

1	2	3	4	5	6 From Sect. 5	7	8			9 From Fig. 4	10 Col 7 + Col 9	11 From Fig. 2	12 Col 10 x Col 11 100	13 From Col 4 x Fig. 2	14 From Fig. 1	15 100 + Col 14	16 Col 13 x Col 15	17 Col 17 + Col 16	18. 19 At junction		
No. of br. or main	Dia. duct in in.	Area duct sq. ft.	Air Volume cfm		Vel. in fpm	Length of Duct in Feet				Resistance in in. wg			Entry loss (VP)	Hood suct. (VP)	Resistance in in. wg		Gov. SP	Corr. cfm			
			In branch	In main		Straight runs	Number of Elbows	Entries	Eqiv. length	Total length	Per 100	Of run			One VP	Hood suct.			Static press.		
1-b	6.5	.27	800	-	3500	30	2	-	14	44	2.7	1.19	.77	.5	1.5	1.16	2.35				
2-b	4	.08	300	-	3750	35	3		11	47	4.25	2.0	.88	.4	1.4	1.23	3.23	3.23			
<p>Note: Column 17, resistance of branch 1-b is less than 2-b; this will cause more air than required at the bag machine hood, and less than required at the conveyor transfer point. To balance the flows, recalculate branch 1-b using smaller duct diameter. (Or, alternatively, reduce resistance in 2-b provided duct velocities do not drop below design criteria.)</p>																					
1-b	6.0	.196	800	-	4081	30	2	-	14	44	4.2	1.85	1.01	.5	1.5	1.52	-3.37	3.37	800		
<p>Branches 1-b and 2-b are now within +5% and are considered balanced.</p>																					
b-e	7.5	.31	1100	1100	3548	50	-	1	7	57	2.3	1.31	.78	-	-	-	-4.68				
																	<p>Collector resistance from manufacture</p>				
c-d	7.5	.31	1100	1100	3548	0	1	0	10	10	2.3	.23	.78	-	-	-	-6.91				
d-e	7.5	.31	1100	1100	3548	30	0	0	0	30	2.3	.69	.78	-	-	-	+7.60				
<p>Fan SP = sum of resistances to fan - VP (VP converted to SP)          = 7.60 - .78          = 6.82" WG @ 1100 cfm</p>																					