Model KX2
Double Deflection Grilles

شركة خالد لصناعة
Khalid Manufacturing Company

Introduction

KMC supply Grilles and Registers usually have adjustable louvers and are available in single or double deflection models.

The Double deflection grilles are designed to have two sets of blades in both the horizontal or vertical orientation with air pattern being adjustable in both horizontal and vertical planes.

Adjustment of the Horizontal blades provide the control over the deflection of the air pattern. Adjustment of the vertical blades provide the spread control of the air pattern , reducing both throw and drop.

Application

- Recommended for heating, cooling, or ventilating applications
- Versatile directional, throw distance, and spread pattern control
- Typically installed high in a sidewall, soffit, or Duct

Product Features

- Double deflection supply grilles and registers exceeding the industry standard using corrosion resistant aluminum materials
- Aerodynamic blade design resulting in lowest achievable sound and pressure levels
- 12mm / 19mm spacing of individually adjustable blades rotate smoothly without bending
- Front blades selected as horizontal or vertical for visual effect
- Registers include a factory attached, opposed blade volume control damper
- Powder coated to RAL 9010 as standard
- Maximum size one piece construction is 2000mm x 1800mm
- Larger sizes shipped in multiple sections for field assembly.

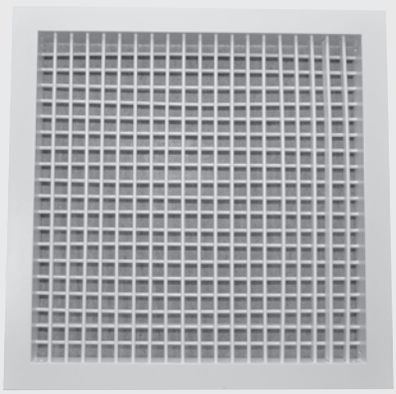
Options

- Mounting holes in frame neatly countersunk
- Custom Colors

Selection Procedure

- The selections can be made by means of a straight read-off from the “Performance Data” for the selected Model.
- Determine the Air flow rate per outlet.
- Establish the required Throw (Refer Notes for Throw Pattern)
- Opposing Grilles : Maximum Throw for each Grille should be no more than 75% of half of the distance between them.
- Select the Grille based on required Air flow rate against the outlet velocity, limiting pressure drop and sound level requirements.

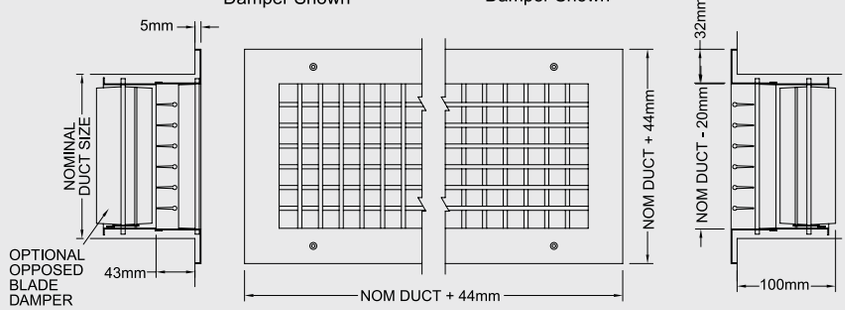
Vertical Front / Horizontal Rear Adjustable Blades	
19mm Spacing	**Model KX2V**
	Model KX2VO
12mm Spacing	**Model KX25V**
	Model KX25VO



Horizontal Front / Vertical Rear Adjustable Blades	
19mm Spacing	**Model KX2H**
	Model KX2HO
12mm Spacing	**Model KX25H**
	Model KX25HO

Model KX2V
- Vertical Front Louvers
- Second Set Horizontal
- Optional Opposed Blade Damper Shown

Model KX2H
- Horizontal Front Louvers
- Second Set Vertical
- Optional Opposed Blade Damper Shown



Product Selection Check List
- Select Size (L x W) length based on installation / performance requirements.
- Select outlet type by Model No.
- Select blade orientation.
- Select fastening type (Face / Concealed)
- Select Finish

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Performance Data

Nominal Duct Size		Nominal Duct m2	Core Area m2	Core Velocity		1.5			2.0			2.5			3.0			3.5			4.0			5.0			6.0		
W	H			Ps	0°	2.5			2.5			5.0			5.0			7.5			10.0			15.0			22.5		
					22.5°	2.5			5			7.5			10			15.0			17.5			30.0			42.5		
					45°	5.0			7.5			10.0			15.0			22.5			27.5			45.0			62.5		
200	100	0.020	0.016	CMH		85			119			136			170			204			221			289			340		
				NC		<20			<20			<20			<20			<20			21			28			33		
				Throw	0°	1.5	2.1	4.3	2.1	3.0	5.2	2.4	3.7	5.5	3.0	4.3	6.1	3.7	4.6	6.7	4.0	4.9	7.0	4.6	5.5	7.9	4.9	6.1	8.5
					22.5°	1.2	1.5	3.0	1.5	2.1	3.7	1.8	2.7	4.0	2.1	3.0	4.3	2.7	3.4	4.9	2.7	3.7	5.2	3.4	4.0	5.8	3.7	4.3	6.1
					45°	0.9	1.2	2.4	1.2	1.8	2.7	1.2	2.1	3.0	1.8	2.4	3.4	2.1	2.4	3.7	2.1	2.7	4.0	2.4	3.0	4.3	2.7	3.4	4.6
150	150	0.023	0.019	CMH		102			136			170			204			238			272			340			408		
				NC		<20			<20			<20			<20			<20			22			29			34		
				Throw	0°	1.5	2.4	4.6	2.1	3.4	5.5	2.7	4.3	6.1	3.4	4.6	6.7	4.0	5.2	7.0	4.3	5.5	7.6	4.9	6.1	8.5	5.5	6.7	9.5
					22.5°	1.2	1.8	3.4	1.5	2.4	4.0	1.8	3.0	4.3	2.4	3.4	4.9	2.7	3.7	5.2	3.0	4.0	5.5	3.7	4.3	6.1	4.0	4.9	6.7
					45°	0.9	1.2	2.4	1.2	1.8	3.0	1.5	2.4	3.4	1.8	2.4	3.7	2.1	2.7	4.0	2.4	3.0	4.3	2.7	3.4	4.6	3.0	3.7	5.2
200	150	0.031	0.025	CMH		136			187			221			272			323			374			459			544		
				NC		<20			<20			<20			<20			20			23			30			35		
				Throw	0°	1.8	2.7	5.5	2.7	4.0	6.4	3.0	4.6	7.0	3.7	5.5	7.6	4.6	5.8	8.2	5.2	6.4	8.8	5.8	7.0	10.1	6.1	7.6	10.7
					22.5°	1.2	1.8	4.0	1.8	2.7	4.6	2.1	3.4	5.2	2.7	4.0	5.5	3.4	4.3	5.8	3.7	4.6	6.4	4.3	5.2	7.3	4.3	5.5	7.6
					45°	0.9	1.5	3.0	1.5	2.1	3.7	1.8	2.4	4.0	2.1	3.0	4.3	2.4	3.0	4.6	2.7	3.7	4.9	3.0	4.0	5.5	3.4	4.3	5.8
200	200	0.041	0.034	CMH		187			255			323			374			442			510			629			765		
				NC		<20			<20			<20			<20			21			25			31			37		
				Throw	0°	2.1	3.4	6.4	3.0	4.6	7.3	4.0	5.8	8.2	4.6	6.4	8.8	5.2	7.0	9.8	6.1	7.3	10.4	6.7	8.2	11.6	7.3	9.1	12.8
					22.5°	1.5	2.4	4.6	2.1	3.4	5.2	2.7	4.3	5.8	3.4	4.6	6.4	3.7	5.2	7.0	4.3	5.2	7.3	4.9	5.8	8.2	5.2	6.7	9.1
					45°	1.2	1.8	3.7	1.8	2.4	4.0	2.1	3.0	4.6	2.4	3.7	4.9	2.7	4.0	5.5	3.4	4.0	5.8	3.7	4.6	6.4	4.0	5.2	7.0
300	150	0.046	0.039	CMH		221			289			357			425			493			561			714			850		
				NC		<20			<20			<20			<20			22			25			32			37		
				Throw	0°	2.4	3.7	7.0	3.4	4.9	7.9	4.0	6.1	8.8	4.9	6.7	9.5	5.5	7.3	10.4	6.4	7.6	11.0	7.0	8.8	12.5	7.9	9.5	13.4
					22.5°	1.8	2.7	5.2	2.4	3.7	5.8	2.7	4.3	6.4	3.7	4.9	6.7	4.0	5.2	7.3	4.6	5.5	7.9	5.2	6.4	9.1	5.8	6.7	9.8
					45°	1.2	2.1	4.0	1.8	2.7	4.3	2.1	3.4	4.9	2.7	3.7	5.2	3.0	4.0	5.8	3.7	4.3	6.1	4.0	4.9	7.0	4.3	5.2	7.3
250	250	0.064	0.056	CMH		306			408			510			612			714			816			1020			1224		
				NC		<20			<20			<20			<20			23			27			33			39		
				Throw	0°	2.7	4.3	8.2	3.7	5.8	9.5	4.9	7.0	10.4	5.8	8.2	11.6	6.7	8.8	12.5	7.6	9.5	13.1	8.5	10.4	14.6	9.5	11.6	16.2
					22.5°	1.8	3.0	5.8	2.7	4.3	6.7	3.7	5.2	7.3	4.3	5.8	8.2	4.9	6.4	9.1	5.5	6.7	9.5	6.1	7.3	10.7	6.7	8.2	11.6
					45°	1.5	2.4	4.6	2.1	3.0	5.2	2.7	4.0	5.8	3.0	4.6	6.4	3.7	4.9	7.0	4.3	5.2	7.3	4.6	5.8	7.9	5.2	6.4	8.8
350	200	0.072	0.063	CMH		340			459			578			697			799			918			1156			1377		
				NC		<20			<20			<20			<20			24			27			34			39		
				Throw	0°	3.0	4.6	8.5	4.0	6.1	10.1	5.2	7.6	11.3	6.1	8.5	12.2	7.0	9.1	13.1	7.9	10.1	14.0	9.1	11.3	15.9	10.1	12.2	17.1
					22.5°	2.1	3.4	6.1	2.7	4.3	7.3	3.7	5.5	8.2	4.3	6.1	8.8	5.2	6.7	9.5	5.8	7.3	10.1	6.7	8.2	11.3	7.3	8.8	12.2
					45°	1.8	2.4	4.6	2.1	3.4	5.5	2.7	4.3	6.1	3.4	4.6	6.7	4.0	5.2	7.3	4.3	5.5	7.6	5.2	6.1	8.8	5.5	6.7	9.5
300	300	0.093	0.083	CMH		459			612			748			901			1054			1207			1513			1819		
				NC		<20			<20			<20			20			25			29			35			40		
				Throw	0°	3.7	5.2	10.1	4.6	7.0	11.6	5.8	8.5	12.8	7.0	9.8	14.0	8.2	10.7	14.9	9.1	11.3	16.2	10.4	12.8	18.0	11.3	14.0	19.8
					22.5°	2.7	3.7	7.3	3.4	5.2	8.2	4.3	6.1	9.1	5.2	7.0	10.1	5.8	7.6	10.7	6.7	8.2	11.6	7.3	9.1	12.8	8.2	10.1	14.3
					45°	2.1	2.7	5.5	2.4	4.0	6.4	3.0	4.6	7.0	4.0	5.5	7.6	4.6	5.8	8.2	5.2	6.1	8.8	5.8	7.0	9.8	6.1	7.6	11.0
400	250	0.103	0.092	CMH		510			680			850			1003			1173			1343			1683			2023		
				NC		<20			<20			<20			21			25			29			36			41		
				Throw	0°	3.7	5.5	10.4	4.9	7.3	12.2	6.1	9.1	13.4	7.3	10.4	14.6	8.5	11.3	15.9	9.8	11.9	17.1	11.0	13.4	18.9	11.9	14.6	20.7
					22.5°	2.7	4.0	7.3	3.7	5.2	8.8	4.3	6.7	9.8	5.2	7.3	10.7	6.1	8.2	11.3	7.0	8.5	12.2	7.9	9.8	13.7	8.5	10.7	14.9
					45°	2.1	3.0	5.8	2.7	4.0	6.7	3.4	5.2	7.3	4.0	5.8	7.9	4.6	6.1	8.8	5.5	6.4	9.5	6.1	7.3	10.4	6.4	7.9	11.3
550	200	0.113	0.100	CMH		544			731			918			1105			1292			1479			1836			2210		
				NC		<20			<20			<20			21			26			30			36			41		
				Throw	0°	3.7	5.8	10.7	5.2	7.6	12.5	6.4	9.5	14.0	7.6	11.0	15.2	8.8	11.9	16.8	10.4	12.5	17.7	11.6	14.0	19.8	12.5	15.2	21.6
					22.5°	2.7	4.3	7.6	3.7	5.5	9.1	4.6	6.7	10.1	5.5	7.9	11.0	6.4	8.5	12.2	7.3	9.1	12.8	8.2	10.1	14.3	9.1	11.0	15.5
					45°	2.1	3.0	5.8	2.7	4.3	7.0	3.7	5.2	7.6	4.3	6.1	8.5	4.9	6.4	9.1	5.8	7.0	9.8	6.4	7.6	11.0	7.0	8.5	11.9
500	300	0.155	0.141	CMH		782			1037			1292			1547			1802			2057			2584			3094		
				NC		<20			<20			<20			23			27			31			37			43		
				Throw	0°	4.6	7.0	12.8	6.1	9.1	14.9	7.6	11.3	16.8	9.1	12.8	18.3	10.7	14.0	19.5	12.2	14.9	21.0	13.7	16.8	23.5	14.9	18.3	25.6
					22.5°	3.4	5.2	9.1	4.3	6.7	10.7	5.5	8.2	12.2	6.7	9.1	13.1	7.6	10.1	14.0	8.8	10.7	15.2	9.8	12.2	16.8	10.7	13.1	18.3
					45°	2.4	4.0	7.0	3.4	5.2	8.2	4.3	6.1	9.1	5.2	7.0	10.1	5.8	7.6	10.7	6.7	8.2	11.6	7.6	9.1	12.8	8.2	10.1	14.0
600	300	0.186	0.170	CMH		935			1241			1564			1870			2176			2499			3111			3740		
				NC		<20			<20			<20			23			28			32			38			43		
				Throw	0°	4.9	7.6	14.0	6.7	10.1	16.2	8.2	12.5	18.3	10.1	14.0	20.1	11.6	15.2	21.6	13.4	16.5	23.2	14.9	18.3	25.9	16.5	20.1	28.4
					22.5°	3.7	5.5	10.1	4.9	7.3	11.6	5.8	9.1	13.1	7.3	10.1	14.6	8.2	11.0	15.5	9.8	11.9	16.8	10.7	13.1	18.6	11.9	14.6	20.4
					45°	2.7	4.3	7.6	3.7	5.5	8.8	4.6	7.0	10.1	5.5	7.6	11.0	6.4	8.5	11.9	7.3	9.1	12.8	8.2	10.1	14.3	9.1	11.0	15.5
550	400	0.227	0.211	CMH		1156			1547			1921			2312			2703			3077			3859			4624		
				NC		<20			<20			<20			24			29			33			39			44		
				Throw	0°	5.5	8.2	15.9	7.3	11.3	18.3	9.1	13.7	20.4	11.0	15.9	22.3	13.1	17.1	24.1	14.6	18.3	25.6	16.5	20.4	28.7	18.3	22.3	31.4
					22.5°	4.0	5.8	11.3	5.2	8.2	13.1	6.7	9.8	14.6	7.9	11.3	16.2	9.5	12.2	17.4	10.7	13.1	18.3	11.9	14.6	20.7	13.1	16.2	22.6
					45°	3.0	4.6	8.8	4.0	6.1	10.1	5.2	7.6	11.3	6.1	8.8	12.2	7.3	9.5	13.1	7.9	10.1	14.0	9.1	11.3	15.9	10.1	12.2	17.4

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Performance Data

Nominal Duct Size		Nominal Duct m2	Core Area m2	Core Velocity		1.5			2.0			2.5			3.0			3.5			4.0			5.0			6.0		
W	H			Ps	0°	2.5			2.5			5.0			5.0			7.5			10.0			15.0			22.5		
					22.5°	2.5			5.0			7.5			10.0			15.0			17.5			30.0			42.5		
					45°	5.0			7.5			10.0			15.0			22.5			27.5			45.0			62.5		
600	450	0.279	0.260	CMH		1428			1904			2380			2856			3332			3808			4760			5712		
				NC		<20			<20			20			25			30			34			40			45		
				Throw	0°	6.1	9.1	17.4	8.2	12.2	20.1	10.4	15.5	22.6	12.2	17.4	24.7	14.3	18.9	26.8	16.5	20.1	28.7	18.3	22.6	32.0	20.1	24.7	35.1
					22.5°	4.3	6.7	12.5	5.8	8.8	14.6	7.3	11.3	16.2	8.8	12.5	17.7	10.4	13.7	19.2	11.9	14.6	20.7	13.1	16.2	23.2	14.6	17.7	25.3
					45°	3.4	5.2	9.5	4.6	6.7	11.0	5.8	8.5	12.5	6.7	9.5	13.7	7.9	10.4	14.6	9.1	11.0	15.9	10.1	12.5	17.7	11.0	13.7	19.2
550	550	0.312	0.293	CMH		1615			2142			2686			3213			3757			4284			5355			6443		
				NC		<20			<20			21			26			30			34			41			46		
				Throw	0°	6.7	9.8	18.6	8.8	13.1	21.3	11.0	16.5	24.1	13.1	18.6	26.2	15.2	20.1	28.4	17.4	21.3	30.2	19.5	24.1	33.8	21.3	26.2	37.2
					22.5°	4.9	7.0	13.4	6.4	9.5	15.2	7.9	11.9	17.4	9.5	13.4	18.9	11.0	14.6	20.4	12.5	15.2	21.6	14.0	17.4	24.4	15.2	18.9	26.8
					45°	3.7	5.5	10.4	4.9	7.3	11.9	6.1	9.1	13.1	7.3	10.4	14.3	8.5	11.0	15.5	9.5	11.9	16.5	10.7	13.1	18.6	11.9	14.3	20.4
600	600	0.372	0.350	CMH		1921			2567			3213			3842			4488			5134			6409			7701		
				NC		<20			<20			21			27			31			35			41			47		
				Throw	0°	7.0	10.7	20.4	9.5	14.3	23.5	11.9	18.0	26.2	14.3	20.4	28.7	16.8	22.0	31.1	19.2	23.5	33.2	21.3	26.2	37.2	23.5	28.7	40.5
					22.5°	5.2	7.6	14.6	6.7	10.4	16.8	8.5	12.8	18.9	10.4	14.6	20.7	12.2	15.9	22.3	13.7	16.8	23.8	15.2	18.9	26.8	16.8	20.7	29.3
					45°	4.0	5.8	11.3	5.2	7.9	12.8	6.4	9.8	14.3	7.9	11.3	15.9	9.1	12.2	17.1	10.7	12.8	18.3	11.9	14.3	20.4	12.8	15.9	22.3
700	550	0.398	0.375	CMH		2057			2754			3434			4131			4811			5491			6868			8245		
				NC		<20			<20			22			27			31			35			42			47		
				Throw	0°	7.3	11.0	21.0	9.8	14.9	24.4	12.2	18.6	27.1	14.9	21.0	29.9	17.4	22.6	32.0	19.8	24.4	34.5	22.3	27.1	38.4	24.4	29.6	42.1
					22.5°	5.2	7.9	15.2	7.0	10.7	17.7	8.8	13.4	19.5	10.7	15.2	21.6	12.5	16.2	23.2	14.3	17.7	24.7	16.2	19.5	27.7	17.7	21.3	30.2
					45°	4.0	6.1	11.6	5.5	8.2	13.4	6.7	10.4	14.9	8.2	11.6	16.5	9.5	12.5	17.7	11.0	13.4	18.9	12.2	14.9	21.0	13.4	16.2	23.2
900	450	0.418	0.395	CMH		2159			2890			3604			4335			5049			5780			7225			8653		
				NC		<20			<20			22			27			32			35			42			47		
				Throw	0°	7.6	11.3	21.6	10.1	15.2	25.0	12.5	18.9	27.7	15.2	21.6	30.5	17.7	23.2	32.9	20.1	25.0	35.1	22.9	27.7	39.3	25.0	30.5	43.0
					22.5°	5.5	8.2	15.5	7.3	11.0	18.0	9.1	13.7	20.1	11.0	15.5	22.0	12.8	16.8	23.8	14.6	18.0	25.3	16.5	20.1	28.4	18.0	22.0	31.1
					45°	4.3	6.1	11.9	5.5	8.5	13.7	7.0	10.4	15.2	8.5	11.9	16.8	9.8	12.8	18.0	11.0	13.7	19.2	12.5	15.2	21.6	13.7	16.8	23.8
800	550	0.454	0.430	CMH		2363			3145			3944			4726			5508			6307			7871			9452		
				NC		<20			<20			22			28			32			36			42			48		
				Throw	0°	7.9	11.9	22.6	10.7	15.9	25.9	13.1	19.8	29.0	15.9	22.6	31.7	18.6	24.4	34.5	21.0	25.9	36.9	23.8	29.0	41.2	25.9	31.7	45.1
					22.5°	5.8	8.5	16.2	7.6	11.3	18.6	9.5	14.3	20.7	11.3	16.2	22.9	13.4	17.7	24.7	15.2	18.6	26.5	17.1	20.7	29.6	18.6	22.9	32.6
					45°	4.3	6.4	12.5	5.8	8.8	14.3	7.3	11.0	15.9	8.8	12.5	17.4	10.4	13.4	18.9	11.6	14.3	20.4	13.1	15.9	22.6	14.3	17.4	24.7
750	600	0.465	0.441	CMH		2414			3230			4029			4845			5644			6460			8075			9673		
				NC		<20			<20			22			28			32			36			42			48		
				Throw	0°	7.9	11.9	22.9	10.7	16.2	26.2	13.4	20.1	29.3	16.2	22.9	32.3	18.6	24.7	34.8	21.3	26.2	37.2	24.1	29.3	41.5	26.2	32.3	45.4
					22.5°	5.8	8.5	16.5	7.6	11.6	18.9	9.8	14.6	21.0	11.6	16.5	23.2	13.4	17.7	25.0	15.2	18.9	26.8	17.4	21.0	29.9	18.9	23.2	32.6
					45°	4.3	6.4	12.5	5.8	8.8	14.3	7.3	11.0	16.2	8.8	12.5	17.7	10.4	13.7	19.2	11.9	14.3	20.4	13.1	16.2	22.9	14.3	17.7	25.0
850	550	0.482	0.458	CMH		2516			3349			4199			5032			5865			6698			8381			10064		
				NC		<20			<20			23			28			32			36			43			48		
				Throw	0°	8.2	12.2	23.2	11.0	16.5	26.8	13.7	20.4	29.9	16.5	23.2	32.9	19.2	25.0	35.4	21.6	26.8	37.8	24.4	29.9	42.4	26.8	32.9	46.3
					22.5°	5.8	8.8	16.8	7.9	11.9	19.2	9.8	14.6	21.6	11.9	16.8	23.8	13.7	18.0	25.6	15.5	19.2	27.1	17.7	21.6	30.5	19.2	23.8	33.2
					45°	4.6	6.7	12.8	6.1	9.1	14.6	7.6	11.3	16.5	9.1	12.8	18.0	10.7	13.7	19.5	11.9	14.6	20.7	13.4	16.5	23.2	14.6	18.0	25.6
1000	500	0.517	0.490	CMH		2686			3587			4488			5372			6273			7174			8959			10761		
				NC		<20			<20			23			28			33			36			43			48		
				Throw	0°	8.5	12.8	24.1	11.3	17.1	27.7	14.0	21.0	31.1	16.8	24.1	33.8	19.8	25.9	36.6	22.6	27.7	39.3	25.3	31.1	43.9	27.7	33.8	48.2
					22.5°	6.1	9.1	17.4	8.2	12.2	20.1	10.1	15.2	22.3	12.2	17.4	24.4	14.3	18.6	26.2	16.2	20.1	28.4	18.3	22.3	31.7	20.1	24.4	34.8
					45°	4.6	7.0	13.1	6.1	9.5	15.2	7.6	11.6	17.1	9.1	13.1	18.6	11.0	14.3	20.1	12.5	15.2	21.6	14.0	17.1	24.1	15.2	18.6	26.5
900	600	0.558	0.532	CMH		2907			3893			4862			5831			6800			7769			9724			11662		
				NC		<20			<20			23			28			33			37			43			48		
				Throw	0°	8.8	13.1	25.0	11.9	17.7	29.0	14.6	22.0	32.3	17.7	25.0	35.4	20.4	27.1	38.1	23.5	29.0	40.9	26.2	32.3	45.7	29.0	35.4	50.0
					22.5°	6.4	9.5	18.0	8.5	12.8	20.7	10.7	15.9	23.2	12.8	18.0	25.6	14.6	19.5	27.4	16.8	20.7	29.3	18.9	23.2	32.9	20.7	25.6	36.0
					45°	4.9	7.3	13.7	6.4	9.8	15.9	7.9	12.2	17.7	9.8	13.7	19.5	11.3	14.9	21.0	12.8	15.9	22.6	14.3	17.7	25.3	15.9	19.5	27.4
750	750	0.581	0.555	CMH		3043			4063			5066			6086			7106			8109			10149			12172		
				NC		<20			<20			23			29			33			37			43			49		
				Throw	0°	9.1	13.4	25.6	11.9	18.0	29.6	14.9	22.6	32.9	18.0	25.6	36.0	21.0	27.7	39.0	24.1	29.6	41.8	26.8	32.9	46.6	29.6	36.0	51.2
					22.5°	6.7	9.8	18.3	8.5	12.8	21.3	10.7	16.2	23.8	12.8	18.3	25.9	15.2	20.1	28.0	17.4	21.3	30.2	19.2	23.8	33.5	21.3	25.9	36.9
					45°	5.2	7.3	14.0	6.4	9.8	16.2	8.2	12.5	18.0	9.8	14.0	19.8	11.6	15.2	21.3	13.1	16.2	22.9	14.6	18.0	25.6	16.2	19.8	28.0
900	650	0.604	0.577	CMH		3162			4216			5270			6324			7378			8449			10557			12665		
				NC		<20			<20			24			29			33			37			44			49		
				Throw	0°	9.1	13.7	25.9	12.2	18.3	30.2	15.2	22.9	33.5	18.3	25.9	36.9	21.3	28.0	39.6	24.4	30.2	42.7	27.4	33.5	47.6	30.2	36.9	52.1
					22.5°	6.7	9.8	18.6	8.8	13.1	21.6	11.0	16.5	24.1	13.1	18.6	26.5	15.2	20.1	28.7	17.7	21.6	30.8	19.8	24.1	34.1	21.6	26.5	37.5
					45°	5.2	7.6	14.3	6.7	10.1	16.5	8.5	12.5	18.6	10.1	14.3	20.4	11.9	15.5	22.0	13.4	16.5	23.5	15.2	18.6	26.2	16.5	20.4	28.7
800	800	0.661	0.633	CMH		3468			4624			5780			6953			8109			9265			11577			13889		
				NC		<20			<20			24			29			34			37			44			49		
				Throw	0°	9.8	14.3	27.1	12.8	19.2	31.4	16.2	24.1	35.1	19.2	27.4	38.7	22.6	29.6	41.8	25.6	31.4	44.5	28.7	35.4	49.7	31.4	38.7	54.6
					22.5°	7.0	10.4	19.5	9.1	13.7	22.6	11.6	17.4	25.3	13.7	19.8	27.7	16.2	21.3	30.2	18.3	22.6	32.0	20.7	25.6	35.7	22.6	27.7	39.3
					45°	5.5	7.9	14.9	7.0	10.7	17.4	8.8	13.1	19.2	10.7	15.2	21.3	12.5	16.2	22.9	14.0	17.4	24.4	15.9	19.5	27.4	17.4	21.3	29.9

*In the interest of product development, KMC reserves the right to make changes without notice.

Model KX2
Double Deflection Grilles

Performance Data

Nominal Duct Size		Nominal Duct m2	Core Area m2	Core Velocity		1.5			2.0			2.5			3.0			3.5			4.0			5.0			6.0		
W	H			Ps	0°	2.5			2.5			5.0			5.0			7.5			10.0			15.0			22.5		
					22.5°	2.5			5.0			7.5			10.0			15.0			17.5			30.0			42.5		
					45°	5.0			7.5			10.0			15.0			22.5			27.5			45.0			62.5		
900	750	0.6970	0.6682	CMH		3672			4896			6103			7327			8551			9775			12223			14671		
				NC		<20			<20			24			29			34			38			44			49		
				Throw	0°	9.8	14.9	28.0	13.1	19.8	32.3	16.5	24.7	36.3	19.8	28.0	39.6	23.2	30.2	42.7	26.2	32.3	45.7	29.6	36.3	51.2	32.3	39.6	56.1
					22.5°	7.0	10.7	20.1	9.5	14.3	23.2	11.9	17.7	26.2	14.3	20.1	28.7	16.8	21.6	30.8	18.9	23.2	32.9	21.3	26.2	36.9	23.2	28.7	40.2
					45°	5.5	8.2	15.5	7.3	11.0	17.7	9.1	13.7	19.8	11.0	15.5	22.0	12.8	16.5	23.5	14.3	17.7	25.3	16.2	19.8	28.0	17.7	22.0	30.8
950	750	0.7361	0.7063	CMH		3876			5168			6460			7752			9044			10336			12920			15487		
				NC		<20			<20			24			30			34			38			44			50		
				Throw	0°	10.1	15.2	29.0	13.4	20.4	33.2	17.1	25.3	37.2	20.4	29.0	40.9	23.8	31.1	43.9	27.1	33.2	47.0	30.5	37.2	52.7	33.2	40.9	57.6
					22.5°	7.3	11.0	20.7	9.8	14.6	23.8	12.2	18.3	26.8	14.6	20.7	29.3	17.1	22.3	31.7	19.5	23.8	33.8	22.0	26.8	38.1	23.8	29.3	41.5
					45°	5.5	8.5	15.9	7.3	11.3	18.3	9.5	14.0	20.4	11.3	15.9	22.6	13.1	17.1	24.1	14.9	18.3	25.9	16.8	20.4	29.0	18.3	22.6	31.7
1200	600	0.7435	0.7119	CMH		3910			5202			6511			7820			9112			10421			13022			15623		
				NC		<20			<20			24			30			34			38			44			50		
				Throw	0°	10.1	15.2	29.0	13.7	20.4	33.5	17.1	25.6	37.5	20.4	29.0	40.9	23.8	31.1	44.2	27.1	33.5	47.3	30.5	37.5	52.7	33.5	40.9	57.9
					22.5°	7.3	11.0	20.7	9.8	14.6	24.1	12.2	18.3	27.1	14.6	20.7	29.3	17.1	22.3	31.7	19.5	24.1	34.1	22.0	27.1	38.1	24.1	29.3	41.8
					45°	5.5	8.5	15.9	7.6	11.3	18.6	9.5	14.0	20.7	11.3	15.9	22.6	13.1	17.1	24.4	14.9	18.6	25.9	16.8	20.7	29.0	18.6	22.6	32.0
1050	700	0.7593	0.7286	CMH		3995			5321			6664			7990			9316			10659			13328			15980		
				NC		<20			<20			25			30			34			38			45			50		
				Throw	0°	10.4	15.5	29.3	13.7	20.7	33.8	17.1	25.9	37.8	20.7	29.3	41.5	24.1	31.7	44.8	27.4	33.8	47.9	30.8	37.8	53.4	33.8	41.5	58.5
					22.5°	7.3	11.3	21.0	9.8	14.9	24.4	12.2	18.6	27.1	14.9	21.0	29.9	17.4	22.9	32.3	19.8	24.4	34.5	22.3	27.1	38.4	24.4	29.9	42.1
					45°	5.8	8.5	16.2	7.6	11.3	18.6	9.5	14.3	20.7	11.3	16.2	22.9	13.1	17.4	24.7	15.2	18.6	26.2	17.1	20.7	29.3	18.6	22.9	32.3
1100	700	0.7955	0.7630	CMH		4182			5593			6987			8381			9775			11169			13957			16762		
				NC		<20			<20			25			30			34			38			45			50		
				Throw	0°	10.7	15.9	29.9	14.0	21.0	34.8	17.7	26.5	38.7	21.0	29.9	42.4	24.7	32.3	45.7	28.0	34.5	48.8	31.7	38.7	54.6	34.8	42.4	60.1
					22.5°	7.6	11.3	21.6	10.1	15.2	25.0	12.8	19.2	27.7	15.2	21.6	30.5	17.7	23.2	32.9	20.1	24.7	35.1	22.9	27.7	39.3	25.0	30.5	43.3
					45°	5.8	8.8	16.5	7.6	11.6	19.2	9.8	14.6	21.3	11.6	16.5	23.2	13.7	17.7	25.3	15.5	18.9	26.8	17.4	21.3	29.9	19.2	23.2	32.9
900	900	0.8364	0.8048	CMH		4420			5882			7361			8840			10302			11781			14722			17663		
				NC		<20			<20			25			30			35			39			45			50		
				Throw	0°	11.0	16.2	30.8	14.3	21.6	35.4	18.0	27.1	39.6	21.6	30.8	43.6	25.3	33.2	47.0	29.0	35.7	50.3	32.3	39.6	56.1	35.7	43.6	61.6
					22.5°	7.9	11.6	22.3	10.4	15.5	25.6	12.8	19.5	28.7	15.5	22.3	31.4	18.3	23.8	33.8	20.7	25.6	36.3	23.2	28.7	40.2	25.6	31.4	44.2
					45°	6.1	8.8	17.1	7.9	11.9	19.5	9.8	14.9	22.0	11.9	17.1	24.1	14.0	18.3	25.9	15.9	19.5	27.7	17.7	22.0	30.8	19.5	24.1	33.8
1000	850	0.8773	0.8448	CMH		4641			6188			7735			9282			10829			12376			15453			18547		
				NC		<20			<20			25			30			35			39			45			50		
				Throw	0°	11.0	16.8	31.4	14.9	22.3	36.3	18.6	27.7	40.9	22.3	31.4	44.5	25.9	34.1	48.2	29.6	36.3	51.5	33.2	40.5	57.6	36.3	44.5	63.1
					22.5°	7.9	12.2	22.6	10.7	16.2	26.2	13.4	20.1	29.3	16.2	22.6	32.0	18.6	24.7	34.8	21.3	26.2	37.2	23.8	29.3	41.5	26.2	32.0	45.4
					45°	6.1	9.1	17.4	8.2	12.2	19.8	10.4	15.2	22.6	12.2	17.4	24.4	14.3	18.9	26.5	16.2	19.8	28.4	18.3	22.3	31.7	19.8	24.4	34.8
1200	750	0.9294	0.8950	CMH		4913			6545			8194			9826			11458			13090			16371			19652		
				NC		<20			<20			25			31			35			39			45			51		
				Throw	0°	11.6	17.1	32.3	15.2	22.9	37.5	19.2	28.7	41.8	22.9	32.3	46.0	26.8	35.1	49.7	30.5	37.5	53.0	34.1	41.8	59.1	37.5	46.0	64.9
					22.5°	8.2	12.2	23.2	11.0	16.5	27.1	13.7	20.7	30.2	16.5	23.2	33.2	19.2	25.3	35.7	22.0	27.1	38.1	24.7	30.2	42.7	27.1	33.2	46.6
					45°	6.4	9.5	17.7	8.5	12.5	20.7	10.7	15.9	22.9	12.5	17.7	25.3	14.6	19.2	27.4	16.8	20.7	29.3	18.9	22.9	32.6	20.7	25.3	35.7
1050	900	0.9758	0.9414	CMH		5168			6885			8619			10336			12053			13770			17221			20672		
				NC		<20			<20			26			31			35			39			46			51		
				Throw	0°	11.6	17.7	33.2	15.5	23.5	38.4	19.5	29.3	43.0	23.5	33.2	47.0	27.4	36.0	50.9	31.4	38.4	54.3	35.1	43.0	60.7	38.4	47.0	66.5
					22.5°	8.2	12.8	23.8	11.3	16.8	27.7	14.0	21.0	31.1	16.8	23.8	33.8	19.8	25.9	36.6	22.6	27.7	39.0	25.3	31.1	43.6	27.7	33.8	47.9
					45°	6.4	9.8	18.3	8.5	12.8	21.0	10.7	16.2	23.8	12.8	18.3	25.9	15.2	19.8	28.0	17.4	21.0	29.9	19.2	23.8	33.2	21.0	25.9	36.6
1200	950	1.1775	1.1394	CMH		6256			8330			10421			12512			14586			16677			20842			25007		
				NC		<20			20			26			32			36			40			46			52		
				Throw	0°	12.8	19.5	36.6	17.1	25.9	42.4	21.6	32.3	47.3	25.9	36.6	51.8	30.2	39.6	55.8	34.5	42.4	59.8	38.7	47.3	66.8	42.4	51.8	73.2
					22.5°	9.1	14.0	26.2	12.2	18.6	30.5	15.5	23.2	34.1	18.6	26.2	37.2	21.6	28.7	40.2	24.7	30.5	43.0	27.7	34.1	48.2	30.5	37.2	52.7
					45°	7.0	10.7	20.1	9.5	14.3	23.2	11.9	17.7	25.9	14.3	20.1	28.7	16.5	22.0	30.8	18.9	23.2	32.9	21.3	25.9	36.6	23.2	28.7	40.2
1150	1100	1.3067	1.2667	CMH		6953			9265			11577			13906			16218			18530			23171			27795		
				NC		<20			21			27			32			37			41			47			52		
				Throw	0°	13.7	20.4	38.7	18.0	27.1	44.5	22.6	33.8	49.7	27.1	38.7	54.6	31.7	41.8	58.8	36.3	44.5	63.1	40.5	49.7	70.4	44.5	54.6	77.1
					22.5°	9.8	14.6	27.7	12.8	19.5	32.0	16.2	24.4	35.7	19.5	27.7	39.3	22.9	30.2	42.4	26.2	32.0	45.4	29.3	35.7	50.6	32.0	39.3	55.5
					45°	7.6	11.3	21.3	9.8	14.9	24.4	12.5	18.6	27.4	14.9	21.3	29.9	17.4	22.9	32.3	19.8	24.4	34.8	22.3	27.4	38.7	24.4	29.9	42.4
1200	1150	1.4247	1.3838	CMH		7599			10132			12648			15181			17714			20247			25313			30379		
				NC		<20			21			27			33			37			41			47			53		
				Throw	0°	14.3	21.3	40.2	18.9	28.4	46.6	23.8	35.7	52.1	28.4	40.2	57.0	33.2	43.6	61.6	37.8	46.6	65.9	42.4	52.1	73.8	46.6	57.0	80.8
					22.5°	10.4	15.2	29.0	13.7	20.4	33.5	17.1	25.6	37.5	20.4	29.0	41.2	23.8	31.4	44.2	27.1	33.5	47.6	30.5	37.5	53.0	33.5	41.2	58.2
					45°	7.9	11.9	22.3	10.4	15.5	25.6	13.1	19.5	28.7	15.5	22.3	31.4	18.3	24.1	33.8	20.7	25.6	36.3	23.2	28.7	40.5	25.6	31.4	44.5
1200	1200	1.4870	1.4442	CMH		7922			10574			13209			15861			18496			21148			26418			31705		
				NC		<20			21			28			33			37			41			48			53		
				Throw	0°	14.6	21.6	41.2	19.5	29.0	47.6	24.1	36.3	53.4	29.0	41.2	58.2	33.8	44.5	63.1	38.7	47.6	67.4	43.3	53.4	75.3	47.6	58.2	82.3
					22.5°	10.7	15.5	29.6	14.0	20.7	34.1	17.4	26.2	38.4	20.7	29.6	42.1	24.4	32.0	45.4	27.7	34.1	48.5	31.1	38.4	54.3	34.1	42.1	59.1
					45°	7.9	11.9	22.6	10.7	15.9	26.2	13.1	19.8	29.3	15.9	22.6	32.0	18.6	24.4	34.8	21.3	26.2	37.2	23.8	29.3	41.5	26.2	32.0	45.4

*In the interest of product development, KMC reserves the right to make changes without notice.

Model KX2
Double Deflection Grilles

شركة خالد لصناعة
Khalid Manufacturing Company

BALANCING PROCEDURE

PROCEDURE AND DATA FOR BALANCING SUPPLY REGISTERS AND GRILLES USING ALNOR VELOMETER WITH NO. 2220A JET

1. Measure velocity at several locations near the face of the supply. (Typical probe locations are shown Fig. 1. Enough locations should be chosen to assure measurement of representative velocities.) Hold probe against grille face and rotate probe until maximum velocity reading is obtained at each location.
2. Calculate the average face velocity using the maximum velocity measured at each probe location.
3. From the table for the spread angle used determine the Balancing Area Factor (Ak) using the width and height of the grille.
4. Calculate the air volume by multiplying the average face velocity and the balancing area factor. CFM=Average Velocity x Ak

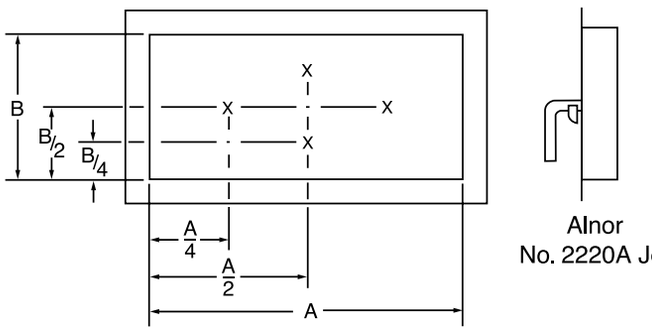

Fig. 1 – Typical Probe Location

BALANCING FACTORS

3/4" SPACING

0° SPREAD

Grille Width, in.	4	5	6	8	10	12	14	16	Grille Height, in. 18	20	22	24	26	28	30	36	40	44	48
4	0.06																		
5	0.08	0.1																	
6	0.09	0.12	0.15																
8	0.13	0.17	0.21	0.29															
10	0.17	0.21	0.26	0.36	0.46														
12	0.20	0.26	0.32	0.44	0.56	0.68													
14	0.24	0.31	0.38	0.52	0.66	0.81	0.95												
16	0.27	0.35	0.44	0.60	0.76	0.93	1.10	1.25											
18	0.31	0.40	0.49	0.68	0.86	1.05	1.23	1.42	1.60										
20	0.34	0.45	0.55	0.76	0.96	1.17	1.37	1.60	1.80	2.00									
22	0.38	0.49	0.61	0.83	1.06	1.29	1.50	1.75	1.95	2.20	2.40								
24	0.41	0.54	0.66	0.91	1.16	1.41	1.65	1.90	2.15	2.40	2.65	2.90							
26	0.45	0.58	0.72	0.99	1.26	1.55	1.80	2.10	2.35	2.60	2.90	3.15	3.45						
28		0.63	0.78	1.01	1.36	1.65	1.95	2.25	2.55	2.80	3.10	3.40	3.70	4.00					
30		0.68	0.83	1.15	1.46	1.75	2.10	2.40	2.70	3.05	3.35	3.65	3.95	4.30	4.60				
36			1.00	1.38	1.75	2.15	2.50	2.90	3.25	3.65	4.00	4.40	4.80	5.20	5.50	6.70			
40				1.55	1.95	2.40	2.80	3.20	3.65	4.10	4.50	4.90	5.30	5.70	6.20	7.40	8.30		
44				1.70	2.10	2.60	3.10	3.55	4.05	4.50	5.00	5.40	5.90	6.30	6.80	8.20	9.10	9.70	
48				1.85	2.35	2.85	3.40	3.90	4.40	4.90	5.40	5.90	6.40	6.90	7.40	8.90	9.90	11.00	12.00
52				2.05	2.55	3.05	3.60	4.15	4.70	5.30	5.80	5.90	6.90	7.40	7.90	9.70	10.80	12.00	13.00
56				2.20	2.75	3.30	3.80	4.40	5.00	5.60	6.20	5.90	7.40	7.90	8.50	10.50	11.6	12.80	14.00
60					2.95	3.55	4.00	4.70	5.40	6.00	6.60	5.90	7.90	8.40	9.10	11.20	12.50	13.70	15.00

Model KX2
Double Deflection Grilles

3/4" SPACING — 22-1/2° SPREAD

Grille Width, in.	Grille Height, in.																	
	4	5	6	8	10	12	14	16	18	20	22	24	26	28	30	36	40	44	48
4	0.04																		
5	0.06	0.08																	
6	0.08	0.10	0.13																
8	0.11	0.14	0.18	0.25															
10	0.14	0.18	0.23	0.32	0.41														
12	0.18	0.23	0.28	0.38	0.49	0.60													
14	0.21	0.27	0.33	0.46	0.58	0.71	0.83												
16	0.24	0.31	0.38	0.52	0.67	0.82	0.96	1.10											
18	0.27	0.35	0.43	0.60	0.76	0.93	1.09	1.26	1.45										
20	0.31	0.40	0.49	0.67	0.85	1.05	1.23	1.41	1.60	1.80									
22	0.35	0.45	0.54	0.74	0.95	1.16	1.36	1.55	1.80	2.00	2.25								
24	0.38	0.49	0.60	0.81	1.05	1.27	1.49	1.70	1.95	2.20	2.45	2.70							
26	0.42	0.53	0.65	0.90	1.13	1.38	1.65	1.85	2.15	2.40	2.65	2.90	3.20						
28		0.58	0.70	0.97	1.23	1.49	1.75	2.05	2.30	2.60	2.85	3.15	3.45	3.70					
30		0.62	0.76	1.05	1.32	1.60	1.90	2.20	2.50	2.80	3.10	3.40	3.70	4.00	4.40				
36			0.93	1.25	1.60	1.95	2.30	2.70	3.05	3.40	3.70	4.10	4.55	4.90	5.35	6.50			
40			1.04	1.41	1.80	2.20	2.60	3.05	3.40	3.80	4.15	4.60	5.10	5.50	5.90	7.30	8.30		
44				1.60	2.00	2.45	2.85	3.40	3.80	4.25	4.60	5.10	5.60	6.10	6.60	8.20	9.10	9.70	
48				1.75	2.20	2.65	3.15	3.70	4.15	4.70	5.10	5.60	6.20	6.60	7.20	8.90	9.90	11.00	12.00
52				1.85	2.40	2.90	3.45	4.05	4.55	5.10	5.60	6.10	6.70	7.10	7.80	9.70	10.80	12.00	13.00
56					2.60	3.15	3.70	4.35	4.90	5.50	6.10	6.70	7.30	7.70	8.50	10.50	11.60	12.80	14.00
60					2.80	3.40	4.00	4.70	5.30	5.90	6.60	7.30	7.90	8.40	9.10	11.20	12.50	13.70	15.00

45° SPREAD

Grille Width, in.	Grille Height, in.																	
	4	5	6	8	10	12	14	16	18	20	22	24	26	28	30	36	40	44	48
4	0.02																		
5	0.03	0.05																	
6	0.04	0.06	0.08																
8	0.07	0.09	0.13	0.18															
10	0.09	0.13	0.17	0.25	0.32														
12	0.13	0.17	0.21	0.30	0.39	0.49													
14	0.15	0.21	0.26	0.36	0.47	0.58	0.69												
16	0.18	0.25	0.30	0.42	0.55	0.68	0.81	0.94											
18	0.21	0.28	0.34	0.49	0.63	0.76	0.92	1.10	1.25										
20	0.24	0.32	0.39	0.55	0.70	0.88	1.07	1.23	1.41	1.58									
22	0.27	0.36	0.44	0.61	0.78	0.98	1.19	1.37	1.57	1.78	2.00								
24	0.30	0.39	0.49	0.68	0.87	1.10	1.30	1.52	1.74	1.98	2.22	2.45							
26	0.33	0.43	0.53	0.75	0.97	1.20	1.42	1.65	1.90	2.15	2.38	2.68	3.00						
28		0.47	0.58	0.82	1.07	1.30	1.55	1.82	2.05	2.35	2.62	2.95	3.23	3.52					
30		0.51	0.63	0.88	1.14	1.41	1.70	1.98	2.23	2.55	2.85	3.20	3.50	3.80	4.10				
36			0.76	1.10	1.41	1.74	2.05	2.40	2.78	3.20	3.55	3.90	4.30	4.70	5.10	6.20			
40				1.22	1.60	1.96	2.35	2.75	3.20	3.60	4.00	4.50	5.05	5.40	5.75	7.00	7.85		
44				1.37	1.77	2.18	2.64	3.07	3.55	4.00	4.40	5.00	5.55	6.00	6.35	7.85	8.80	9.40	
48				1.52	1.96	2.40	2.93	3.40	3.90	4.45	4.90	5.55	6.10	6.50	7.00	8.40	9.80	10.40	11.60
52				1.65	2.12	2.60	3.15	3.65	4.30	4.75	5.30	5.90	6.40	7.00	7.60	9.20	10.00	11.40	12.60
56				1.80	2.32	2.85	3.40	3.95	4.60	5.10	5.70	6.40	7.00	7.60	8.20	10.00	11.10	12.40	13.60
60				1.94	2.50	3.10	3.70	4.30	4.90	5.50	6.20	7.00	7.60	8.20	9.00	11.00	12.20	13.40	14.60

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Model KX2
Double Deflection Grilles

Standard
ANSI / ASHRAE standard 70

For large grilles with a cooling differential, the drop of the air stream should be evaluated.
Data includes opposed blade volume control damper in full open position.

Throw
The numbers shown are throw distances, in meters, measured along the jet trajectory axis relating to terminal velocities of
0.75,0.5, & 0.25 m/s, with the jet attached to the ceiling surface.
0°, 22.5°,45° represent the blade deflection or spread angle settings
Terminal velocity is the air speed, in meters per second, measured in the supply air stream.

Opposed Blade Volume Control Dampers (OBD)
Data shown includes OBD (wide open)

Without damper, reduce NC -3
Without damper, reduce Ps x .75

Sound Levels
NC shown is for 0° blade angle setting and is noise criteria curve that will not be exceeded at the operating point. This is determined by assuming a 10dB (ref: 10-12 watts) room attenuation that is subtracted from the power levels in each of the
2nd thru 7th octave bands. For 22.5° blade angle setting, add 2 NC to the tabulated value shown. For 45° blade angle setting, add 6 NC to the tabulated value shown.

Neck Velocity, Core Velocity
Meters per second (m/s)

Pressure
Ps represents Static Pressure, Pa

MODEL
19mm Blade Spacing
- KX2 Aluminum Double Deflection

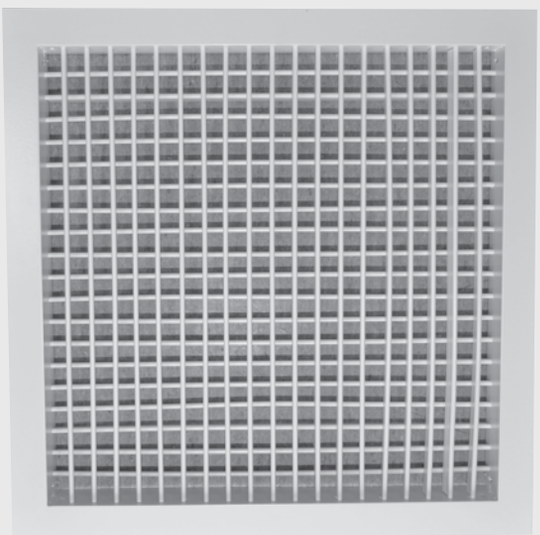
FACE BLADES

WIDTH
100 mm to 1200mm

HEIGHT

FINISH
- Pure White (RAL 9010)
- Optional RAL Colors
- Custom Color Match
- Mill Finish (Aluminum Only)
- Natural Anodized (Aluminum Only)

ACCESSORIES



Typical Specification - Double Deflection Grilles

19mm Blade Spacing

Double deflection supply grilles and registers shall be KMC Model KX1 (aluminum, single deflection), or KX2 (aluminum, double deflection) with 12mm / 19mm blade spacing and as scheduled.

The grilles shall consist of an outer border or frame, with face directional blades horizontal or vertical as detailed. Blades shall be individually adjustable and designed to minimize noise and pressure loss, and shall consist of an extruded aluminum closed profile.

Blades shall rotate smoothly without bending and include a friction design to hold blade position, and prevent rattling. Frame mounting holes shall be countersunk for oval head screws, provided by the grille manufacturer (KMC).

Where scheduled and as shown, provide optional aluminum, face operated opposed blade volume control dampers.

Finish shall be powder coated with RAL 9010 or custom color as specified by the Architect.