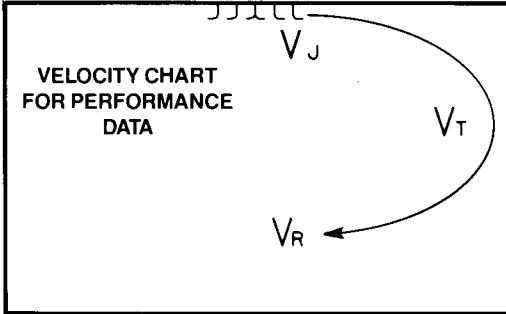
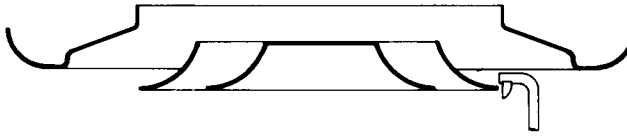


### METHOD OF BALANCING RD-A-S or RD-2-S (adjustable) (2-position)



1. Adjust diffuser cones so that air pattern is in full horizontal discharge.
2. Place Anlor Velometer tip in position as shown in adjacent figure and take a minimum of 4 equally spaced readings. From these calculate the average velocity.
3. Select proper Ak factor from performance data on Page 37 and multiply by average velocity to determine C.F.M. of air volume being delivered.

$V_j$  - Jet velocity as obtained by velometer readings.

$V_t$  - Terminal velocity - 50 ft. per min. for maximum throw and 100 ft. per min. for minimum throw.

$V_r$  - Room velocity - 35 to 25 ft. per min. depending on ceiling height.

**NOTE: Velocities based on full horizontal pattern adjustment only.**

CORRECTION FACTORS FOR PERFORMANCE DATA WITH OPPOSED BLADE DAMPER	$V_j$ VELOCITY										
	500	600	700	800	900	1000	1200	1400	1600	1800	2000
TOTAL PRESSURE CORRECTION	.02	.03	.04	.05	.07	.09	.12	.17	.22	.28	.34

SOUND LEVEL - NC Addition for OBR - Damper Throttling:

$\frac{1}{4}$  Closed - 5  
 $\frac{1}{3}$  Closed - 10  
 $\frac{1}{2}$  Closed - 15

SIZE	Neck Velocity Vel. Press.	400 .010	500 .016	600 .023	700 .031	800 .040	900 .050	1000 .062	1200 .090	1400 .122	1600 .160
6"	CFM	80	100	120	140	100	175	195	235	275	310
	Rad. Diff.	2-5	3-6	4-6	4-7	5-7	6-8	6-8	6-9	7-10	7-10
	Tot. Press.	.024	.037	.056	.071	.092	.112	.138	.197	.272	.345
Ak .12	NC	16	18	20	22	24	26	28	31	35	37
8"	CFM	140	175	210	245	280	315	350	420	490	560
	Rad. Diff.	3-7	4-8	5-8	6-9	7-10	7-10	8-11	8-12	9-13	10-14
	Tot. Press.	.032	.049	.068	.095	.122	.155	.192	.270	.362	.470
Ak .20	NC	17	20	23	25	27	30	32	36	40	43
10"	CFM	220	270	330	380	435	490	545	655	765	870
	Rad. Diff.	4-9	5-10	7-11	8-11	9-12	9-13	10-14	11-15	11-16	12-17
	Tot. Press.	.041	.062	.093	.121	.157	.200	.245	.350	.477	.610
Ak .31	NC	18	21	24	27	30	32	34	39	43	47
12"	CFM	315	390	470	550	630	705	785	940	1100	1255
	Rad. Diff.	5-10	7-12	8-13	9-14	10-15	11-16	12-16	13-18	14-19	15-21
	Tot. Press.	.043	.066	.093	.127	.165	.206	.249	.355	.482	.620
Ak .44	NC	20	23	26	29	32	34	36	41	45	49
14"	CFM	430	535	640	750	855	965	1070	1285	1500	1700
	Rad. Diff.	6-13	8-14	10-15	11-16	12-17	13-19	14-19	15-21	16-22	17-24
	Tot. Press.	.041	.062	.087	.117	.150	.190	.237	.325	.442	.560
Ak .57	NC	21	24	28	30	33	36	39	43	48	52
16"	CFM	560	700	840	980	1120	1260	1400	1680	1960	2240
	Rad. Diff.	6-12	7-13	9-15	10-16	12-17	13-18	13-18	14-20	16-22	18-24
	Tot. Press.	.043	.066	.093	.127	.153	.206	.252	.350	.482	.580
Ak .785	NC	20	24	27	29	32	35	37	42	47	51
18"	CFM	710	885	1060	1240	1415	1595	1770	2125	2480	2830
	Rad. Diff.	7-16	10-18	12-19	14-21	16-22	17-23	18-24	19-27	21-29	22-31
	Tot. Press.	.044	.068	.097	.130	.167	.214	.253	.370	.492	.630
Ak .99	NC	20	24	27	29	32	35	37	42	47	51
20"	CFM	870	1090	1310	1525	1745	1960	2180	2615	3050	3490
	Rad. Diff.	8-18	11-19	14-21	15-23	17-24	18-26	19-27	21-30	23-32	24-34
	Tot. Press.	.045	.069	.099	.133	.170	.215	.262	.375	.512	.645
Ak 1.22	NC	21	24	27	30	32	35	38	42	47	51
24"	CFM	1255	1570	1885	2200	2510	2825	3140	3770	4395	5025
	Rad. Diff.	10-21	13-23	16-25	19-28	21-29	22-31	23-33	25-36	28-39	29-42
	Tot. Press.	.043	.068	.095	.131	.170	.215	.267	.380	.407	.660
Ak 1.77	NC	22	25	28	32	34	37	39	44	49	53

### NOTES ON PERFORMANCE DATA

1. All pressures are inches of water. To obtain static pressure, subtract velocity pressure at head of column from total pressure.
2. Radii of diffusion are based on a 0° temperature differential. Maximum radii of diffusion are to a terminal velocity ( $V_t$ ) of 100 FPM, and maximum to 50 FPM.
3. The NC values are based on a room absorption of 18 db, re 10-13 watts.
4. Performance data as shown is for the diffuser only, with the cones in the "down" position. Performance for the cones in the "up" position can be approximated by multiplying the total pressures by 1.6, adding 5 NC to the sound levels, and multiplying the radius of diffusion by .90.
5. CFM = Ak x  $V_k$  where  $V_k$  is velocity in FPM as read on Anlor Velometer with 2220A Jet.

\*Unit ratings are extrapolated.