



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