



## Packless Attenuator - Model **PHP**

		Dynamic Insertion Loss (dB)									
		Octave Band/Center Frequency (Hz)									
Model	Flow	Velocity fpm	Press Drop	1 63	2 125	3 250	4 500	5 1K	6 2K	7 4K	8 8K
PHP-36	Reverse	-1000	0.44	8	11	16	23	13	11	8	8
	Flow	-500	0.11	8	11	16	23	13	11	8	8
		0		8	8	14	18	11	11	9	9
	Forward	500	0.11	7	8	17	22	13	11	9	9
	Flow	1000	0.44	7	8	17	22	13	11	9	9
PHP-72	Reverse	-1000	0.53	12	16	24	29	18	14	12	10
	Flow	-500	0.13	12	16	24	29	18	14	12	10
		0	0	8	10	17	24	16	13	12	10
	Forward	500	0.13	11	14	22	29	19	14	13	12
	Flow	1000	0.53	11	14	22	29	19	14	13	12
PHP-108	Reverse	-1000	0.64	16	24	29	35	24	18	15	11
	Flow	-500	0.16	16	24	29	35	24	18	15	11
		0		10	15	23	28	20	17	15	14
	Forward	500	0.16	13	20	30	33	24	18	15	14
	Flow	1000	0.64	13	20	30	33	24	18	15	14

Forward Flow - characteristic of supply or discharge fan systems.

Reverse Flow - typical of return or intake fan systems.

### Pressure Drop Calculation for Specific Velocity

$$\text{Pressure Drop} = \left( \frac{\text{Actual Velocity}}{1000} \right)^2 \times \text{Catalog Pressure Drop @ 1000 fpm}$$

#### **Standard Construction**

22 gauge galvanized casings  
 24 gauge perforated baffles  
 No acoustic fill or absorptive material

#### **Optional Features**

Stainless Steel Construction

Computer program available that provides attenuator performance at actual job conditions.



# Rectangular Packless Attenuators

## No Absorptive Fill Units

### Self-noise Power Levels

Self-Noise Power Levels, dB re 10 <sup>-12</sup> Watts Octave Band/Center Frequency (Hz)									
Model	Velocity fpm	1 63	2 125	3 250	4 500	5 1K	6 2K	7 4K	8 8K
PHP	500	56	49	43	43	49	54	47	28
	1000	64	58	51	51	55	65	63	54
	1500	66	65	60	58	59	66	72	70
PMP	500	55	47	42	43	49	54	47	28
	1000	63	54	50	52	55	58	56	42
	1500	63	59	57	59	61	65	68	61
PLP	500	50	46	41	41	48	53	45	25
	1000	53	49	47	46	52	53	46	31
	1500	63	58	56	55	57	63	64	54

Area Correction Factors - Listed self-noise power levels are for silencers with a face area of four (4) square feet. For silencers with different face areas, the following values must be added to those in the table.

Face area (sq. ft.)	0.5	1	2	4	6	8	16	32	64	128
PWL Correction Factors, dB	-9	-6	-3	0	2	3	6	9	12	15