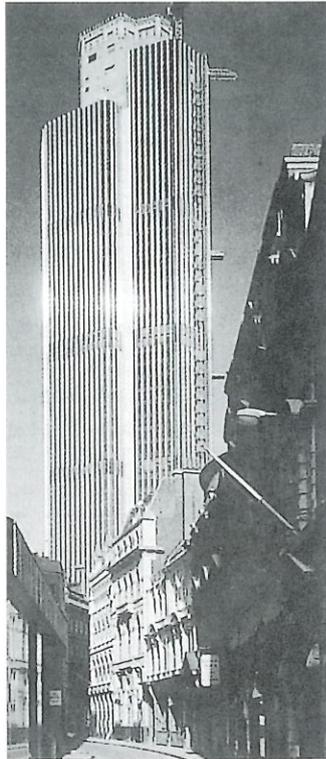
FACE AREA ADJUSTMENT

Face Area(M ²)	0.13	0.25	0.5	1.0	2.0	4.0	8.0
Adjustment	-6	-3	0	+3	+6	+9	+12

NON-STANDARD ITEMS

Our manufacturing procedures allow for the construction of unusual shapes and materials to suit most requirements.

**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

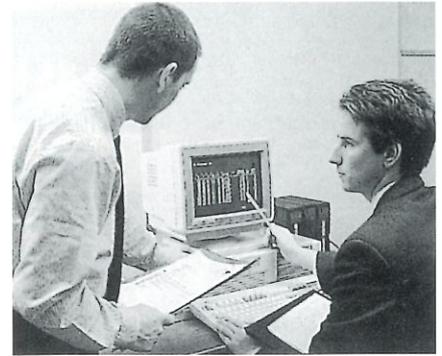
London Weekend TV

Thames TV

Nationwide Anglia BS

Marks & Spencer

Tesco



and many other household names

Quality

Sargents places high emphasis on quality in all aspects of its business. All equipment is produced to exacting standards at the Group's fully equipped facility at Aylesford, Kent, under strict quality control systems which conform to BS 5750 Part 1, 1987.

Recognising the importance of accurate and verifiable performance data, Sargents ensure that all products are tested in accordance with a relevant British Standard or Trade Association Standard.

Conformance Certification is available.

All performance data contained in this brochure is backed by full performance tests carried out in the Company's own R. & D. Department.

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

The Hunter Group, comprising ten Divisions in the United Kingdom, Holland and Germany is one of Europe's largest producers of H.V.A.C. equipment.

The Group Divisions are co-ordinated to supply a full range of products for architectural and building services suitable for domestic and commercial installations as well as industrial and high integrity systems.

SARGENTS
ACOUSTICS



SARGENTS reserved the right in view of their continuous programme of development and improvement, to revise or alter their range of products and prices without prior notice.

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