



# ENGINEERING DATA

1203 Series										
SIZE	VELOCITY		300	400	500	600	700	800	1000	1200
	DUCT PT.		.006	.010	.016	.022	.031	.040	.062	.090
4	Neck Area 0.196 ft <sup>2</sup>	CFM	30	40	50	60	70	80	90	110
		NC	<20	<20	<20	20	20-25	25-30	30-35	35-40
		SP	<.01	<.01	<.01	19	24	28	31	36
		Throw (ft.)	8	8	9	10	11	12	13	14
6	Neck Area 0.196 ft <sup>2</sup>	CFM	60	80	100	120	140	160	200	240
		NC	<20	<20	<20	<20	<20	20	25-30	35
		SP	.02	.03	.05	.05	.062	.075	.128	.2
		Throw (ft.)	8	10	12	13	15	18	20	22
8	Neck Area 0.349 ft <sup>2</sup>	CFM	110	140	180	210	250	280	350	420
		NC	<20	<20	<20	<20	20-25	25-30	30-35	30-35
		SP	<.01	.02	.03	.04	.06	.1	.12	.21
		Throw (ft.)	12	17	18	20	21	23	25	27
10	Neck Area 0.545 ft <sup>2</sup>	CFM	170	220	280	330	390	440	550	660
		NC	<20	<20	<20	20	20-25	25-30	30-35	35-40
		SP	<.01	.02	.03	.04	.05	.062	.091	.13
		Throw (ft.)	18	20	21	24	27	28	31	33
12	Neck Area 0.785 ft <sup>2</sup>	CFM	240	320	400	480	550	630	790	950
		NC	<20	<20	<20	20	20-25	20-25	25-30	35-40
		SP	<.01	.01	.025	.04	.05	.1	.09	.1
		Throw (ft.)	21	23	26	28	31	32	38	40
14	Neck Area 1.069 ft <sup>2</sup>	CFM	330	430	540	650	750	860	1070	1290
		NC	<20	<20	<20	20-25	25-30	30	30-35	40
		SP	<.01	<.01	.026	.041	.04	.05	.06	.1
		Throw (ft.)	23	26	31	33	36	39	41	46
16	Neck Area 1.396 ft <sup>2</sup>	CFM	420	560	700	840	980	1120	1400	1680
		NC	<20	<20	<20	20	20-25	25-30	30-35	35-40
		SP	<.01	<.01	.03	.038	.022	.03	.04	.07
		Throw (ft.)	27	32	36	39	41	43	48	54



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20	Neck Area 2.182 ft <sup>2</sup>	CFM	660	880	1100	1310	1530	1750	2190	2620
		NC	<20	<20	<20	20	20-25	25-30	30-35	35-40
		SP	<.01	<.01	.03	.03	.04	.05	.07	.11
		Throw (ft.)	37	41	45	48	53	56	63	79
24	Neck Area 3.142 ft <sup>2</sup>	CFM	950	1260	1580	1890	2200	2520	3150	3780
		NC	<20	<20	<20	20	20-25	25-30	30-35	35-40
		SP	<.01	<.01	.03	.02	.04	.05	.07	.1
		Throw (ft.)	44	48	53	57	62	67	76	85

# 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