

Waterloo Acoustics Ltd

Attenuators -



Rectangular Attenuators: WP SERIES

Introduction

The WP range of attenuators is designed for inclusion in ductwork systems or for direct connection to fan or AHU inlet and discharge.

The WP range offers infinite flexibility of size and performance and all models can be supplied in any of the nine different material specifications including stainless steel, UPVC/PVC, glass fibre and aluminium, in addition to our standard pre-galvanised mild steel to DW144 construction requirements.

Fully welded stainless and mild steel heavy duty options are available for industrial and offshore applications.

WP silencer units may be used in high or low velocity systems velocity systems: process air handling; dust extraction; fire rating systems; offshore installations; studios; theatres and gas turbine intake systems.

In addition there is a special WP range available for hospital installations and clean rooms.

Manufacture

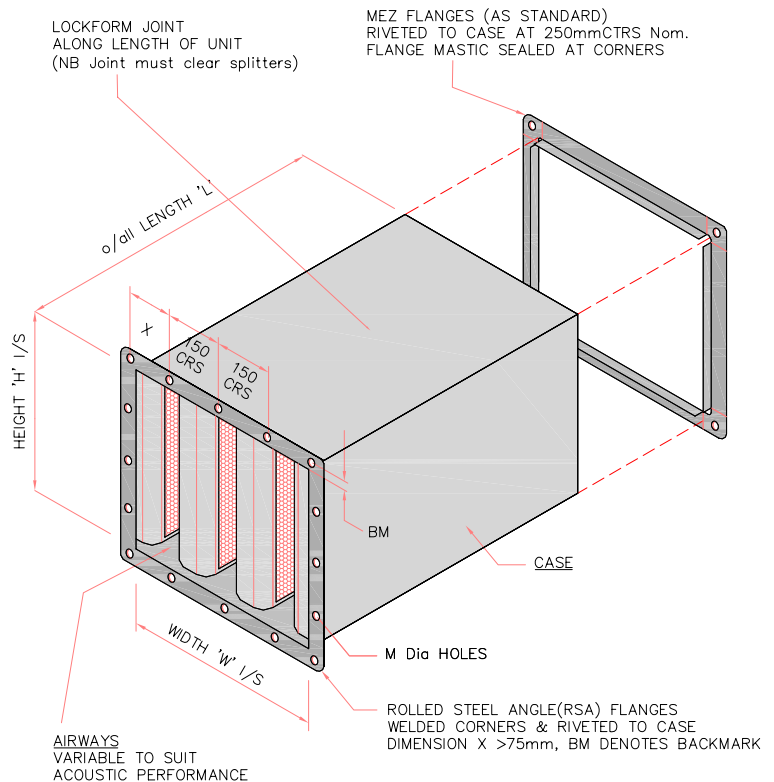
Standard WP attenuators have cases from pre-galvanised mild steel sheet having a minimum of 0.9mm thickness constructed in accordance with HVCA specification DW144.

Attenuating splitters are constructed from a formed framework of pre-galvanised mild steel sheet which retains the acoustic media behind an expanded metal or perforated pre-galvanised steel sheet. The acoustic media is a highly absorbent, medium density, inert, non-hydroscopic, faced mineral wool (45-65kg/m² dependent upon application).

Units over 600mm long incorporate an aerodynamically shaped faired or bull nosed entry and exit nose to minimise pressure drop.

WP attenuators shall have mez style flanges unless otherwise noted by suffixes below.

Standard Attenuator Details



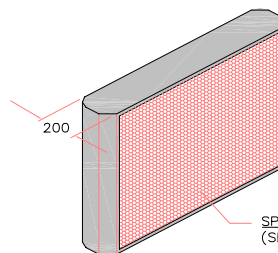
STANDARD ROLLED STEEL ANGLE FLANGE DETAILS :-

UNIT PERIMETER (ONE END)	FLANGE SIZE	HOLE Dia (M)	BM	KO
UP TO 2400mm	25x25x3	8	16	10
UP TO 4800mm	40x40x3	10	22	10
FROM 4800mm	50x50x6	12	28	10

GENERAL TOLERANCES
 UNIT SIZE ± 3 mm
 FLANGE DRILLINGS ± 1 mm
 AIRWAYS ± 5 mm
 SPLITTERS ± 2.5 mm
 BM DIMENSIONS FROM INSIDE DUCT

Option suffixes

MP	Melinex and galvanised XPM splitter facing
GC	Glass cloth splitter facing
RS	Rolled steel angle flanges
P	Galvanised XPM splitter facing
DM	Ductmate flanges
IF	Internal roled steel angle flanges
HS	Horizontal splitters
PI	Plenum section
S	Spigot ends
T	Modular construction
BV	Verical bend attenuator
BH	Hoizontal bend attenuator



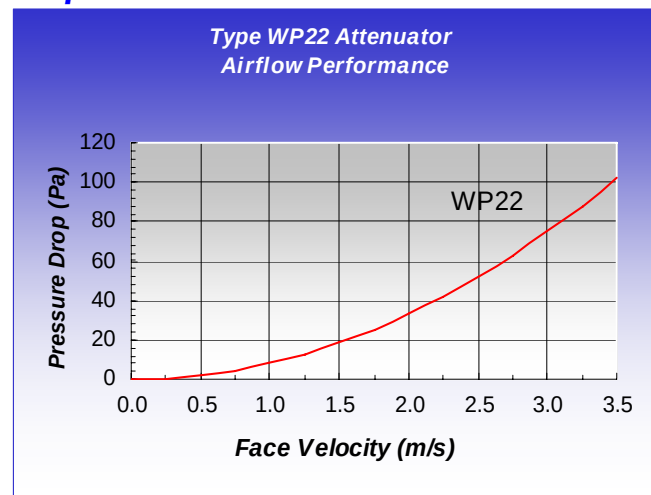
SPLITTERS
 SET BACK 50mm NOMINALLY FROM CASE END.
 45kg/m³ ACOUSTICAL INFILL
 OR SUPPLIED FLAT PACK FOR SITE ASSEMBLY.

SPLITTER MEDIA FACING (SEE OPTIONS)

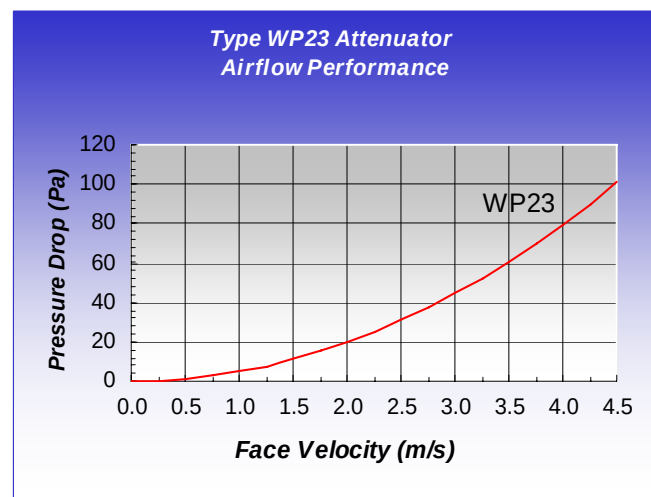


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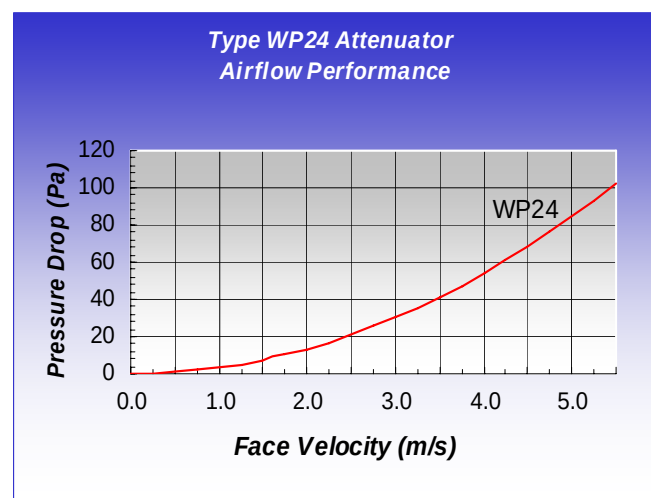
Performance Data



Type: WP22		Attenuator Static Insertion Loss - dB Octave Band Centres								
Unit Ref	Length	63	125	250	500	1k	2k	4k	8k	Hz
WP22/6P	600	6	11	18	30	36	40	35	29	dB
WP22/9P	900	7	13	23	42	48	50	45	38	dB
WP22/12P	1200	9	16	30	50	50	50	50	50	dB
WP22/15P	1500	11	20	34	50	50	50	50	50	dB
WP22/18P	1800	13	24	38	50	50	50	50	50	dB
WP22/21P	2100	15	29	43	50	50	50	50	50	dB
WP22/24P	2400	17	34	48	50	50	50	50	50	dB



Type: WP23		Attenuator Static Insertion Loss - dB Octave Band Centres								
Unit Ref	Length	63	125	250	500	1k	2k	4k	8k	Hz
WP23/6P	600	5	9	15	24	28	30	28	24	dB
WP23/9P	900	7	12	21	35	41	43	39	35	dB
WP23/12P	1200	8	15	25	46	49	50	47	43	dB
WP23/15P	1500	10	18	29	50	50	50	50	47	dB
WP23/18P	1800	12	22	36	50	50	50	50	50	dB
WP23/21P	2100	14	26	41	50	50	50	50	50	dB
WP23/24P	2400	17	30	46	50	50	50	50	50	dB



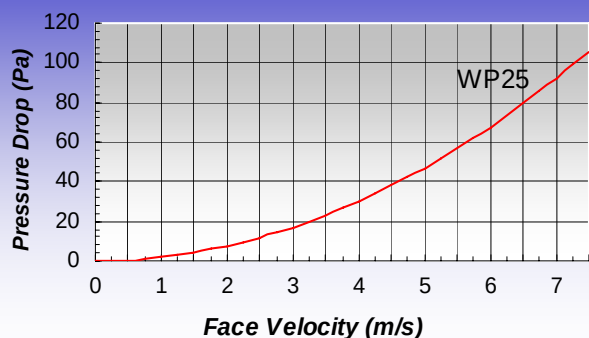
Type: WP24		Attenuator Static Insertion Loss - dB Octave Band Centres								
Unit Ref	Length	63	125	250	500	1k	2k	4k	8k	Hz
WP24/6P	600	5	8	14	20	27	29	23	18	dB
WP24/9P	900	6	10	17	27	34	35	27	22	dB
WP24/12P	1200	7	13	21	36	42	44	34	29	dB
WP24/15P	1500	9	16	26	42	47	49	39	33	dB
WP24/18P	1800	10	18	30	47	50	50	45	40	dB
WP24/21P	2100	11	21	34	50	50	50	49	45	dB
WP24/24P	2400	13	25	38	50	50	50	50	50	dB

All performance figures quoted are derived from the results of tests carried out in accordance with BS4718 1971

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Performance Data

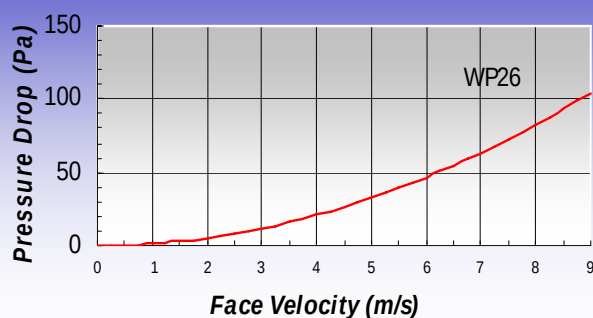
Type WP25 Attenuator
Airflow Performance



Type: WP25 Attenuator Static Insertion Loss - dB
Octave Band Centres

Unit Ref	Length	63	125	250	500	1k	2k	4k	8k	Hz
WP25/6P	600	4	6	12	18	22	24	16	10	dB
WP25/9P	900	5	9	16	26	32	33	21	11	dB
WP25/12P	1200	7	12	19	32	38	39	25	15	dB
WP25/15P	1500	8	14	23	38	44	46	28	17	dB
WP25/18P	1800	9	16	26	42	48	50	32	19	dB
WP25/21P	2100	10	18	29	45	50	50	35	22	dB
WP25/24P	2400	11	21	32	48	50	50	38	26	dB

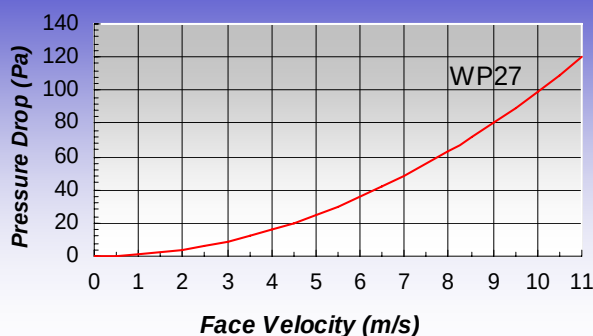
Type WP26 Attenuator
Airflow Performance



Type: WP26 Attenuator Static Insertion Loss - dB
Octave Band Centres

Unit Ref	Length	63	125	250	500	1k	2k	4k	8k	Hz
WP26/9P	900	5	9	15	23	28	30	17	8	dB
WP26/12P	1200	6	11	18	29	34	35	19	9	dB
WP26/15P	1500	7	13	21	36	42	43	23	10	dB
WP26/18P	1800	8	15	25	40	47	49	28	13	dB
WP26/21P	2100	9	17	28	43	50	50	32	15	dB
WP26/24P	2400	10	18	33	47	50	50	35	16	dB
WP26/27P	2700	11	20	37	50	50	50	38	17	dB

Type WP27 Attenuator
Airflow Performance



Type: WP27 Attenuator Static Insertion Loss - dB
Octave Band Centres

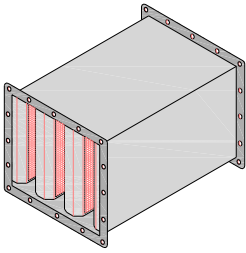
Unit Ref	Length	63	125	250	500	1k	2k	4k	8k	Hz
WP27/12P	1200	4	9	15	24	31	32	14	5	dB
WP27/15P	1500	5	10	17	28	35	38	16	6	dB
WP27/18P	1800	6	11	20	32	39	42	18	7	dB
WP27/21P	2100	7	12	22	36	42	45	20	8	dB
WP27/24P	2400	8	13	25	41	45	48	22	9	dB
WP27/27P	2700	9	14	28	46	49	50	24	10	dB
WP27/30P	3000	10	15	33	50	50	50	26	11	dB

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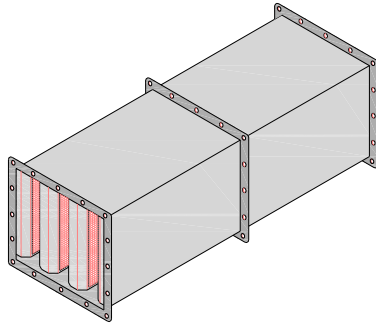
Rectangular Attenuators: WP SERIES

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ACOUSTICS

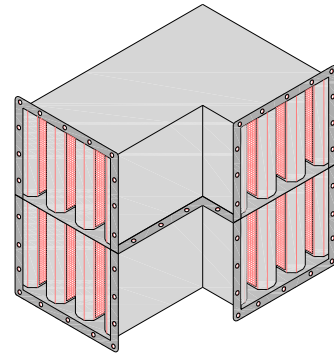
Configurations



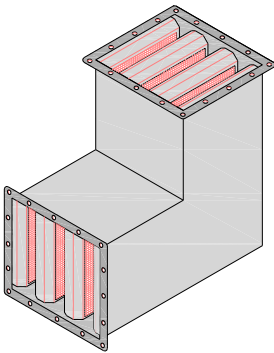
Standard Arrangement



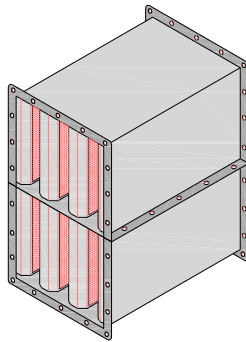
Arrangement TL



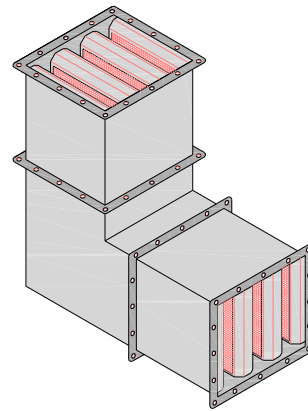
Arrangement BH /TH



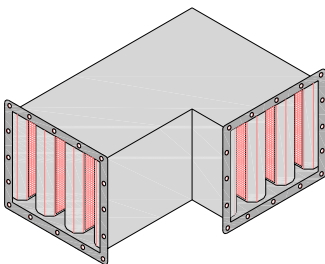
Arrangement BV



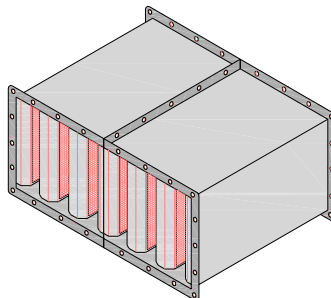
Arrangement TH



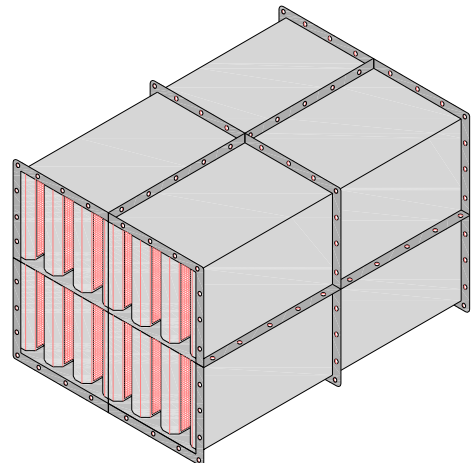
Arrangement BV/TL



Arrangement BH



Arrangement TW



Arrangement TLWH

The WP range of attenuators are available in any configuration to suit the application and our design engineers will assist to ensure optimal performance is achieved within a given situation.
(The modular units indicated above are illustrated with pre-drilled rolled steel angle flanges and joints).