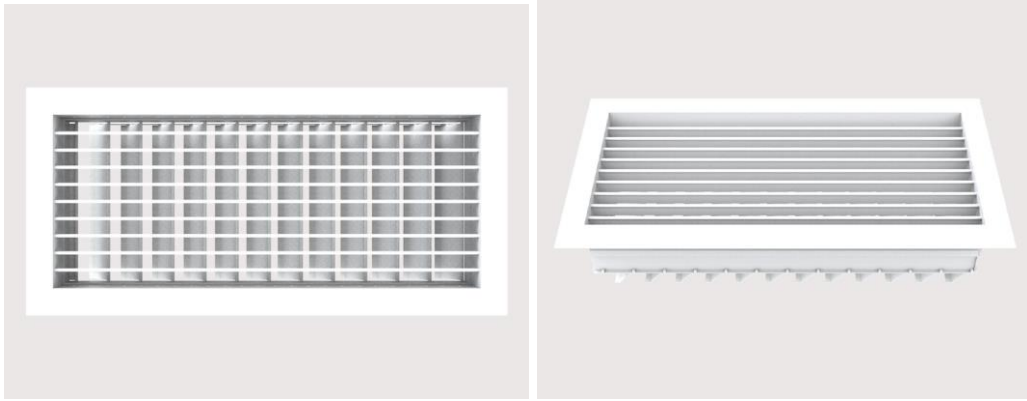


**SINGLE DEFLECTION GRILLES – RETURN –EXHAUST AIR GRILLES –CKM-01**



**AREA OF USAGE AND FEATURES:** Return grilles used in Duct and ceiling applications in HVAC systems. It is used as. Wings can be adjustable thru the front side of grilles. Standard production is with a screw. The way of assembling can be adjustable depends upon requirements.

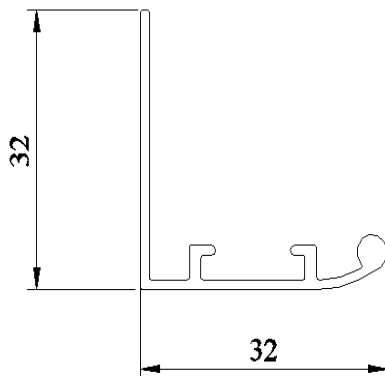
**MATERIAL:** Aluminum profile produced the extrusion method

**SURFACE COATING :** Product can be manufactured in requested colour by electrostatic powder paint, eloksal coating or without paint.

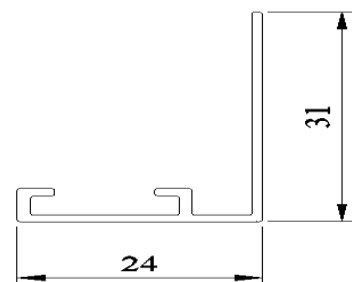
**ACCESSORIES :** Air vent Damper, Air vent box, Installation blind case

**FRAME TYPES**

**STANDART FRAME**



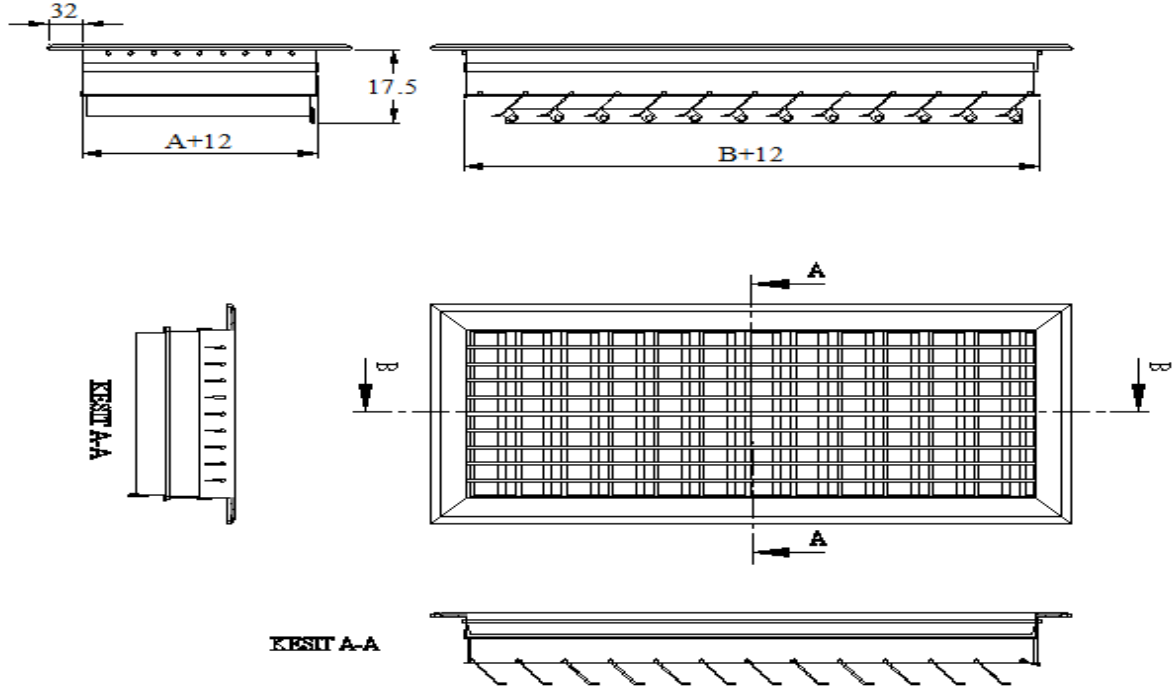
**NARROW FRAME**



**TECHNICAL MEASUREMENT**

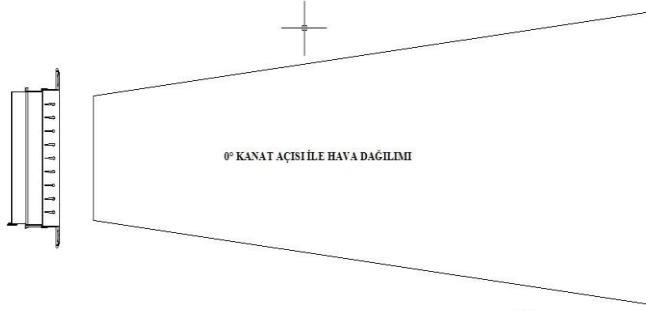
**W 100-150-200-250-300-350-400-450- 500-600-700-800-900-1000-1100-1200**  
**H 100-150-200-250-300-350-400-450-500-600-700-800-900-1000**

**COMBINATION CAN BE DONE IN REQUESTED MEASUREMENTS.**



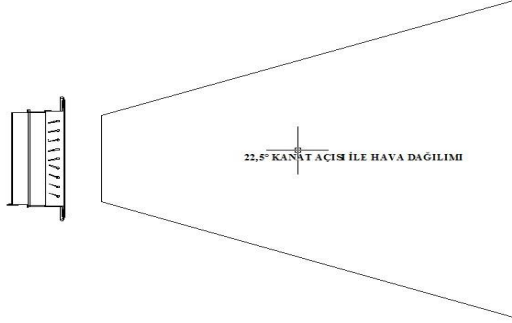
SOME APLPLICATION AREAS	Speed of Blower(m/s)
Radio and film studios, Surgery rooms	1,5 – 2,5
Bedrooms, Hotel Rooms,Offices,Residances, Hospitals, Mosques,Churchs etc.	2 – 4
Concert Halls, Dining Rooms, Classrooms,Banks,Libraries,Game Rooms,Conference Halls	2,5 – 5
Restaurants, Cafeteries, Hotel Lobbies, Theaters,Cinemas, Shopping Malls, Ball Rooms	2,5 – 6
Supermarkets, Factories, Gym, Industrial Kitchens/ Warehouses	5 – 10

**AIR STREAM REGARDS TO WINGS POSITION**



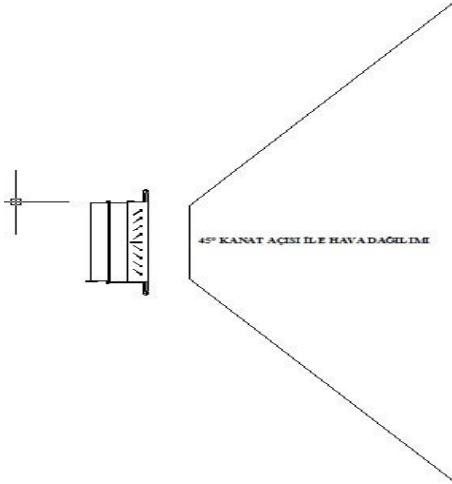
0° KANAT AÇISI İLE HAVA DAĞILIMI

SHOOTING RANGE MAX AT 0° POSITION. STATIC PRESSURE TO BE MIN.



22,5° KANAT AÇISI İLE HAVA DAĞILIMI

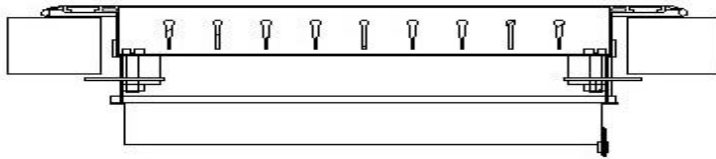
SHOOTING RANGE DECREASES DIFUSION INCREASE. STATIC PRESSURE INCREASES IN A RATIO OF ANGLES AT 22.5° WINGS POSITION



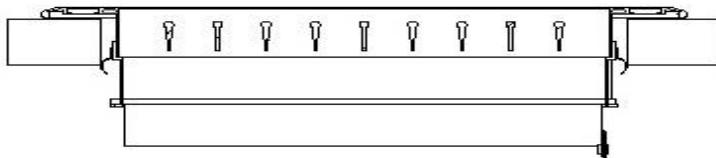
45° KANAT AÇISI İLE HAVA DAĞILIMI

SHOOTING RANGE TO BE MIN. AT 45° WING POSITION. DIFUSION MAX. STATIC PRESSURE TO BE MAX.

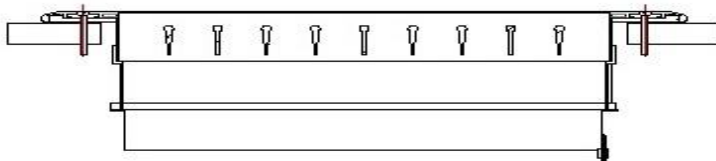
### MOUNTING METHOD



LATCH ASSEMBLY

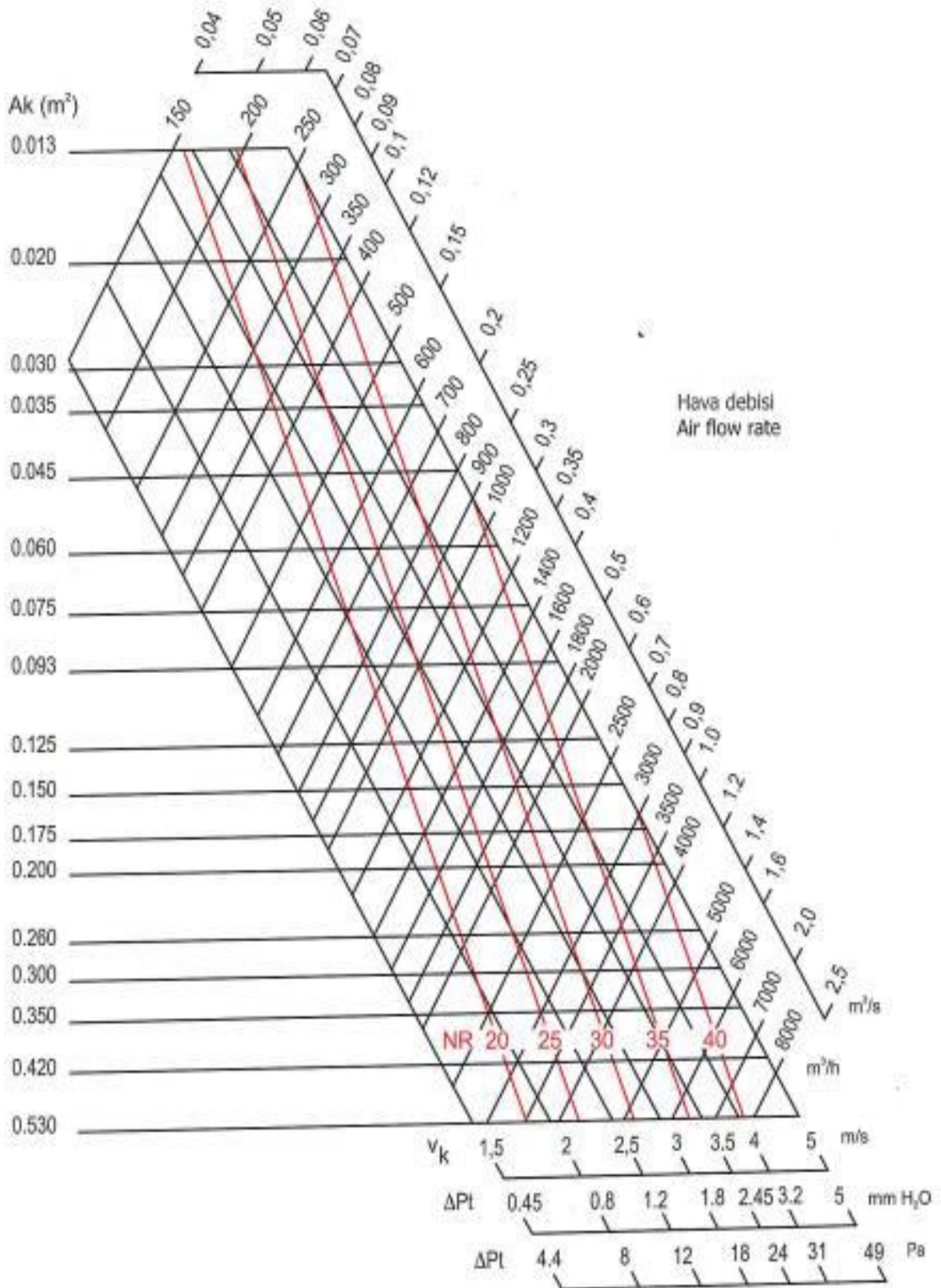


CLIP ASSEMBLY



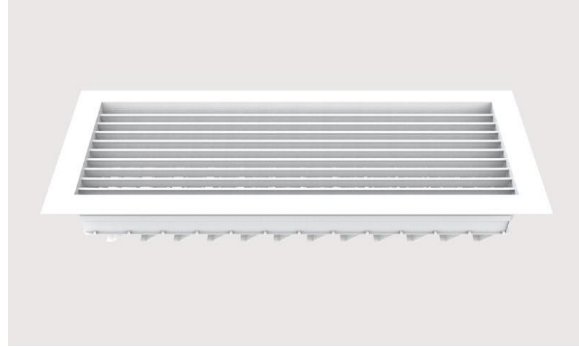
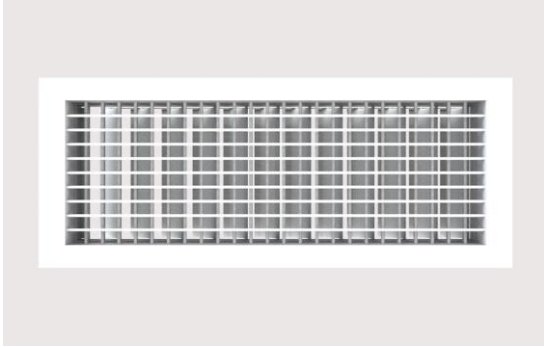
SCREW ASSEMBLY

SELECTION DİYAGRAM





**SUPPLY AIR GRILLES - DOUBLE DEFLECTION GRILLES -CKM-02**



**AREA OF USAGE AND FEATURES:** Supply grilles used in Duct and ceiling applications in HVAC systems. It is used as. Wings can be adjustable thru the front side of grilles. Standard production is with the screw. The way of assembling can be adjustable depends upon the requirement.

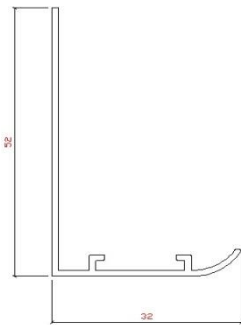
**MATERIAL:** Aluminium profile produced by the extrusion method

**SURFACE COATING:** Product can be manufactured in requested colour by electrostatic powder paint, eloksal coating or without paint.

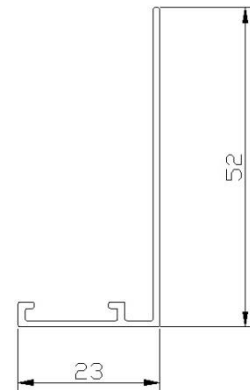
**ACCESSORIES:** Airvent Damper, Airvent box, Installation blind case

**FRAME TYPES**

**STANDART FRAME**



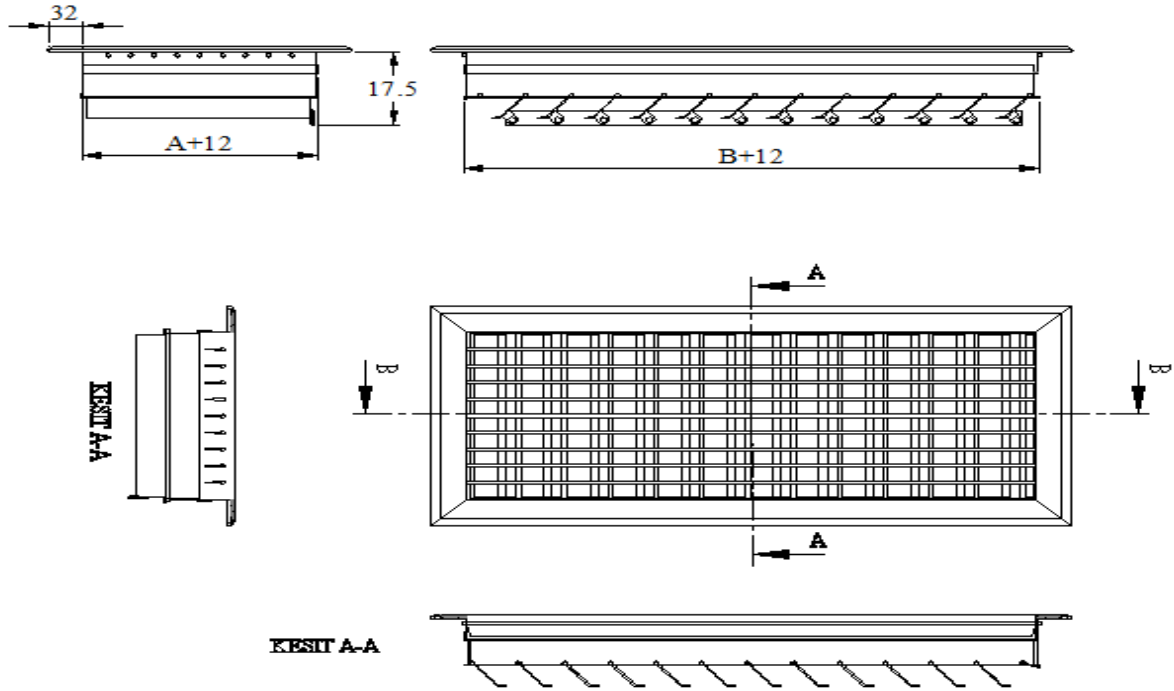
**NARROW FRAME**



**TECHNICAL MEASUREMENT**

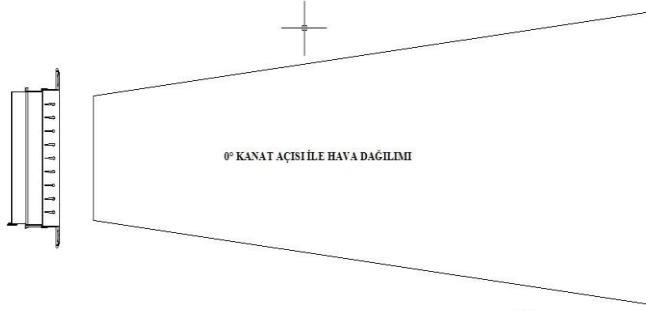
W 100-150-200-250-300-350-400-450- 500-600-700-800-900-1000-1100-1200  
 H 100-150-200-250-300-350-400-450-500-600-700-800-900-1000

COMBINATION CAN BE DONE IN REQUESTED MEASUREMENTS.

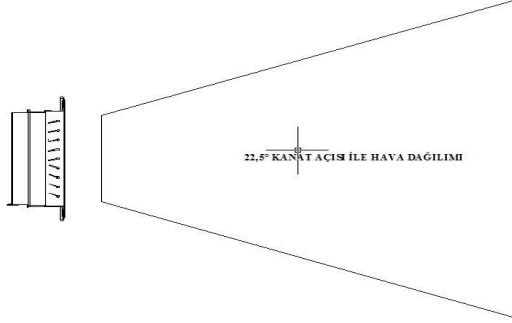


SOME APLPLICATION AREAS	Speed of Blower(m/s)
Radio and film studios, Surgery rooms	1,5 – 2,5
Bedrooms, Hotel Rooms,Offices,Residances, Hospitals, Mosques,Churchs etc.	2 – 4
Concert Halls, Dining Rooms, Classrooms,Banks,Libraries,Game Rooms,Conference Halls	2,5 – 5
Restaurants, Cafeteries, Hotel Lobbies, Theaters, Cinemas, Shopping Malls, Ball Rooms	2,5 – 6
Supermarkets, Factories, Gym, Industrial Kitchens/ Warehouses	5 – 10

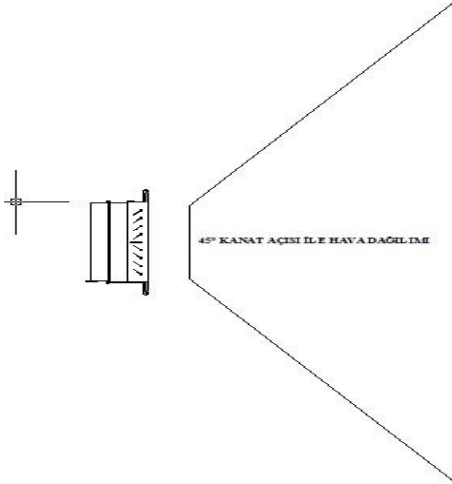
**AIR STREAM REGARDS TO WINGS POSITION**



SHOOTING RANGE MAX AT 0° POSITION. STATIC PRESSURE TO BE MIN.

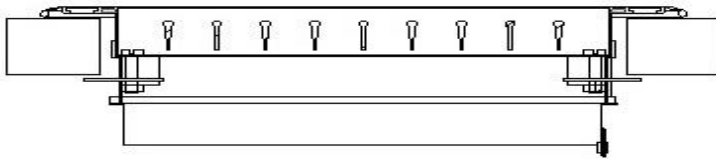


SHOOTING RANGE DECREASES DIFUSION INCREASE. STATIC PRESSURE INCREASES IN A RATIO OF ANGLES AT 22.5° WINGS POSITION

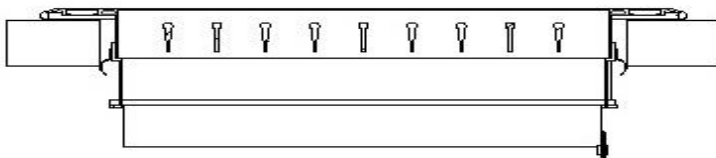


SHOOTING RANGE TO BE MIN. AT 45° WING POSITION. DIFUSION MAX. STATIC PRESSURE TO BE MAX.

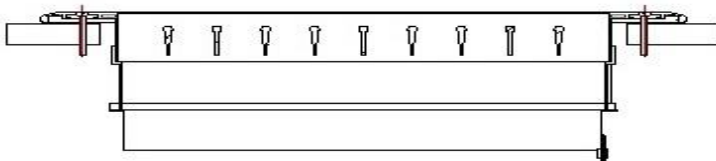
**MOUNTING METHOD**



LATCH ASSEMBLY

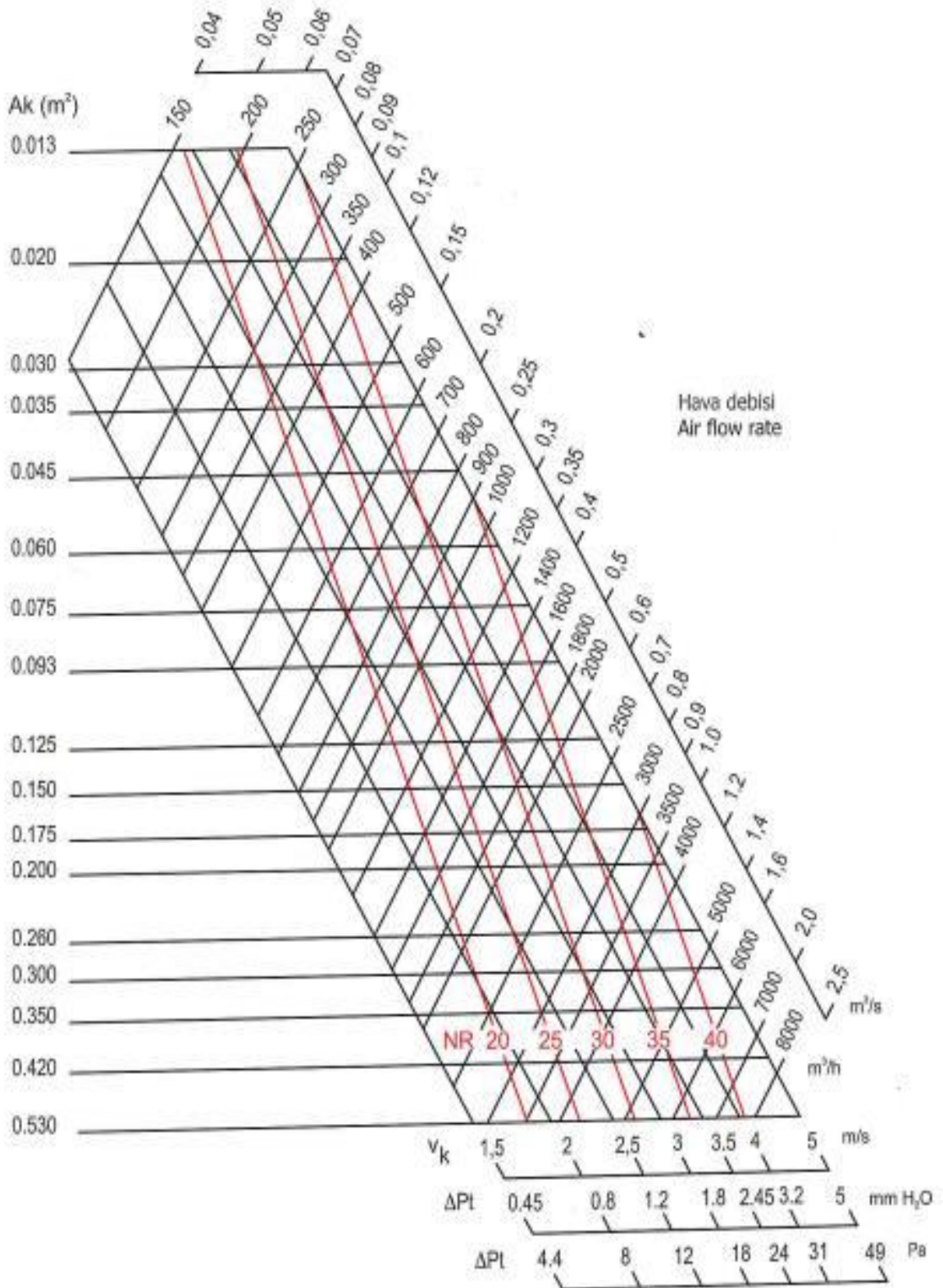


CLIP ASSEMBLY

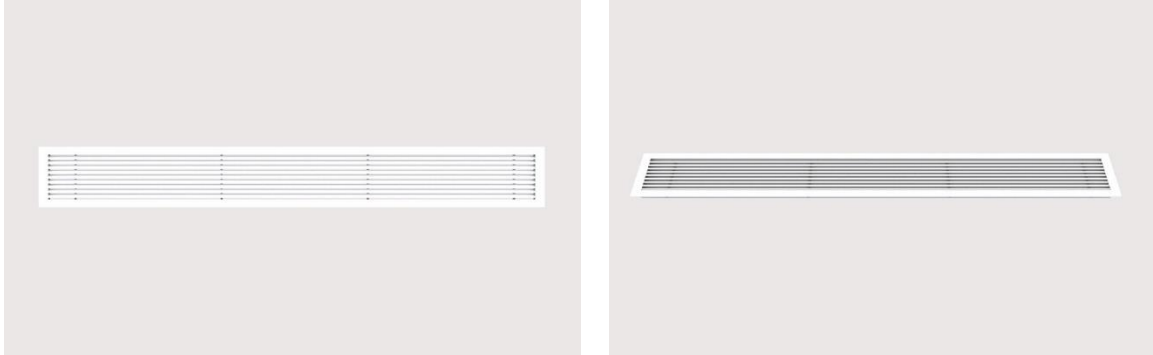


SCREW ASSEMBLY

SELECTION DİYAGRAM



**LINEER GRILLES -CKM-03**



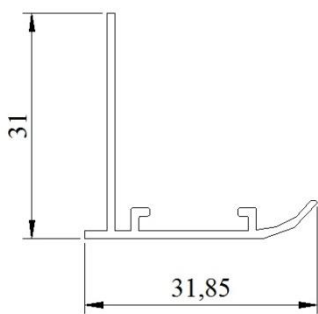
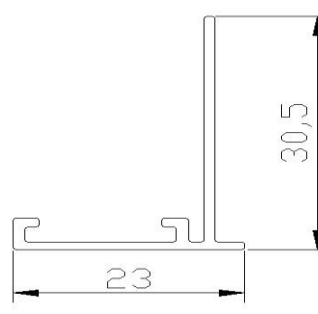
**AREA OF USAGE AND FEATURES:** It is used as a blower and sucks air vents in HVAC systems. To be used for blowing and sucking purposes for ceiling applications.at fan-coil applications, it can be used as sucking air vent standard manufacturing is without screw. The way of assembling can be adjustable depends upon the requirement.

**MATERIAL:** Aluminium profile produced by the extrusion method

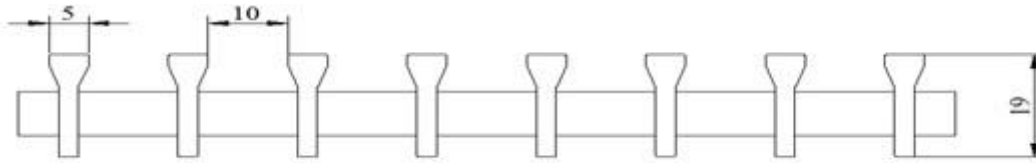
**SURFACE COATING:** Product can be manufactured in requested colour by electrostatic powder paint, eloksal coating or without paint.

**ACCESSORIES:** Menfez Airvent Damper, Airvent box, Installation blind case

**FRAME TYPES**

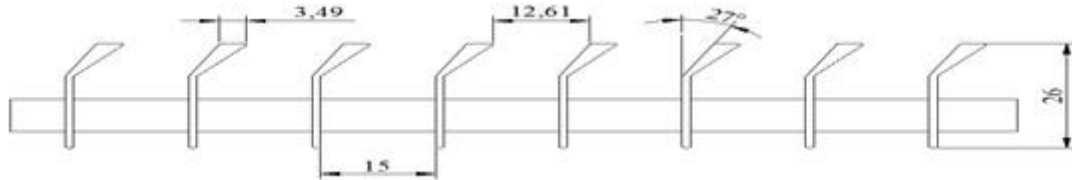
STANDART FRAME	NARROW FRAME
	

**WING STRUCTURE :**



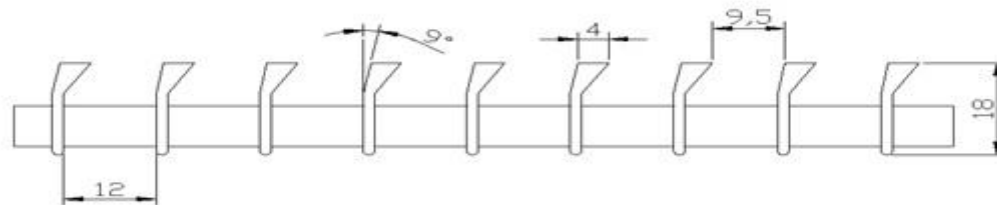
WING ANGLE: 0°

USAGE AREAS: RAISED FLOOR FLOOR CONVECTOR ,IN WALL AND POOL APPLICA



WING ANGLE: 27°

USAGE AREAS: RAISED FLOOR FLOOR CONVECTOR, IN WALL AND POOL APPLICA

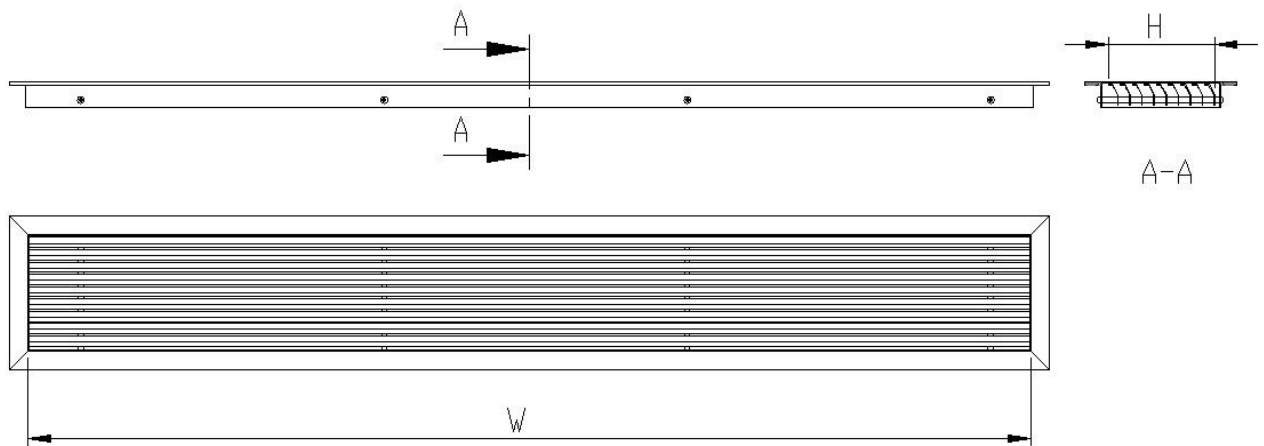


WING ANGLE: 9°

USAGE AREAS: RAISED FLOOR FLOOR CONVECTOR, IN WALL AND POOL APPLICA

**TECHNICAL MEASUREMENT**

<b>W</b>	200-250-300-350-400-450-500-600-700-800-900-1000-1100-1200-1300-1400-1500-2000
<b>H</b>	50-75-100-150-200-250-300-350-400-450-500
<b>COMBINATION CAN BE DONE IN REQUESTED MEASUREMENTS</b>	



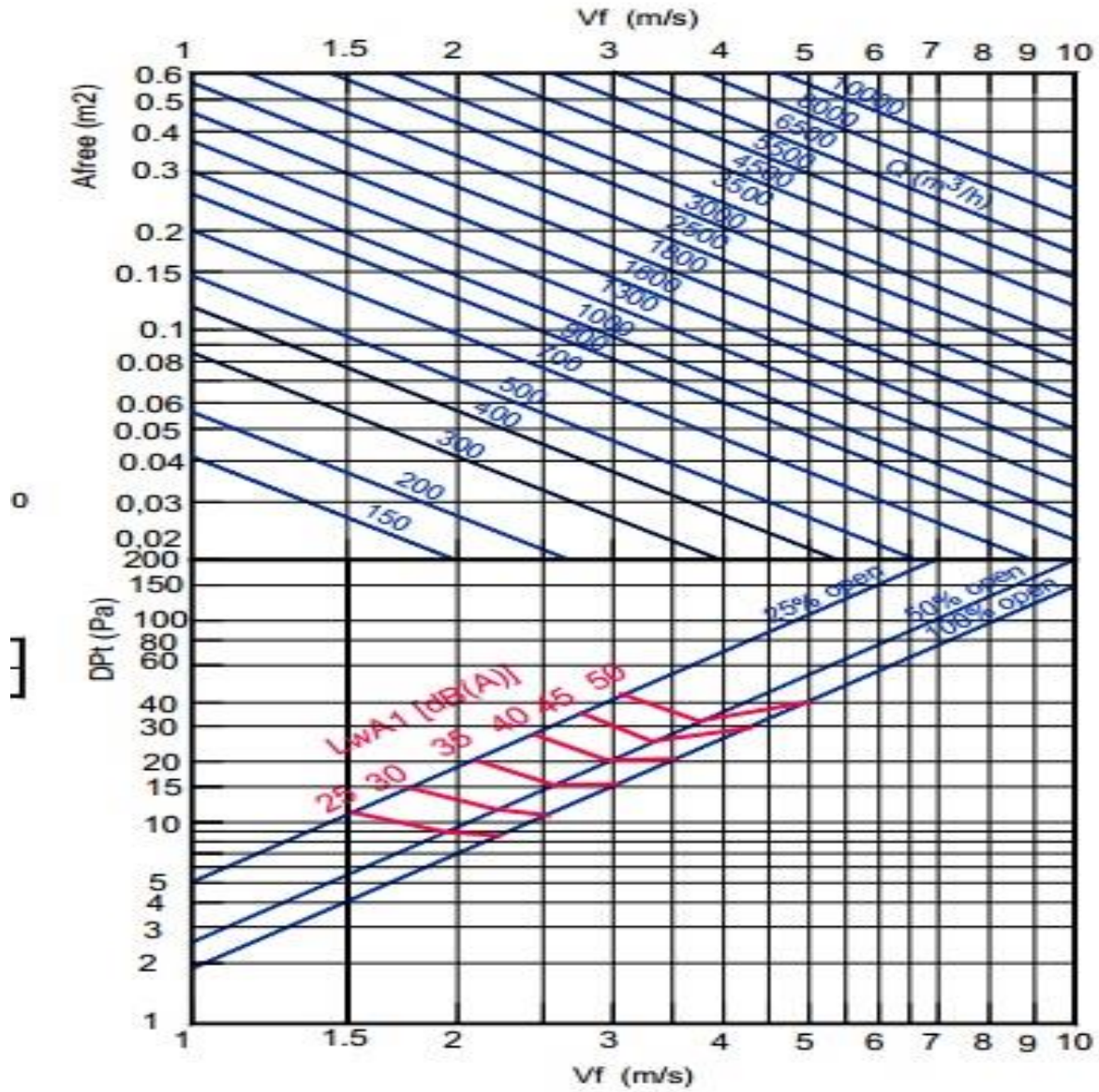
**0° WING ANGLE LINEER GRILLES EFFECTİVE AREA m2**

W+H	50	75	100	125	150	175	200	250	300	350	400	450	500
200	0,0067	0,0101	0,0134	0,0168	0,0201	0,0235	0,0003						
250	0,0083	0,0125	0,0167	0,0208	0,025	0,0292	0,0333	0,0417					
300	0,0100	0,0150	0,0200	0,0250	0,0300	0,0350	0,0400	0,0500	0,0600				
350	0,0117	0,0175	0,0233	0,0292	0,0350	0,0408	0,0467	0,0583	0,0700	0,0817			
400	0,0133	0,0200	0,0267	0,0333	0,0400	0,0467	0,0533	0,0667	0,0800	0,0933	0,1067		
450	0,0150	0,0225	0,0300	0,0375	0,0450	0,0525	0,0600	0,0750	0,0900	0,1050	0,1200	0,2025	
500	0,0167	0,0250	0,0333	0,0417	0,0500	0,0583	0,0667	0,0833	0,1000	0,1167	0,1333	0,1500	0,1667
600	0,0167	0,0300	0,0400	0,0500	0,0600	0,0700	0,0800	0,1000	0,1200	0,1400	0,1600	0,1800	0,2000
700	0,0200	0,0350	0,0467	0,0583	0,0700	0,0817	0,0933	0,1167	0,1400	0,1633	0,1867	0,2100	0,2333
800	0,0233	0,0400	0,0533	0,0667	0,0800	0,0933	0,1067	0,1333	0,1600	0,1867	0,2133	0,2400	0,2667
900	0,0267	0,0450	0,0600	0,0750	0,0900	0,1050	0,1200	0,1500	0,1800	0,2100	0,2400	0,2700	0,3000
1000	0,0300	0,0500	0,0667	0,0833	0,1000	0,1167	0,1333	0,1667	0,2000	0,2333	0,2667	0,3000	0,3333
1100	0,0333	0,0550	0,0733	0,0917	0,1100	0,1283	0,1467	0,1833	0,2200	0,2567	0,2933	0,3300	0,3667
1200	0,0367	0,0600	0,0800	0,1000	0,1200	0,1400	0,1600	0,2000	0,2400	0,2800	0,3200	0,3600	0,4000
1300	0,0400	0,0650	0,0867	0,1083	0,1300	0,1517	0,1733	0,2167	0,2600	0,3033	0,3467	0,3900	0,4333
1400	0,0433	0,0700	0,0933	0,1167	0,1400	0,1633	0,1867	0,2333	0,2800	0,3267	0,3733	0,4200	0,4667
1500	0,0467	0,0750	0,1000	0,1250	0,1500	0,1750	0,2000	0,2500	0,3000	0,3500	0,4000	0,4500	0,5000

**10° , 27° WING ANGLE LINEER GRILLES EFFECTİVE AREA m2**

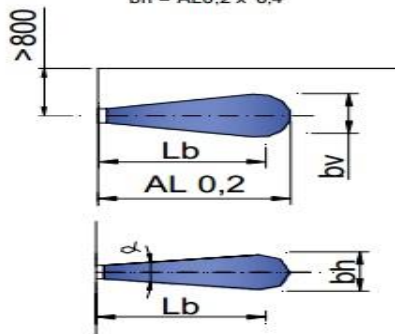
W+H	50	75	100	125	150	175	200	250	300	350	400	450	500
200	0,0076	0,0115	0,1530	0,0191	0,0229	0,0268	0,0306						
250	0,0101	0,0190	0,0253	0,0254	0,0304	0,0355	0,0406	0,0507					
300	0,0126	0,0150	0,0200	0,0316	0,0379	0,0443	0,0506	0,0632	0,0759				
350	0,0151	0,0227	0,0303	0,0379	0,0454	0,0530	0,0606	0,0757	0,0909	0,1060			
400	0,0176	0,0265	0,0353	0,0441	0,0529	0,0618	0,0706	0,0882	0,1059	0,1235	0,1412		
450	0,0201	0,0302	0,0403	0,5040	0,0604	0,0705	0,0806	0,1007	0,1209	0,1410	0,1612	0,1813	
500	0,0226	0,0340	0,0453	0,0566	0,0679	0,0793	0,0906	0,1132	0,1359	0,1585	0,1812	0,2038	0,2265
600	0,0276	0,0415	0,0553	0,0691	0,0829	0,0968	0,1106	0,1382	0,1659	0,1935	0,2212	0,2488	0,2765
700	0,0326	0,0490	0,0653	0,0816	0,0979	0,1143	0,1306	0,1632	0,1959	0,2285	0,2612	0,2938	0,3265
800	0,0376	0,0565	0,0753	0,0941	0,1129	0,1318	0,1506	0,1882	0,2259	0,2635	0,3012	0,3388	0,3765
900	0,0426	0,0640	0,0853	0,1066	0,1279	0,1493	0,1706	0,2132	0,2559	0,2985	0,3412	0,3838	0,4265
1000	0,0476	0,0715	0,0953	0,1191	0,1429	0,1668	0,1906	0,2382	0,2859	0,3335	0,3812	0,4288	0,4765
1100	0,0526	0,0790	0,1053	0,1316	0,1579	0,1843	0,2106	0,2632	0,3159	0,3685	0,4212	0,4738	0,5265
1200	0,0576	0,0865	0,1153	0,1441	0,1729	0,2018	0,2306	0,2882	0,3459	0,4035	0,4612	0,5188	0,5765
1300	0,0626	0,0940	0,1253	0,1566	0,1879	0,2193	0,2506	0,3132	0,3759	0,4385	0,5012	0,5638	0,6265
1400	0,0676	0,1015	0,1353	0,1691	0,2029	0,2368	0,2706	0,3382	0,4059	0,4735	0,5412	0,6088	0,6765
1500	0,0073	0,1090	0,1453	0,1816	0,2179	0,2543	0,2906	0,3632	0,4359	0,5085	0,5812	0,6538	0,7265





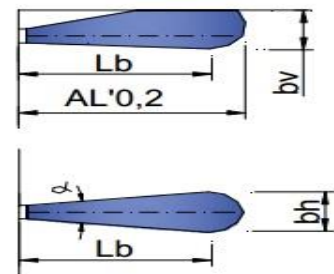
POSITION OF BLADES 0°  
WITHOUT CEILING EFFECT.

AL0,2  
 $L_b = AL_{0,2} \times 0,53$   
 $b_v = AL_{0,2} \times 0,12$   
 $b_h = AL_{0,2} \times 0,4$



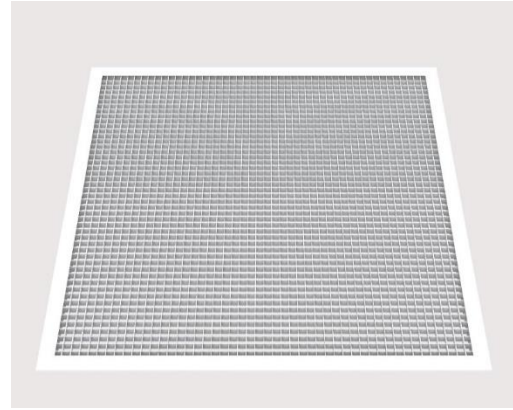
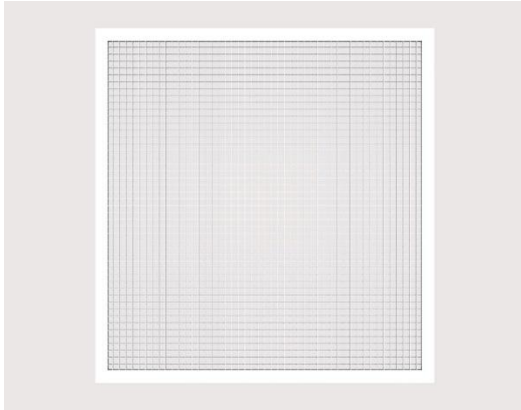
POSITION OF BLADES 0°  
WITH CEILING EFFECT.

$AL'_{0,2} = AL_{0,2} \times 1,33$   
 $L_b = AL_{0,2} \times 0,7$   
 $b_v = AL_{0,2} \times 0,106$   
 $b_h = AL_{0,2} \times 0,53$





**EGG CRATE GRILLES – RETURN GRILLES –CKM-04**



**AREA OF USAGE AND FEATURES:** It is used as a blower and air vents in hvac systems. To be used for blowing and sucking purposes for ceiling applications. At fan-coil applications, it can be used as sucking air vent. Standard manufacturing is screwless. Installation way depends on the adjustable requirement

**MATERIAL:** Aluminium profile produced by the extrusion method

**SURFACE COATING:** Product can be manufactured in requested colour by electrostatic powder paint, eloksal coating or without paint.

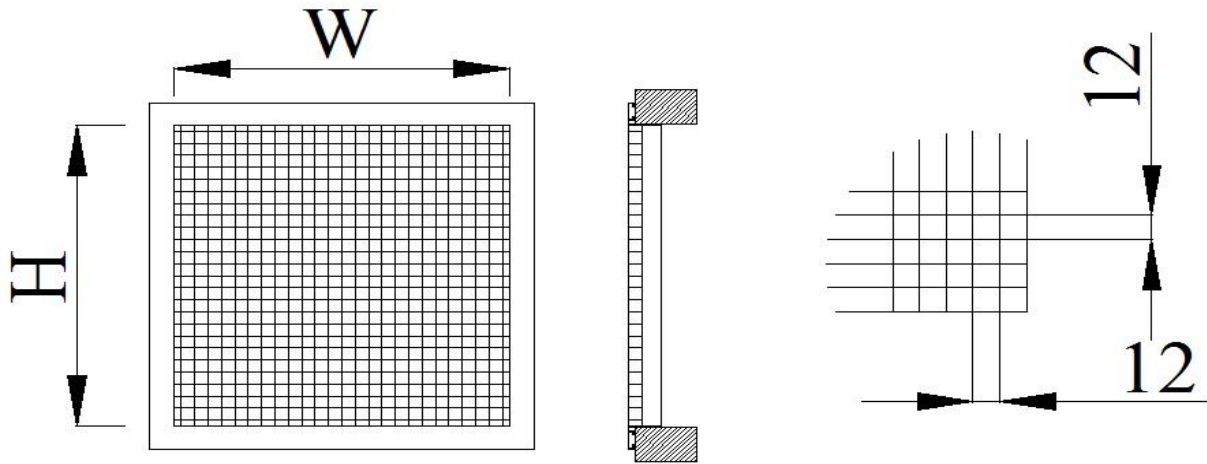
**ACCESSORIES:** Air damper, plenum box, mounting blind case.

**FRAME TYPES**

STANDARD FRAME	NARROW FRAME

**TECHNICAL DIMENSIONS**

<b>W</b>	<b>100-150-200-250-300-350-400-450-500-600-700-800-900-1000-1100-1200</b>
<b>H</b>	<b>100-150-200-250-300-350-400-450-500-600-700-800-900-1000</b>
<b>COMBINATION CAN BE DONE IN REQUESTED DIMENS</b>	



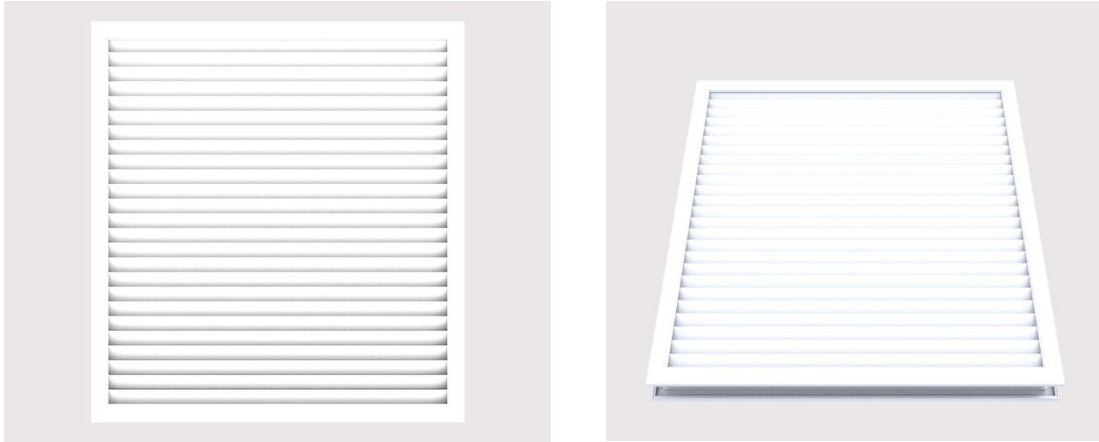
<b>SOME APPLICATION AREAS</b>	<b>Air velocity (m/s)</b>
<b>Radio and film studios, Surgery rooms</b>	<b>1,5 – 2,5</b>
<b>Bedrooms, Hotel Rooms, Offices, Residences, Hospitals, Mosques, Churches etc.</b>	<b>2 – 4</b>
<b>Concert Halls, Dining Rooms, Classrooms, Banks, Libraries, Game Rooms, Conference Halls</b>	<b>2,5 – 5</b>
<b>Restaurants, Cafeterias, Hotel Lobbies, Theaters, Cinemas, Shopping Malls, Ballrooms</b>	<b>2,5 – 6</b>
<b>Supermarkets, Factories, Gym, Industrial Kitchens/ Warehouses</b>	<b>5 – 10</b>

**SELECTION DIAGRAM :**

EFFECTIVE AREA m2	DIMENSION W*H ( mm )	AIR VELOCITY m/s	1,5	2	2,5	3	3,5	4	5
		PRESSURE LOSS (Pa)	4	6	9	13	18	22	35
0,017	200*100 150*150	m <sup>3</sup> /h	90	126	151	187	220	256	313
		dBA	-	-	-	-	21	25	31
0,024	200*150 350*100	m <sup>3</sup> /h	136	180	220	263	306	360	450
		dBA	-	-	-	16	23	26	32
0,033	250*150 200*200	m <sup>3</sup> /h	180	237	299	360	414	475	594
		dBA	-	-	-	17	25	27	34
0,042	350*150 250*200	m <sup>3</sup> /h	234	306	378	450	540	612	756
		dBA	-	-	-	18	26	28	35
0,051	400*150 300*200 250*250	m <sup>3</sup> /h	288	378	468	558	648	756	936
		dBA	-	-	-	19	26	28	37
0,065	300*250 500*150 350*200	m <sup>3</sup> /h	360	486	594	720	828	954	1188
		dBA	-	-	-	20	27	30	38
0,079	350*250 300*300 450*200	m <sup>3</sup> /h	432	576	720	864	1010	1152	1400
		dBA	-	-	15	21	28	31	40
0,093	400*250 350*300 500*200	m <sup>3</sup> /h	504	684	846	1026	1188	1361	1692
		dBA	-	-	16	22	28	31	41
0,111	500*250 350*350 400*300	m <sup>3</sup> /h	612	810	1026	1224	1440	1638	2034
		dBA	-	-	16	23	29	33	42
0,125	400*350 450*300 550*250	m <sup>3</sup> /h	684	918	1152	1368	1602	1836	2286
		dBA	-	-	17	23	30	33	44
0,144	450*350 400*400 550*300	m <sup>3</sup> /h	792	1062	1332	1584	1854	2124	2646
		dBA	-	-	18	24	30	34	44
0,165	500*350 450*400 600*300	m <sup>3</sup> /h	900	1206	1512	1800	2106	2412	3010
		dBA	-	-	19	24	30	35	44
0,186	500*400 450*450 700*300	m <sup>3</sup> /h	1026	1350	1710	2034	2376	2719	3400
		dBA	-	-	19	25	32	35	45
0,231	550*450 500*550 650*400	m <sup>3</sup> /h	1278	1692	2124	2556	2970	3402	4248
		dBA	-	-	20	26	33	36	46
0,251	600*450 700*400 900*300	m <sup>3</sup> /h	1368	1536	2286	2754	3204	3672	4590
		dBA	-	-	20	26	33	36	46
0,301	750*450 800*400 600*550	m <sup>3</sup> /h	1638	2178	2718	3258	3798	4356	5436
		dBA	-	-	22	27	34	38	48
0,335	800*450 600*600 900*400	m <sup>3</sup> /h	1836	2448	3060	3672	4284	4914	6120
		dBA	-	-	22	27	25	38	50
0,391	900*450 1200*350 700*600	m <sup>3</sup> /h	2140	2860	3582	4284	5004	5724	7128
		dBA	-	-	23	29	35	39	52
0,511	1200*450 900*600 750*750	m <sup>3</sup> /h	2790	3726	4662	5600	6520	7450	9310
		dBA	-	-	24	29	36	40	-
0,571	1200*500 1000*600	m <sup>3</sup> /h	3132	4176	5220	6264	7310	8350	10370
		dBA	-	15	24	30	37	41	-
0,686	1200*600 900*800	m <sup>3</sup> /h	3760	5040	6300	7560	8820	10080	12600
		dBA	-	16	25	32	40	43	-



**DOOR TRANSFER GRILLES -CKM-05**



**AREA OF USAGE AND FEATURES:** It is used as air transfer grilles between neighbouring locations. Door transfer grilles are manufactured with fixed wings. Transfer grilles can be used for a minimum of 40 mm thickness. Image is the same on the front and back. Standard manufacturing is screwless. Installation way depends on the adjustable requirement.

**MATERIAL:** Aluminium profile produced by the extrusion method

**SURFACE COATING:** Product can be manufactured in requested colour by electrostatic powder paint, eloksal coating or without colour.

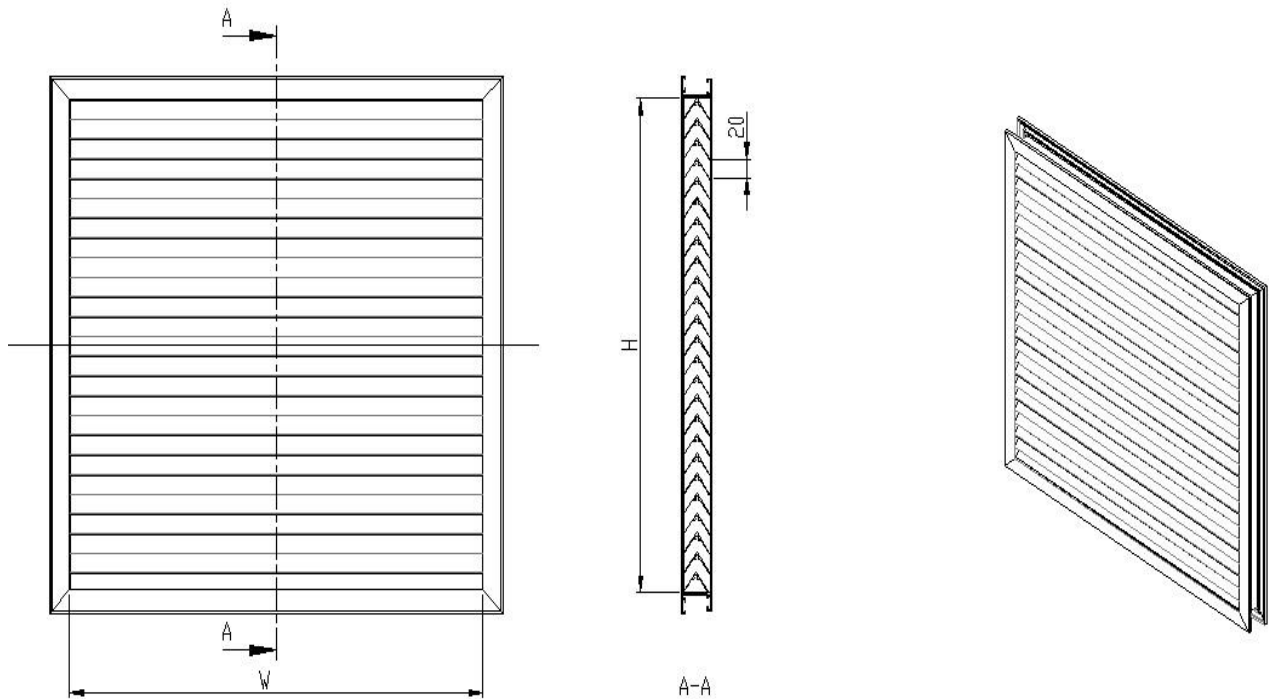
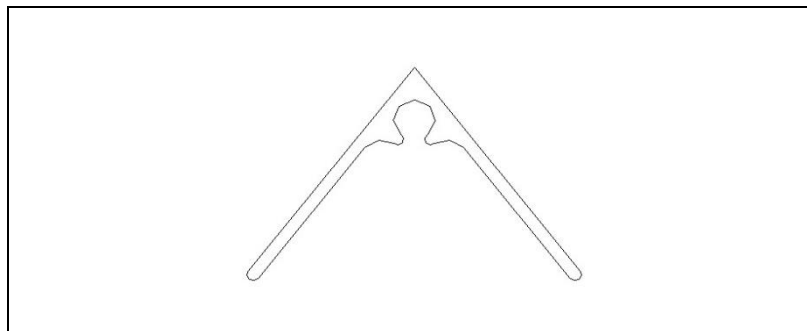
**FRAME TYPES**

STANDARD FRAME	NARROW FRAME

**TECHNICAL DIMENSIONS**

<b>W</b>	<b>100-150-200-250-300-350-400-450-500-600-700-800-900-1000-1100-1200</b>
<b>H</b>	<b>100-150-200-250-300-350-400-450-500-600-700-800-900-1000</b>
<b>COMBINATION CAN BE DONE IN REQUESTED DIMENS</b>	

**WING PROFILE**





**SELECTION DIAGRAM :**

EFFECTIVE AREA m <sup>2</sup>	DIMENSION W*H ( mm )	AIR VELOCITY m/s	1,5	2	2,5	3	3,5	4	5
		PRESSURE LOSS (Pa)	4	6	9	13	18	22	35
0,017	200*100	m <sup>3</sup> /h	90	126	151	187	220	256	313
	150*150	dBA	-	-	-	-	21	25	31
0,024	200*150	m <sup>3</sup> /h	136	180	220	263	306	360	450
	350*100	dBA	-	-	-	16	23	26	32
0,033	250*150	m <sup>3</sup> /h	180	237	299	360	414	475	594
	200*200	dBA	-	-	-	17	25	27	34
0,042	350*150	m <sup>3</sup> /h	234	306	378	450	540	612	756
	250*200	dBA	-	-	-	18	26	28	35
0,051	400*150	m <sup>3</sup> /h	288	378	468	558	648	756	936
	300*200	dBA	-	-	-	19	26	28	37
0,065	300*250	m <sup>3</sup> /h	360	486	594	720	828	954	1188
	500*150	dBA	-	-	-	20	27	30	38
0,079	350*250	m <sup>3</sup> /h	432	576	720	864	1010	1152	1400
	300*300	dBA	-	-	15	21	28	31	40
0,093	400*250	m <sup>3</sup> /h	504	684	846	1026	1188	1361	1692
	350*300	dBA	-	-	16	22	28	31	41
0,111	500*250	m <sup>3</sup> /h	612	810	1026	1224	1440	1638	2034
	350*350	dBA	-	-	16	23	29	33	42
0,125	400*350	m <sup>3</sup> /h	684	918	1152	1368	1602	1836	2286
	450*300	dBA	-	-	17	23	30	33	44
0,144	450*350	m <sup>3</sup> /h	792	1062	1332	1584	1854	2124	2646
	400*400	dBA	-	-	18	24	30	34	44
0,165	500*350	m <sup>3</sup> /h	900	1206	1512	1800	2106	2412	3010
	450*400	dBA	-	-	19	24	30	35	44
0,186	500*400	m <sup>3</sup> /h	1026	1350	1710	2034	2376	2719	3400
	450*450	dBA	-	-	19	25	32	35	45
0,231	550*450	m <sup>3</sup> /h	1278	1692	2124	2556	2970	3402	4248
	500*550	dBA	-	-	20	26	33	36	46
0,251	600*450	m <sup>3</sup> /h	1368	1536	2286	2754	3204	3672	4590
	700*400	dBA	-	-	20	26	33	36	46
0,301	750*450	m <sup>3</sup> /h	1638	2178	2718	3258	3798	4356	5436
	800*400	dBA	-	-	22	27	34	38	48
0,335	800*450	m <sup>3</sup> /h	1836	2448	3060	3672	4284	4914	6120
	600*600	dBA	-	-	22	27	25	38	50
0,391	900*450	m <sup>3</sup> /h	2140	2860	3582	4284	5004	5724	7128
	1200*350	dBA	-	-	23	29	35	39	52
0,511	1200*450	m <sup>3</sup> /h	2790	3726	4662	5600	6520	7450	9310
	900*600	dBA	-	-	24	29	36	40	-
0,571	1200*500	m <sup>3</sup> /h	3132	4176	5220	6264	7310	8350	10370
	1000*600	dBA	-	15	24	30	37	41	-
0,686	1200*600	m <sup>3</sup> /h	3760	5040	6300	7560	8820	10080	12600
	900*800	dBA	-	16	25	32	40	43	-

DISK VALVES-CKM-06

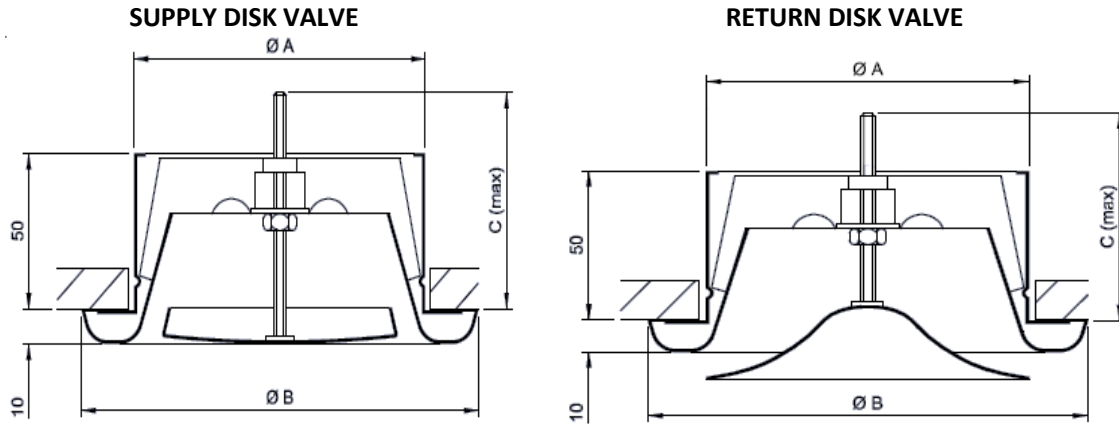


**AREA OF USAGE AND FEATURES:** Bathroom and WC. They are used as air suction and disk vents. Thanks to the moving hubs of the disk valves, they adjust the amount of air and can be easily mounted. Standard manufacturing is screwless. The way of mounting can be changed optionally.

**MATERIAL:** It is manufactured from the galvanized plate by the spinning method.

**SURFACE COATING:** The standard colour of the product is 9010 painted. It can also be manufactured in any colour with electrostatic powder paint.

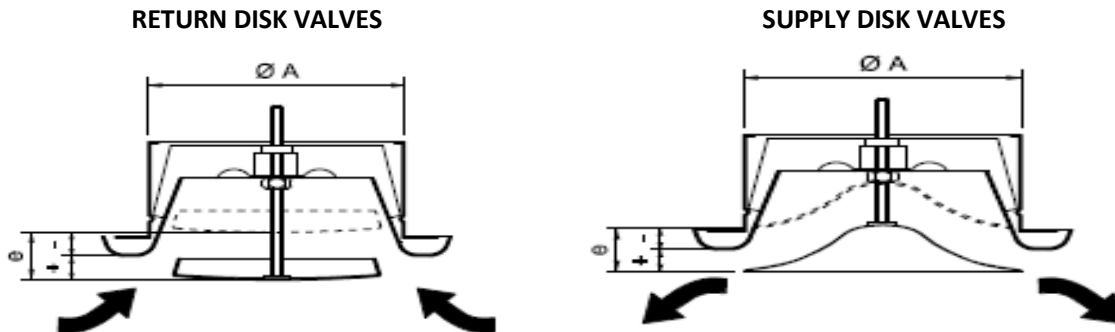
**TECHNICAL INFORMATION**



**STANDARD DIMENSION :**

<b>DISK VALVES STANDART DIMENSION ( SUPPLY - RETURN )</b>			
<b>MODEL</b>	<b>DIMENSION (mm)</b>		
	<b>Ø A</b>	<b>Ø B</b>	<b>Ø C</b>
Ø 80	79	115	70
Ø 100	99	137	70
Ø 125	124	161	85
Ø 150	149	202	85
Ø 160	159	212	85
Ø 200	199	248	110

**AIR DIRECTIONS:**



**SELECTION TABLE:**

<b>Ø 80</b>		Air Flow ( m <sup>3</sup> /h )					
		29	36	43	54	65	72
e = +12mm	Pressure loss Ps (Pa)	-	13	20	26	38	50
	Noise level NC (dB)	-	-	-	-	-	16
e = +6mm	Pressure loss Ps (Pa)	12	22	35	44	70	-
	Noise level NC (dB)	-	-	-	-	20	-
e = 0mm	Pressure loss Ps (Pa)	23	42	65	-	-	-
	Noise level NC (dB)	-	-	15	-	-	-
e = -6mm	Pressure loss Ps (Pa)	75	-	-	-	-	-
	Noise level NC (dB)	15	-	-	-	-	-

<b>Ø 100</b>		Air Flow ( m <sup>3</sup> /h )					
		36	43	54	65	72	83
e = +12mm	Pressure loss Ps (Pa)	7	13	19	28	35	46
	Noise level NC (dB)	-	-	-	-	-	15
e = +6mm	Pressure loss Ps (Pa)	15	22	32	47	56	78
	Noise level NC (dB)	-	-	-	-	15	20
e = 0mm	Pressure loss Ps (Pa)	30	47	66	-	-	-
	Noise level NC (dB)	-	-	16	-	-	-
e = -6mm	Pressure loss Ps (Pa)	77	-	-	-	-	-
	Noise level NC (dB)	15	-	-	-	-	-

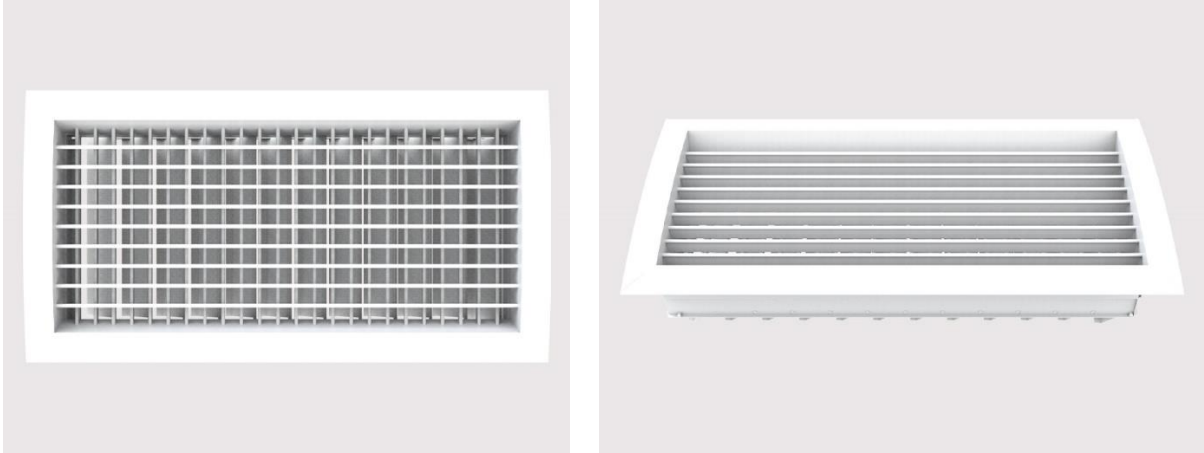
<b>Ø 125</b>		Air Flow ( m <sup>3</sup> /h )					
		43	54	65	72	83	90
e = +12mm	Pressure loss Ps (Pa)	-	7	12	18	26	32
	Noise level NC (dB)	-	-	-	-	-	-
e = +6mm	Pressure loss Ps (Pa)	13	17	22	30	37	48
	Noise level NC (dB)	-	-	-	-	-	-
e = 0mm	Pressure loss Ps (Pa)	18	25	31	43	55	70
	Noise level NC (dB)	-	-	-	-	-	20
e = -6mm	Pressure loss Ps (Pa)	35	47	56	80	-	-
	Noise level NC (dB)	-	-	15	19	-	-

<b>Ø 150</b>		Air Flow ( m <sup>3</sup> /h )					
		54	65	72	83	90	101
e = +12mm	Pressure loss Ps (Pa)	-	-	-	-	-	19
	Noise level NC (dB)	-	-	-	-	-	-
e = +6mm	Pressure loss Ps (Pa)	6	9	14	18	22	27
	Noise level NC (dB)	-	-	-	-	-	-
e = 0mm	Pressure loss Ps (Pa)	11	14	20	26	32	39
	Noise level NC (dB)	-	-	-	-	-	16
e = -9mm	Pressure loss Ps (Pa)	50	62	80	-	-	-
	Noise level NC (dB)	15	16	22	-	-	-

<b>Ø 200</b>		Air Flow ( m <sup>3</sup> /h )					
		108	144	180	216	252	288
e = +25mm	Pressure loss Ps (Pa)	-	-	11	17	23	33
	Noise level NC (dB)	-	-	-	-	-	15
e = +10mm	Pressure loss Ps (Pa)	8	17	27	40	52	70
	Noise level NC (dB)	-	-	-	16	21	26
e = 0mm	Pressure loss Ps (Pa)	17	33	50	75	95	-
	Noise level NC (dB)	-	14	18	24	28	-
e = -10mm	Pressure loss Ps (Pa)	50	90	-	-	-	-
	Noise level NC (dB)	15	25	-	-	-	-

**RETURN AIR GRILLES - SINGLE DEFLECTION GRILLES ( CYLINDER DUCT ) —**

**CKM-07**



**AREA OF USAGE AND FEATURES:** Return air grilles used in cylindrical duct applications in air conditions systems. It used is as. Wings can be adjustable thru the front side of grilles. Standard production is with the screw.

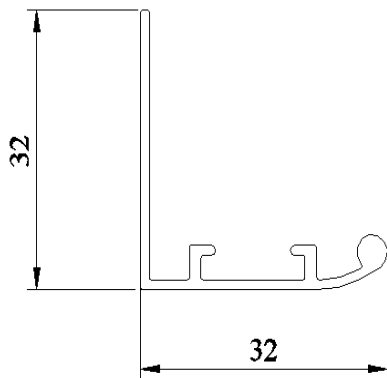
**MATERIAL:** Aluminium profile produced by the extrusion method

**SURFACE COATING:** Product can be manufactured in a requested colour by electrostatic powder paint.

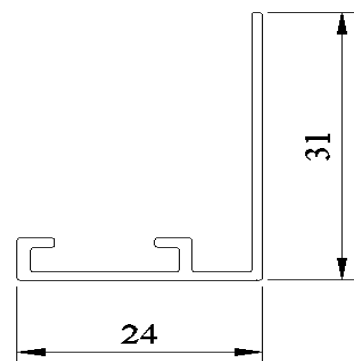
**ACCESSORIES:** Air vent Damper

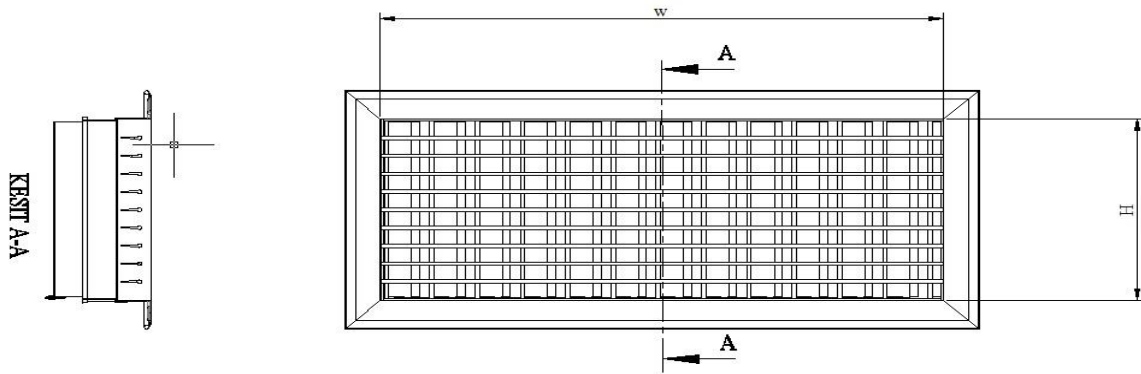
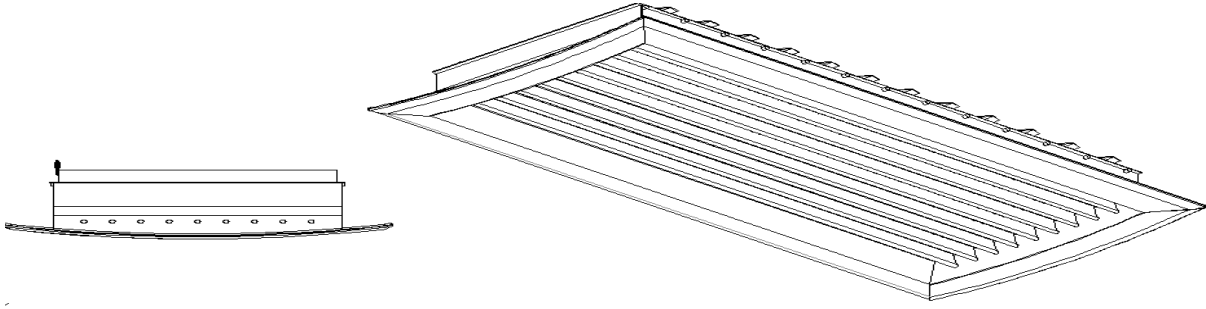
**FRAME TYPES**

**STANDART FRAME**



**NARROW FRAME**



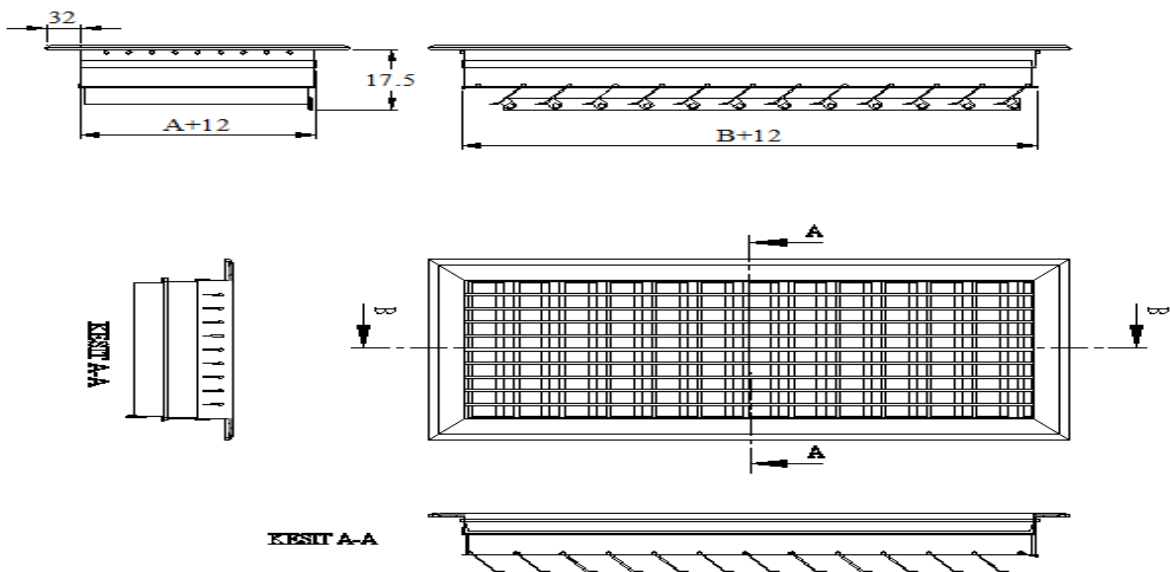


**TECHNICAL MEASUREMENT**

- W 100-150-200-250-300-350-400-450- 500-600-700-800-900-1000-1100-1200  
 H 100-150-200-250-300-350-400-450-500-600-700-800-900-1000

The dimension H must be the max. of the duct radius 1/2 diameter

COMBINATION CAN BE DONE IN REQUESTED MEASUREMENTS.

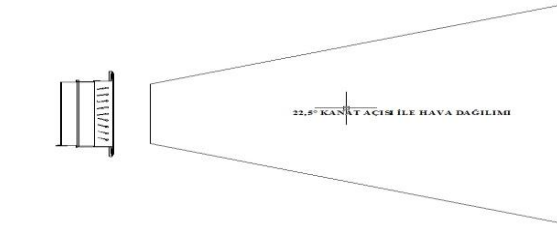


SOME APPLICATION AREAS	Speed of Blower (m/s)
Radio and film studios, Surgery rooms	1,5 – 2,5
Bedrooms, Hotel Rooms, Offices, Residences, Hospitals, Mosques, Churches etc.	2 – 4
Concert Halls, Dining Rooms, Classrooms, Banks, Libraries, Game Rooms, Conference Halls	2,5 – 5
Restaurants, Cafeterias, Hotel Lobbies, Theaters, Cinemas, Shopping Malls, Ball Rooms	2,5 – 6
Supermarkets, Factories, Gym, Industrial Kitchens/ Warehouses	5 – 10

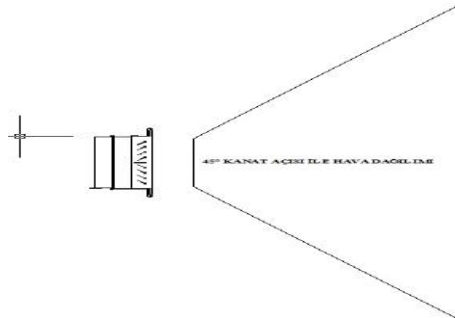
**AIR STREAM REGARDS TO WINGS POSITION**



SHOOTING RANGE MAX AT 0° POSITION. STATIC PRESSURE TO BE MIN.



SHOOTING RANGE DECREASES DIFUSION INCREASE. STATIC PRESSURE INCREASES IN A RATIO OF ANGLES AT 22.5° WINGS POSITION

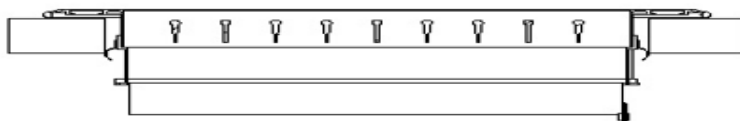


SHOOTING RANGE TO BE MIN. AT 45° WING POSITION. DIFUSION MAX. STATIC PRESSURE TO BE MAX.

**MOUNTING METHOD**



LATCH ASSEMBLY



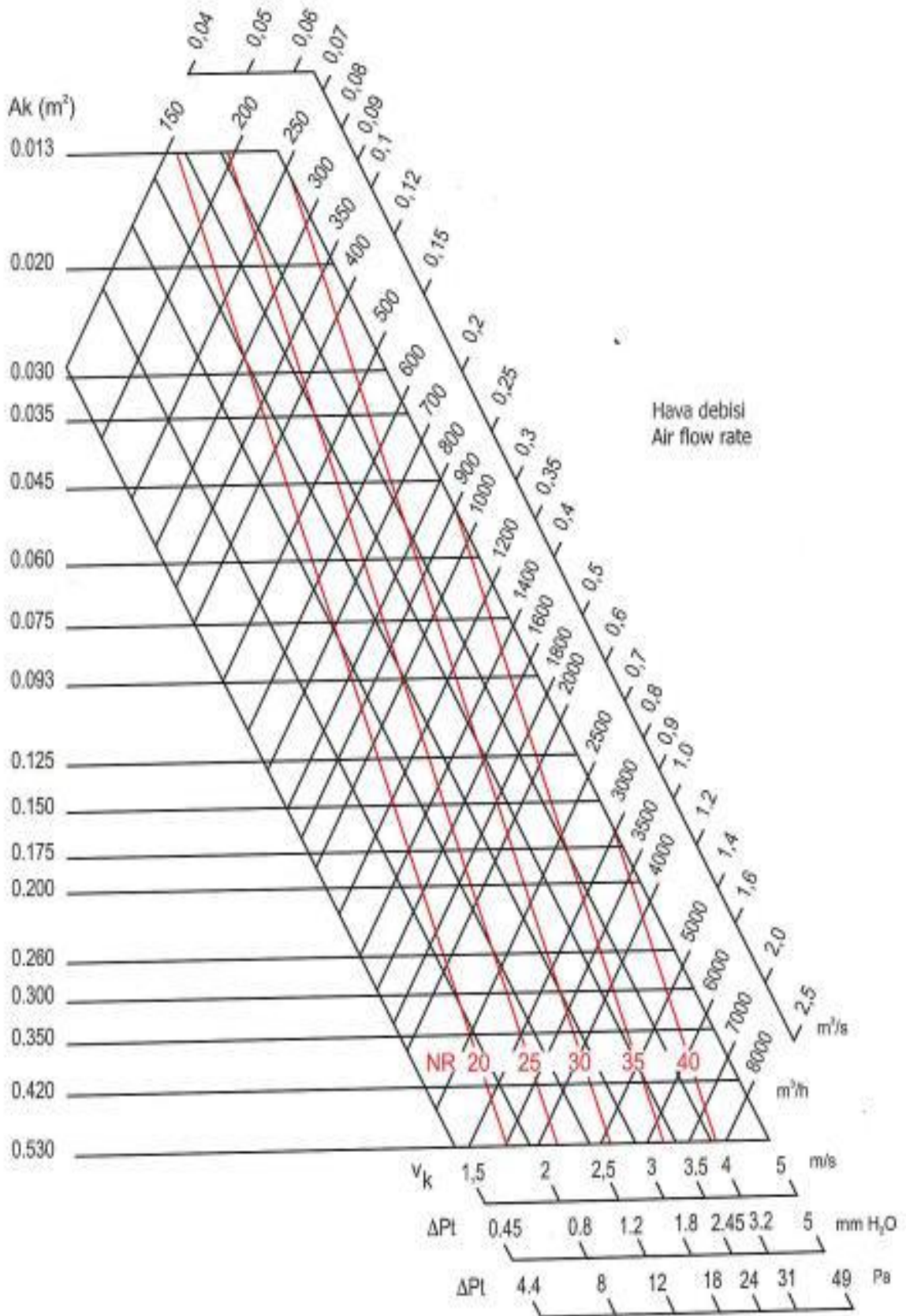
CLIP ASSEMBLY



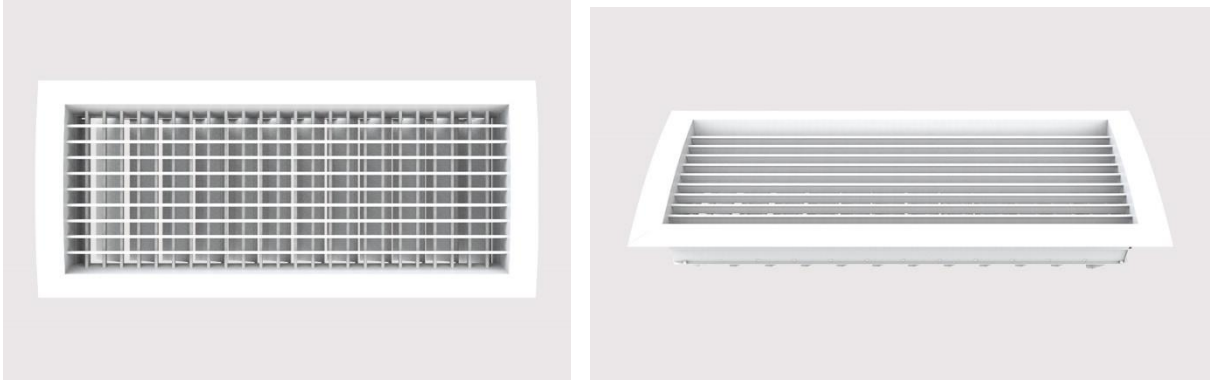
SCREW ASSEMBLY



SELECTION DİYAGRAM



**DOUBLE DEFLECTION GRILLES ( CYLINDER DUCT ) - SUPPLY AIR GRILLES -**  
**CKM-08**



**AREA OF USAGE AND FEATURES:** Supply air grilles used in cylindrical duct applications in air conditions systems. It used is as. Wings can be adjustable thru the front side of grilles. Standard production is with a screw.

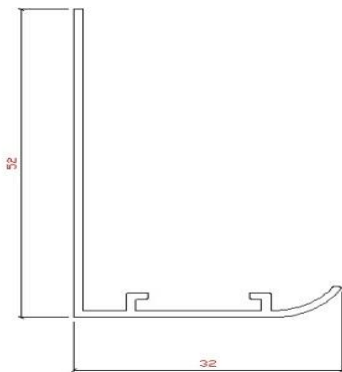
**MATERIAL:** Aluminium profile produced by the extrusion method

**SURFACE COATING:** Product can be manufactured in the requested colour by electrostatic powder paint.

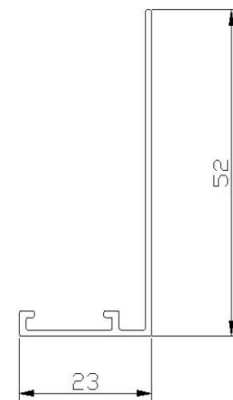
**ACCESSORIES:** Air vent Damper

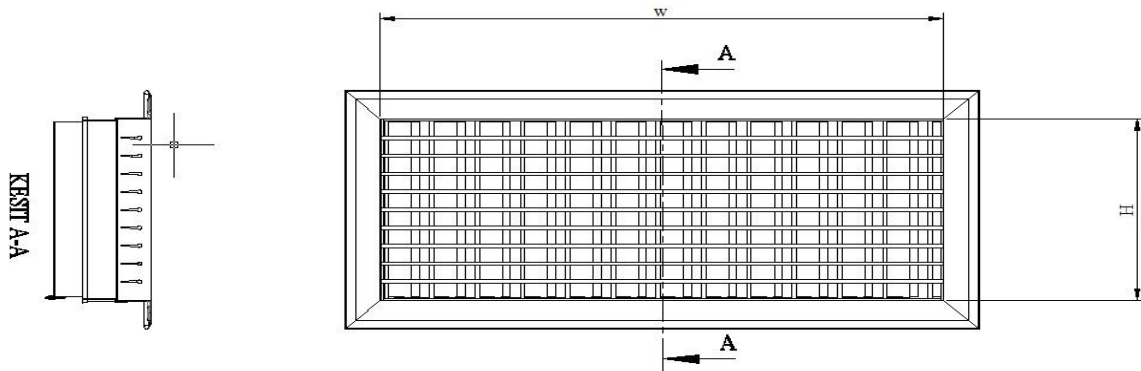
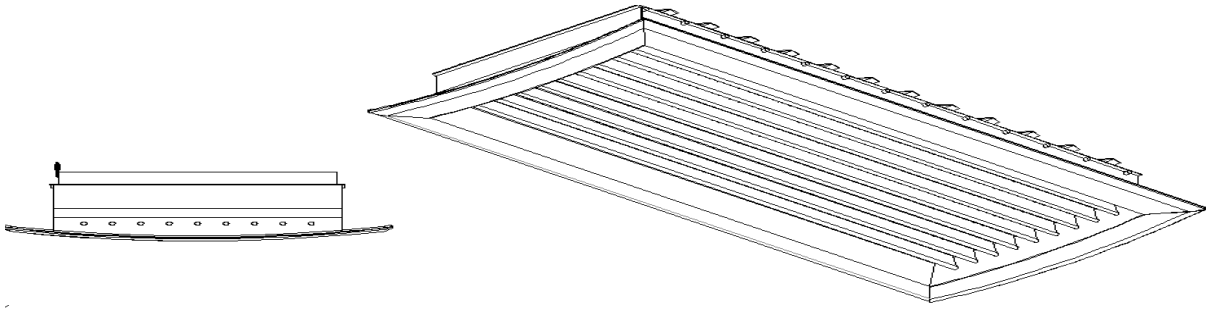
**FRAME TYPES**

**STANDART FRAME**



**NARROW FRAME**



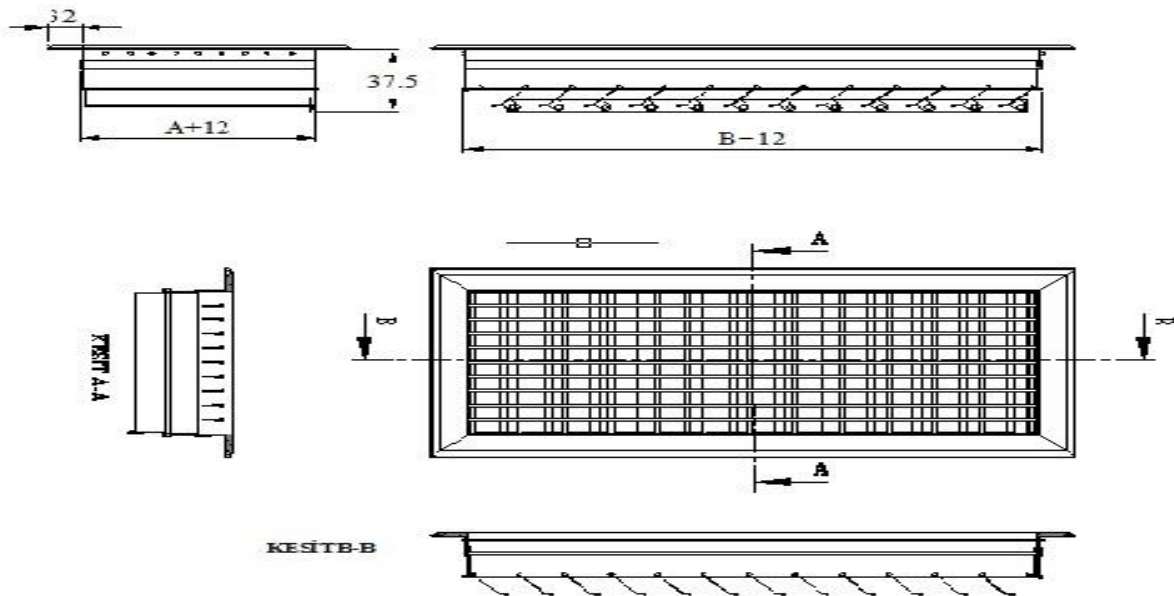


**TECHNICAL MEASUREMENT**

- W 100-150-200-250-300-350-400-450- 500-600-700-800-900-1000-1100-1200  
 H 100-150-200-250-300-350-400-450-500-600-700-800-900-1000

The dimension H must be the max. of the duct radius 1/2 diameter

COMBINATION CAN BE DONE IN REQUESTED MEASUREMENTS.

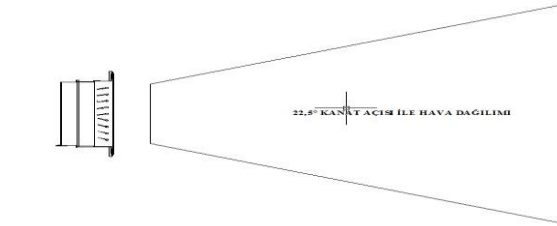


SOME APPLICATION AREAS	Speed of Blower (m/s)
Radio and film studios, Surgery rooms	1,5 – 2,5
Bedrooms, Hotel Rooms, Offices, Residences, Hospitals, Mosques, Churches etc.	2 – 4
Concert Halls, Dining Rooms, Classrooms, Banks, Libraries, Game Rooms, Conference Halls	2,5 – 5
Restaurants, Cafeterias, Hotel Lobbies, Theaters, Cinemas, Shopping Malls, Ball Rooms	2,5 – 6
Supermarkets, Factories, Gym, Industrial Kitchens/ Warehouses	5 – 10

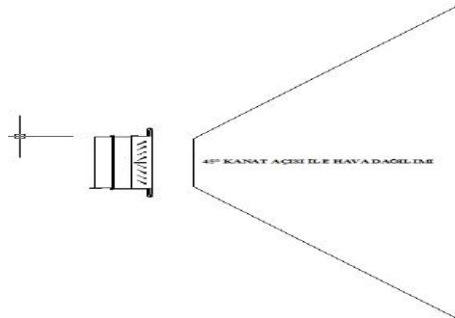
**AIR STREAM REGARDS TO WINGS POSITION**



SHOOTING RANGE MAX AT 0° POSITION. STATIC PRESSURE TO BE MIN.



SHOOTING RANGE DECREASES DIFUSION INCREASE. STATIC PRESSURE INCREASES IN A RATIO OF ANGLES AT 22.5° WINGS POSITION

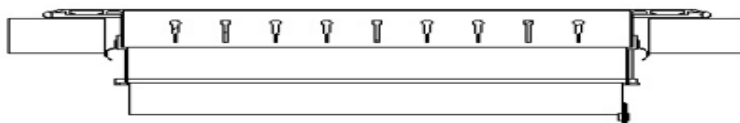


SHOOTING RANGE TO BE MIN. AT 45° WING POSITION. DIFUSION MAX. STATIC PRESSURE TO BE MAX.

**MOUNTING METHOD**



LATCH ASSEMBLY

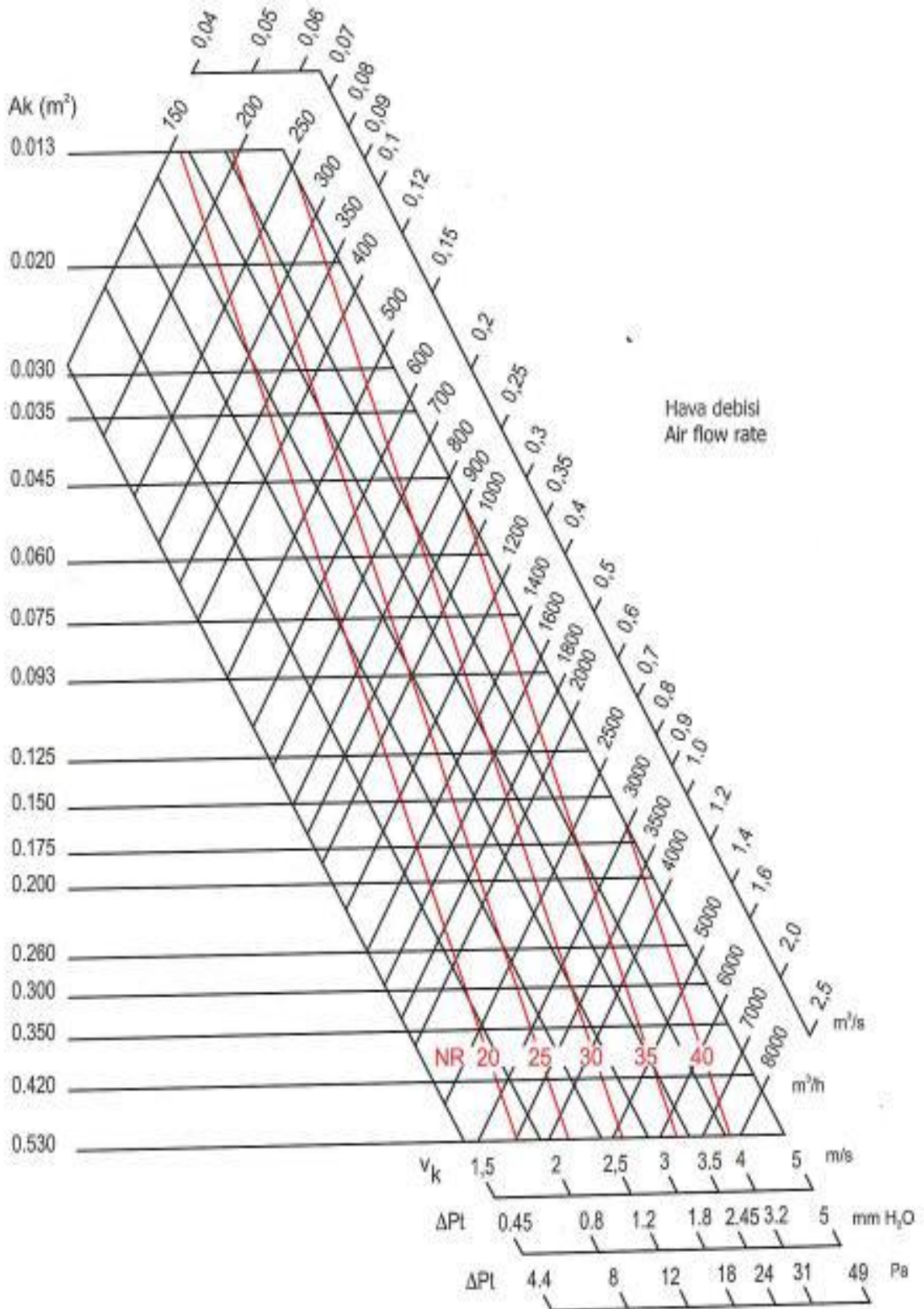


CLIP ASSEMBLY



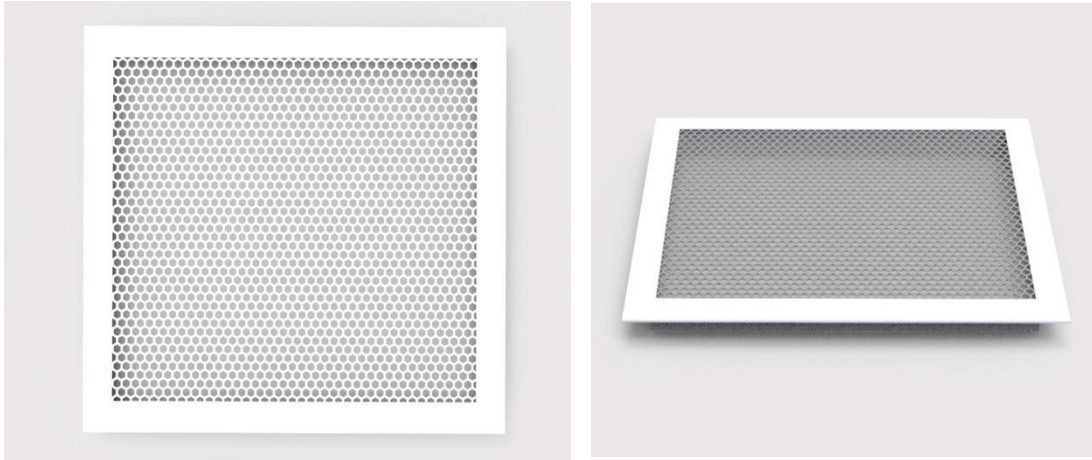
SCREW ASSEMBLY

SELECTION DİYAGRAM





**PERFORATED GRILLE – SUPPLY AIR GRILLES –CKM-09**



**AREAS OF USE AND FEATURES:** Is it used as blowing and suction diffusers in HVAC systems. Suitable for vertical and horizontal use. The ideal shooting distance is between 2.5-3.5 m. It is used in ceiling and wall applications. It is screw mounted as standard. Mounting type can be changed upon request. The effective area is about 50%.

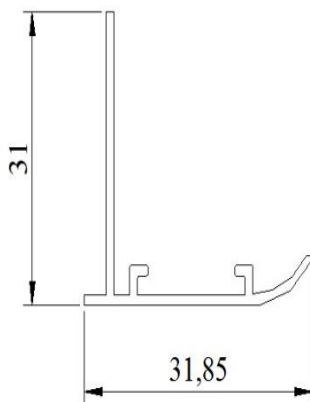
**MATERIAL:** Frame made of aluminium profile, culvert 1 mm, DKP material, Ø5 mm perforated holes.

**SURFACE COATING:** The product can be produced in any colour with electrostatic powder paint. Z Wings are produced in standard black colour.

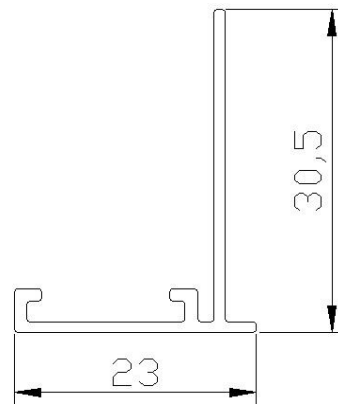
**ACCESSORIES:** Plenum box

**FRAME TYPES**

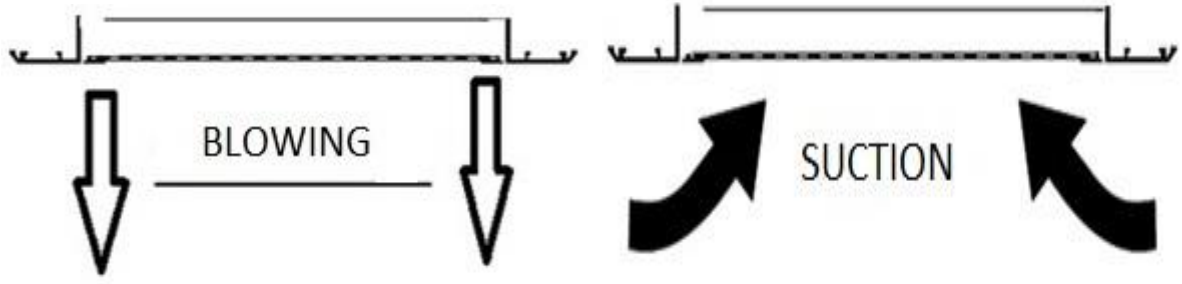
**STANDART FRAME**



**NARROW FRAME**



**AIR DIRECTIONS:**



**SUPLY TABLE**

**RETURN TABLE**

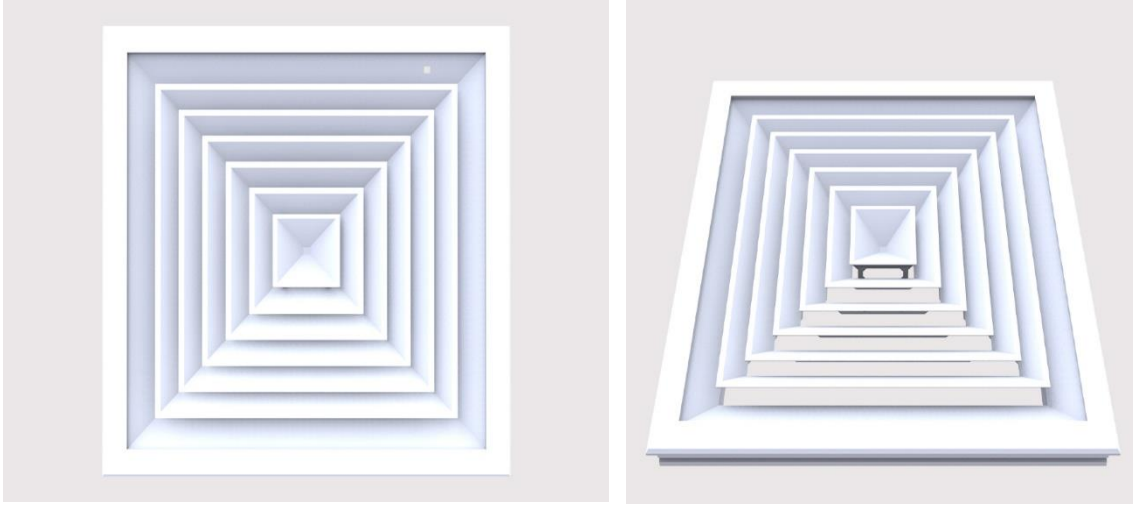
A*B (mm)	DEBİ Q ( m <sup>3</sup> / h )	Hava Hız Vn (m/s)	Basınç Kaybı Ps (Pa)	Ses Seviyesi NC (dB)	ATIŞ MESAFESİ ( m.)
250 x 250	108	1,7	3	-	-0,8
	144	2,25	5	-	0,5-1,0
	180	2,9	6	-	0,7-1,2
	216	3,5	8	-	0,8-1,5
	252	3,95	12	23	1,1 -1,8
	288	4,5	14	28	1,2-2,1
	324	5	17	32	1,5-2,5
	360	5,65	20	34	1,8-3,0
250 x 250	180	0,85	6	-	0,4
	270	1,3	8	16	0,6
	360	1,75	12	20	0,8
	450	2,2	19	25	0,5-1,0
	540	2,6	25	28	0,5-1,1
	720	3,5	40	35	0,8-1,5
	900	4,35	63	38	1,2-2,1
350 x 350	216	1,9	2	-	0,7-1,0
	288	2,5	5	15	0,9-1,5
	360	3,2	6	22	1,0-1,6
	432	3,8	7	23	1,3-1,8
	504	4,45	10	27	1,5-2,2
	576	5,1	14	31	1,8-2,7
	648	5,7	19	38	2,2-3,3
	720	6,35	22	40	2,4 - 3,5
350 x 350	540	1,3	8	19	0,5-0,8
	720	1,75	17	22	0,7-1,0
	900	2,15	29	26	0,7-1,15
	1080	2,6	38	32	0,9-1,5
	1350	3,25	52	35	1,0-1,6
	1530	3,7	63	39	1,3-1,8
	1800	4,3	94	44	1,5-2,2
	450 x 450	288	1,6	3	17
360		2,05	5	20	0,8-1,4
432		2,45	7	21	1,0-1,6
504		2,85	10	24	1,4-2,0
576		3,25	12	27	1,7 - 2,4
648		3,7	14	30	2,0 - 3,0
720		4,1	17	31	2,4 - 3,4
792		4,5	20	36	2,7-3,7
450 x 450		900	1,3	12	18
	1080	1,55	16	23	0,6-1,0
	1260	1,8	20	27	0,7-1,15
	1440	2,1	26	29	0,8-1,4
	1620	2,35	33	32	1,0-1,5
	1800	2,6	42	35	1,4-1,8
	1980	2,85	53	41	1,4-2,0
550 x 550	180	2,9	3	-	0,6-1,1
	216	3,5	3	-	0,8-1,4



	252	3,95	4	16	1.2 -1.8
	288	4,5	5	19	1.2-2.2
	324	5	7	26	1.4-2.5
	360	5,65	9	28	1.6-2.8
	396	6,2	13	33	2.0 - 3.2
	432	6,8	18	38	2.3 - 3.6
550 x 550	288	2,5	3	18	0.8-1.3
	360	3,2	5	19	1.0-1.6
	432	3,8	6	21	1.2-1.8
	504	4,45	7	24	1.5 - 2.4
	576	5,1	10	27	2.0 - 3.2
	648	5,7	13	34	2.3 - 3.6
	720	6,35	18	38	2.6-4.0
550 x 550	792	7	23	40	3.0 - 4.5
	360	2	3	-	1.2-1.8
	540	3,05	6	22	1.5-2.2
	648	3,7	7	24	1.8-2.4
	720	4,1	8	28	2.3 - 3.2
	828	4,7	11	30	2.7-3.8
	936	5,3	15	32	3.0 - 4.3
550 x 550	1008	5,7	19	34	3.4 - 4.8
	1080	6,1	26	36	3.7-5.1
	1260	1,2	5	17	0,7-1.1
	1530	1,45	15	26	0.9-1.3
550 x 550	1800	1,75	21	30	1,05-1,5
	2070	2	29	32	1.2-1.8
	2250	2,15	32	35	1.3-1.9
	2520	2,4	37	38	1,45-2.15
	2880	2,75	45	42	1.6-2.5

SOME APPLICATION AREAS	BLOWING SPEED (m/s)
Radio and Film Studios, Operating Rooms	1,5-2,5
Bedrooms, Hotel Rooms, Offices, Residences, Hospitals, Mosques, Churches, etc.	2-4
Concert Halls, Dining Rooms, Lecture Halls, Banks, Libraries, Game Halls, Conference Halls	2,5-5
Restaurants, Cafeterias, Hotel Lobbies, Theaters, Cinemas, Shopping Centers, Ballrooms	2,5-6
Supermarket, Factory, Gymnasium, Industrial Kitchen and Warehouse	5-10

**SUPPLY AIR DIFFUSERS - CEILING DIFFUSER -CKD-01**



**AREA OF USAGE AND FEATURES:** It is used as suction and blowing diffusers in hvac systems. It is used in canal and ceiling applications. Standard production is screwless in square ceilings. Other sizes are standard manufacturing screw. The way of mounting can be changed optionally.

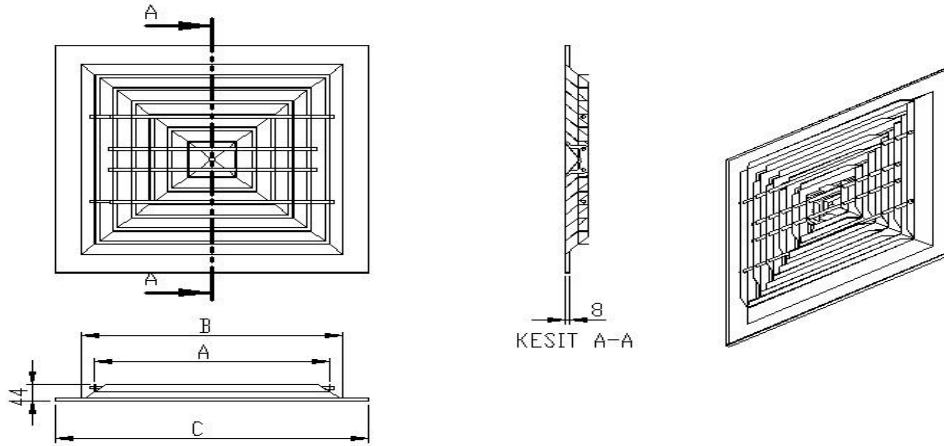
**MATERIAL:** Frame aluminium profile core galvanized plate or lower plate is manufactured by case extrusion method

**SURFACE COATING:** The product can be manufactured in any colour with electrostatic powder paint.

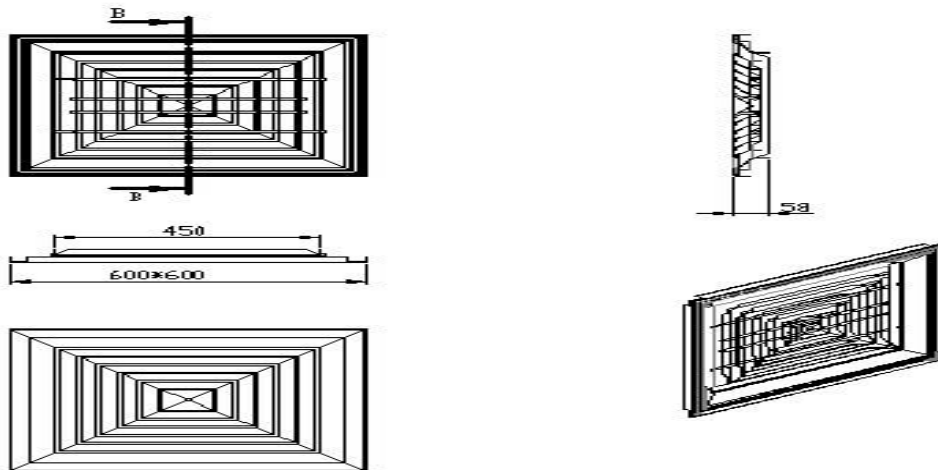
**ACCESSORIES:** Air vent damper, Plenum box

**TECNICAL MEASUREMENT**

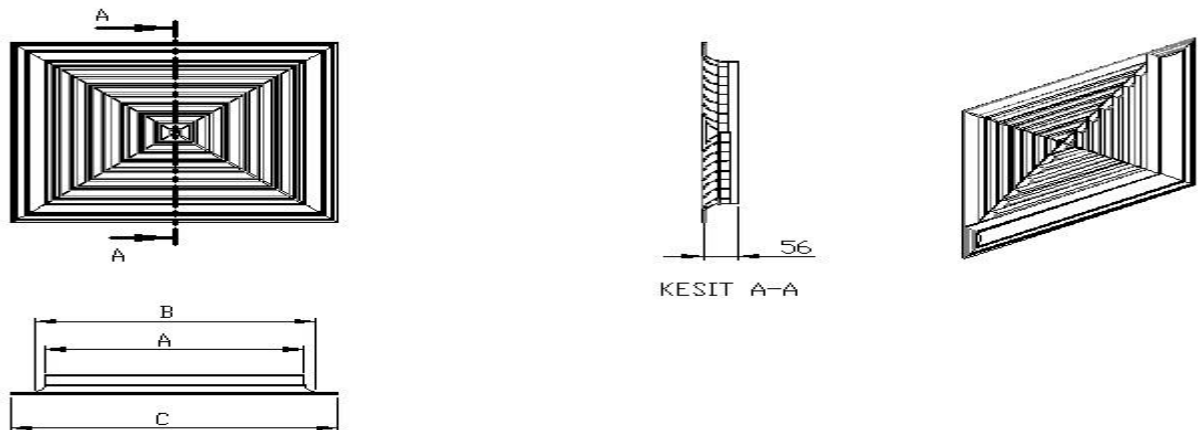
**SUPPLY AIR DIFFUSERS - CEILING DIFFUSER –CKD-01-A STANDARD MODEL**



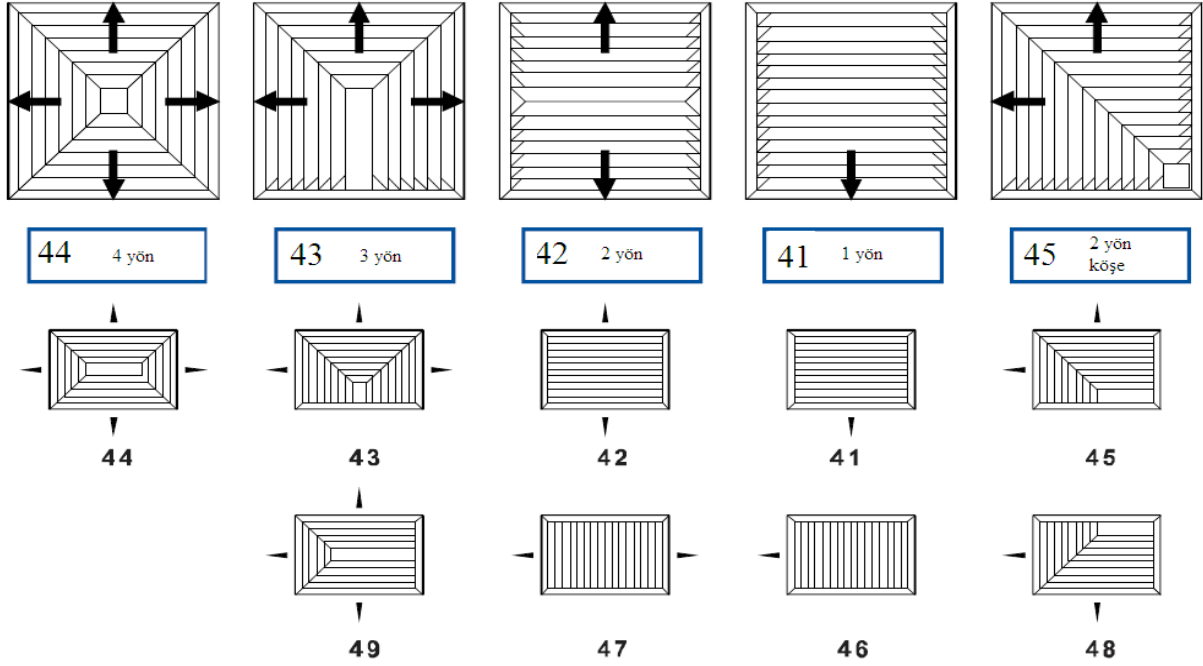
**SUPPLY AIR DIFFUSERS - CEILING DIFFUSER –CKD-01-B CLIP-IN MODEL**



**SUPPLY AIR DIFFUSERS - CEILING DIFFUSER –CKD-01-C CURVY MODEL**



**AIR DIRECTION :**



**STANDARD MEASUREMENT :**

**SUPPLY AIR DIFFUSERS - CEILING DIFFUSER –CKD-01-A STANDARD MODEL**

A ( mm )		B ( mm )	C ( mm )
150*150		250*250	310*310
225*225		325*325	385*385
300*300		400*400	460*460
375*375		475*475	535*535
400*400	*	500*500	560*560
450*450		540*540	595*595
525*525	*	625*625	685*685
600*600	*	700*700	760*760

**SUPPLY AIR DIFFUSERS - CEILING DIFFUSER – CKD-01-C CURVY MODEL**

A ( mm )		B ( mm )	C ( mm )
150*150		210*210	265*265
225*225		285*285	340*340
300*300		360*360	415*415
375*375		435*435	490*490
400*400		460*460	515*515
450*450		540*540	595*595
525*525		585*585	640*640
600*600		660*660	715*715

**\* SIGNED SIZES ARE NOT STANDARD**

**SUPPLY AIR DIFFUSERS - CEILING DIFFUSER – CKD-01-B CLIP-IN MODEL**

A ( mm )		B ( mm )	C ( mm )
450*450		540*540	600*600

**SELECTION TABLE :**

Air flow (m <sup>3</sup> /h)	AxB (mm)	speed Vn (m/s)	Pressure loss Ps (Pa)	Noise level NC (dB)	44	43	42	41
					Shooting Range ( m )			
					(4.way)	(3-way)	(2. way)	(1-way)
144	150x150	1,8	7	-	0.9-1.8	1.0-2.0	1.2-2.2	1.4-2.4
	200 x 200	1	4	-	0.6-1.2	0.7-1.5	0.9-2.0	1.2 - 2.6
216	150x 150	2,7	16	-	1.5-2.4	1.6-2.6	1.8-3.0	2.2 - 3.5
	200 x 200	1,5	7	-	1.0-1.7	1.0-2.0	1.3-2.5	1.6-3.0
288	150x 150	3,6	30	23	1.8 - 3.6	2.1-4.0	2.4-4.4	3.0 - 5.5
	200 x 200	2	14	20	1.5-2.3	1.7-2.8	2.0-3.2	2.6 - 3.8
	250 x 250	1,3	2	-	0.6-1.2	0.8-1.4	1.0-1.8	1.5-2.7
360	150x150	4,5	42	31	2.4-4.0	2.6 - 4.3	3.0-5.0	3.6 - 6.0
	200 x 200	2,5	21	25	2.0-2.8	2.2-3.3	2.6-4.0	3.2 - 4.6
	250 x 250	1,6	6	-	1.0-2.0	1.2-2.3	1.5-2.7	1.8-3.6
432	200 x 200	3	25	28	2.5 - 3.3	2.8 - 3.8	3.2-4.4	4.0 - 6.0
	250 x 250	1,9	9	-	1.2-2.4	1.5-2.7	2.0-3.5	2.5-4.3
	300 x 300	1,3	5	-	1.0-2.0	1.2-2.2	1.5-3.0	2.0 - 4.0
504	200 x 200	3,5	32	32	2.8 - 3.6	2.8 - 3.6	4.0-5.3	5.0 - 6.5
	250 x 250	2,3	13	22	1.5-3.0	1.5 - 3.5	2.5-4.2	3.0 - 5.0
	300 x 300	1,6	6	-	1.2-2.4	1.5-2.8	1.8-3.4	2.5 - 4.7
576	200 x 200	4	39	36	3.3-4.1	3.8 - 5.0	4.5-6.0	5.5 - 7.2
	250 x 250	2,6	19	25	1.9-3.5	2.3-4.0	2.8-4.8	3.3-5.6
	300 x 300	1,8	9	-	1.5-2.6	1.8-3.0	2.0-4.0	2.7 - 5.0
	350 x 350	1,3	4	-	1.2-2.2	1.5-2.5	1.8-3.0	2.0-4.0
648	200 x 200	4,5	46	40	3.6-4.7	4.3-5.6	5.2 - 7.0	6.2 - 8.0
	250 x 250	2,9	22	28	2.3-3.9	2.6-4.5	3.3-5.4	3.6-6.2
	300 x 300	2	11	18	1.7-2.9	2.1-3.2	2.3-4.3	3.0 - 5.5
	350 x 350	1,5	5	-	1.3-2.4	1.7-2.8	2.0-3.4	2.4-4.9
	400 x 400	1,1	3	-	1.0-2.2	1.4-2.3	1.7-3.0	2.2 - 4.4
720	250 x 250	3,2	26	31	2.6-4.5	3.0 - 5.0	3.6-6.0	4.0 - 6.8
	300 x 300	2,2	13	19	2.0-3.2	2.3-3.6	2.7-4.6	3.3 - 6.0
	350 x 350	1,6	7	-	1.6-2.8	2.0 - 3.2	2.3-4.0	2.8-5.5
	400x400	1,3	4	-	1.3-2.5	1.7-2.8	2.0-3.4	2.4-4.8
792	250 x 250	3,5	30	33	2.8-4.8	3.2-5.5	4.0-6.5	4.5-7.6
	300 x 300	2,5	16	21	2.2 - 3.6	2.6 - 4.0	3.0-4.9	3.8 - 6.6
	350 x 350	1,8	9	-	1.8 - 3.2	2.2 - 3.6	2.6-4.4	3.2 - 6.0
	400x400	1,4	5	-	1.4-2.7	1.8-3.1	2.3-3.9	2.9 - 5.4
864	250 x 250	3,8	37	36	3.2 - 5.6	3.6-6.2	4.3-7.0	5.0-8.4
	300 x 300	2,7	20	23	2.5-4.0	2.9 - 4.5	3.5-5.3	4.5 - 7.3
	350 x 350	2	11	19	2.1 - 3.6	2.4-4.0	3.0-4.8	3.6 - 6.5
	400 x 400	1,5	6	-	1.7-3.0	2.0-3.7	2.6-4.3	3.2 - 6.0
936	250 x 250	4,2	44	39	3.4-6.0	4.0-6.7	4.6 - 7.6	5.3 - 9.0
	300 x 300	2,9	23	25	2.7-4.3	3.2 - 5.0	3.7-6.0	4.7 - 8.0
	350 x 350	2,1	13	20	2.3-3.9	2.7 - 4.5	3.2-5.4	4.0 - 7.2
	400x400	1,6	7	-	2.0 - 3.2	2.3 - 4.0	2.8-4.6	3.5 - 6.6

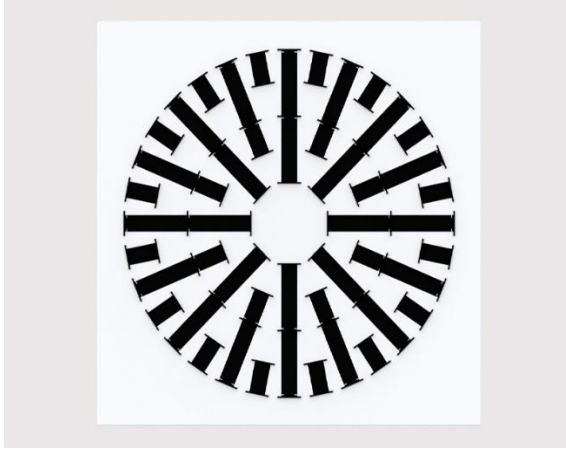
Air flow (m <sup>3</sup> /h)	AxB (mm)	speed Vn (m/s)	Pressure loss Ps (Pa)	Noise level NC (dB)	44	43	42	41
					Shooting Range ( m )			
					(4.way)	(3-way)	(2. way)	(1-way)
1008	250 x 250	4,5	52	42	3.7-6.5	4.3-7.6	5.0-8.3	5.7 - 9.8
	300 x 300	3,1	27	28	3.0-4.8	3.5 - 5.5	4.0 - 6.6	5.0 - 8.5
	350 x 350	2,3	16	22	2.6-4.3	3.0 - 5.0	3.5-6.0	4.5 - 7.7
	400x400	1,8	9	-	2.2-3.5	2.6-4.2	3.0-5.0	3.6 - 7.2
	450x450	1,4	6	-	1.8-3.2	2.2-3.7	2.6-4.2	3.2-6.5
1080	300 x 300	3,3	29	30	3.2 - 5.2	3.7 - 5.8	4.3-6.8	5.3 - 9.0
	350 x 350	2,5	18	23	2.8-4.6	3.3 - 5.2	3.7-6.3	4.8 - 8.2
	400 x 400	1,9	10	18	2.4-3.8	2.8 - 4.6	3.3 - 5.5	3.9 - 7.8
	450x450	1,5	7	-	1.9 - 3.2	2.4 - 4.0	2.8-4.4	3.3 - 6.8
	500 x 500	1,2	3	-	1.5-3.0	2.0-3.4	2.2 - 3.8	2.7 - 5.5
1152	300 x 300	3,6	32	32	3.5-5.6	4.0-6.0	4.6 - 7.2	5.7-9.5
	350 x 350	2,6	21	25	3.0-4.8	3.6 - 5.4	4.1-6.7	5.1-8.6
	400x400	2	11	19	2.6-4.0	3.3 - 5.0	3.6-6.0	4.3 - 8.0
	450 x 450	1,6	8	-	2.1-3.5	2.6 - 4.3	3.0-4.7	3.6 - 7.2
	500 x 500	1,3	4	-	1.7-3.2	2.2-3.7	2.5-4.2	3.0 - 6.2
1224	300 x 300	3,6	36	34	3.7-5.8	4.2-6.3	4.8-7.5	6.0-10.2
	350 x 350	2,8	24	27	3.2-5.1	3.8-5.8	4.3-7.1	5.3-8.8
	400x400	2,1	13	21	2.8-4.2	3.5 - 5.3	3.8-6.3	4.5-8.3
	450x450	1,7	10	-	2.2 - 3.7	2.8-4.6	3.2-5.1	4.0 - 7.7
	500 x 500	1,4	5	-	1.8-3.4	2.3-3.9	2.7-4.5	3.5-7.0
1296	300x300	4	42	36	3.9-6.0	4.5-6.8	5.1 - 7.7	6.2-10.8
	350 x 350	3	27	31	3.4 - 5.4	4.0-6.2	4.6-7.4	5.5 - 9.0
	400 x 400	2,3	16	23	3.0-4.5	3.7-5.6	4.1-6.6	4.7-8.6
	450 x 450	1,8	12	18	2.5-4.0	3.0-4.8	3.5-5.5	4.3-8.0
	500x500	1,5	7	-	2.0 - 3.7	2.5-4.2	3.0-5.0	4.0-7.6
	600 x 600	1	4	-	1.4-2.6	-	-	-
1368	300x300	4,2	47	39	4.2-6.5	5.2-7.5	5.7-B.5	-
	350 x 350	3,1	30	32	3.7-5.7	4.2-6.6	4.9-7.6	5.8 - 9.3
	400 x 400	2,4	16	25	3.3-4.9	4.0-5.9	4.2 - 6.9	5.0-9.0
	450 x 450	1,9	14	20	2.7-4.2	3.2-5.1	3.7-5.8	4.7-8.5
	500x500	1,5	8	-	2.1 - 3.9	2.6-4.4	3.2-5.3	4.2-8.0
	600 x 600	1,1	4	-	1.6-3.0	-	-	-
1440	300x300	4,5	54	43	4.5-7.0	-	-	-
	350 x 350	3,3	33	34	4.0-6.0	4.4-7.0	5.2-7.9	6.2-10.5
	400 x 400	2,5	21	27	3.5 - 5.2	4.2-6.2	4.5-7.2	5.2-9.3
	450 x 450	2	16	22	2.9-4.3	3.4 - 3.5	3.9-6.1	5.0-9.0
	500x500	1,6	10	-	2.3-4.2	2.8-4.7	3.4-5.5	4.5-8.3
	600 x 600	1,1	4	-	1.8-3.6	-	-	-
1512	350 x 350	3,4	36	36	4.3-6.5	4.6-7.4	5.5-8.4	6.5-11.3
	400x400	2,6	23	29	3.7-5.5	4.4-6.7	4.7-7.6	5.5-10.0
	450 x 450	2,1	17	23	3.1 -4.6	3.6-5.7	4.1-6.5	5.3-9.5
	500 x 500	1,7	11	-	2.4-4.4	3.0-5.1	3.6-6.2	4.7-8.6
	600x600	1,2	5	-	2.0 - 3.8	-	-	-

Air flow (m <sup>3</sup> /h)	AxB (mm)	speed Vn (m/s)	Pressure loss Ps (Pa)	Noise level NC (dB)	44	43	42	41
					Shooting Range ( m )			
					(4.way)	(3-way)	(2. way)	(1-way)
1620	350 x 350	3,7	40	38	4.6-7.0	4.9-7.7	5.6 - 8.7	7.0-12.0
	400 x 400	2,8	26	31	3.9-6.0	4.6 - 7.2	5.0-8.0	5.7-10.5
	450x450	2,2	19	25	3.3 - 5.0	3.8-6.0	4.3-7.0	5.6 - 9.8
	500 x 500	1,8	12	18	2.6-4.6	3.3-5.5	3.9-6.6	5.2-9.0
	600x600	1,3	5	-	2.2-4.0	-	-	-
1800	400x400	3,1	32	34	4.2-6.5	4.8-8.0	5.5-9.0	6.2-11.4
	450 x 450	2,5	23	28	3.5-5.5	4.2-6.6	4.7-7.5	6.1-10.7
	500 x 500	2	15	22	2.9-5.1	3.6 - 6.0	4.3-7.1	5.7-10.0
	600 x 600	1,4	7	18	2.5-4.4	-	-	-
1980	400 x 400	3,4	38	38	4.6 - 7.2	5.3-8.7	6.0-10.0	7.0-12.0
	450x450	2,7	29	32	3.8-6.0	4.6-7.0	5.1 - 8.2	6.6-11.3
	500x500	2,2	18	26	3.2 - 5.7	3.8-6.8	4.7-7.8	6.2-10.3
	600 x 600	1,5	10	20	2.8-5.0	-	-	-
2160	450 x 450	3	33	35	4.1-6.4	4.8 - 7.6	5.5-8.7	7.1-12.0
	500 x 500	2,4	21	28	3.5-6.2	4.1-7.1	5.0-8.2	6.5-11.0
	600 x 600	1,7	12	22	3.0-5.5	-	-	-
2340	450x450	3,2	38	38	4.3-7.1	5.2-8.4	5.7-9.5	7.5-12.8
	500x500	2,6	25	31	3.7-6.5	4.4-7.8	5.2-9.0	7.0-12.0
	600 x 600	1,8	14	24	3.3 - 6.2	-	-	-
2520	500 x 500	2,8	29	33	4.2-7.3	4.8 - 8.5	5.7-10.0	7.5-13.0
	600 x 600	2	17	26	3.5-6.5	-	-	-
2700	500 x 500	3	32	35	4.5-7.8	5.2-8.8	6.0-10.5	7.7-13.5
	600x600	2,1	19	28	3.6-6.9	-	-	-
2880	500x500	3,2	35	39	4.8 - 8.0	5.5-9.2	6.3-11.0	8.0-14.0
	600 x 600	2,2	22	30	3.8 - 7.2	-	-	-
3600	600 x 600	2,8	33	37	5.0-10.0	-	-	-

<b>SOME APLLICATION AREAS</b>	<b>Speed of Blower (m/s)</b>
<b>Radio and film studios, Surgery rooms</b>	<b>1,5 – 2,5</b>
<b>Bedrooms, Hotel Rooms, Offices, Residances, Hospitals, Mosques, Churches etc.</b>	<b>2 – 4</b>
<b>Concert Halls, Dining Rooms, Classrooms, Banks, Libraries, Game Rooms, Confenece Halls</b>	<b>2,5 – 5</b>
<b>Restaurants, Cafeteries, Hotel Lobbies, Theaters, Cinemas, Shopping Malls, Ball Rooms</b>	<b>2,5 – 6</b>
<b>Supermakets, Factories, Gym, Industrial Kitchens/ Warehouses</b>	<b>5 – 10</b>



**SWIRLL DIFFUSERS-CKD-02**



**SWIRLL DIFFUSERS- CKD02 A**



**SWIRLL DIFFUSERS - CKD02 B**

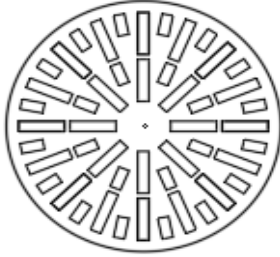
**AREAS OF USE AND FEATURES:** Is it used as blowing diffusers in hvac systems. It is suitable for vertical shooting. The ideal shooting distance is between 2.5-4 m. It is used for in-ceiling applications. Standard production is screwless in square ceilings. Other sizes are standard manufacturing screw. The way of mounting can be changed optionally.

**MATERIAL:** The body is made of a galvanized plate. The wings are made of ABS material by plastic injection method.

**SURFACE COATING:** The product can be manufactured in any colour with electrostatic powder paint. The wings are manufactured in standard black colour.

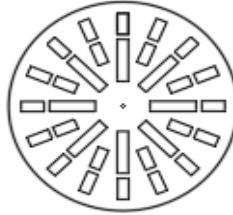
**AKSESUARLAR:** Plenum box

**60\*60(Ø600)**



**CKD-02-AD6**  
520 m<sup>3</sup>/h - 1040 m<sup>3</sup>/h  
NOISE LEVEL :20 - 40 dBA

**500\*500(Ø500)**

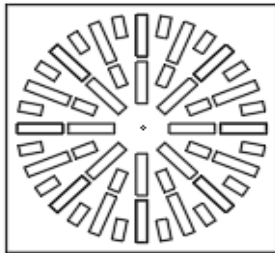


**CKD-02-AD5**  
232 m<sup>3</sup>/h - 465 m<sup>3</sup>/h  
NOISE LEVEL :20 - 40 dBA

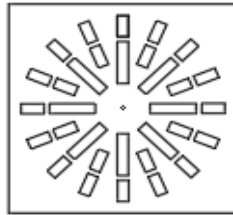
**400\*400(Ø400)**



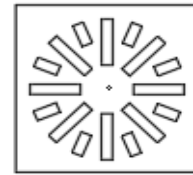
**CKD-02-AD4**  
174 m<sup>3</sup>/h - 347 m<sup>3</sup>/h  
NOISE LEVEL :20 - 40 dBA



**CKD-02-A6**  
520 m<sup>3</sup>/h - 1040 m<sup>3</sup>/h  
NOISE LEVEL :20 - 40 dBA



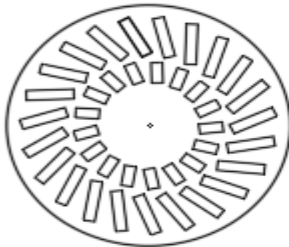
**CKD-02-A5**  
232 m<sup>3</sup>/h - 465 m<sup>3</sup>/h  
NOISE LEVEL :20 - 40 dBA



**CKD-02-A4**  
174 m<sup>3</sup>/h-347 m<sup>3</sup>/h  
NOISE LEVEL :20 - 40 dBA

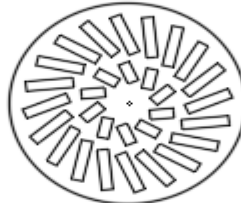
AIR SPEED MİN.2 m/s MAX.4 m/s

**60\*60(Ø600)**



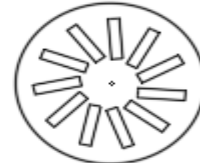
**CKD-02-BD6**  
455 m<sup>3</sup>/h - 910 m<sup>3</sup>/h  
NOISE LEVEL :20 - 40 dBA

**500\*500(Ø500)**

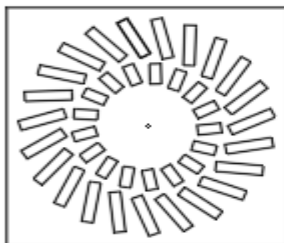


**CKD-02-BD5**  
362 m<sup>3</sup>/h - 720 m<sup>3</sup>/h  
NOISE LEVEL :20 - 40 dBA

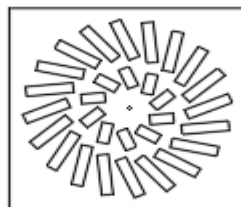
**400\*400(Ø400)**



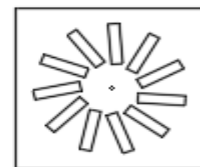
**CKD-02-BD4**  
160 m<sup>3</sup>/h - 320 m<sup>3</sup>/h  
NOISE LEVEL :20 - 40 dBA



**CKD-02-B6**  
455 m<sup>3</sup>/h - 910 m<sup>3</sup>/h  
NOISE LEVEL :20 - 40 dBA



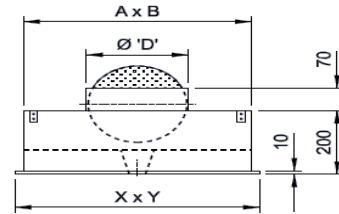
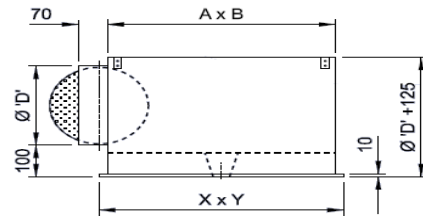
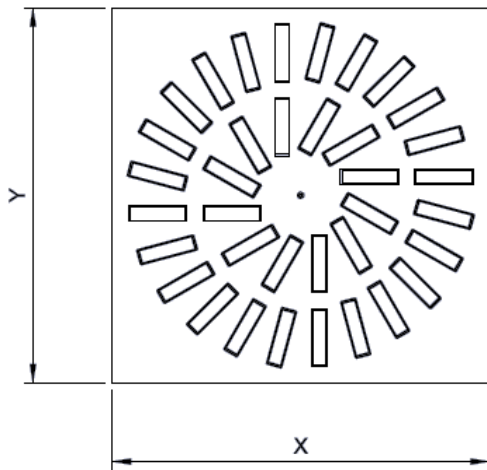
**CKD-02-B5**  
362 m<sup>3</sup>/h - 720 m<sup>3</sup>/h  
NOISE LEVEL :20 - 40 dBA



**CKD-02-BD4**  
160 m<sup>3</sup>/h - 320 m<sup>3</sup>/h  
NOISE LEVEL :20 - 40 dBA

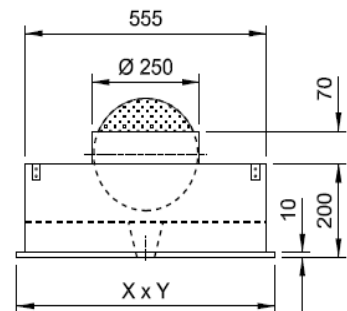
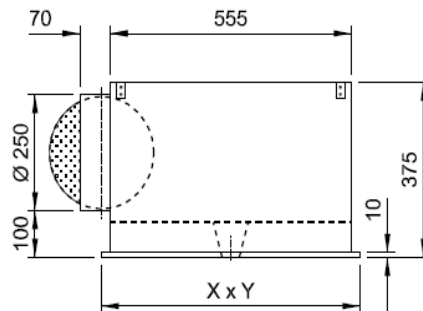
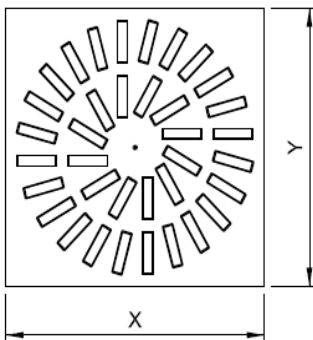
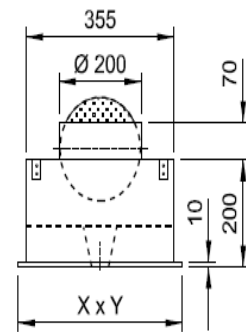
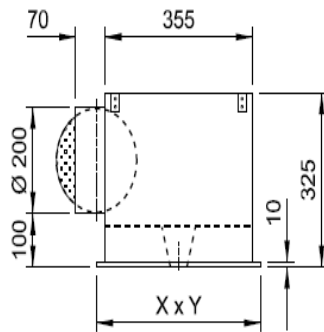
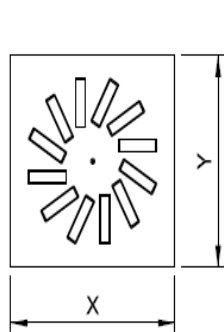
AIR SPEED MİN.2 m/s MAX.4 m/s

**TEKNICAL MEASUREMENT:**

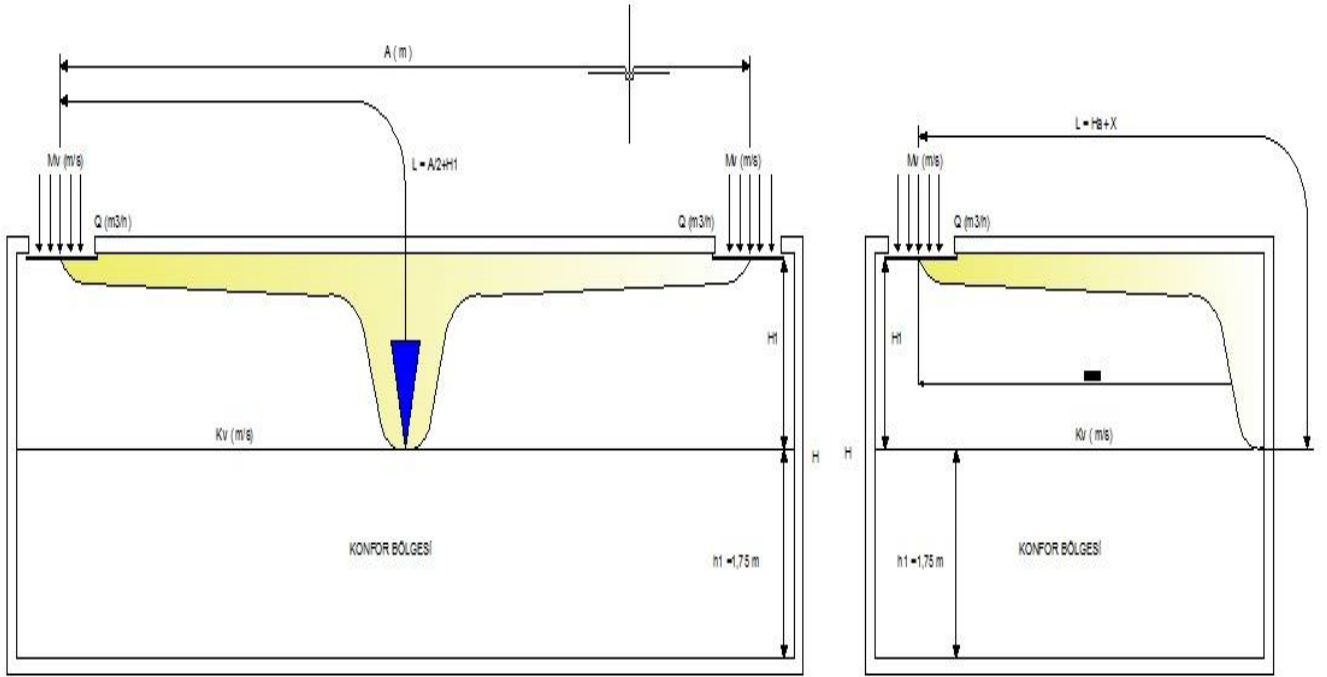


MODEL	DIMENSION (mm)		
	XxY	AxB	Ø 'D'
A - AD	400 x 400	350 x 350	Ø 198
A - AD	500 X 500	455 x 455	Ø 198
A - AD	600 X 600	555 x 555	Ø 248
A - AD	620 x 620	555 x 555	Ø 248

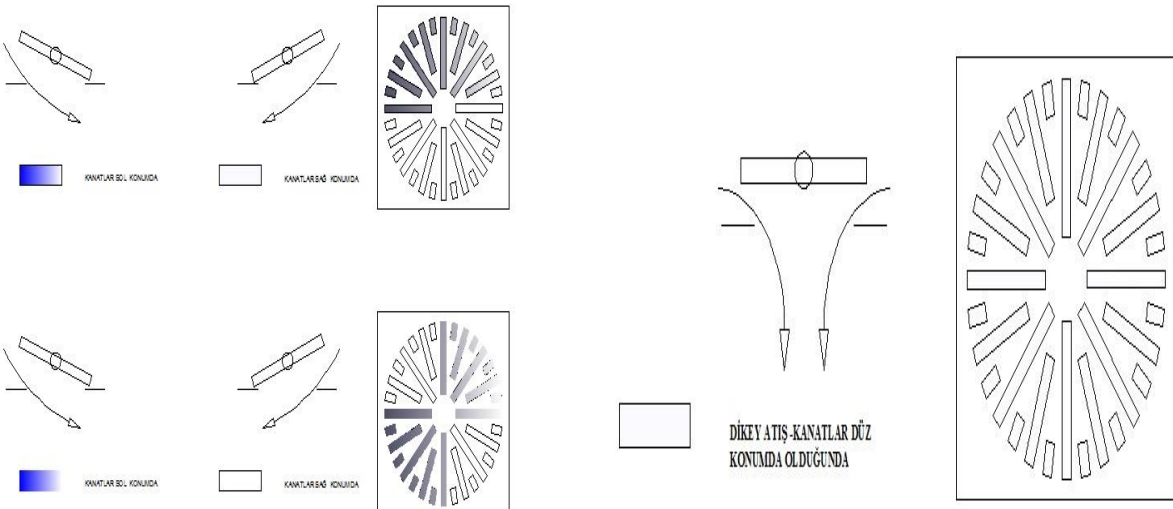
MODEL	DIMENSION (mm)		
	XxY	AxB	Ø 'D'
B - BD	400 x 400	340 x 340	Ø 198
B - BD	500 X 500	455 x 455	Ø 198
B - BD	600 X 600	555 x 555	Ø 248
B - BD	620 x 620	555 x 555	Ø 248



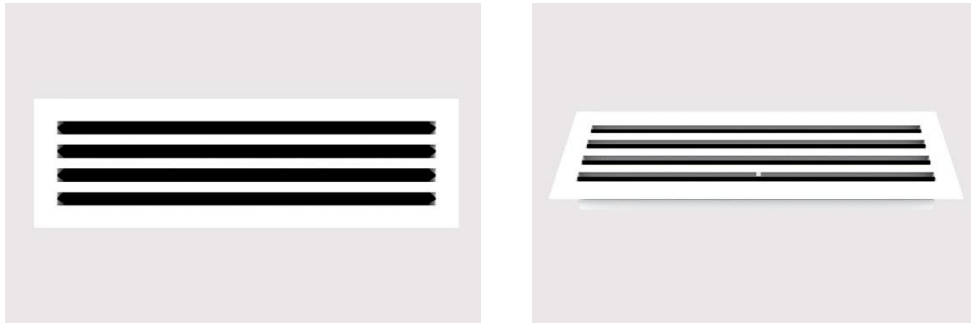
AIR FLOW TYPE :



Q (m3/h)	Air flow
Mv (m/s)	air outlet speed
H	Ceiling height
H1	The distance the air has to reach
h1	Comfort zone
Kv	The final speed of air in the comfort zone
A ( m . )	Required distance between diffusers
L ( m )	Shooting distance
Mef.( m2 )	Diffuser effective area



**SLOT DIFFUSERS – SUPPLY DIFFUSERS-CKD-03**



**SLOT DIFFUSERS- CKD-03**

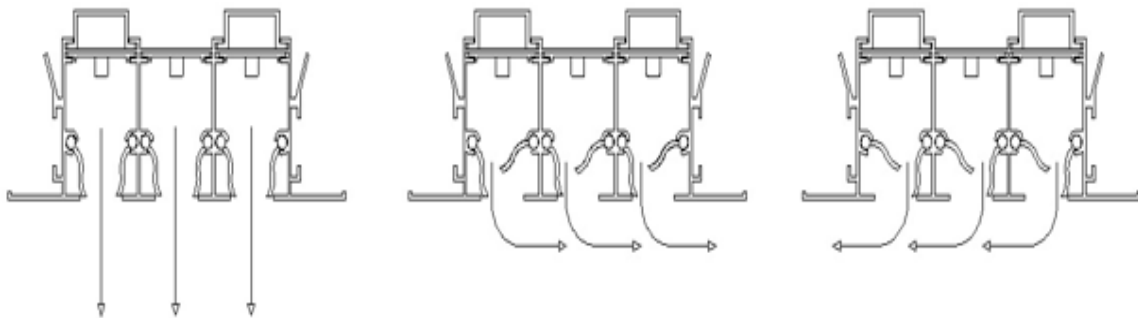
**AREA OF USAGE AND FEATURES:** It is used as blowing and suction diffusers in hvac systems. It is suitable for horizontal and vertical shots. The ideal shooting distance is between 2.5-8 m. It is used in ceiling and wall applications. It is a standard bridge mounted. The way of mounting can be changed optionally.

**MATERIAL:** Body and wings are made of aluminium profile manufactured by the extrusion method.

**SURFACE COATING:** The product can be manufactured in any colour with electrostatic powder paint. The wings are manufactured in standard black colour.

**ACCESSORIES:** Plenum box

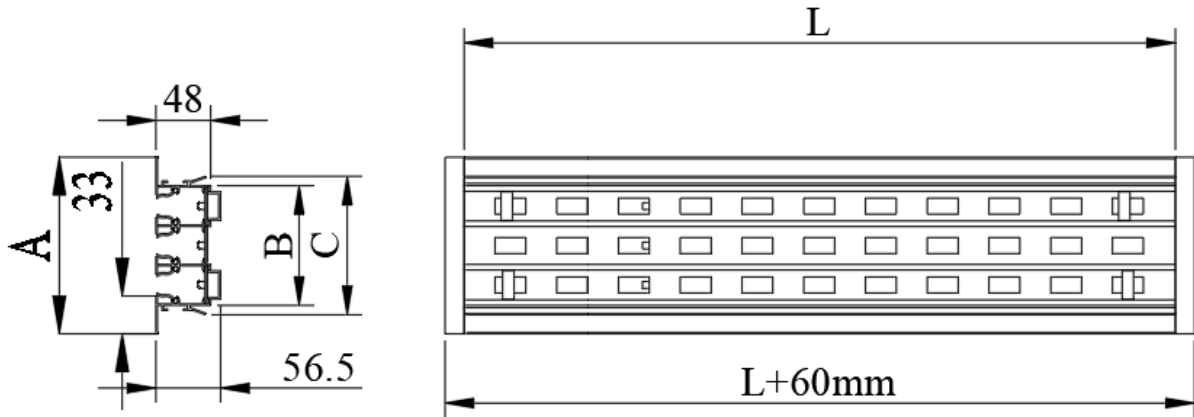
**AIR SHOT TYPES:**



**VERTICAL SHOOT**

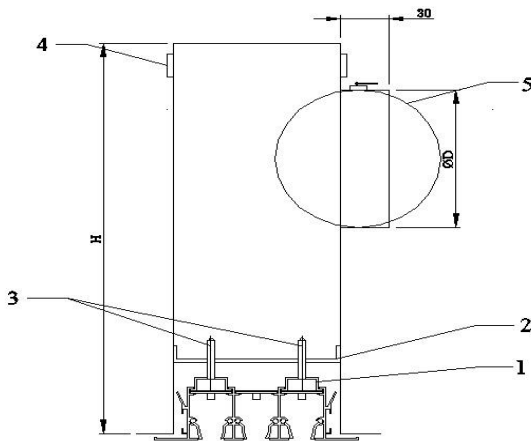
**HORIZONTAL SHOOT**

**TECHNICAL MEASUREMENT :**



NUMBER OF SLOTS	1	2	3	4	5	6
A (mm)	85	120	156	191	227	259
B (mm)	36	71	106	142	177	210
C (mm)	52	88	123	159	194	227
500 - 600 - 700 - 800 - 900 - 1000 - 1100 - 1200 - 1300 - 1400 - 1500 - 1600 - 1700 - 1800 - 1900 - 2000						

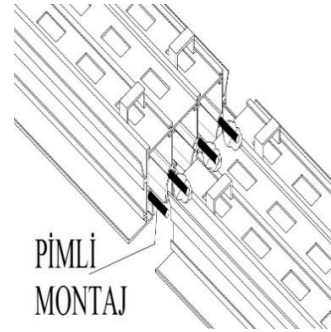
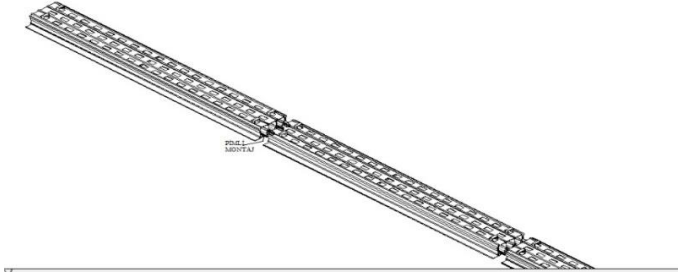
**SLOT MOUNTING DETAIL :**



- 1- Slot Bridge Piece (On Slot)
- 2- Box Bridge piece (Inside the box)
- 3- Assembly Screw And Special Nut (M5 \* 50)
- 4- Box Hanger Apparatus
- 5- Box Perforated Damper (Internal Control)

L (mm)		NUMBER OF SLOTS					
		1	2	3	4	5	6
500 – 1500	∅D (mm)	138	198	218	248	248	248
	h (mm)	218	278	298	328	328	328
1500 – 2000	∅D (mm)	*138 x 2	*198 x 2	*218 x 2	*248 x 2	*248 x 2	*248 x 2
	h (mm)	273	341	400	487	487	487

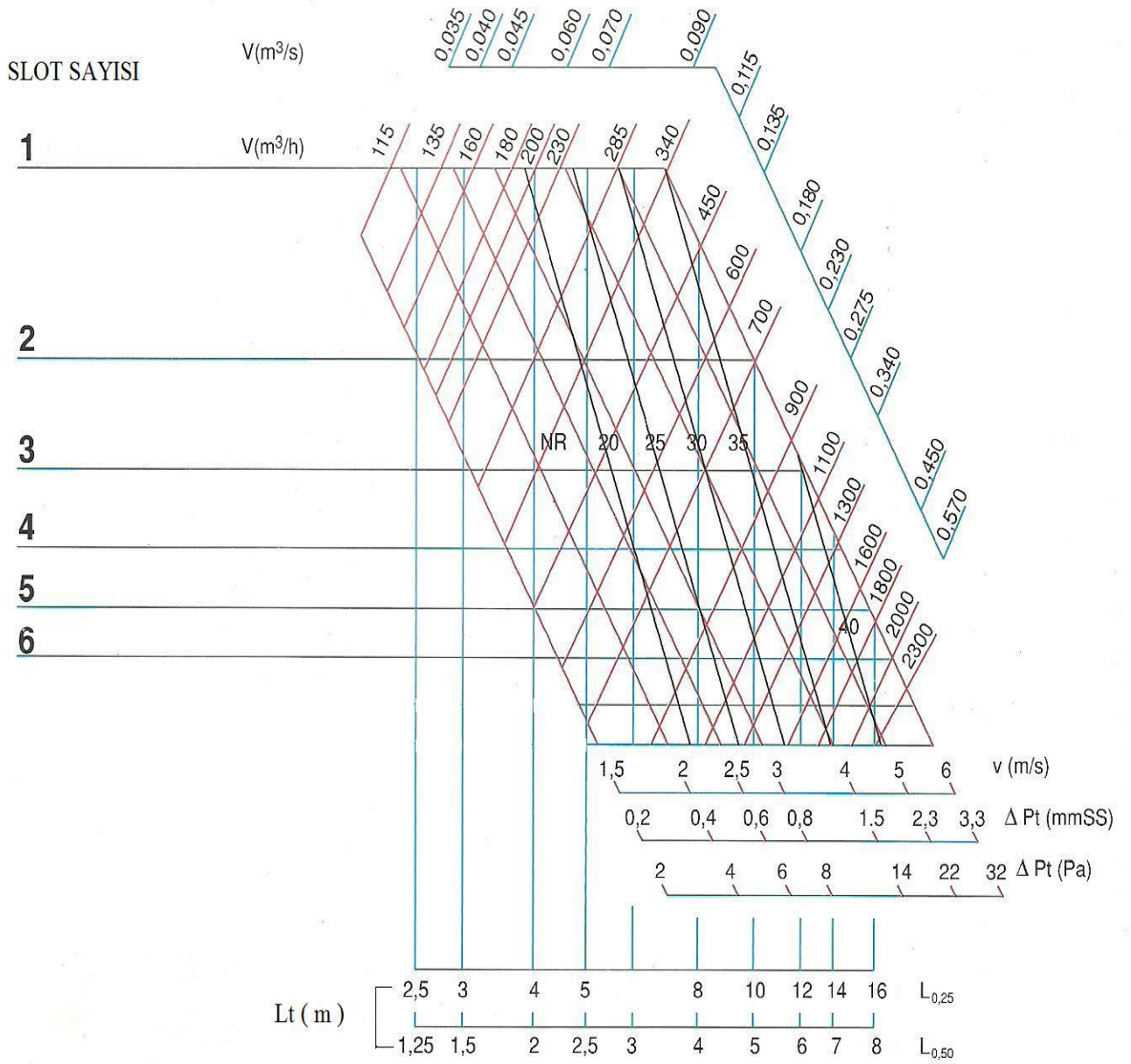
**PIECE SLOT MOUNTING DETAIL :**



**PIN MOUNTING**

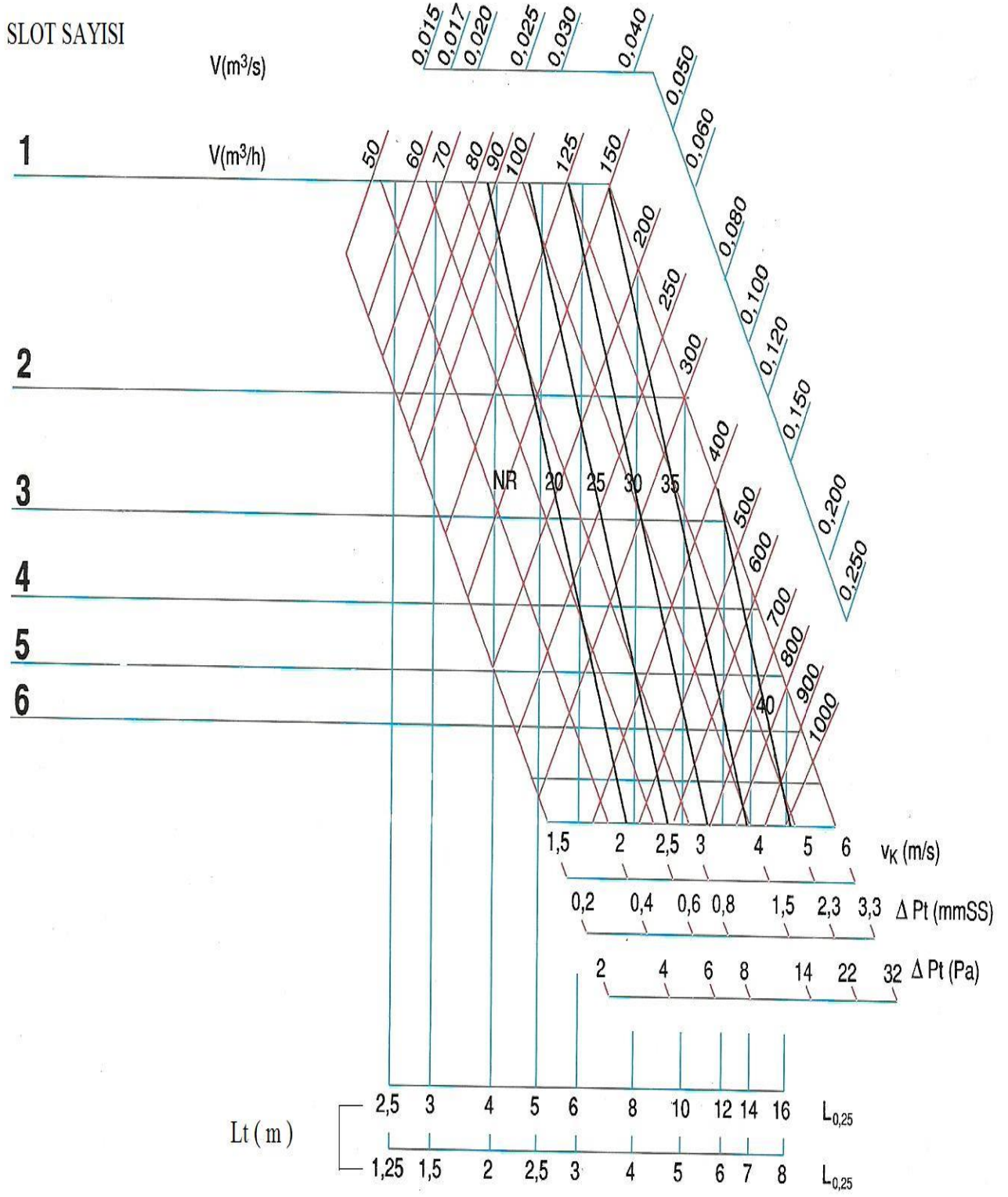
**VERTICAL SHOOT :**



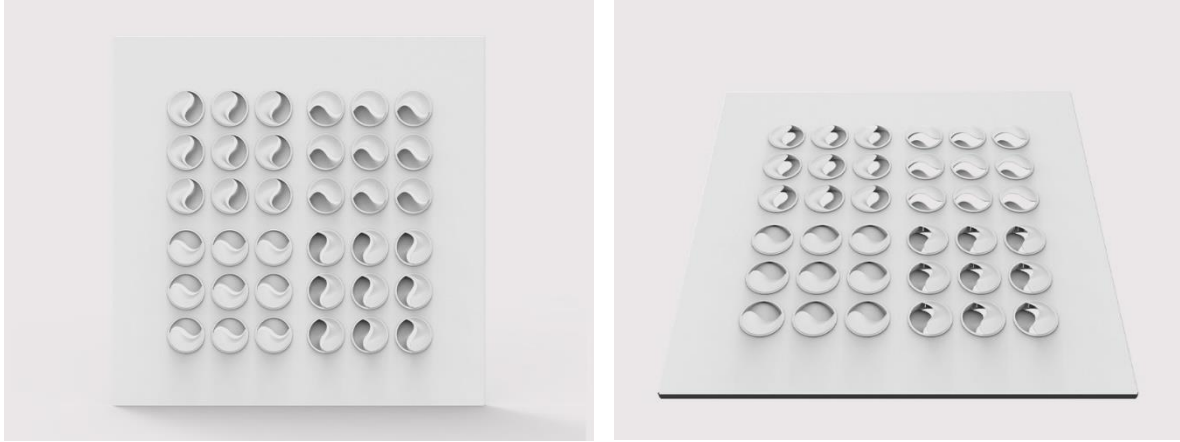


**HORIZONTAL SHOOT**

SLOT SAYISI



**NOZZLE DIFFUSERS- SUPPLY DIFFUSERS-CKD-04**



**NOZZLE DIFUSERS- CKD-04**

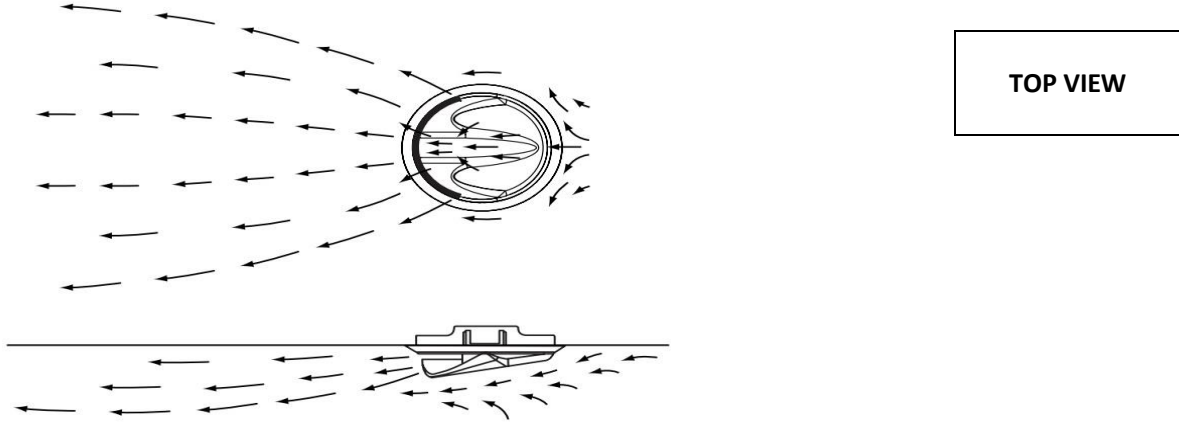
**USAGE AREA AND FEATURES:** It is used as blowing diffusers in hvac systems. It is suitable for vertical shooting. The ideal shooting distance is between 2.5-3.5 m. It is used for in-ceiling applications. It is standard screw mounted. The way of mounting can be changed optionally.

**MATERIAL:** The product can be produced in any colour with electrostatic powder paint. The wings are manufactured in standard 9010 colours.

**SURFACE COATING:** The product can be manufactured in any colour with electrostatic powder paint. The wings are manufactured in standard 9010 colours.

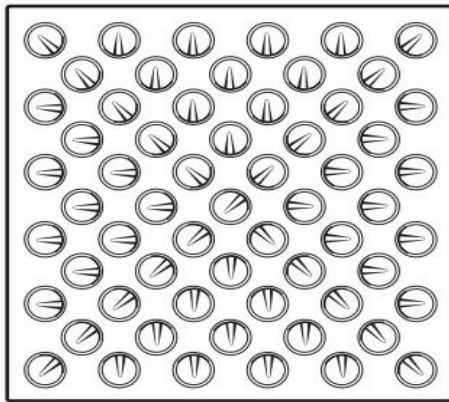
**ACCESSORIES:** Plenum box

**AIR FLOW MOVEMENTS**

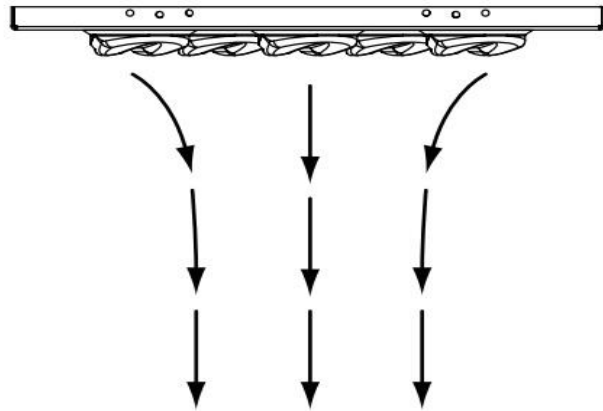


**BY NOZZLE DIFFUSER LAYOUT**

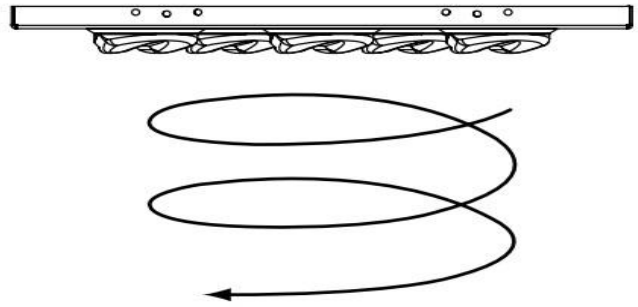
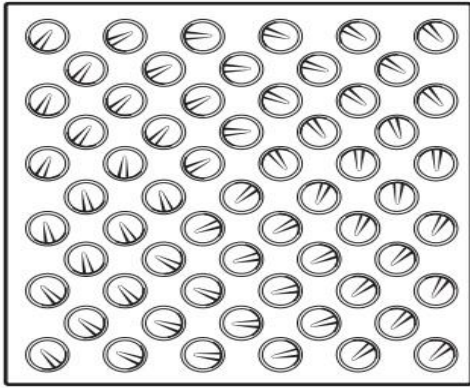
**VERTICAL DOWN SHOOTING**



**SIDE VIEW**

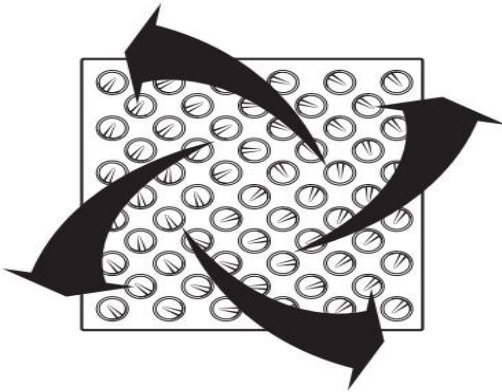


**TURBULENT FLOW SEQUENCE:**



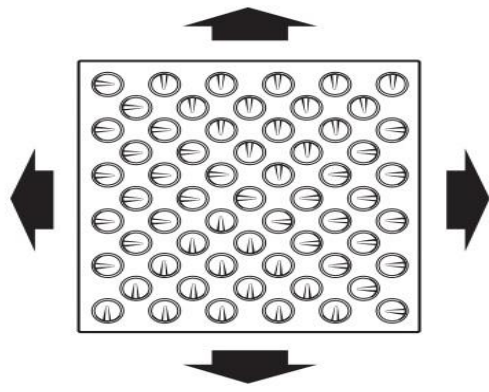
CKD04 NOZZLE DIFFUSER AIR MOVEMENT MODELS

**TURBULENT FLOW**

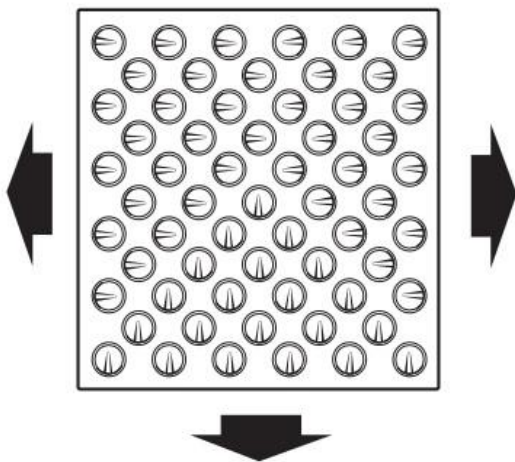


**3 WAY**

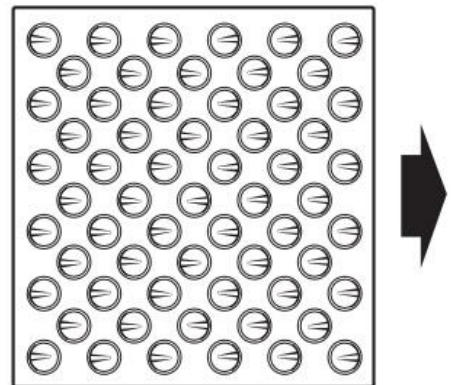
**HORIZONTAL FLOW**



**2 WAY**

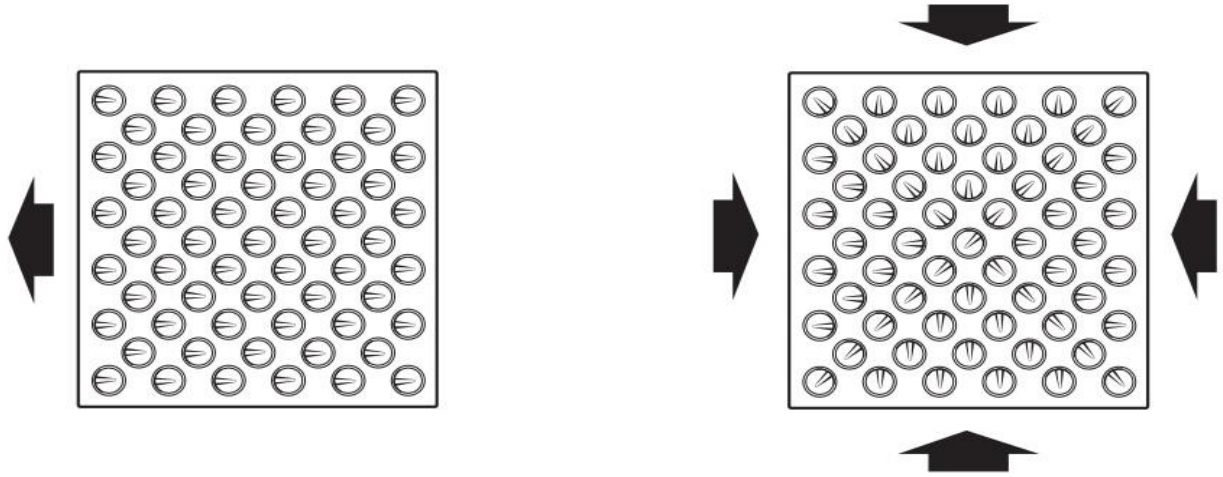


**1 WAY**



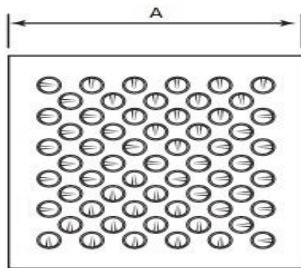
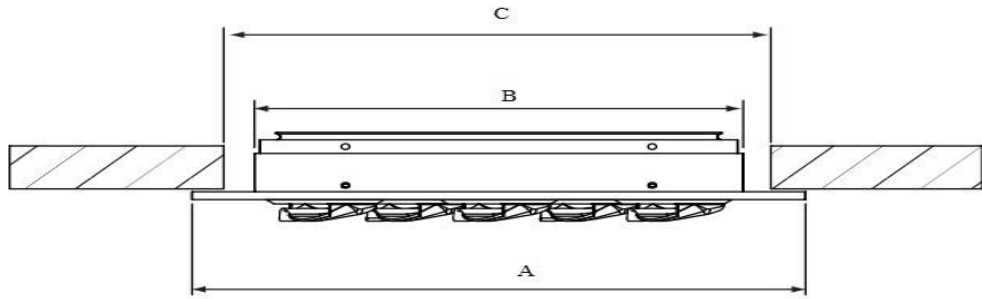
**VERTICAL FLOW**





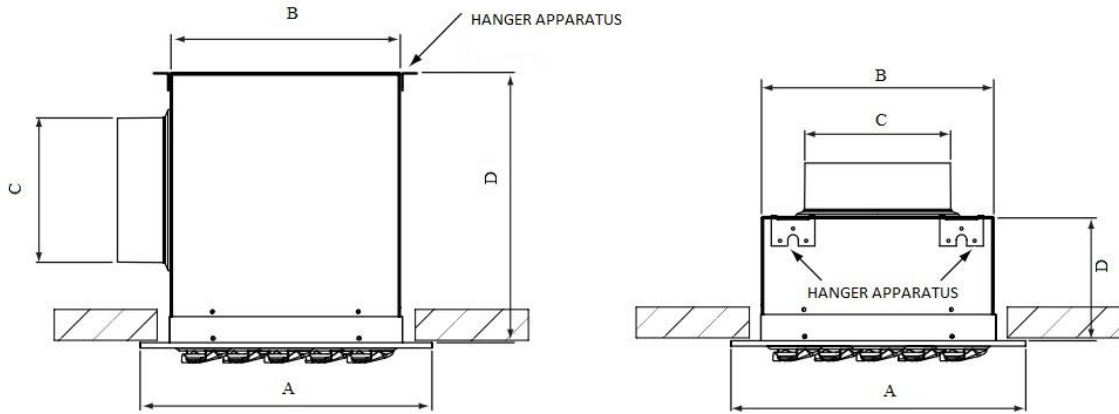
**TECHNICAL MEASUREMENT**

**CKD04 A STANDARD SIZES**



CKD04-A STANDARD DIMENSIONS			
MODEL	A	B	C
300	364	304	318
400	464	404	418
500	564	504	518
600	664	604	618

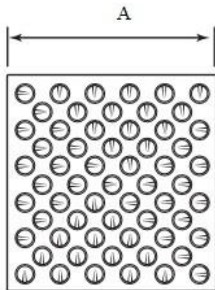
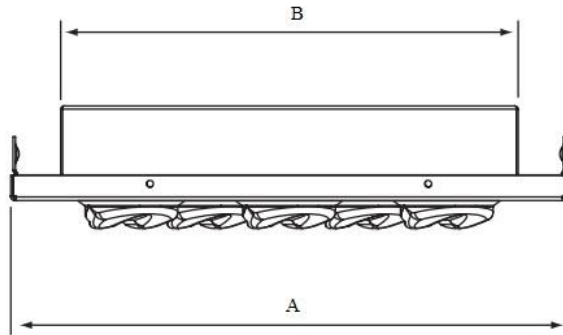
**CKD04-A BOXED INSTALLATION**



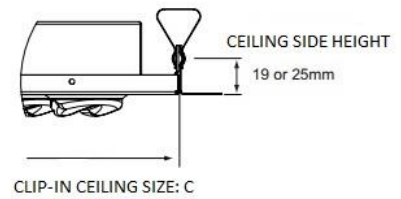
CKD04-A SIDE ENTRY BOX				
MODEL	A	B	C	D
300	364	299	200	300
400	464	399	250	350
500	564	499	315	415
600	664	599	350	450

CKD04-A TOP INLET BOX				
MODEL	A	B	C	D
300	364	299	200	150
400	464	399	250	200
500	564	499	315	250
600	664	599	350	300

**CKD04-B STANDAD SIZES**

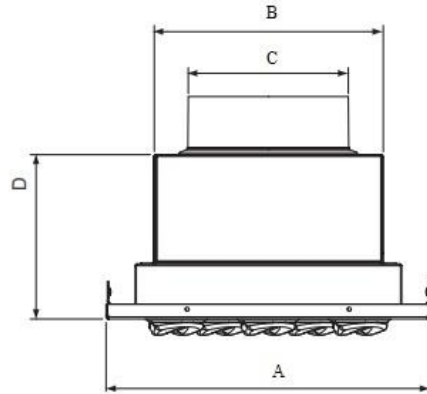
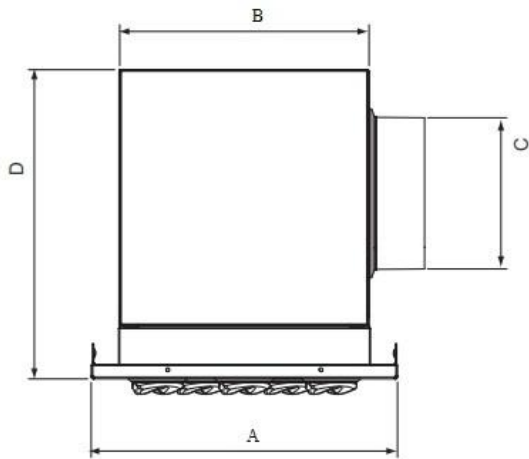


CKD04-B STANDARD DIMENSIONS			
MODEL	A	B	C
300	499	445	500
	599	545	600
400	499	445	500
	599	545	600
500	499	445	500
	599	545	600
600	599	545	600
	599	545	600



**CKD04-B BOXED INSTALLATION**

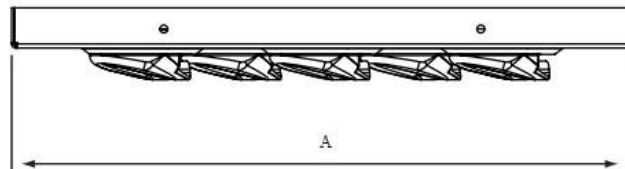




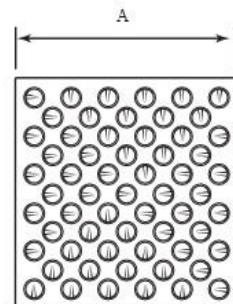
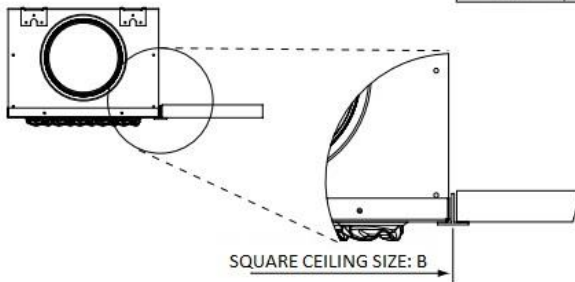
CKD04-B SIDE INLET BOX				
MODEL	A	B	C	D
300	499	445	200	300
	599	545		
400	499	445	250	350
	599	545		
500	499	445	315	415
	599	545		
600	599	545	350	450

CKD04-B TOP INLET BOX				
MODEL	A	B	C	D
300	499	445	200	150
	599	545		
400	499	445	250	200
	599	545		
500	499	445	315	250
	599	545		
600	599	545	350	300

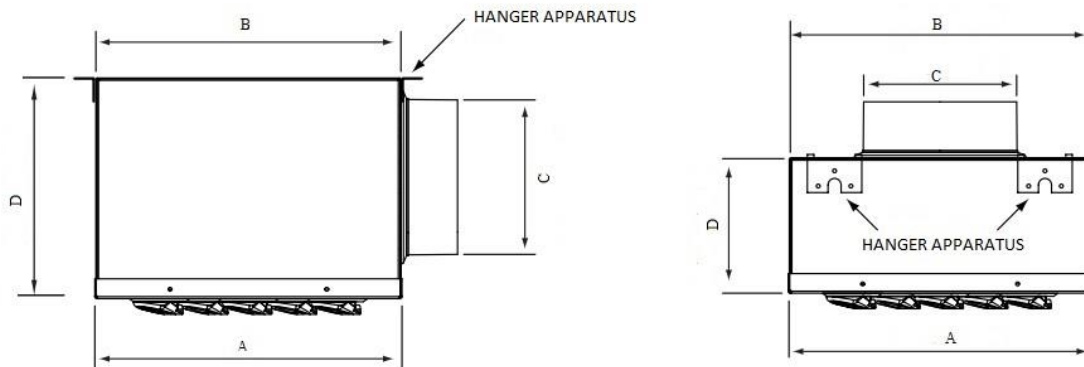
**CKD04-C STANDARD SIZES**



CKD04-C STANDARD DIMENSIONS		
MODEL	A	B
300	494	500
	594	600
400	494	500
	594	600
500	494	500
	594	600
600	594	600



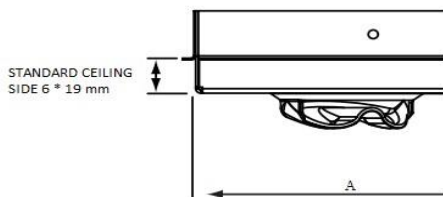
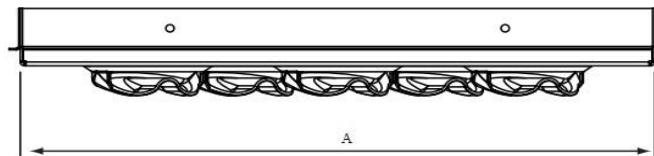
**CKD04-C BOXED INSTALLATION**



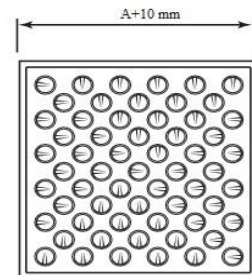
CKD04-C SIDE INLET BOX				
MODEL	A	B	C	D
300	494	492	200	300
	594	592		
400	494	492	250	350
	594	592		
500	494	492	315	415
	594	592		
600	594	592	350	450
	594	592		

CKD04-C TOP INLET BOX				
MODEL	A	B	C	D
300	494	492	200	150
	594	592		
400	494	492	250	200
	594	592		
500	494	492	315	250
	594	592		
600	594	592	350	300
	594	592		

**CKD04-D STANDARD SIZES**



CKD04-D STANDARD DIMENSIONS	
MODEL	A
300	474
	484
	574
400	584
	474
	484
500	574
	584
	474
600	484
	574
	584
600	574
	584



**CKD04-D BOXED INSTALLATION**

**MODEL 300 HORIZONTAL SHOT**

**MODEL 300 VERTICAL SHOOT**

DEBİ ( m3/h )	126	173	220	267	313	360
SOUND LEVEL ( dBa )	20	25	30	35	40	45
PRESSURE DROP ( Pa )	7	14	22	35	43	60

**MODEL 400 HORIZONTAL SHOT**

DEBİ ( m3/h )	180	270	360	450	540	630
SES SEVİYESİ ( dBa )	20	25	30	35	40	45
BASINÇ KAYBI ( Pa )	6	13	22	35	50	68

**MODEL 500 HORIZONTAL SHOT**

DEBİ ( m3/h )	360	468	576	684	792	900
SES SEVİYESİ ( dBa )	25	30	35	40	45	45
BASINÇ KAYBI ( Pa )	10	17	26	37	49	63

**MODEL 600 HORIZONTAL SHOT**

DEBİ ( m3/h )	450	612	774	936	1100	1300
SES SEVİYESİ ( dBa )	25	30	35	40	40	45
BASINÇ KAYBI ( Pa )	7	13	22	31	47	60

DEBİ ( m3/h )	126	173	220	267	313	360
SES SEVİYESİ ( dBa )	20	25	30	35	40	45
BASINÇ KAYBI ( Pa )	7	14	22	35	43	60

**MODEL 400 VERTICAL SHOOT**

DEBİ ( m3/h )	180	270	360	450	540	630
SES SEVİYESİ ( dBa )	20	25	30	35	40	45
BASINÇ KAYBI ( Pa )	6	13	22	35	50	68

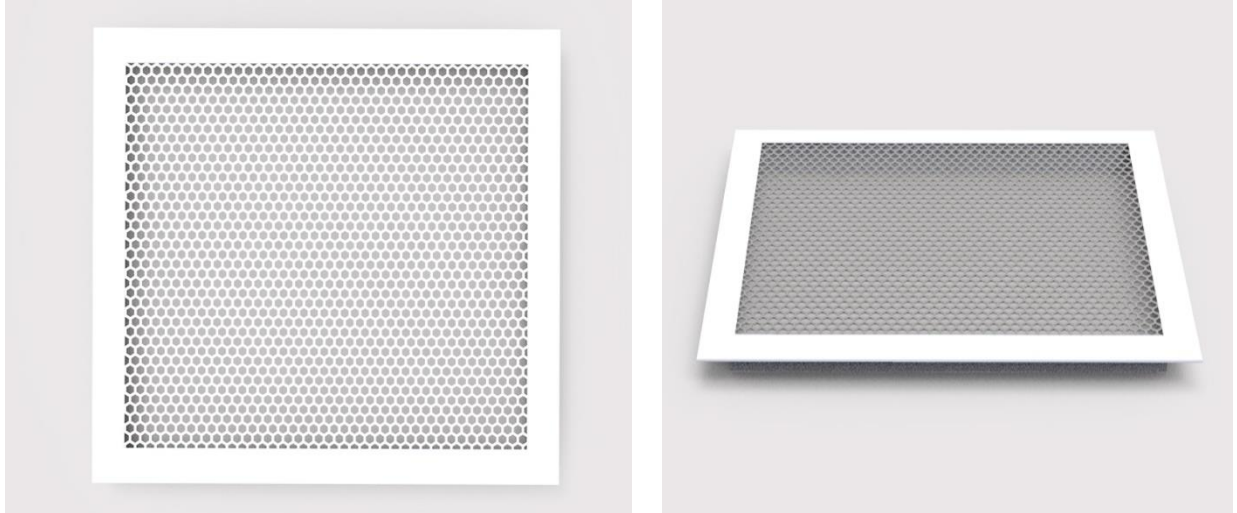
**MODEL 500 VERTICAL SHOOT**

DEBİ ( m3/h )	360	468	576	684	792	900
SES SEVİYESİ ( dBa )	25	30	35	40	45	45
BASINÇ KAYBI ( Pa )	10	17	26	37	49	63

**MODEL 600 VERTICAL SHOOT**

DEBİ ( m3/h )	450	612	774	936	1100	1300
SES SEVİYESİ ( dBa )	25	30	35	40	40	45
BASINÇ KAYBI ( Pa )	7	13	22	31	47	60

**PERFORATED DIFFUSERS – LOW SPEED DIFFUSERS–CKD-05**



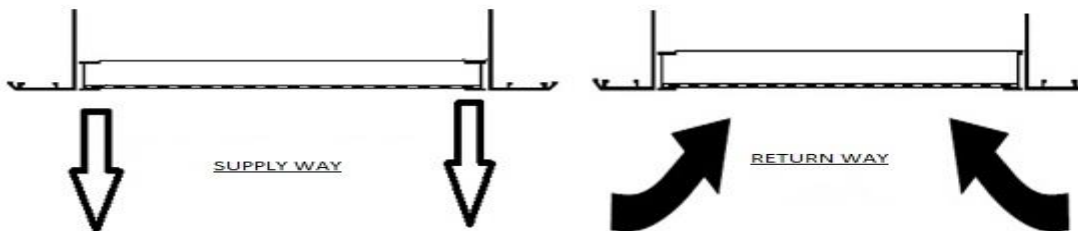
**AREAS OF USE AND FEATURES:** It is used as blowing and suction diffusers in hvac systems. Suitable for vertical and horizontal use. The ideal shooting distance is between 2.5 and 3.5 meters. It is in ceiling and wall applications. It is screw mounted as standard. The way of mounting can be changed optionally. The effective area is about 50%.

**MATERIAL:** Frame is made of aluminium profile, culvert 1 mm, with DKP material, Ø5 mm perforated hole.

**SURFACE COATING:** The product can result in any colour with electrostatic powder paint.

**ACCESSORIES:** Plenum box

**AIR DIRECTION**



**SUPPLY TABLE**

**RETURN TABLE**

A*B (mm)	AIR FLOW Q (m <sup>3</sup> /h)	AIR VELOCITY Vn (m/s)	PRESSURE LOSS Ps (Pa)	SOUND LEVEL NC (dB)	SHOT DISTANCE E (m.)
255 x 255	108	1,7	3	-	-0,8
	144	2,25	5	-	0.5-1.0
	180	2,9	6	-	0.7-1.2
	216	3,5	8	-	0.8-1.5
	252	3,95	12	23	1.1 -1.8
	288	4,5	14	28	1.2-2.1
	324	5	17	32	1.5-2.5
	360	5,65	20	34	1.8-3.0
355 x 355	216	1,9	2	-	0.7-1.0
	288	2,5	5	15	0.9-1.5
	360	3,2	6	22	1.0-1.6
	432	3,8	7	23	1.3-1.8
	504	4,45	10	27	1.5-2.2
	576	5,1	14	31	1.8-2.7
	648	5,7	19	38	2.2-3.3
	720	6,35	22	40	2.4 - 3.5
455 x 455	288	1,6	3	17	0.6-1.0
	360	2,05	5	20	0.8-1.4
	432	2,45	7	21	1.0-1.6
	504	2,85	10	24	1.4-2.0
	576	3,25	12	27	1.7 - 2.4
	648	3,7	14	30	2.0 - 3.0
	720	4,1	17	31	2.4 - 3.4
	792	4,5	20	36	2.7-3.7
555 x 555	180	2,9	3	-	0.6-1.1
	216	3,5	3	-	0.8-1.4
	252	3,95	4	16	1.2-1.8
	288	4,5	5	19	1.2-2.2
	324	5	7	26	1.4-2.5
	360	5,65	9	28	1.6-2.8
	396	6,2	13	33	2.0 - 3.2
	432	6,8	18	38	2.3 - 3.6
555 x 555	288	2,5	3	18	0.8-1.3
	360	3,2	5	19	1.0-1.6
	432	3,8	6	21	1.2-1.8
	504	4,45	7	24	1.5 - 2.4
	576	5,1	10	27	2.0 - 3.2
	648	5,7	13	34	2.3 - 3.6
	720	6,35	18	38	2.6-4.0
	792	7	23	40	3.0 - 4.5
555 x 555	360	2	3	-	1.2-1.8
	540	3,05	6	22	1.5-2.2
	648	3,7	7	24	1.8-2.4
	720	4,1	8	28	2.3 - 3.2
	828	4,7	11	30	2.7-3.8
	936	5,3	15	32	3.0 - 4.3
	1008	5,7	19	34	3.4 - 4.8
	1080	6,1	26	36	3.7-5.1

A*B (mm)	AIR FLOW Q (m <sup>3</sup> /h)	AIR VELOCITY Vn (m/s)	PRESSURE LOSS Ps (Pa)	SOUND LEVEL NC (dB)
250 x 250	180	0,85	6	-
	270	1,3	8	16
	360	1,75	12	20
	450	2,2	19	25
	540	2,6	25	28
	720	3,5	40	35
	900	4,35	63	38
	350 x 350	540	1,3	8
720		1,75	17	22
900		2,15	29	26
1080		2,6	38	32
1350		3,25	52	35
1530		3,7	63	39
1800		4,3	94	44
450 x 450		900	1,3	12
	1080	1,55	16	23
	1260	1,8	20	27
	1440	2,1	26	29
	1620	2,35	33	32
	1800	2,6	42	35
550 x 550	1260	1,2	5	17
	1530	1,45	15	26
	1800	1,75	21	30
	2070	2	29	32
	2250	2,15	32	35
	2520	2,4	37	38
	2880	2,75	45	42

**FLOORING DIFFUSERS - LOW SPEED BLOWING DIFFUSER – CKD-06**



**AREAS OF USE AND FEATURES:** It used as blowing diffusers in hvac systems. It is suitable for shooting from the ground. The ideal shooting distance is between 0.5-1.5 m. It used in raised floor applications. It is standard screwless mounted. Installation method can be changed optionally. Air regulation by damper method. It is in movie theatres, conference halls and offices. It provides comfortable ventilation of the air by reducing the heat load on the items and people during the upward airflow. It does not cause turbulence.

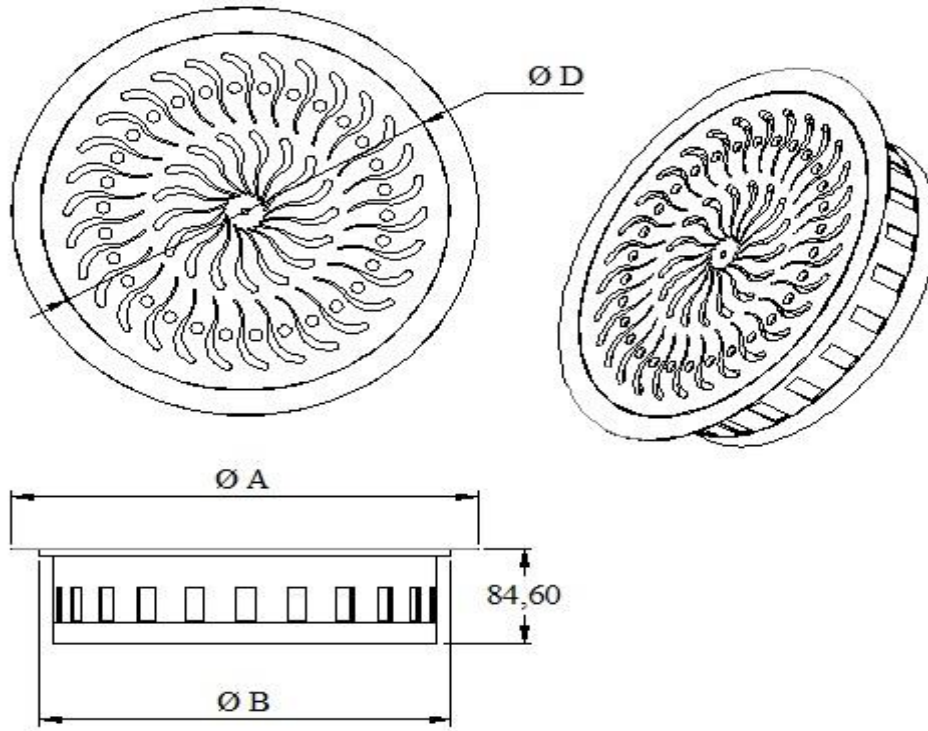
**MATERIAL:** It is manufactured by laser method with 1 mm, DKP material and 5 mm DKP material with diffuser body.

**SURFACE COATING:** The product can in any colour with electrostatic powder paint. The wings in standard black colour.

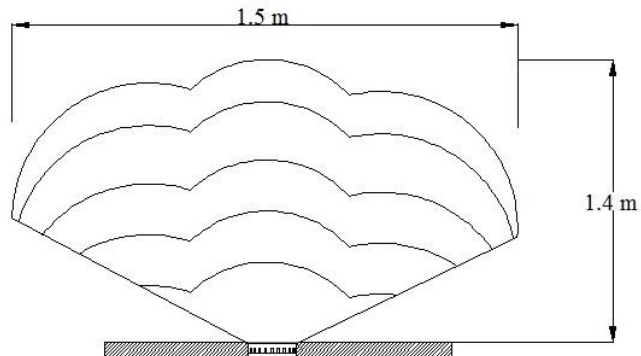
**ACCESSORIES:** Plenum box

**TECHNICAL DIMENSIONS**

$\varnothing D$	$\varnothing A$	$\varnothing B$	AIR FLOW m <sup>3</sup> /h MIN.MAX	AIR VELOCITY m/s	SHOOT DISTANCE m.	AIR SPREADING AREA m.	PRESURE LOSS Pa.	SOUND LEVEL dBA
150	210	153	77-155	2-4	1,5	1,4	25	25
200	260	203	105-210	2-4	1,5	1,4	30	25
250	310	253	165-230	2-4	1,5	1,4	32	25
300	360	303	140-280	2-4	1,5	1,4	32	25

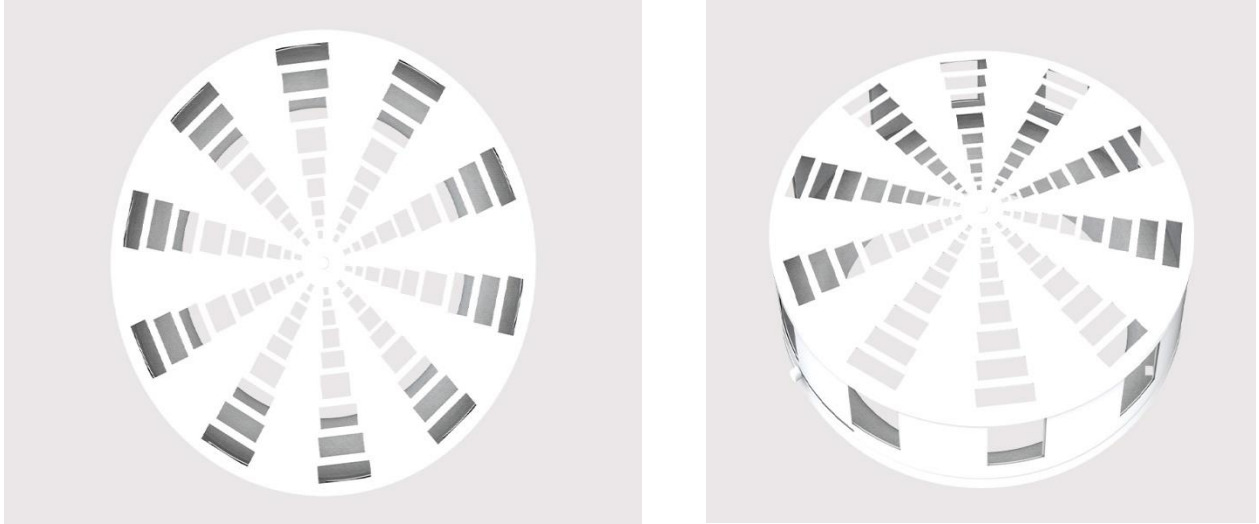


**AIR WAY :**





**COMFORT DIFFUSERS – HIGH CEILING BLOW DIFFUSER –CKD-07**



**AREAS OF USE AND FEATURES:** It is as blowing diffusers in hvac systems. It is suitable for vertical use. It can work. Heating and cooling purposes. Ideal shooting distance is between 3m-15m. It has Used in-ceiling applications. It is suitable for servo motor use. It is standard screwless mounted. The way of mounting can be changed optionally.

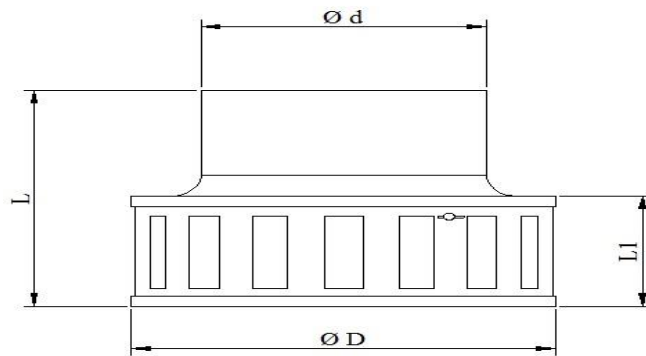
**MATERIAL:** The frame is produced by laser method by cutting from a galvanized plate.

**SURFACE COATING:** The product can be in any colour with electrostatic powder paint.

**ACCESSORIES:** Plenum box

**STANDARD DIMENSIONS:**

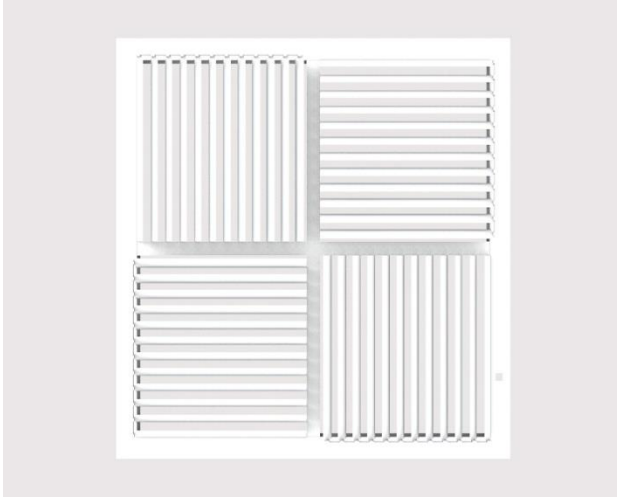
	DIMENSIONS			
	ØD	Ød	L	L1
300	302	175	216	82
400	402	245	248	108
500	502	310	298	136
600	602	395	363	192
800	702	495	448	200



**EASY SELECTION TABLE:**

AIR FLOW m <sup>3</sup> /h		FOR WINTER APPLICATION					FOR SUMMER APPLICATION				
		Ø300	Ø400	Ø500	Ø600	Ø800	Ø300	Ø400	Ø500	Ø600	Ø800
300	SHOOTING DISTANCE (m.)	4					3,5				
	SOUND VIOLENCE (dBA)	27					27				
	PRESSURE LOSS (Pa)	40					40				
400	SHOOTING DISTANCE (m.)	7	3,5				4,5	3,5			
	SOUND VIOLENCE (dBA)	38	25				38	25			
	PRESSURE LOSS (Pa)	68	18				68	18			
600	SHOOTING DISTANCE (m.)	9	6				7,5	4,5			
	SOUND VIOLENCE (dBA)	44	35				44	35			
	PRESSURE LOSS (Pa)	145	48				145	39			
800	SHOOTING DISTANCE (m.)		7	4,5				6	5		
	SOUND VIOLENCE (dBA)		44	30				44	30		
	PRESSURE LOSS (Pa)		79	20				79	20		
1000	SHOOTING DISTANCE (m.)		9	6	4,5			7	6	3,5	
	SOUND VIOLENCE (dBA)		50	35	29			50	35	29	
	PRESSURE LOSS (Pa)		119	30	21			119	30	21	
1500	SHOOTING DISTANCE (m.)			7	6,5				8,5	5	
	SOUND VIOLENCE (dBA)			45	40				45	40	
	PRESSURE LOSS (Pa)			69	55				69	55	
2000	SHOOTING DISTANCE (m.)			10	9	2,5				7	5
	SOUND VIOLENCE (dBA)			50	50	25				50	25
	PRESSURE LOSS (Pa)			80	90	15				90	15
3000	SHOOTING DISTANCE (m.)				14	3				9	7,5
	SOUND VIOLENCE (dBA)				55	30				55	30
	PRESSURE LOSS (Pa)				170	20				170	20
5000	SHOOTING DISTANCE (m.)					4					12
	SOUND VIOLENCE (dBA)					35					35
	PRESSURE LOSS (Pa)					25					25
7000	SHOOTING DISTANCE (m.)					4,5					
	SOUND VIOLENCE (dBA)					40					
	PRESSURE LOSS (Pa)					35					
7300	SHOOTING DISTANCE (m.)					5,5					
	SOUND VIOLENCE (dBA)					50					
	PRESSURE LOSS (Pa)					85					

**FOUR WAY SWIRL DIFFUSERS-CKD-08**



**AREAS OF USE AND FEATURES:** It is as blowing diffusers in hvac systems and high ceilings. It is suitable for vertical use. It can for heating and cooling. With the help of the arm, the shooting distance can range between 3m-15m. In fixed-wing applications, the shooting distance is max. 5 m. It is suitable for servo motor use. It is standard screw mounted. The way of mounting can be changed optionally.

**MATERIAL:** Frame and wings are made of aluminium profile by the extrusion method.

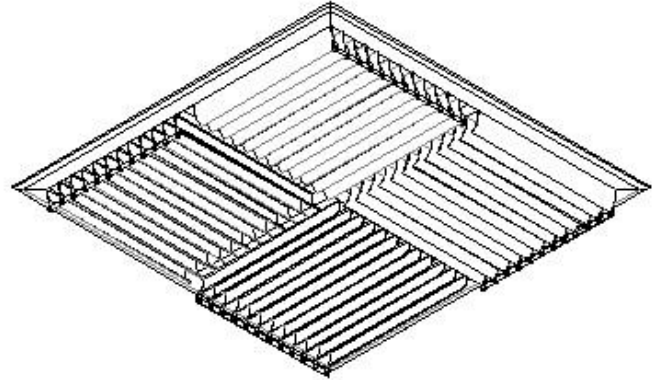
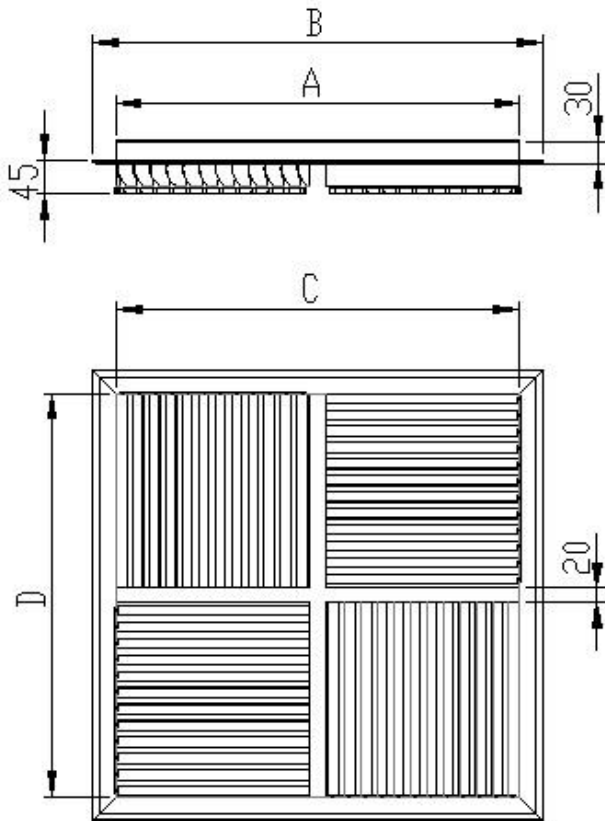
**SURFACE COATING:** The product can result in any colour with electrostatic powder paint.

**ACCESSORIES:** Plenum box.

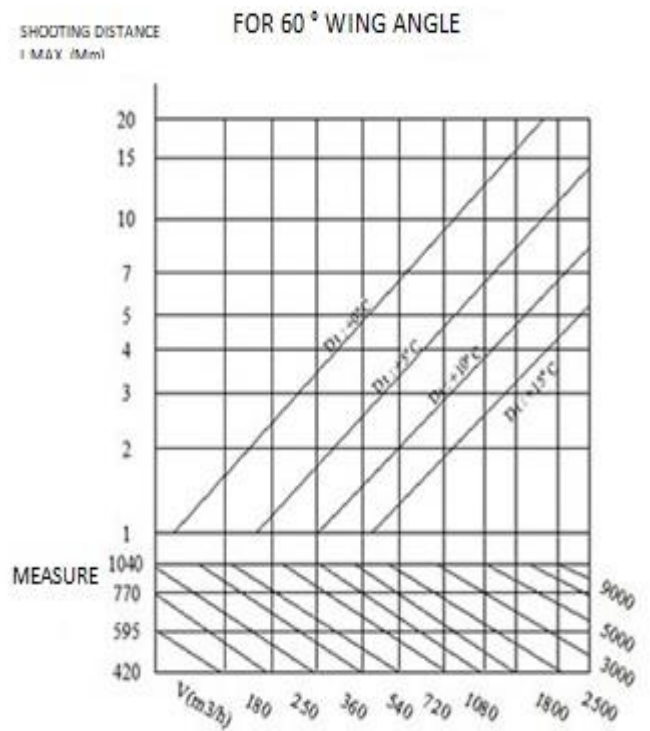
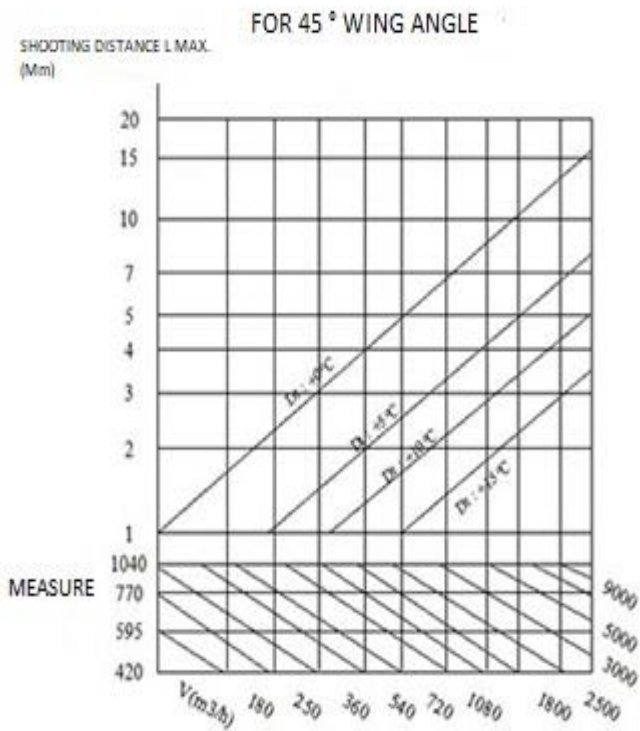
STANDAT DIMENSIONS -mm

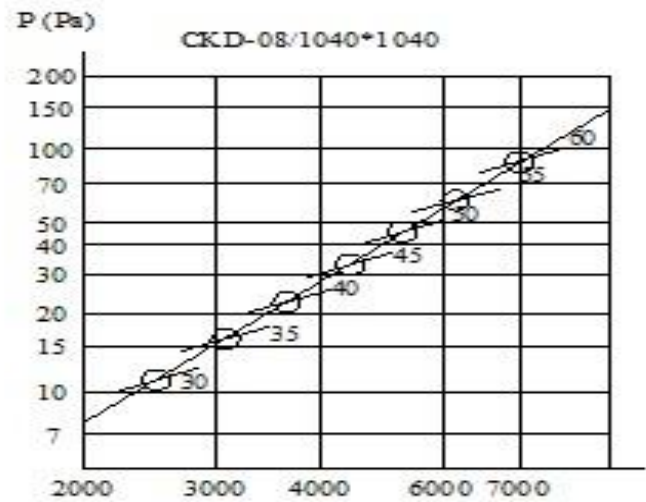
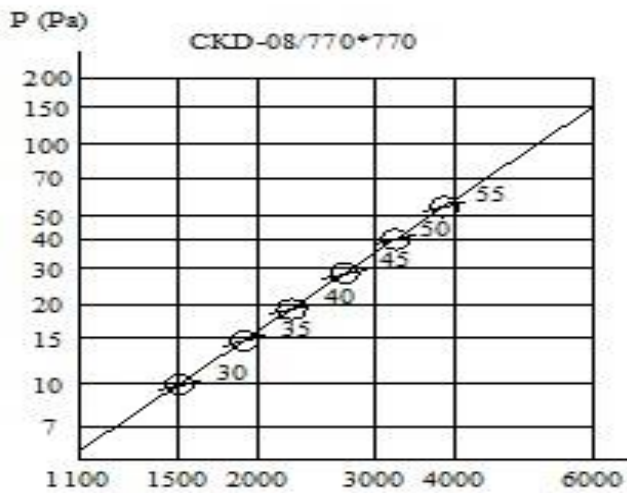
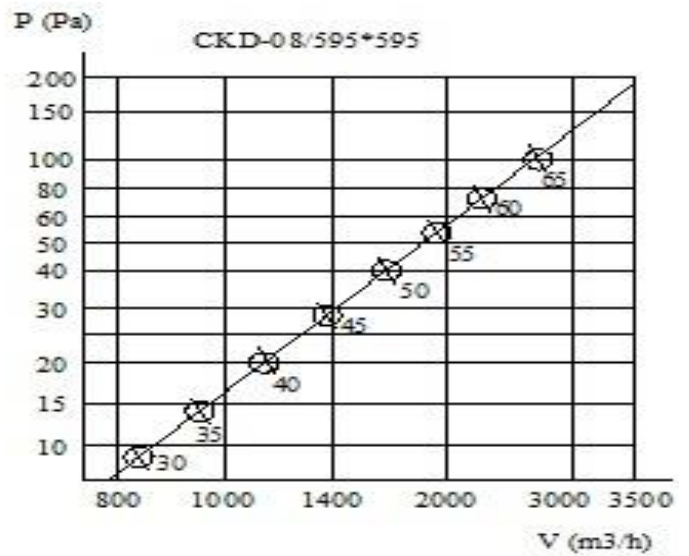
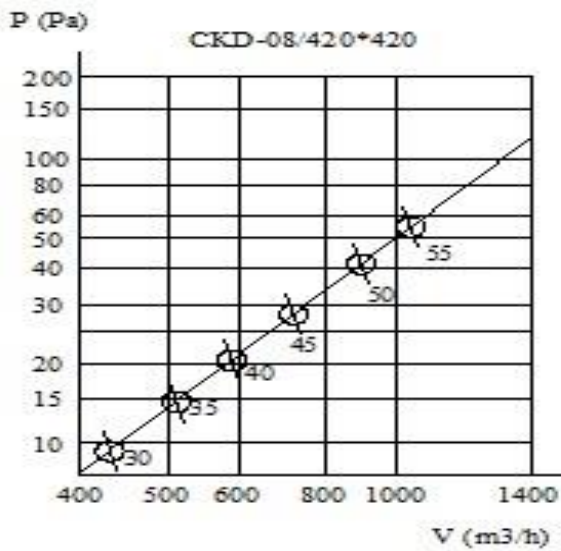
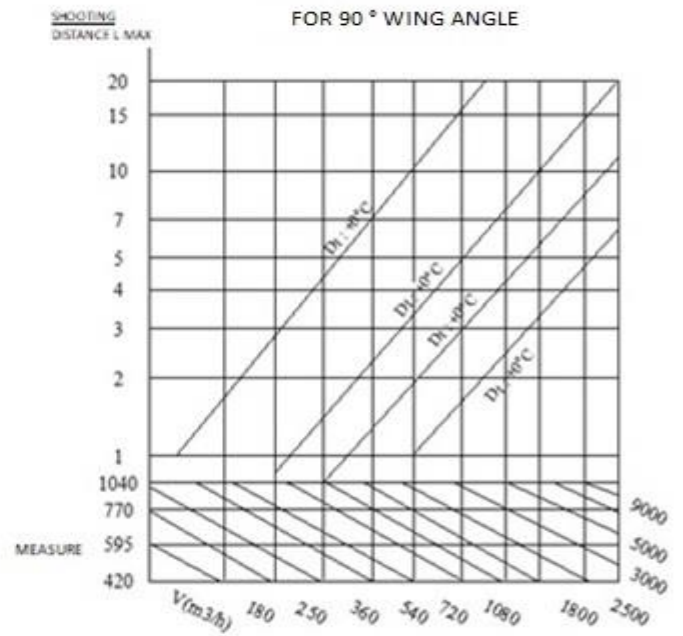
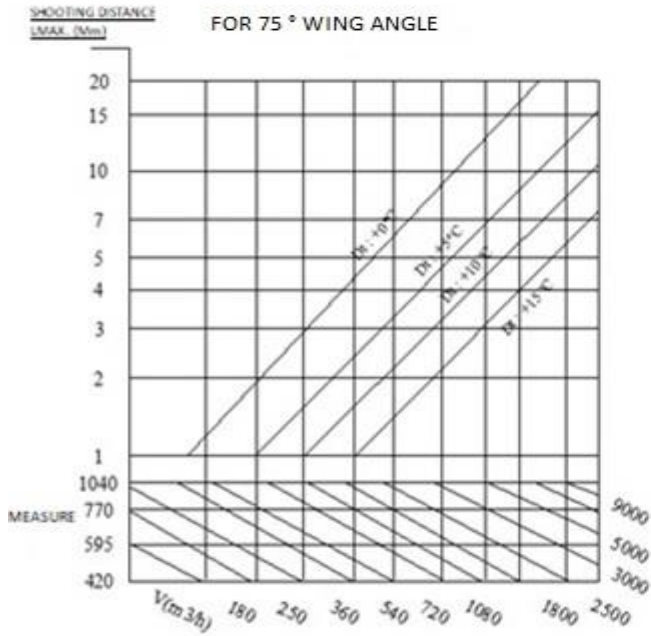
MODEL	A	B	C	D
420*420	420*420	485*485	410*410	410*410
595*595	530*530	595*595	520*520	520*520
770*770	770*770	835*835	760*760	760*760
1040*1040	1040*1040	1150*1150	1030*1030	1030*1030

**TECHNICAL INFORMATION**

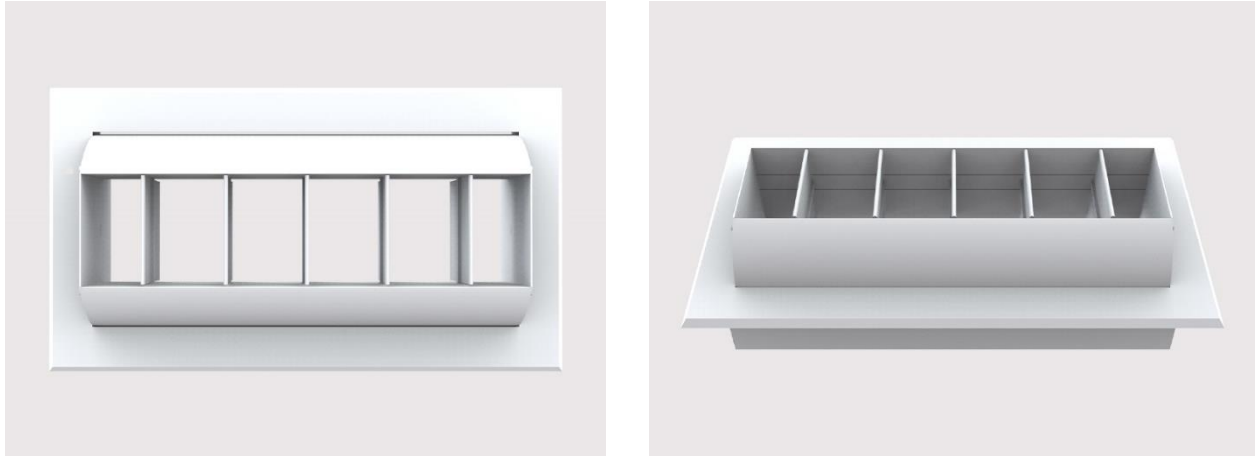


**AIR FLOWS BY WING ANGLES:**





**CYLINDRICAL JET DIFFUSERS - DRUM JET DIFFUSER CKD-09**



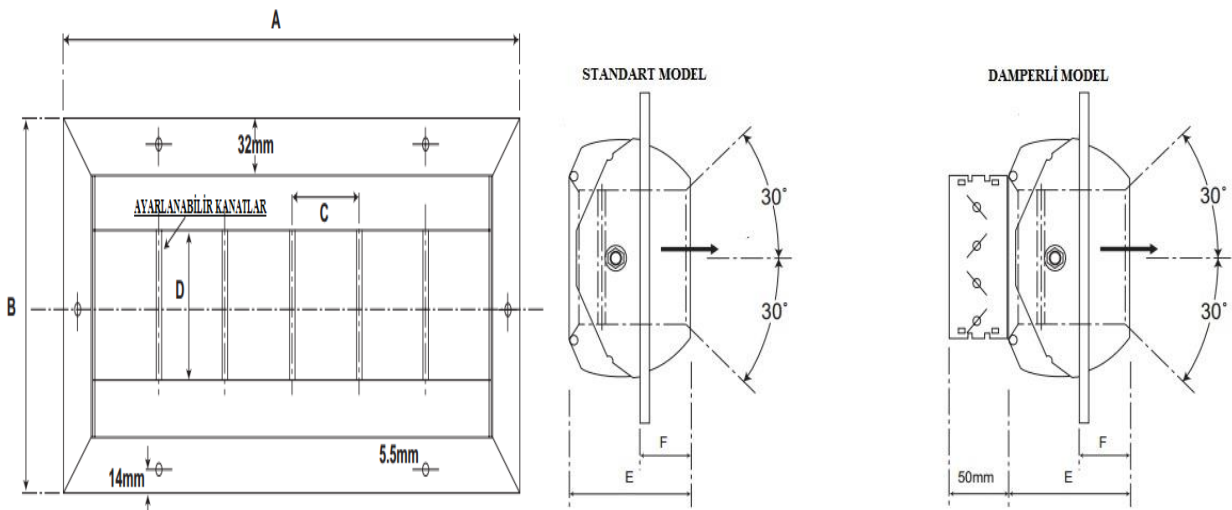
**AREAS OF USE AND FEATURES:** It is as blowing diffusers in hvac systems. It is suitable for horizontal use. The ideal shooting distance is between 3.5 m -15 m. It is for heating and cooling in sports halls, shopping malls, factory buildings and conference halls where high flow and long throw distances are required standard screw mounting. The way of support can be changed optionally.

**MATERIAL:** Frame and wings are made of aluminium profile by the extrusion method.

**SURFACE COATING:** The product can result in any colour with electrostatic powder paint.

**ACCESSORIES:** Plenum box

**STANDARD DIMENSIONS**

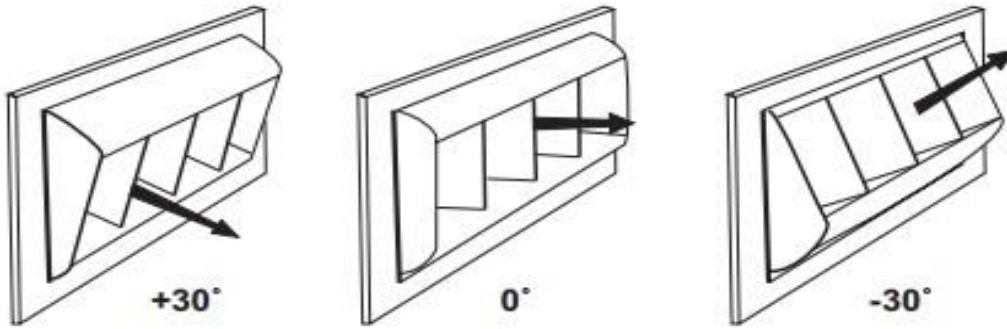




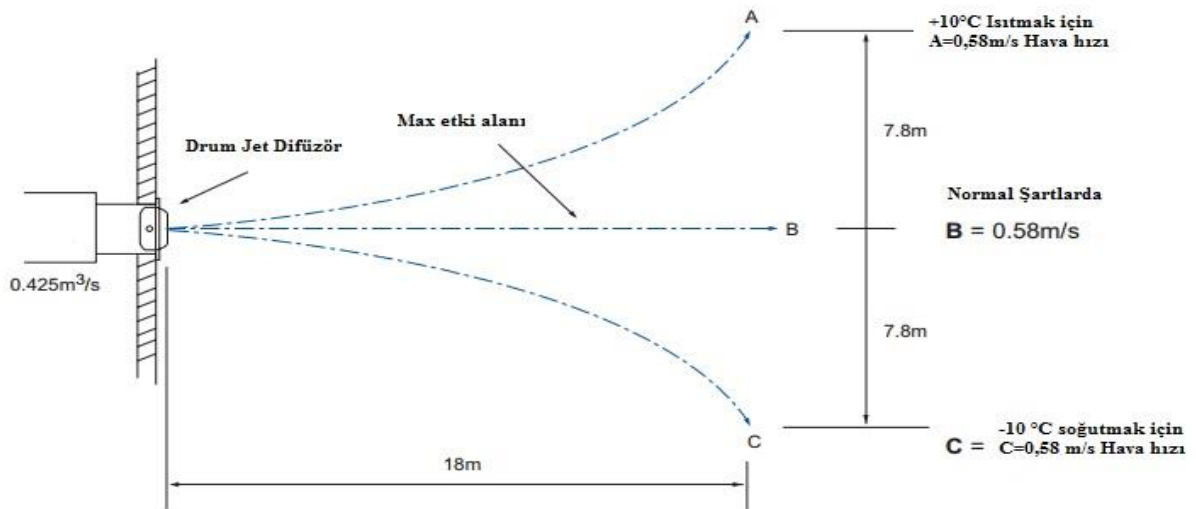
MODEL	A	B	C	D	E	F	BOX SIZE mm.
1	297	208	76	85	90	35	246*157
2	373	208	76	85	90	35	322*157
3	525	208	76	85	90	35	475*157
4	678	208	76	85	90	35	627*157
5	576	303	126	150	150	59	525*259
6	703	303	126	150	150	59	652*259
7	830	303	126	150	150	59	779*259
8	957	303	126	150	150	59	906*259

**TECHNICAL INFORMATION**

**AIR DIRECTION BY WING ANGLES**



**AIR DIRECTION BY HEAT DIFFERENCE**





**EASY SELECTION TABLE**

M O D E L  1	AIR FLOW ( m <sup>3</sup> /h )	SHOOTING DISTANCE ( m )								PRESURE LOSS ( Pa )	SOUND LEVEL ( dBA )
		3	6	9	12	15	18	21	24		
		Düşüş Anındaki Hava Hızı ( m/s )									
90	0,34	0,19	0,13						2		
180	0,66	0,37	0,26	0,2	0,15	0,12			7		
270	1	0,56	0,39	0,29	0,23	0,18	0,14		15		
360	1,33	0,75	0,51	0,39	0,3	0,24	0,18	0,12	26	22	
450	1,66	0,92	0,64	0,48	0,38	0,29	0,22	0,14	37	24	
540	1,98	1,11	0,78	0,58	0,45	0,36	0,26	0,17	47	27	
630	2,32	1,29	0,9	0,68	0,53	0,42	0,3	0,2	66	31	
720	2,65	1,48	1,03	0,78	0,6	0,47	0,35	0,23	87	33	
810	2,98	1,67	1,16	0,87	0,67	0,54	0,39	0,25	105	36	
900	3,31	1,85	1,29	0,97	0,76	0,59	0,43	0,28	131	38	
990	3,64	2,04	1,42	1,07	0,83	0,65	0,48	0,32	158	40	

M O D E L  2	AIR FLOW ( m <sup>3</sup> /h )	SHOOTING DISTANCE ( m )								PRESURE LOSS ( Pa )	SOUND LEVEL ( dBA )
		3	6	9	12	15	18	21	24		
		Air Speed at the Time of Fall ( m/s )									
90	0,3	0,17	0,11						1		
180	0,57	0,32	0,22	0,17	0,13	0,11			3		
270	0,85	0,48	0,34	0,25	0,2	0,16	0,12		5		
360	1,13	0,64	0,44	0,34	0,26	0,21	0,15		12		
450	1,42	0,8	0,56	0,42	0,33	0,25	0,19	0,13	19	21	
540	1,7	0,96	0,67	0,5	0,39	0,3	0,22	0,15	25	23	
630	1,98	1,11	0,78	0,59	0,45	0,36	0,26	0,17	32	24	
720	2,27	1,28	0,89	0,67	0,51	0,41	0,3	0,19	42	28	
810	2,54	1,44	1	0,76	0,59	0,46	0,34	0,22	53	30	
900	2,82	1,6	1,11	0,84	0,65	0,51	0,38	0,24	66	32	
990	3,11	1,75	1,22	0,92	0,71	0,56	0,41	0,26	79	34	
1080	3,39	1,91	1,33	1	0,78	0,61	0,45	0,28	95	36	
1170	3,68	2,08	1,45	1,08	0,84	0,66	0,48	0,32	105	37	
1260	3,96	2,24	1,55	1,17	0,9	0,71	0,53	0,34	126	39	
1350	4,24	2,39	1,67	1,25	0,98	0,77	0,56	0,36	158	42	

	AIR FLOW (m <sup>3</sup> /h)	SHOOTING DISTANCE ( m )							PRESURE LOSS ( Pa )	SOUND LEVEL ( dBA )	
		3	6	9	12	15	18	21			24
		Air Speed at the Time of Fall ( m/s )									
M O D E L  3	270	0,68	0,39	0,27	0,21	0,16	0,13			3	
	360	0,9	0,53	0,37	0,27	0,21	0,17	0,13		5	
	450	1,13	0,65	0,45	0,35	0,27	0,21	0,16		8	
	540	1,35	0,79	0,55	0,41	0,32	0,25	0,19	0,12	12	
	630	1,59	0,91	0,64	0,48	0,37	0,29	0,21	0,14	16	21
	720	1,81	1,05	0,72	0,55	0,42	0,34	0,24	0,16	21	23
	810	2,04	1,18	0,82	0,62	0,47	0,38	0,27	0,18	26	24
	900	2,26	1,3	0,91	0,68	0,53	0,42	0,3	0,2	32	26
	990	2,49	1,44	1	0,76	0,58	0,46	0,34	0,22	40	29
	1080	2,72	1,56	1,09	0,82	0,63	0,5	0,37	0,23	45	30
	1170	2,94	1,7	1,19	0,88	0,69	0,55	0,4	0,25	53	32
	1260	3,17	1,83	1,27	0,96	0,75	0,58	0,43	0,27	63	33
	1350	3,39	1,96	1,37	1,02	0,8	0,62	0,46	0,29	79	36
	1440	3,62	2,09	1,46	1,09	0,84	0,66	0,49	0,32	83	37
	1530	3,84	2,22	1,54	1,16	0,89	0,7	0,51	0,34	98	38
	1620	4,07	2,35	1,64	1,23	0,95	0,75	0,55	0,36	106	39
	1710	4,29	2,48	1,72	1,29	1	0,79	0,58	0,37	118	40
1800	4,53	2,61	1,82	1,37	1,07	0,83	0,61	0,39	145	42	
1890	4,75	2,74	1,91	1,43	1,11	0,87	0,64	0,41	158	43	
1980	4,98	2,88	2	1,5	1,18	0,91	0,67	0,43	171	44	

	AIR FLOW (m <sup>3</sup> /h)	SHOOTING DISTANCE ( m )							PRESURE LOSS ( Pa )	SOUND LEVEL ( dBA )	
		3	6	9	12	15	18	21			24
		Air Speed at the Time of Fall ( m/s )									
M O D E L  4	270	0,58	0,34	0,24	0,18	0,14	0,11	0	0	1	
	360	0,77	0,45	0,32	0,24	0,18	0,15	0,11	0	2	
	450	0,96	0,57	0,4	0,29	0,23	0,18	0,14	0	4	
	540	1,14	0,68	0,47	0,36	0,27	0,22	0,16	0,11	5	
	630	1,34	0,8	0,56	0,41	0,33	0,25	0,19	0,12	7	
	720	1,53	0,91	0,63	0,47	0,37	0,28	0,21	0,14	11	
	810	1,62	1,02	0,71	0,54	0,41	0,33	0,23	0,16	14	20
	900	1,91	1,13	0,79	0,59	0,46	0,36	0,26	0,17	17	21
	990	2,1	1,25	0,87	0,65	0,5	0,4	0,29	0,19	20	23
	1080	2,31	1,37	0,95	0,71	0,55	0,43	0,32	2,1	24	24
	1170	2,49	1,48	1,03	0,77	0,6	0,47	0,35	0,22	26	27
	1260	2,68	1,59	1,1	0,83	0,64	0,5	0,37	0,24	37	29
	1350	2,89	1,7	1,19	0,89	0,68	0,54	0,4	0,25	42	31
	1440	3,05	1,82	1,26	0,95	0,74	0,57	0,42	0,27	46	32
	1530	3,26	1,93	1,34	1,01	0,78	0,61	0,45	0,29	53	33
	1620	3,41	2,05	1,42	1,06	0,84	0,65	0,47	0,3	58	34
	1710	3,63	2,16	1,5	1,12	0,87	0,68	0,5	0,33	64	35
1800	3,83	2,27	1,59	1,19	0,91	0,72	0,53	0,34	74	38	
1890	4,04	2,38	1,66	1,24	0,97	0,76	0,56	0,36	82	38	
1980	4,2	2,5	1,74	1,3	1,01	0,79	0,58	0,38	88	39	
2070	4,39	2,61	1,82	1,37	1,05	0,83	0,61	0,39	95	41	

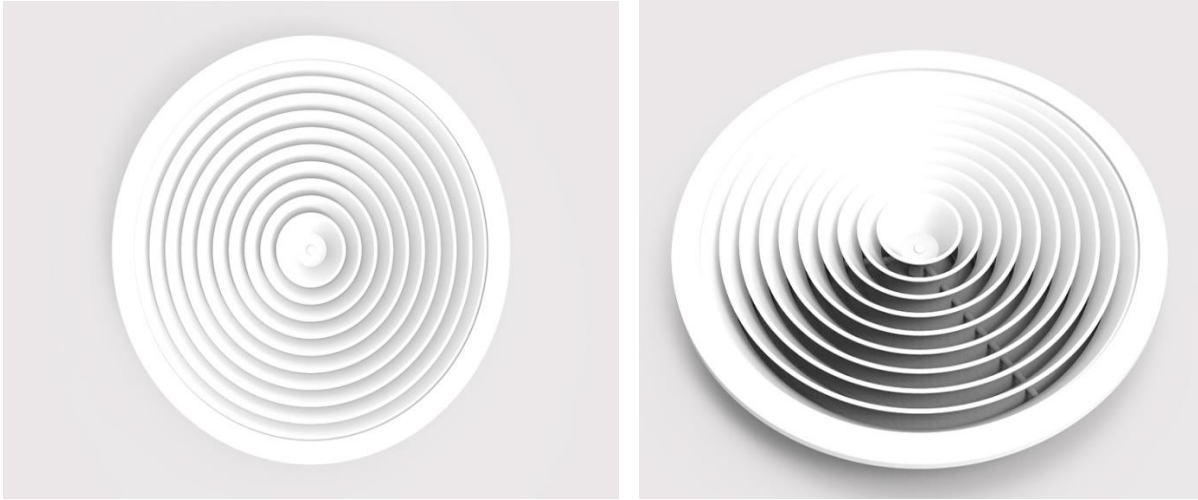
	AIR FLOW (m <sup>3</sup> /h)	SHOOTING DISTANCE ( m )									PRESURE LOSS ( Pa )		SOUND LEVEL ( dBA )
		3	6	9	12	15	18	21	24	30	36		
		Air Speed at the Time of Fall ( m/s )											
M O D E L 5	360	0,65	0,37	0,25	0,19	0,15	0,12					2	
	540	0,97	0,55	0,38	0,28	0,22	0,18	0,13				4	
	720	1,29	0,74	0,51	0,39	0,29	0,23	0,17	0,12			7	22
	900	1,62	0,91	0,64	0,48	0,37	0,29	0,21	0,14			11	24
	1080	1,94	1,09	0,8	0,58	0,45	0,35	0,25	0,17			15	26
	1260	2,26	1,28	0,89	0,67	0,53	0,41	0,3	0,19			19	28
	1440	2,58	1,46	1,02	0,77	0,6	0,47	0,35	0,22			24	29
	1620	2,91	1,65	1,14	0,86	0,67	0,53	0,39	0,24			30	31
	1800	3,23	1,83	1,27	0,96	0,75	0,59	0,43	0,27			37	32
	1980	3,55	2,01	1,4	1,05	0,82	0,64	0,47	0,3			45	34
	2160	3,87	2,19	1,52	1,14	0,89	0,7	0,51	0,33			53	35
	2340	4,19	2,37	1,66	1,25	0,97	0,76	0,56	0,36			59	37
	2520	4,53	2,56	1,79	1,34	1,04	0,82	0,6	0,39			67	38
	2700	4,85	2,74	1,91	1,44	1,11	0,87	0,64	0,41	0,11		77	39
	2880	5,17	2,93	2,04	1,53	1,19	0,93	0,68	0,44	0,11		85	40
	3060	5,49	3,11	2,16	1,63	1,26	1	0,72	0,46	0,12		95	41
	3240	5,82	3,29	2,29	1,72	1,34	1,05	0,77	0,49	0,12		105	42
3420	6,14	3,48	2,43	1,83	1,42	1,11	0,81	0,51	0,13		118	43	
3600	6,46	3,65	2,55	1,92	1,49	1,17	0,85	0,55	0,14		126	44	

	AIR FLOW (m <sup>3</sup> /h)	SHOOTING DISTANCE ( m )							PRESURE LOSS ( Pa )			SOUND LEVEL ( dBA )	
		3	6	9	12	15	18	21	24	30	36		
		Air Speed at the Time of Fall ( m/s )											
M O D E L 6	540	0,84	0,49	0,35	0,26	0,2	0,16	0,12				3	
	720	1,12	0,66	0,46	0,35	0,27	0,21	0,16	0,11			5	
	900	1,41	0,82	0,58	0,43	0,34	0,26	0,19	0,13			7	
	1080	1,69	0,99	0,69	0,51	0,4	0,32	0,23	0,15			11	20
	1260	1,97	1,16	0,81	0,61	0,47	0,37	0,27	0,18			14	23
	1440	2,25	1,31	0,91	0,69	0,54	0,42	0,3	0,2			17	25
	1620	2,53	1,48	1,03	0,78	0,6	0,47	0,35	0,22			21	27
	1800	2,79	1,65	1,14	0,86	0,67	0,53	0,39	0,25			26	28
	1980	3,1	1,81	1,26	0,95	0,74	0,58	0,42	0,27			30	31
	2160	3,37	1,97	1,38	1,03	0,8	0,63	0,46	0,29			35	32
	2340	3,65	2,13	1,49	1,12	0,87	0,68	0,5	0,33			40	33
	2520	3,94	2,3	1,61	1,21	0,93	0,74	0,54	0,35			46	34
	2700	4,22	2,47	1,72	1,29	1,01	0,79	0,58	0,37			53	36
	2880	4,5	2,64	1,84	1,38	1,07	0,84	0,62	0,4			59	37
	3060	4,78	2,79	1,95	1,47	1,13	0,89	0,65	0,42	0,11		66	38
	3240	5,06	2,96	2,07	1,55	1,21	0,95	0,69	0,44	0,12		74	39
	3420	5,34	3,13	2,18	1,64	1,27	1	0,72	0,47	0,12		79	39
	3600	5,63	3,29	2,3	1,72	1,33	1,05	0,77	0,49	0,13		88	43
	3780	5,91	3,45	2,42	1,81	1,41	1,1	0,81	0,51	0,13		98	45
3960	6,18	3,62	2,52	1,9	1,47	1,16	0,84	0,55	0,14		105	47	
4140	6,47	3,78	2,64	1,98	1,53	1,21	0,88	0,57	0,14		116	48	
4320	6,75	3,95	2,75	2,07	1,61	1,26	0,92	0,59	0,15		127	49	
4500	7,04	4,11	2,87	2,15	1,67	1,31	0,96	0,61	0,15		137	50	
4680	7,31	4,27	2,98	2,24	1,73	1,37	1	0,64	0,16		148	51	

M O D E L  7	AIR FLOW (m <sup>3</sup> /h)	SHOOTING DISTANCE ( m )						PRESURE LOSS ( Pa )				SOUND LEVEL ( dBA )	
		3	6	9	12	15	18	21	24	30	36		
		Air Speed at the Time of Fall ( m/s )											
540	0,74	0,45	0,32	0,24	0,19	0,15	0,11					2	
720	0,99	0,61	0,42	0,32	0,24	0,19	0,15					3	
900	1,23	0,76	0,53	0,4	0,3	0,24	0,18	0,12				5	
1080	1,48	0,9	0,63	0,47	0,37	0,29	0,21	0,14				7	21
1260	1,72	1,05	0,74	0,56	0,43	0,34	0,25	0,16				9	22
1440	1,96	1,21	0,84	0,63	0,49	0,39	0,28	0,19				12	24
1620	2,22	1,35	0,95	0,71	0,56	0,43	0,32	0,21				15	26
1800	2,46	1,51	1,05	0,79	0,61	0,48	0,36	0,23				19	27
1980	2,71	1,66	1,17	0,87	0,67	0,54	0,39	0,25				22	28
2160	2,95	1,81	1,27	0,96	0,74	0,58	0,43	0,27				26	29
2340	3,19	1,96	1,38	1,03	0,8	0,63	0,46	0,29				29	31
2520	3,44	2,11	1,48	1,11	0,86	0,67	0,49	0,33				35	32
2700	3,69	2,26	1,59	1,19	0,92	0,72	0,54	0,35				40	34
2880	3,94	2,42	1,69	1,27	0,99	0,78	0,57	0,37				44	35
3060	4,18	2,56	1,8	1,34	1,04	0,82	0,6	0,39				49	36
3240	4,43	2,72	1,9	1,43	1,1	0,87	0,64	0,41	0,11			55	37
3420	4,67	2,87	2,01	1,5	1,17	0,91	0,67	0,43	0,12			61	38
3600	4,92	3,01	2,11	1,59	1,23	0,97	0,7	0,45	0,12			66	38
3780	5,17	3,17	2,22	1,66	1,29	1,01	0,75	0,48	0,13			72	39
3960	5,41	3,32	2,32	1,74	1,35	1,06	0,78	0,5	0,13			79	40
4140	5,66	3,47	2,43	1,83	1,41	1,11	0,81	0,53	0,14			81	41
4320	5,9	3,62	2,53	1,9	1,47	1,16	0,85	0,55	0,14			84	42
4500	6,15	3,77	2,64	1,98	1,53	1,21	0,88	0,57	0,15			89	43
4680	6,39	3,92	2,74	2,06	1,6	1,25	0,91	0,59	0,15			98	44
4860	6,64	4,07	2,85	2,14	1,66	1,3	0,96	0,61	0,16			110	45
5040	6,89	4,22	2,95	2,22	1,72	1,32	0,99	0,64	0,16			123	46
5220	7,13	4,37	3,06	2,3	1,77	1,4	1,02	0,66	0,17			126	47
5400	7,38	4,53	3,16	2,37	1,84	1,45	1,06	0,68	0,17			137	47

M O D E L  8	AIR FLOW (m <sup>3</sup> /h)	SHOOTING DISTANCE ( m )						PRESURE LOSS ( Pa )				SOUND LEVEL ( dBA )	
		3	6	9	12	15	18	21	24	30	36		
		Air Speed at the Time of Fall ( m/s )											
720	0,86	0,56	0,4	0,29	0,23	0,18	0,14					2	
900	1,08	0,69	0,49	0,37	0,28	0,23	0,17	0,11				3	
1080	1,29	0,84	0,59	0,44	0,35	0,27	0,2	0,13				4	20
1260	1,51	0,98	0,69	0,51	0,4	0,32	0,23	0,15				5	22
1440	1,72	1,11	0,79	0,59	0,46	0,36	0,26	0,17				7	23
1620	1,94	1,26	0,88	0,66	0,51	0,41	0,29	0,19	0,11			9	25
1800	2,15	1,4	0,99	0,74	0,57	0,45	0,34	0,22	0,12			1	26
1980	2,37	1,53	1,08	0,81	0,63	0,49	0,37	0,24	0,13			14	26
2160	2,59	1,67	1,18	0,88	0,68	0,51	0,4	0,26	0,14			17	27
2340	2,8	1,82	1,28	0,96	0,75	0,59	0,43	0,28	0,16			20	29
2520	3,02	1,95	1,38	1,03	0,8	0,63	0,46	0,3	0,17			23	30
2700	3,23	2,09	1,51	1,11	0,86	0,67	0,49	0,33	0,18			26	31
2880	3,45	2,24	1,58	1,19	0,91	0,72	0,53	0,35	0,19			29	32
3060	3,66	2,37	1,67	1,26	0,98	0,77	0,57	0,37	0,2			35	33
3240	3,87	2,51	1,77	1,33	1,03	0,81	0,6	0,39	0,21	0,11		38	34
3420	4,1	2,66	1,87	1,41	1,08	0,85	0,63	0,41	0,22	0,11		41	35
3600	4,32	2,79	1,96	1,48	1,11	0,9	0,66	0,43	0,23	0,12		46	36
3780	4,53	2,93	2,06	1,55	1,2	0,95	0,69	0,45	0,24	0,12		50	36
3960	4,75	3,07	2,16	1,63	1,26	0,99	0,72	0,47	0,53	0,13		56	37
4140	4,97	3,2	2,26	1,7	1,31	1,03	0,76	0,49	0,27	0,13		62	38
4320	5,18	3,35	2,36	1,77	1,38	1,08	0,79	0,51	0,74	0,14		65	39
4500	5,4	3,49	2,46	1,85	1,43	1,12	0,83	0,54	0,84	0,14		71	40
4680	5,61	3,62	2,56	1,92	1,48	1,17	0,86	0,56	0,3	0,14		77	41
4860	5,83	3,77	2,66	2	1,54	1,21	0,89	0,58	0,32	0,15		83	42
5040	6,04	3,91	2,75	2,07	1,6	1,26	0,92	0,6	0,33	0,15		90	43
5220	6,26	4,04	2,86	2,14	1,66	1,3	0,96	0,62	0,34	0,16		97	43
5400	6,47	4,18	2,95	2,22	1,71	1,34	0,99	0,64	0,35	0,16		103	44
5580	6,69	4,33	3,05	2,29	1,77	1,39	1,02	0,66	0,36	0,17		109	45

**CIRCULAR ANEMOSTAD- CIRCULAR DIFFUSER-CKD-10**



**AREAS OF USE AND FEATURES:** It is as blowing diffusers in hvac systems. It is suitable for vertical use. It can be used for heating and cooling. Ideal shooting distance is between 3.5m-4m. They are used in-ceiling applications. It is standard screwless mounted. The way of mounting can be changed optionally.

**MATERIAL:** Frame and blades are made of galvanized sheet.

**SURFACE COATING:** The product can be manufactured in any colour with electrostatic powder paint.

**ACCESSORIES:** Plenum box

**STANDARD DIMENCIONS:**

SIZE	Ø A	Ø B	C	Ø N
Ø 150	250	200	50	147
Ø 200	300	250	50	197
Ø 250	350	300	50	247
Ø 300	400	350	50	297
Ø 350	450	400	50	347
Ø 400	500	450	50	397
Ø 450	550	500	50	447
Ø 500	600	550	50	497

**EASY SELECTION TABLE :**

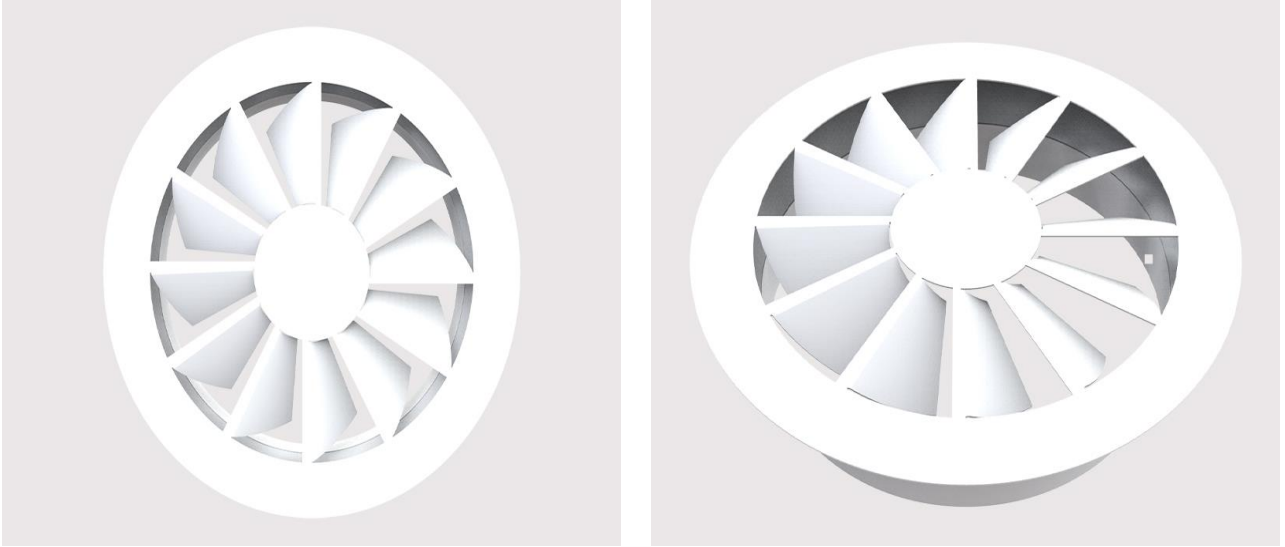
SIZE	EFFECTIVE AREA (m <sup>2</sup> )	SHOOTING SPEED (m/s)	1	2	3	4	5	6	7	8	9
Ø 100	0,019	AIR FLOW (m <sup>3</sup> / h)	<b>70</b>	<b>140</b>	<b>210</b>	<b>280</b>	<b>350</b>	<b>420</b>	<b>490</b>	<b>560</b>	<b>630</b>
		SHOOTING DISTANCE. min. (m)	0,4	0,8	1	1,5	1,5	2	2	2,4	2,7
		SHOOTING DISTANCE. max. (m)	0,7	1,3	2	2,5	3,5	4	4,5	5	5,6
		PRESSURE LOSS (Pa)	2	4	10	17	26	37	55	74	94
		SOUND LEVEL (dBA)	19	22	25	28	31	33	36	39	42
Ø 150	0,031	AIR FLOW (m <sup>3</sup> / h)	<b>125</b>	<b>250</b>	<b>375</b>	<b>500</b>	<b>625</b>	<b>750</b>	<b>875</b>	<b>1000</b>	<b>1125</b>
		SHOOTING DISTANCE. min. (m)	0,48	0,95	1,25	1,6	1,95	2,3	2,6	2,95	3,3
		SHOOTING DISTANCE. max. (m)	0,85	1,65	2,45	3,2	3,8	4,6	5,2	5,9	6,6
		PRESSURE LOSS (Pa)	2,45	4,4	10,5	17,7	27,5	38,5	57,5	74	95
		SOUND LEVEL (dBA)	20	23	26	30	33	35	39	42	45
Ø 200	0,051	AIR FLOW (m <sup>3</sup> / h)	<b>185</b>	<b>360</b>	<b>540</b>	<b>720</b>	<b>900</b>	<b>1080</b>	<b>1260</b>	<b>1440</b>	<b>1620</b>
		SHOOTING DISTANCE. min. (m)	0,55	1,1	1,45	1,9	2,3	2,7	3,1	3,5	3,9
		SHOOTING DISTANCE. max. (m)	1	2	2,9	3,8	4,6	5,4	6,2	7	7,8
		PRESSURE LOSS (Pa)	2,95	4,9	10,8	18,6	29,5	39,2	55,5	74,5	96,1
		SOUND LEVEL (dBA)	21	24	27	31	34	37	41	44	47
Ø 250	0,071	AIR FLOW (m <sup>3</sup> / h)	<b>264</b>	<b>530</b>	<b>795</b>	<b>1060</b>	<b>1325</b>	<b>1590</b>	<b>1855</b>	<b>2120</b>	<b>2385</b>
		SHOOTING DISTANCE. min. (m)	0,7	1,3	1,7	2,2	2,7	3,15	3,6	4,1	4,53
		SHOOTING DISTANCE. max. (m)	1	2,35	3,45	4,5	5,4	6,3	7,2	8,2	9,1
		PRESSURE LOSS (Pa)	3	4,9	7,85	19,1	24,5	39,7	56	76,5	97
		SOUND LEVEL (dBA)	23	25	29	32	36	39	43	47	49
Ø300	0,096	AIR FLOW (m <sup>3</sup> / h)	<b>350</b>	<b>700</b>	<b>1050</b>	<b>1400</b>	<b>1750</b>	<b>2100</b>	<b>2450</b>	<b>2800</b>	<b>3150</b>
		SHOOTING DISTANCE. min. (m)	0,85	1,5	1,95	2,55	3,1	3,6	4,1	4,7	5,1
		SHOOTING DISTANCE. max. (m)	1,6	2,5	4	5,15	6,2	7,2	8,2	9,5	10,5
		PRESSURE LOSS (Pa)	3	4,9	10,8	19,6	29,5	40,2	55,9	78,5	98
		SOUND LEVEL (dBA)	22	25	31	33	38	40	45	49	51



Ø 350	0,122	AIR FLOW (m <sup>3</sup> / h)	<b>460</b>	<b>920</b>	<b>1380</b>	<b>1840</b>	<b>2300</b>	<b>2760</b>	<b>3220</b>	<b>3680</b>	<b>4140</b>
		SHOOTING DISTANCE. min. (m)	0,9	1,8	2,3	3	3,55	4,3	4,75	5,35	6,1
		SHOOTING DISTANCE. max. (m)	1,7	3,35	4,35	6,1	7,1	8,6	9,5	10,5	12,2
		PRESSURE LOSS (Pa)	3	4,9	10,9	19,6	24,5	40,2	57,4	78,5	97,8
		SOUND LEVEL (dBA)	24	28	33	36	41	44	48	52	56
Ø 400	0,154	AIR FLOW (m <sup>3</sup> / h)	<b>570</b>	<b>1140</b>	<b>1710</b>	<b>2280</b>	<b>2850</b>	<b>3420</b>	<b>3990</b>	<b>4560</b>	<b>5130</b>
		SHOOTING DISTANCE. min. (m)	1	2	2,6	3,5	4	5	5,4	6	7
		SHOOTING DISTANCE. max. (m)	2	4	5,3	7	8	10	11	13	14
		PRESSURE LOSS (Pa)	3	4,9	10,9	19,6	30,3	40,2	58,8	78,4	99
		SOUND LEVEL (dBA)	25	30	35	38	43	47	51	55	60
Ø 450	0,186	AIR FLOW (m <sup>3</sup> / h)	<b>645</b>	<b>1290</b>	<b>1935</b>	<b>2580</b>	<b>3225</b>	<b>3870</b>	<b>4515</b>	<b>5160</b>	<b>5805</b>
		SHOOTING DISTANCE. min. (m)	1,1	2,2	2,7	3,6	4,25	5,25	5,73	6,4	7,35
		SHOOTING DISTANCE. max. (m)	2,15	4,3	5,75	7,2	8,5	10,5	11,5	12,9	14,7
		PRESSURE LOSS (Pa)	3,2	4,9	11,2	19,6	30,4	40,5	58,8	78,4	99
		SOUND LEVEL (dBA)	27	32	37	40	45	49	54	58	63
Ø500	0,224	AIR FLOW (m <sup>3</sup> / h)	<b>788</b>	<b>1576</b>	<b>2364</b>	<b>3152</b>	<b>3940</b>	<b>4728</b>	<b>5516</b>	<b>6304</b>	<b>7092</b>
		SHOOTING DISTANCE. min. (m)	1,3	2,4	2,9	3,9	4,75	5,75	6,4	7,15	8,05
		SHOOTING DISTANCE. max. (m)	2,5	4,8	6,6	8,2	9,5	11,7	12,8	14,3	16
		PRESSURE LOSS (Pa)	3,7	4,9	11,6	20,5	30,4	40,6	58,8	78,4	99
		SOUND LEVEL (dBA)	29	32	39	44	49	53	58	63	68



**SWIRL DIFFUSER TURBULENCE FIXED -CKD-11**



**AREAS OF USE AND FEATURES:** It is as blowing diffusers in hvac systems. It is suitable for vertical use. The ideal shooting distance is between 3.5 m -7 m. It is for heating and cooling in sports halls, shopping malls, factory buildings and conference halls where high flow and long throw distances are required standard screw mounting. The way of support can be changed optionally.

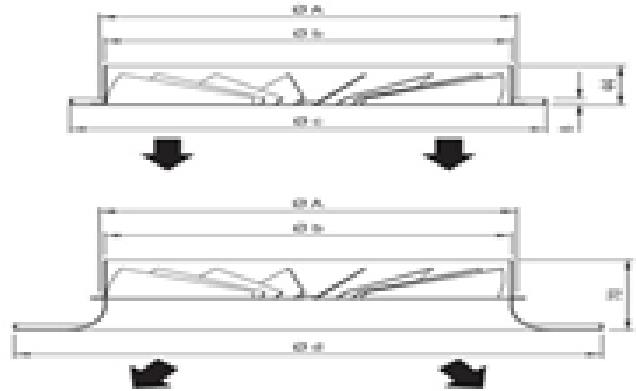
**MATERIAL:** Frame and wings made of the galvanized plate.

**SURFACE COATING:** The product can be in any colour with electrostatic powder paint.

**ACCESSORIES:** Plenum box

**STANDARD DIMENSIONS :**

MODEL	DIMENSIONS			
	aA	ab	∅c	∅d
100	98	108	148	200
150	150	158	208	250
200	200	198	248	300
250	250	248	298	350
315	315	313	363	450
355	355	352	402	455
400	400	398	448	500
450	450	447	497	550
500	500	497	547	600

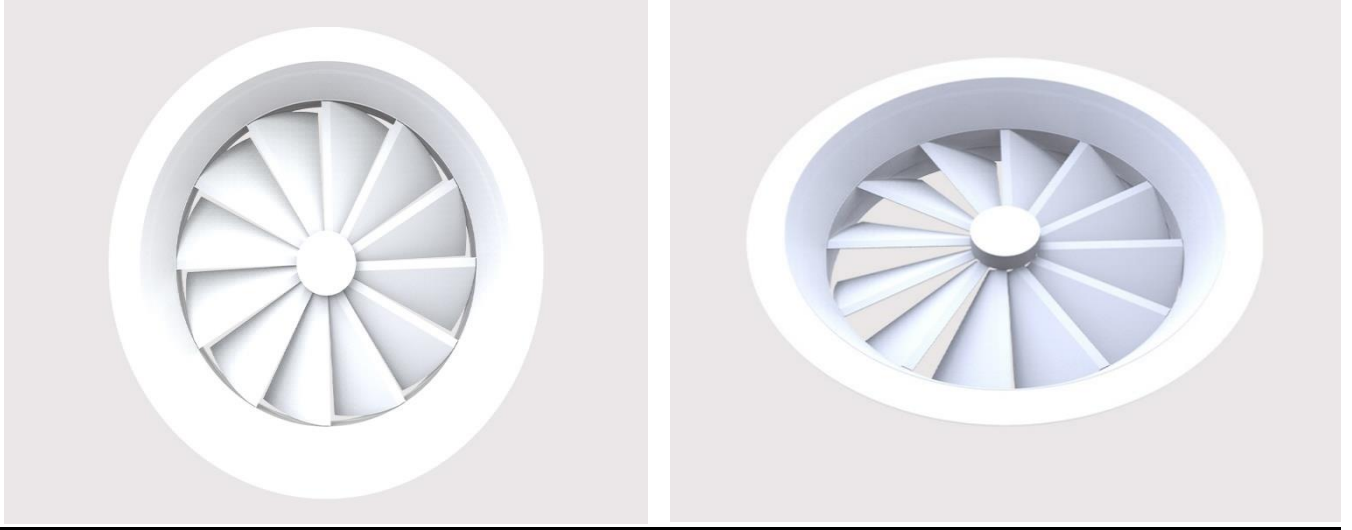


**TURBULANCED SWIRE DIFFUSER SELECTION TABLE**

SIZE	E. AREA (m <sup>2</sup> )	SHOOTING SPEED (m / s)	1	2	3	4	5	6	7	8	9
∅ 100	0,019	FLOW (m <sup>3</sup> / h)	<b>70</b>	<b>140</b>	<b>210</b>	<b>280</b>	<b>350</b>	<b>420</b>	<b>490</b>	<b>560</b>	<b>630</b>
		SHOOTING DISTANCE. min. (m)	0,4	0,8	1	1,5	1,5	2	2	2,4	2,7
		SHOOTING DISTANCE. max. (m)	1,05	1,95	3	3,75	5,25	6	6,75	7,5	8,4
		PRESSURE LOSS (Pa)	3	6	15	25,5	39	55,5	82,5	111	141
		SOUND LEVEL (dBA)	19	22	25	28	31	33	36	39	42
∅ 150	0,031	FLOW (m <sup>3</sup> / h)	<b>125</b>	<b>250</b>	<b>375</b>	<b>500</b>	<b>625</b>	<b>750</b>	<b>875</b>	<b>1000</b>	<b>1125</b>
		SHOOTING DISTANCE. min. (m)	0,48	0,95	1,25	1,6	1,95	2,3	2,6	2,95	3,3
		SHOOTING DISTANCE. max. (m)	1,275	2,475	3,675	4,8	5,7	6,9	7,8	8,85	9,9
		PRESSURE LOSS (Pa)	3,675	6,6	15,75	26,55	41,25	57,75	86,25	111	142,5
		SOUND LEVEL (dBA)	20	23	26	30	33	35	39	42	45
∅ 200	0,051	FLOW (m <sup>3</sup> / h)	<b>185</b>	<b>360</b>	<b>540</b>	<b>720</b>	<b>900</b>	<b>1080</b>	<b>1260</b>	<b>1440</b>	<b>1620</b>
		SHOOTING DISTANCE. min. (m)	0,55	1,1	1,45	1,9	2,3	2,7	3,1	3,5	3,9
		SHOOTING DISTANCE. max. (m)	1,5	3	4,35	5,7	6,9	8,1	9,3	10,5	11,7
		PRESSURE LOSS (Pa)	4,425	7,35	16,2	27,9	44,25	58,8	83,25	111,75	144,15
		SOUND LEVEL (dBA)	21	24	27	31	34	37	41	44	47
∅ 250	0,071	FLOW (m <sup>3</sup> / h)	<b>264</b>	<b>530</b>	<b>795</b>	<b>1060</b>	<b>1325</b>	<b>1590</b>	<b>1855</b>	<b>2120</b>	<b>2385</b>
		SHOOTING DISTANCE. min. (m)	0,7	1,3	1,7	2,2	2,7	3,15	3,6	4,1	4,53
		SHOOTING DISTANCE. max. (m)	1,5	3,525	5,175	6,75	8,1	9,45	10,8	12,3	13,65
		PRESSURE LOSS (Pa)	4,5	7,35	11,775	28,65	36,75	59,55	84	114,75	145,5
		SOUND LEVEL (dBA)	23	25	29	32	36	39	43	47	49

Ø300	0,096	FLOW (m <sup>3</sup> / h)	<b>350</b>	<b>700</b>	<b>1050</b>	<b>1400</b>	<b>1750</b>	<b>2100</b>	<b>2450</b>	<b>2800</b>	<b>3150</b>
		SHOOTING DISTANCE. min. (m)	0,85	1,5	1,95	2,55	3,1	3,6	4,1	4,7	5,1
		SHOOTING DISTANCE. max. (m)	2,4	3,75	6	7,725	9,3	10,8	12,3	14,25	15,75
		PRESSURE LOSS (Pa)	4,5	7,35	16,2	29,4	44,25	60,3	83,79	117,75	147
		SOUND LEVEL (dBA)	22	25	31	33	38	40	45	49	51
Ø 350	0,122	FLOW (m <sup>3</sup> / h)	<b>460</b>	<b>920</b>	<b>1380</b>	<b>1840</b>	<b>2300</b>	<b>2760</b>	<b>3220</b>	<b>3680</b>	<b>4140</b>
		SHOOTING DISTANCE. min. (m)	0,9	1,8	2,3	3	3,55	4,3	4,75	5,35	6,1
		SHOOTING DISTANCE. max. (m)	2,55	5,025	6,525	9,15	10,65	12,9	14,25	15,75	18,3
		PRESSURE LOSS (Pa)	4,5	7,35	16,275	29,4	36,75	60,3	86,1	117,75	146,7
		SOUND LEVEL (dBA)	24	28	33	36	41	44	48	52	56
Ø 400	0,154	FLOW (m <sup>3</sup> / h)	<b>570</b>	<b>1140</b>	<b>1710</b>	<b>2280</b>	<b>2850</b>	<b>3420</b>	<b>3990</b>	<b>4560</b>	<b>5130</b>
		SHOOTING DISTANCE. min. (m)	1	2	2,6	3,5	4	5	5,4	6	7
		SHOOTING DISTANCE. max. (m)	3	6	7,95	10,5	12	15	16,5	19,5	21
		PRESSURE LOSS (Pa)	4,5	7,35	16,275	29,4	45,45	60,3	88,2	117,6	148,5
		SOUND LEVEL (dBA)	25	30	35	38	43	47	51	55	60
Ø 450	0,186	FLOW (m <sup>3</sup> / h)	<b>645</b>	<b>1290</b>	<b>1935</b>	<b>2580</b>	<b>3225</b>	<b>3870</b>	<b>4515</b>	<b>5160</b>	<b>5805</b>
		SHOOTING DISTANCE. min. (m)	1,1	2,2	2,7	3,6	4,25	5,25	5,73	6,4	7,35
		SHOOTING DISTANCE. max. (m)	3,225	6,45	8,625	10,8	12,7,5	15,75	17,25	19,35	22,05
		PRESSURE LOSS (Pa)	4,8	7,35	16,725	29,4	45,6	60,75	88,2	117,6	148,5
		SOUND LEVEL (dBA)	27	32	37	40	45	49	54	58	63
Ø500	0,224	FLOW (m <sup>3</sup> / h)	<b>788</b>	<b>1576</b>	<b>2364</b>	<b>3152</b>	<b>3940</b>	<b>4728</b>	<b>5516</b>	<b>6304</b>	<b>7092</b>
		SHOOTING DISTANCE. min. (m)	1,3	2,4	2,9	3,9	4,75	5,75	6,4	7,15	8,05
		SHOOTING DISTANCE. max. (m)	3,75	7,2	9,9	12,3	14,25	17,55	19,2	21,45	24
		PRESSURE LOSS (Pa)	5,55	7,35	17,4	30,75	45,6	60,9	88,2	117,6	148,5
		SOUND LEVEL (dBA)	29	32	39	44	49	53	58	63	68

**SWIRL DIFFUSER TURBULENCE MOVING -CKD-12**



**AREAS OF USE AND FEATURES:** It is as blowing diffusers in hvac systems. It is suitable for vertical use. The ideal shooting distance is between 3.5 m -7 m. It is for heating and cooling in sports halls, shopping malls, factory buildings and conference halls where high flow and long throw distances are required standard screw mounting. The way of support can be changed optionally.

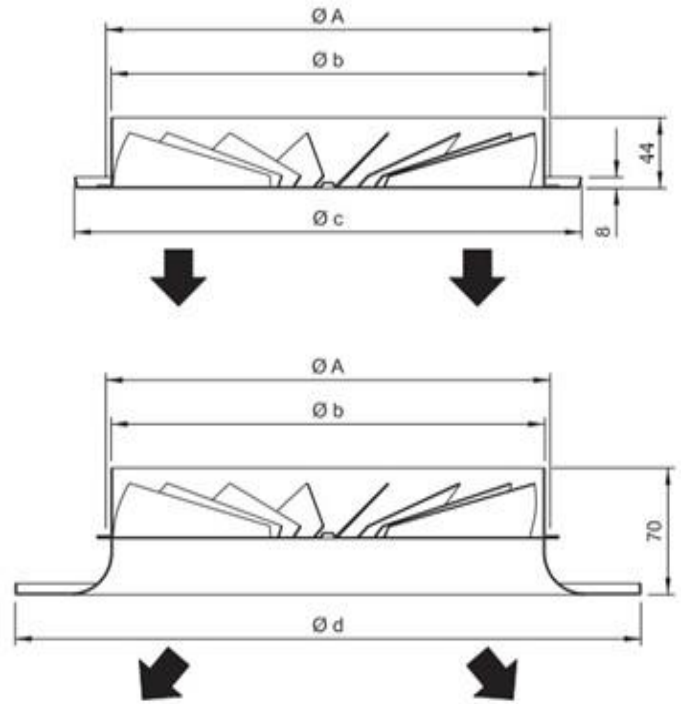
**MATERIAL:** Frame and wings of the galvanized plate.

**SURFACE COATING:** The product can in any colour with electrostatic powder paint.

**ACCESSORIES:** Plenum box

**STANDARD DIMENSIONS :**

MODEL	DIMENSIONS			
	øA	øb	Øc	Ød
100	98	108	148	200
150	150	158	208	250
200	200	198	248	300
250	250	248	298	350
315	315	313	363	450
355	355	352	402	455
400	400	398	448	500
450	450	447	497	550
500	500	497	547	600



**TURBULANCED SWIRE DIFFUSER SELECTION TABLE**

SIZE	E. AREA (m <sup>2</sup> )	SHOOTING SPEED (m / s)	1	2	3	4	5	6	7	8	9
ø 100	0,019	FLOW (m <sup>3</sup> / h)	<b>70</b>	<b>140</b>	<b>210</b>	<b>280</b>	<b>350</b>	<b>420</b>	<b>490</b>	<b>560</b>	<b>630</b>
		SHOOTING DISTANCE. min. (m)	0,4	0,8	1	1,5	1,5	2	2	2,4	2,7
		SHOOTING DISTANCE. max. (m)	1,05	1,95	3	3,75	5,25	6	6,75	7,5	8,4
		PRESSURE LOSS (Pa)	3	6	15	25,5	39	55,5	82,5	111	141
		SOUND LEVEL (dBA)	19	22	25	28	31	33	36	39	42
ø 150	0,031	FLOW (m <sup>3</sup> / h)	<b>125</b>	<b>250</b>	<b>375</b>	<b>500</b>	<b>625</b>	<b>750</b>	<b>875</b>	<b>1000</b>	<b>1125</b>
		SHOOTING DISTANCE. min. (m)	0,48	0,95	1,25	1,6	1,95	2,3	2,6	2,95	3,3
		SHOOTING DISTANCE. max. (m)	1,275	2,475	3,675	4,8	5,7	6,9	7,8	8,85	9,9
		PRESSURE LOSS (Pa)	3,675	6,6	15,75	26,55	41,25	57,75	86,25	111	142,5
		SOUND LEVEL (dBA)	20	23	26	30	33	35	39	42	45
ø 200	0,051	FLOW (m <sup>3</sup> / h)	<b>185</b>	<b>360</b>	<b>540</b>	<b>720</b>	<b>900</b>	<b>1080</b>	<b>1260</b>	<b>1440</b>	<b>1620</b>

		SHOOTING DISTANCE. min. (m)	0,55	1,1	1,45	1,9	2,3	2,7	3,1	3,5	3,9
		SHOOTING DISTANCE. max. (m)	1,5	3	4,35	5,7	6,9	8,1	9,3	10,5	11,7
		PRESSURE LOSS (Pa)	4,425	7,35	16,2	27,9	44,25	58,8	83,25	111,75	144,15
		SOUND LEVEL (dBA)	21	24	27	31	34	37	41	44	47
Ø 250	0,071	FLOW (m <sup>3</sup> / h)	<b>264</b>	<b>530</b>	<b>795</b>	<b>1060</b>	<b>1325</b>	<b>1590</b>	<b>1855</b>	<b>2120</b>	<b>2385</b>
		SHOOTING DISTANCE. min. (m)	0,7	1,3	1,7	2,2	2,7	3,15	3,6	4,1	4,53
		SHOOTING DISTANCE. max. (m)	1,5	3,525	5,175	6,75	8,1	9,45	10,8	12,3	13,65
		PRESSURE LOSS (Pa)	4,5	7,35	11,775	28,65	36,75	59,55	84	114,75	145,5
		SOUND LEVEL (dBA)	23	25	29	32	36	39	43	47	49
Ø300	0,096	FLOW (m <sup>3</sup> / h)	<b>350</b>	<b>700</b>	<b>1050</b>	<b>1400</b>	<b>1750</b>	<b>2100</b>	<b>2450</b>	<b>2800</b>	<b>3150</b>
		SHOOTING DISTANCE. min. (m)	0,85	1,5	1,95	2,55	3,1	3,6	4,1	4,7	5,1
		SHOOTING DISTANCE. max. (m)	2,4	3,75	6	7,725	9,3	10,8	12,3	14,25	15,75
		PRESSURE LOSS (Pa)	4,5	7,35	16,2	29,4	44,25	60,3	83,79	117,75	147
		SOUND LEVEL (dBA)	22	25	31	33	38	40	45	49	51
Ø 350	0,122	FLOW (m <sup>3</sup> / h)	<b>460</b>	<b>920</b>	<b>1380</b>	<b>1840</b>	<b>2300</b>	<b>2760</b>	<b>3220</b>	<b>3680</b>	<b>4140</b>
		SHOOTING DISTANCE. min. (m)	0,9	1,8	2,3	3	3,55	4,3	4,75	5,35	6,1
		SHOOTING DISTANCE. max. (m)	2,55	5,025	6,525	9,15	10,65	12,9	14,25	15,75	18,3
		PRESSURE LOSS (Pa)	4,5	7,35	16,275	29,4	36,75	60,3	861	117,75	146,7
		SOUND LEVEL (dBA)	24	28	33	36	41	44	48	52	56
Ø 400	0,154	FLOW (m <sup>3</sup> / h)	<b>570</b>	<b>1140</b>	<b>1710</b>	<b>2280</b>	<b>2850</b>	<b>3420</b>	<b>3990</b>	<b>4560</b>	<b>5130</b>
		SHOOTING DISTANCE. min. (m)	1	2	2,6	3,5	4	5	5,4	6	7
		SHOOTING DISTANCE. max. (m)	3	6	7,95	10,5	12	15	16,5	19,5	21
		PRESSURE LOSS (Pa)	4,5	7,35	16,275	29,4	45,45	60,3	88,2	117,6	148,5
		SOUND LEVEL (dBA)	25	30	35	38	43	47	51	55	60
Ø 450	0,186	FLOW (m <sup>3</sup> / h)	<b>645</b>	<b>1290</b>	<b>1935</b>	<b>2580</b>	<b>3225</b>	<b>3870</b>	<b>4515</b>	<b>5160</b>	<b>5805</b>
		SHOOTING DISTANCE. min. (m)	1,1	2,2	2,7	3,6	4,25	5,25	5,73	6,4	7,35
		SHOOTING DISTANCE. max. (m)	3,225	6,45	8,625	10,8	127,5	15,75	17,25	19,35	22,05
		PRESSURE LOSS (Pa)	4,8	7,35	16,725	29,4	45,6	60,75	88,2	117,6	148,5
		SOUND LEVEL (dBA)	27	32	37	40	45	49	54	58	63
Ø500	0,224	FLOW (m <sup>3</sup> / h)	<b>788</b>	<b>1576</b>	<b>2364</b>	<b>3152</b>	<b>3940</b>	<b>4728</b>	<b>5516</b>	<b>6304</b>	<b>7092</b>
		SHOOTING DISTANCE. min. (m)	1,3	2,4	2,9	3,9	4,75	5,75	6,4	7,15	8,05
		SHOOTING DISTANCE. max. (m)	3,75	7,2	9,9	12,3	14,25	17,55	19,2	21,45	24
		PRESSURE LOSS (Pa)	5,55	7,35	17,4	30,75	45,6	60,9	88,2	117,6	148,5
		SOUND LEVEL (dBA)	29	32	39	44	49	53	58	63	68





**JET NOZZLE DIFFUSERS-CKD-13**



**AREAS OF USE AND FEATURES:** It is as blowing diffusers in hvac systems. It is suitable for vertical and horizontal use. The ideal shooting distance is between 3.5 m -15m. It is for heating and cooling in sports halls, shopping malls, factory buildings and conference halls where high flow and long throw distances are required standard screw mounting. The way of support can be changed optionally.

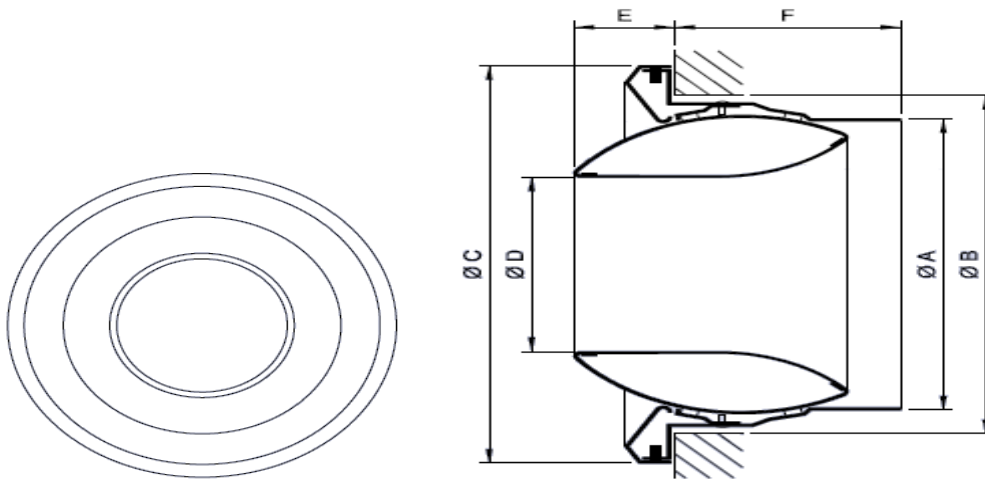
**MATERIAL:** The frame and nozzle from the plate plastering method.

**SURFACE COATING:** The product can in any colour with electrostatic powder paint.

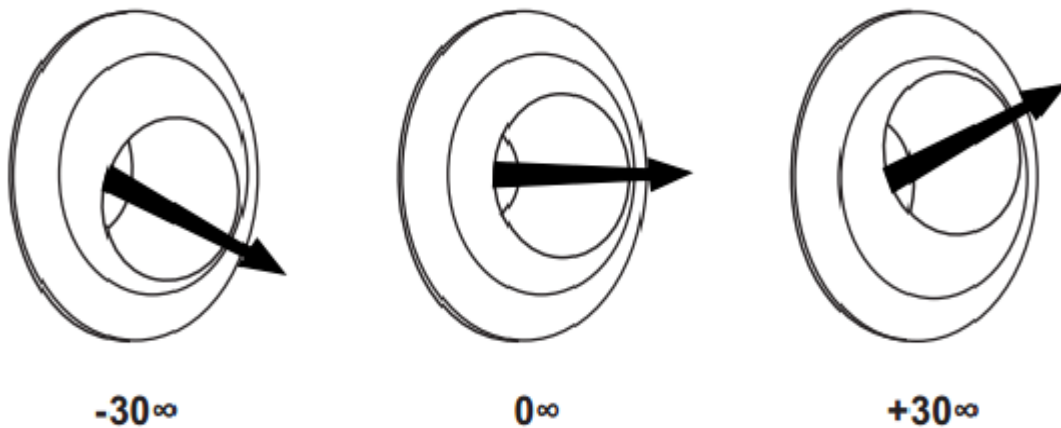
**ACCESSORIES:** Plenum box

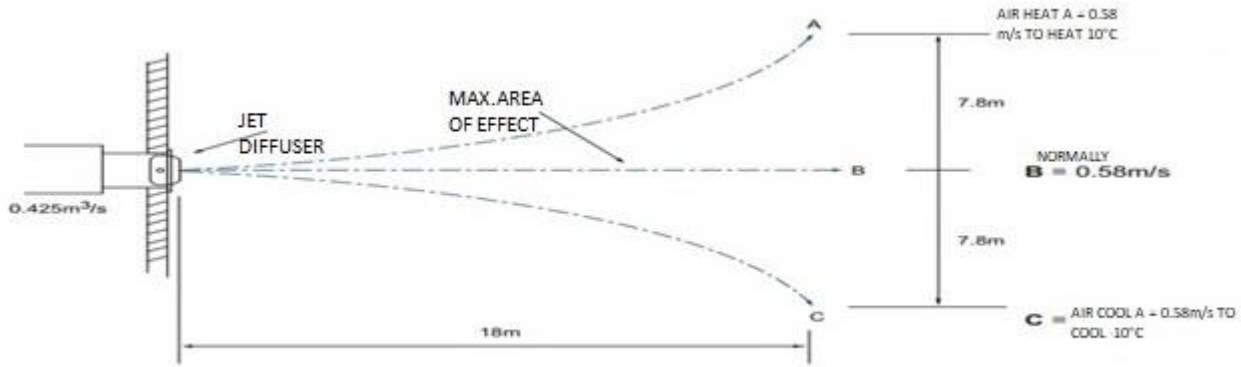
**STANDARD DIMENSIONS**

MODEL	DIMENSIONS					
	ØA	ØB	ØC	ØD	E	F
160	158	170	216	82	21	95
200	197	205	248	108	30	111
250	247	255	298	136	39	143
315	312	320	363	192	52	166
400	397	405	448	200	71	199



**TECNICAL INFORMATION**





**EASY SELECTION TABLE:**

**Ø 160 JET NOZZLE DIFFUSERS**

AIR FLOW m <sup>3</sup> /h	SHOOTING DISTANCE m.								PRESURE LOSS (Pa)	SOUND LEVEL (dBA)
	3	6	9	12	15	18	21	24		
	AIR SPEED AT THE FALLING POINT m/s									
0.010	0.24	0.12	0.08	0.06	0.05	0.04	0.03	0.02	1	<20
0.020	0.48	0.24	0.17	0.12	0.10	0.08	0.06	0.03	5	<20
0.030	0.73	0.36	0.25	0.19	0.15	0.11	0.08	0.05	10	22
0.040	0.97	0.48	0.33	0.25	0.20	0.15	0.11	0.07	18	25
0.050	1.21	0.60	0.41	0.31	0.24	0.19	0.14	0.09	28	28
0.060	1.45	0.72	0.50	0.37	0.29	0.23	0.16	0.10	40	30
0.070	1.70	0.84	0.58	0.43	0.34	0.26	0.19	0.12	55	32
0.080	1.94	0.96	0.66	0.49	0.39	0.30	0.22	0.14	72	34
0.090	2.18	1.08	0.74	0.56	0.44	0.34	0.25	0.15	90	35
0.100	2.42	1.20	0.83	0.62	0.49	0.38	0.27	0.17	110	37
0.110	2.67	1.32	0.91	0.68	0.54	0.41	0.30	0.19	120	38
0.120	2.91	1.44	0.99	0.74	0.58	0.45	0.33	0.20	160	40
0.130	3.15	1.56	1.08	0.80	0.63	0.49	0.35	0.22	185	41
0.140	3.39	1.68	1.16	0.87	0.68	0.53	0.38	0.24	220	42
0.150	3.64	1.80	1.24	0.93	0.73	0.56	0.41	0.25	260	43
0.160	3.88	1.92	1.32	0.99	0.78	0.60	0.44	0.27	285	45

**Ø 200 JET NOZZLE DIFFUSERS**

AIR FLOW m <sup>3</sup> /h	SHOOTING DISTANCE m.								PRESURE LOSS (Pa.)	SOUND LEVEL (dBA)
	3	6	9	12	15	18	21	24		
	AIR SPEED AT THE DOWN POINT (m / s)									
0.015	0.22	0.12	0.09	0.07	0.05	0.04	0.03	0.02	-	<20
0.030	0.44	0.25	0.18	0.14	0.11	0.08	0.06	0.04	4	<20
0.045	0.66	0.38	0.27	0.20	0.16	0.12	0.09	0.05	8	<20
0.060	0.88	0.50	0.36	0.27	0.22	0.17	0.12	0.07	15	<20
0.075	1.10	0.63	0.45	0.34	0.27	0.21	0.15	0.09	23	<20
0.090	1.32	0.75	0.54	0.41	0.32	0.25	0.18	0.10	33	23
0.105	1.54	0.88	0.63	0.48	0.38	0.29	0.21	0.12	44	26
0.120	1.76	1.00	0.72	0.55	0.43	0.33	0.23	0.14	58	28
0.135	1.98	1.13	0.81	0.61	0.49	0.37	0.26	0.16	73	30
0.150	2.20	1.25	0.90	0.68	0.54	0.41	0.29	0.17	90	32
0.165	2.42	1.38	0.99	0.75	0.59	0.45	0.32	0.19	110	35
0.180	2.64	1.50	1.08	0.82	0.65	0.49	0.35	0.21	130	37
0.195	2.86	1.63	1.17	0.89	0.70	0.54	0.38	0.23	155	39
0.210	3.08	1.75	1.25	0.96	0.76	0.58	0.41	0.24	180	41
0.225	3.30	1.88	1.34	1.02	0.81	0.62	0.44	0.26	200	43

Ø 250 JET NOZZLE DIFFUSER

AIR FLOW (m <sup>3</sup> / h)	SHOOTING DISTANCE m.								PRESSURE LOSS (Pa.)	SOUND LEVEL (dBA)
	3	6	9	12	15	18	21	24		
	AIR SPEED AT THE DOWN POINT (m / s)									
0.025	0.29	0.16	0.12	0.09	0.07	0.05	0.04	0.02	-	<20
0.045	0.52	0.29	0.21	0.16	0.13	0.10	0.07	0.04	3	<20
0.065	0.75	0.43	0.31	0.23	0.19	0.14	0.10	0.06	7	<20
0.085	0.98	0.56	0.40	0.31	0.24	0.19	0.13	0.08	13	<20
0.105	1.21	0.69	0.49	0.38	0.30	0.23	0.16	0.10	21	<20
0.125	1.44	0.82	0.59	0.45	0.36	0.27	0.19	0.11	31	<20
0.145	1.68	0.95	0.68	0.52	0.41	0.32	0.22	0.13	41	<20
0.165	1.91	1.08	0.78	0.59	0.47	0.36	0.25	0.15	54	25
0.185	2.14	1.21	0.87	0.67	0.53	0.40	0.28	0.17	66	30
0.205	2.37	1.34	0.97	0.74	0.59	0.45	0.32	0.19	82	35
0.225	2.60	1.47	1.06	0.81	0.64	0.49	0.35	0.20	98	36
0.245	2.83	1.60	1.16	0.88	0.70	0.53	0.38	0.22	118	38
0.265	3.06	1.74	1.25	0.96	0.76	0.58	0.41	0.24	140	38
0.285	3.29	1.87	1.34	1.03	0.81	0.62	0.44	0.26	160	39
0.305	3.52	2.00	1.44	1.10	0.87	0.66	0.47	0.28	172	40

Ø315 JET NOZZLE DIFFUSER

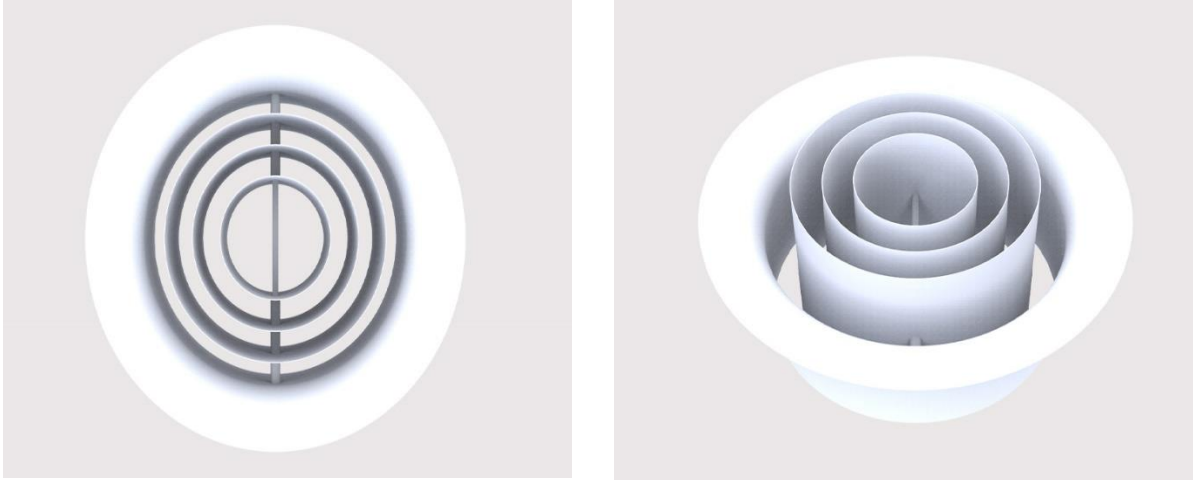
AIR FLOW (m <sup>3</sup> / h)	SHOOTING DISTANCE m.								PRESSURE LOSS (Pa.)	SOUND LEVEL (dBA)
	3	6	9	12	15	18	21	24		
	AIR SPEED AT THE DOWN POINT (m / s)									
0.025	0.22	0.13	0.09	0.07	0.06	0.04	0.03	0.02	-	<20
0.045	0.40	0.23	0.16	0.13	0.10	0.08	0.05	0.03	1	<20
0.065	0.58	0.33	0.24	0.18	0.14	0.11	0.08	0.05	3	<20
0.085	0.76	0.43	0.31	0.24	0.19	0.14	0.10	0.06	5	<20
0.105	0.94	0.53	0.38	0.29	0.23	0.18	0.12	0.07	8	<20
0.125	1.12	0.63	0.45	0.35	0.28	0.21	0.15	0.09	12	<20
0.145	1.30	0.73	0.53	0.40	0.32	0.24	0.17	0.10	17	<20
0.165	1.48	0.83	0.60	0.46	0.37	0.28	0.20	0.12	23	<20
0.185	1.66	0.93	0.67	0.52	0.41	0.31	0.22	0.13	29	21
0.205	1.84	1.03	0.75	0.57	0.45	0.35	0.24	0.14	35	23
0.225	2.02	1.13	0.82	0.63	0.50	0.38	0.27	0.16	42	25
0.245	2.20	1.23	0.89	0.68	0.54	0.41	0.29	0.17	50	26
0.265	2.38	1.33	0.96	0.74	0.59	0.45	0.31	0.18	59	27
0.285	2.56	1.44	1.04	0.80	0.63	0.48	0.34	0.20	68	30
0.305	2.74	1.54	1.11	0.85	0.68	0.51	0.36	0.21	78	34
0.325	2.92	1.64	1.18	0.91	0.72	0.55	0.38	0.23	88	36
0.345	3.10	1.74	1.26	0.96	0.76	0.58	0.41	0.24	100	37
0.365	3.28	1.84	1.33	1.02	0.81	0.61	0.43	0.25	110	38
0.385	3.46	1.94	1.40	1.08	0.85	0.65	0.46	0.27	125	39

Ø 400 JET NOZZLE DIFFUSER

AIR FLOW (m <sup>3</sup> /h)	SHOOTING DISTANCE m.								PRESSURE LOSS (Pa.)	SOUND LEVEL (dBA)
	3	6	9	12	15	18	21	24		
	AIR SPEED AT THE DOWN POINT (m / s)									
0.050	0.35	0.19	0.14	0.11	0.09	0.07	0.05	0.03	-	<20
0.075	0.53	0.29	0.21	0.16	0.13	0.10	0.07	0.04	2	<20
0.100	0.70	0.39	0.28	0.22	0.17	0.13	0.09	0.05	3	<20
0.125	0.88	0.49	0.35	0.27	0.21	0.16	0.11	0.07	5	<20
0.150	1.05	0.58	0.42	0.32	0.26	0.20	0.14	0.08	7	<20
0.175	1.23	0.68	0.49	0.38	0.30	0.23	0.16	0.09	10	<20
0.200	1.40	0.78	0.56	0.43	0.34	0.26	0.18	0.11	13	<20
0.225	1.58	0.87	0.63	0.49	0.39	0.29	0.21	0.12	16	<20
0.250	1.75	0.97	0.70	0.54	0.43	0.33	0.23	0.13	20	22
0.275	1.92	1.07	0.77	0.59	0.47	0.36	0.25	0.15	24	25
0.300	2.10	1.17	0.84	0.65	0.51	0.39	0.27	0.16	29	28
0.325	2.27	1.26	0.91	0.70	0.56	0.42	0.30	0.17	34	30
0.350	2.45	1.36	0.98	0.76	0.60	0.46	0.32	0.19	39	31
0.375	2.62	1.46	1.06	0.81	0.64	0.49	0.34	0.20	45	32
0.400	2.80	1.55	1.13	0.87	0.69	0.52	0.36	0.21	52	33
0.425	2.97	1.65	1.20	0.92	0.73	0.55	0.39	0.23	58	35
0.450	3.15	1.75	1.27	0.97	0.77	0.59	0.41	0.24	65	36
0.475	3.32	1.85	1.34	1.03	0.82	0.62	0.43	0.25	72	37
0.500	3.50	1.94	1.41	1.08	0.86	0.65	0.46	0.27	80	38
0.525	3.67	2.04	1.48	1.14	0.90	0.68	0.48	0.28	88	39
0.550	3.85	2.14	1.55	1.19	0.94	0.72	0.50	0.29	97	40
0.575	4.02	2.23	1.62	1.24	0.99	0.75	0.52	0.31	105	41
0.600	4.20	2.33	1.69	1.30	1.03	0.78	0.55	0.32	115	42



**HIGHT FLOW JET NOZZLE DIFFUSERS -CKD-14**



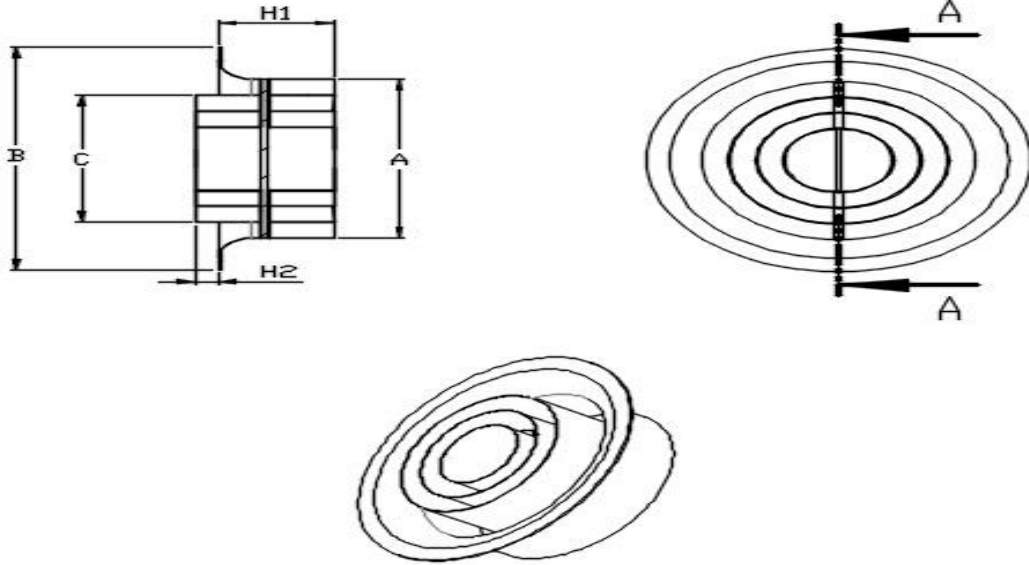
**AREAS OF USE AND FEATURES:** It is as blowing diffusers in hvac systems. It is suitable for vertical and horizontal use. The ideal shooting distance is between 3.5 m -15m. It is for heating and cooling in sports halls, shopping malls, factory buildings and conference halls where high flow and long throw distances are required standard screw mounting. The way of support can be changed optionally.

**MATERIAL:** The frame and nozzle are produced using the plate plaster method.

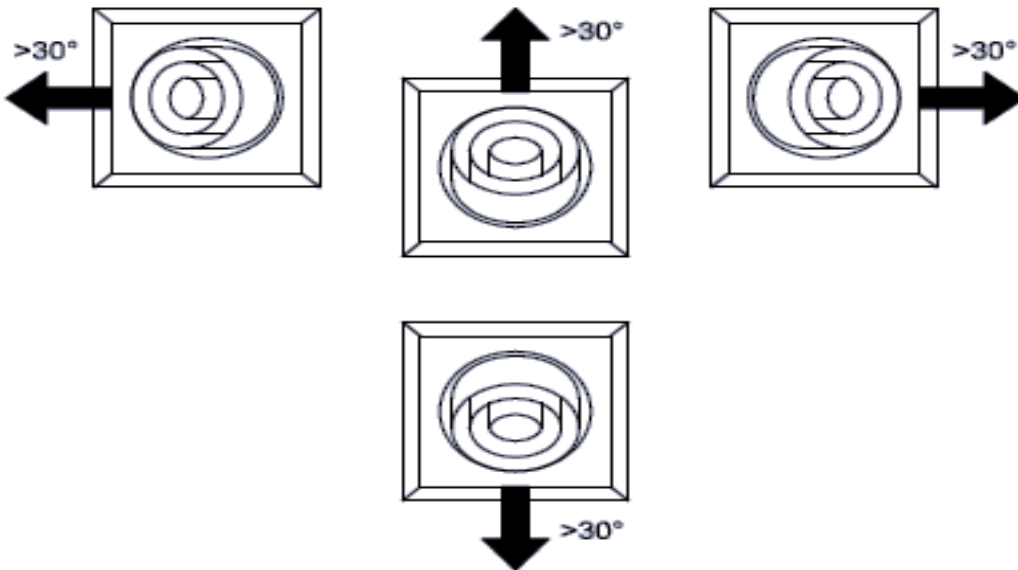
**SURFACE COATING:** It can be produced in the desired colour with electrostatic powder paint.

**ACCESSORIES:** Plenum box

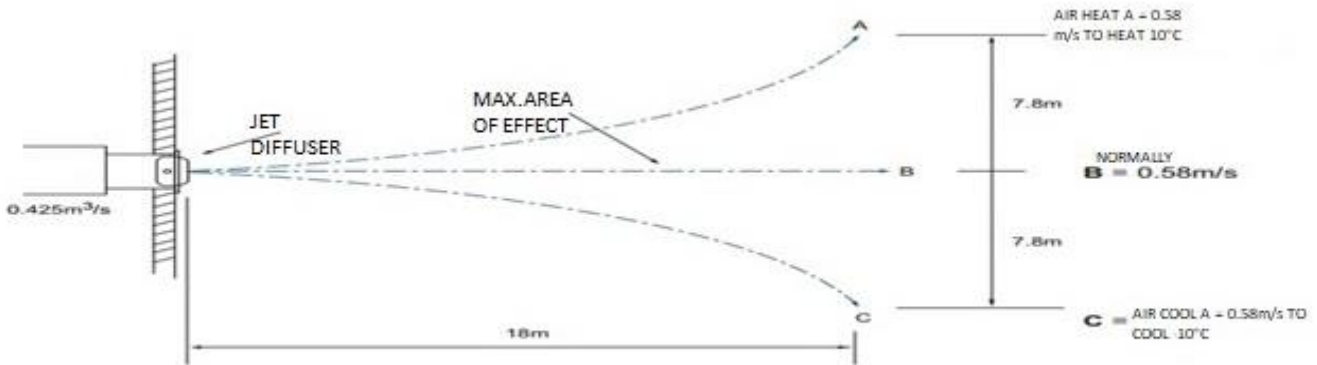
STANDARD DIMENSIONS



<u>ÖLÇÜ</u>	<u>A Ø</u>	<u>Ø B</u>	<u>Ø C</u>	<u>H1</u>	<u>H2</u>
<u>Ø 150</u>	145	210	100	120	60
<u>Ø 200</u>	195	260	150	120	60
<u>Ø 250</u>	245	310	200	130	60
<u>Ø 300</u>	295	360	250	145	60
<u>Ø 350</u>	345	410	300	175	60
<u>Ø 400</u>	395	460	350	220	60



**TECNICAL INFORMATION**



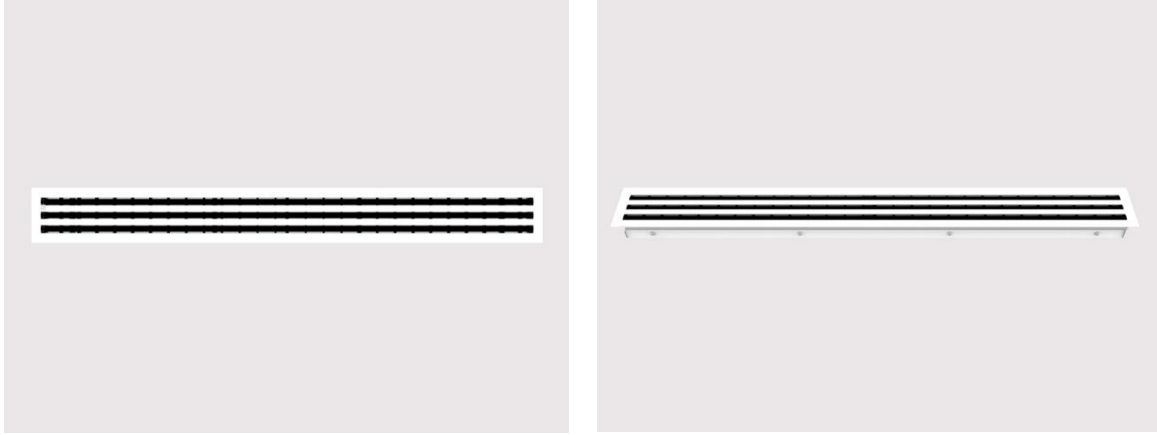
**EASY SELECTION TABLE:**

SIZE	AIR SPEED	2	3	4	5	6	7	8
<b>Ø 150</b>	AIR FLOW	127	191	254	318	382	446	507
	SOUND LEVEL		13	24	32	38	44	50
	PRESSURE LOSS	8	17	31	47	68	93	121
	SHOOTING DISTANCE	3-4,5	3,5-6	4,7-8	5-8,5	5,5-10	6-11,5	6,5-12,5
<b>Ø 200</b>	AIR FLOW	<b>230</b>	<b>345</b>	<b>461</b>	<b>576</b>	<b>690</b>	<b>805</b>	<b>921</b>
	SOUND LEVEL		13	24	32	38	44	50
	PRESSURE LOSS	8	17	31	47	68	93	121
	SHOOTING DISTANCE	3,5-6	4-7,5	5-8,5	5,8-10	6,5-11	6,7-12	7,3-13
<b>Ø 250</b>	AIR FLOW	333	500	666	883	1000	1164	1331
	SOUND LEVEL		15	19	27	34	39	45
	PRESSURE LOSS	6	13	23	35	51	69	90
	SHOOTING DISTANCE	4,5-6,5	5-9,5	6-10,5	6,5-12	7,5-13	8-14,5	8,5-15,5
<b>Ø 300</b>	AIR FLOW	509	763	1017	1272	1526	1780	2035
	SOUND LEVEL			20	28	34	41	45
	PRESSURE LOSS	3	9	15	23	34	46	60
	SHOOTING DISTANCE	5-8,8	6-10,7	7-12,5	7,8-14	9-15,3	9,5-16,7	15-18
<b>Ø 350</b>	AIR FLOW	692	1038	1385	1731	2077	2424	2770
	SOUND LEVEL			18	27	33	39	47
	PRESSURE LOSS	4	8	18	21	30	41	53
	SHOOTING DISTANCE	5,5-10	7-12,2	8-14,5	9-15,9	10-17,5	10,5-19	11,5-20,5
<b>Ø 400</b>	AIR FLOW	904	1357	1809	2261	2713	3165	3617
	SOUND LEVEL			18	27	33	39	44
	PRESSURE LOSS	2	6	10	13	22	30	39
	SHOOTING DISTANCE	6,5-13	8-13,7	8,8-16,1	10,5-18	11,3-19,8	21-24,5	13,122,9





**ROLLER SLOT DIFFUSERS -CKD-15**



**AREA OF USAGE AND FEATURES:** It is used as blowing and suction diffusers in hvac systems. It is suitable for horizontal and vertical shooting. The ideal shooting distance is between 2.5-8m. It is used in ceiling and wall applications. It is a standard bridge mounted. The way of mounting can be changed optionally.

**MATERIAL:** Body and wings are made of aluminium profile manufactured by the extrusion method.

**SURFACE COATING:** The product can be manufactured in any colour with electrostatic powder paint. The wings are manufactured in standard black colour.

**ACCESSORIES:** Plenum box

**AIR SHOT TYPES**



LEFT HORIZONTAL SHOT

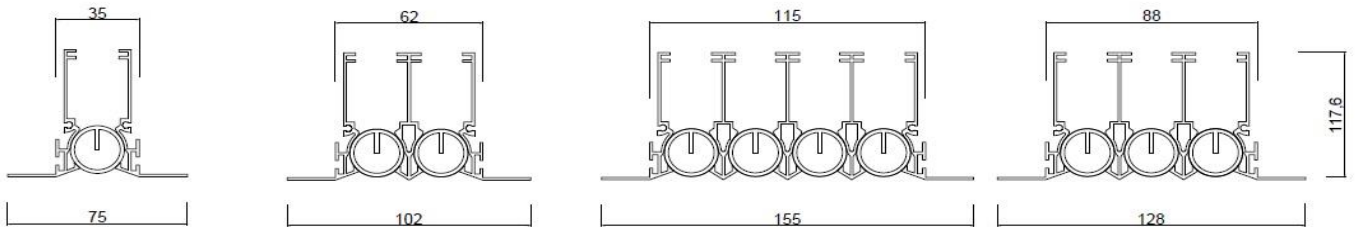


RIGHT HORIZONTAL SHOT



VERTICAL SHOOTING

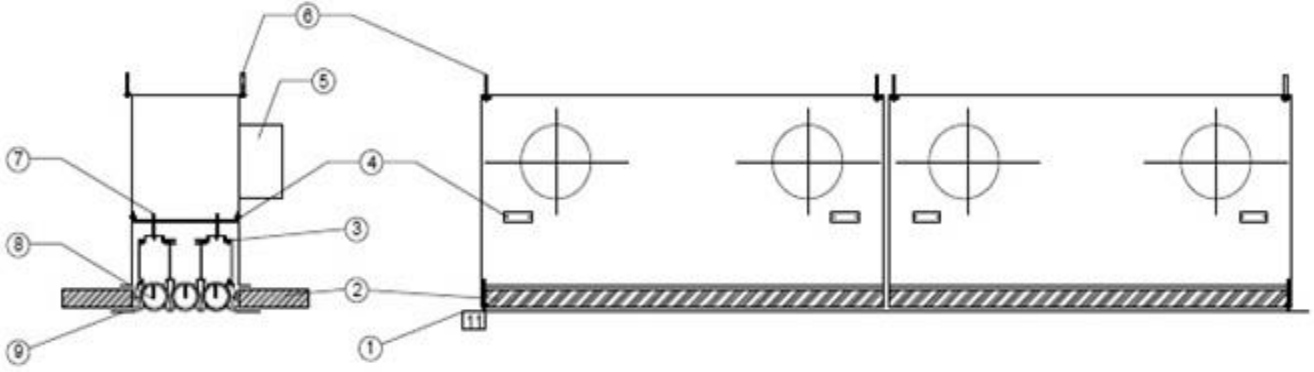
**STANDARD DIMENSIONS:**



NUMBER OF SLOTS	STANDARD DIMENSIONS –cm.																
	50	60	70	80	90	100	110	120	130	140	150	160	170	180	190	200	
1	x	50	60	70	80	90	100	110	120	130	140	150	160	170	180	190	200
2	x	50	60	70	80	90	100	110	120	130	140	150	160	170	180	190	200
3	x	50	60	70	80	90	100	110	120	130	140	150	160	170	180	190	200
4	x	50	60	70	80	90	100	110	120	130	140	150	160	170	180	190	200

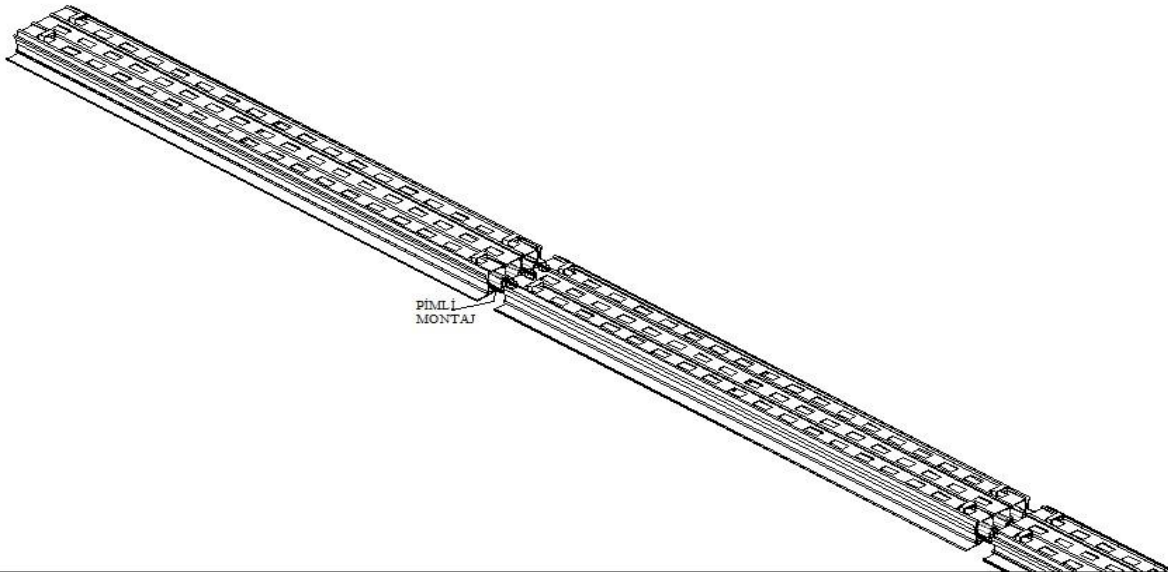
200 cm >The dimensions are manufactured in 2 parts.

**BOX MOUNTING**



1	****	SLOT HEAD CORNER
2	****	CEILING CARRIER PROFILE
3	****	SLOT HANGER ELEMENT
4	****	BOX HANGER ELEMENT AND BOLT
5	****	SLEEVE
6	****	BOX CARRIER AND FIXING BOLT
7	****	SLOT BOX MOUNTING BOLT
8	****	SLOT ROLLER
9	****	SLOT DIFFUSER

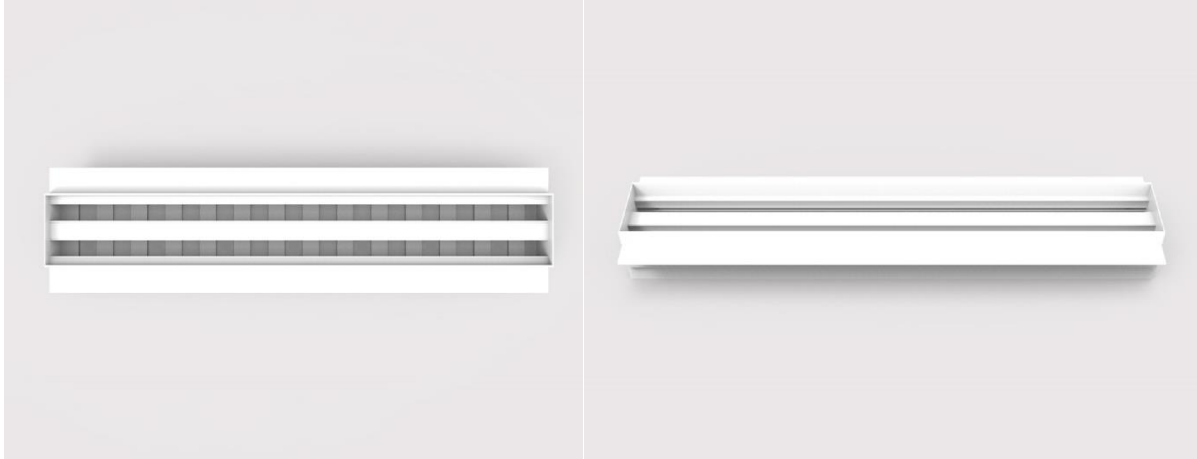
**INSTALLATION**



**EASY SELECTION TABLE:**

NUMBER OF SLOTS	EFFECTIVE AREA m <sup>2</sup>	V (m <sup>3</sup> /h)	108	135	162	190	216									
<b>1</b>	0,015	AIR SPEED m/s	2	2,5	3	3,5	4									
		SHOOTING DISTANCE m	5,4	6,7	8,1	9,3	10,7									
		PRESSURE LOSS Δ P- Pa	11	14	17	20	23									
		SOUND LEVEL Dba	22	28	33	39	44									
		V (m <sup>3</sup> /h)					216	270	324	380	432					
<b>2</b>	0,03	AIR SPEED m/s					2	2,5	3	3,5	4					
		SHOOTING DISTANCE m					6,5	8	9,5	11	12,5					
		PRESSURE LOSS Δ P- Pa					16	18	24	28	31,5					
		SOUND LEVEL Dba					25	32	38	44	51					
		V (m <sup>3</sup> /h)							324	405	486	570	648			
<b>3</b>	0,045	AIR SPEED m/s							2	2,5	3	3,5	4			
		SHOOTING DISTANCE m							6,1	7,6	9,1	10,7	12,2			
		PRESSURE LOSS Δ P- Pa								21	26,3	31,5	36,8	42		
		SOUND LEVEL Dba								26,3	33	39,5	46	53		
		V (m <sup>3</sup> /h)									324	540	648	760	864	
<b>4</b>	0,06	AIR SPEED m/s									2	2,5	3	3,5	4	
		SHOOTING DISTANCE m									6,3	8	9,5	11	12,6	
		PRESSURE LOSS Δ P- Pa										21	26,3	31,6	37	42,1
		SOUND LEVEL Dba										26,3	33	39,5	46	53

**SLOT DIFFUSERS-LINEER BAR-CKD-16**



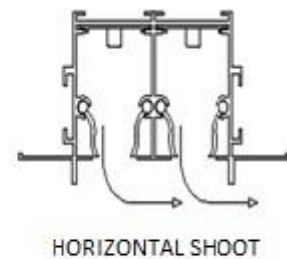
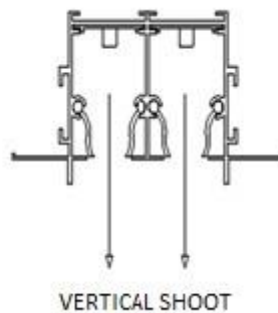
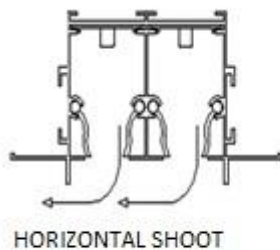
**AREA OF USAGE AND FEATURES:** It is used as blowing and suction diffusers in hvac systems. It is suitable for horizontal and vertical shots. The ideal shooting distance is between 2.5-8 m. It is used in ceiling and wall applications. It is a standard bridge mounted. The way of mounting can be changed optionally.

**MATERIAL:** Body and wings are made of aluminium profile manufactured by the extrusion method.

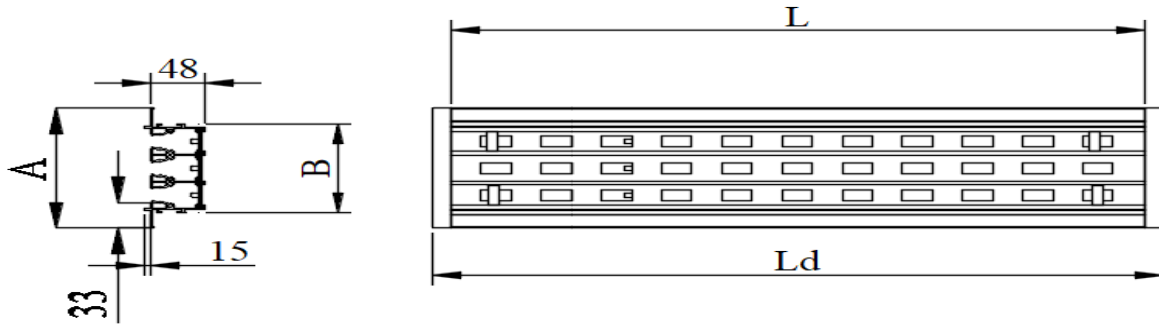
**SURFACE COATING:** The product can be manufactured in any colour with electrostatic powder paint. The wings are manufactured in standard black colour.

**ACCESSORIES:** Plenum box

**AIR SHOT TYPES:**

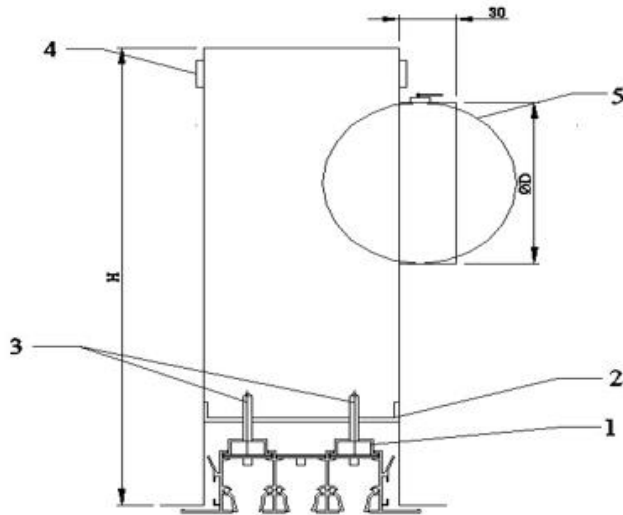


**TECHNICAL MEASUREMENT**



NUMBER OF SLOTS	1	2
A mm.	81	120
B mm.	45	80

**SLOT MOUNTING DETAIL :**

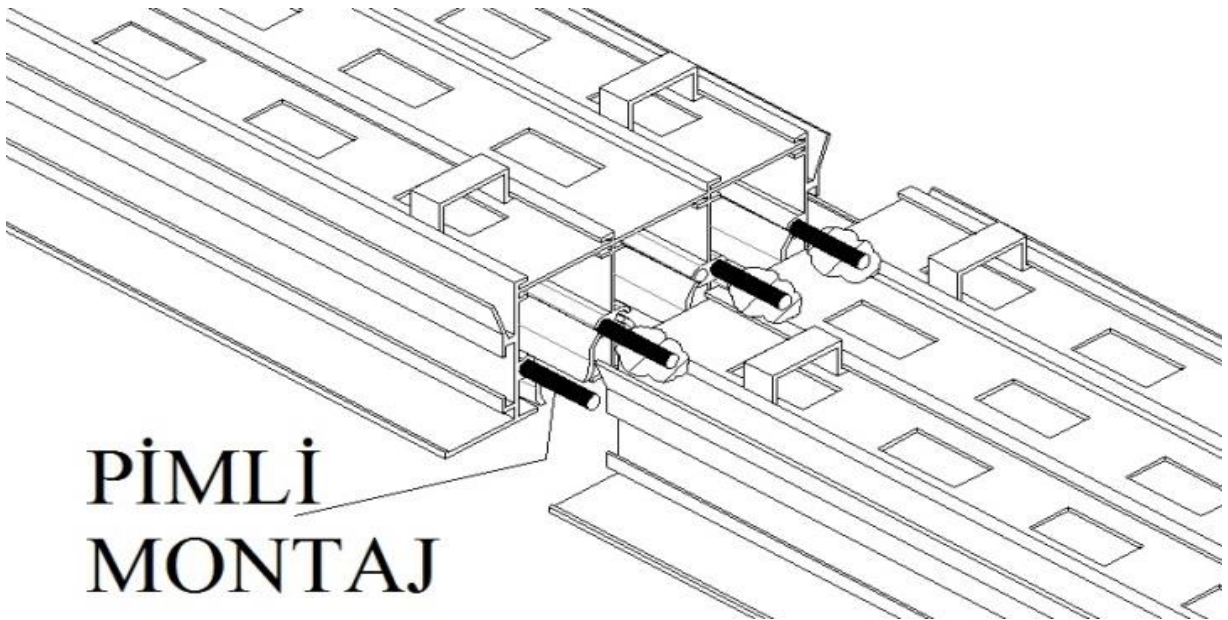
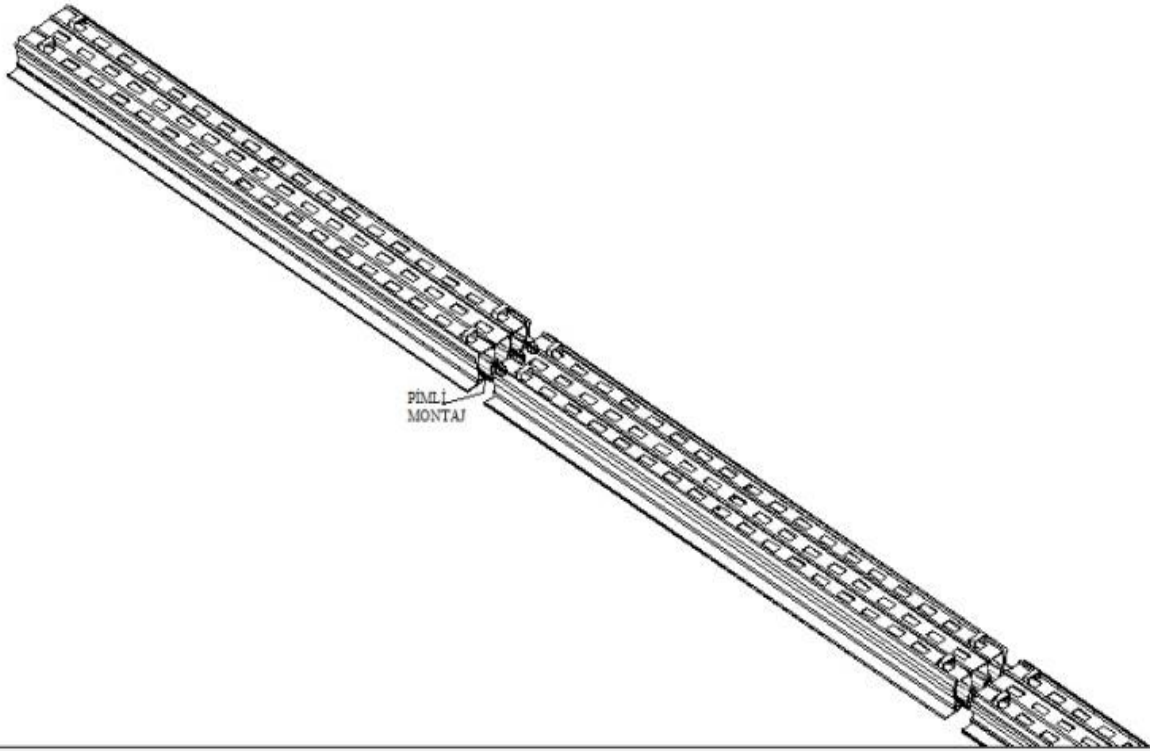


- 1- Slot Bridge Piece (On Slot)
- 2- Box Bridge piece (Inside the box)
- 3- Assembly Screw And Special Nut (M5 \* 50)
- 4- Box Hanger Apparatus
- 5- Box Perforated Damper (Internal Control)

L (mm)		NUMBER OF SLOTS					
		1	2	3	4	5	6
500 – 1500	ØD (mm)	138	198	218	248	248	248
	h (mm)	218	278	298	328	328	328
1500 – 2000	ØD (mm)	*138 x 2	*198 x 2	*218 x 2	*248 x 2	*248 x 2	*248 x 2
	h (mm)	273	341	400	487	487	487



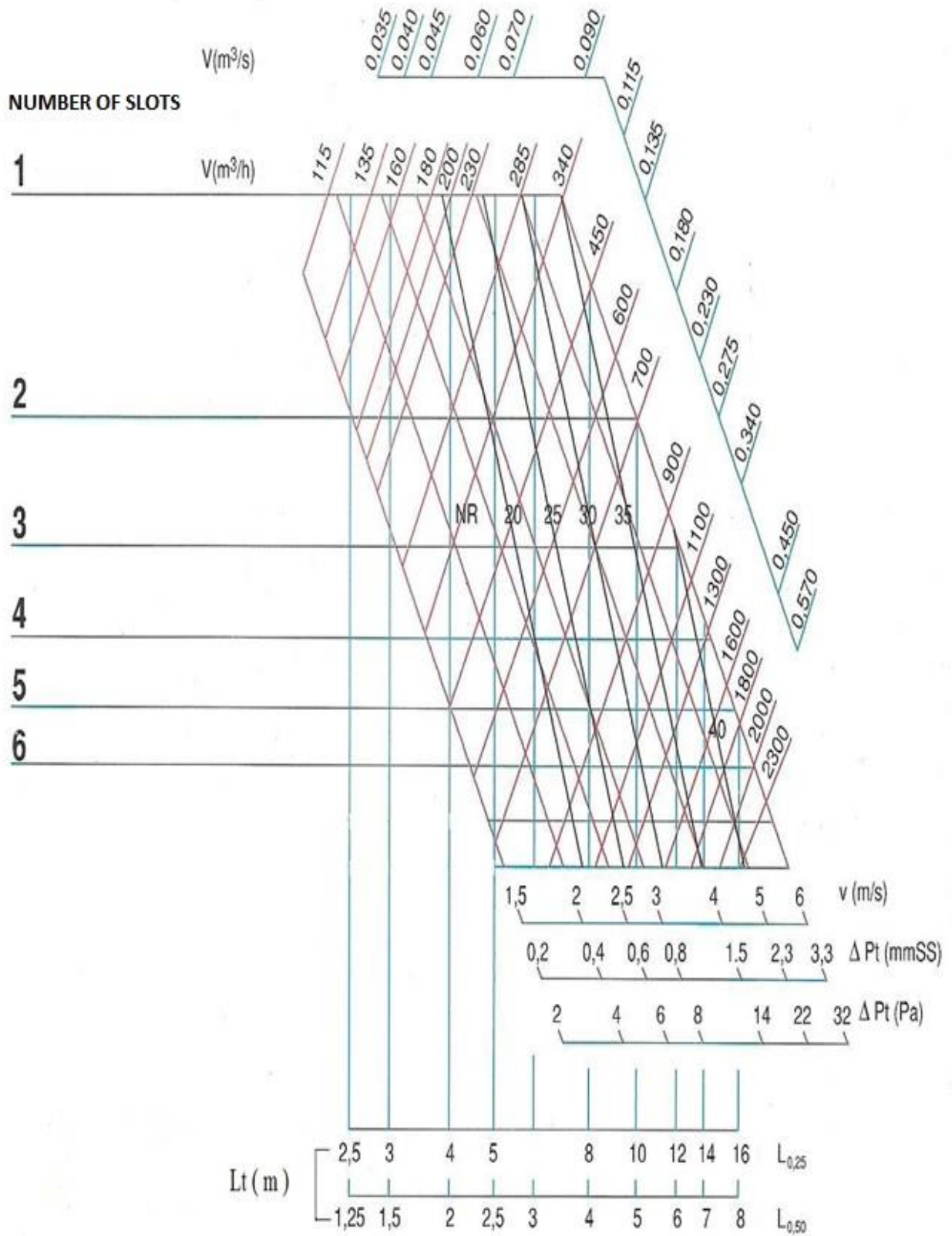
PIECE SLOT MOUNTING DETAIL :



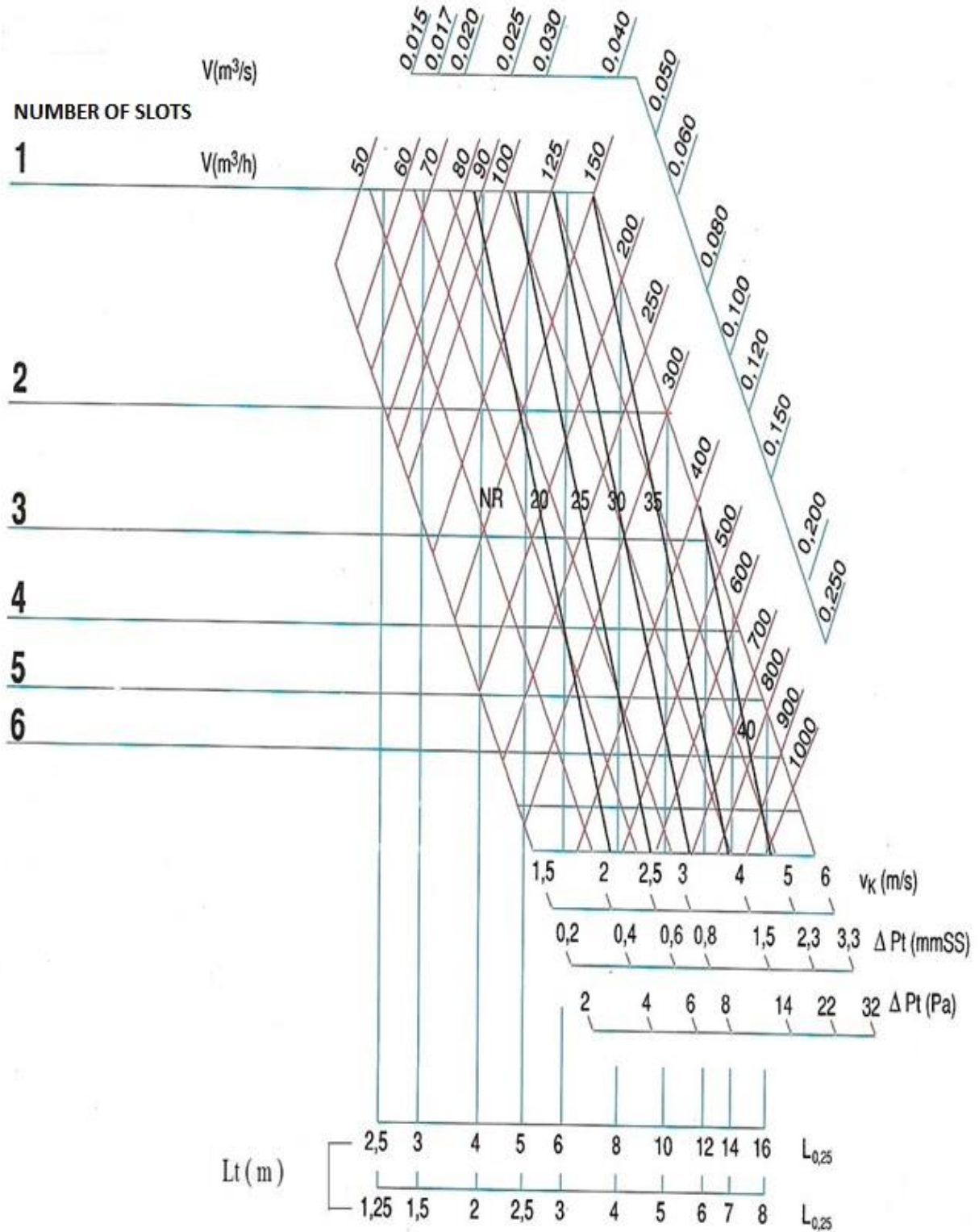
PİMLİ  
MONTAJ

PIN MOUNTING

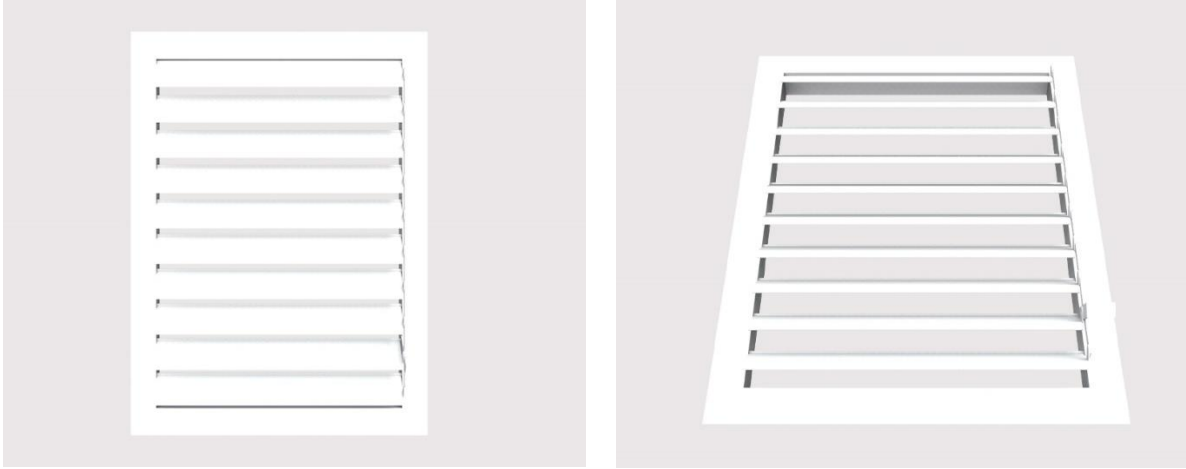
**VERTICAL SHOOT :**



HORIZONTAL SHOOT



**ARM-CONTROLLED LOUVER - CKP -01**



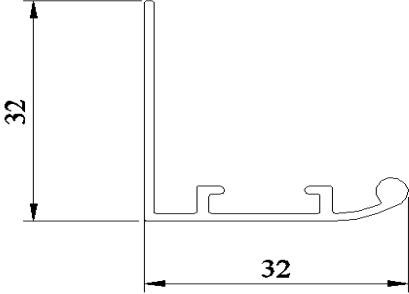
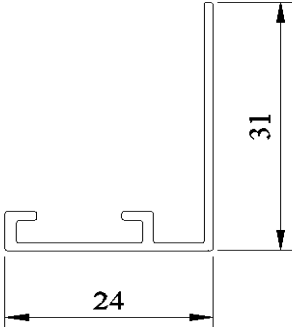
**USAGE AREA AND FEATURES:** It is used as suction grille in hvac systems. It is used in bathroom and wc applications. The wings can be adjusted from the front surface of the grill. Standard manufacturing is screwed. The way of mounting can be changed optionally.

**MATERIAL:** Aluminium profile manufactured by the extrusion method

**SURFACE COATING:** The product can be manufactured in any colour with electrostatic powder paint or without paint.

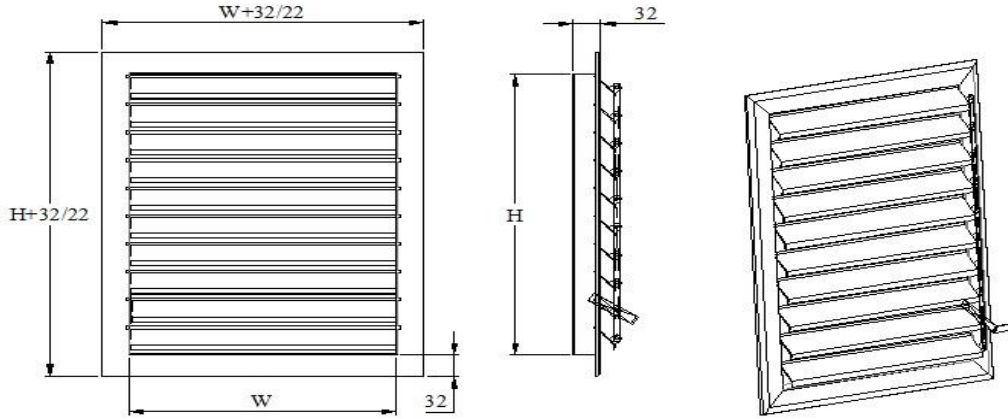
**ACCESSORIES:** Mosquito net

**FRAME MODELS**

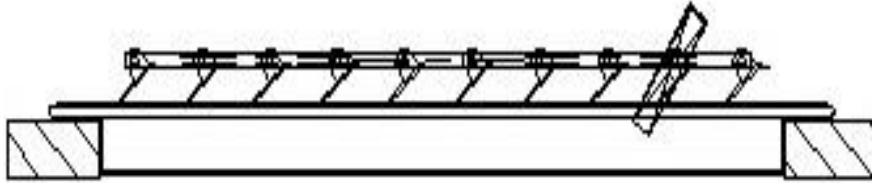
STANDARD FRAME	NARROW FRAME
	

**TECHNICAL DIMENSIONS**

<b>W</b>	<b>100-150-200-250-300-350-400-450-500-600-700-800-900-1000-1100-1200</b>
<b>H</b>	<b>100-150-200-250-300-350-400-450-500-600-700-800-900-1000</b>



**INSTALLATION SHAPES**

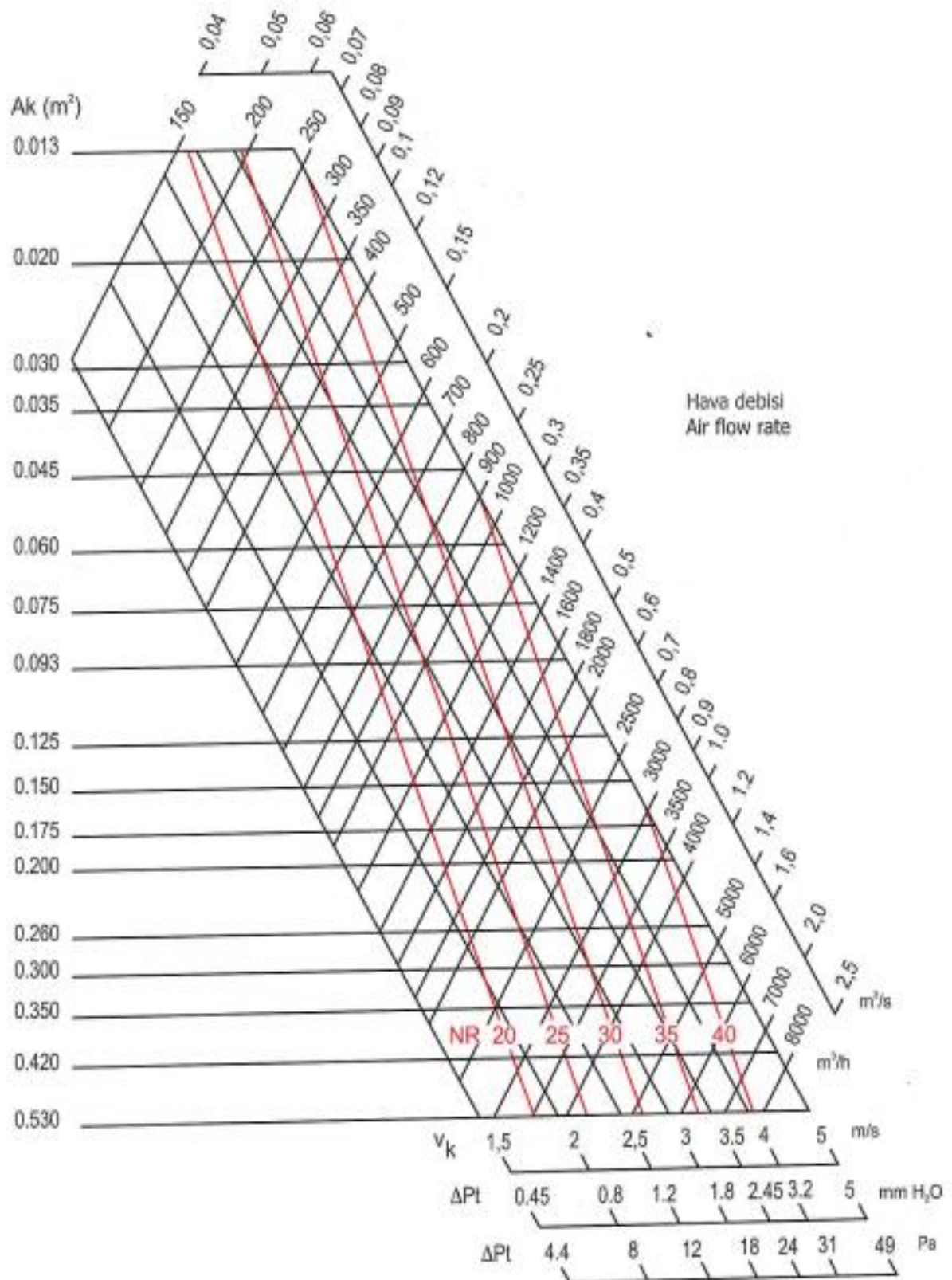


**EFFECTIVE AREA**

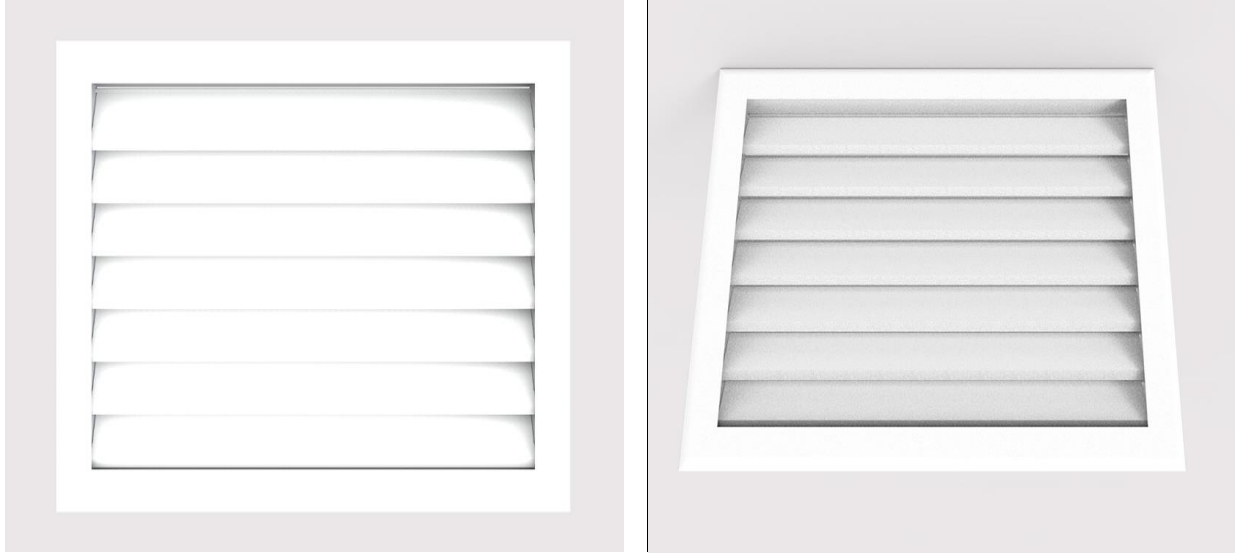
W*H	100	200	300	400	500	600	700	800	900	1000
100	0,007	0,013	0,0195	0,026	0,0325	0,039	0,0455	0,052	0,0585	0,065
200	0,013	0,026	0,039	0,052	0,065	0,078	0,091	0,104	0,117	0,13
300	0,02	0,039	0,0585	0,078	0,0975	0,117	0,1365	0,156	0,1755	0,195
400	0,026	0,052	0,078	0,104	0,13	0,156	0,182	0,208	0,234	0,26
500	0,033	0,065	0,0975	0,13	0,1625	0,195	0,2275	0,26	0,2925	0,325
600	0,039	0,078	0,117	0,156	0,195	0,234	0,273	0,312	0,351	0,39
700	0,046	0,091	0,1365	0,182	0,2275	0,273	0,3185	0,364	0,4095	0,455
800	0,052	0,104	0,156	0,208	0,26	0,312	0,364	0,416	0,468	0,52
900	0,059	0,117	0,1755	0,234	0,2925	0,351	0,4095	0,468	0,5265	0,585
1000	0,065	0,13	0,195	0,26	0,325	0,39	0,455	0,52	0,585	0,65

**ELECTION DIAGRAM**





**EXHAUST AIR LOUVERS - CKP -02**



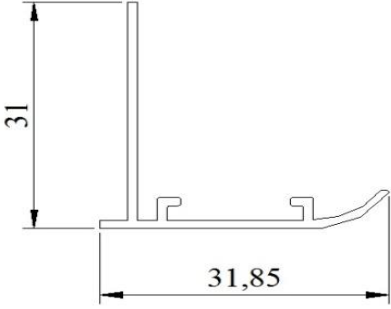
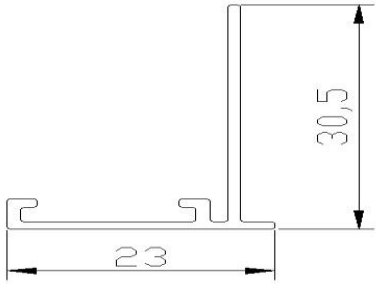
**USAGE AREA AND FEATURES:** It is used as a suction grille in hvac systems. It is used as exhaust louvres. The wings are manufactured fixed. Standard manufacturing is screwed. The way of mounting can be changed optionally.

**MATERIAL:** Aluminum profile manufactured by the extrusion method

**SURFACE COATING:** The product can be manufactured in any colour with electrostatic powder paint or without paint.

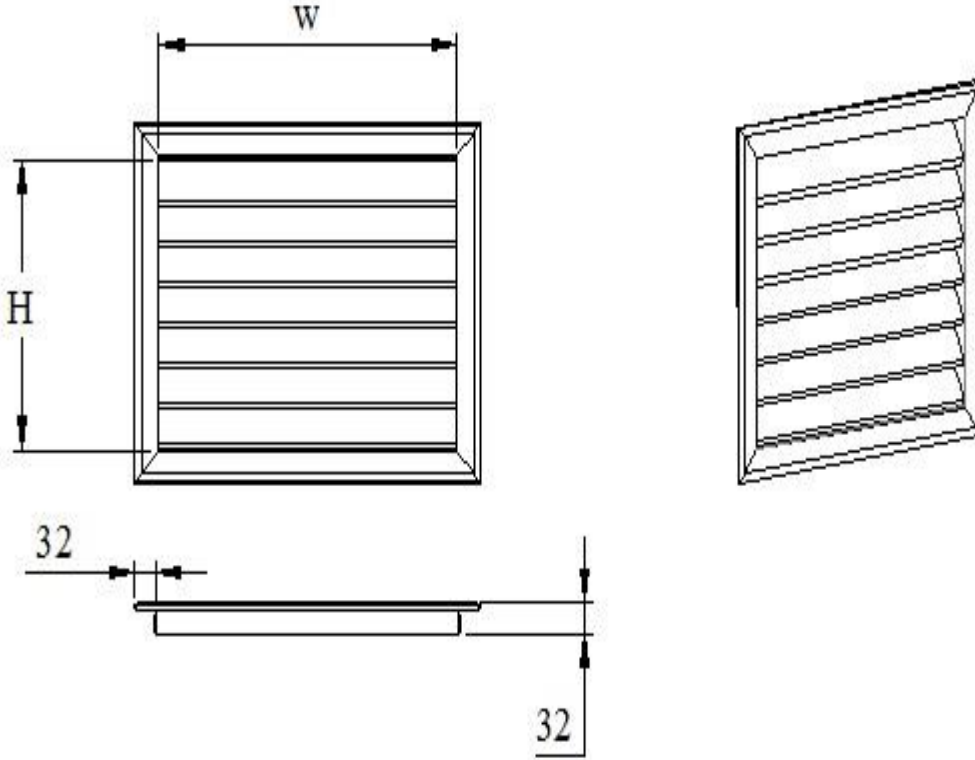
**ACCESSORIES:** Mosquito net

**FRAME MODELS**

STANDARD FRAME	NARROW FRAME
	



**TECHNICAL MEASUREMENT**



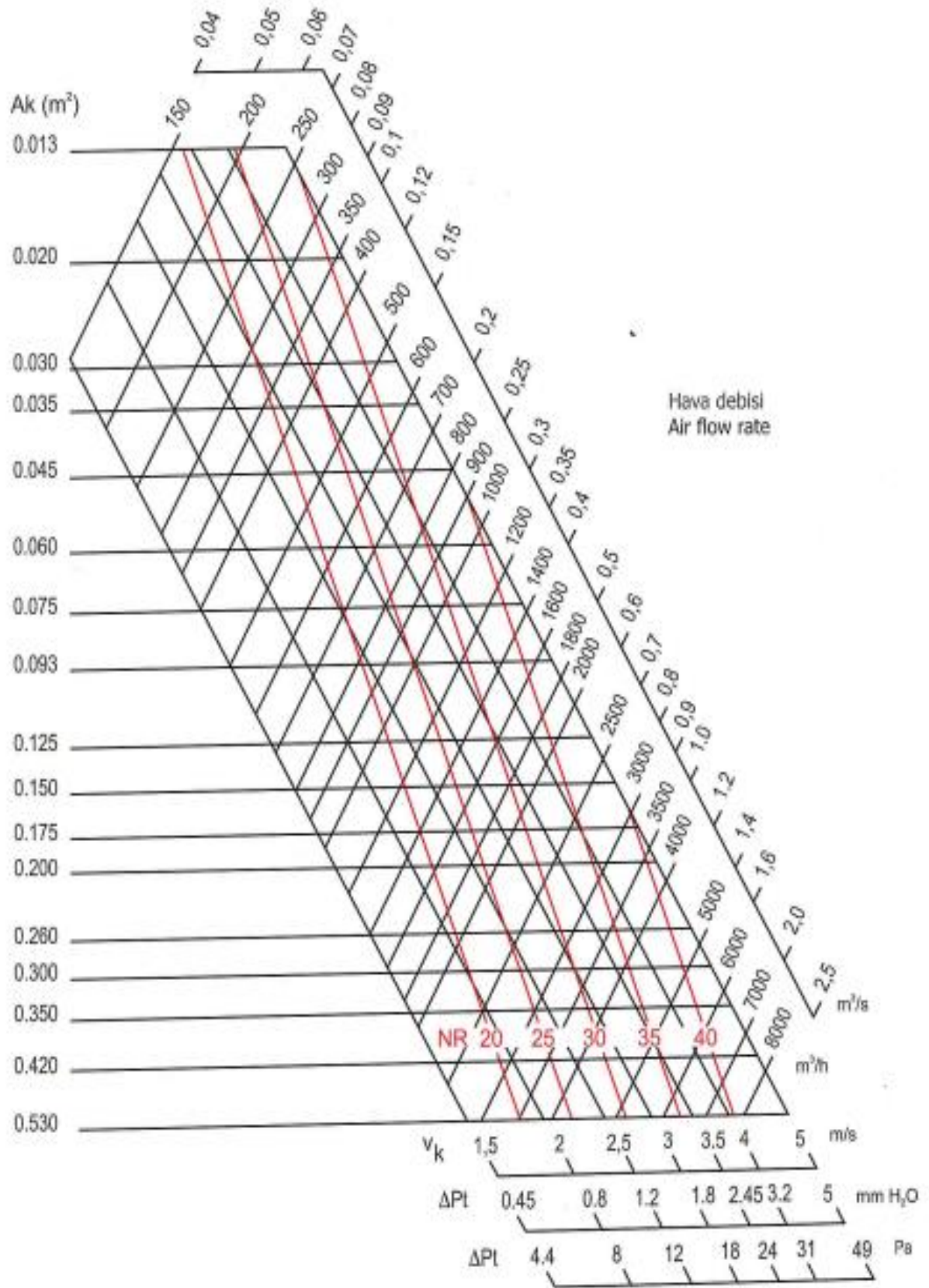
<b>W</b>	<b>100-150-200-250-300-350-400-450-500-600-700-800-900-1000-1100-1200</b>
<b>H</b>	<b>100-150-200-250-300-350-400-450-500-600-700-800-900-1000</b>

**INSTALLATION SHAPES**

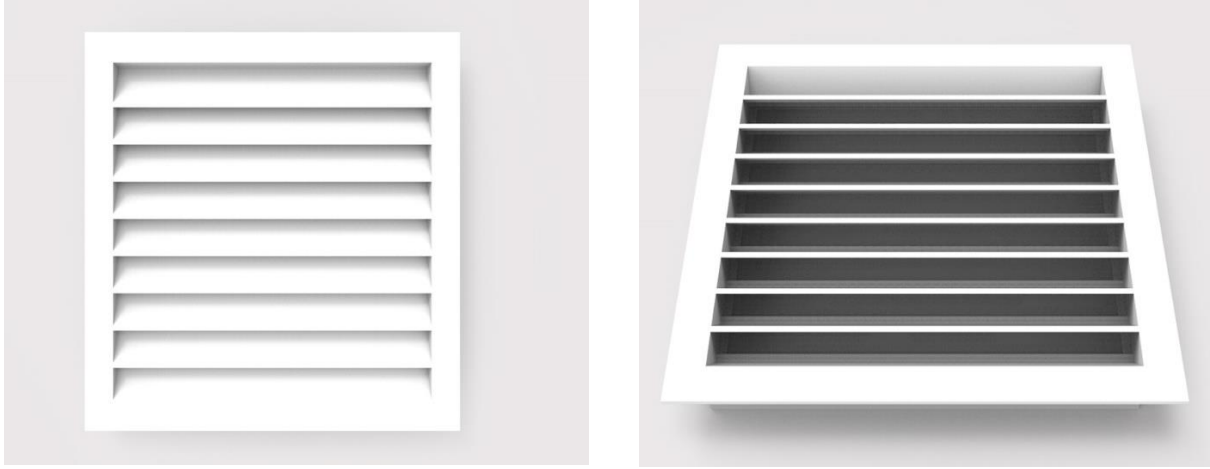
**EFFECTIVE AREA**

W*H	100	200	300	400	500	600	700	800	900	1000
100	0,007	0,013	0,0195	0,026	0,0325	0,039	0,0455	0,052	0,0585	0,065
200	0,013	0,026	0,039	0,052	0,065	0,078	0,091	0,104	0,117	0,13
300	0,02	0,039	0,0585	0,078	0,0975	0,117	0,1365	0,156	0,1755	0,195
400	0,026	0,052	0,078	0,104	0,13	0,156	0,182	0,208	0,234	0,26
500	0,033	0,065	0,0975	0,13	0,1625	0,195	0,2275	0,26	0,2925	0,325
600	0,039	0,078	0,117	0,156	0,195	0,234	0,273	0,312	0,351	0,39
700	0,046	0,091	0,1365	0,182	0,2275	0,273	0,3185	0,364	0,4095	0,455
800	0,052	0,104	0,156	0,208	0,26	0,312	0,364	0,416	0,468	0,52
900	0,059	0,117	0,1755	0,234	0,2925	0,351	0,4095	0,468	0,5265	0,585
1000	0,065	0,13	0,195	0,26	0,325	0,39	0,455	0,52	0,585	0,65

ELECTION DIAGRAM



**WEATHERPROOF LOUVERS - CKP -03**



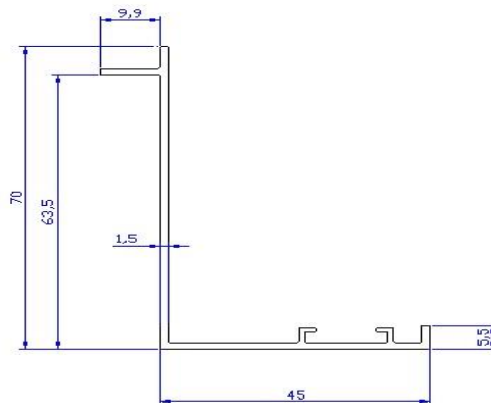
**USAGE AREA AND FEATURES:** It is used as a suction grille in hvac systems. It is used in the exhaust and clean air applications on the exterior walls of the building. The wings are manufactured fixed. Standard manufacturing is screwed. The way of mounting can be changed optionally.

**MATERIAL:** Aluminum profile manufactured by the extrusion method

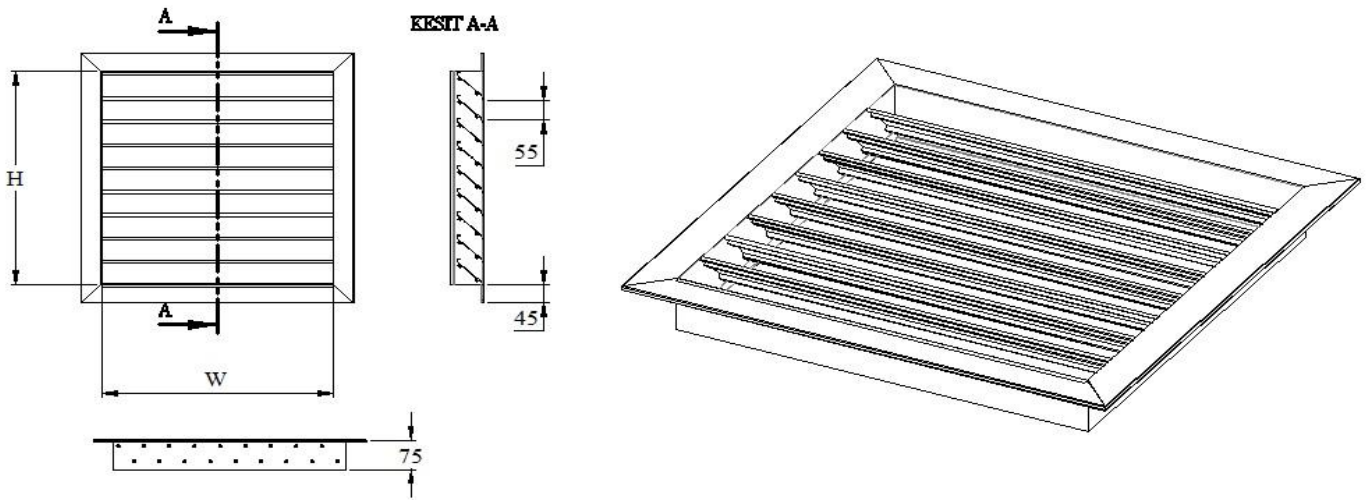
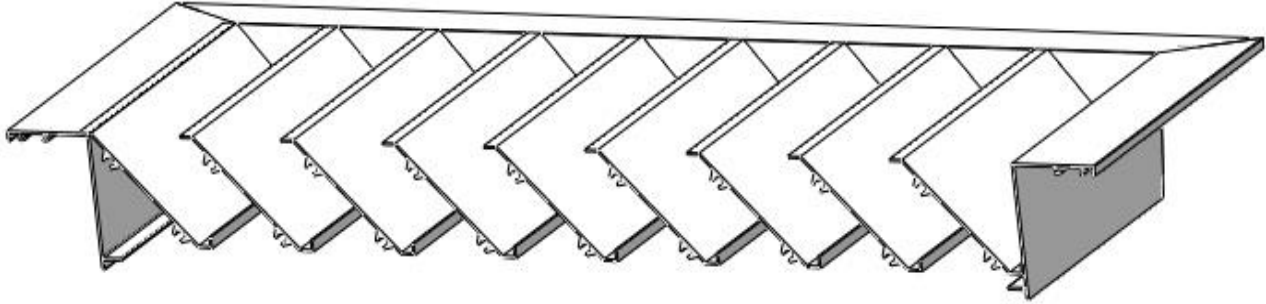
**SURFACE COATING:** The product can be manufactured in any colour with electrostatic powder paint or without paint.

**ACCESSORIES:** Mosquito net or bird wire

**FRAME MODEL**



**TECHNICAL MEASUREMENT**

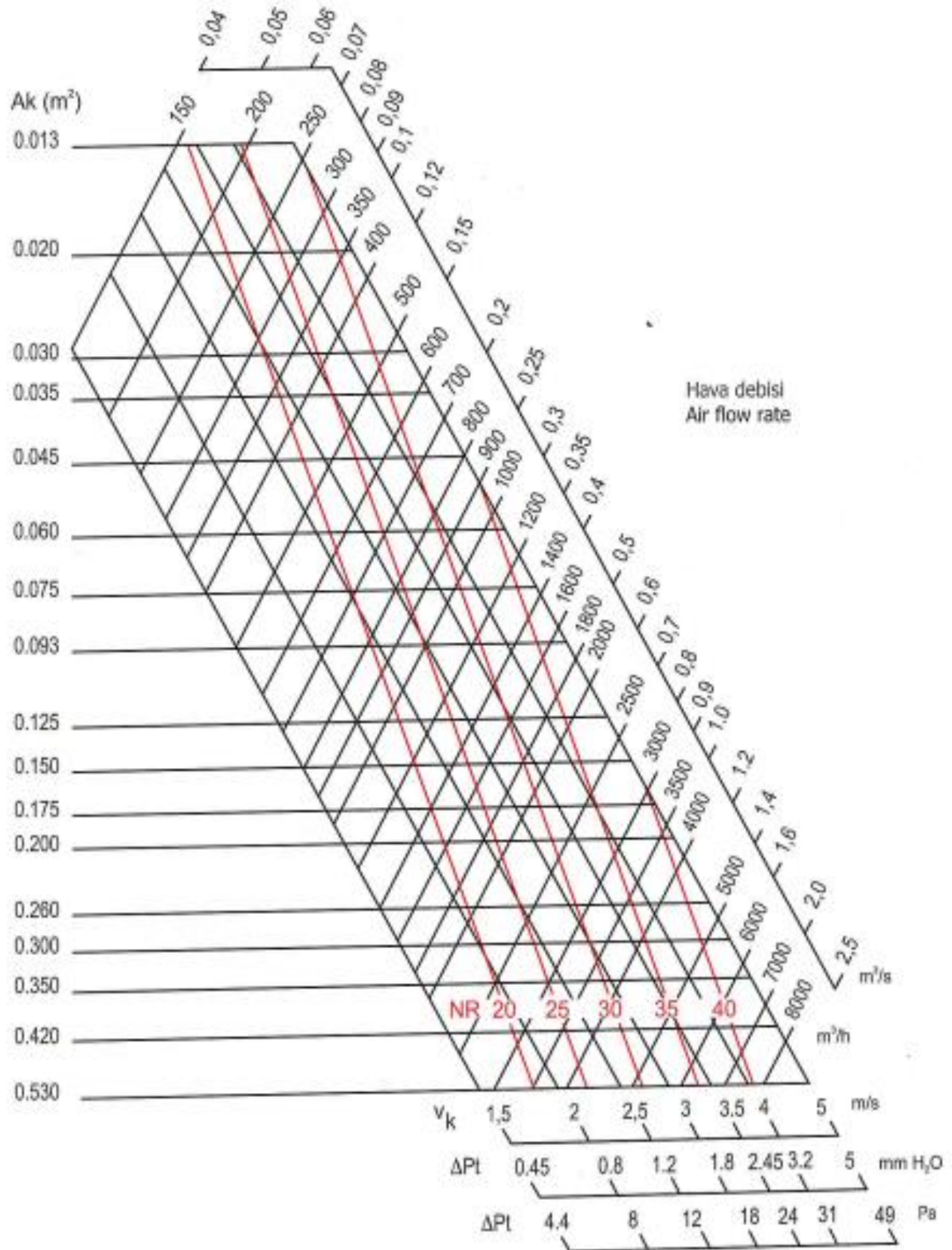


<b>W</b>	<b>100-150-200-250-300-350-400-450-500-600-700-800-900-1000-1100-1200</b>
<b>H</b>	<b>100-150-200-250-300-350-400-450-500-600-700-800-900-1000</b>

**EFFECTIVE AREA**

W*H	100	200	300	400	500	600	700	800	900	1000
100	0,007	0,013	0,0195	0,026	0,0325	0,039	0,0455	0,052	0,0585	0,065
200	0,013	0,026	0,039	0,052	0,065	0,078	0,091	0,104	0,117	0,13
300	0,02	0,039	0,0585	0,078	0,0975	0,117	0,1365	0,156	0,1755	0,195
400	0,026	0,052	0,078	0,104	0,13	0,156	0,182	0,208	0,234	0,26
500	0,033	0,065	0,0975	0,13	0,1625	0,195	0,2275	0,26	0,2925	0,325
600	0,039	0,078	0,117	0,156	0,195	0,234	0,273	0,312	0,351	0,39
700	0,046	0,091	0,1365	0,182	0,2275	0,273	0,3185	0,364	0,4095	0,455
800	0,052	0,104	0,156	0,208	0,26	0,312	0,364	0,416	0,468	0,52
900	0,059	0,117	0,1755	0,234	0,2925	0,351	0,4095	0,468	0,5265	0,585
1000	0,065	0,13	0,195	0,26	0,325	0,39	0,455	0,52	0,585	0,65

ELECTION DIAGRAM





**TOWER EXHAUST LOUVERS- CKP -04**



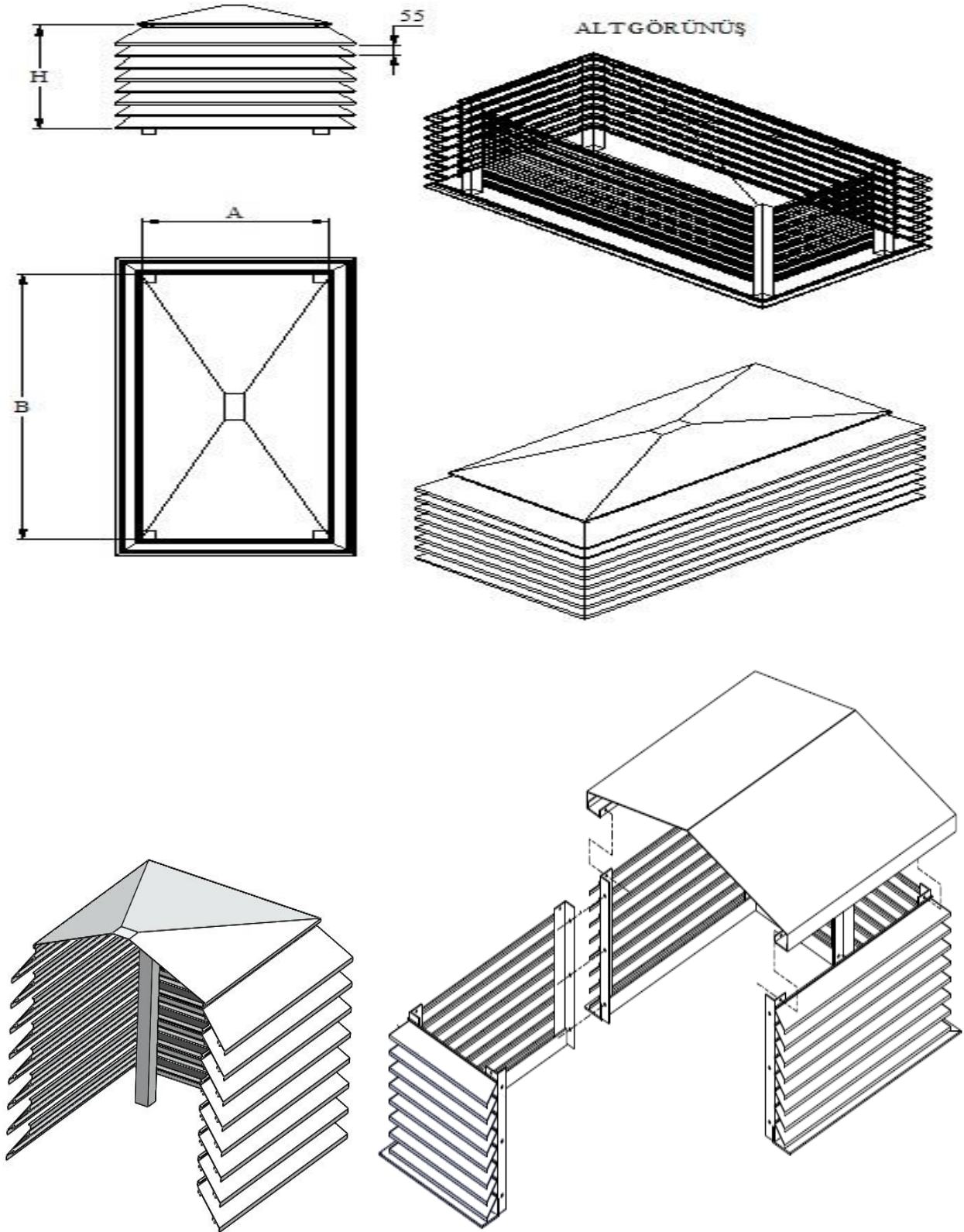
**USAGE AREA AND FEATURES:** It is used as a suction grille in hvac systems. It is used for exhaust and clean air in building shafts and dryers. The wings are manufactured fixed. Standard manufacturing is screwed. The way of mounting can be changed optionally.

**MATERIAL:** Extruded aluminium profile and carcass support profiles-ceiling covering aluminium plate

**SURFACE COATING:** The product can be manufactured in any colour with electrostatic powder paint or without paint.

**ACCESSORIES:** Mosquito net or bird wire

**TECHNICAL MEASUREMENT**

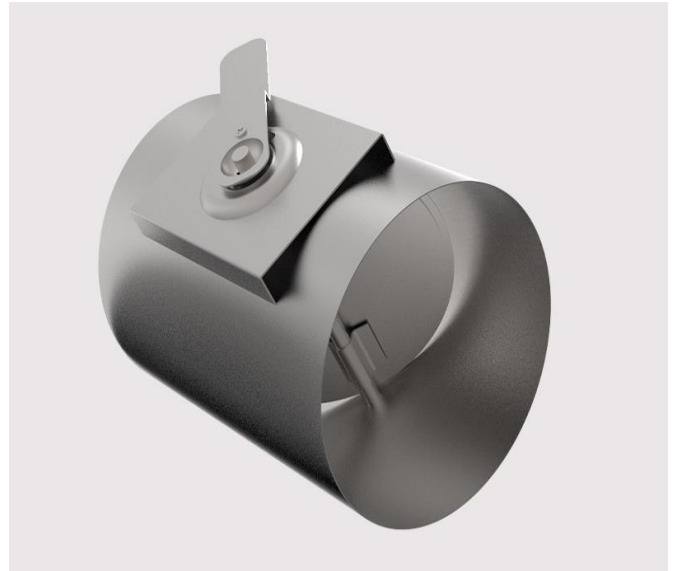
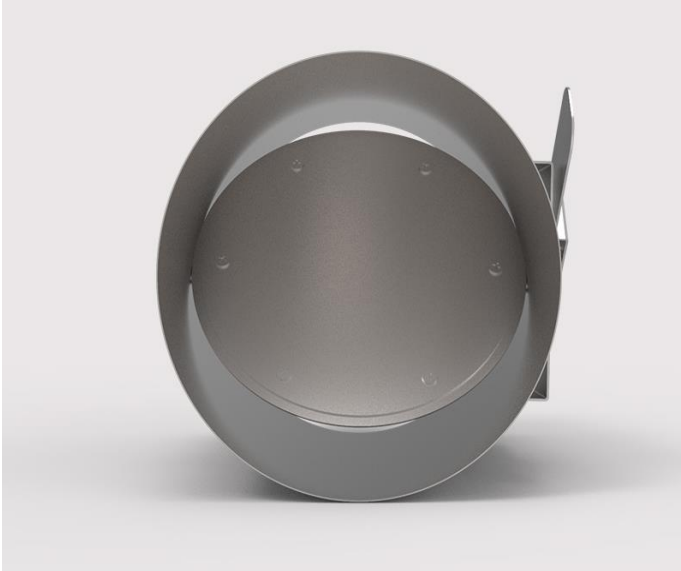




SELECTION TABLE

EFFECTIVE AREA (m <sup>2</sup> )															
DIMENSION Ax B (mm)	HEIGHT (mm)														
	300	400	450	500	600	700	750	800	900	1000	1100	1200	1300	1400	1500
300x300	0,4	0,5													
400x400	0,5	0,6													
500x500	0,6	0,8	0,9	1	1,2										
600x300	0,5	0,7	0,8	0,9	1,1										
600x450	0,6	0,8	1	1,1	1,3										
600x600	0,7	1	1,1	1,2	1,4										
700x400	0,7	0,9	1	1,1	1,3										
700x500	0,7	1	1,1	1,2	1,4										
700x700	0,8	1,1	1,3	1,4	1,7	2									
750x750		1,2	1,4	1,5	1,8	2,1	2,3								
800x400		1	1,1	1,2	1,4	-	-								
800x600		1,1	1,3	1,4	1,7	2	-								
800x800		1,3	1,4	1,6	1,9	2,2	2,4	2,6							
900x450			1,2	1,4	1,6	-	-	-							
900x600			1,4	1,5	1,8	2,1	2,3	-							
900x900			1,6	1,8	2,2	2,5	2,7	2,9	3,2						
1000x500			1,4	1,5	1,8	2,1	2,3	-	-						
1000x750				1,8	2,1	2,5	2,6	2,8	3,2	4					
1000x1000				2	2,4	2,8	3	3,2	3,6	4					
1100x1100				2,2	2,6	3,1	3,3	3,5	4	4	4,8				
1200x600				1,8	2,2	2,5	2,7	2,9	3,2	-	-				
1200x900				2,1	2,5	2,9	3,2	3,4	3,8	-	-				
1200x1200				2,4	2,9	3,4	3,6	3,8	4,3	5	5,3	5,8			
1500x750				2,3	2,7	3,2	3,4	3,6	4,1	5	-	-			
1500x1000				2,5	3	3,5	3,8	4	4,5	5	5,5	6			
1500x1250				2,8	3,3	3,9	4,1	4,4	5	6	6,1	6,6			
1500x1500				3	3,6	4,2	4,5	4,8	5,4	6	6,6	7,2	7,8	8,4	9
1800x900				2,7	3,2	3,8	4,1	4,3	4,9	5	5,9	6,5	-	-	-
1800x1200				3	3,6	4,2	4,5	4,8	5,4	6	6,6	7,2	-	-	-
1800x1800					4,3	5	5,4	5,8	6,5	7	7,9	8,6	9,4	10,1	11
2000x1000					3,6	4,2	4,5	4,8	5,4	6	6,6	7,2	7,8	8,4	9
2000x1500							5,3	5,6	6,3	7	7,7	8,4	9,1	9,8	11
2000x2000							6	6,4	7,2	8	8,8	9,6	10	11,2	12

**VOLUME DAMPERS - CKH -01A**



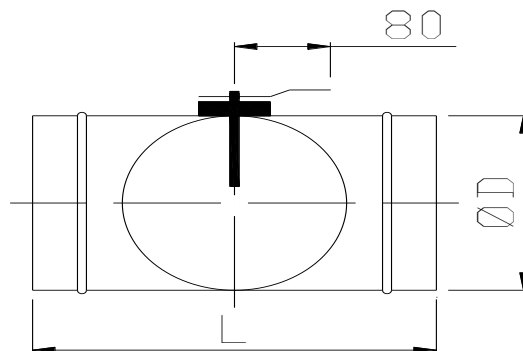
**AREAS OF USE AND FEATURES:** It is used to control the amount of air sucked or blown-in hvac systems and the pressure balance in the ducts. Wing angles are easy to adjust. If desired, it can be locked. Optionally, the engine can be installed, and the desired flow rates can be provided automatically.

**MATERIAL:** Aluminum profile manufactured by the extrusion method

**SURFACE COATING:** The product can be manufactured without anodized coating or paint.

**ACCESSORIES:** Motor

**CKH-01A CIRCULAR AIR DAMPER**



<b>CKH-01A STANDARD DIMENSIONS</b>											
<b>SIZE (mm)</b>	<b>100</b>	<b>110</b>	<b>120</b>	<b>130</b>	<b>140</b>	<b>150</b>	<b>160</b>	<b>180</b>	<b>200</b>	<b>225</b>	<b>250</b>
<b>ØD (mm)</b>	102	112	120	127	140	152	160	180	203	229	254
<b>L (mm)</b>	150	160	170	180	190	200	210	230	250	275	300

**SELECTION DIAGRAMS**

<b>CKH-01A PRESSURE AND SOUND LOSSES FOR TYPE</b>												
<b>AIR VELOCITIES</b>			<b>0,5</b>	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>6</b>	<b>8</b>	<b>10</b>	<b>20</b>	
<b>WING ANGLES</b>	<b>0°</b>	<b>Static Pressure</b>	<b>Pa</b>	-	-	-	2,72	8	9,25	9,75	26,72	78,42
			<b>mmSS</b>	-	-	-	0,29	0,8	0,93	0,99	2,72	7,99
		<b>Sound Value</b>	<b>dBA</b>	-	-	13	20	27	40	48	55	74
	<b>15°</b>	<b>Static Pressure</b>	<b>Pa</b>	-	-	1,46	3,59	5,64	9,05	22,39	40,47	208,44
			<b>mmSS</b>	-	-	0,15	0,37	0,57	0,92	2,28	4,13	21,25
		<b>Sound Value</b>	<b>dBA</b>	-	-	16	23	31	42	51	57	81
	<b>30°</b>	<b>Static Pressure</b>	<b>Pa</b>	-	0,53	4,25	6,96	9,62	25,21	42,24	80,08	599,18
			<b>mmSS</b>	-	0,05	0,43	0,71	0,98	2,57	4,31	8,16	61,08
		<b>Sound Value</b>	<b>dBA</b>	-	7	22	30	39	49	56	66	88
	<b>45°</b>	<b>Static Pressure</b>	<b>Pa</b>	0,58	4,06	9	20,3	33,7	52,68	114,18	418,84	2846,2
			<b>mmSS</b>	0,06	0,41	0,92	2,07	3,44	5,37	11,64	42,7	290,13
		<b>Sound Value</b>	<b>dBA</b>	-	16	30	40	50	56	65	79	-
	<b>60°</b>	<b>Static Pressure</b>	<b>Pa</b>	6,53	17,5	44,34	77,92	196,65	485,6	1438,4	3567,8	-
			<b>mmSS</b>	0,67	1,78	4,52	7,94	20,05	-	146,63	-	-
		<b>Sound Value</b>	<b>DbA</b>	18	33	50	56	63	77	91	-	-
	<b>75°</b>	<b>Static Pressure</b>	<b>Pa</b>	59,08	283,93	1221,6	2976	4839,1	-	-	-	-
			<b>mmSS</b>	6,02	28,94	124,53	303,36	493,28	-	-	-	-
		<b>Sound Value</b>	<b>dBA</b>	53	65	89	-	-	-	-	-	-

**VOLUME DAMPER - CKH -01**



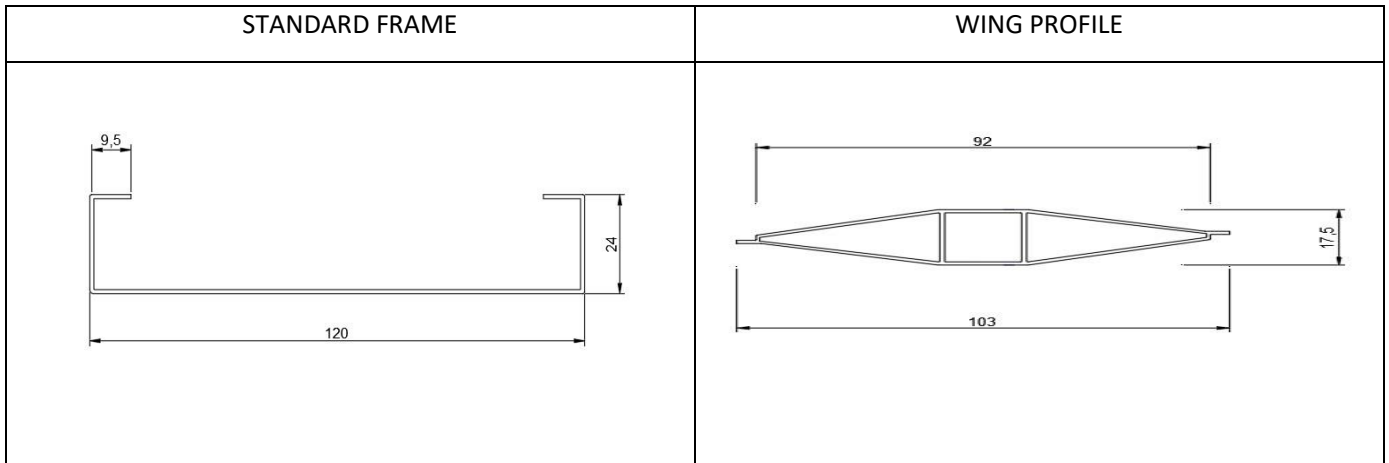
**AREAS OF USE AND FEATURES:** It is used to control the amount of air sucked or blown-in HVAC systems and the pressure balance in the ducts. Wing angles are easy to adjust. If desired, it can be locked. Optionally, the engine can be installed, and the desired flow rates can be provided automatically.

**MATERIAL:** Aluminum profile manufactured by the extrusion method

**SURFACE COATING:** The product can be manufactured without anodized coating or paint.

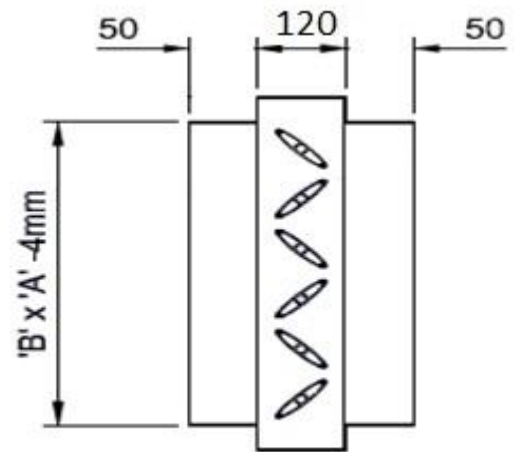
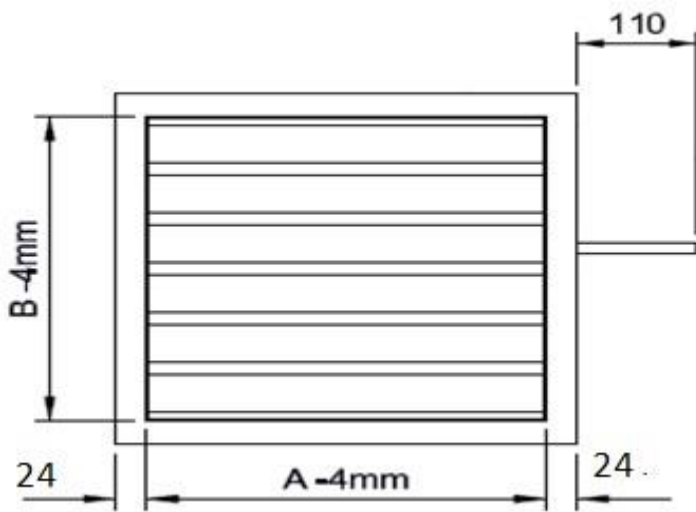
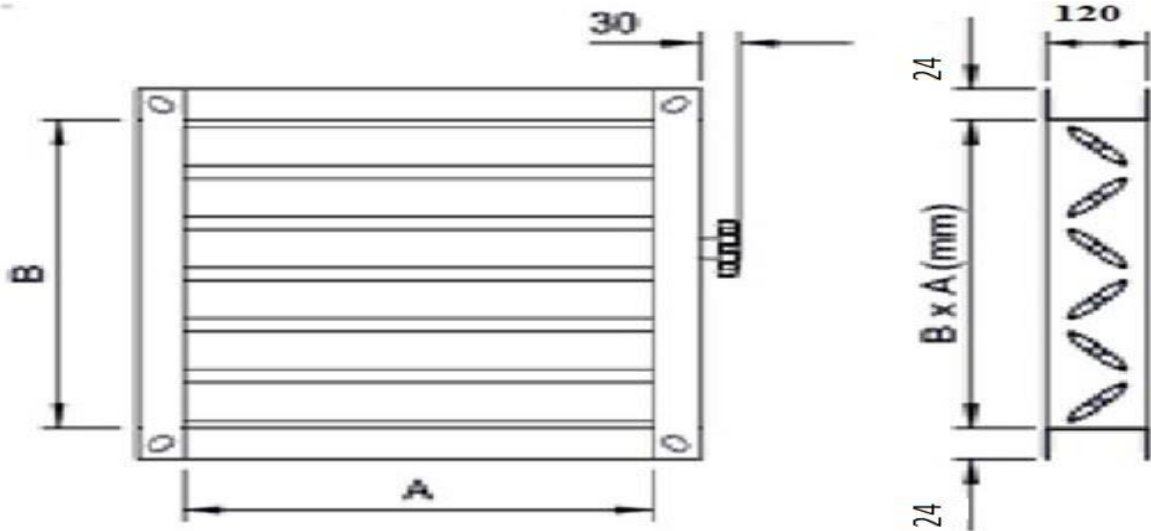
**ACCESSORIES:** Motor

**FRAME AND WING MODELS**

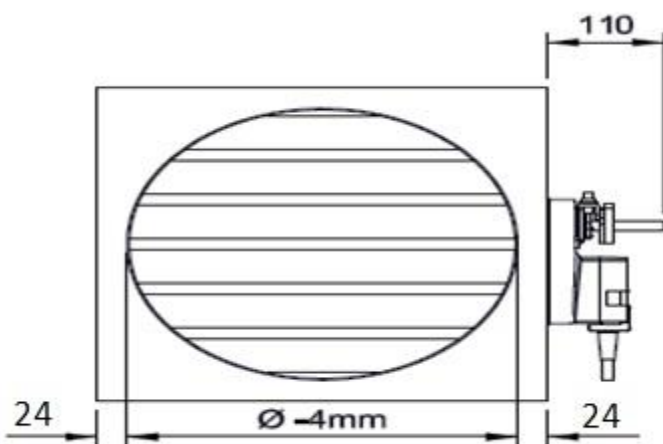


**TECHNICAL MEASUREMENT**

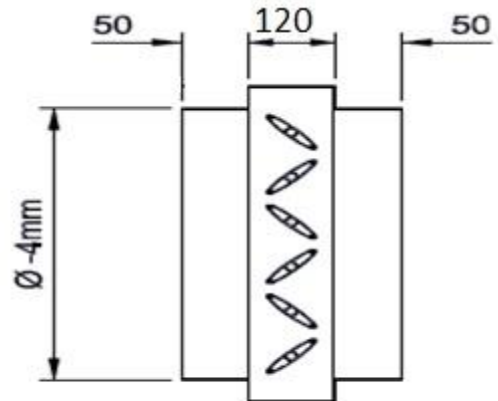
W	100-150-200-250-300-350-400-450-500-600-700-800-900-1000-1100-1200
H	100-150-200-250-300-350-400-450-500-600-700-800-900-1000



CKH-01

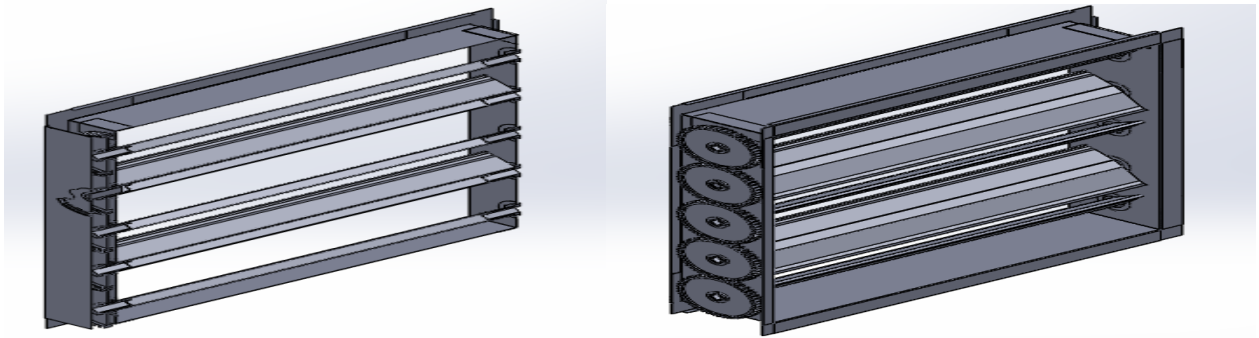


CKH-01M



CKH-01MB

**DAMPER SECTION VIEW**



**SELECTION DIAGRAMS**

<b>CKH-01 PRESSURE AND SOUND LOSSES FOR TYPE</b>												
<b>AIR VELOCITIES</b>			<b>0,5</b>	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>6</b>	<b>8</b>	<b>10</b>	<b>20</b>	
<b>WING ANGLES</b>	<b>0°</b>	<b>Static Pressure</b>	<b>Pa</b>	-	1	4,5	7,16	7,5	24,77	42,39	78,89	648,3
			<b>mmSS</b>	-	0,1	0,46	0,72	0,76	2,52	4,32	8,04	66,09
		<b>Sound Value</b>	<b>dB(A)</b>	-	16	30	40	46	53	59	70	90
	<b>15°</b>	<b>Static Pressure</b>	<b>Pa</b>	0,5	3,98	8,54	17,46	31,23	47,86	93,14	363,78	1580,9
			<b>mmSS</b>	0,05	0,41	0,87	1,78	3,18	4,88	9,49	37,08	161,15
		<b>Sound Value</b>	<b>dB(A)</b>	10	22	38	46	53	58	70	81	-
	<b>30°</b>	<b>Static Pressure</b>	<b>Pa</b>	4,49	9,05	31,12	45,45	76,61	237,97	575,85	1713,4	5384,7
			<b>mmSS</b>	0,46	0,92	3,17	4,63	7,81	24,26	58,7	174,66	548,9
		<b>Sound Value</b>	<b>dB(A)</b>	20	32	49	55	60	71	83	95	-
	<b>45°</b>	<b>Static Pressure</b>	<b>Pa</b>	9,78	24,36	79,98	239,24	474,35	1314,1	3384,8	5887,3	-
			<b>mmSS</b>	1	2,48	8,15	24,39	48,35	133,96	345,04	600,13	-
		<b>Sound Value</b>	<b>dB(A)</b>	31	47	58	68	78	89	-	-	-
	<b>60°</b>	<b>Static Pressure</b>	<b>Pa</b>	49,98	276,12	952,23	2503,1	-	-	-	-	-
			<b>mmSS</b>	5,09	28,15	97,07	255,16	-	-	-	-	-
		<b>Sound Value</b>	<b>dB(A)</b>	52	62	84	95	-	-	-	-	-
	<b>75°</b>	<b>Statik Basınç</b>	<b>Pa</b>	362,67	1530,1	4538,1	6011,2	-	-	-	-	-
			<b>mmSS</b>	36,97	155,97	462,6	612,76	-	-	-	-	-
		<b>Sound Value</b>	<b>dB(A)</b>	70	90	-	-	-	-	-	-	-

**BACK DRAFT DAMPER - CKH -02 / CKH-02A**



CKH-02



CKH-02A

**AREAS OF USE AND FEATURES:** It is used as a return damper for low-pressure relief applications such as 10-50 Pa in hvac systems. Airspeed can be used up to 10 m / s.

**MATERIAL:** Case galvanized - wings are made of twisted aluminium plate.

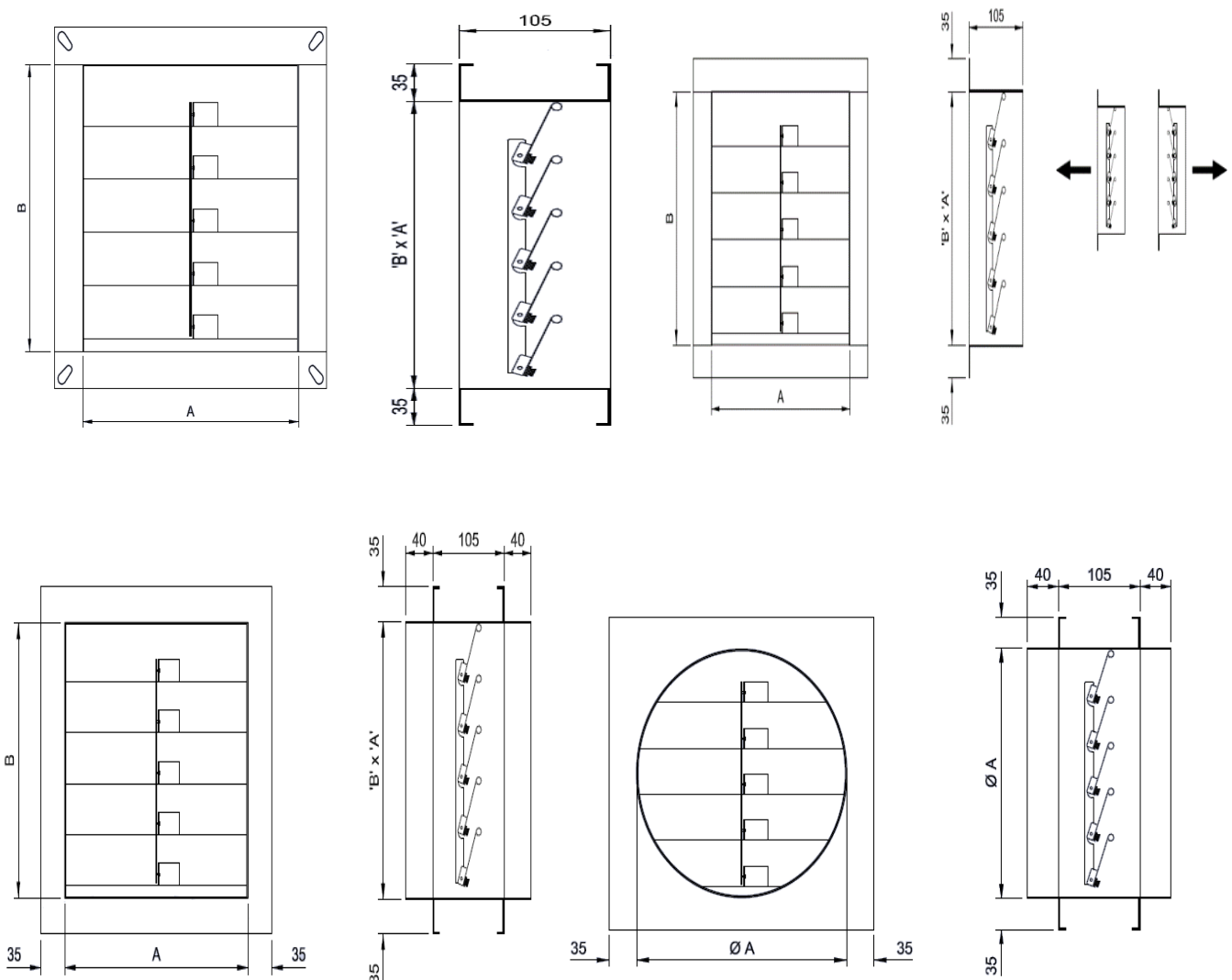
**SURFACE COATING:** It can be manufactured from the galvanized plate without paint.



**TECHNICAL MEASUREMENT**

<b>W</b>	<b>100-150-200-250-300-350-400-450-500-600-700-800-900-1000-1100-1200</b>
<b>H</b>	<b>100-150-200-250-300-350-400-450-500-600-700-800-900-1000</b>

**DAMPER SECTION VIEWS**



**ELECTION DIAGRAM**

**CKH-02A**

ØD	H	ØD	H
100	140	450	510
125	195	500	580
150	210	550	640
200	260	600	700
250	320	650	770
300	385	700	770
350	385	750	830
400	460	800	895

		PRESURE LOSS (Pa)								
AIR SPEED (m/s)		2	3	4	5	6	7	8	9	10
Model 1	30° CLOSED	3	9	22	47	75	110	140	190	220
	15° CLOSED	-	-	2	6	12	22	32	46	60
	OPEN	-	-	-	-	-	-	-	2	3
Model 2	30° CLOSED	-	12	21	35	55	75	90	110	150
	15° CLOSED	-	4	7	11	18	23	30	40	48
	OPEN	-	-	2	4	5	7	9	11	14
Model 3	30° CLOSED <sub>1</sub>	-	11	33	50	68	95	120	140	200
	15° CLOSED	-	-	-	-	5	20	32	44	55
	OPEN	-	-	-	-	-	-	5	12	21

**CONTROL COVERS - ACCESS DOORS - CKK-01**

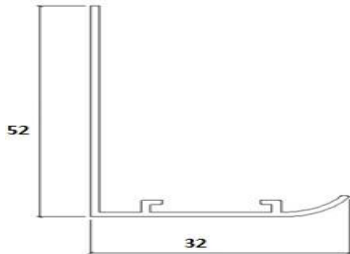


**AREAS OF USE AND FEATURES:** Intervention covers are used at the points to be reached when necessary. It is used for purposes such as a valve, valve, electrical control and device maintenance in duct and ceiling applications. The intervention cover surface can be a sheet or can be used as a grill. Standard production is with hidden screw Mounting type can be changed upon request.

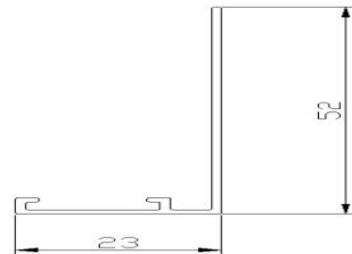
**MATERIAL:** Aluminum profile manufactured by case extrusion method - Wing 1 mm. From galvanized plate

**SURFACE COATING:** The product can be manufactured in any colour with electrostatic powder paint.

**STANDART FRAME**



**NARROW FRAME**



**TECHNICAL MEASUREMENT**

<b>W</b>	<b>250-300-350-400-450-500-600-700-800-900-1000</b>
<b>H</b>	<b>250-300-350-400-450-500-600</b>



**CONTROL COVER - ACCESS DOORS -ISOLATED - CKK-02**

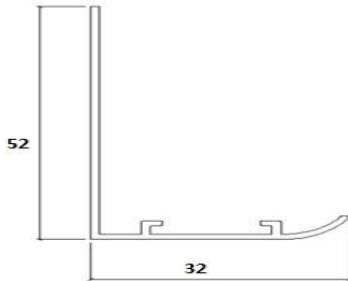


**AREAS OF USE AND FEATURES:** Intervention covers are used at the points to be reached when necessary. It is used for purposes such as valves, valves, electrical control and device maintenance in applications requiring sealing in ducts and ceilings. The intervention cover is manufactured with the surface insulated. Standard manufacturing is screwed.

**MATERIAL:** Aluminium profile manufactured by case extrusion method - Wing 1 mm. The inner surface of the galvanized plate is isolated with rock wool.

**SURFACE COATING:** The product can be manufactured in any colour with electrostatic powder paint.

**STANDART FRAME**

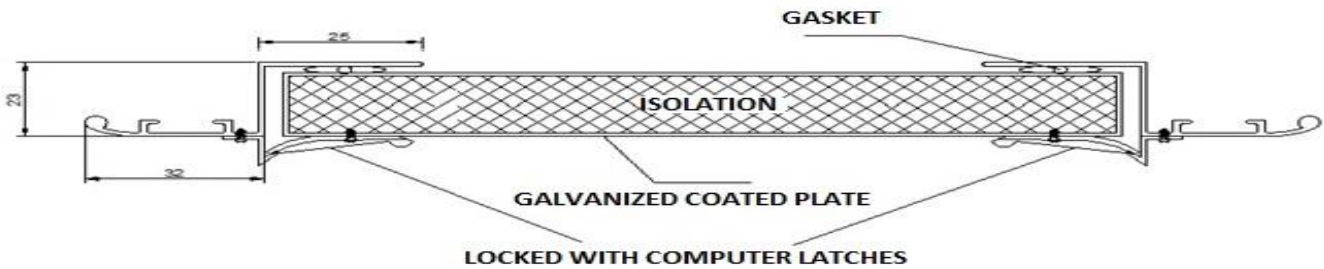


**NARROW FRAME**

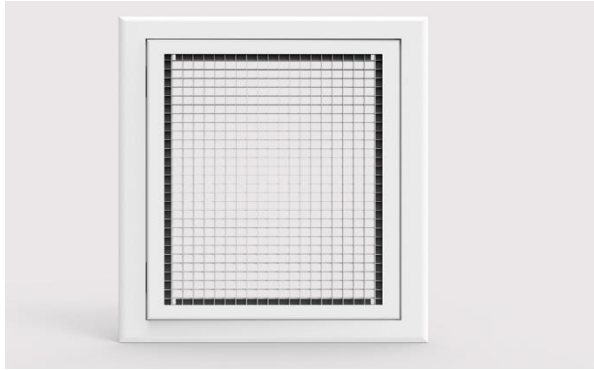


**TECHNICAL MEASUREMENT**

<b>W</b>	<b>250-300-350-400-450-500-600-700-800-900-1000</b>
<b>H</b>	<b>250-300-350-400-450-500-600</b>



**EGG CRATE CONTROL COVERS - ACCESS DOORS - CKK-03**

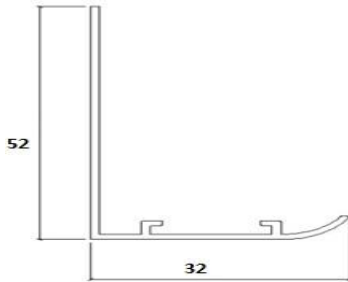


**AREAS OF USE AND FEATURES:** Intervention covers are used at points to be reached when necessary. It is used for purposes such as a valve, valve, electrical control and device maintenance in duct and ceiling applications. The intervention cover surface can also be used as a suction grille. Standard production is with hidden screw Mounting type can be changed upon request.

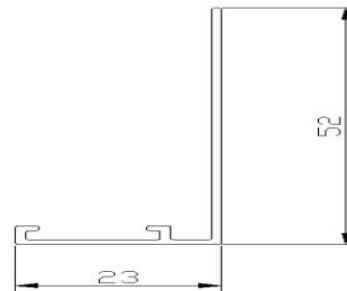
**MATERIAL:** Aluminium profile manufactured by case extrusion method - Wing 1 mm. From galvanized plate

**SURFACE COATING:** The product can be manufactured in any colour with electrostatic powder paint.

**STANDART FRAME**



**NARROW FRAME**



**TECHNICAL MEASUREMENT**

<b>W</b>	<b>250-300-350-400-450-500-600-700-800-900-1000</b>
<b>H</b>	<b>250-300-350-400-450-500-600</b>



**LINEER CONTROL COVERS - ACCESS DOORS - CKK-04**

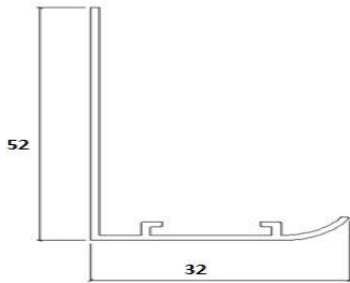


**AREAS OF USE AND FEATURES:** Intervention covers are used at points to be reached when necessary. It is used for purposes such as a valve, valve, electrical control and device maintenance in duct and ceiling applications. The intervention cover surface can also be used as a suction grille. Standard production is with hidden screw Mounting type can be changed upon request.

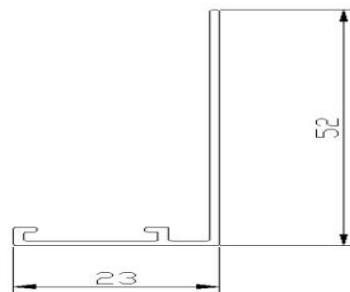
**MATERIAL:** Aluminium profile manufactured by case extrusion method - Wing 1 mm. From galvanized plate

**SURFACE COATING:** The product can be manufactured in any colour with electrostatic powder paint.

**STANDART FRAME**



**NARROW FRAME**

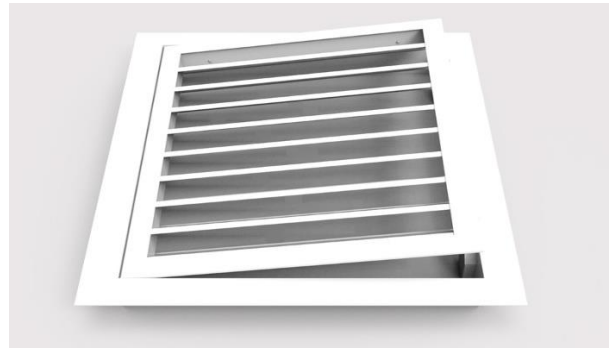
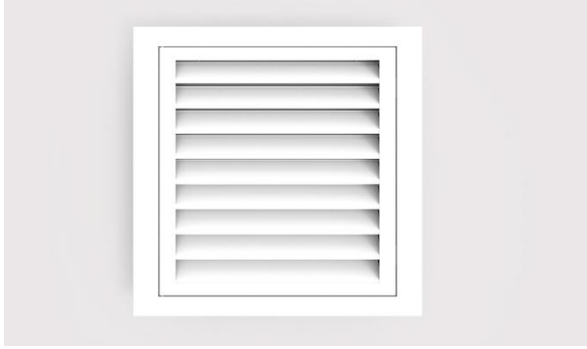


**TECHNICAL MEASUREMENT**

<b>W</b>	<b>250-300-350-400-450-500-600-700-800-900-1000</b>
<b>H</b>	<b>250-300-350-400-450-500-600</b>



**LOUVER CONTROL COVERS - ACCESS DOORS - CKK-05**

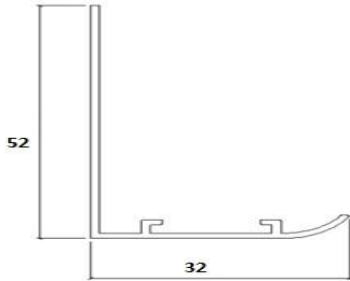


**AREAS OF USE AND FEATURES:** Intervention covers are used at points to be reached when necessary. It is used for purposes such as a valve, valve, electrical control and device maintenance in duct and ceiling applications. The intervention cover surface can also be used as a suction grille. Standard production is with hidden screw Mounting type can be changed upon request.

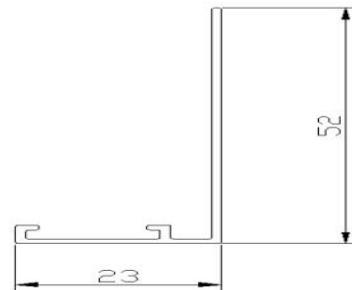
**MATERIAL:** Aluminium profile manufactured by case extrusion method - Wing 1 mm. From galvanized plate

**SURFACE COATING:** The product can be manufactured in any colour with electrostatic powder paint.

**STANDART FRAME**



**NARROW FRAME**



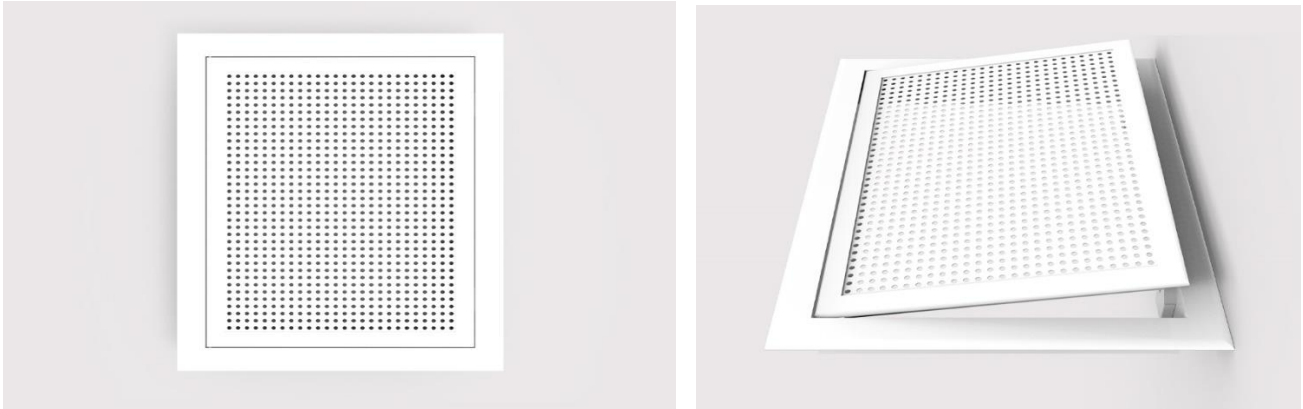
**TECHNICAL MEASUREMENT**

<b>W</b>	<b>250-300-350-400-450-500-600-700-800-900-1000</b>
<b>H</b>	<b>250-300-350-400-450-500-600</b>





**PERFORATED CONTROL COVERS - ACCESS DOORS - CKK-06**

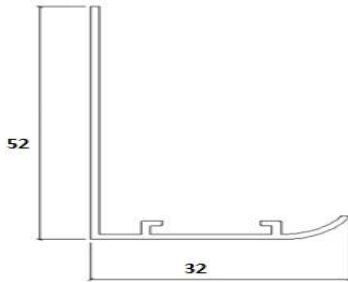


**AREAS OF USE AND FEATURES:** Intervention covers are used at points to be reached when necessary. It is used for purposes such as valve, valve, electrical control and device maintenance in duct and ceiling applications. The intervention cover surface can also be used as a suction grille. Standard production is with hidden screw Mounting type can be changed upon request.

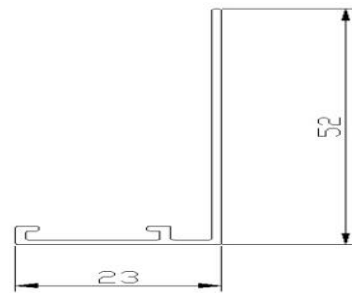
**MATERIAL:** Aluminum profile manufactured by case extrusion method - Wing 1 mm. From galvanized plate

**SURFACE COATING:** The product can be manufactured in any color with electrostatic powder paint.

**STANDART FRAME**



**NARROW FRAME**



**TECHNICAL MEASUREMENT**

<b>W</b>	<b>250-300-350-400-450-500-600-700-800-900-1000</b>
<b>H</b>	<b>250-300-350-400-450-500-600</b>



**SMOKE DAMPERS PRISMATIC – CKYD-01-01A**



**CKYD-01**



**CKYD-01A**

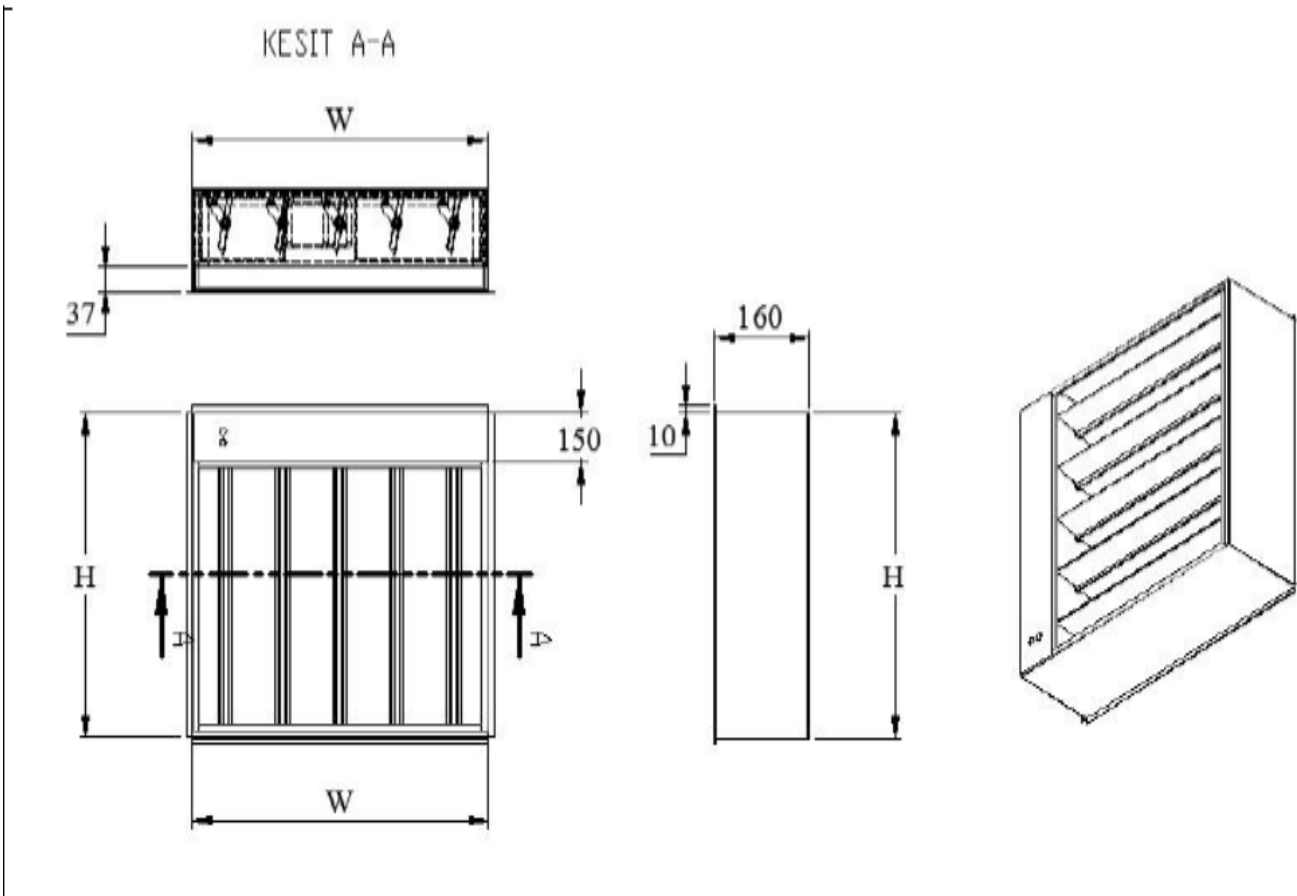
**Usage area and features:** It is used in ventilation systems to prevent the smoke emitted during the fire from accumulating from people's escape routes. The damper fire signal of the desired region opens automatically by commanding the servo motor at the relevant point, quickly making the environment not affected by people. The degree of sealing complies with EN 1751 Class –C. It is kept in a closed position other than the fire and controlled by the engine.

**Material:** CKYD-01 Smoke Dampers 1,2 mm. It is produced from the galvanized plate by cold rivet method without welding. The blades are manufactured from the extruded aluminium profile. The wings operate in bronze bearings that do not require lubrication.

**Assembly:** Bolted as standard.

**Surface coating:** Galvanized coating

STANDARD DIMENSIONS – CKYD-01	
<b>W</b>	300 – 400 – 500 – 600 – 700 – 800 – 900 – 1000 -1100-1200-1300-1400-1500-1600-1700-1800-1900-2000
<b>H</b>	300 – 400 – 500 – 600 – 700 – 800 – 900 – 1000



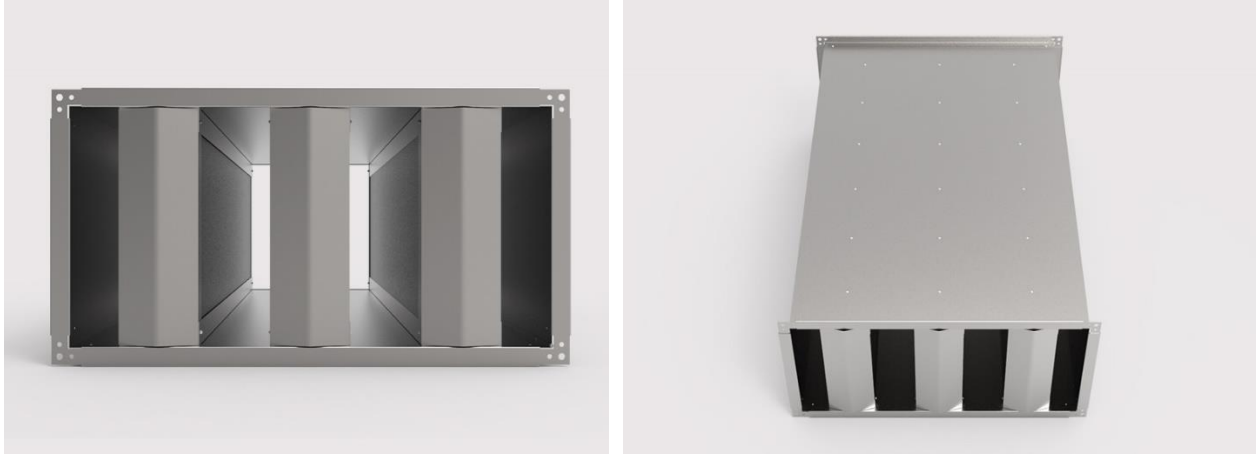
**MAX. IN STANDARD MANUFACTURES. EFFECTIVE AREA**

		W							
		300	400	500	600	700	800	900	1000
H	300	0,039	0,069	0,099	0,129	0,159	0,189	0,219	0,249
	400	0,052	0,092	0,132	0,172	0,212	0,252	0,292	0,332
	500	0,065	0,115	0,165	0,215	0,265	0,315	0,365	0,415
	600	0,078	0,138	0,198	0,258	0,318	0,378	0,438	0,498
	700	0,091	0,161	0,231	0,301	0,371	0,441	0,511	0,581
	800	0,104	0,184	0,264	0,344	0,424	0,504	0,584	0,664
	900	0,117	0,207	0,297	0,387	0,477	0,567	0,657	0,747
	1000	0,130	0,230	0,330	0,430	0,530	0,630	0,730	0,830

**PRESSURE AND SOUND LOSSES FOR SMOKE DAMPERS**

AIR SPEED			0,5	1	2	3	4	6	8	10	20	
WING ANGLES	0°	STATIC PRESSURE	Pa	-	1	4,5	7,16	9,75	24,77	42,39	78,89	648,3
			mmSS	-	0,1	0,46	0,73	0,99	2,52	4,32	8,04	66,09
		SOUND LEVEL	dBa	-	16	30	40	46	53	59	70	90
	15°	STATIC PRESSURE	Pa	0,5	3,98	8,54	17,46	31,23	47,86	93,14	363,78	1580,9
			mmSS	0,05	0,41	0,87	1,78	3,18	4,88	9,49	37,08	161,15
		SOUND LEVEL	dBa	10	22	38	46	53	58	70	81	-
	30°	STATIC PRESSURE	Pa	4,49	9,05	31,12	45,45	76,61	237,97	575,85	1713,4	5384,7
			mmSS	0,46	0,92	3,17	4,63	7,81	24,26	58,7	174,66	548,9
		SOUND LEVEL	dBa	20	32	49	55	60	71	83	95	-
	45°	STATIC PRESSURE	Pa	9,78	24,36	79,98	239,24	474,35	1314,1	3384,8	5887,3	-
			mmSS	1	2,48	8,15	24,39	48,35	133,96	345,04	600,13	-
		SOUND LEVEL	dBa	31	47	58	68	78	89	-	-	-
60°	STATIC PRESSURE	Pa	49,98	276,12	952,23	2503,1	-	-	-	-	-	
		mmSS	5,09	28,15	97,07	255,16	-	-	-	-	-	
	SOUND LEVEL	dBa	52	62	84	95	-	-	-	-	-	
75°	STATIC PRESSURE	Pa	362,67	1530,1	4538,1	6011,2	-	-	-	-	-	
		mmSS	36,97	155,97	462,6	612,76	-	-	-	-	-	
	SOUND LEVEL	dBa	70	90	-	-	-	-	-	-	-	

**SOUND ATTENUATORS PRISMATIC – CKS-01**



**USAGE AREA AND FEATURES:** It is used in ventilation systems to provide the ideal sound level at the device connections and outputs of the air ducts.

**MATERIAL:** 1 mm. It is produced from the galvanized plate by cold rivet method without welding. The backstage is filled with rock wool of 50 kg / m<sup>3</sup> density. The backstage surfaces are covered with glass wool covered with rock wool. Optionally, the galvanized perforated plate is coated to reinforce it. Cassette thicknesses are manufactured as 100-200-300 mm.

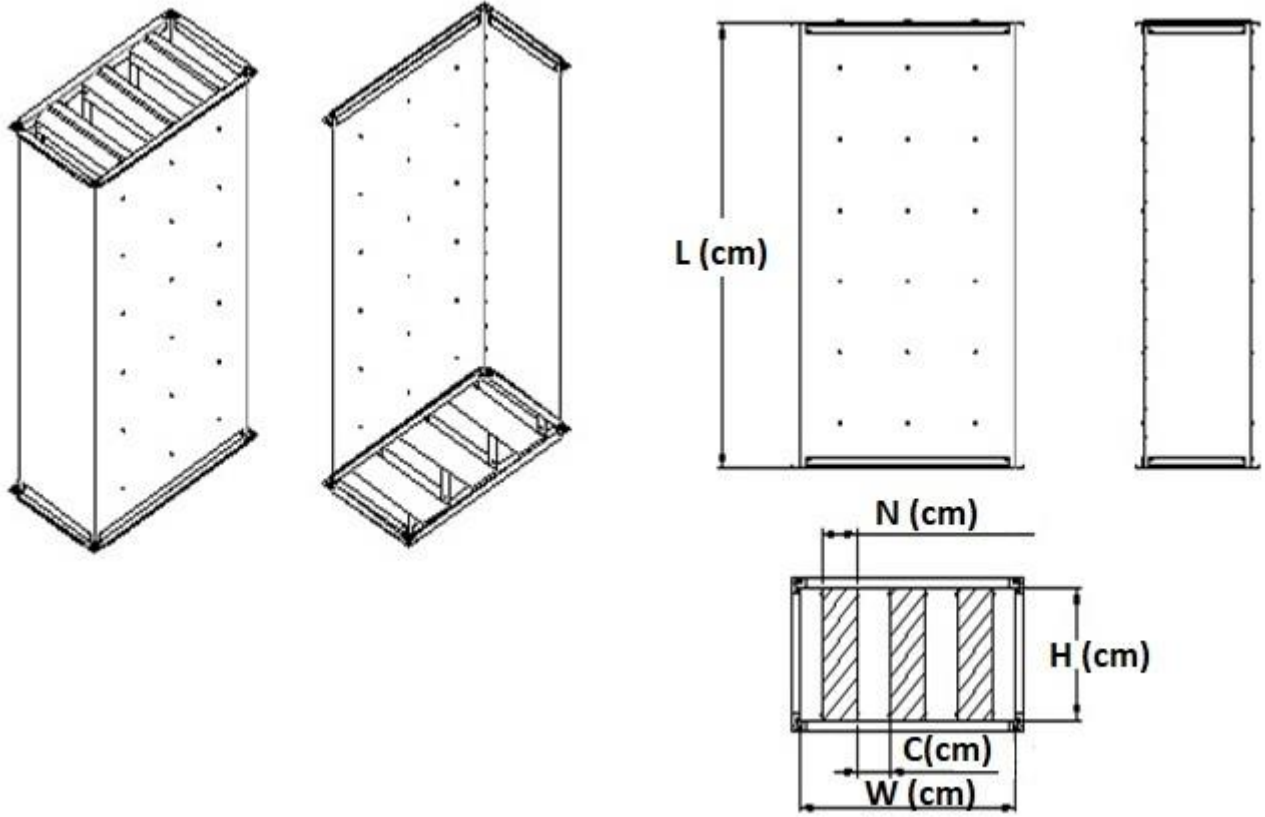
**ASSEMBLY:** Bolted as standard.

**SURFACE COATING:** It is manufactured from the galvanized plate without paint.

**SOUND LEVELS AVAILABLE**

		NR	dB(A)
HOSPITALS	SPECIAL ROOMS	25-35	30-40
	OPERATING ROOMS	30-40	35-45
	LABORATORIES, HOLLER	40-40	35-45
	WAITING ROOMS	35-45	40-50
OFFICES	MANAGEMENT ROOMS	20-30	25-35
	CONFERENCE ROOMS	25-35	30-40
	OPEN OFFICES	30-40	35-45
	COMPUTER ROOMS	40-60	45-65
HOTEL, RESTAURANT AND STORES	MANAGEMENT ROOMS	25-35	30-40
	CONFERENCE ROOMS	30-40	35-45
	OPEN OFFICES	30-40	35-45
	COMPUTER ROOMS	40-50	45-55
HOUSING	SINGLE FAMILY PLACES (HOLIDAY PLACE)	20-30	25-35
	SINGLE FAMILY PLACES (CITY)	25-35	30-40
	APARTMENTS	30-40	35-45
FACTORIES	LIGHT MACHINE PRODUCTION	45-65	50-70
	HEAVY MACHINE, CASTING MACHINE	55-75	60-80
LARGE BUILDINGS	RADIO AND TV STUDIOS	20-25	25-30
	CONCERT AND OPERA HALLS	20-30	25-35
	Mosques and churches	20-30	25-35
	THEATERS AND HALLS	20-30	25-35
	LIBRARIES - MUSEUMS	20-30	25-35
	SCHOOLS - CLASSES	25-35	30-40
	CINEMA AND SHOW HALLS	30-40	35-45
	VISITING HALLS	35-45	40-50
	DANGEROUS LIMIT		85

TEKNICAL DIMENSIONS



**SYMBOLS:**

V: Air flow

n: Number of Cassettes

s: Air Passage Range

vt: Air Velocity in  $W * H$  section

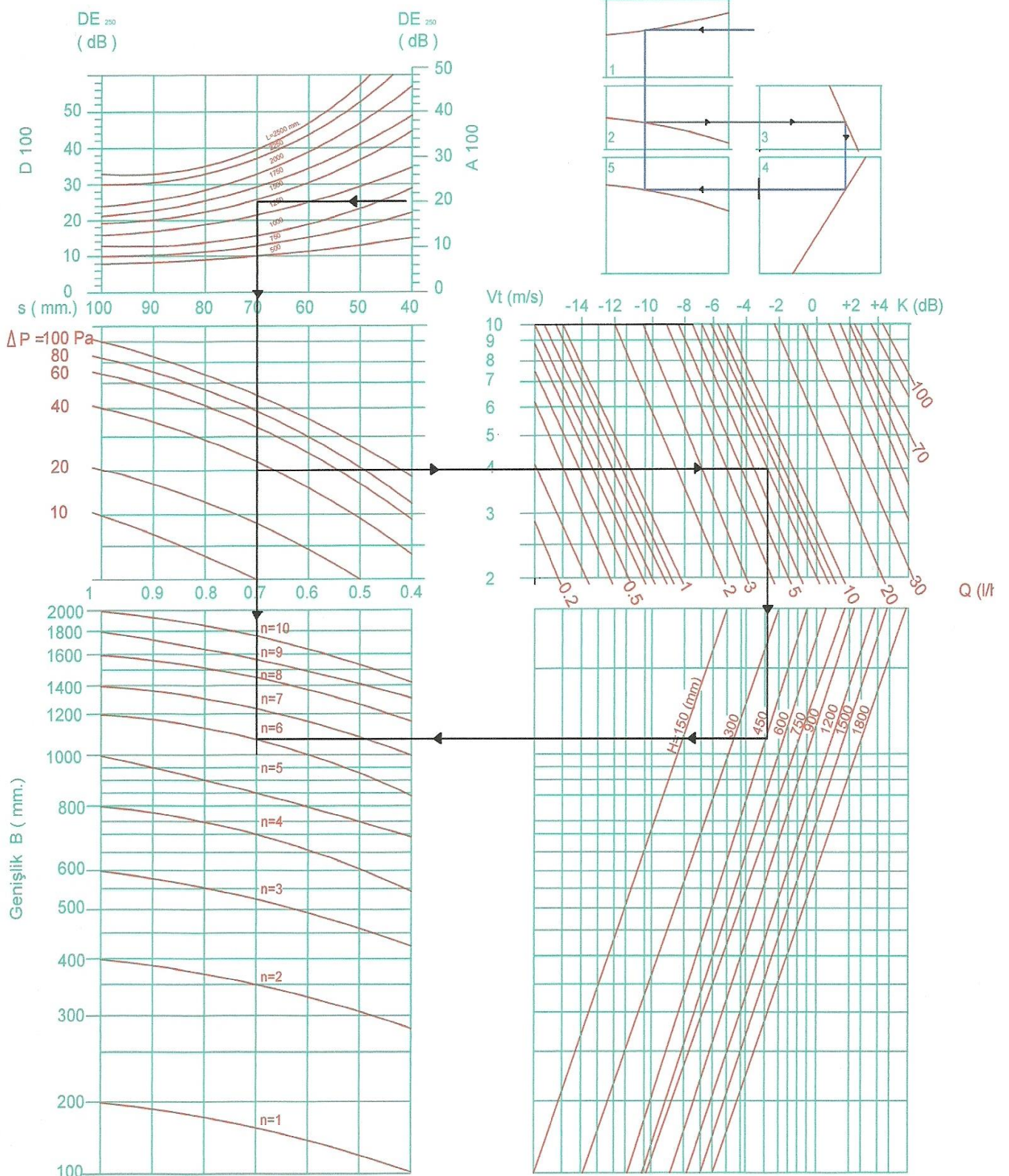
vs: Air Velocity in Air Passage Range

:P: Pressure Loss

f (Hz): Frequency in the octave band

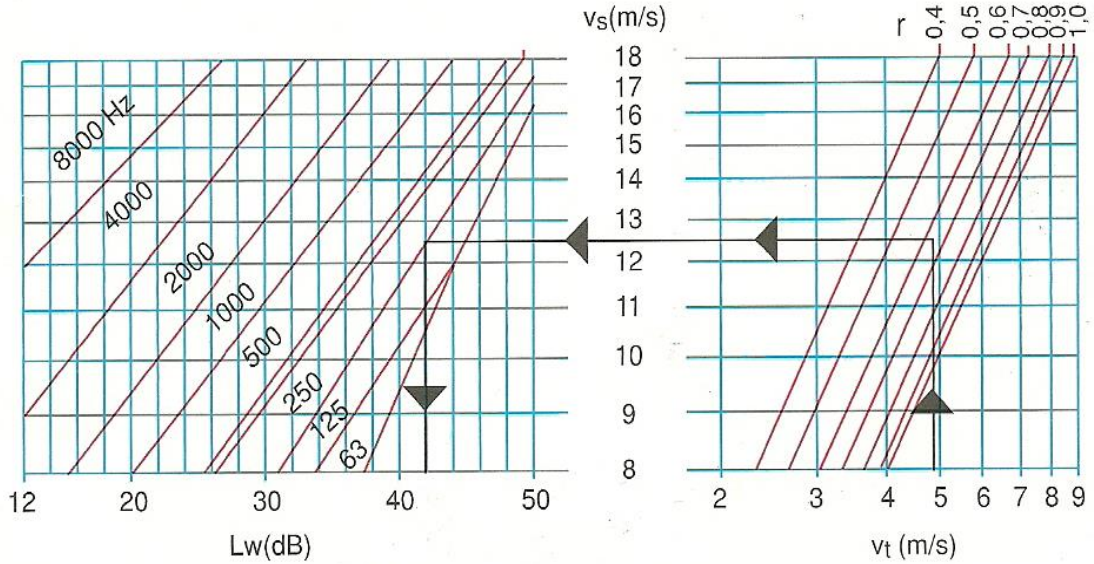
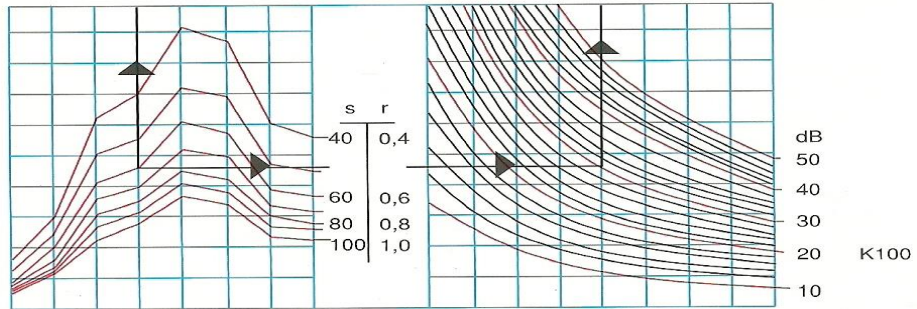
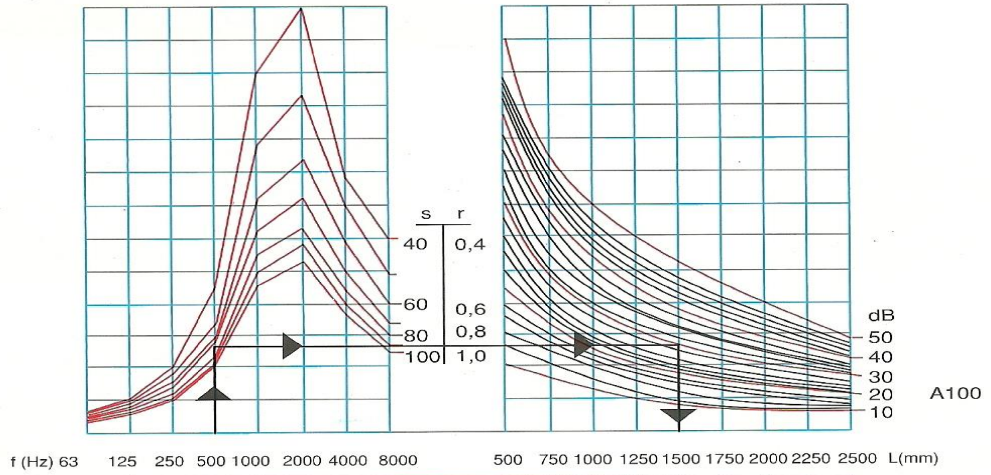


SOUND DIAGRAM FOR 100 mm CASSETTE



Sound drop depending on frequency DE (dBa) -D-100 / A 100



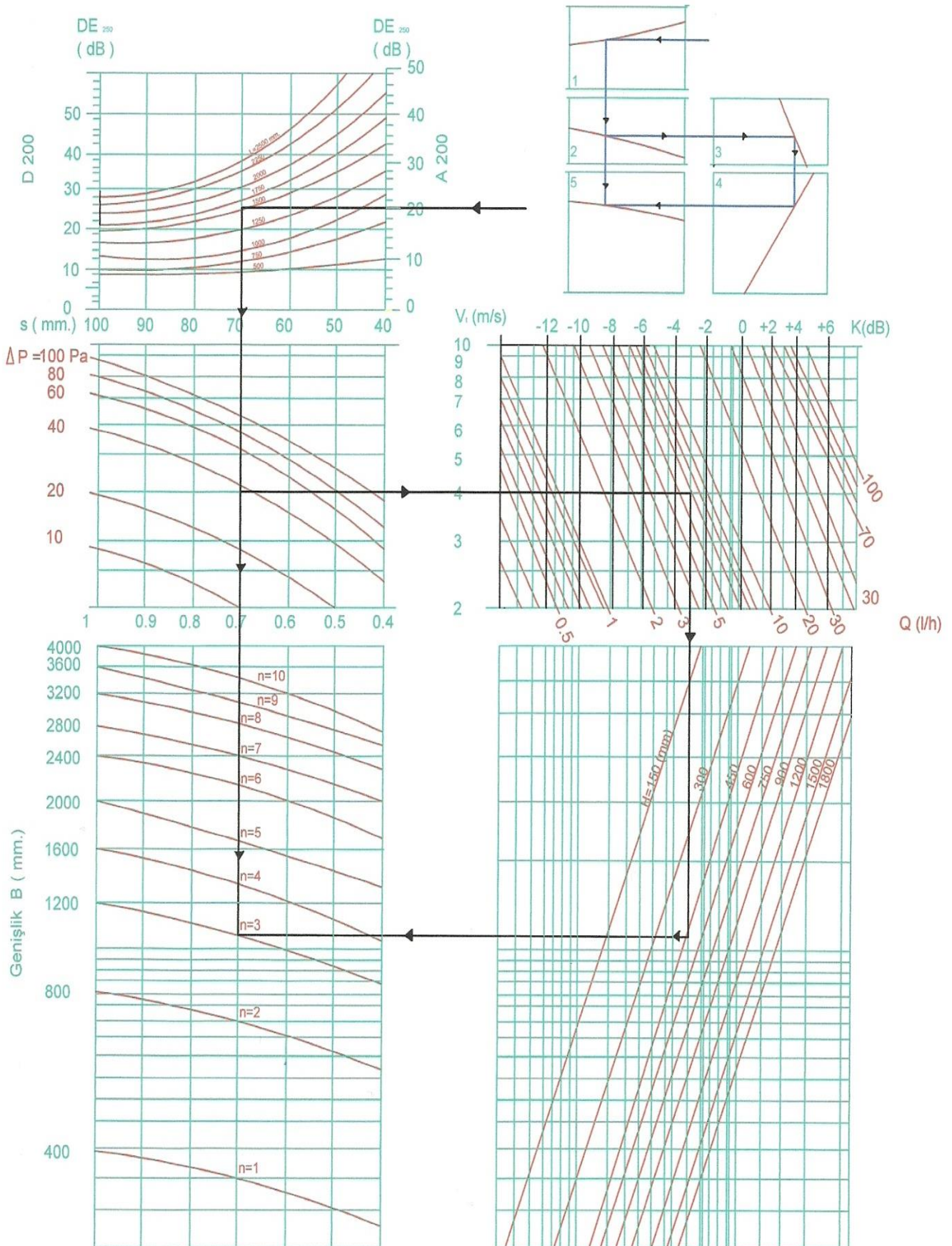


Refreshed vibration level drop:  $L_{yeni} = L_w + K$

K values will be taken from the table below depending on the cross section area perpendicular to the flow.

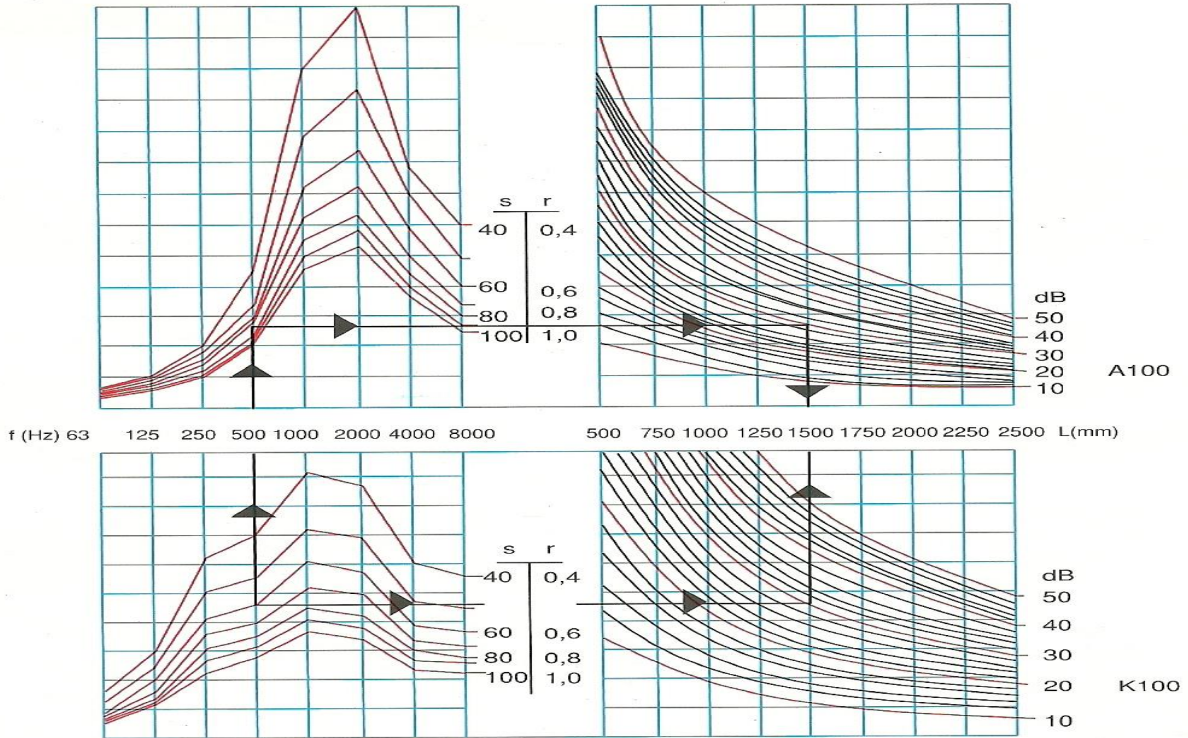
F=W*H (m <sup>2</sup> )	0,06	0,1	0,25	0,75	1,0	1,25	1,5	2,0	3,0	4,0
K(dB)	-12	-10	-6	-1	0	+1	+2	+3	+5	+6

**SOUND DIAGRAM FOR 200 mm CASSETTE**

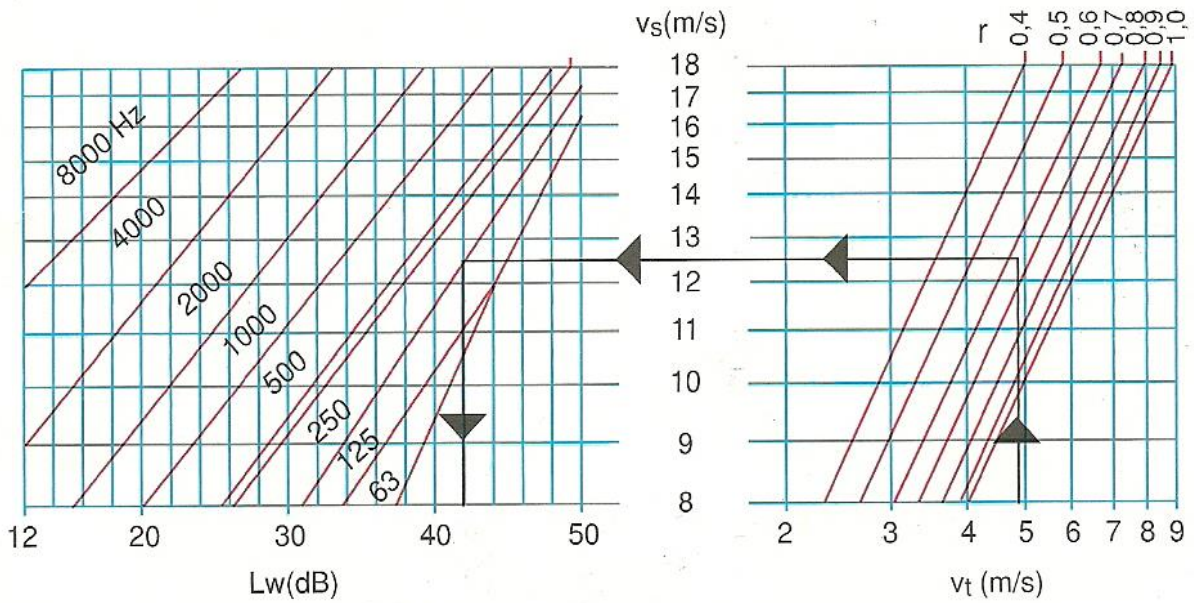




Sound drop depending on frequency DE (dB) -D-200 / A 200



Corrected sound drop (Lw) depending on frequency

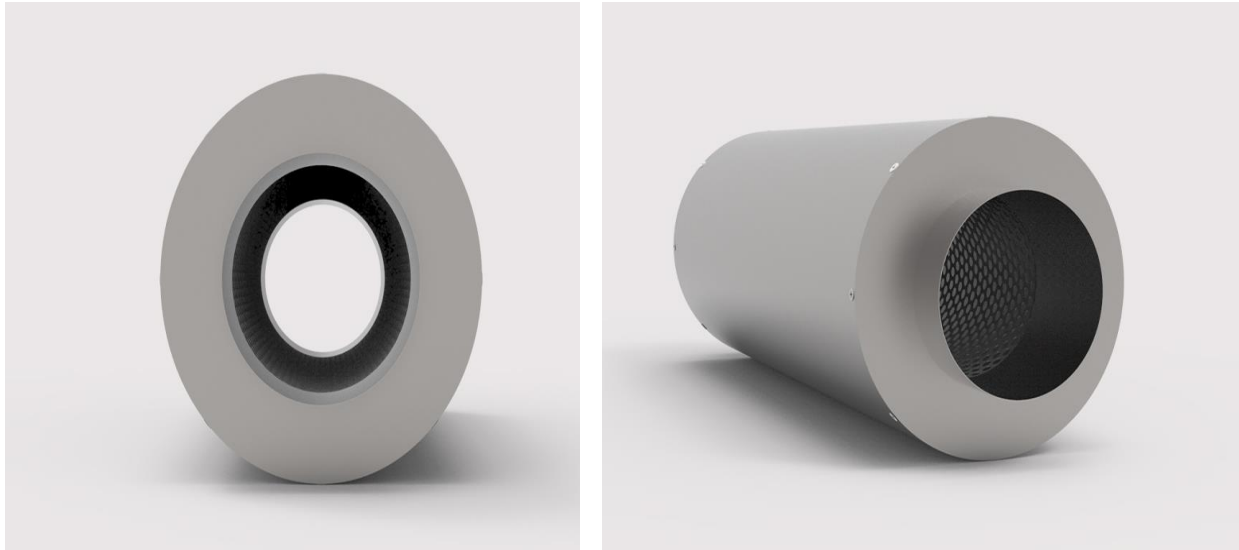


Refreshed vibration level drop:  $L_{yeni} = L_w + K$

K values will be taken from the table below depending on the cross section area perpendicular to the flow.

F=W*H (m <sup>2</sup> )	0,06	0,1	0,25	0,75	1,0	1,25	1,5	2,0	3,0	4,0
K(dB)	-12	-10	-6	-1	0	+1	+2	+3	+5	+6

**SOUND ATTENUATORS CYLINDRICAL - CKS-02**



**USAGE AREA AND FEATURES:** It is used in ventilation systems to provide the ideal sound level at the device connections and outputs of the air ducts.

**MATERIAL:** 1 mm. It is produced from the galvanized plate by cold rivet method without welding. The backstage is filled with rock wool of 50 kg / m<sup>3</sup> density. The backstage surfaces are covered with glass wool covered with rock wool. Optionally, the galvanized perforated plate is coated to reinforce it. Cassette thicknesses are manufactured as 100-200-300 mm.

**ASSEMBLY:** Bolted as standard.

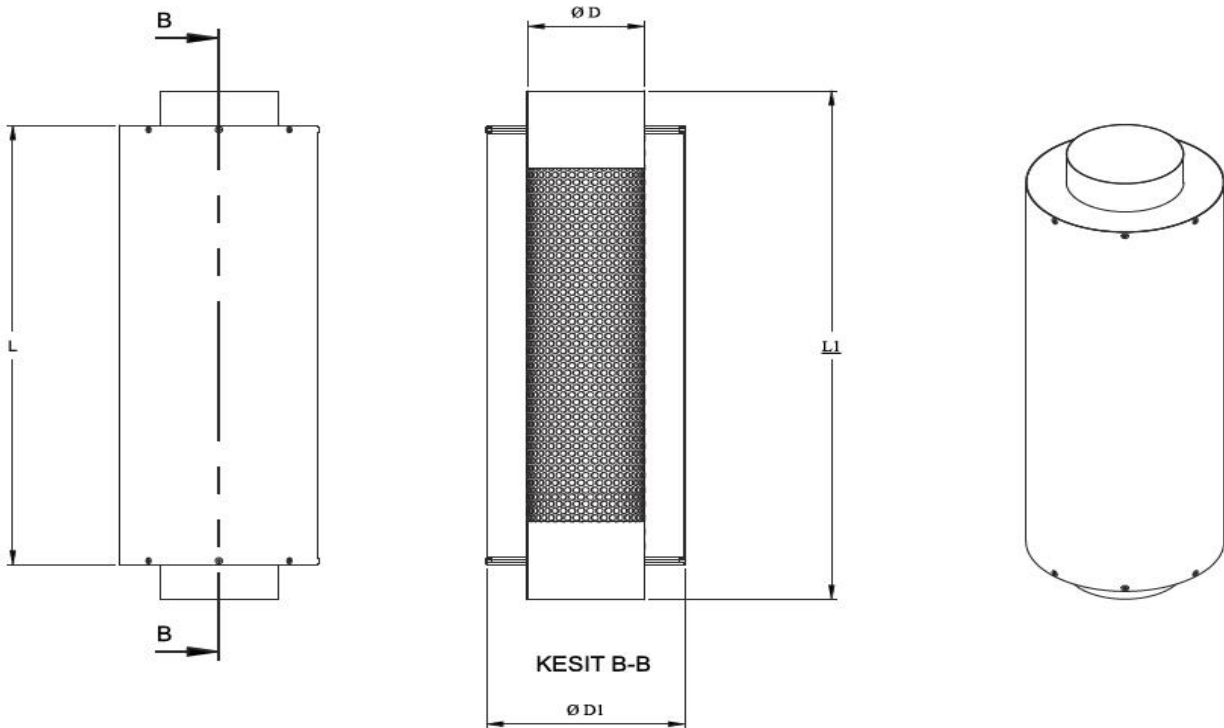
**SURFACE COATING:** It is manufactured from the galvanized plate without paint.

**SOUND LEVELS AVAILABLE**

		NR	dB(A)
HOSPITALS	SPECIAL ROOMS	25-35	30-40
	OPERATING ROOMS	30-40	35-45
	LABORATORIES, HOLLER	40-40	35-45
	WAITING ROOMS	35-45	40-50
OFFICES	MANAGEMENT ROOMS	20-30	25-35
	CONFERENCE ROOMS	25-35	30-40
	OPEN OFFICES	30-40	35-45
	COMPUTER ROOMS	40-60	45-65
HOTEL, RESTAURANT AND STORES	MANAGEMENT ROOMS	25-35	30-40
	CONFERENCE ROOMS	30-40	35-45
	OPEN OFFICES	30-40	35-45
	COMPUTER ROOMS	40-50	45-55
HOUSING	SINGLE FAMILY PLACES (HOLIDAY PLACE)	20-30	25-35
	SINGLE FAMILY PLACES (CITY)	25-35	30-40
	APARTMENTS	30-40	35-45
FACTORIES	LIGHT MACHINE PRODUCTION	45-65	50-70
	HEAVY MACHINE, CASTING MACHINE	55-75	60-80
LARGE BUILDINGS	RADIO AND TV STUDIOS	20-25	25-30
	CONCERT AND OPERA HALLS	20-30	25-35
	Mosques and churches	20-30	25-35
	THEATERS AND HALLS	20-30	25-35
	LIBRARIES - MUSEUMS	20-30	25-35
	SCHOOLS - CLASSES	25-35	30-40
	CINEMA AND SHOW HALLS	30-40	35-45
	VISITING HALLS	35-45	40-50
DANGEROUS LIMIT		85	90

STANDARD DIMENSIONS

PRODUCT NAME Ø	Ø D	Ø D1	L	FREKANS (Hz)	SOUND LEVEL (dB)
80-180	78	183	1200	250	22
100-200	98	203	1200	250	20
125-225	123	228	1200	250	17
150-250	148	253	1200	250	13
160-260	158	263	1200	250	13
180-280	178	283	1200	250	12
200-300	198	303	1200	250	11
250-350	248	353	1200	250	9
300-400	298	403	1200	250	9
400-500	398	503	1200	250	9



**SOUND LEVEL**

**Abbreviations**

$\Delta p$ : Pressure Drop (Pa)

V: Flow rate (m<sup>3</sup> / h)

Ø D1: Muffler outer diameter (mm)

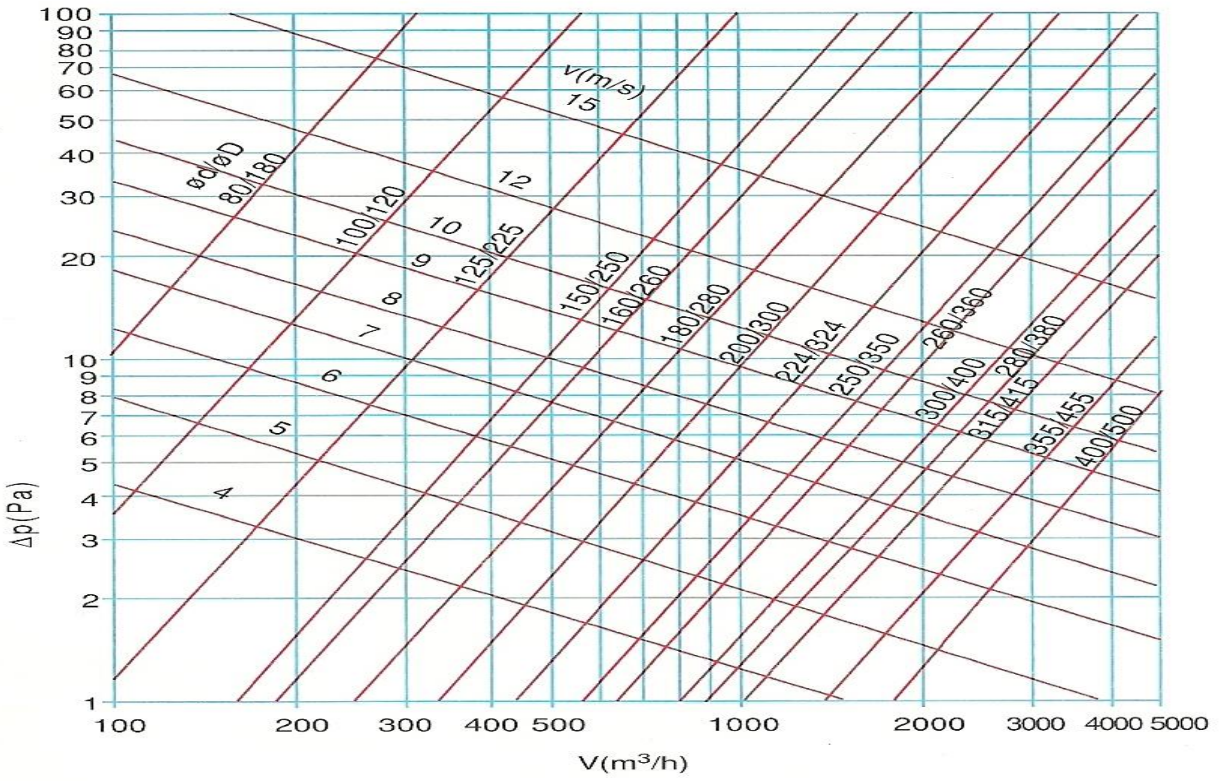
Ø D: Muffler connection neck diameter (mm.)

f: Frequency (Hz.)

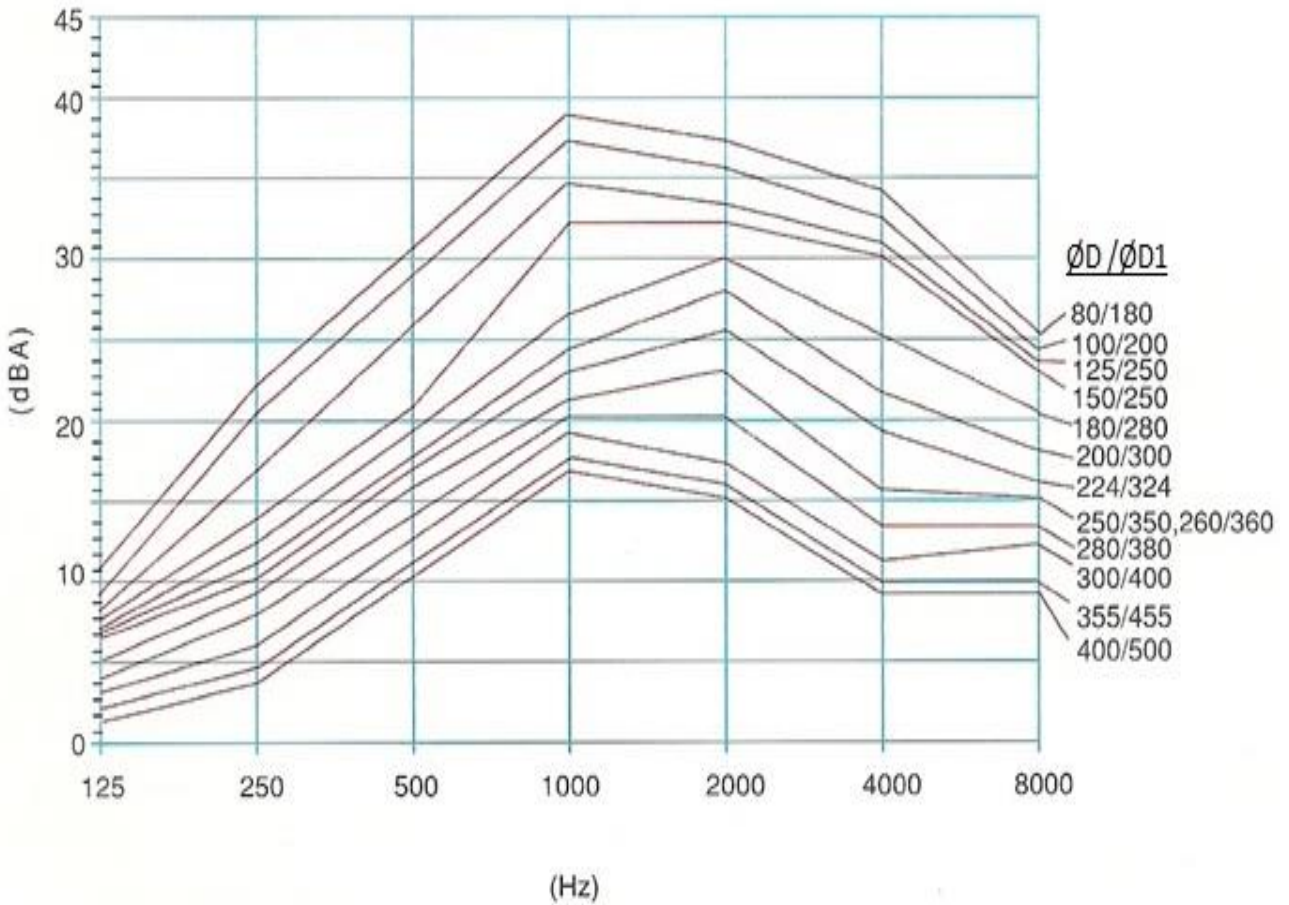
Nc: sound level (dBA)



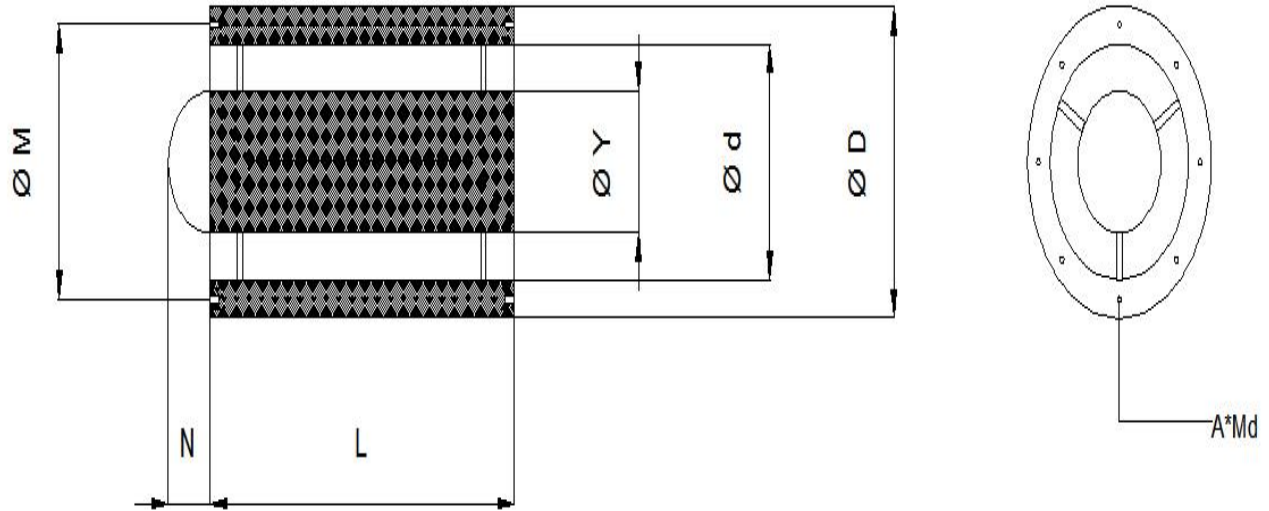
**PRESSURE LOSS DIAGRAM**



**SOUND LEVEL DOWN DIAGRAM**



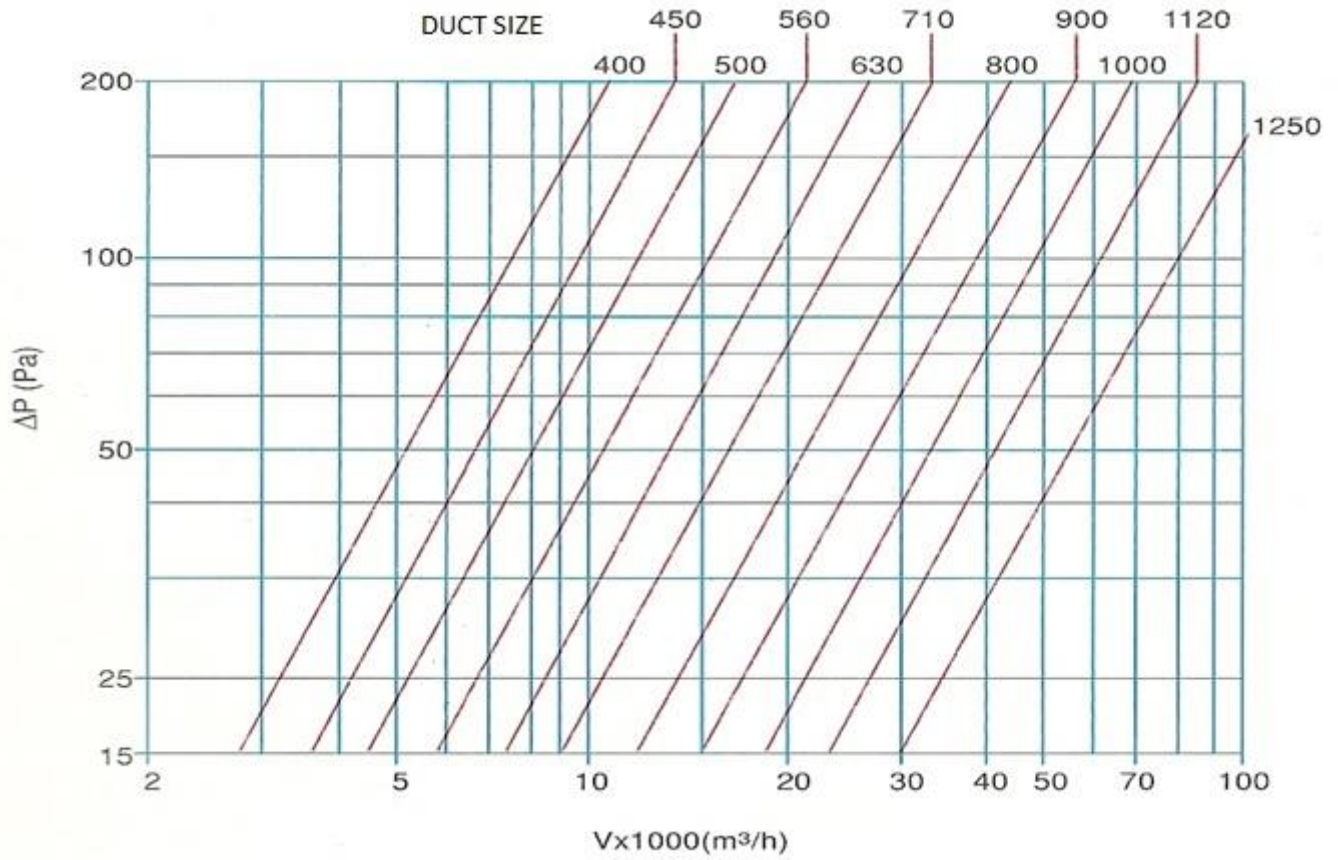
**CYLINDRICAL SILENCERS FOR DIAMETERS FROM Ø 400**



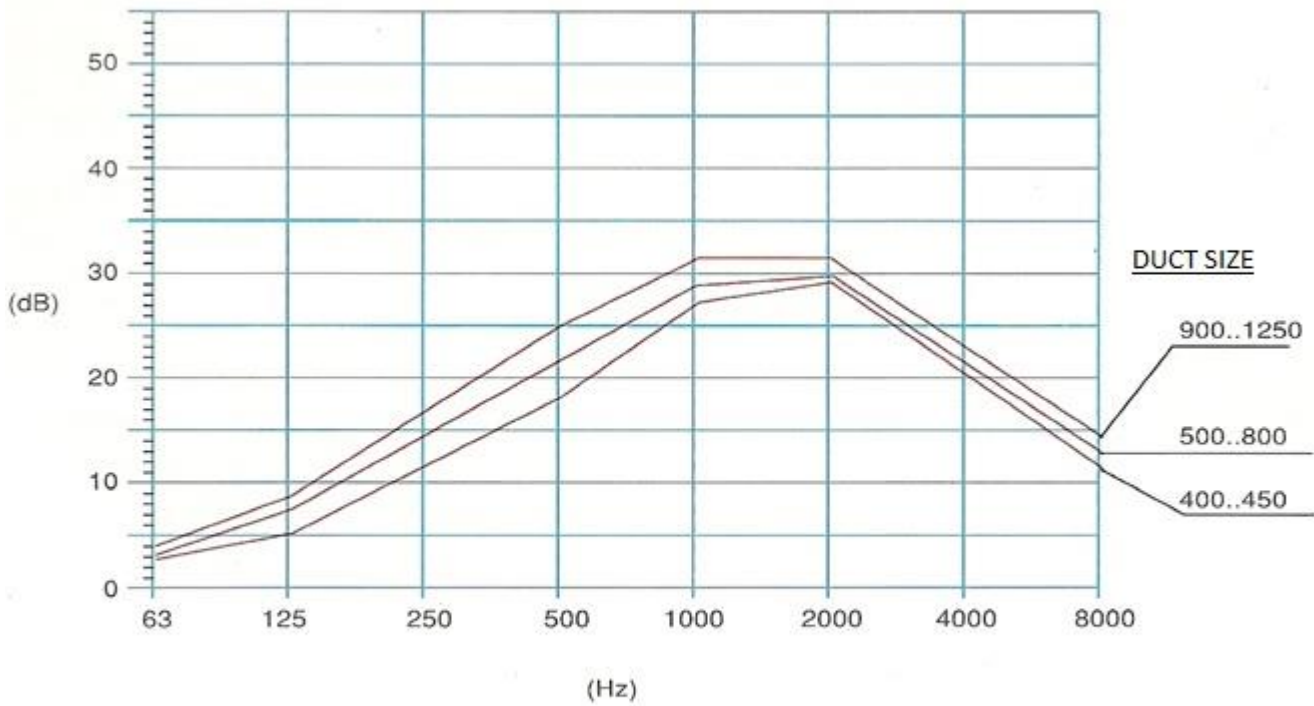
DUCT SIZE ( $\varnothing$ mm )							FREKANS ( Hz )	SOUND LEVEL dBA
	$\varnothing d$	$\varnothing D$	L	Y	$\varnothing M$	A*Md		
400	402	605	630	100	438	12*M8	250	10
450	451	655	710	100	487	12*M8	250	10
500	505	713	800	100	541	12*M8	250	14
630	636	840	930	150	674	16*M10	250	14
710	713	920	1120	150	751	16*M10	250	14
800	799	1005	1250	200	837	24*M10	250	14
900	896	1100	1400	200	934	24*M10	250	17
1000	1005	1210	1600	200	1067	24*M10	250	17
1120	1128	1335	1800	300	1200	32*M16	250	16
1250	1265	1470	1930	300	1337	32*M16	250	16



**PRESSURE LOSS DIAGRAM**



**SOUND LEVEL DOWN DIAGRAM**



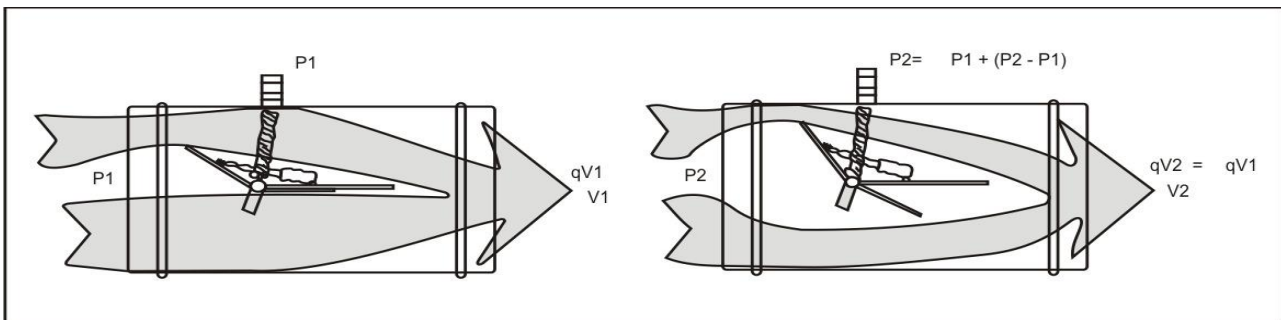
**CONSTANT VOLUME UNITS – CAV UNITS - PRISMATIC – CAV-01**



**USAGE AREA AND FEATURES:** It offers easy and economical solutions in systems where constant airflow will be used. Easily adjusted Cav dampers mechanically keep the airflow to the desired value employing a spring. Thanks to its mechanism, it fixes its position against the changing airflow at the desired flow. In the case of changing channel pressure, it prevents the change of flow by increasing or decreasing the pressure loss.

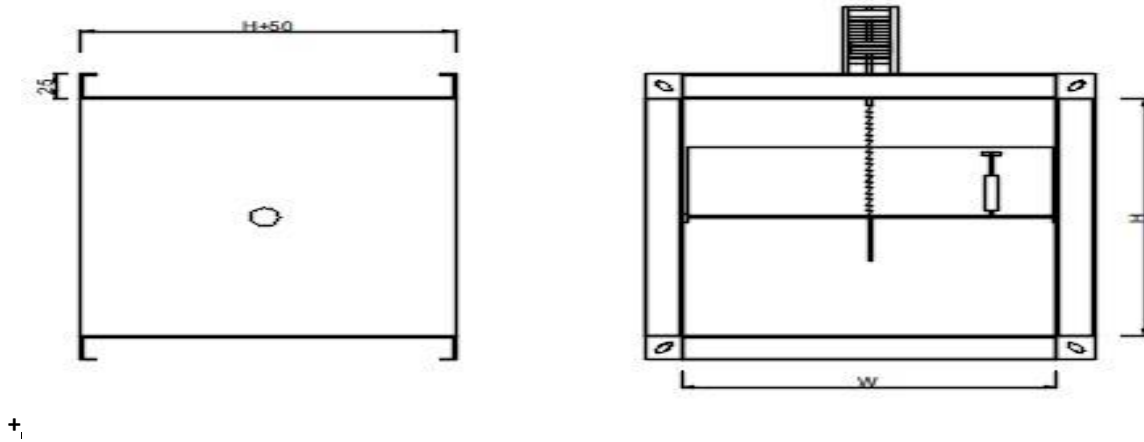
**BENEFITS**

- Adjusts the constant flow rate with changes in airspeed.
- It can be used in suction and blowing lines.
- It is economical compared to motorized dampers.
- Cav dampers, 50 Pa-250 Pa in the range of 2m / s and 10m / s. Between.
- Airflow adjustment can be made on-site with a 2mm Allen key.
- Has an accuracy of  $\pm 10\%$ .
- Optionally, it can be manufactured with insulated and silencer.



**Material:** Cav Dampers are manufactured from 1mm galvanized plate. Air fins on the body are made of aluminium plate. Air adjustment scale is made of transparent material, air adjustment cover is made by a plastic injection printing method. The shock absorber in the body is designed to prevent vibration in the fins. Spring mechanisms are specially calibrated. There is a coating on the damper to prevent rust. It is produced with 2 wings as the dimensions grow. Damper duct flanges are manufactured as 24mm.

**TECHNICAL MEASUREMENT:**



+

**EASY SELECTION TABLE AND STANDARD DIMENSIONS**

A*B			100	150	200	250	300	350	400	450	500	600	700	800	900	1000
100	MIN	m <sup>3</sup> /h	75	110	150	180	200	250	300	330	360	430	500	570	650	700
	MAX	m <sup>3</sup> /h	350	550	700	900	1.000	1.250	1.400	1.600	1.800	2.150	2.500	2.900	3.250	3.600
150	MIN	m <sup>3</sup> /h	110	150	200	250	300	350	450	490	550	650	750	850	950	1.100
	MAX	m <sup>3</sup> /h	550	800	1.000	1.300	1.600	1.800	2.100	2.400	2.700	3.250	3.800	4.300	4.850	5.400
200	MIN	m <sup>3</sup> /h	150	200	300	350	400	500	550	650	750	850	1.000	1.150	1.300	1.450
	MAX	m <sup>3</sup> /h	700	1.000	1.400	1.800	2.100	2.500	2.800	3.250	3.500	4.300	5.000	5.750	6.500	7.200
250	MIN	m <sup>3</sup> /h	180	250	350	450	500	600	700	800	900	1.100	1.250	1.450	1.600	1.800
	MAX	m <sup>3</sup> /h	900	1.300	1.800	2.200	2.600	3.100	3.500	4.000	4.400	5.400	6.300	7.200	8.100	9.000
300	MIN	m <sup>3</sup> /h	200	300	400	550	600	750	850	950	1.000	1.250	1.500	1.750	2.000	2.150
	MAX	m <sup>3</sup> /h	1.000	1.600	2.100	2.700	3.200	3.700	4.300	4.800	5.300	6.400	7.500	8.500	9.500	10.800
400	MIN	m <sup>3</sup> /h	300	450	550	700	850	1.000	1.100	1.300	1.400	1.700	2.000	2.300	2.600	3.000
	MAX	m <sup>3</sup> /h	1.400	2.100	2.800	3.500	4.300	5.000	5.700	6.500	7.100	8.600	9.900	11.500	13.000	14.000
450	MIN	m <sup>3</sup> /h	---	490	650	800	950	1.100	1.300	1.450	1.600	1.950	2.250	2.600	2.900	3.250
	MAX	m <sup>3</sup> /h	---	2.400	3.250	4.000	4.800	5.600	6.500	7.300	8.100	9.700	11.300	12.950	14.500	16.200
500	MIN	m <sup>3</sup> /h	---	---	750	900	1.000	1.200	1.400	1.600	1.700	2.100	2.500	2.900	3.250	3.600
	MAX	m <sup>3</sup> /h	---	---	3.500	4.400	5.300	6.200	7.100	8.100	9.000	10.500	12.600	14.400	16.200	18.000
600	MIN	m <sup>3</sup> /h	---	---	850	1.100	1.250	1.500	1.700	1.950	2.100	2.600	3.000	3.450	3.900	---
	MAX	m <sup>3</sup> /h	---	---	4.300	5.400	6.400	7.500	8.600	9.700	10.500	13.000	15.100	17.300	19.400	---
700	MIN	m <sup>3</sup> /h	---	---	---	1.250	1.500	1.800	2.000	2.250	2.500	3.000	3.500	4.000	---	---
	MAX	m <sup>3</sup> /h	---	---	---	6.300	7.500	8.500	9.900	11.300	12.600	15.100	17.650	20.100	---	---
800	MIN	m <sup>3</sup> /h	---	---	---	---	1.750	2.000	2.300	2.600	2.900	3.450	---	---	---	---
	MAX	m <sup>3</sup> /h	---	---	---	---	8.500	9.900	11.500	12.950	14.400	17.300	---	---	---	---
900	MIN	m <sup>3</sup> /h	---	---	---	---	2.000	2.300	2.600	2.900	3.250	3.900	---	---	---	---
	MAX	m <sup>3</sup> /h	---	---	---	---	9.500	11.000	13.000	14.500	16.200	19.400	---	---	---	---
1000	MIN	m <sup>3</sup> /h	---	---	---	---	---	2.500	3.000	3.250	3.600	---	---	---	---	---
	MAX	m <sup>3</sup> /h	---	---	---	---	---	12.600	14.000	16.200	18.000	---	---	---	---	---

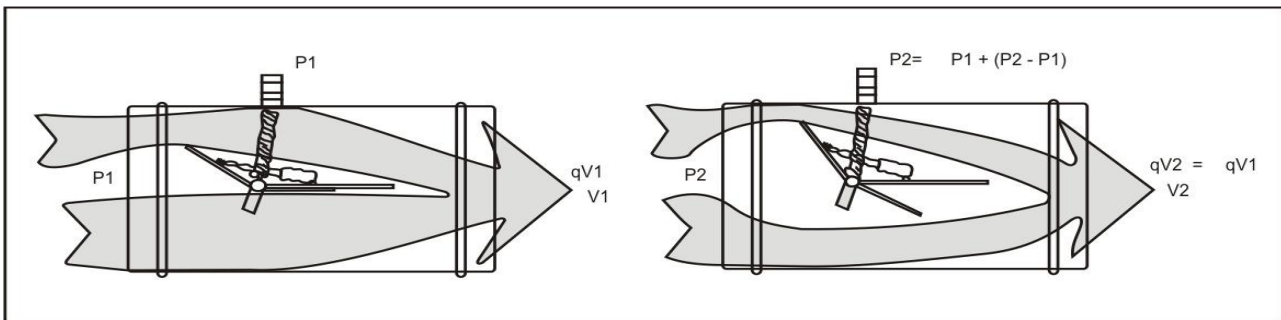
**CONSTANT VOLUME UNITS – CAV UNITS - CYLINDRICAL- CAV-02**



**USAGE AREA AND FEATURES:** It offers easy and economical solutions in systems where constant airflow will be used. Easily adjusted Cav dampers mechanically keep the airflow to the desired value employing a spring. Thanks to its mechanism, it fixes its position against the changing airflow at the desired flow. In the case of changing channel pressure, it prevents the change of flow by increasing or decreasing the pressure loss.

**BENEFITS**

- Adjusts constant flow rate in air velocity changes.
- It can be used in suction and blowing lines.
- It is economical compared to motorized dampers.
- Cav dampers, 50 Pa-250 Pa in the range of 2m / s and 10m / s. Between.
- Airflow adjustment can be made on-site with a 2mm Allen key.
- Has an accuracy of  $\pm 10\%$ .
- Optionally, it can be manufactured with insulated and silence



**Material:** Cav Dampers are manufactured from 1mm galvanized plate. Air fins on the body are made of aluminium plate. Air adjustment scale is made of transparent material, air adjustment cover is made by a plastic injection printing method. The shock absorber in the body is designed to prevent vibration in the fins. Spring mechanisms are specially calibrated. There is a coating on the damper to prevent rust. It is produced with 2 wings as the dimensions grow. Damper duct flanges are manufactured as 24mm.





**SOUND LEVEL**

SIZE	Vk (m/s)	V (m3/h) [l/s]		$\Delta Pt = 125 \text{ Pa}$									$\Delta Pt = 250 \text{ Pa}$										
				Lw [dB/Oct]									LWA [dB(A)]	Lw [dB/Oct]									LWA [dB(A)]
				fm (Hz)										fm (Hz)									
				63	125	250	500	1000	2000	4000	8000	63		125	250	500	1000	2000	4000	8000			
100	3	81	23	35	42	39	37	36	35	34	35	<b>41</b>	39	45	45	43	41	40	39	33	<b>48</b>		
	6	163	45	43	56	51	47	42	38	37	36	<b>47</b>	45	59	56	52	48	46	45	38	<b>55</b>		
	9	244	68	46	56	52	46	41	38	26	36	<b>50</b>	49	64	60	58	52	49	47	40	<b>57</b>		
125	3	128	36	41	43	40	38	37	36	35	37	<b>42</b>	46	46	46	44	42	41	40	40	<b>49</b>		
	6	257	71	52	60	55	52	46	42	41	41	<b>51</b>	55	63	60	56	52	50	49	48	<b>59</b>		
	9	385	107	54	59	55	49	44	41	39	40	<b>53</b>	58	67	63	61	55	52	50	49	<b>60</b>		
160	3	212	59	48	49	46	44	43	42	41	42	<b>50</b>	53	52	52	50	48	47	46	43	<b>55</b>		
	6	423	118	55	62	57	53	48	44	43	42	<b>53</b>	58	65	62	58	54	52	51	46	<b>61</b>		
	9	635	176	56	60	56	50	45	42	40	40	<b>54</b>	60	68	64	62	56	53	51	46	<b>61</b>		
200	3	332	92	52	49	46	44	43	42	41	40	<b>48</b>	57	52	52	50	48	47	46	47	<b>55</b>		
	6	665	185	61	64	59	55	50	46	45	43	<b>55</b>	64	67	64	60	56	54	53	53	<b>63</b>		
	9	997	277	63	63	59	53	48	45	43	42	<b>57</b>	67	71	67	55	69	56	54	54	<b>64</b>		

SIZE	Vk (m/s)	V (m3/h) [l/s]		$\Delta Pt = 125 \text{ Pa}$									$\Delta Pt = 250 \text{ Pa}$										
				Lw [dB/Oct]									LWA [dB(A)]	Lw [dB/Oct]									LWA [dB(A)]
				fm (Hz)										fm (Hz)									
				63	125	250	500	1000	2000	4000	8000	63		125	250	500	1000	2000	4000	8000			
250	3	521	145	57	52	49	47	46	45	44	43	<b>51</b>	61	55	55	53	51	50	49	49	<b>58</b>		
	6	1043	290	64	65	60	56	51	47	46	43	<b>56</b>	66	68	55	61	57	55	54	53	<b>64</b>		
	9	1564	434	66	54	60	54	49	46	44	42	<b>58</b>	69	72	68	66	60	57	55	54	<b>65</b>		
315	3	831	231	57	52	49	47	46	45	45	41	<b>51</b>	59	49	44	46	47	49	42	47	<b>58</b>		
	6	1661	461	68	69	64	60	55	51	51	46	<b>60</b>	68	66	58	58	57	58	51	55	<b>68</b>		
	9	2492	692	68	66	62	56	51	48	47	43	<b>50</b>	69	68	65	62	59	57	55	54	<b>67</b>		
355	3	1056	293	57	52	49	47	46	45	44	42	<b>51</b>	62	55	55	53	51	50	49	49	<b>58</b>		
	6	2113	587	67	68	63	59	54	50	49	44	<b>59</b>	60	61	57	54	60	58	57	56	<b>67</b>		
	9	3169	880	70	68	64	58	53	49	48	44	<b>62</b>	74	76	72	70	64	61	59	58	<b>69</b>		
400	3	1343	373	59	54	51	49	48	47	46	44	<b>53</b>	66	57	57	55	53	52	51	51	<b>60</b>		
	6	2686	746	68	69	64	60	55	51	50	46	<b>60</b>	73	72	69	65	61	59	58	57	<b>68</b>		
	9	4029	1119	74	72	68	62	57	54	52	49	<b>66</b>	80	80	76	74	68	65	63	62	<b>73</b>		



**FIRE DAMPERS - PRISMATIC- CKY-01**



**AREAS OF USE AND FEATURES:** CKY-01 it is used in hvac systems to prevent fire transitions between locations in suction and blowing ducts. In general use, it is kept in an open position. It can be used as motorized and insured.

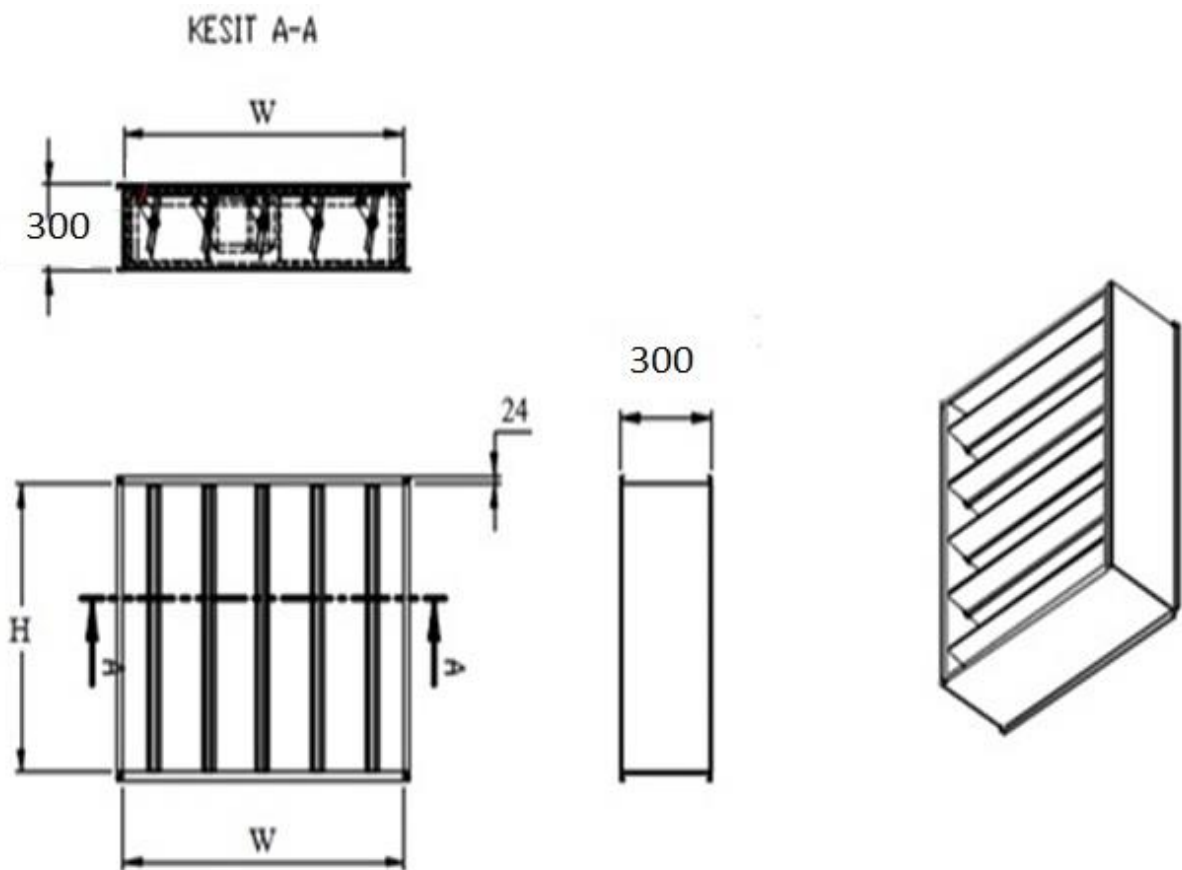
**MATERIAL:** CKY-01 Fire dampers body 1.2 mm. it is produced from the galvanized plate by cold rivet method. Wing structures according to their sizes 100 -150 -200 -250 mm. It is made of 1.2 mm galvanized plate in widths. The wings on the body are centred by means of specially manufactured bushings. In the fused models, there is an intervention cover on the body. Fuse breaks automatically at 72 ° C

**INSTALLATION:** Bolted as standard.

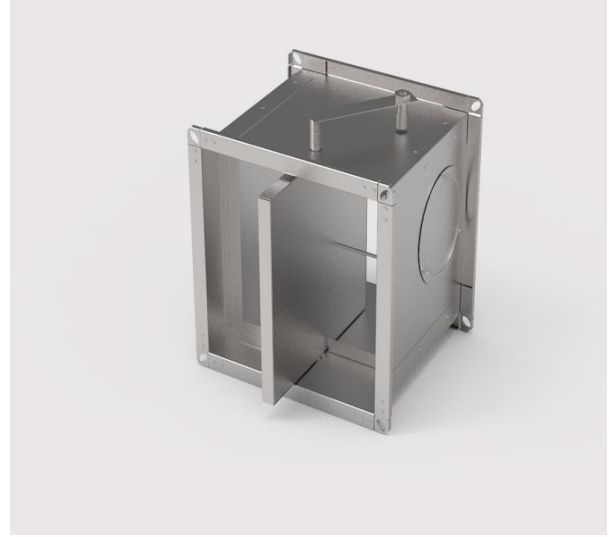
**COATING:** Galvanized sheet metal

CKY-01/01AFIRE DAMPERS PRISMATIC STANDARTD DIMENSIONS	
<b>W</b>	100 – 200 – 300 – 400 – 500 – 600 – 700 – 800 – 900 – 1000 – 1100 – 1200 – 1300 – 1400 – 1500
<b>H</b>	100 – 200 – 300 – 400 – 500 – 600 – 700 – 800 – 900 – 1000

**CKY-01 FIRE DAMPERS**



**FIRE DAMPERS - PRISMATIC- CKY-01A**



**AREAS OF USE AND FEATURES:** CKY-01 / 01A it is used in HVAC systems to prevent fire transitions between locations in suction and blowing ducts. In general use, it is kept in an open position. It can be used as motorized and insured.

**MATERIAL:** CKY-01A Fire dampers body 1.2 mm. It is produced from the galvanized plate by cold rivet method. blades are manufactured from 1.2 mm galvanized plate and 50kg / m<sup>3</sup> rock wool filled and single wing. The wing is centred on the body by means of specially manufactured bushings. In the fused models, there is an intervention cover on the body. Fuse breaks automatically at 72 ° C

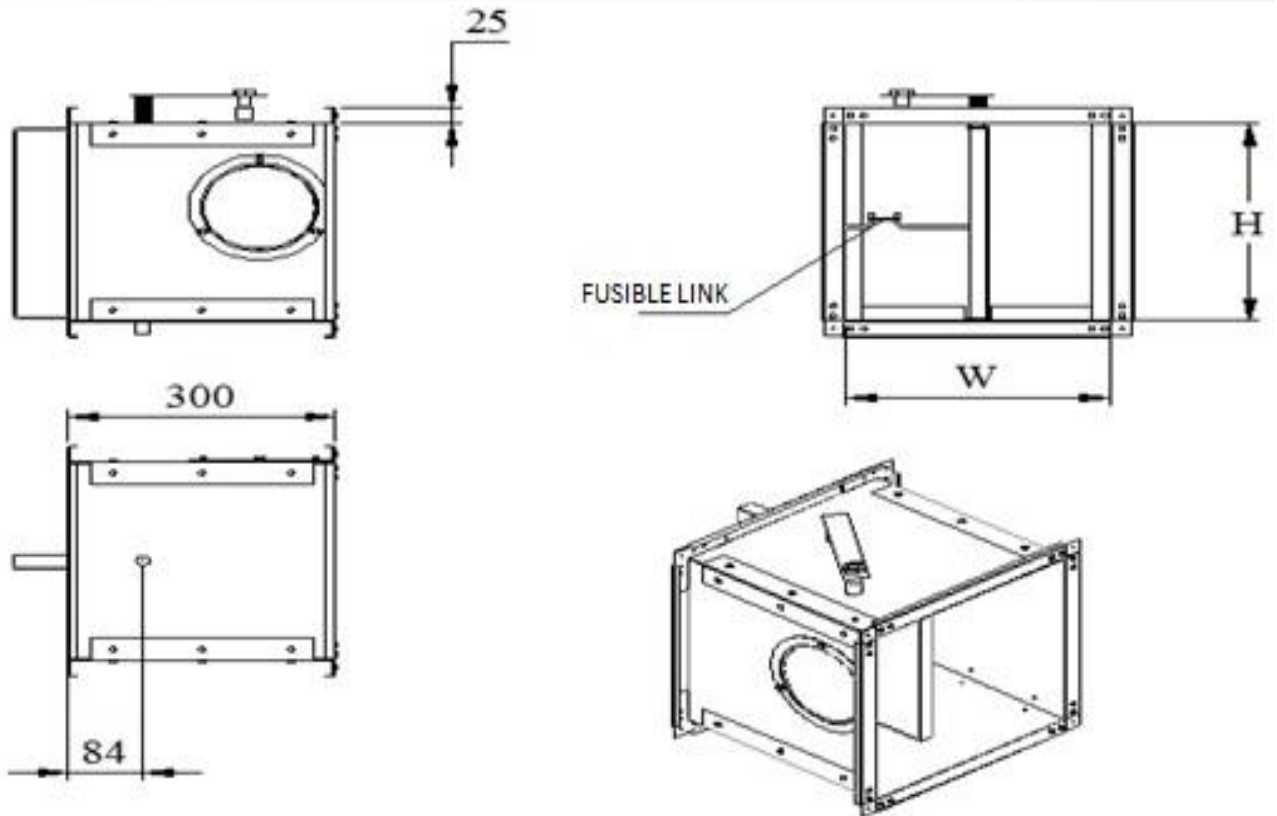
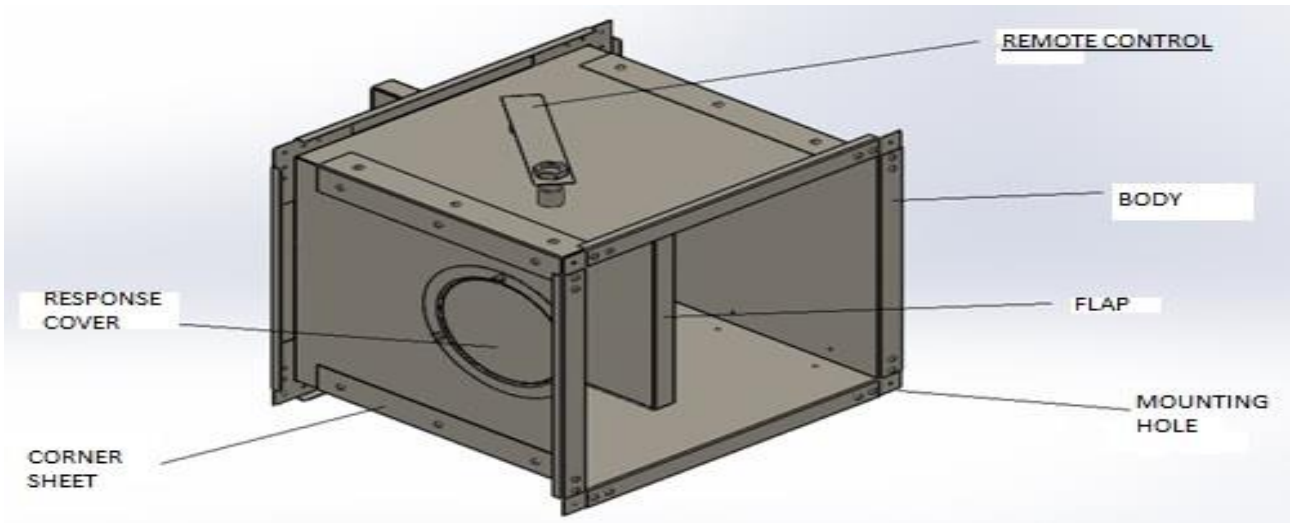
**INSTALLATION:** Bolted as standard.

**COATING:** Galvanized sheet metal

CKY-01/01AFIRE DAMPERS PRISMATIC STANDARTD DIMENSIONS	
<b>W</b>	100 – 200 – 300 – 400 – 500 – 600 – 700 – 800 – 900 – 1000 – 1100 – 1200 – 1300 – 1400 – 1500
<b>H</b>	100 – 200 – 300 – 400 – 500 – 600 – 700 – 800 – 900 – 1000

**CKY-01 FIRE DAMPERS**

**CKY-01A FIRE DAMPERS**



**FIRE DAMPER CYLINDRICAL- CKY-02**



CKY-02 -S



CKY-02-M

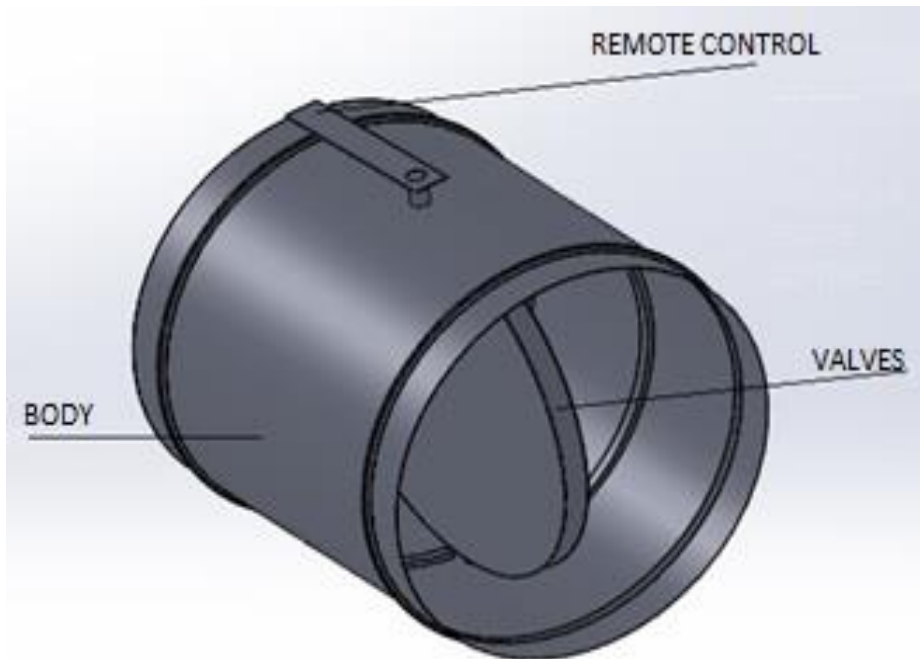
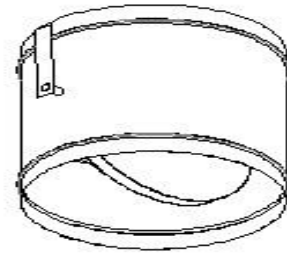
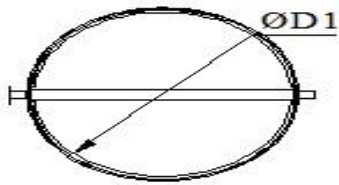
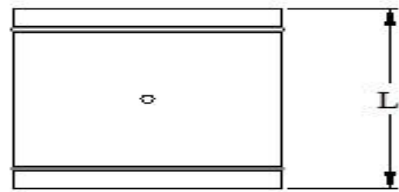
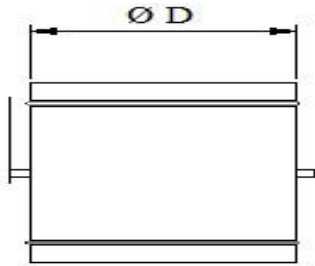
**PLACE OF USE AND FEATURES:** CKY-02-02M is used in hvac systems to prevent fire transitions between locations in suction and blowing ducts. In general use, it is kept in an open position. It can be used as motorized and insured.

**MATERIAL:** CKY-02-02M Fire dampers body 1.2 mm. It is manufactured with seam welding from the galvanized plate. The wing structures are made of 1.2mm galvanized plate covered with 30mm thick 50kg / m<sup>3</sup> rock wool. The wings on the body are centred by means of specially manufactured bushings. In the fused models, there is an intervention cover on the body. Fuse breaks automatically at 72 ° C

**INSTALLATION:** With mortise as standard.

**COATING:** Galvanized sheet metal

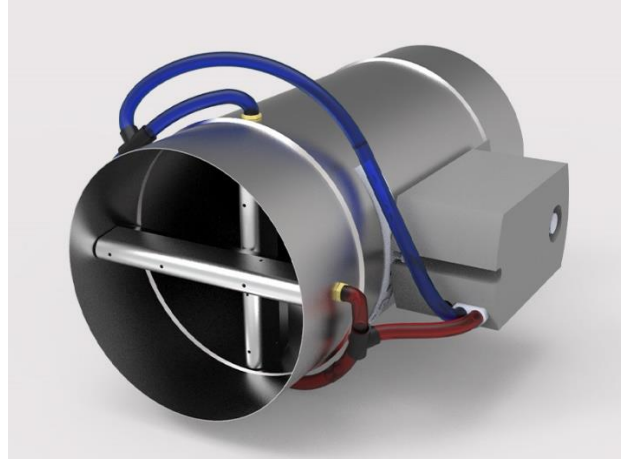
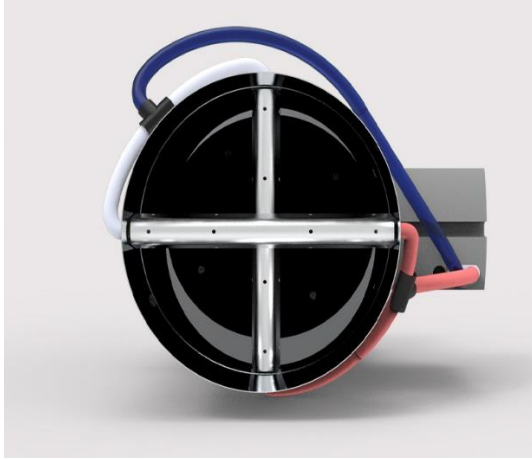
CKY-02 FIRE DAMPER CYLINDRICAL STANDARD DIMENSIONS									
DIMENSIONS(mm)	160	180	200	225	250	280	300	350	400
ØD ( mm)	160	180	203	229	254	280	305	356	406
L (mm)	210	230	250	275	300	330	350	400	450
ØD1( mm)	190	210	230	255	280	310	330	380	430







**VAV UNITS – VARIABLE VOLUME UNITS –CILINDRICAL - CKV-01**



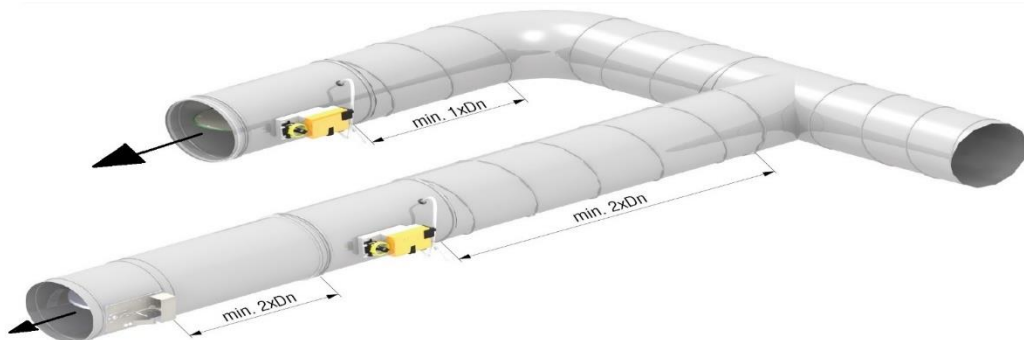
**AREAS OF USAGE AND FEATURES:** It is used with automation in ventilation systems. It provides ease of use in situations where the airflow needs to be changed optionally. It provides ease of use in intensive care units, operating theatres, buildings where savings and comfort are sought. The degree of sealing complies with EN 1751 Class –C. It is controlled by a servo motor.

**MATERIAL:** CKV-01 VAV Damper Body 1 mm. It is produced from the galvanized plate by welding method. Damper blade 2mm. It is made of the galvanized plate with leakproof seal. Elements that provide damper sensitivity are used from automat material. A specially designed servo motor is used as the main control element.

**INSTALLATION:** Bolted as standard.

**COATING:** Galvanized sheet metal

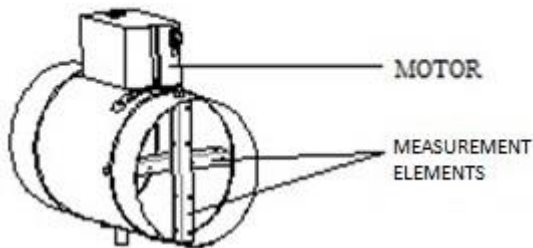
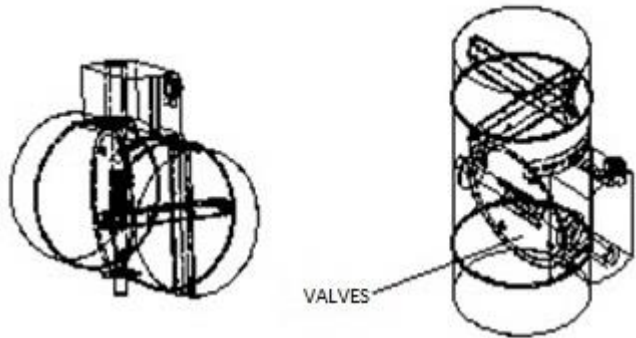
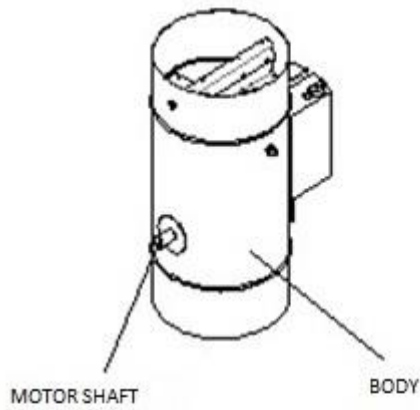
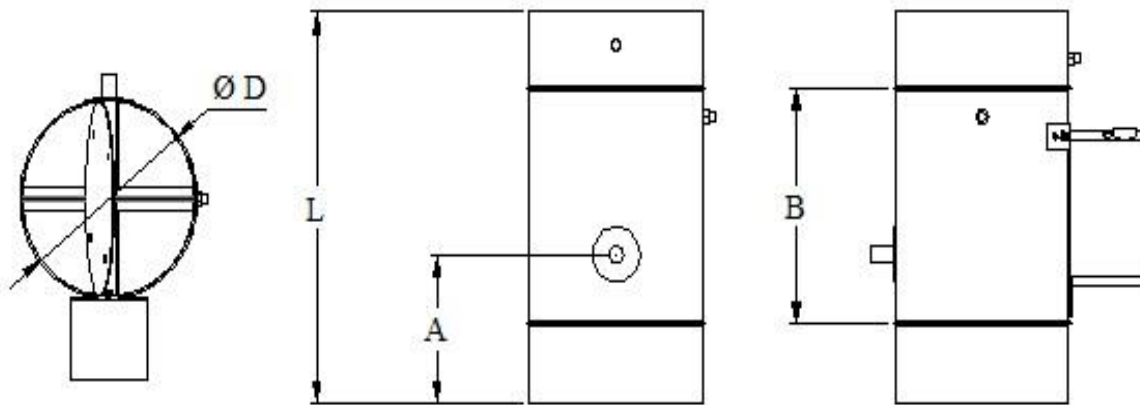
**CKV-01 VAV DAMPER MOUNTING**



**STANDARD DIMENSIONS**

MODEL CKV-100 CKV-125 CKV-150 CKV-200 CKV-250 CKV-315 CKV-355 CKV-400 CKV-500

Ø D	98	125	148	198	248	313	353	398	498
L	330	350	400	430	480	530	580	630	700
A	105	120	140	155	180	205	230	255	305
B	210	230	280	310	360	410	460	510	580



			<b>FOR SUCTION DUCT</b>	<b>FOR BLOW DUCT</b>
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MODEL	AIR SPEED m/s.	AIR FLOW m <sup>3</sup> /h	125 Pa - 250 HZ		250 Pa - 250 HZ		500 Pa - 250 HZ		750 Pa - 250 HZ		125 Pa - 250 HZ		250 Pa - 250 HZ		500 Pa - 250 HZ		750 Pa - 250 HZ	
			Pa	dBA	Pa	dBA	Pa	dBA	Pa	dBA	Pa	dBA	Pa	dBA	Pa	dBA	Pa	dBA
CK-100	2	55	*	44	*	48		51	21	54	*	*	*	23	*	29	*	33
	4	110	*	50	20	53	25	57	27	59	*	23	*	30	*	36	23	40
	6	160	22	54	25	57	29	60	31	62	*	27	*	34	23	40	27	44
	8	215	26	58	28	60	32	63	34	65	*	30	*	37	26	43	30	47
	10	270	29	61	32	63	34	65	37	67	*	32	21	39	28	45	32	49
	12	320	32	64	34	65	37	67	39	69	*	34	23	41	30	47	33	51
CK-125	2	84	*	43	*	47		52	21	54	*	24	*	31	*	37	*	41
	4	168	*	49	20	53	25	57	27	60	*	31	*	38	*	44	23	48
	6	253	22	54	25	57	29	61	31	63	*	35	*	42	23	48	27	52
	8	337	22	58	28	60	32	64	34	66	*	38	*	45	26	51	30	55
	10	421	25	61	32	63	34	66	37	68	*	40	21	47	28	53	32	57
	12	505	29	64	34	66	37	69	39	70	*	42	23	49	30	55	33	59
CK-160	2	139	*	41	*	47	*	52	23	55	*	24	*	31	*	37	*	41
	4	279	*	48	20	53	26	58	30	61	*	31	*	38	*	44	23	48
	6	418	*	52	24	57	30	62	34	65	*	35	*	42	23	48	27	52
	8	558	24	56	28	60	34	65	37	68	*	38	*	45	26	51	30	55
	10	697	28	60	32	63	36	67	40	70	*	40	21	47	28	53	32	57
	12	836	31	63	35	66	39	69	42	72	*	42	23	49	30	55	33	59
CK-200	2	219	*	41	*	46	*	51	21	54	*	24	*	31	*	37	*	41
	4	440	*	48	21	54	27	59	31	62	*	31	*	38	*	44	23	48
	6	656	21	52	27	59	33	64	36	67	*	35	*	42	23	48	27	52
	8	880	26	56	31	63	37	67	40	70	*	38	*	45	26	51	30	55
	10	1100	30	60	35	66	40	70	43	73	*	40	21	47	28	53	32	57
	12	1320	33	63	38	68	43	72	46	75	*	42	23	49	30	55	33	59
CK-250	2	345	*	43	*	38	*	43	*	46	*	24	*	31	*	37	*	41
	4	690	*	51	*	49	20	53	23	56	*	31	*	38	*	44	23	48

	6	1040	*	56	22	55	27	59	30	61	*	35	*	42	23	48	27	52
	8	1380	23	60	27	59	32	63	35	66	*	38	*	45	26	51	30	55
	10	1725	27	63	31	63	36	67	39	69	*	40	21	47	28	53	32	57
	12	2070	31	66	35	66	39	70	42	72	*	42	23	49	30	55	33	59
CK-315	2	550	*	45	*	47	*	52	22	55	*	24	*	31	*	37	*	41
	4	1100	*	52	23	55	28	60	32	63	*	31	*	38	*	44	23	48
	6	1650	23	57	28	60	34	65	37	68	*	35	*	42	23	48	27	52
	8	2200	28	61	33	64	38	68	41	71	*	38	*	45	26	51	30	55
	10	2752	32	64	36	67	41	71	44	74	*	40	21	47	28	53	32	57
	12	3300	36	67	39	70	44	73	47	76	*	42	23	49	30	55	33	59
CK-355	2	701	*	52	*	50	22	55	26	58	*	24	*	31	*	37	*	41
	4	1401	*	56	24	56	29	61	33	64	*	31	*	38	*	44	23	48
	6	2100	24	60	28	60	34	65	37	67	*	35	*	42	23	48	27	52
	8	2803	29	63	33	64	37	68	40	70	*	38	*	45	26	51	30	55
	10	3503	34	66	36	67	40	70	43	72	*	40	21	47	28	53	32	57
	12	4200	39	69	40	69	43	72	45	75	*	42	23	49	30	55	33	59
CK-400	2	891	*	54	24	57	31	62	34	65	*	24	*	31	*	37	*	41
	4	1783	24	58	29	61	35	66	39	69	*	31	*	38	*	44	23	48
	6	2674	28	62	32	64	38	68	41	71	*	35	*	42	23	48	27	52
	8	3565	32	65	35	66	40	70	44	73	*	38	*	45	26	51	30	55
	10	4456	36	68	38	69	43	72	45	75	*	40	21	47	28	53	32	57
	12	5350	40	71	42	71	45	74	47	76	*	42	23	49	30	55	33	59
CK-500	2	905	21	56	27	59	33	64	37	67	*	24	*	31	*	37	*	41
	4	1810	26	60	31	63	37	68	41	71	*	31	*	38	*	44	23	48
	6	2712	30	64	35	66	40	70	44	73	*	35	*	42	23	48	27	52
	8	3620	34	67	38	68	43	72	46	75	*	38	*	45	26	51	30	55
	10	4520	37	70	41	71	45	74	48	77	*	40	21	47	28	53	32	57
	12	5425	42	73	43	73	47	76	50	78	*	42	23	49	30	55	33	59

**VARIBLE VOLUME UNITS – PRISMATIC - VAV – CKV-02**



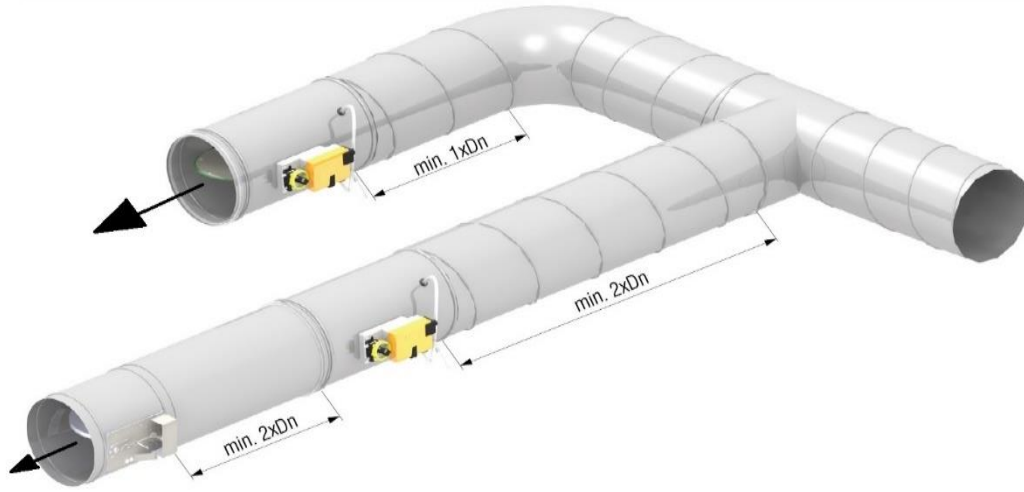
**AREAS OF USAGE AND FEATURES:** It is used with automation in ventilation systems. It provides ease of use in situations where the airflow needs to be changed optionally. Ease of use is provided in intensive care units, operating theatres, buildings where savings and comfort are sought. The degree of sealing complies with EN 1751 Class –C. It is controlled by servomotor.

**MATERIAL:** CKV-02 VAV Damper Body 1 mm. It is manufactured from the galvanized plate without a bolt-nut method without welding. Damper blade 1.5 mm. It is manufactured from the aluminium profile with a sealed gasket. Elements that provide damper sensitivity are used from the aluminium profile. A Specially designed servomotor is used as the main control element.

**INSTALLATION:** bolted as standard.

**COATING:** Your body is made of galvanized coated sheet metal, blades are made of Al.profil.





**STANDARD DIMENSIONS**

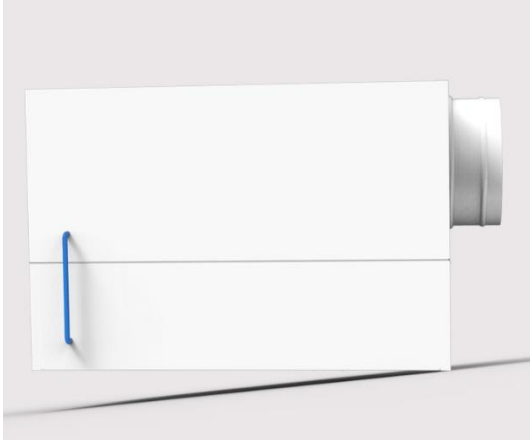
L (cm.)	H (cm )	W (cm.)												
		20	30	35	40	45	50	60	70	75	80	85	90	100
<b>35</b>	15	*	*	*	*	*	*	*						
<b>35</b>	20	*	*	*	*	*	*	*	*	*	*			
<b>35</b>	25		*	*	*	*	*	*	*	*	*	*		
<b>35</b>	30		*	*	*	*	*	*	*	*	*	*	*	*
<b>35</b>	35			*	*	*	*	*	*	*	*	*	*	*
<b>35</b>	40				*	*	*	*	*	*	*	*	*	*

**VAV DAMPERS ARE MANUFACTURED WITH STANDARD 30 mm.**

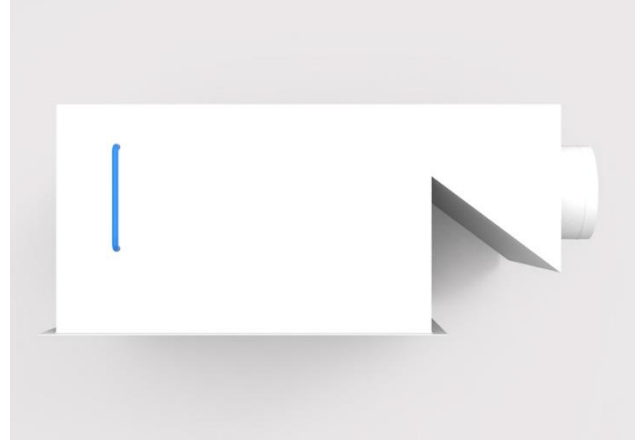
**SOUND AND PRESSURE LOSSES**

W*H	AIR SPEED THAT VAV DAMPER (m/s)	AIR FLOW (m3/h)	LOST SOUND LEVEL (dBA) SUCTION - BLOWING FOR 250Pa		AUDITABLE SOUND LEVEL (dBA) - FOR 250 Pa	
			AIR SUCTION - AIR BLOW	AIR SUCTION - AIR BLOW	AIR SUCTION - AIR BLOW	AIR SUCTION - AIR BLOW
35*30	2	770	17	17	43	36
	4	1.521	20	16	54	47
	6	2.262	30	28	63	56
	8	3.013	31	29	63	57
	10	3.787	26	24	60	53
	12	4.550	24	21	57	50
35*35	2	890	20	15	42	35
	4	1.755	20	15	53	47
	6	1.655	30	28	61	55
	8	3.534	29	28	61	54
	10	4.458	26	25	58	52
	12	5.351	36	36	60	56
40*40	2	1.152	24	21	45	38
	4	2.301	23	21	56	49
	6	3.466	33	30	64	57
	8	4.613	34	31	65	58
	10	5.762	30	28	62	55
	12	6.915	29	26	60	53
50*40	2	1.442	21	20	44	37
	4	2.883	25	23	58	51
	6	4.356	34	31	65	58
	8	5.801	32	29	63	56
	10	7.153	28	26	60	53
	12	8.690	27	24	58	51
60*40	2	1.739	21	19	43	36
	4	3.461	23	21	56	49
	6	5.181	33	30	64	57
	8	6.911	32	29	63	56
	10	8.649	30	28	62	55
	12	10.375	29	26	60	53
80*40	2	2.301	22	20	44	37
	4	4.611	23	21	56	49
	6	6.915	35	32	66	59
	8	9.222	33	30	64	57
	10	11.526	30	28	62	55
	12	13.822	29	26	60	53

**HEPA FILTER BOX – CKF-01 /CKF-01A**



**CKF-01**



**CKF-01A**

**AREAS OF USAGE AND FEATURES:** CKF-01/01A Hepa filter boxes are used together with HEPA filter and diffuser in places where hygiene is required. Hepa filter is manufactured in a structure with a full leak-proof feature. Since the filter and diffuser must be removed frequently, they are easy to install. Hepa filter boxes are manufactured in two ways as side or top, considering the conditions in the worksite environment. The Additional blind case is used in clip-in ceiling applications.

**MATERIAL:** It is manufactured as welded from 1,2 mm DKP plate as standard. Box surfaces are covered with electrostatic paint. Optionally, it can be manufactured from 1.2 mm stainless plate.

**INSTALLATION:** Diffuser assembly is bolted from the hub as standard.

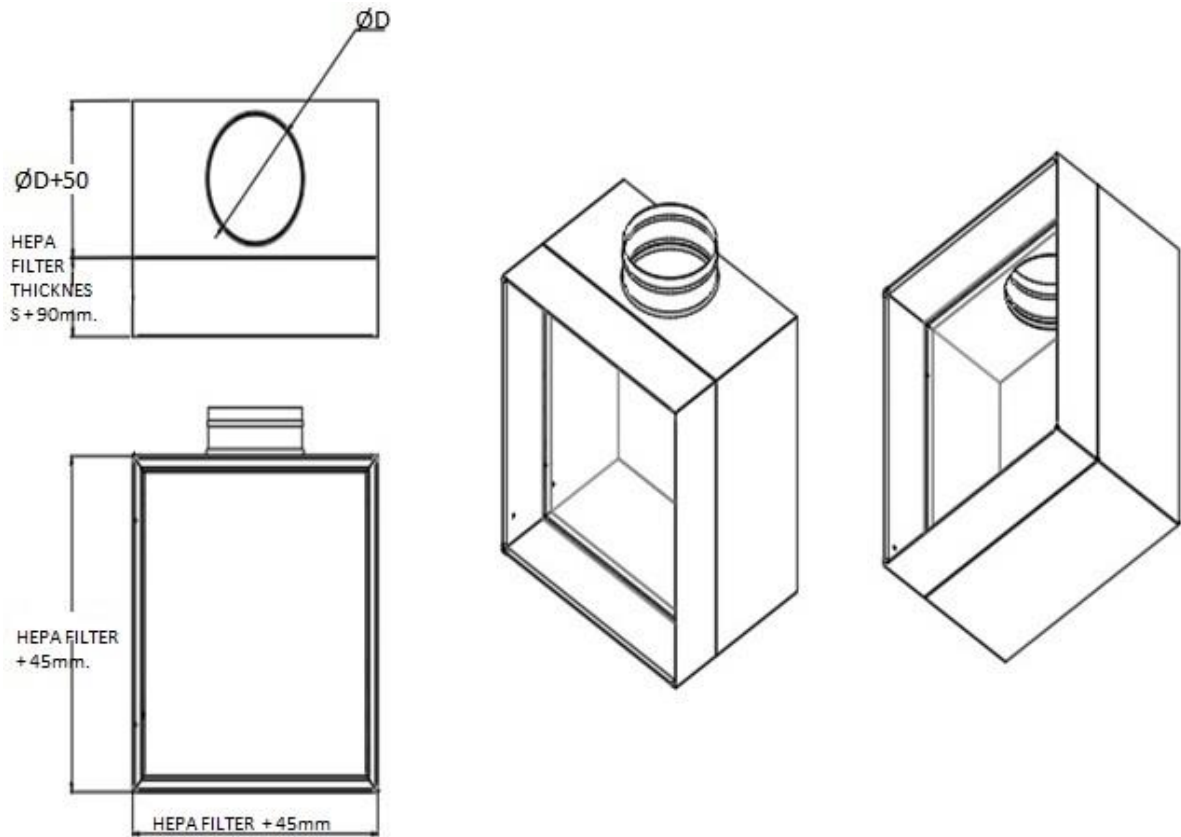
**COATING:** Electrostatic painted or 304 stainless

**ACCESSORIES:** Regulatory damper, Hepa filter, Diffuser

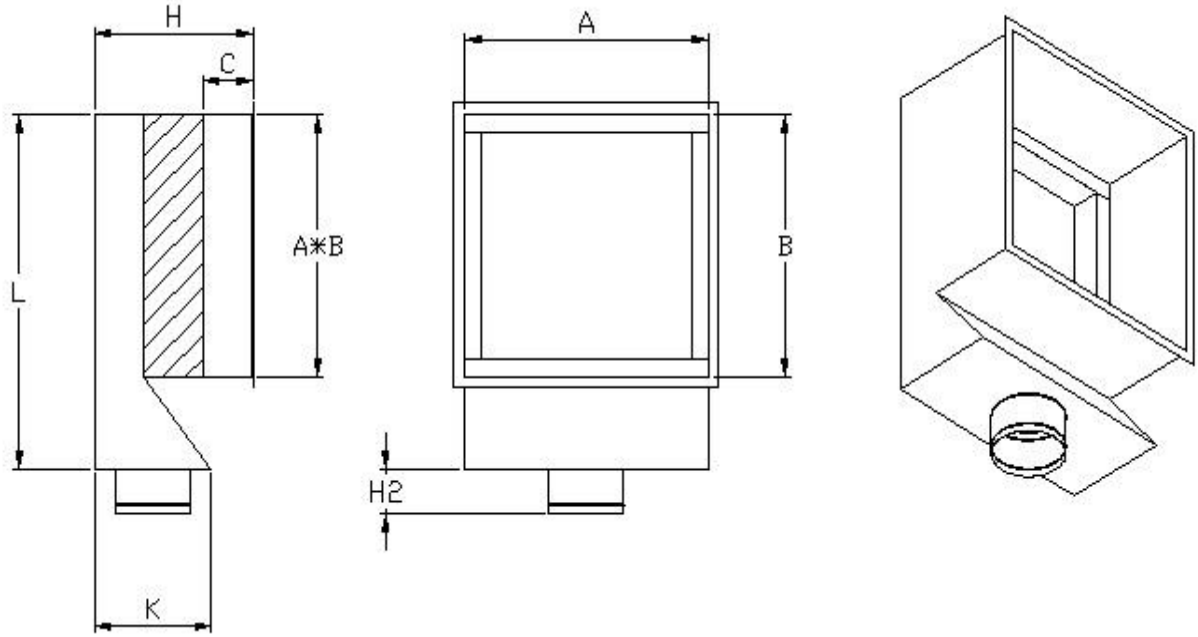


**TECHNICAL MEASUREMENT**

**CKF-01 - HEPA FILTER BOX WITH SIDE ENTRY:**

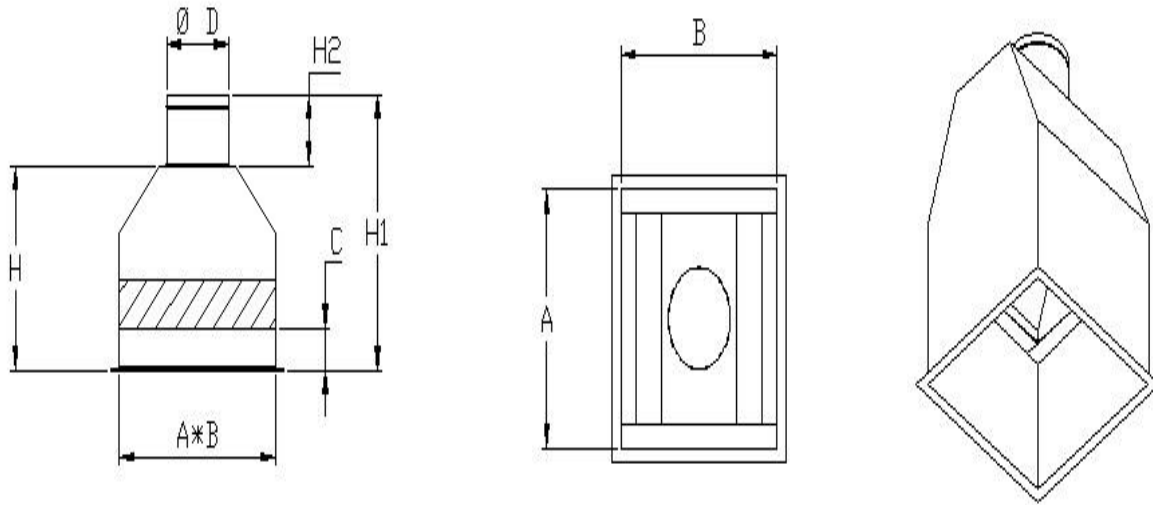


**CKF-01A - SIDE INLET HEPA FILTER BOX:**



HEPA FILTER BOX SIDE ENTRY (H13 HEPA FILTER)										
HEPA FILTER DIMENSIONS	SURFACE AREA (m <sup>2</sup> )	AIR FLOW (m <sup>3</sup> / h)	PRESSURE LOSS (Pa)	A	B	C	Ø D	H	K	H2
305*305*78	2,5	150	110	345	345	100	145	291	195	100
457*457*78	5,6	335	110	497	497	100	195	316	245	100
535*535*78	9,1	460	110	575	575	100	195	316	245	100
575*575*78	9,7	535	110	615	615	100	195	316	245	100
305*610*78	5,1	300	110	345	650	100	195	316	245	100
457*610*78	7,2	450	110	497	650	100	195	316	245	100
610*610*78	10,2	610	110	650	650	100	195	316	245	100
610*762*78	12,5	750	110	650	800	100	195	316	245	100
610*915*78	15,1	900	110	650	955	100	250	343	300	100
610*1220*78	20,6	1200	110	650	1260	100	315	376	365	100
305*305*149	3,8	250	250	345	345	100	145	362	195	100
457*457*149	8,5	560	250	497	497	100	195	387	245	100
535*535*149	12,9	770	250	575	575	100	195	387	245	100
575*575*149	13,8	900	250	615	615	100	195	387	245	100
305*610*149	7,5	500	250	345	650	100	195	387	245	100
457*610*149	9,9	750	250	497	650	100	195	387	245	100
610*610*149	14,9	1000	250	650	650	100	195	387	245	100
610*762*149	18,6	1250	250	650	800	100	195	387	245	100
610*915*149	22,4	1560	250	650	955	100	250	414	300	100
610*1220*149	29,8	2000	250	650	1260	100	315	447	365	100

**TOP ENTRY HEPA FILTER BOX:**



HEPA FILTER BOX SIDE ENTRY (H13 HEPA FILTER)										
HEPA FILTER DIMENSIONS	SURFACE AREA (m <sup>2</sup> )	AIR FLOW (m <sup>3</sup> / h)	PRESSURE LOSS (Pa)	A	B	C	Ø D	H	H1	H2
305*305*78	2,5	150	110	345	345	100	145	240	340	100
457*457*78	5,6	335	110	497	497	100	195	240	340	100
535*535*78	9,1	460	110	575	575	100	195	240	340	100
575*575*78	9,7	535	110	615	615	100	195	240	340	100
305*610*78	5,1	300	110	345	650	100	195	240	340	100
457*610*78	7,2	450	110	497	650	100	195	240	340	100
610*610*78	10,2	610	110	650	650	100	195	240	340	100
610*762*78	12,5	750	110	650	800	100	195	240	340	100
610*915*78	15,1	900	110	650	955	100	250	240	340	100
610*1220*78	20,6	1200	110	650	1260	100	315	240	340	100
305*305*149	3,8	250	250	345	345	100	145	311	411	100
457*457*149	8,5	560	250	497	497	100	195	311	411	100
535*535*149	12,9	770	250	575	575	100	195	311	411	100
575*575*149	13,8	900	250	615	615	100	195	311	411	100
305*610*149	7,5	500	250	345	650	100	195	311	411	100
457*610*149	9,9	750	250	497	650	100	195	311	411	100
610*610*149	14,9	1000	250	650	650	100	195	311	411	100
610*762*149	18,6	1250	250	650	800	100	195	311	411	100
610*915*149	22,4	1560	250	650	955	100	250	311	411	100
610*1220*149	29,8	2000	250	650	1260	100	315	311	411	100



**FIBER HOLDER FILTER - CKF-02**



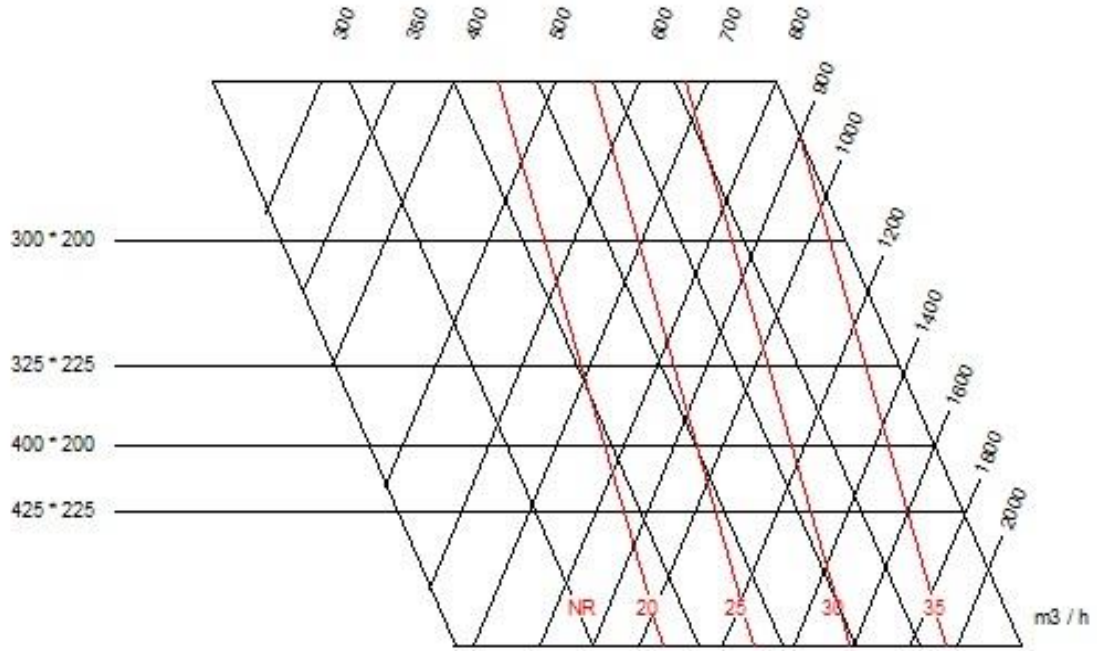
**AREAS OF USAGE AND FEATURES:** It is used as a suction grille in HVAC systems and operating room, intensive care rooms, clean rooms, laboratories and textile companies where hygiene is important. It prevents the particles in the absorbed air from accumulating in the channel and causing damage to the device and collecting on the grill. The grille part is easily removed and installed during cleaning

**MATERIAL:** Optionally, it is manufactured from 304-316 stainless material. Filter pore structure complies with DIN 4185 standards

**INSTALLATION:** Without screws as standard

**COAT:** 304-316 Stainless

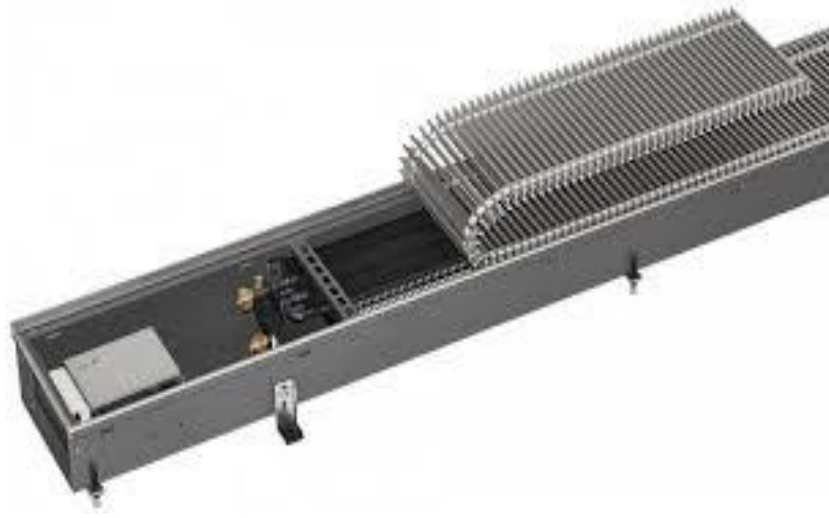




hava hızı  
V<sub>k</sub> 1,5 2 2,5 3 3,5 4 5 m / s

basınç kaybı 6 11 16 24 32 42 65 Pa

**FLOOR CONVECTOR - NATURAL CONVECTION - CKYK-01**



**CKYK-01**

**Material:** The body is made of aluminium or galvanized material in black. The blades can be made of anodized material or made of wood. The wings are manufactured parallel to the short edge. It can be manufactured with or without a frame of 10 mm-22mm-32 mm upon request. The batteries used in the device are 1/2 " PN16 class copper tube and aluminium fins. Easy-to-use levelling bolts are used in flooring applications. In devices with forced convection, 24v or 230v -50 Hz low noise level tangential fans are used. Functionally, electronic cards are used in the devices. With the electronic card, fan motors can be used in two stages and motorized valves can be controlled.

**Place of Use:** It can be used with forced convection in heating and cooling in HVAC systems. Floor convectors are devices that can be used as an alternative to underfloor heating systems. Wall applications are not required like old generation devices. The devices placed under the floor have a stylish appearance with metallic or wooden grilles following architectural applications. Since the wings are parallel to the short edge, their load carrying capacity is high. Hot water or cold water can be used in the device. Forced convection floor convectors can be used as a primary heater and main heater. Forced convection floor convectors are used to prevent evaporation on glass surfaces and to reduce the heat load of the environment.

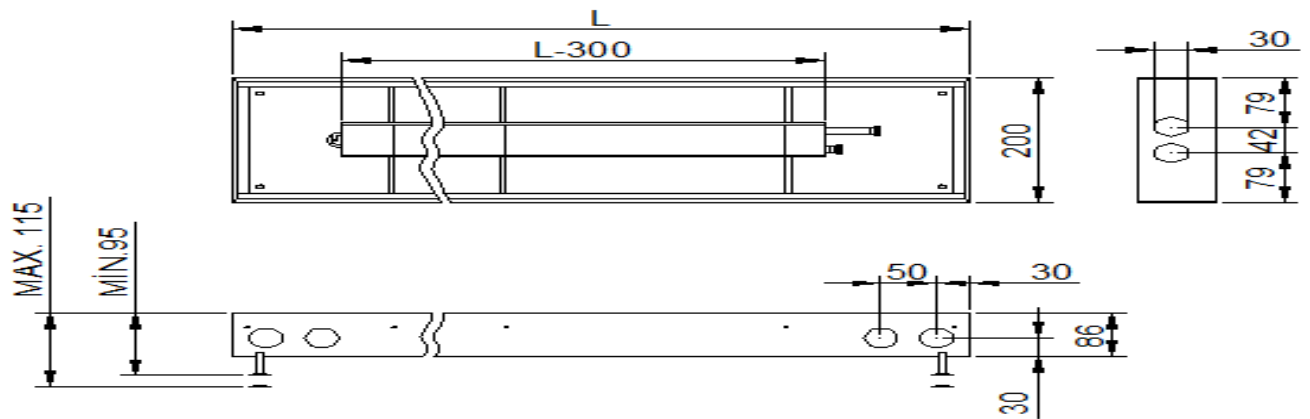
**Assembly:** Screwless as standard.

**Coating:** Painted

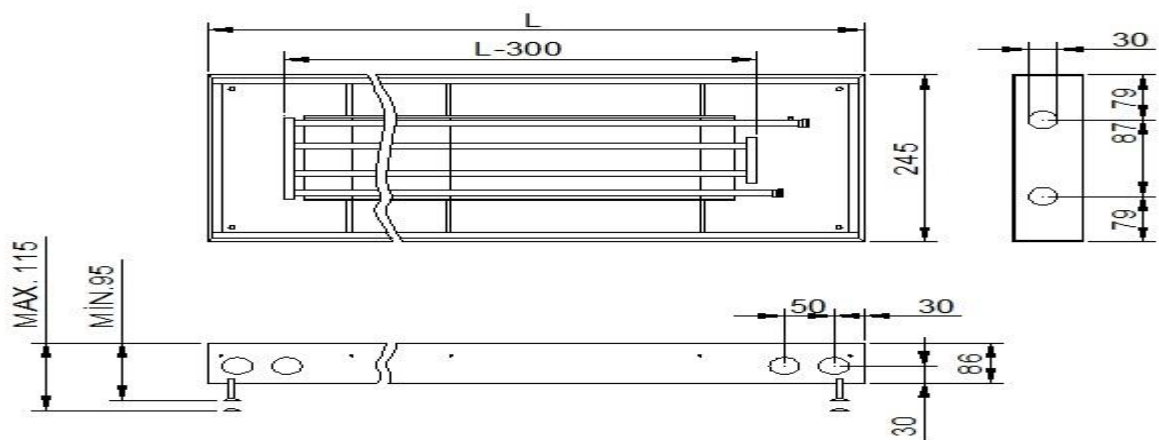


**CKYK- 01 – FLOOR CONVECTOR WITH NATURAL CONVECTION**  
**TECHNICAL MEASUREMENT**

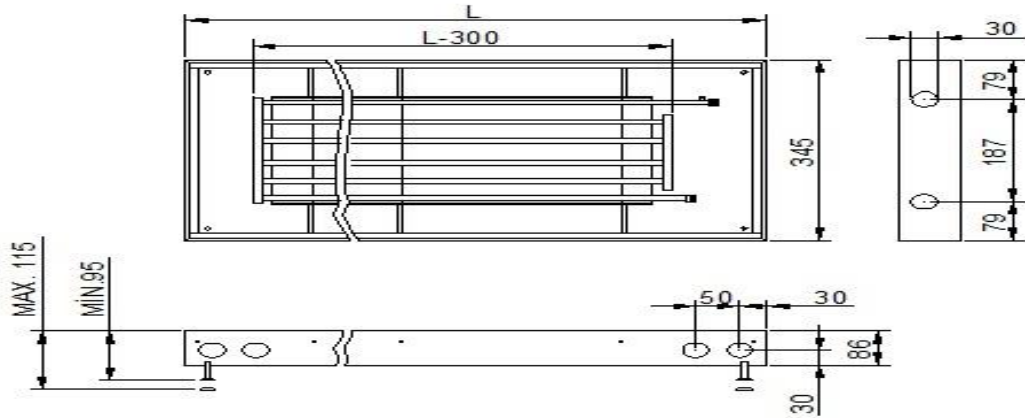
**CKYK – 01 A**



**CKYK – 01 B**



**CKYK – 01 C**



**CKYK – 1A – 1B – 1C SELECTION CHART FOR FLOOR CONVECTORS WITH NATURAL CONVECTION**

SUPPLY INLET AND OUTLET WATER TEMPERATURE		70 °C - 90 °C			60 °C - 80 °C			55 °C - 70 °C			40 °C - 55 °C		
CONVECTOR MODEL		YK - 1A	YK - 1B	YK - 1C	YK - 1A	YK - 1B	YK - 1C	YK - 1A	YK - 1B	YK - 1C	YK - 1A	YK - 1B	YK - 1C
CONVECTOR DIMENSIONS mm. (W/H)		1R/2T-200*86	1R/4T-245*86	1R/6T-345*86	1R/2T-200*86	1R/4T-245*86	1R/6T-345*86	1R/2T-200*86	1R/4T-245*86	1R/6T-345*86	1R/2T-200*86	1R/4T-245*86	1R/6T-345*86
CONVECTOR LENGTH mm. (W)	SERPANTINE LENGTH mm (L)	CONVECTOR HEATING CAPACITIES ( W )											
		1000	700	241	367	536	199	304	444	171	262	383	106
1250	950	327	491	735	268	406	598	230	349	514	141	224	331
1500	1200	391	611	922	338	506	723	289	437	620	179	281	399
1750	1450	492	765	1088	406	604	876	348	521	759	215	336	469
2000	1700	574	955	1158	474	730	949	406	631	815	252	406	502
2250	1950	663	1014	1317	540	783	1084	462	686	930	286	430	567
2500	2200	747	1065	1373	574	846	1134	491	740	972	309	454	594
2750	2450	811	1109	1423	605	901	1179	516	779	1010	323	474	618
3000	2*1200	781	1222	1844	674	1012	1447	578	873	1241	359	561	800
3500	2*1400	985	1529	2176	811	1208	1751	695	1042	1518	430	670	938
4000	2*1700	1148	1911	2317	947	1460	1899	811	1264	1631	504	811	1002

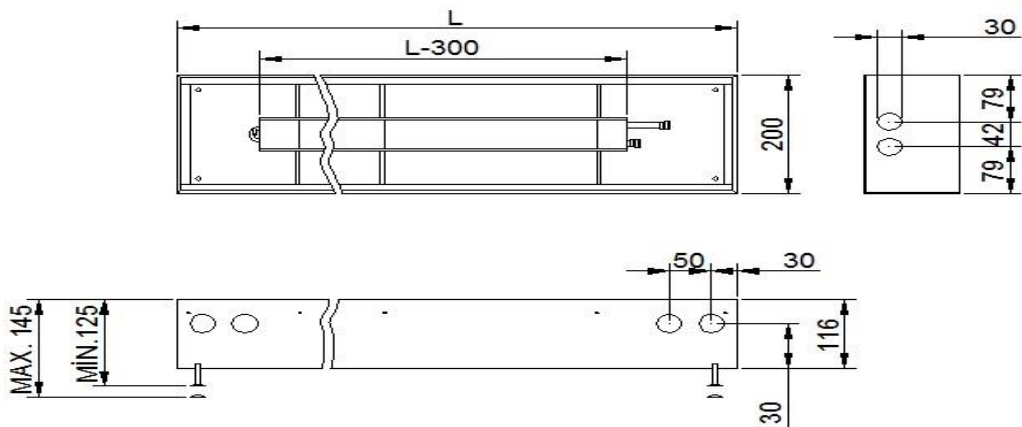
Ambient temperature has been accepted as 18°C.



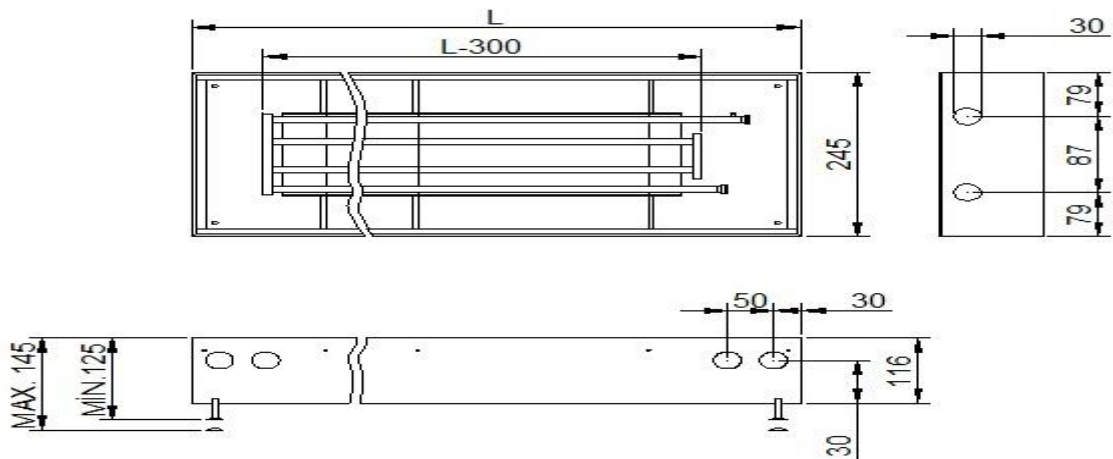


WE KNOW THE VALUE OF SILENT AND COMFORTABLE WORK

**CKYK - 01 AD**

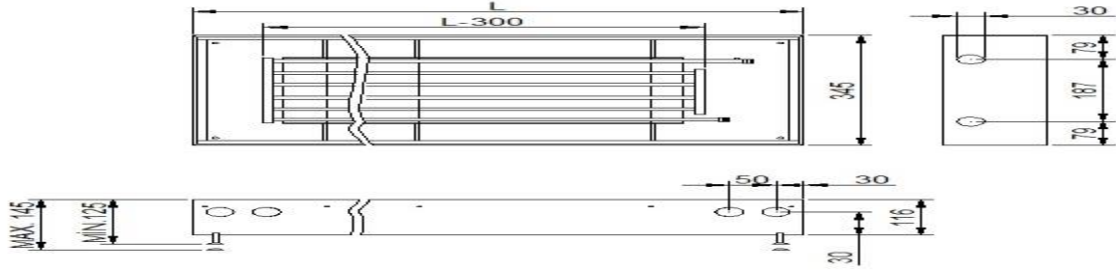


**CKYK - 01 BD**





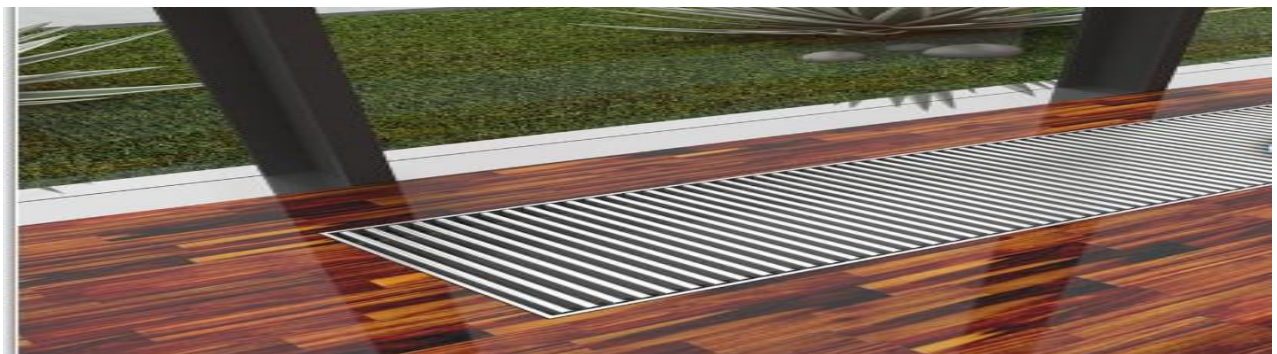
**CKYK – 01 CD**



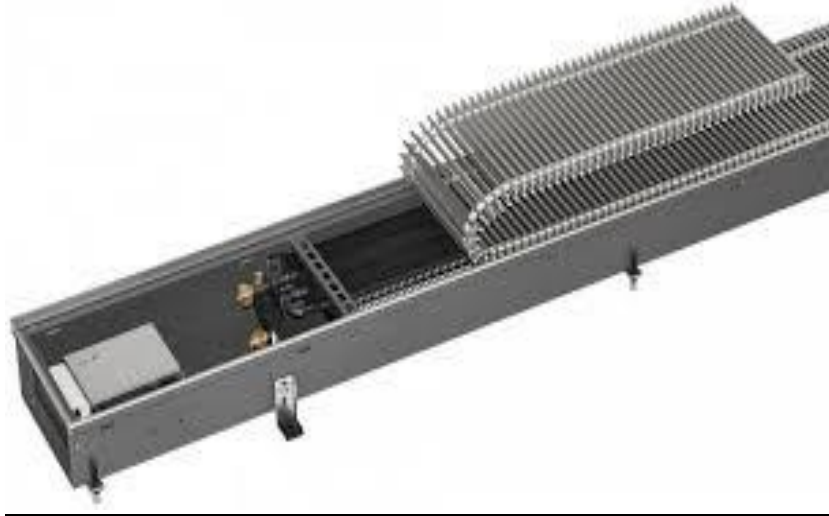
**CKYK – 1AD – 1BD – 1CD SELECTION CHART FOR FLOOR CONVECTORS WITH NATURAL CONVECTION**

SUPPLY INLET AND OUTLET WATER TEMPERATURE		70 °C - 90 °C			60 °C - 80 °C			55 °C - 70 °C			40 °C - 55 °C		
CONVECTOR MODEL		YK - 1AD	YK - 1BD	YK - 1CD	YK - 1AD	YK - 1BD	YK - 1CD	YK - 1AD	YK - 1BD	YK - 1CD	YK - 1AD	YK - 1BD	YK - 1CD
CONVECTOR DIMENSIONS mm. (W/H)		2R/4T-200*116	2R/8T-245*116	2R/12T-345*116	2R/4T-200*116	2R/8T-245*116	2R/12T-345*116	2R/4T-200*116	2R/8T-245*116	2R/12T-345*116	2R/4T-200*116	2R/8T-245*116	2R/12T-345*116
CONVECTOR LENGTH mm. (W)	SERPANTINE LENGTH mm (L)	CONVECTOR HEATING CAPACITIES (W)											
1000	700	385	588	857	319	486	711	273	419	612	169	268	394
1250	950	523	785	1176	429	649	957	368	558	822	225	359	530
1500	1200	625	977	1475	540	810	1156	463	699	993	287	449	639
1750	1450	787	1223	1741	649	966	1401	556	834	1214	343	537	750
2000	1700	919	1528	1853	759	1169	1519	649	1010	1304	403	649	803
2250	1950	1061	1623	2107	864	1253	1734	739	1098	1487	458	688	906
2500	2200	1195	1704	2196	919	1353	1815	785	1184	1556	495	727	950
2750	2450	1297	1774	2277	968	1441	1887	825	1246	1616	517	759	989
3000	2*1200	1250	1955	2950	1079	1619	2314	924	1397	1985	574	898	1280
3500	2*1400	1575	2446	3481	1297	1932	2802	1112	1667	2429	688	1072	1501
4000	2*1700	1837	3057	3707	1515	2336	3038	1297	2022	2610	806	1297	1603

Ambient temperature has been accepted as 18°C.



**FLOOR CONVECTOR WITH PENSTOCK CONVECTION - CKYK-02**



**CKYK-02**

**Material:** The body is made of aluminium or galvanized material in black. The blades can be made of anodized material or made of wood. The wings are manufactured parallel to the short edge. It can be manufactured with or without a frame of 10 mm-22mm-32 mm upon request. The batteries used in the device are 1/2 " PN16 class copper tube and aluminium fins. Easy-to-use levelling bolts are used in flooring applications. In devices with forced convection, 24v or 230v -50 Hz low noise level tangential fans are used. Functionally, electronic cards are used in the devices. With the electronic card, fan motors can be used in two stages and motorized valves can be controlled.

**Place of Use:** It can be used with forced convection in heating and cooling in HVAC systems. Floor convectors are devices that can be used as an alternative to underfloor heating systems. Wall applications are not required like old generation devices. The devices placed under the floor have a stylish appearance with metallic or wooden grilles following architectural applications. Since the wings are parallel to the short edge, their load carrying capacity is high. Hot water or cold water can be used in the device. Forced convection floor convectors can be used as a primary heater and main heater. Forced convection floor convectors are used to prevent evaporation on glass surfaces and to reduce the heat load of the environment.

**Assembly:** Screwless as standard.

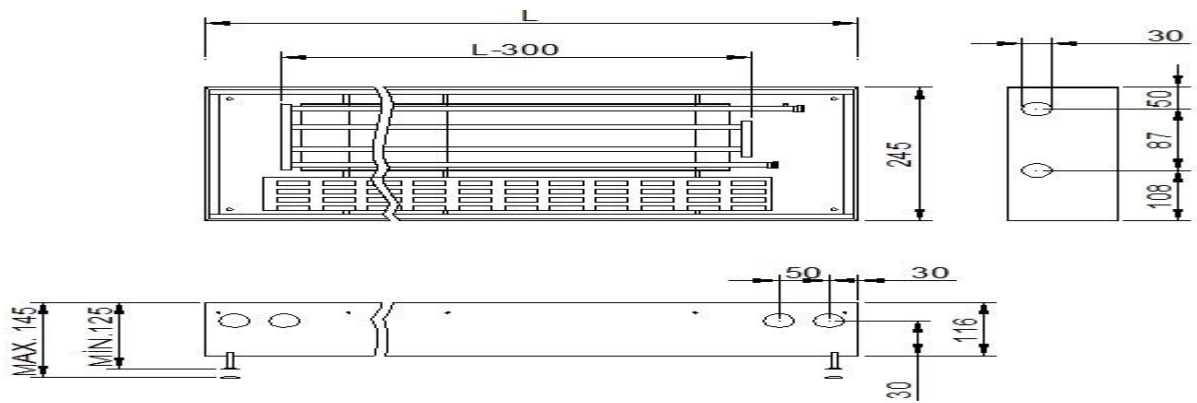
**Coating:** Painted



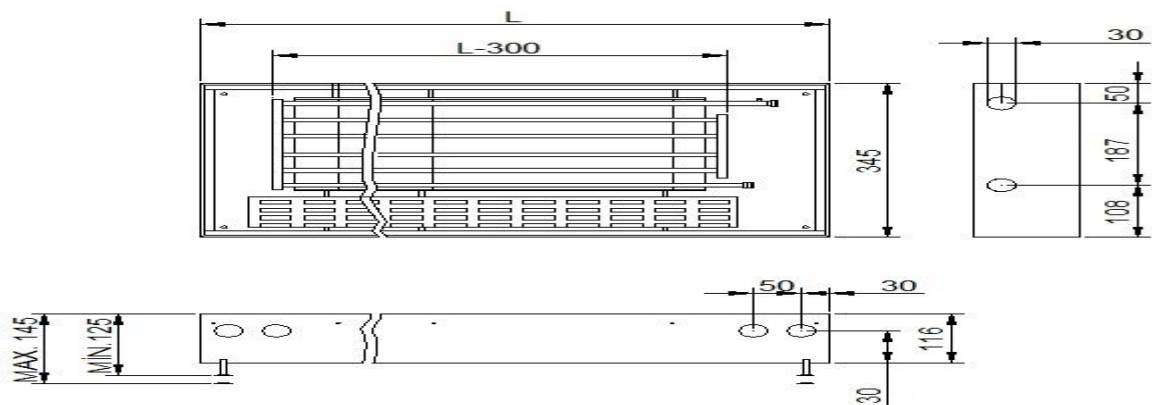
CKYK-02 - FLOOR CONVECTOR WITH PENSTOCK CONVECTION

TECHNICAL MEASUREMENT

KYK - 02 A



CKYK - 02 B



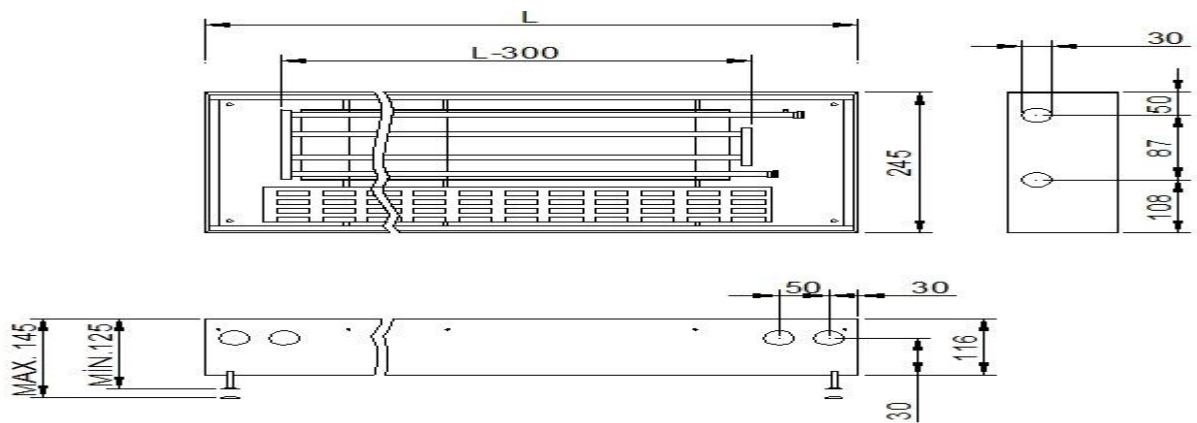
CKYK - 02 C



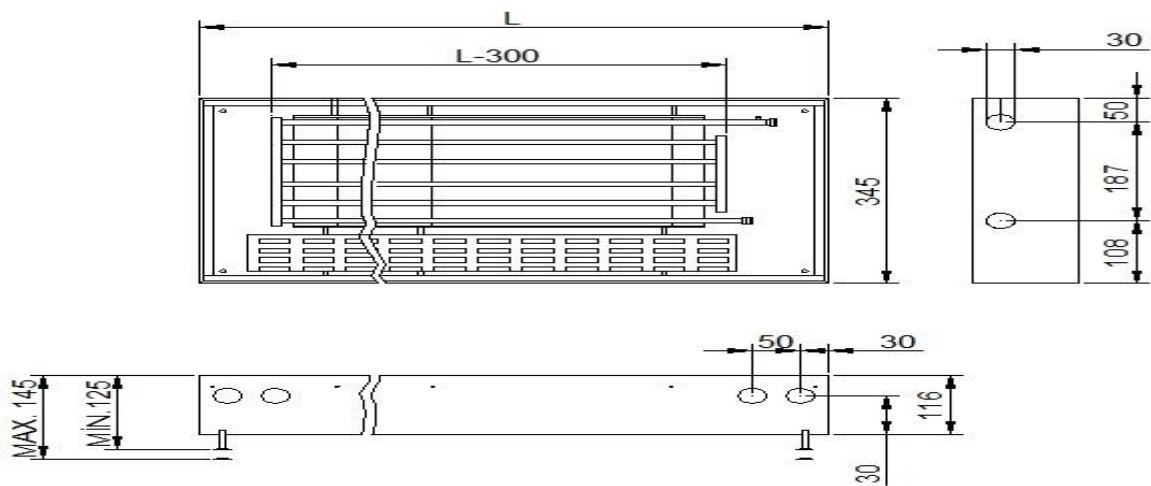
CONVERTER LENGTH mm. (W)	SERPENTINE LENGTH mm (L)	FAN QTY	CONVECTOR HEATING CAPACITIES (W)											
			211	326	368	562	454	701	172	222	271	439	361	566
1000	700	1	211	326	368	562	454	701	172	222	271	439	361	566
1250	950	2	349	453	549	889	729	1148	208	298	335	458	424	602
1500	1200	2	410	541	666	1063	838	1321	246	317	386	536	481	693
1750	1450	3	549	960	998	1527	1210	1880	329	419	525	721	662	1108
2000	1700	3	718	998	1045	1596	1271	2037	366	473	574	943	717	1225
2250	1950	4	964	1101	1089	1678	1302	2599	449	574	715	1257	1013	1588
2500	2200	4	1046	1432	1408	2199	1677	2752	487	629	842	1363	1079	1696
2750	2450	5	1280	1889	1808	2754	2136	3316	570	783	1050	1442	1322	2056
3000	2*1200	6	1429	1918	1996	3054	2419	3757	657	1007	1079	1665	1344	2210
3500	2*1400	6	1435	2203	2179	3356	2604	4075	732	10479	1149	1824	1433	2439
4000	2*1700	6	1485	2276	2252	3470	2692	4214	757	1061	1188	1824	1482	2533
4500	2*1950	8	1927	2864	2816	4396	3354	5198	900	1149	1431	1886	2027	3175

Ambient temperature has been accepted as 18°C.

CKYK – 02 AD



CKYK – 02 BD



CKYK – 02 CD





CONVECTOR DIMENSIONS mm. (W / H)		BATTERY	1R/2T- 200*116		1R/4T- 245*116		1R/6T- 345*116		1R/2T- 200*116		1R/4T- 245*116		1R/6T- 345*116	
FAN DEVİRİ			750	1500	750	1500	750	1500	750	1500	750	1500	750	1500
CONVECTOR LENGTH mm. (W)	SERPENTINE LENGTH mm (L)	FAN QTY	CONVECTOR HEATING CAPACITIES (W)											
			1000	700	1	338	521	588	899	726	1122	276	354	433
1250	950	2	558	724	879	1423	1166	1836	333	477	536	732	679	963
1500	1200	2	655	865	1065	1700	1341	2113	393	507	618	857	769	1109
1750	1450	3	879	1536	1596	2443	1935	3007	526	670	840	1154	1058	1772
2000	1700	3	1149	1596	1672	2554	2033	3259	586	756	919	1509	1147	1961
2250	1950	4	1542	1762	1742	2685	2083	4158	719	919	1144	2011	1621	2540
2500	2200	4	1673	2292	2253	3518	2683	4403	780	1006	1347	2181	1727	2713
2750	2450	5	2048	3022	2893	4407	3417	5305	912	1253	1680	2307	2115	3289
3000	2*1200	6	2286	3069	3194	4887	3871	6011	1052	1611	1727	2664	2150	3536
3500	2*1400	6	2297	3525	3486	5369	4166	6520	1171	16766	1838	2918	2293	3903
4000	2*1700	6	2376	3642	3604	5552	4308	6742	1211	1697	1900	2918	2370	4052
4500	2*1950	8	3083	4583	4506	7034	5366	8316	1440	1838	2290	3017	3242	5080

Ambient temperature has been accepted as 18°C.

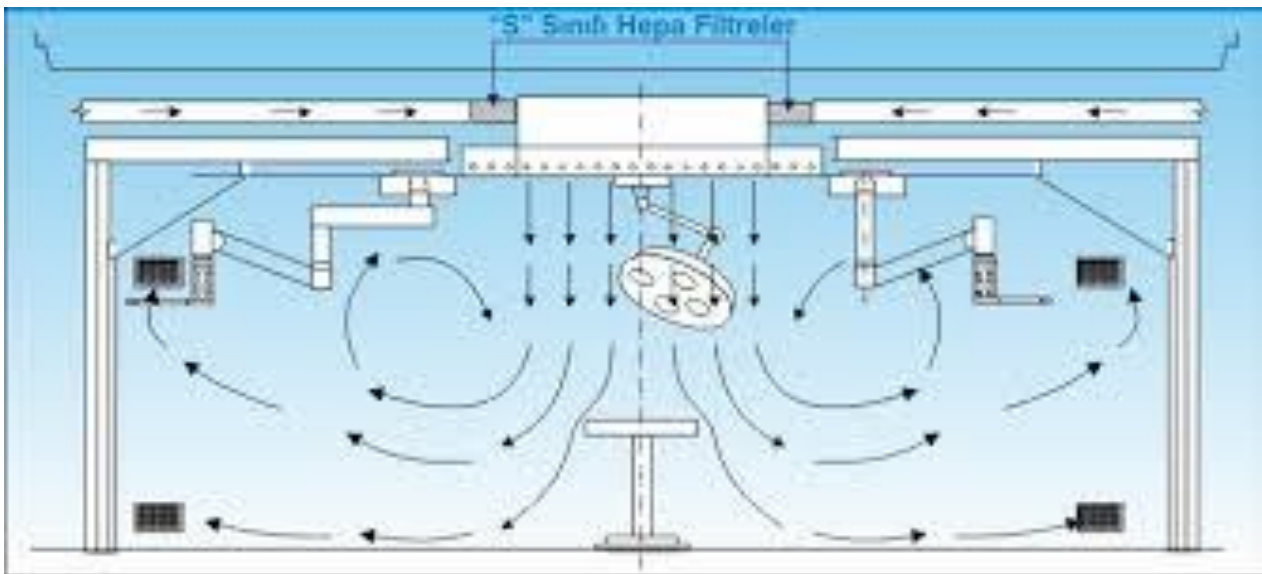
**LAMINEER FLOW UNITS - CKLF-01**



**USAGE AREA AND FEATURES:** It is given to the environment after being cleaned with hepa filters in operating theatres, intensive care rooms, clean rooms, laboratories, chemical industries, electronic industry and textile companies where hygiene is important in hvac systems. Should be between 0.23 m/s. Especially in the operating rooms, it ensures that the particles in the air given to the environment are prevented by laminar flow by passing through the laminar flow unit. Laminar flow provides ease of use thanks to its laminator, which can be easily disassembled and installed during maintenance.

**MATERIAL:** Made of 304-316 stainless material.

**SURFACE COATING:** Stainless.s as standard.



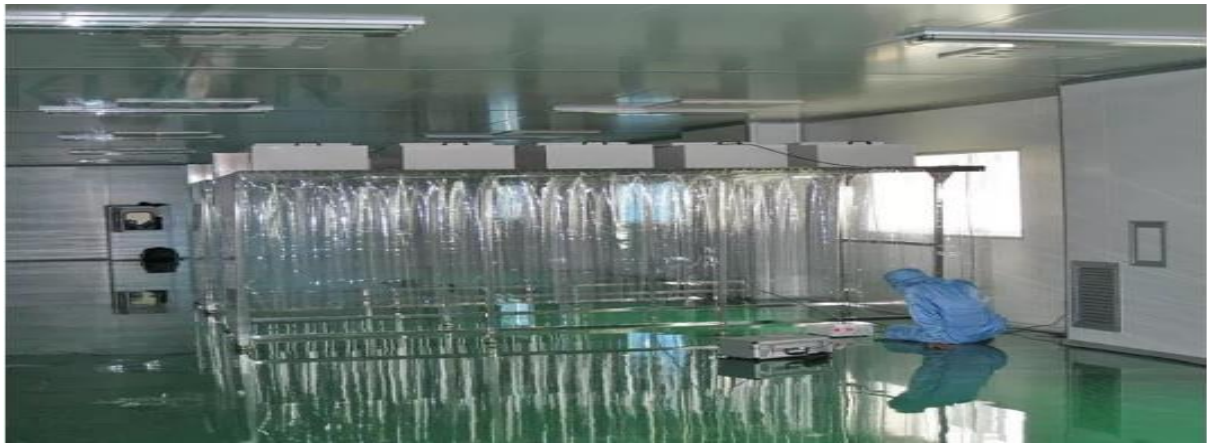
**VARIOUS USAGE AREAS**



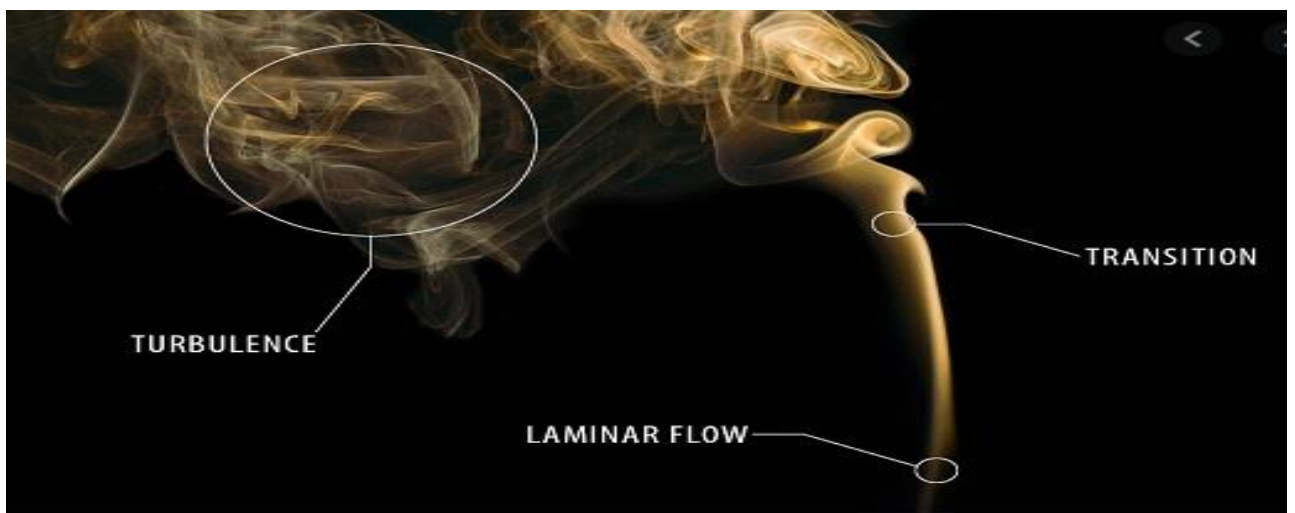
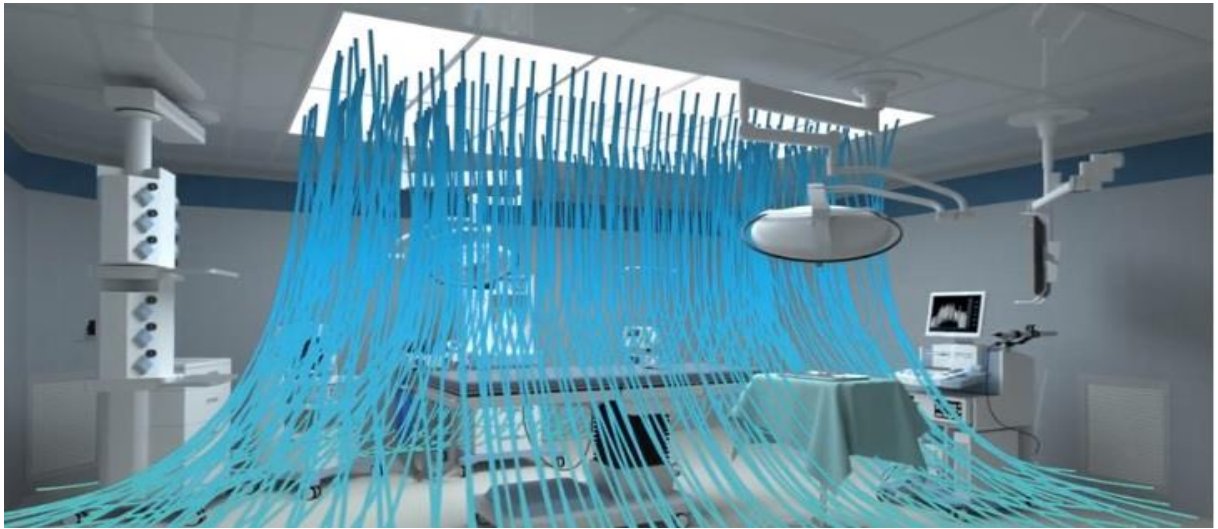
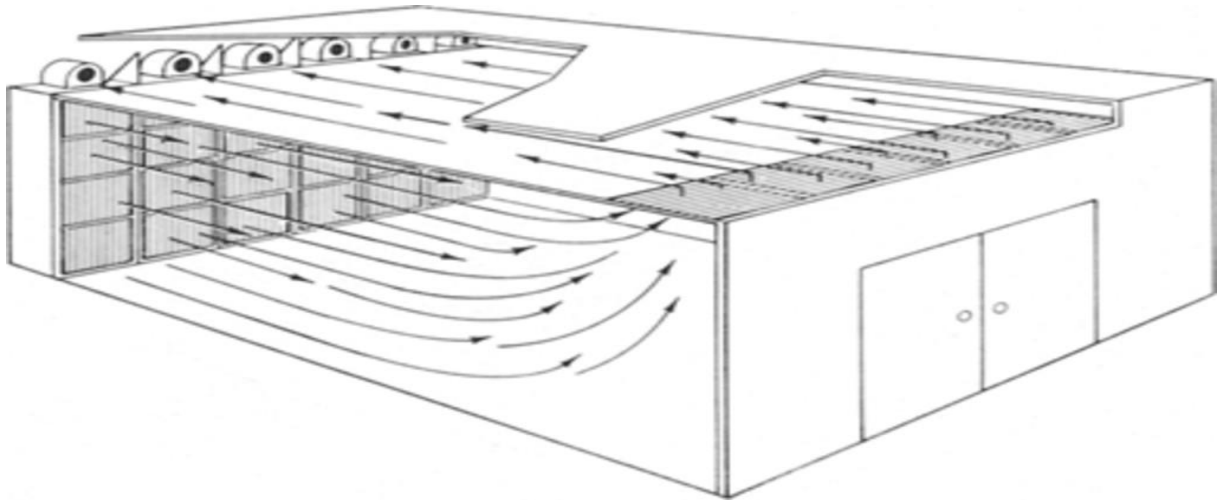
**OPERATING ROOMS**



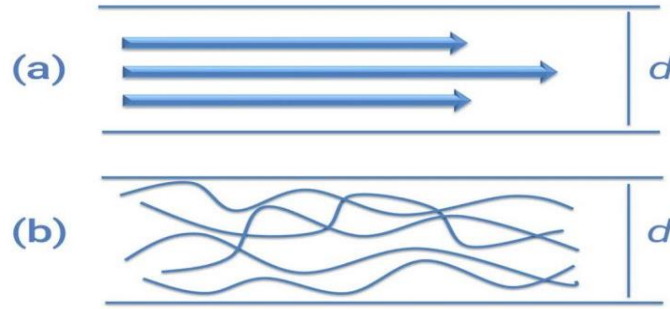
**CLEAN ROOMS**



**AIR FLOWS**







**TECNICAL DATA**

**LAMINEER FLOW TECNICAL DATA**

MODEL	SIZE	E mm.	B mm.	H mm.	DUCT SIZE.	HEPA FİLTRE	HEPA FİLTRE	AIRFLOW 0,23m/s	PRESSURE LOSS 0,23m/s
CKLF-1	1200*2400	1200	2400	450	60*30*2 ADET	610*305*292	H13 // H14	2400 m3/h	100 Pa
		1310	2510	450					
CKLF-2	1400*2400	1400	2400	450	60*30*4 ADET	610*305*292	H13 // H14	2800 m3/h	110 Pa
		1510	2510	450					
CKLF-3	1600*2400	1600	2400	450	60*30*4 ADET	610*305*292	H13 // H14	3200 m3/h	125 Pa
		1710	2510	450					
CKLF-4	1800*2400	1800	2400	450	60*30*4 ADET	610*305*292	H13 // H14	3600 m3/h	150 Pa
		1910	2510	450					
CKLF-5	2000*2400	2000	2400	450	60*30*4 ADET	610*305*292	H13 // H14	4000 m3/h	160 Pa
		2110	2510	450					
CKLF-6	2200*2400	2200	2400	450	60*30*4 ADET	610*305*292	H13 // H14	4400 m3/h	125 Pa
		2310	2510	450					
CKLF-7	2400*2400	2400	2400	450	60*30*6 ADET	610*305*292	H13 // H14	4800 m3/h	135 Pa
		2510	2510	450					
CKLF-8	3000*2400	3000	2400	450	60*30*6 ADET	610*305*292	H13 // H14	6000 m3/h	175 Pa
		3110	2510	450					
CKLF-9	3200*2400	3200	2400	450	60*30*6 ADET	610*305*292	H13 // H14	7000 m3/h	175 Pa
		3310	2510	450					
CKLF-10	3200*3200	3200	3200	450	60*30*6 ADET	610*305*292	H13 // H14	8000 m3/h	175 Pa
		3310	3310	450					



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## Duct Type Heaters

Duct type heaters are produced in special sizes in round and rectangular sections. The resistance parts of the heaters, whose body material is produced as galvanized sheet or stainless steel sheet, is 304 stainless steel, with pipes or by increasing the heating surface.

It is produced with serpentine where more efficient heating is obtained.

General usage areas are ventilation systems. These devices, which are specially produced according to different duct types and sizes, are used as a preheater to heat the outside air, and as a main or final heater to heat the environment or blowing air. Especially in cases where water system heaters cannot be used, they are very useful devices with easy installation possibilities to the duct.

Products can be produced with optional power and control equipment.

## Central Type Heaters

They are specially designed devices for air handling unit manufacturers. The products manufactured in accordance with the dimensions of the central cell are detailed in 2 different designs.

They are used as preheater, basic heater and / or post heater in all air handling units, especially hygienic air handling units.

All heaters have 70 °C and 110 °C (manual reset) safety thermostats as standard.



\* Zone 2 and Exproof upon special requests special products can be made.

# Rectangular Duct Type Electric Heater

## Rectangular Duct Type Electric Heater Power Range

Min. 0,5 kW - Max. 2.000 kW

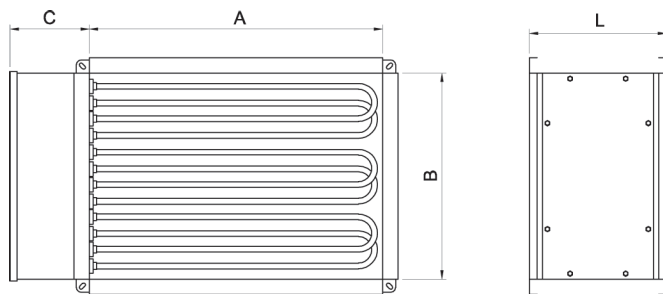
## Rectangular Duct Type Electric Heater Dimensions

A: Min. 200 mm / Max. 3000 mm

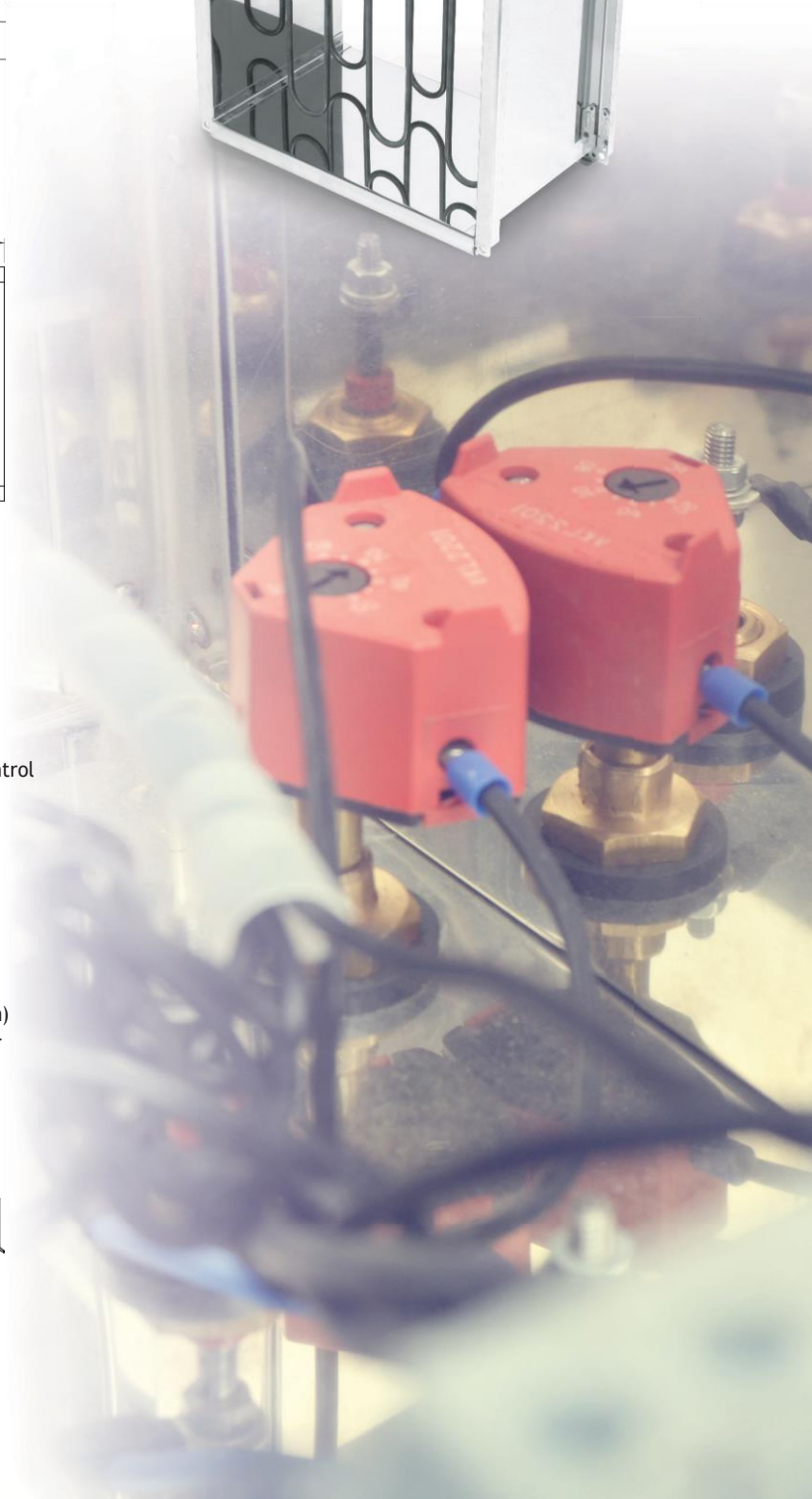
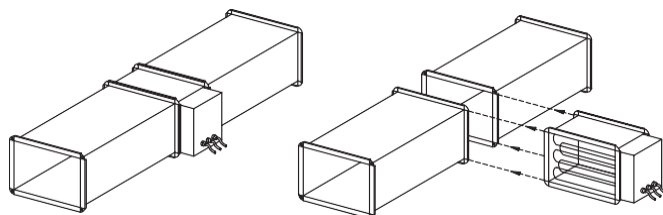
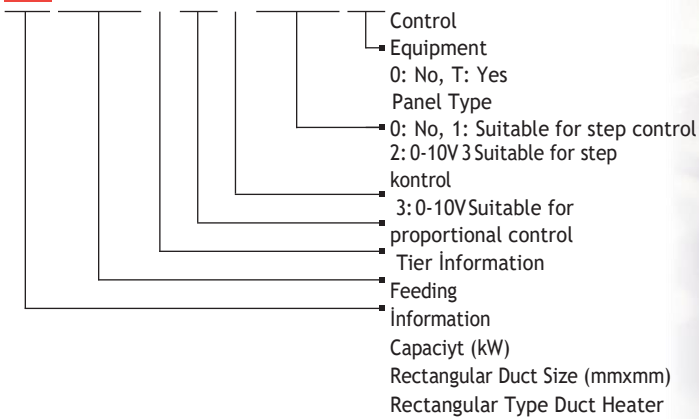
B: Min. 200 mm / Max. 3000 mm

L: Min. 150 mm / Max. 1000 mm

C: Standard 120 mm / If Control Equipment is 220 mm



**RRH-350x4006-380\_3-0/1/2/3-0/T**



# Round Duct Type Electric Heater

## Round Duct Type Electric Heater Powder

Min. 0,5 kW - Max. 12 kW

## Round Duct Type Electric Heater Dimensions

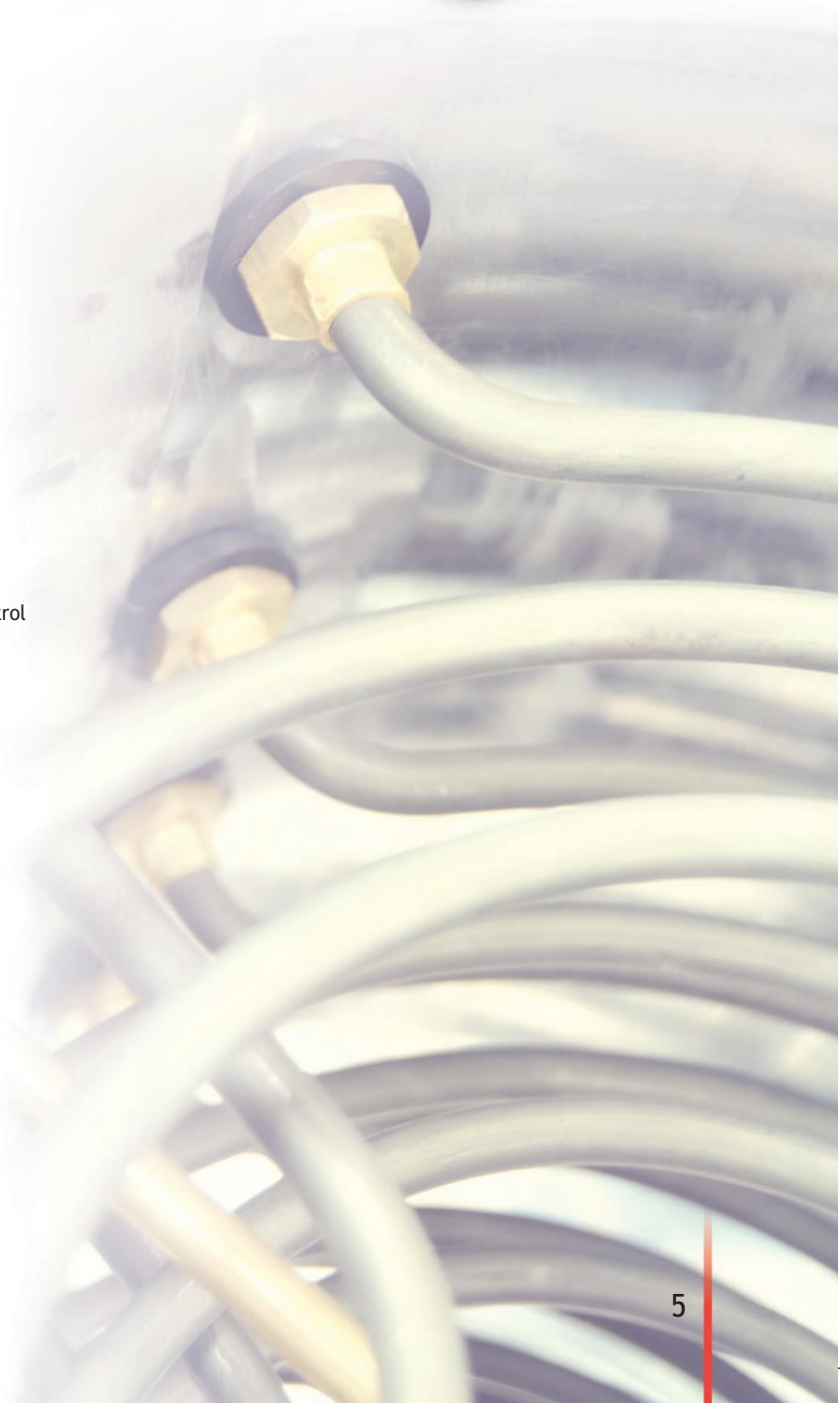
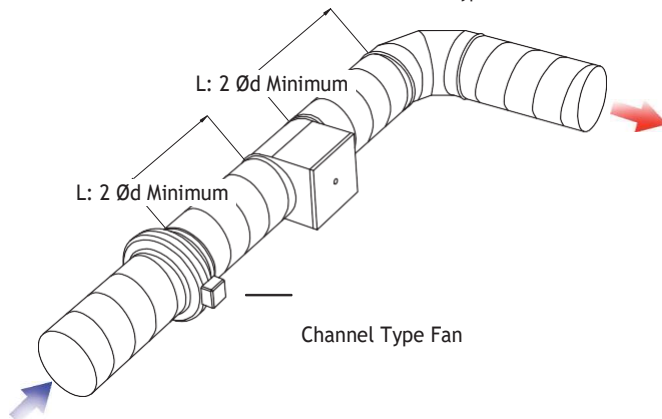
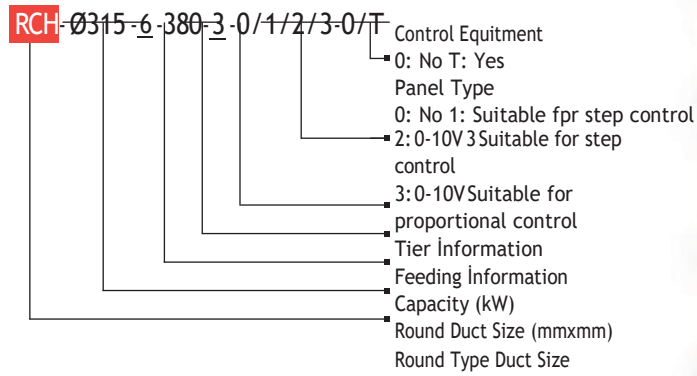
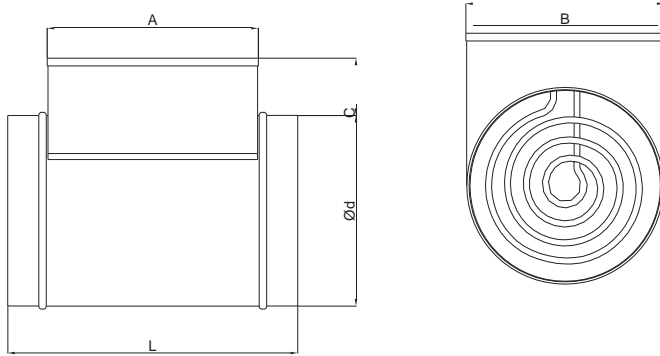
D: Min. 100 mm / Max. 500 mm

L: Standard 380 mm / Max. 500 mm

A: Min. 275 mm / Max. 395 mm

B: Standard 200mm

C: Standard 75 mm / If ther is control equipment 220 mm





# Standard Central Type Electric Heater

## Standard Plant Type Electric Heater Power Range

Min. 0,5 kw - Max. 2.000 kw

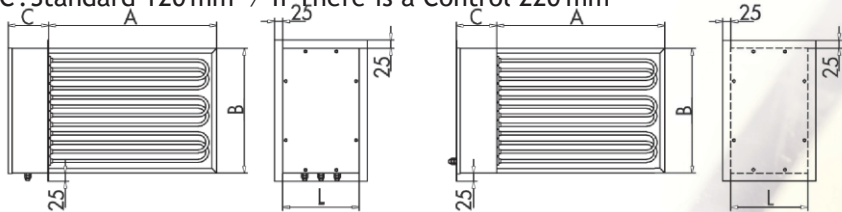
## Standard Central Type Electric Heater Dimensions

A: Min. 200 mm / Max. 3000 mm

B: Min. 200 mm / Max. 3000 mm

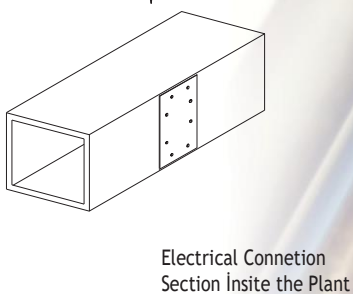
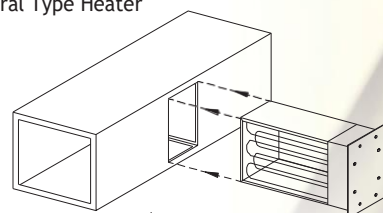
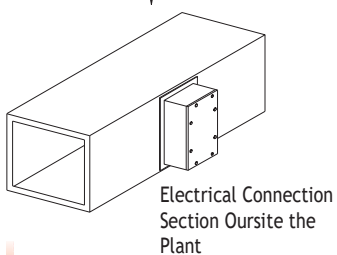
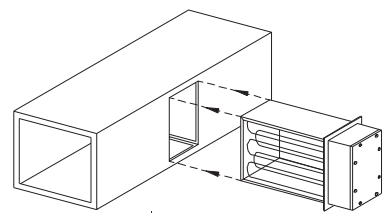
L: Min. 150 mm / Max. 1000 mm

C: Standard 120 mm / If There is a Control 220 mm



**FSH-350x400-380-3-0/1/2/3**

- Panel Type
- 0: No, 1: Suitable for step control
- 2: 0-10V Suitable for step control
- 3: 0-10V Suitable for proportional control
- Tier Information
- Feeding Information
- Capacity (kW)
- Power Plant Size (mmxmm)
- Central Type Heater



# Slide Type Electric Heater

## Slide Station Type Electric Heater Power Range

Min. 0,5 kW - Max. 2000 kW

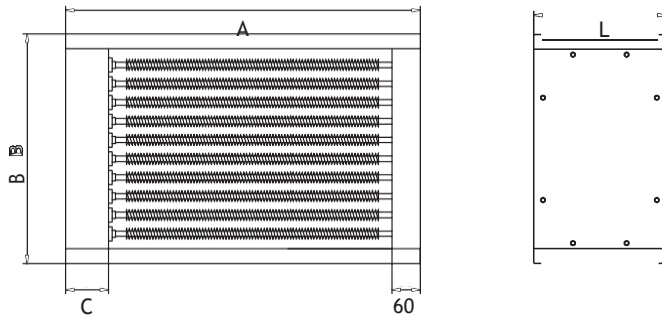
## Dimensions of Slide Station Type Electric Heater

A: Min. 500 mm / Max. 6000 mm

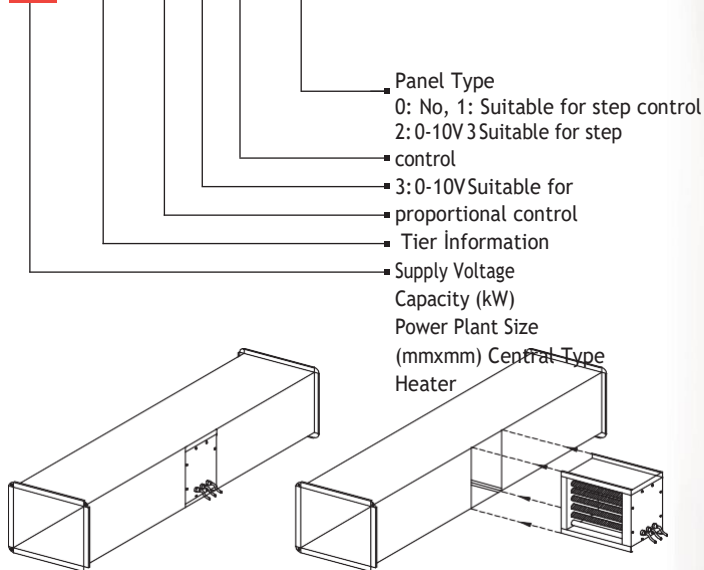
B: Min. 200 mm / Max. 3000 mm

L: Min. 150 mm / Max. 1000 mm

C: Standard 80 mm / If there is a Control Equipment 220 mm



**RSH-350x4006-380 3-07172/3**



# Calculations

## Capacity Calculation

- Electric heaters outlet temperature max. It should be desinged to be 50°C
- Air velocity in the electric heater min . It should be 1.5 m/s.

$$P = 0,36 \times Q \times \Delta T$$

P = Total Power (W)

Q = Air Flow (m<sup>3</sup> /h)

ΔT= Temperature difference (°C)

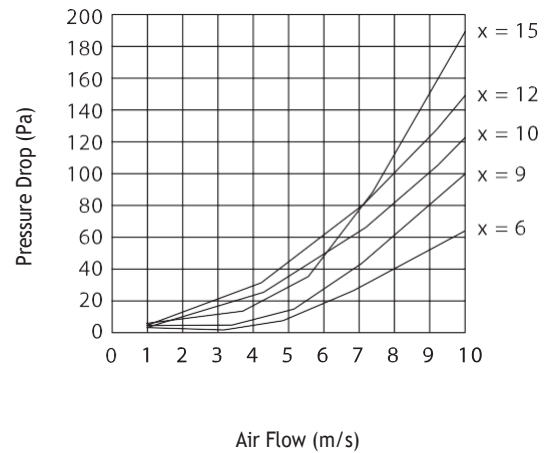
## Pressure Loss Calculation:

$$X = \frac{P}{S \times 15}$$

X = Number of Heating Resistance Rows

P = Total Power (kW)

S = Cross-Sectional Area (m<sup>2</sup>) (S = A x B)



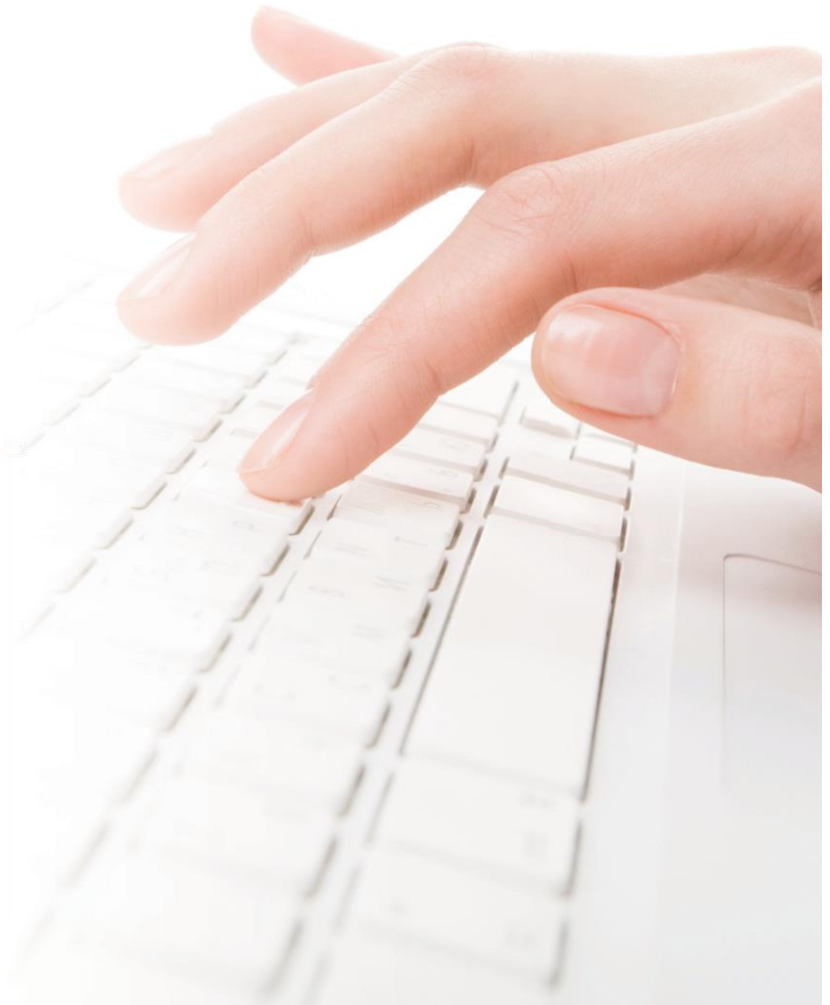
Pressure loss in the channel : Depends on the design speed and the number of resistances is calculated from the formula on the right and the number of rows and the pressure loss value corresponding to the appropriate air velocity is found in the graphic above.

# Points to Consider During Installation

- So that the condensation inside the duct does not damage the heater, the elections junction box should not stay in the downstream plane .
- To ensure proper airflow on duct type electrical heater; In the duct, equipment such as fans, bends and dampers should be installed at a certain distance. This distance; Diagonal length for rectangular type heater is two times of duct heater diameter for round type heater.

# Quality Control Tests

- Resistances/duct heaters produced are subjected to the functionality and electrical safety tests stated below.
- High voltage withstand test
- Leakage current test
- Hot insulation resistance test
- Cold insulation resistance test
- Work scenario test (optional)





## Control Equipment

### Safety Thermostats

There are two safety thermostats on the device that are activated at 70 C and 110 C. When the temperature in the device exceeds 70 C, the immersion type 70 C thermostat cuts the circuit and closes the heating contactor circuit. In case of any malfunction in the 70 C thermostat, when the temperature reaches 110 C, the 110 C thermostat with manual reset closes the contactor circuit. For the device to be reactivated, the Reset button must be pressed. To prevent this problem, which is usually encountered when the device is operated without airflow, devices should not be operated without airflow.



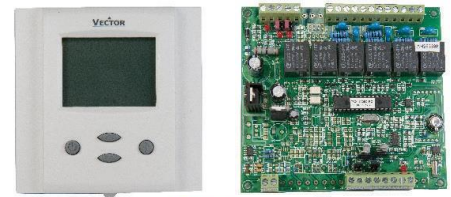
### Control Panel

Depending on the heater power, internal or external type panel can be applied on the device in line with the customer demand. Panels using equipment suitable for the requested control scenario are specially manufactured and delivered to the customer in working condition by performing scenario tests.



### On/Off Step Control Panel

It consists of a two-part structure, a control card + digital control panel. Provides On / Off control up to 3 steps. With the digital control panel, the user can adjust the temperature, temperature monitoring, manual/automatic temperature control. Used in the panel together with the step contactor circuit.



### Proportional Step Control Card

It performs On / Off control up to 3 steps with a 0-10V control signal sent from an external control panel and/or automation system. With the step contactor circuit in the panel used.

### Power Thyristör

It performs proportional control with a 0-10V control signal sent from an external control panel and/or automation system. The required control is provided with the product to be selected with power suitable for the total power of the electric heater, which is produced as a single stage.



### Air Flow Switch

It is a piece of safety equipment that prevents the electric heater from working when there is no airflow. It is connected in series to the contactor circuit.

### Temperature Sensors

They are used for temperature measurement in the channel where the heaters are connected. With the control panels they are connected to, the heater outlet temperature is controlled or limited.



# Resistances

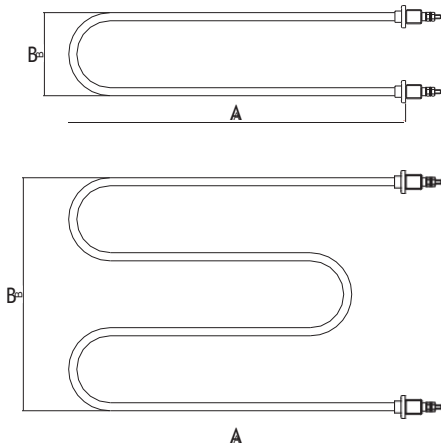
The resistances used as the main equipment in duct type electrical heaters are produced in 2 different types as tubular and serpentine. The resistance pipe is made of AISI 304 quality stainless material. Resistance; Centering of Ni / Cr 80/20 wire in the middle of the stainless pipe under vibration with MgO powder. It is produced by filling and compacting the MgO powder. Completed resistances are annealed in special annealing furnaces for easy bending and tempering. Easy assembly of the resistance to the casing is ensured with the M14 brass fitting used at the resistance ends..



Resistances can be produced in Ø6.5 mm, Ø8.5 mm and Ø11 mm diameters according to technical competence such as duct dimensions or usage areas. Serpentine resistances are produced by wrapping the coil made of AISI 304 stainless material in special winding machines on the resistance produced as tubular. Are Being.

## Resistance Power Range

Min. 0,4 kW - Max. 9,0 kW

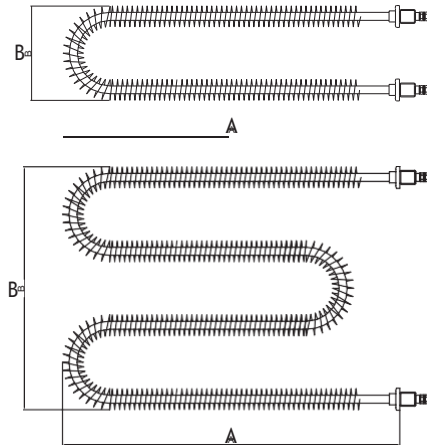


### Tubular Resistance U Type

A : Min. 200 mm - Max. 3.000 mm  
B : Min. 40 mm

### Tubular Resistance M Type :

A : Min. 200 mm - Max. 2.000 mm  
B : Min. 120 mm



### Serpentine Resistance U Type :

A : Min. 200 mm - Max. 3.000 mm  
B : Min. 70 mm

### Serpentine Resistance M Type :

A : Min. 200 mm - Max. 2.000 mm  
B : Min. 210 mm

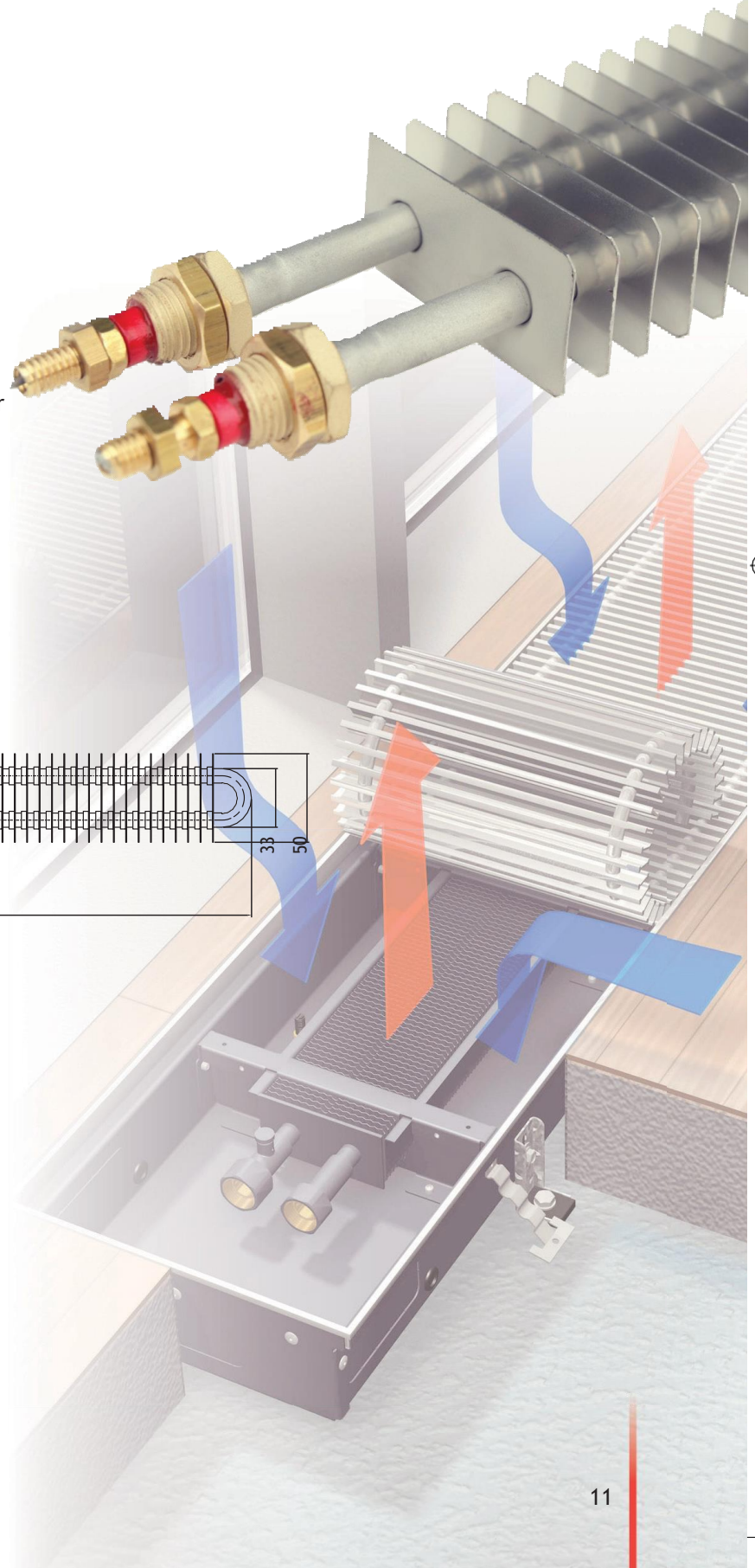
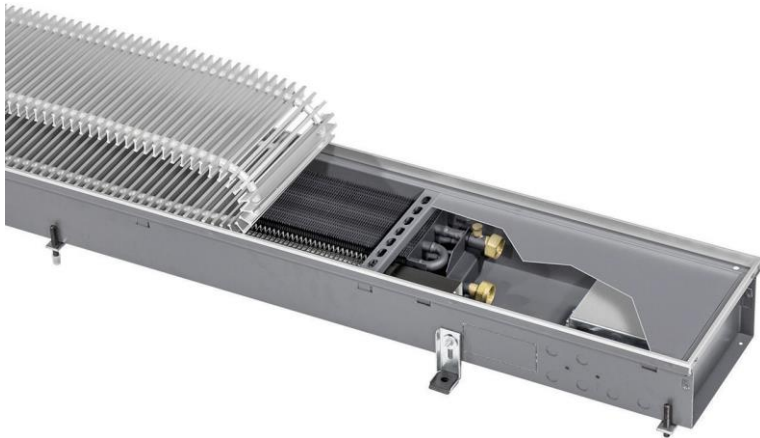
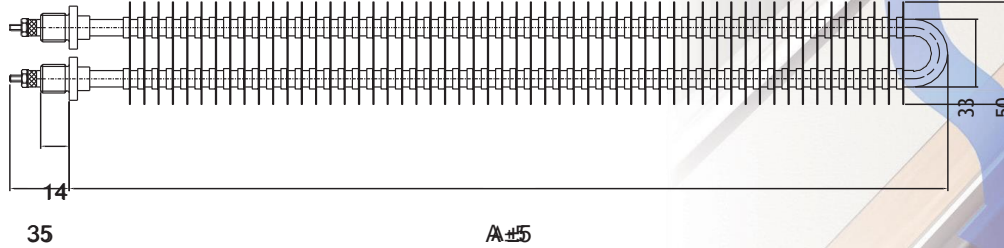
## Floor Convector Heaters

Nowadays, with the increase of glass facade structures (offices, interior centres, villas, etc.), the area of use is increasingly

These are the resistances specially designed for common floor convectors. Special moulds for U type heaters High heating efficiency is obtained by increasing the air contact surface thanks to the stainless steel blades installed. They ensure that floor convectors, which are mainly produced with water batteries, are electric batteries without any design changes. Prepared for floor convector producers, these products are produced entirely from 304 stainless steel material in different sizes and capacities by following per under the convector size..

**Floor Convector Heater Power Range :**  
Min. 0,4 kW - Max. 9,0 kW

**Floor Convector Heater Dimensions**  
A : Min. 200 mm / Max. 3000 mm



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