

# HAP

## AKUSTİK PANJUR

### Acoustic Louvre



#### TANIM

- **HAP-A:** Standart Akustik Panjur
- **HAP-B:** Sönümlenme Etkisi Arttırılmış Akustik Panjur

#### MALZEME

.Akustik panjur dış ortamdan alınan havanın iç ortama ulaştırılması sırasında oluşan hava sesini engeller. Ses sönümü için 50 kg/m<sup>3</sup> yoğunlukta ses yalıtım malzemesi ve hava ile temasını arttırılabilmek için Ø5 mm gözenekli perfore sac kullanılmaktadır. İsteğe bağlı olarak tel kafes uygulaması yaparak yabancı maddelerin girişini engeller. Ürün kasa ve kanatları standart olarak galvaniz sacdan imal edilmektedir. İsteğe bağlı olarak alüminyum veya paslanmaz çelik sacdan da imal edilmektedir.

#### UYGULAMA

Hava kanalı emiş ve egzoz hatlarının uçlarında kanal vasıtasıyla aspiratör veya klima santralinden gelen ses aktarımını azaltmak için olduğu gibi, iç ve dış ortam arasındaki ses aktarımını azaltmak için de kullanılmaktadır. Aynı zamanda havalandırma tesisatını yağmur, kuş v.b. gibi zararlı etkenlerden korumaktadır.

#### YÜZEY KAPLAMA

- Elektrostatik toz boya (Standart renkler RAL9010 ve RAL9016)
- İsteğe bağlı olarak RAL kodundaki diğer tüm renklerde temin edilmektedir.

#### MONTAJ

- Vidalı montaj
- Civatayla kanala montaj.

#### DESCRIPTION

- **HAP-A:** Standard Acoustic Louvre
- **HAP-B:** Acoustic Louvre with Increased Absorption Effect

#### MATERIAL

Acoustic louvres prevent the transmission of sound into environment that accompanies air supplied from the outside. In order to dampen the sound, sound insulation material that is of 50 kg/m<sup>3</sup> density and perforated sheet metal of Ø5 mm perforation is used. On request, fly wire can also be installed to prevent entry of foreign particles. The product casing and blades are manufactured from galvanized sheet metal. As an option aluminium or stainless steel can also be used in manufacturing the louvres.

#### APPLICATION

Acoustic louvre is used for reducing the sound transmission that caused from aspirator or air handling unit, between the ends of suction and exhaust lines of air ducts and also it can be used directly for reducing the sound transmission between internal and external environments. Meantime, acoustic louvre protects ventilation system from hazards such as rain, bird etc...

#### SURFACE COATING

- Electrostatic powder coating (Standard colours are RAL 9010 and RAL 9016)
- As an option all the colours in other RAL codes can be provided.

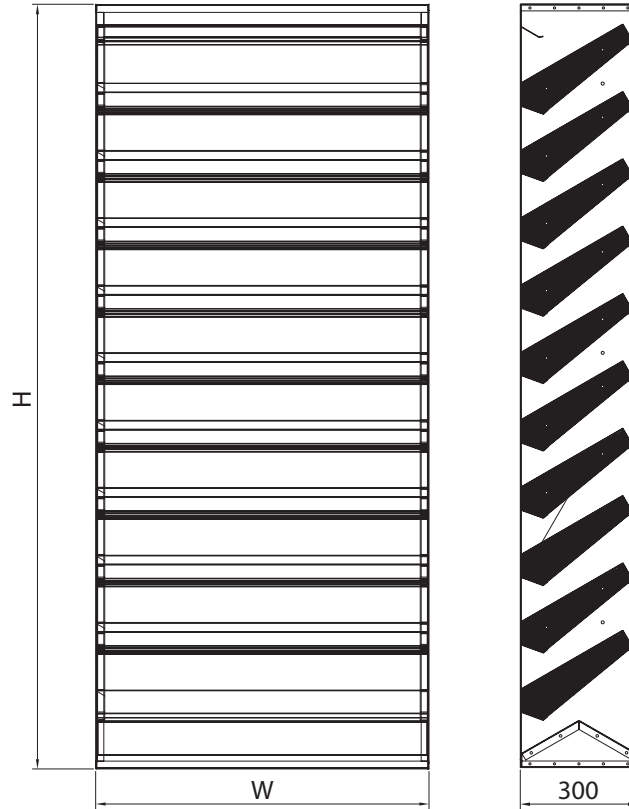
#### ASSEMBLY

- Installation with screw
- Installation to duct with M. bolt

# HAP

## AKUSTİK PANJUR *Acoustic Louvre*

### AKUSTİK PANJUR ÖLÇÜLERİ ve EFEKTİF ALANLARI *ACOUSTIC LOUVRE DIMENSIONS and EFFECTIVE AREAS*



Aeff (m <sup>2</sup> )		W (mm)											
		300	450	600	750	900	1050	1200	1350	1500	1650	1800	1950
H (mm)	450	0.056	0.085	0.113	0.141	0.169	0.197	0.226	0.254	0.282	0.310	0.338	0.367
	600	0.077	0.115	0.153	0.191	0.233	0.268	0.306	0.344	0.383	0.421	0.459	0.497
	750	0.098	0.146	0.195	0.244	0.293	0.341	0.390	0.439	0.488	0.536	0.585	0.634
	900	0.117	0.175	0.233	0.292	0.350	0.408	0.467	0.525	0.584	0.642	0.700	0.759
	1050	0.133	0.199	0.266	0.332	0.399	0.465	0.532	0.598	0.665	0.731	0.797	0.864
	1200	0.153	0.230	0.306	0.383	0.459	0.536	0.612	0.689	0.765	0.842	0.918	0.995
	1350	0.173	0.261	0.346	0.433	0.519	0.606	0.692	0.779	0.866	0.952	1.039	1.125
	1500	0.193	0.290	0.386	0.483	0.580	0.676	0.773	0.869	0.986	1.063	1.159	1.256
	1650	0.213	0.320	0.426	0.533	0.639	0.746	0.852	0.959	1.065	1.172	1.278	1.385
	1800	0.233	0.350	0.467	0.584	0.700	0.817	0.934	1.050	1.167	1.284	1.400	1.517
	1950	0.250	0.374	0.499	0.624	0.749	0.874	0.998	1.123	1.248	1.373	1.498	1.622
	2100	0.270	0.405	0.539	0.674	0.809	0.944	1.079	1.214	1.349	1.483	1.618	1.753
	2250	0.290	0.434	0.579	0.724	0.869	1.013	1.158	1.303	1.448	1.592	1.737	1.882
2400	0.310	0.464	0.619	0.774	0.929	1.084	1.238	1.393	1.548	1.703	1.858	2.012	

**AKUSTİK PANJUR KOLAY SEÇİM TABLOSU**  
ACOUSTIC LOUVRE QUICK SELECTION TABLE

Aeff (m<sup>2</sup>): Efektif alan  
Ueff (m/s): Efektif hız  
V (m<sup>3</sup>/h): Hava debisi  
ΔPt (Pa): Toplam basınç kaybı

*Effective area*  
*Effective velocity*  
*Air flow rate*  
*Total pressure drop*

	Frekans (Hz)	125	250	500	1000	2000	3000
Model Ses	HAP-A (dB)	9	4	5	9	11	12
	HAP-B (dB)	10	6	8	11	14	16

		Aeff (m <sup>2</sup> )																					
V (m <sup>3</sup> /h)		0.056	0.077	0.085	0.098	0.117	0.146	0.169	0.197	0.226	0.290	0.383	0.433	0.533	0.676	0.773	0.852	0.959	1.065	1.284	1.737	2.012	
100	ueff. (m/s)	0.5																					
	ΔPt (Pa)	5																					
150	ueff. (m/s)	0.7	0.5	0.5																			
	ΔPt (Pa)	8	5	5																			
200	ueff. (m/s)	1.0	0.7	0.7	0.6	0.5																	
	ΔPt (Pa)	13	8	8	6	5																	
250	ueff. (m/s)	1.2	0.9	0.8	0.7	0.6	0.5																
	ΔPt (Pa)	17	11	10	8	6	5																
300	ueff. (m/s)	1.5	1.1	1.0	0.9	0.7	0.6	0.5															
	ΔPt (Pa)	27	15	13	11	8	6	5															
400	ueff. (m/s)	2.0	1.4	1.3	1.1	0.9	0.8	0.7	0.6	0.5													
	ΔPt (Pa)	42	24	21	15	11	10	8	6	5													
500	ueff. (m/s)	2.5	1.8	1.6	1.4	1.2	1.0	0.8	0.7	0.6	0.5												
	ΔPt (Pa)	61	35	30	24	17	13	10	8	6	5												
600	ueff. (m/s)	3.0	2.2	2.0	1.7	1.4	1.1	1.0	0.8	0.7	0.6												
	ΔPt (Pa)	78	48	42	32	24	15	13	10	8	6												
700	ueff. (m/s)	3.5	2.5	2.3	2.0	1.7	1.3	1.2	1.0	0.9	0.7	0.5											
	ΔPt (Pa)	97	61	52	42	32	21	17	13	11	8	5											
800	ueff. (m/s)	4.0	2.9	2.6	2.3	1.9	1.5	1.3	1.1	1.0	0.8	0.6	0.5										
	ΔPt (Pa)	125	75	64	52	39	27	21	15	13	10	6	5										
900	ueff. (m/s)	4.5	3.2	2.9	2.6	2.1	1.7	1.5	1.3	1.1	0.9	0.7	0.6	0.5									
	ΔPt (Pa)	158	84	75	64	45	32	27	21	15	11	8	6	5									
1000	ueff. (m/s)	5.0	3.6	3.3	2.8	2.4	1.9	1.6	1.4	1.2	1.0	0.7	0.6	0.5									
	ΔPt (Pa)	190	102	89	71	57	39	30	24	17	13	8	6	5									
1200	ueff. (m/s)	6.0	4.3	3.9	3.4	2.8	2.3	2.0	1.7	1.5	1.1	0.9	0.8	0.6	0.5								
	ΔPt (Pa)	236	146	119	92	71	52	42	32	27	15	11	10	6	5								
1400	ueff. (m/s)		5.1	4.6	4.0	3.3	2.7	2.3	2.0	1.7	1.3	1.0	0.9	0.7	0.6	0.5							
	ΔPt (Pa)		196	165	125	89	69	52	42	32	21	13	11	8	6	5							
1600	ueff. (m/s)		5.8	5.2	4.5	3.8	3.0	2.6	2.3	2.0	1.5	1.2	1.0	0.8	0.7	0.6	0.5						
	ΔPt (Pa)		222	203	158	112	78	64	52	42	27	17	13	10	8	6	5						
1800	ueff. (m/s)			5.9	5.1	4.3	3.4	3.0	2.5	2.2	1.7	1.3	1.2	0.9	0.7	0.6	0.6	0.5					
	ΔPt (Pa)			229	196	146	92	78	61	48	32	21	17	11	8	6	6	5					
2000	ueff. (m/s)				5.7	4.7	3.8	3.3	2.8	2.5	1.9	1.5	1.3	1.0	0.8	0.7	0.7	0.6	0.5				
	ΔPt (Pa)				218	172	112	89	71	61	39	27	21	13	10	8	8	6	5				
2500	ueff. (m/s)					5.9	4.8	4.1	3.5	3.1	2.4	1.8	1.6	1.3	1.0	0.9	0.8	0.7	0.7	0.5			
	ΔPt (Pa)					229	178	130	97	81	57	35	30	21	13	11	10	8	8	5			
3000	ueff. (m/s)						5.7	4.9	4.2	3.7	2.9	2.2	1.9	1.6	1.2	1.1	1.0	0.9	0.8	0.6	0.5		
	ΔPt (Pa)						218	184	139	107	75	48	39	30	17	15	13	11	10	6	5		
3500	ueff. (m/s)							5.8	4.9	4.3	3.4	2.5	2.2	1.8	1.4	1.3	1.1	1.0	0.9	0.8	0.6	0.5	
	ΔPt (Pa)							222	184	146	92	61	48	35	24	21	15	13	11	10	6	5	
4000	ueff. (m/s)								5.6	4.9	3.8	2.9	2.6	2.1	1.6	1.4	1.3	1.2	1.0	0.9	0.6	0.6	
	ΔPt (Pa)								209	184	112	75	64	45	30	24	21	17	13	11	6	6	
5000	ueff. (m/s)									4.8	3.6	3.2	2.6	2.1	1.8	1.6	1.4	1.3	1.1	0.8	0.7		
	ΔPt (Pa)									178	102	84	64	45	35	30	24	21	15	8	8		
6000	ueff. (m/s)										5.7	4.4	3.8	3.1	2.5	2.2	2.0	1.7	1.6	1.3	1.0	0.8	
	ΔPt (Pa)										218	152	112	81	61	48	42	32	30	21	13	10	