



ENGINEERING DATA

RS34 Series																											
SIZE	VELOCITY		300	400	500	600	700	800	1000	1200	1400																
	DUCT PT.		0.004	0.008	0.013	0.018	0.025	0.033	0.051	0.074	0.1																
8x4	Eff. Area 0.16 ft ²	CFM	62		79		99		120		141		161		199		240		282								
		NC	<20		<20		<20		20		25		30		35		40		45								
		Throw(ft.)	4	5	5.5	5	6	7	7	8	9	8	10	12	10	12	14	12	14	16	14	18	22	16	21	26	20
10x4	Eff. Area 0.20 ft ²	CFM	69		87		110		133		156		179		221		267		313								
		NC	<20		<20		<20		20		25		30		35		40		45								
		Throw(ft.)	5	5.5	6	6	7	8	8	9	10	9	11	13	11	13	15	13	15	17	15	19	23	17	22	27	21
12x4	Eff. Area 0.241 ft ²	CFM	75		95		120		145		170		195		240		290		340								
		NC	<20		<20		<20		20		25		30		35		40		45								
		Throw(ft.)	5.5	6	6.5	7	8	9	9	10	11	10	12	14	12	14	16	13.5	16	18	16	20	24	18	23	28	22
14x4	Eff. Area 0.286 ft ²	CFM	82		104		131		158		185		213		262		316		371								
		NC	<20		<20		<20		20		25		30		35		40		45								
		Throw(ft.)	6	7	8	8	9	10	10	11	12	11	13	15	13	15	17	15	17	19	17	22	25	19	24	29	23
10x6	Eff. Area 0.314 ft ²	CFM	95		125		155		190		220		250		315		375		440								
		NC	<20		<20		<20		20		25		30		35		40		45								
		Throw(ft.)	6.5	7	7.5	8	9	10	11	12	13	12	14	16	14.5	17	20	16	19	22	19	24	29	22	28	34	26
12x6	Eff. Area 0.380 ft ²	CFM	115		150		190		230		265		305		380		455		530								
		NC	<20		<20		<20		20		25		30		35		40		45-50								
		Throw(ft.)	7	8	9	10	11	12	11.5	13	14.5	13.5	16	18	16	19	22	18	21	24	22	27	32	26	32	38	30
14x6	Eff. Area 0.449 ft ²	CFM	135		180		225		270		315		360		450		540		630								
		NC	<20		<20		<20		20		25		30		35		40		45-50								
		Throw(ft.)	8	9	10	11	12	13	13.5	15	17	15.5	18	21	17	20	23	20	23	27	23	29	35	28	35	42	33
16x6	Eff. Area 0.513 ft ²	CFM	149		198		248		297		347		396		495		594		693								
		NC	<20		<20		<20		20		25		30		35		40		45-50								
		Throw(ft.)	9	10	11	12	13	14	15	16	18	17	19	22	18	21	24	21	24	28	24	30	36	29	36	43	34
14x8	Eff. Area 0.599 ft ²	CFM	178		238		297		356		416		475		594		713		832								
		NC	<20		<20		<20		20		25		30		35		40		45-50								
		Throw(ft.)	10	11	12	13	15	16	17	18	20	19	21	24	20	23	26	24	27	31	27	33	39	32	39	46	38



ENGINEERING DATA

RS52 Series																													
SIZE	VELOCITY		300			400			500			600			700			800			1000			1200			1400		
	DUCT PT.		0.004			0.008			0.013			0.018			0.025			0.033			0.051			0.074			0.1		
8x4	Eff. Area 0.155 ft ²	CFM	52			67			90			106			123			140			168			207			246		
		NC	<20			<20			<20			20			25			30			35			40			45		
		Throw(ft.)	5	5.5	6	6.5	7	7.5	9	10	11	10	11	12	12	14	16	13	15	17	15	19	24	18	22	28	21	27	34
10x4	Eff. Area 0.241 ft ²	CFM	60			76			96			116			136			156			192			232			272		
		NC	<20			<20			<20			20			25			30			35			40			45		
		Throw(ft.)	5.5	6	6.5	7	8	9	10	11	12	11	13	14	13	15	20	14	17	20	17	21	26	20	25	30	23	29	36
10x6	Eff. Area 0.314 ft ²	CFM	90			119			147			180			209			238			300			356			418		
		NC	<20			<20			<20			20			25			30			35			40			45		
		Throw(ft.)	6	6.5	7	7.5	8.5	9.5	10.5	11.5	13	11.5	14	15	14	16	21	15	18	21	18	23	27.5	21	26.5	32	24.5	31	38
12x4	Eff. Area 0.274 ft ²	CFM	72			91			115			139			163			187			230			278			326		
		NC	<20			<20			<20			20			25			30			35			40			45		
		Throw(ft.)	6	7	8	9	10	10.5	10.5	12	13	12	14	16	14	17	20	16	19	21	20	24	28	23	28	33.5	31	32	39
12x6	Eff. Area 0.380 ft ²	CFM	109			143			180			219			252			290			361			432			409		
		NC	<20			<20			<20			20			25			30			35			40			45-50		
		Throw(ft.)	6.5	7.5	8.5	9.5	10.5	11	11	12.5	14	13	15	17	15	18	21	17	20	23	21	25.5	30	24.5	30	36	32.5	35	42
14x4	Eff. Area 0.304 ft ²	CFM	85			113			140			171			19			226			285			338			397		
		NC	<20			<20			<20			20			25			30			35			40			45		
		Throw(ft.)	6	7	8	9	10	10.5	10.5	12	13.5	12	14	16	14	17	20	16	19	22	20	24	28	23	28	34	31	33	40
14x6	Eff. Area 0.449 ft ²	CFM	128			171			214			256			300			342			428			515			600		
		NC	<20			<20			<20			20			25			30			35			40			45-50		
		Throw(ft.)	7.5	8.5	9.5	10.5	11.5	13	13	14	16	14.5	17	20	16	19	22	21	22	25.5	22	27.5	33	26.5	33	40	31	39	46
16x6	Eff. Area 0.510 ft ²	CFM	148			200			240			295			350			395			488			590			700		
		NC	<20			<20			<20			20			25			30			35			40			45-50		
		Throw(ft.)	7.5	8.5	9.5	10.5	11.5	13	13	14.5	16	14.5	17.5	20.5	16.5	19.5	22.5	21	22.5	26	22.5	28	34	27	34	41	32	40	47
14x8	Eff. Area .538 ft ²	CFM	170			227			284			340			400			454			568			685			798		
		NC	<20			<20			<20			20			25			30			35			40			45-50		
		Throw(ft.)	8	9	10	11	12	13.5	13.5	15	17	15	18	21	17	20	23	22	23	27	23	29	34.5	28	35	42	33	41	48

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