



# ENGINEERING DATA

MA Series																				
SIZE	VELOCITY		400			500			600			700			800			1000		
	DUCT PT.		0.038			0.108			0.155			0.220			0.285			0.438		
6x6	Eff. Area 0.11 ft <sup>2</sup>	CFM	108			139			170			201			216			278		
		NC	<20			20			25			25-30			30			35		
		Throw(ft.)	5	7	9	6	9	12	7	10	14	8	12	16	9	13	17	11	15	19
8x8	Eff. Area 0.21 ft <sup>2</sup>	CFM	201			247			293			340			401			494		
		NC	<20			20			25			25-30			30			35		
		Throw(ft.)	8	11	13	9	12	15	10	14	18	11	16	20	12	16	21	14	20	26
10x10	Eff. Area 0.33 ft <sup>2</sup>	CFM	234			297			359			420			470			593		
		NC	20			20			25			25-30			30			40		
		Throw(ft.)	10	13	15	10	15	19	12	17	21	13	18	22	14	19	24	16	22	27
12x12	Eff. Area 0.475 ft <sup>2</sup>	CFM	448			525			648			757			865			1081		
		NC	20			25			25-30			30			35			40		
		Throw(ft.)	11	15	19	13	17	21	15	19	23	16	20	25	17	22	27	19	26	32
14x14	Eff. Area 0.65 ft <sup>2</sup>	CFM	587			741			896			1034			1189			1482		
		NC	20			25			25-30			30			35			40		
		Throw(ft.)	12	17	21	14	19	24	17	22	27	18	23	28	19	24	29	21	29	37
16x16	Eff. Area 0.75 ft <sup>2</sup>	CFM	744			918			1115			1309			1487			1873		
		NC	<20			25			30			35			35			45		
		Throw(ft.)	13	19	25	16	22	28	18	24	30	19	25	31	21	27	33	23	31	39
18x18	Eff. Area 1.0 ft <sup>2</sup>	CFM	949			1205			1473			1695			1903			2379		
		NC	<20			25			30			35			40			45		
		Throw(ft.)	15	21	27	18	26	32	20	27	33	22	29	36	24	31	38	25	33	40



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	DUCT PT.		0.038			0.108			0.155			0.220			0.285			0.438			
20x20	Eff. Area 1.18 ft <sup>2</sup>	CFM		1130			1166			1380			1618			1856			2284		
		NC		<20			25			30			35			40			45		
		Throw(ft.)		18	23	28	21	27	33	23	29	35	25	32	39	26	34	41	28	36	44
24x24	Eff. Area 1.70 ft <sup>2</sup>	CFM		1726			2122			2546			2971			3395			4244		
		NC		<20			25			30			40			45			45-50		
		Throw(ft.)		19	27	33	25	32	39	28	27	46	29	38	47	32	40	48	35	45	55

# ENGINEERING FOOTNOTES

## ENGINEERING FOOTNOTES FOR SHOEMAKER DIFFUSERS & GRILLES:

**SIZE:** Nominal size or the duct opening / neck size.

**EFFECTIVE AREA:** The space between the blades actually utilized by the air.

**VELOCITY:** The actual velocity of the air through the blades measured with a velometer in at least 4 places.

**FILTERVELOCITY:** Some velocities higher than 500 FPM will decrease filter effectiveness and possibly blow off agglomerates.

*Special Note: The 920FG table gives the air flow for different filter grilles at 2 CFM per square inch of filter with allowance for the blockage caused by the grille.*

**DUCT PT:** The total pressure behind the diffuser in the duct forcing that air through the diffuser.

**DUCT PS:** The static pressure in the duct directly behind the grille or neck of the T-Bar grille. The static load on the fan chargeable against that grille. Velometer readings are taken between grille vanes giving actual velocity.

**THROW:** The throws noted in the tables are the distances from the diffuser to where the air stream velocity has dropped to not under 100/75/50 F.P.M.

### NOISE CRITERIA:

NC "A" scale.

- (1) Below NC25 extremely quiet.
- (2) Below NC30 Quiet Office.
- (3) Below NC35 Conference Rooms; normal voice 10-30 ft.
- (4) Below NC40 Conference Rooms; 6-12 ft. normal voice.
- (5) NC45 Conference Rooms; 3-6 ft. normal voice.

### NOISE CRITERIA addition for RD series:

The NC values are based on a room absorption of 18 db, re 10-13 watts.

### NOISE CRITERIA addition for OBR – Damper Throttling:

- ¼ Closed – 5
- ⅓ Closed – 10
- ½ Closed – 15