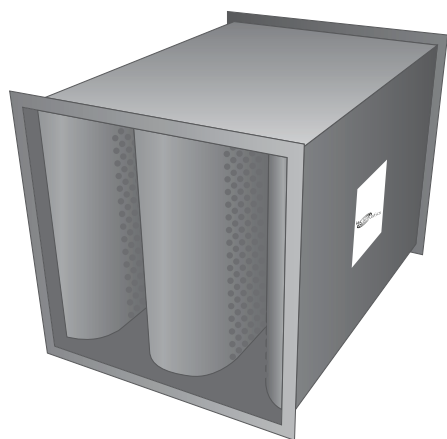


# Ultra-pals™ Packless Silencers Type: XL

With Forward and Reverse Flow Ratings



The complete absence of fill combined with ease of cleaning and draining, makes packless silencers well suited for chemical plants, refineries, nuclear power plants and facilities handling petrol, grease, solvents or other hazardous materials.

**Supplied as Standard:**

- Aerodynamic inlet and discharge to splitter elements to reduce pressure drop and conserve energy

**Designating Silencers: Example**

Model: 6XL-600x600

Length	Type	Width	Height
1800mm	XL	600mm	600mm

XL Silencers must be supplied in standard modular widths that are multiples of 300mm.

- No Fibreglass
- No Foam
- No Mineral Wool
- No Fill of Any Kind

## Self-Noise Power Levels dB re: 10<sup>-12</sup> Watts (for a 0.37m<sup>2</sup> face area silencer)

IAC XL Model	Octave Band	1	2	3	4	5	6	7	8
	Hz	63	125	250	500	1K	2K	4K	8K
	Silencer Face Velocity, m/s	Self-Noise Power Levels, dB							
3XL	-7.5	54	52	56	58	59	64	65	58
	-5	42	44	49	51	55	59	55	45
	+5	46	42	44	46	52	57	55	52
	+7.5	54	54	57	54	54	62	65	59
6XL & 9XL All Sizes (mm)	-10	64	61	58	59	60	64	67	64
	-5	56	52	52	52	55	61	60	50
	+5	58	54	49	46	52	60	60	50
	+10	66	67	65	61	58	63	69	67

## Face Area Adjustment Factors (add or subtract from Lw values above)

Ultra-Pals™ Face Area, m <sup>2</sup> *	0.09	0.19	0.37	0.74	1.50	3.00	6.00	12.00
Lw Adjustment Factor, dB	-6	-3	0	+3	+6	+9	+12	+15

\* For intermediate face areas, interpolate to the nearest whole number

## Aerodynamic Performance

IAC Model	Length (mm)	Static Pressure Drop N/m <sup>2</sup>							
		7	10	15	20	25	30	37	42
XL	900	7	10	15	20	25	30	37	42
	1800	10	12	17	25	30	37	45	55
	2700	10	15	22	27	35	45	55	65
Silencer Face Velocity, m/s		1.27	1.52	1.78	2.03	2.29	2.54	2.79	3.05

## Dynamic Insertion Loss (DIL) Ratings: Forward (+) / Reverse (-) Flow

IAC XL Model (length in mm)	Octave Band	1	2	3	4	5	6	7	8
	Hz	63	125	250	500	1K	2K	4K	8K
	Silencer Face Velocity, m/s	Dynamic Insertion Loss, dB							
3XL (900)	-7.5	9	12	18	21	13	11	9	7
	-5	8	10	16	20	12	11	9	7
	0	8	7	15	17	11	11	9	8
	+5	7	8	17	21	13	11	9	8
	+7.5	7	9	18	21	14	13	9	9
6XL (1800)	-7.5	12	20	25	30	19	16	13	10
	-5	12	18	23	27	18	15	13	10
	0	8	11	19	23	16	14	13	11
	+5	11	14	23	28	19	15	13	12
	+7.5	10	15	24	30	21	17	14	12
9XL (2700)	-7.5	19	28	32	38	27	21	16	11
	-5	16	25	29	34	24	19	16	12
	0	11	15	22	27	20	18	16	15
	+5	13	20	29	33	25	20	16	16
	+7.5	13	21	29	35	26	23	18	15

### Note

- The tabulated air flow in m<sup>3</sup>/s is based upon tests in the IAC Acoustics R&D Laboratory, in accordance with applicable sections of internationally recognised airflow test codes. These codes require specific lengths of straight duct both upstream and downstream of the test specimen. Non-compliance with these codes can add from 0.5 to several velocity heads depending on specific conditions. The downstream measurements are made far enough downstream to include static regain. Therefore, if silencers are installed immediately before or after elbows, transitions or at the intake or discharge of the system, sufficient allowance to compensate for these factors must be included when calculating the operating static pressure loss through the silencer. See pages 10 and 11 for further details.
- Face Velocity is the airflow (m<sup>3</sup>/s) divided by the Face Area (m<sup>2</sup>)
- Pressure drop for any face velocity can be calculated from the equation:  $PD = (\text{Actual FV} / \text{catalogue FV})^2 \times (\text{Catalogue PD})$

Ultra-Pak™ Packless XL Silencers