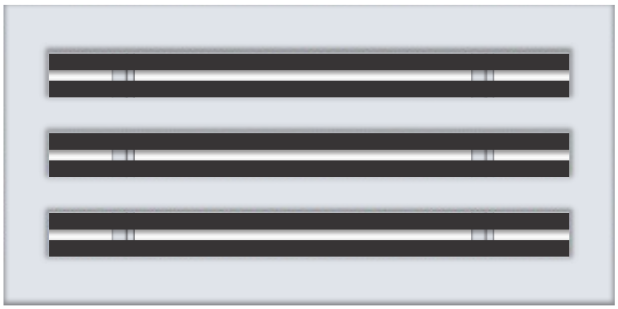
Slot Diffuser : AG-290



Application

Caryaire Linear Slot Diffusers are aesthetically designed air terminals, which ensure a uniform blanket of air that adheres to the ceiling even at low flow rates, making them an ideal choice for use with variable air volume systems. They are ideal for continuous length applications.

Slot width of 25mm. The diffuser can have up to Eight Slots. The Integral Pattern Controllers can adjust the air direction.

Model #'s	
AG290	Slot Diffuser with pattern controllers
AG290H	Slot Diffuser with pattern controllers & Hit/Miss Damper (Illustrated in Fig. 1)
AG290R	Slot Diffuser without pattern controllers & without Hit/Miss Damper (Typically for Return Air Applications)

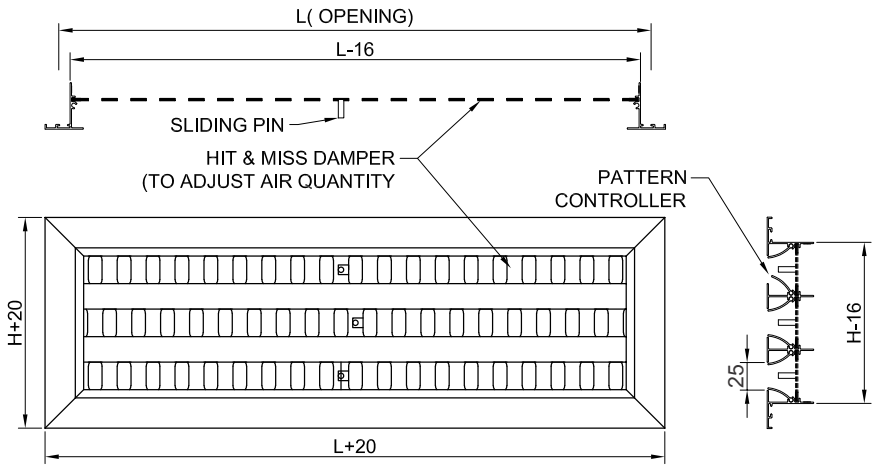


Figure 1

Product Information

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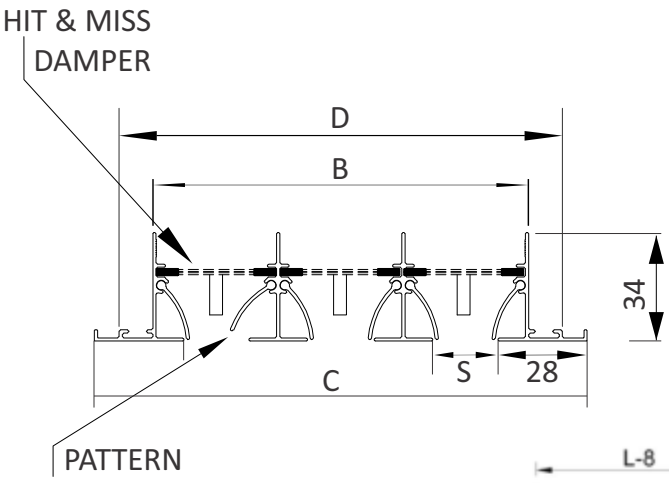
Features

Caryaire Slot Diffuser is ideal for continuous length applications. Manufactured from 1mm high quality Aluminium extrusions, in single section not exceeding 1800mm. Lengths greater than 1800mm are furnished in multiple sections which can be field aligned using the optional alignment strips. The Maximum pattern controller length is 900mm. For better performance results, Factory made 0.6mm Steel Plenums can be supplied with or without acoustic lining.

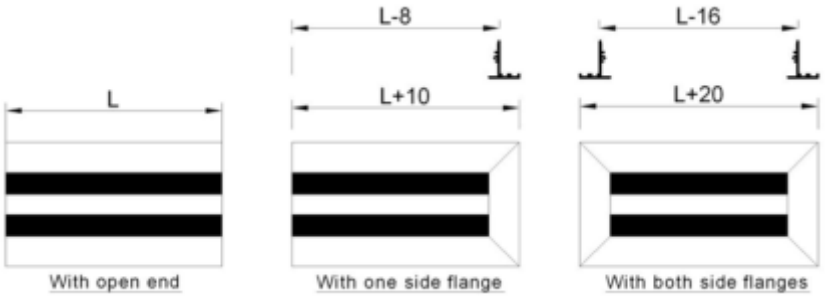
Side Flanges and Mitered corners are available.

Standard Finishes are either Caryaire White (CW) or Caryaire Off-White (CO). Other Colour Options are available at an extra price.

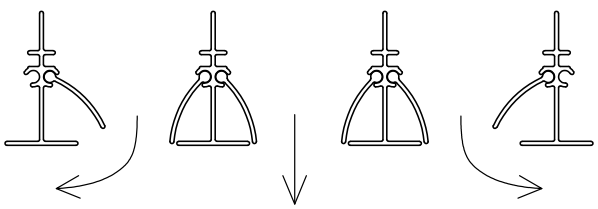
Dimensions



# of Slots	AG290 S = 25mm		
	B	C	D
1	45	81	61
2	88	125	104
3	132	168	148
4	175	212	191
5	219	255	235
6	262	299	278
7	306	342	322
8	349	386	365



Pattern Controller Configurations

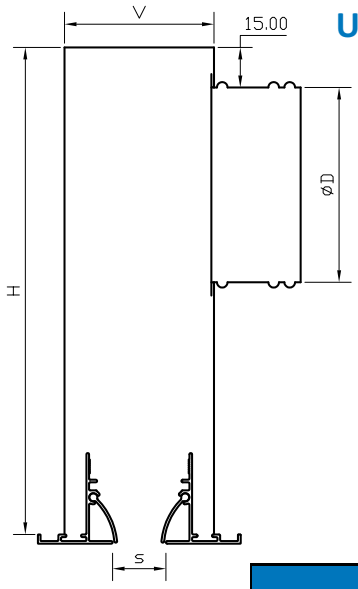


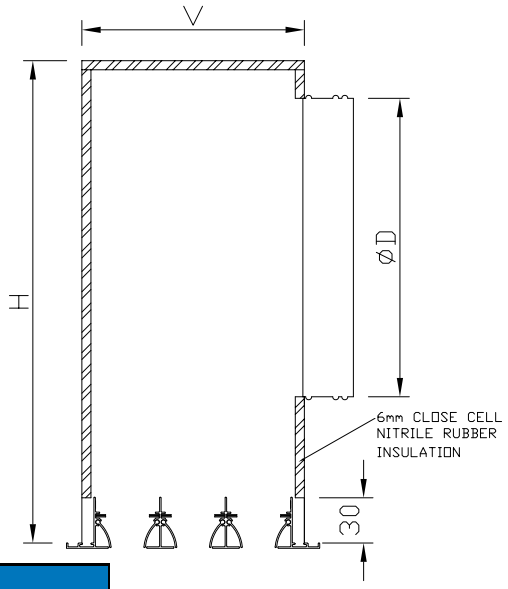
Caryaire Equipments India Pvt. Ltd.
NOIDA , Uttar Pradesh (India)
www.caryaire.com

Rev 1 – March, 2021
AFS/B/2.2

Plenums For Slot Diffuser

Un-insulated and Insulated





# of Slots	AG 290 S = 25mm		
	H	Dia	V
1	320	158	61
2	320	198	104
3	320	198	148
4	320	248	191
5	320	248	235
6	385	313	278
7	385	313	322
8	385	313	365

Specifications

Linear Slot Diffuser AG 290 with 25mm slot spacing is equipped with 1mm EyeLash-Shaped Extruded Aluminium Air Pattern Controllers and with Integral Hit/Miss Damper (Model AG290H). Number of Slots and length to be selected on the basis of Air Quantity to be handled by the Slot Diffuser. Outer and Inner Frame are of 1mm Extruded Aluminium.

Slot Diffuser Frame of the diffuser is Epoxy powder coated in Caryaire White or Caryaire Off-White, the Air Pattern Controller is painted Black.

Hit and Miss Damper in painted steel construction is supplied as an integral part of Diffuser (Model AG290H).

Optional Plenum Box is supplied with or without 6mm Insulation/Lining.

Product Information

CARYAIRE™
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Quick selection table

AG 290 Horizontal Discharge																	
Q		Dim	600-1	1000-1	1200-1 600-2	1500-1	1800-1 900-2 600-3	1000-2	1200-2 600-4	1500-2 1000-3	1200-3 1800-2	1000-4	1500-3	1200-4	1800-3	1500-4	1800-4
CFM	(m3/h)	Ak (m2)	0.01221	0.01450	0.01591	0.01836	0.02120	0.02332	0.02808	0.03654	0.04659	0.05417	0.06464	0.07145	0.08626	0.10266	0.14022
100	170	Vk (m/s)	3.9	3.3	3.0	2.6	2.2	2.0	1.7	1.3	1.0	0.9	0.7	0.7	0.5	0.5	0.3
		X (m)	3.7	3.4	3.3	3.1	2.8	2.7	2.5	2.2	1.9	1.8	1.6	1.5	1.4	1.3	1.1
		Pt (Pa)	18	13	10	7	5	4	3	2	1	1	1	1	0	0	0
		LW-dB(A)	36	34	32	30	28	27	25	<20	<20	<20	<20	<20	<20	<20	<20
150	255	Vk (m/s)	5.8	4.9	4.5	3.9	3.3	3.0	2.5	1.9	1.5	1.3	1.1	1.0	0.8	0.7	0.5
		X (m)	5.6	5.2	4.9	4.6	4.3	4.1	3.7	3.3	2.9	2.7	2.4	2.3	2.1	1.9	1.7
		Pt (Pa)	42	28	23	17	12	10	6	4	2	2	1	2	1	1	0
		LW-dB(A)	46	43	42	40	38	37	34	25	24	23	21	21	<20	<20	<20
250	425	Vk (m/s)	9.7	8.1	7.4	6.4	5.6	5.1	4.2	3.2	2.5	2.2	1.8	1.7	1.4	1.1	0.8
		X (m)	9.4	8.6	8.2	7.6	7.1	6.8	6.2	5.4	4.8	4.4	4.1	3.9	3.5	3.2	2.8
		Pt (Pa)	115	79	64	46	34	27	18	10	6	5	4	5	3	2	1
		LW-dB(A)	58	56	55	53	51	50	47	38	36	35	34	33	32	31	29
300	510	Vk (m/s)	11.6	9.8	8.9	7.7	6.7	6.1	5.0	3.9	3.0	2.6	2.2	2.0	1.6	1.4	1.0
		X (m)	11.2	10.3	9.9	9.2	8.5	8.1	7.4	6.5	5.8	5.3	4.9	4.6	4.2	3.9	3.3
		Pt (Pa)	166	114	92	67	48	39	26	14	9	7	6	7	4	3	2
		LW-dB(A)	63	60	59	57	55	54	51	42	41	40	38	38	36	35	33
350	595	Vk (m/s)	13.5	11.4	10.4	9.0	7.8	7.1	5.9	4.5	3.5	3.1	2.6	2.3	1.9	1.6	1.2
		X (m)	13.1	12.0	11.5	10.7	10.0	9.5	8.7	7.6	6.7	6.2	5.7	5.4	4.9	4.5	3.9
		Pt (Pa)	226	155	126	91	66	53	35	20	12	10	8	9	6	4	2
		LW-dB(A)	67	64	63	61	59	58	55	46	44	43	42	41	40	39	37
400	680	Vk (m/s)	15.5	13.0	11.9	10.3	8.9	8.1	6.7	5.2	4.1	3.5	2.9	2.6	2.2	1.8	1.3
		X (m)	15.0	13.8	13.1	12.2	11.4	10.9	9.9	8.7	7.7	7.1	6.5	6.2	5.6	5.2	4.4
		Pt (Pa)	295	202	164	119	86	69	46	26	16	13	10	12	8	6	3
		LW-dB(A)	70	68	66	64	62	61	59	49	48	47	45	45	43	42	40
500	850	Vk (m/s)	19.3	16.3	14.8	12.9	11.1	10.1	8.4	6.5	5.1	4.4	3.7	3.3	2.7	2.3	1.7
		X (m)	18.7	17.2	16.4	15.3	14.2	13.6	12.4	10.8	9.6	8.9	8.1	7.7	7.1	6.5	5.5
		Pt (Pa)	462	315	256	186	134	108	71	40	25	20	16	18	12	9	5
		LW-dB(A)	75	73	72	70	68	67	64	55	53	52	51	50	49	48	46
600	1020	Vk (m/s)	23.2	19.5	17.8	15.4	13.4	12.2	10.1	7.8	6.1	5.2	4.4	4.0	3.3	2.8	2.0
		X (m)	22.5	20.6	19.7	18.3	17.1	16.3	14.8	13.0	11.5	10.7	9.8	9.3	8.5	7.8	6.6
		Pt (Pa)	665	454	369	268	193	156	103	58	36	29	23	26	18	13	7
		LW-dB(A)	80	78	76	74	72	71	69	59	58	57	55	55	53	52	50
700	1190	Vk (m/s)	27.1	22.8	20.8	18.0	15.6	14.2	11.8	9.0	7.1	6.1	5.1	4.6	3.8	3.2	2.4
		X (m)	26.2	24.1	23.0	21.4	19.9	19.0	17.3	15.2	13.4	12.5	11.4	10.8	9.9	9.0	7.7
		Pt (Pa)	905	618	502	364	263	212	140	79	50	39	32	35	24	17	9
		LW-dB(A)	84	81	80	78	76	75	72	63	61	60	59	58	57	56	54
800	1360	Vk (m/s)	30.9	26.1	23.7	20.6	17.8	16.2	13.5	10.3	8.1	7.0	5.8	5.3	4.4	3.7	2.7
		X (m)	30.0	27.5	26.3	24.5	22.8	21.7	19.8	17.3	15.4	14.2	13.0	12.4	11.3	10.3	8.8
		Pt (Pa)	1182	807	656	476	343	277	182	103	65	51	42	46	32	22	12
		LW-dB(A)	87	85	83	81	79	78	76	66	65	64	62	62	60	59	57
900	1530	Vk (m/s)	34.8	29.3	26.7	23.2	20.0	18.2	15.1	11.6	9.1	7.8	6.6	5.9	4.9	4.1	3.0
		X (m)	33.7	31.0	29.6	27.5	25.6	24.4	22.2	19.5	17.3	16.0	14.7	13.9	12.7	11.6	10.0
		Pt (Pa)	1496	1022	830	602	435	350	231	130	82	65	53	59	40	28	15
		LW-dB(A)	90	87	86	84	82	81	78	69	68	67	65	65	63	62	60
1000	1700	Vk (m/s)	38.7	32.6	29.7	25.7	22.3	20.3	16.8	12.9	10.1	8.7	7.3	6.6	5.5	4.6	3.4
		X (m)	37.5	34.4	32.8	30.6	28.4	27.1	24.7	21.7	19.2	17.8	16.3	15.5	14.1	12.9	11.1
		Pt (Pa)	1847	1262	1025	743	537	433	285	161	101	80	65	72	50	35	19
		LW-dB(A)	92	90	89	87	85	84	81	72	70	69	68	67	66	65	63
1100	1870	Vk (m/s)	42.6	35.8	32.6	28.3	24.5	22.3	18.5	14.2	11.1	9.6	8.0	7.3	6.0	5.1	3.7
		X (m)	41.2	37.8	36.1	33.6	31.3	29.8	27.2	23.8	21.1	19.6	17.9	17.0	15.5	14.2	12.2
		Pt (Pa)	2235	1526	1241	899	649	523	345	195	122	97	79	88	60	42	23
		LW-dB(A)	95	92	91	89	87	86	83	74	72	71	70	70	68	67	65
1200	2040	Vk (m/s)	46.4	39.1	35.6	30.9	26.7	24.3	20.2	15.5	12.2	10.5	8.8	7.9	6.6	5.5	4.0
		X (m)	45.0	41.3	39.4	36.7	34.1	32.6	29.7	26.0	23.0	21.4	19.5	18.6	16.9	15.5	13.3
		Pt (Pa)	2659	1817	1476	1070	773	623	410	232	146	115	94	104	71	50	27
		LW-dB(A)	97	95	93	91	89	88	86	76	75	74	72	72	70	69	67

Product Information

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Quick selection table

AG 290 Vertical Discharge																	
Q		**Dim**	**600-1**	**1000-1**	**1200-1 600-2**	**1500-1**	**1800-1 900-2 600-3**	**1000-2**	**1200-2 600-4**	**1500-2 1000-3**	**1200-3 1800-2**	**1000-4**	**1500-3**	**1200-4**	**1800-3**	**1500-4**	**1800-4**
CFM	**(m3/h)**	**Ak (m2)**	0.01208	0.01948	0.02318	0.02874	0.03429	0.03799	0.04540	0.05651	0.06761	0.07502	0.08428	0.08983	0.10094	0.11205	0.13426
100	**170**	**Vk (m/s)**	3.9	2.4	2.0	1.6	1.4	1.2	1.0	0.8	0.7	0.6	0.6	0.5	0.5	0.4	0.4
		X (m)	3.4	2.7	2.5	2.2	2.0	1.9	1.8	1.6	1.4	1.4	1.3	1.2	1.2	1.1	1.0
		Pt (Pa)	13	5	4	3	2	2	1	1	1	1	0	0	0	0	0
		LW-dB(A)	28	23	21	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20
150	**255**	**Vk (m/s)**	5.9	3.6	3.1	2.5	2.1	1.9	1.6	1.3	1.0	0.9	0.8	0.8	0.7	0.6	0.5
		X (m)	5.1	4.0	3.7	3.3	3.0	2.9	2.6	2.4	2.2	2.0	1.9	1.9	1.8	1.7	1.5
		Pt (Pa)	30	12	9	6	4	4	3	2	1	1	1	1	1	1	1
		LW-dB(A)	38	33	31	29	27	25	23	21	<20	<20	<20	<20	<20	<20	<20
250	**425**	**Vk (m/s)**	9.8	6.1	5.1	4.1	3.4	3.1	2.6	2.1	1.7	1.6	1.4	1.3	1.2	1.1	0.9
		X (m)	8.5	6.7	6.1	5.5	5.0	4.8	4.4	3.9	3.6	3.4	3.2	3.1	2.9	2.8	2.6
		Pt (Pa)	84	34	25	17	12	10	8	5	4	3	3	3	2	2	2
		LW-dB(A)	51	46	44	41	39	38	36	34	32	31	29	29	27	26	24
300	**510**	**Vk (m/s)**	11.7	7.3	6.1	4.9	4.1	3.7	3.1	2.5	2.1	1.9	1.7	1.6	1.4	1.3	1.1
		X (m)	10.2	8.0	7.4	6.6	6.1	5.8	5.3	4.7	4.3	4.1	3.9	3.7	3.5	3.4	3.1
		Pt (Pa)	121	49	36	24	18	15	11	8	6	5	4	4	3	3	2
		LW-dB(A)	56	50	48	46	44	43	41	38	36	35	34	33	32	31	29
350	**595**	**Vk (m/s)**	13.7	8.5	7.1	5.8	4.8	4.4	3.6	2.9	2.4	2.2	2.0	1.8	1.6	1.5	1.2
		X (m)	11.9	9.4	8.6	7.7	7.1	6.7	6.1	5.5	5.0	4.8	4.5	4.4	4.1	3.9	3.6
		Pt (Pa)	165	67	49	33	24	20	15	10	8	7	6	5	5	4	3
		LW-dB(A)	60	54	52	50	48	47	45	42	40	39	38	37	36	35	33
400	**680**	**Vk (m/s)**	15.6	9.7	8.1	6.6	5.5	5.0	4.2	3.3	2.8	2.5	2.2	2.1	1.9	1.7	1.4
		X (m)	13.6	10.7	9.8	8.8	8.1	7.7	7.0	6.3	5.8	5.5	5.2	5.0	4.7	4.5	4.1
		Pt (Pa)	215	87	63	43	31	26	19	14	10	9	8	7	6	5	4
		LW-dB(A)	63	58	56	53	51	50	48	46	44	43	41	40	39	38	36
500	**850**	**Vk (m/s)**	19.6	12.1	10.2	8.2	6.9	6.2	5.2	4.2	3.5	3.1	2.8	2.6	2.3	2.1	1.8
		X (m)	17.0	13.4	12.3	11.0	10.1	9.6	8.8	7.9	7.2	6.8	6.4	6.2	5.9	5.6	5.1
		Pt (Pa)	336	136	99	67	49	41	30	21	16	14	12	11	9	8	7
		LW-dB(A)	69	63	61	59	57	56	54	51	49	48	47	46	45	44	42
600	**1020**	**Vk (m/s)**	23.5	14.5	12.2	9.9	8.3	7.5	6.2	5.0	4.2	3.8	3.4	3.2	2.8	2.5	2.1
		X (m)	20.4	16.1	14.7	13.2	12.1	11.5	10.5	9.4	8.6	8.2	7.7	7.5	7.1	6.7	6.1
		Pt (Pa)	484	197	143	97	71	59	44	31	23	20	17	16	13	12	10
		LW-dB(A)	73	68	66	64	62	60	58	56	54	53	51	51	49	48	46
700	**1190**	**Vk (m/s)**	27.4	17.0	14.3	11.5	9.6	8.7	7.3	5.8	4.9	4.4	3.9	3.7	3.3	3.0	2.5
		X (m)	23.8	18.8	17.2	15.4	14.1	13.4	12.3	11.0	10.1	9.6	9.0	8.7	8.2	7.8	7.1
		Pt (Pa)	659	268	194	132	96	81	60	42	32	27	23	21	18	16	13
		LW-dB(A)	77	72	70	67	65	64	62	60	58	57	55	55	53	52	50
800	**1360**	**Vk (m/s)**	31.3	19.4	16.3	13.1	11.0	9.9	8.3	6.7	5.6	5.0	4.5	4.2	3.7	3.4	2.8
		X (m)	27.2	21.4	19.7	17.6	16.2	15.3	14.0	12.6	11.5	10.9	10.3	10.0	9.4	8.9	8.2
		Pt (Pa)	861	349	254	172	126	105	78	55	41	35	30	28	24	21	17
		LW-dB(A)	81	75	73	71	69	68	66	63	61	60	59	58	57	56	53
900	**1530**	**Vk (m/s)**	35.2	21.8	18.3	14.8	12.4	11.2	9.4	7.5	6.3	5.7	5.0	4.7	4.2	3.8	3.2
		X (m)	30.6	24.1	22.1	19.9	18.2	17.3	15.8	14.2	12.9	12.3	11.6	11.2	10.6	10.1	9.2
		Pt (Pa)	1090	442	321	218	159	133	99	69	52	45	38	35	30	26	22
		LW-dB(A)	83	78	76	74	72	71	69	66	64	63	62	61	60	58	56
1000	**1700**	**Vk (m/s)**	39.1	24.2	20.4	16.4	13.8	12.4	10.4	8.4	7.0	6.3	5.6	5.3	4.7	4.2	3.5
		X (m)	34.0	26.8	24.6	22.1	20.2	19.2	17.6	15.7	14.4	13.7	12.9	12.5	11.8	11.2	10.2
		Pt (Pa)	1346	546	396	269	196	164	122	85	65	55	47	43	37	33	27
		LW-dB(A)	86	81	79	76	74	73	71	69	67	66	64	64	62	61	59
1100	**1870**	**Vk (m/s)**	43.0	26.7	22.4	18.1	15.1	13.7	11.4	9.2	7.7	6.9	6.2	5.8	5.1	4.6	3.9
		X (m)	37.4	29.5	27.0	24.3	22.2	21.1	19.3	17.3	15.8	15.0	14.2	13.7	12.9	12.3	11.2
		Pt (Pa)	1628	661	479	325	238	199	147	103	78	67	57	52	45	39	32
		LW-dB(A)	89	83	81	79	77	76	74	71	69	68	67	66	65	64	62
1200	**2040**	**Vk (m/s)**	46.9	29.1	24.4	19.7	16.5	14.9	12.5	10.0	8.4	7.6	6.7	6.3	5.6	5.1	4.2
		X (m)	40.8	32.2	29.5	26.5	24.2	23.0	21.1	18.9	17.3	16.4	15.5	15.0	14.1	13.4	12.2
		Pt (Pa)	1938	786	570	387	283	237	175	123	93	80	68	62	53	47	38
		LW-dB(A)	91	85	83	81	79	78	76	73	71	70	69	68	67	66	64

These Performance Data is Obtained from Tests conducted using Caryaire Standard Plenums.

When Hit /Miss Damper is provided the Air Performance is to be adjusted as per tables below.

	Open %			
Damper position	100	75	50	25
C_p	1.15	1.50	2.25	4.00
$C_{dB(A)}$	1	5	8	15

$$\blacktriangle P = \blacktriangle P \text{ table} * C_p$$

$$dB(A) = dB(A) \text{ table} + C_{dB(A)}$$

Legend

Vk (m/s)	Effective Velocity in m/s
X (m)	Throw in Meters
P_t (Pa)	Pressure Drop in (Pa)
L_W-dB(A)	Noise Level Index