



CIRCULAR/ROUND CEILING DIFFUSER - BD

EFFECTIVE AREA Ak(m2)

SELECTION TABLE

Standard sizes ø A (mm)	ø B	Efective area (m ²)	Air volume(m ³ /h)	Throw max.(m)
150	290	0,015	135	
200	340	0,027	243	1,3
250	390	0,040	360	1,55
300	440	0,056	504	1,8
350	490	0,074	666	2,2
400	540	0,090	810	2,4
450	590	0,112	1048	2,7
500	640	0,135	1215	2,9
550	690	0,192	1728	3,6

Datas was chosen when the air velocity is 2,5 m/s and the velocity at throw distance is 0,25m/s.

Table-1

QUICK SELECTION TABLE

Neck Diameter ØDmm	Effective Area m ²	AIR VELOCITY m/s								
		1,5	2,0	2,5	3,0	4,0	5,0	6,0	7,0	8,0
150	0,015	81	108	135	162	216	270	324	378	432
200	0,027	146	194	243	292	389	486	583	680	778
250	0,040	216	288	360	432	576	720	864	1008	1152
300	0,056	302	403	504	605	806	1008	1210	1411	1613
350	0,074	400	533	666	799	1066	1332	1598	1865	2131
400	0,090	486	648	810	972	1296	1620	1944	2268	2592
450	0,112	605	806	1008	1210	1613	2016	2419	2822	3226
500	0,135	729	972	1215	1458	1944	2430	2916	3402	3888
550	0,192	1037	1382	1728	2074	2765	3456	4147	4838	5530

Not: Flow Rate m³/h

Table-2



SELECTION TABLE FOR CIRCULAR CEILING DIFFUSER

SIZE	AREA m ²		AIR VOLUME (m ³ /h)														
			200	300	400	500	600	700	800	900	1000	1400	2000	2500	3000		
150	0,015	Vk (m/s)	3,7	5,8	7,8	-	-	-	-	-	-	-	-	-	-		
		Pt (Pa)	15	36	63	-	-	-	-	-	-	-	-	-	-		
		Lt (m)	0,7	1,15	1,4	-	-	-	-	-	-	-	-	-	-		
		NR	25	38	48	-	-	-	-	-	-	-	-	-	-		
200	0,027	Vk (m/s)	2,1	3,2	4,2	5,2	6,1	7,3	-	-	-	-	-	-	-		
		Pt (Pa)	4,7	10	19	29	40	56	-	-	-	-	-	-	-		
		Lt (m)	-	0,8	1,15	1,35	1,7	1,9	-	-	-	-	-	-	-		
		NR	-	22	31	38	45	52	-	-	-	-	-	-	-		
250	0,040	Vk (m/s)	-	2,2	2,8	3,5	4,2	4,9	5,6	6,2	7,2	-	-	-	-		
		Pt (Pa)	-	5,1	7,9	13	19	26	33	40	47	53	-	-	-		
		Lt (m)	-	0,65	0,85	1,15	1,4	1,6	1,8	2,1	2,4	-	-	-	-		
		NR	-	-	21	27	33	38	44	47	50	-	-	-	-		
300	0,056	Vk (m/s)	-	-	2,0	2,5	3,0	3,5	4,0	4,5	5,0	7,0	-	-	-		
		Pt (Pa)	-	-	4,2	6,5	9	13	17	22	26	51	-	-	-		
		Lt (m)	-	-	0,72	0,92	1,1	1,35	1,5	1,7	1,8	2,7	-	-	-		
		NR	-	-	-	-	24	29	34	37	42	-	-	-	-		
350	0,074	Vk (m/s)	-	-	-	-	2,2	2,6	3,0	3,4	3,7	5,2	-	-	-		
		Pt (Pa)	-	-	-	-	5,1	7,3	9	12	15	29	7,5	-	-		
		Lt (m)	-	-	-	-	0,94	0,92	1,35	1,45	1,6	2,4	5,9	-	-		
		NR	-	-	-	-	-	26	30	37	45	3,5	-	-	-		
400	0,090	Vk (m/s)	-	-	-	-	-	2,2	2,4	2,8	3,1	4,3	5,0	6,2	-		
		Pt (Pa)	-	-	-	-	-	5,1	6,1	7,9	9,5	21	26	43	-		
		Lt (m)	-	-	-	-	-	1,0	1,2	1,35	1,4	2,2	2,7	3,5	-		
		NR	-	-	-	-	-	-	21	24	28	38	45	51	-		
450	0,112	Vk (m/s)	-	-	-	-	-	-	-	2,3	2,4	3,5	5,0	6,0	7,5		
		Pt (Pa)	-	-	-	-	-	-	-	-	5,4	6,1	13	26	38	59	
		Lt (m)	-	-	-	-	-	-	-	-	1,2	1,3	1,8	2,8	3,4	4,2	
		NR	-	-	-	-	-	-	-	-	-	22	32	47	52	-	
500	0,135	Vk (m/s)	-	-	-	-	-	-	-	-	-	2,1	2,8	4,1	5,0	6,0	
		Pt (Pa)	-	-	-	-	-	-	-	-	-	-	4,7	7,9	18	26	38
		Lt (m)	-	-	-	-	-	-	-	-	-	-	1,2	1,8	2,4	3,0	3,8
		NR	-	-	-	-	-	-	-	-	-	-	-	27	36	46	52
550	0,192	Vk (m/s)	-	-	-	-	-	-	-	-	-	-	2,0	2,8	3,7	4,5	
		Pt (Pa)	-	-	-	-	-	-	-	-	-	-	-	4,2	7,9	14	22
		Lt (m)	-	-	-	-	-	-	-	-	-	-	-	1,4	2,1	1,6	3,1
		NR	-	-	-	-	-	-	-	-	-	-	-	-	29	36	43

Table-3

SELECTION CRITERIAS
 Ceiling Height H(m)=3±05
 With ceiling effect
 Damper %100 open

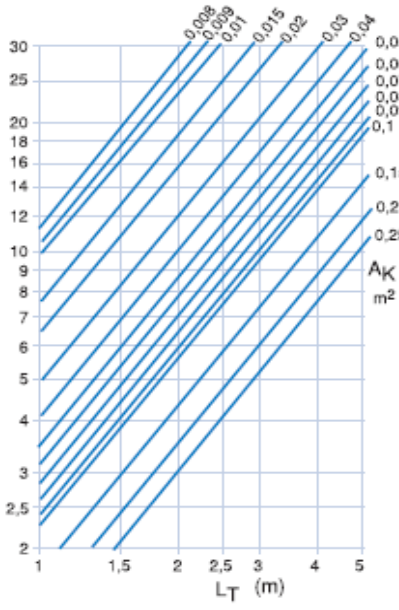


REGISTERS&GRILLES

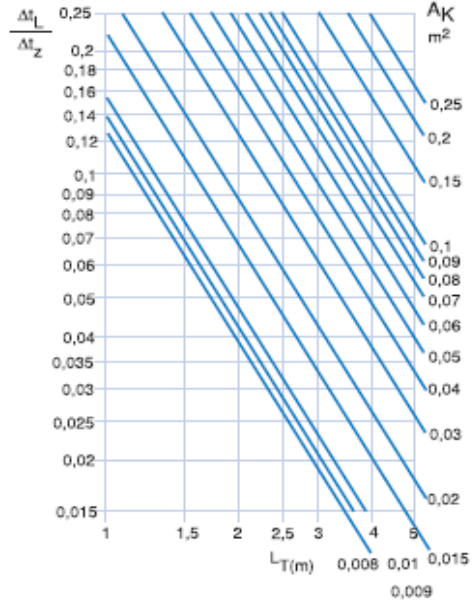
BD-Performance Data

TEMPERATURE VARIABLES

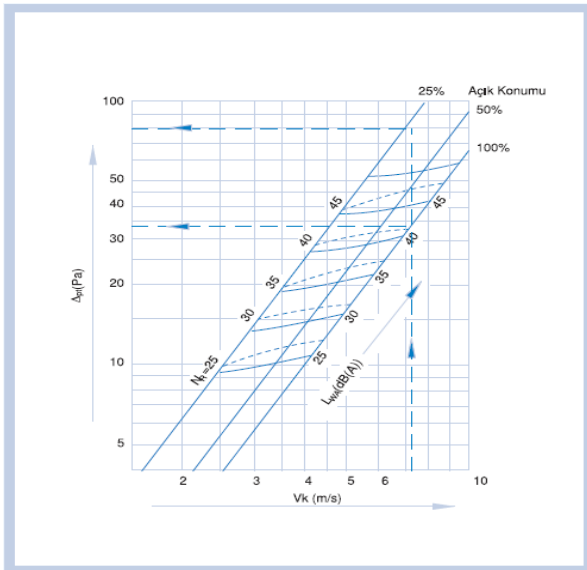
INDUCTION SELECTION DIAGRAM



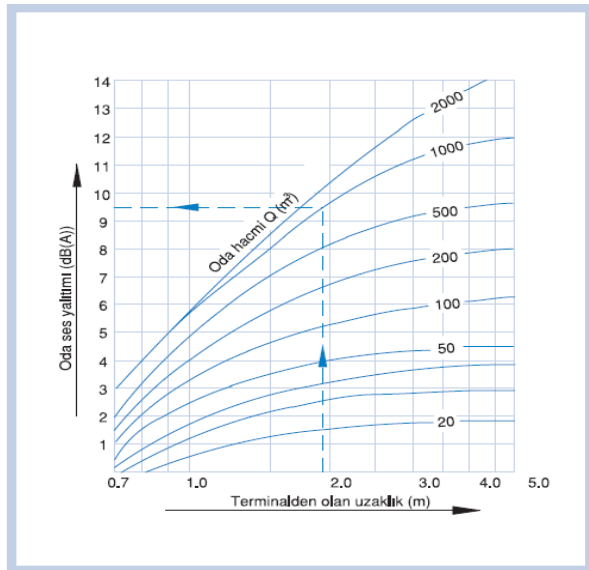
TEMPERATURE VARIABLE SELECTION



SOUND LEVEL AND PRESSURE LOSS DIAGRAM (BUTTERFLY DAMPER)



ROOM VOICE DELIVERY DIAGRAM





REGISTERS&GRILLES

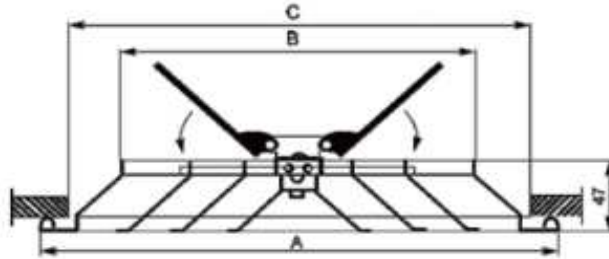
CAD - Performance Data

CIRCULAR/ROUND CEILING DIFFUSER - CAD

		Face Jet Velocity	300	400	500	600	700	800	900	1000
		Pressure Loss	0.006	0.010	0.016	0.022	0.031	0.040	0.050	0.062
Size	Free Area									
6	19	CFM		56	66	81	96	106	121	136
		Throw		2.4	3	3.5	4	4.5	5	5.5
8	32.5	CFM	70	90	116	136	160	183	199	224
		Throw	4.3	5.0	5.5	6.3	7.2	8.0	9.9	13.8
10	50	CFM	102	135	171	210	240	272	304	341
		Throw	2.5	3.4	4.4	5	6	7	8	8.5
12	72	CFM	150	200	250	300	350	400	450	502
		Throw	3.0	4.0	5.1	6.0	7.5	8.5	9.0	10.5

Terminal Velocity of 50 fpm

CIRCULAR/ROUND CEILING DIFFUSER - CD



EFFECTIVE AREA Ak(m2)

Neck Diameter ØBmm	Effective Area m2
150	0,0160
200	0,0280
250	0,0420
300	0,0580
350	0,0735

SELECTION TABLE

Neck Diameter ØBmm	Effective Area m2	AIR VELOCITY m/s								
		1,5	2,0	2,5	3,0	4,0	5,0	6,0	7,0	8,0
150	0,0160	86	115	144	173	230	288	346	403	461
200	0,0280	151	202	252	302	403	504	605	706	806
250	0,0420	227	302	378	454	605	756	907	1058	1210
300	0,0580	313	418	522	626	835	1044	1253	1462	1670
350	0,0735	397	529	662	794	1058	1323	1588	1852	2117

Flow Rate m³/h

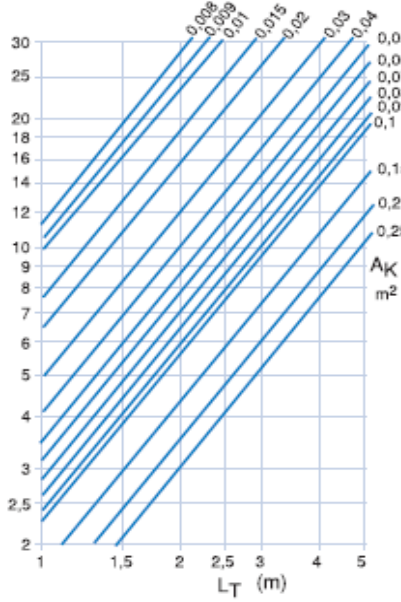


REGISTERS&GRILLES

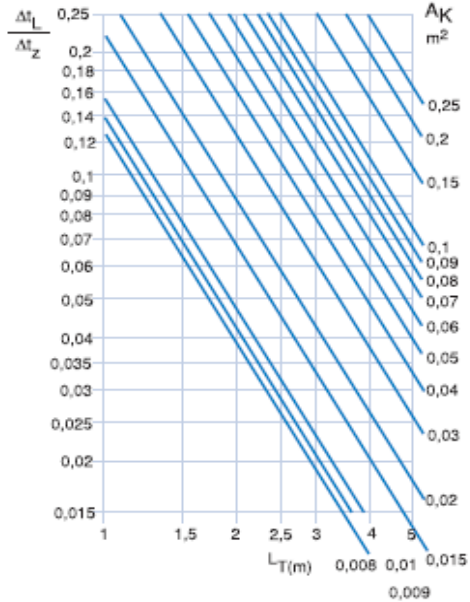
CD - Performance Data

TEMPERATURE VARIABLES

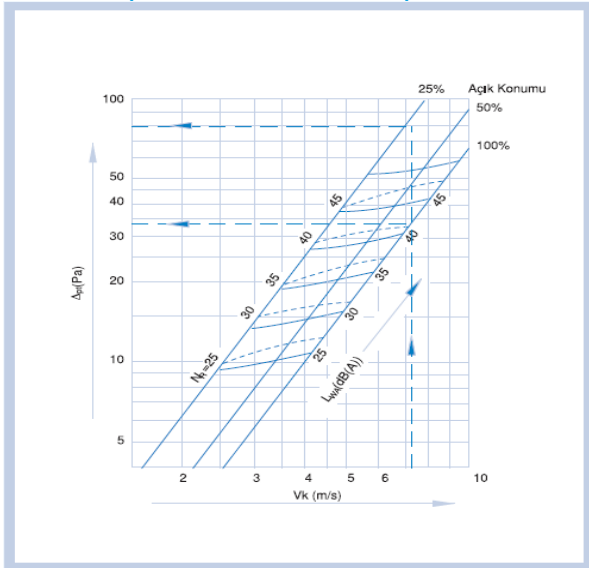
INDUCTION SELECTION DIAGRAM



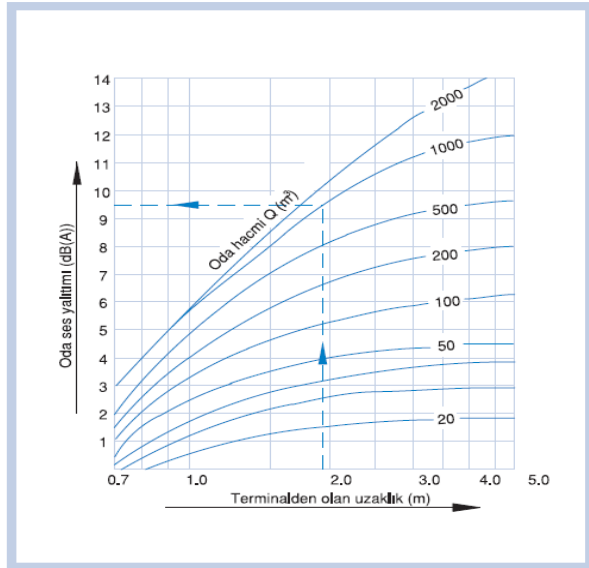
TEMPERATURE VARIABLE SELECTION



SOUND LEVEL AND PRESSURE LOSS DIAGRAM (BUTTERFLY DAMPER)



ROOM VOICE DELIVERY DIAGRAM





REGISTERS&GRILLES

YTA - Performance Data

CIRCULAR/ROUND CEILING DIFFUSER - YTA

EFFECTIVE AREA Ak(m²)

mm	100	150	200	250	300	350	400	450	500
Ak (m ²)	0,0040	0,0085	0,0157	0,0257	0,0381	0,0536	0,0730	0,0955	0,1150

CIRCULAR CEILING DIFFUSER QUICK SELECTION

Qv(m ³ /h)	ØD(mm)	100	150	200	250	300	350	400	450	500
	A (m²)	0,0040	0,0085	0,0157	0,0257	0,0381	0,0536	0,0730	0,0955	0,1150
150	Lt (m)	1,0	0,6							
	NR	48	32							
	Pt (Pa)	54,0	18,0							
	Vk (m/s)	9,0	5,4							
200	Lt (m)	1,3	1,0	0,5						
	NR	>50	40	22						
	Pt (Pa)	>70	32,0	9,4						
	Vk (m/s)	12,2	7,0	3,8						
250	Lt (m)		1,2	0,8	0,5					
	NR		45	27	<20					
	Pt (Pa)		48,0	13,4	5,0					
	Vk (m/s)		8,8	4,6	2,8					
300	Lt (m)		1,8	1,1	0,7					
	NR		>50	33	20					
	Pt (Pa)		>70	19,6	8,0					
	Vk (m/s)		10,8	5,7	3,5					
400	Lt (m)			1,4	1,1	0,8	0,5			
	NR			42	25	<20	<20			
	Pt (Pa)			38,0	12,2	6,0	<5			
	Vk (m/s)			7,6	4,5	3,1	2,2			
500	Lt (m)			1,6	1,3	1,1	0,9	0,6		
	NR			50	34	23	<20	<20		
	Pt (Pa)			58,0	21,0	9,6	<5	<5		
	Vk (m/s)			9,4	5,8	3,9	2,7	2,0		
600	Lt (m)				1,6	1,3	1,1	0,9	0,6	
	NR				40	27	<20	<20	<20	
	Pt (Pa)				30,0	13,6	6,4	<5	<5	
	Vk (m/s)				6,9	4,6	3,3	2,4	1,8	
800	Lt (m)				2,0	1,7	1,4	1,3	1,1	1,0
	NR				48	35	25	<20	<20	<20
	Pt (Pa)				56,0	25,0	12,0	6,2	<5	<5
	Vk (m/s)				9,2	6,2	4,4	3,2	2,4	2,0
1000	Lt (m)					2,0	1,7	1,5	1,3	1,2
	NR					43	32	23	<20	<20
	Pt (Pa)					39,0	19,0	10,0	5,6	<5
	Vk (m/s)					7,8	5,6	4,0	3,0	2,4
1500	Lt (m)						2,5	2,2	1,9	1,7
	NR						46	35	27	22
	Pt (Pa)						49,2	24,0	13,6	8,8
	Vk (m/s)						8,4	6,1	4,6	3,7
2000	Lt (m)							2,8	2,5	2,2
	NR							44	35	30
	Pt (Pa)							41,8	24,0	16,0
	Vk (m/s)							8,0	6,1	5,0
3000	Lt (m)								3,5	3,2
	NR								48	42
	Pt (Pa)								50,2	37,0
	Vk (m/s)								9,1	7,5

Table-1

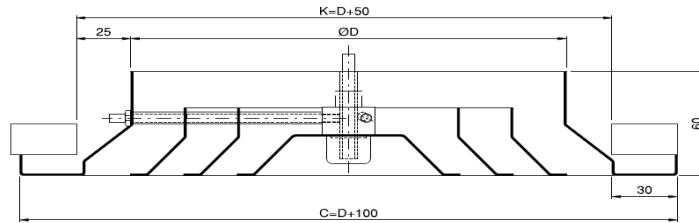
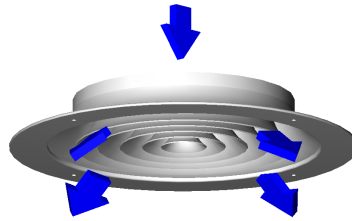
SELECTION CRITERIAS
 Ceiling Height H(m)=3±05
 With ceiling effect
 Damper %100 open



REGISTERS&GRILLES

YTA - Performance Data

CIRCULAR CEILING DIFFUSER SELECTION



Neck Size Dimension ØDmm	Effective Area m ²	AIR VELOCITY m/s																			
		1,5			2,0			2,5			3,0			4,0							
150	0,0085	45,90	m ³ /h	27,0	cfm	61,20	m ³ /h	36,0	cfm	76,50	m ³ /h	45,0	cfm	91,80	m ³ /h	54,0	cfm	122,40	m ³ /h	72,0	cfm
200	0,0157	84,78	m ³ /h	49,9	cfm	113,04	m ³ /h	66,5	cfm	141,30	m ³ /h	83,2	cfm	169,56	m ³ /h	99,8	cfm	226,08	m ³ /h	133,0	cfm
250	0,0257	138,78	m ³ /h	81,7	cfm	185,04	m ³ /h	108,9	cfm	231,30	m ³ /h	136,1	cfm	277,56	m ³ /h	163,3	cfm	370,08	m ³ /h	217,8	cfm
300	0,0381	205,74	m ³ /h	121,1	cfm	274,32	m ³ /h	161,4	cfm	342,90	m ³ /h	201,8	cfm	411,48	m ³ /h	242,2	cfm	548,64	m ³ /h	322,9	cfm
350	0,0536	289,44	m ³ /h	170,3	cfm	385,92	m ³ /h	227,1	cfm	482,40	m ³ /h	283,9	cfm	578,88	m ³ /h	340,7	cfm	771,84	m ³ /h	454,2	cfm
400	0,0730	394,20	m ³ /h	232,0	cfm	525,60	m ³ /h	309,3	cfm	657,00	m ³ /h	386,6	cfm	788,40	m ³ /h	464,0	cfm	1051,20	m ³ /h	618,6	cfm
450	0,0955	515,70	m ³ /h	303,5	cfm	687,60	m ³ /h	404,7	cfm	859,50	m ³ /h	505,8	cfm	1031,40	m ³ /h	607,0	cfm	1375,20	m ³ /h	809,3	cfm
500	0,1150	621,00	m ³ /h	365,5	cfm	828,00	m ³ /h	487,3	cfm	1035,00	m ³ /h	609,1	cfm	1242,00	m ³ /h	730,9	cfm	1656,00	m ³ /h	974,6	cfm
550	0,1920	1036,80	m ³ /h	610,2	cfm	1382,40	m ³ /h	813,5	cfm	1728,00	m ³ /h	1016,9	cfm	2073,60	m ³ /h	1220,3	cfm	2764,80	m ³ /h	1627,1	cfm

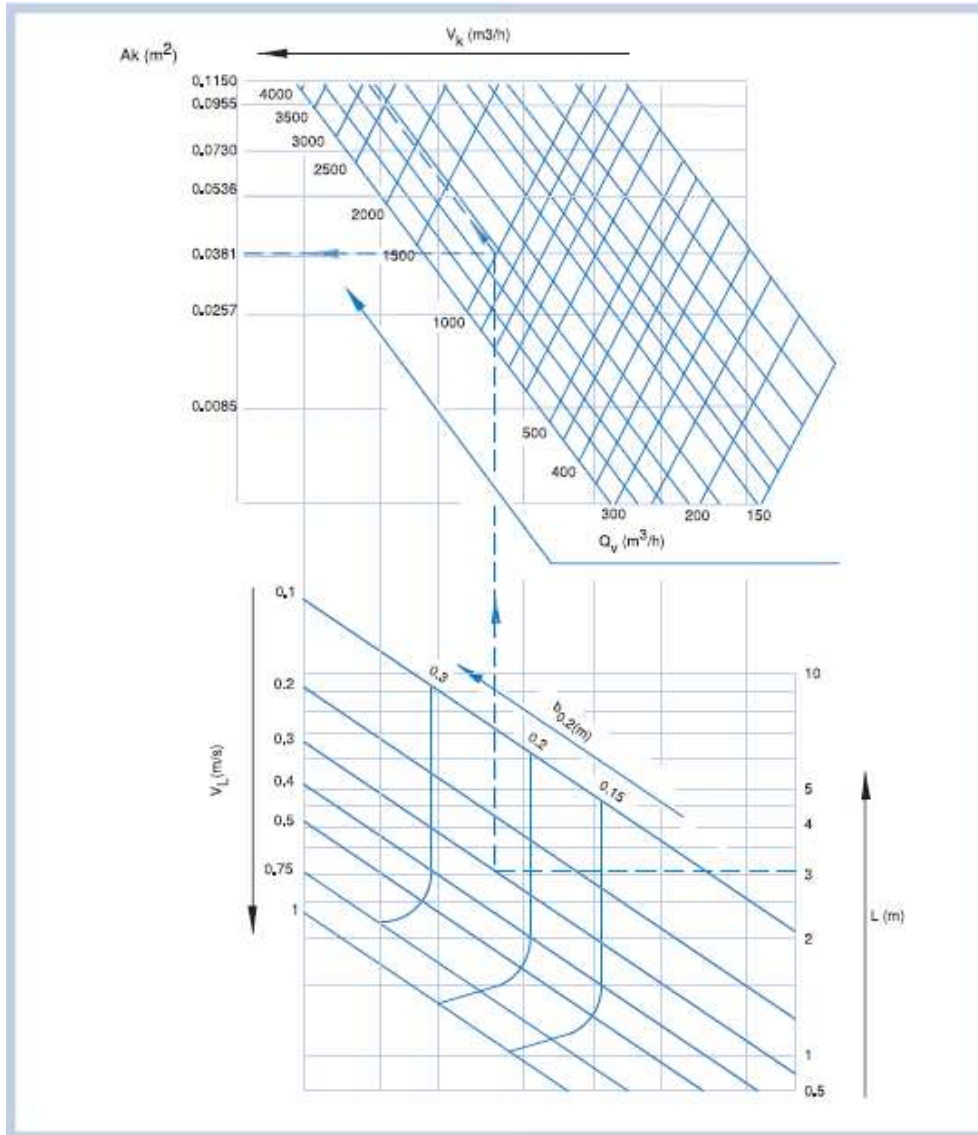
Table-2



REGISTERS&GRILLES

YTA - Performance Data

SELECTION DIAGRAM



SELECTION CRITERIAS

Ceiling Height $H(m)=3\pm 05$

With ceiling effect

Damper %100 open

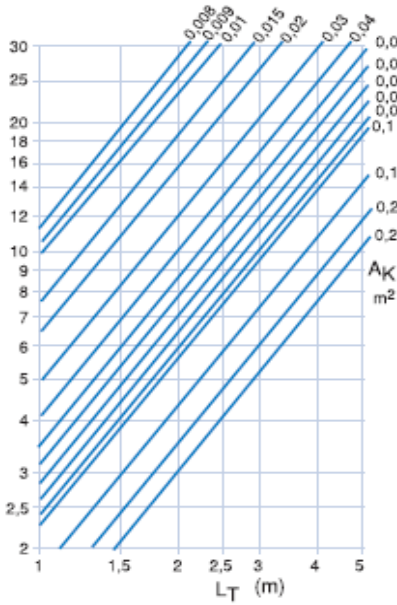


REGISTERS&GRILLES

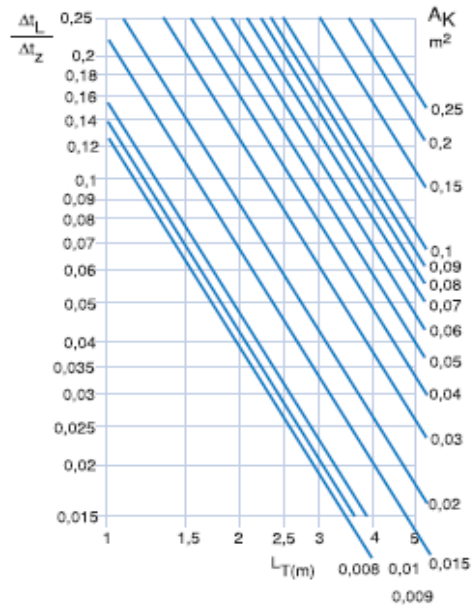
YTA - Performance Data

TEMPERATURE VARIABLES

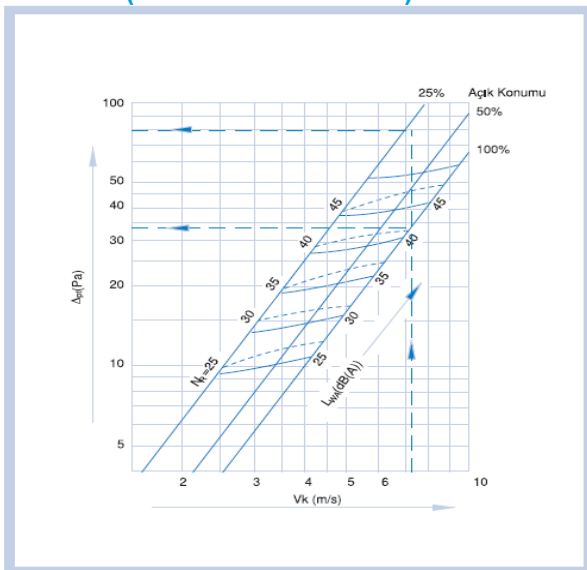
INDUCTION SELECTION DIAGRAM



TEMPERATURE VARIABLE SELECTION



SOUND LEVEL AND PRESSURE LOSS DIAGRAM (BUTTERFLY DAMPER)



ROOM VOICE DELIVERY DIAGRAM

