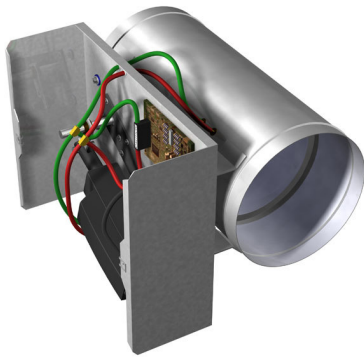


## Laboratory Exhaust Air Terminal



**Figure 1. Laboratory Exhaust Air Terminal.**

The APOGEE® Automation Laboratory Room Exhaust Air Terminal is an industrial grade, easy-to-install, pre-packaged airflow measurement and control terminal unit. When used with the Laboratory Room Controller, it provides fast-acting, stable and precise laboratory general exhaust airflow control over the entire range of room airflow requirements.

Measurement of airflow is accomplished by unique orifice plate or four quadrant sensing technology that minimizes pressure loss and duct obstruction while maintaining measurement accuracy. Airflow control utilizes a round single blade damper. The terminal is comprised of 22 gauge-galvanized steel including the damper and orifice plate components. For corrosive environments, 316L stainless steel or Teflon® is available as an option. Slip or flange end fitting connections may be selected to match the ductwork construction. Flanges comply with the SMACNA Round Industrial Duct Construction Standard (RIDCS).

### Features

- Orifice plate airflow measurement or four quadrant airflow sensor with multipoint, center averaging and signal amplification.
- Solid stainless steel damper shaft on Teflon bushings for fast acting control and maintenance free operation.
- Option of three different materials for construction, 1) Galvanized steel for non-corrosive, general applications. 2) 316L stainless steel for potentially corrosive applications. 3) Teflon for highly corrosive applications.
- Low non-recoverable static pressure loss.
- Eleven standard sizes with airflow capacities from 35 to 5591 CFM – additional sizes are available.
- Only two pivoting mechanical points, the damper shaft ends in Teflon bushings are exposed to the airstreams.
- Field commissionable and adjustable—not dependent upon factory calibration.
- Factory-mounted measurement and control devices to simplify installation (optional).
- Electronic or pneumatic damper control.

### Description

The Lab Room Exhaust Air Terminal consists of the following components:

- Round duct casing, damper blade, and airflow sensor in sizes from 4 inches to 18 inches diameter.
- Material offerings: Galvanized steel, 316L stainless steel, Teflon-coated cold-rolled steel.
- Galvanized steel equipment enclosure with exterior supply connection (optional).
- Factory-mounted controls (optional)

# Specifications

<b>Materials (within air stream) – Standard</b>	
Duct Casing	22 gauge galvanized steel 20 gauge 316L stainless steel 18 gauge Teflon®-coated steel
Airflow Sensor	Type <b>A</b> - 22 gauge galvanized steel orifice plate, dual pressure taps  Type <b>B</b> – PVC sensing arms and center manifold with galvanized steel frame
Damper Blade	22 gauge galvanized steel single blade damper
Damper Shaft	1/2-inch (1.27 cm) diameter, solid continuous stainless steel; zinc-plated steel with galvanized casing Teflon- coating w/Teflon
Damper Bushings	Teflon
Flanges	Comply with SMACNA RIDCS
<b>Materials (outside air stream) – Standard</b>	
Control Enclosure	18 gauge galvanized steel
Pneumatic Tubing	UL rated 94 V-2 fire retardant
Pneumatic Fittings with enclosure only	Brass, dual barbed

<b>Airflow Measurement</b>	
Sensor Type <b>A</b>	Square edge orifice plate with 2 sets of averaging pressure taps
Sensor Type <b>B</b>	Four quadrant, with 12 sensing points, center averaging and signal amplification
<b>Accuracy</b>	
Flow Measurement	See Pages 8-9 ( <i>sensor only. Does not include accuracy of controller or transmitter</i> )
Installation Requirements	Rigid duct of the same diameter 1 x duct diameters upstream from the sensor is required.
<b>Airflow Control</b>	
Damper Blade	Round, non-sealing single blade with 90 degree control
<b>Environmental</b>	
Operating Temperature/% RH	40 to 120°F (4 to 50°C) 0 to 95% non-condensing
Storage Temperature/% RH	-10 to 150°F (-23 to 65°C) 0 to 95% non-condensing
<b>Dimensions</b>	
Weight	20 to 32 lbs.(9.1 to 14.5 kg)

**Table 1. .Minimum Pressure Drop at Listed Airflow.**

Unit Size	Flow		Minimum Operating Pressure Drop		Unit Size	Flow		Minimum Operating Pressure Drop	
	(CFM)	L/s	IN WG	Pa		(CFM)	L/s	in wg	Pa
4	36	17	0.01	2.5	10	238	112	0.01	2.5
4	44	21	0.01	2.5	10	273	129	0.01	2.5
4	87	41	0.05	12.5	10	545	257	0.03	7.5
4	175	83	0.20	50.0	10	1091	515	0.14	35.0
4	252	119	0.42	105	10	1686	796	0.37	92.5
6	89	42	0.02	5.0	12	339	160	0.00	0.0
6	98	46	0.03	7.5	12	393	185	0.00	0.0
6	196	92	0.12	30.0	12	785	370	0.02	5.0
6	393	185	0.51	128	12	1571	741	0.06	15.0
6	627	296	1.32	330	12	2394	1130	0.12	30.0
7	121	57	0.02	5.0	14	460	217	0.00	0.0
7	134	63	0.02	5.0	14	535	252	0.00	0.0
7	267	126	0.09	22.5	14	1069	504	0.01	2.5
7	535	252	0.36	90.0	14	2138	1009	0.07	17.5
7	855	403	0.93	233	14	3254	1536	0.19	47.5
8	148	70	0.01	2.5	16	626	295	0.00	0.0
8	175	83	0.02	5.0	16	698	329	0.00	0.0
8	349	165	0.06	15.0	16	1396	659	0.01	2.5
8	698	329	0.22	55.0	16	2793	1318	0.04	10.0
8	1049	495	0.48	120	16	4429	2090	0.12	30.00
9	196	92	0.01	2.5	18	791	373	0.00	0.0
9	221	104	0.01	2.5	18	884	417	0.00	0.0
9	442	209	0.05	12.5	18	1767	834	0.01	2.5
9	884	417	0.18	45.0	18	3534	1668	0.04	10.0
9	1389	655	0.44	110	18	5591	2638	0.11	27.5

**Table 2. Exhaust Terminal Casing Leakage in CFM.**

<b>LGE Casing Leakage (Per ASHRAE 130-1996)</b>							
<b>Imperial Units (CFM, Inches Water)</b>							
<b>Unit Size</b>	<b>1" WC</b>	<b>3.0"WC</b>	<b>6.0"WC</b>	<b>Unit Size</b>	<b>1.0" WC</b>	<b>3.0" WC</b>	<b>6.0"WC</b>
4	0	1	3	10	1	3	4
6	0	1	3	11 1/2	1	2	3
7	1	2	4	14	1	3	5
8	1	2	4	16	1	3	5
9	1	2	4	18	1	3	5

<b>Metric Units (L/s, Pascals)</b>							
<b>Unit Size</b>	<b>250 Pa</b>	<b>750 Pa</b>	<b>1500 Pa</b>	<b>Unit Size</b>	<b>250 Pa</b>	<b>750 Pa</b>	<b>1500 Pa</b>
4	0.0	0.5	1.4	10	0.5	1.4	1.9
6	0.0	0.5	1.4	11 1/2	0.5	0.9	1.4
7	0.5	0.9	1.9	14	0.5	1.4	2.4
8	0.5	0.9	1.9	16	0.5	1.4	2.4
9	0.5	0.9	1.9	18	0.5	1.4	2.4

**Table 3. Exhaust Terminal Damper Leakage in CFM.**

<b>LGE Blade Seal Leakage (VOLARA; Per ASHRAE 130-1996)</b>							
<b>Imperial Units (CFM, Inches Water)</b>							
<b>Unit Size</b>	<b>1" WC</b>	<b>3.0"WC</b>	<b>6.0"WC</b>	<b>Unit Size</b>	<b>1.0" WC</b>	<b>3.0" WC</b>	<b>6.0"WC</b>
4	0	1	3	10	1	3	4
6	0	1	3	11 1/2	1	2	4
7	1	2	3	14	1	3	5
8	1	2	3	16	1	3	5
9	1	2	4	18	1	3	5

<b>Metric Units (L/s, Pascals)</b>							
<b>Unit Size</b>	<b>250 Pa</b>	<b>750 Pa</b>	<b>1500 Pa</b>	<b>Unit Size</b>	<b>250 Pa</b>	<b>750 Pa</b>	<b>1500 Pa</b>
4	0.0	0.5	1.4	10	0.5	1.4	1.9
6	0.0	0.5	1.4	11 1/2	0.5	0.9	1.9
7	0.5	0.9	1.9	14	0.5	1.4	2.4
8	0.5	0.9	1.9	16	0.5	1.4	2.4
9	0.5	0.9	1.9	18	0.5	1.4	2.4

# Dimensions

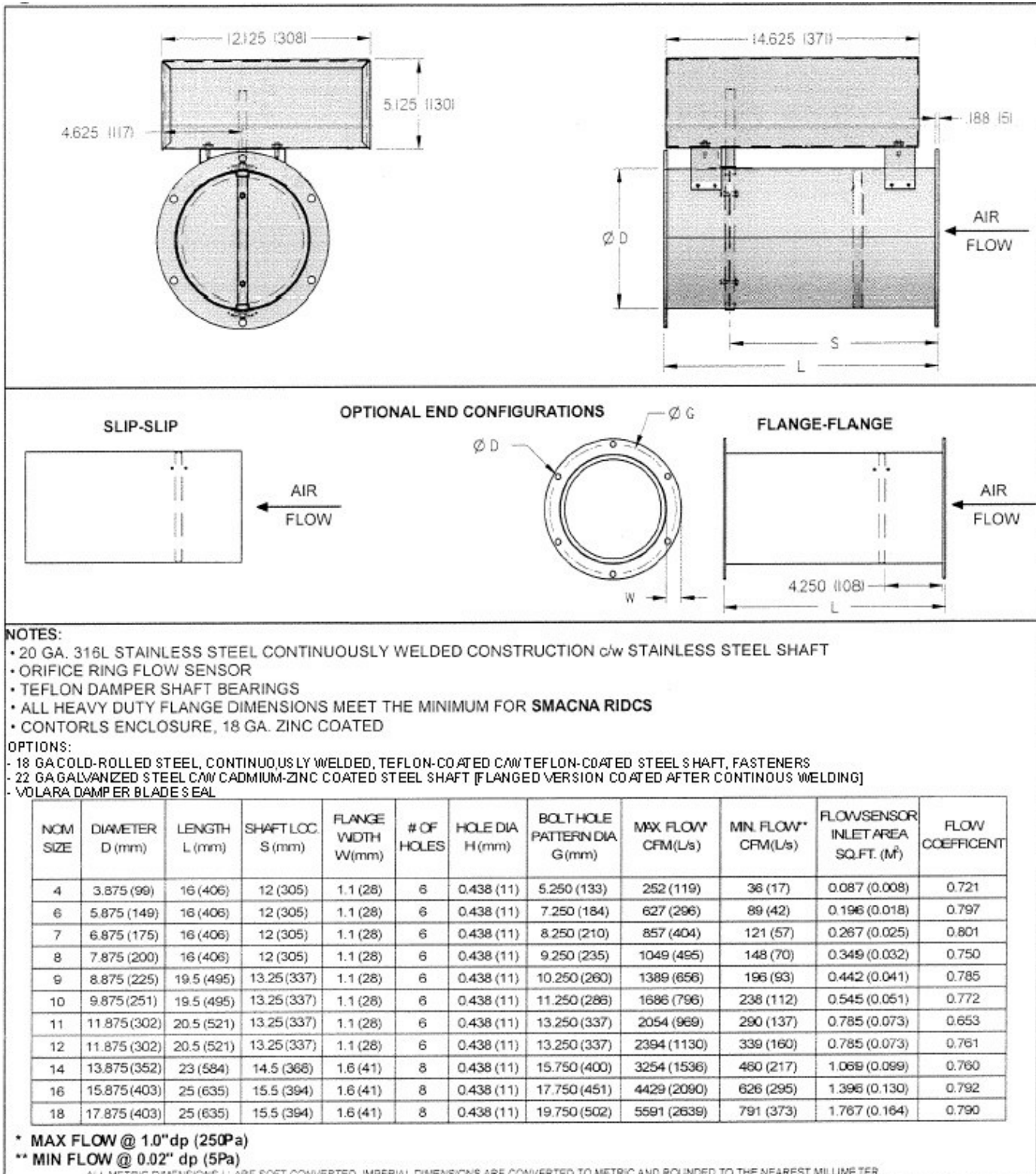
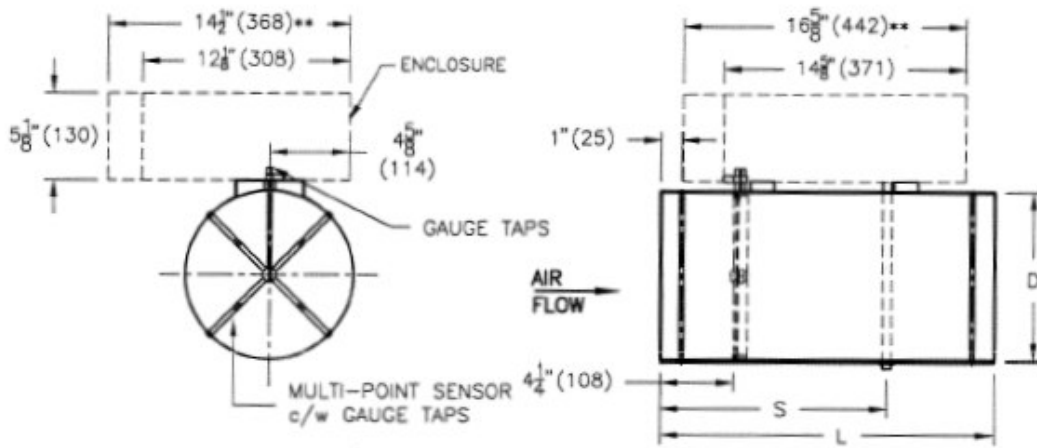


Figure 2. Laboratory Room Exhaust Air Terminal Dimensions in Inches (Millimeters).



**NOTES:**

- 22 GA. GALVANIZED STEEL
- RIVETED DUCT CONSTRUCTION, SEALED WITH SILICONE.
- TEFLON DAMPER BEARINGS
- ZINC PLATED CONTINUOUS SHAFT WITH POSITION INDICATOR.
- MULTI-POINT AIR FLOW SENSOR
- NO DAMPER GASKET

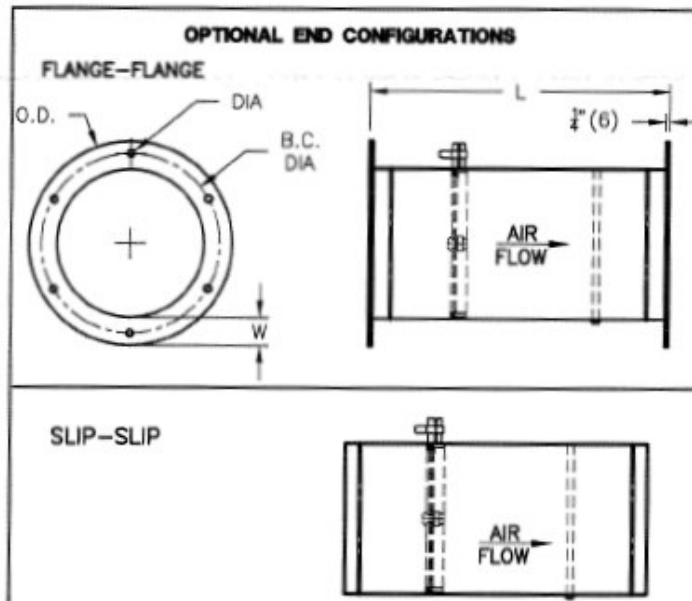
**OPTIONS:**

- CONTROLS ENCLOSURE, 18GA, ZINC COATED
- CONTROLS FACTORY MOUNTED

END CONFIGURATIONS AS SHOWN TO THE RIGHT:

- SLIP - SLIP
- FLANGE - FLANGE

IMPERIAL/(METRIC)



NOM SIZE	MIN CFM (L/s)	MAX CFM (L/s)	FLOW FACTOR	D (mm)	L (mm)	S (mm)	# OF HOLES	FLANGE W (mm)	HOLE DIA (mm)	B.C. DIA (mm)	O.D. (mm)
6	-	-	0.595	5 7/8 (149)	16 (406)	12 (305)	6	1" (25)	7/16" (11)	7 1/4" (184)	8" (203)
7	-	-	0.629	6 7/8 (175)	16 (406)	12 (305)	6	1" (25)	7/16" (11)	8 1/4" (210)	9" (229)
8	-	-	0.637	7 7/8 (200)	16 (406)	12 (305)	6	1" (25)	7/16" (11)	9 1/4" (239)	10" (254)
9	-	-	0.653	8 7/8 (311)	19 1/2 (495)	13 1/4 (337)	6	1" (25)	7/16" (11)	10 1/4" (260)	11" (279)
10	-	-	0.681	9 7/8 (251)	19 1/2 (495)	13 1/4 (337)	6	1" (25)	7/16" (11)	11 1/4" (286)	12" (305)
12	-	-	0.681	11 7/8 (302)	20 1/2 (521)	13 1/4 (337)	6	1 1/2" (38)	7/16" (11)	13 1/4" (337)	15" (381)
14	-	-	0.711	13 7/8 (353)	23 (584)	14 1/2 (368)	8	1 1/2" (38)	7/16" (11)	15 3/4" (400)	17" (432)
16	-	-	0.729	15 7/8 (403)	25 (635)	15 1/2 (394)	8	1 1/2" (38)	3/2" (13)	17 3/4" (451)	19" (483)

Figure 3. Laboratory Exhaust Air Terminal with Multi-Point Flow Sensor.

**Note:** The multi-point flow sensor option is not available for size 4 and size 11 units

**Table 3. Radiated Sound Data for Exhaust Terminal. Sound Power Levels, Lw dB, re 10<sup>-12</sup> Watts**

Unit Size	Airflow L/s cfm		125 Pa (0.5" W.G.)							250 Pa (1.0" W.G.)							500 Pa (2.0" W.G.)							750 Pa (3.0" W.G.)						
			Octave Band							Octave Band							Octave Band							Octave Band						
			2	3	4	5	6	7	2	3	4	5	6	7	2	3	4	5	6	7	2	3	4	5	6	7				
4	35	75	51	29	27	22	19	17	51	32	30	27	24	24	52	36	33	31	29	31	52	38	35	34	32	35				
	71	150	52	34	36	31	27	23	52	38	40	35	32	30	53	41	43	40	37	36	53	43	45	42	40	41				
	106	225	52	38	42	36	31	26	53	41	45	41	36	33	53	45	49	45	41	40	53	47	51	48	44	44				
	132	279	53	39	45	39	33	28	53	43	48	43	39	35	53	46	52	48	44	42	54	48	54	50	47	46				
6	59	125	41	27	23	21	20	20	44	31	27	26	26	26	46	35	32	31	32	33	48	38	34	34	35	37				
	118	250	44	33	30	29	26	25	46	37	35	34	31	31	49	41	39	39	37	38	50	43	42	41	40	42				
	177	375	45	36	35	33	29	28	48	40	39	38	35	34	50	44	44	43	40	41	52	46	46	46	44	44				
	236	500	46	38	38	36	31	30	49	42	42	41	37	36	51	46	47	46	43	43	53	49	50	49	46	47				
296	628	47	40	40	39	33	32	50	44	45	44	39	38	52	48	49	49	44	44	54	50	52	51	48	48					
8	83	175	42	30	25	22	23	23	44	33	29	26	28	28	47	37	33	30	32	34	48	38	35	32	35	37				
	177	375	45	34	32	30	29	28	47	37	36	34	34	33	50	41	40	38	38	39	51	42	42	40	41	42				
	271	575	47	36	36	35	33	31	49	40	40	38	37	36	52	43	44	42	42	42	53	45	46	44	45	45				
	266	775	48	38	39	38	35	33	50	41	43	42	40	38	53	44	47	45	44	44	54	46	49	47	47	47				
	527	1117	49	40	42	42	38	35	52	43	46	45	43	41	54	46	50	49	47	46	56	48	53	51	50	49				
118	250	43	28	23	24	25	24	46	32	28	29	30	30	49	36	32	34	34	35	51	39	34	36	37	39					
10	260	550	45	33	32	30	30	29	48	37	37	35	35	34	51	41	41	40	40	40	53	44	43	43	43	43				
	401	850	46	36	37	34	33	31	49	40	41	39	38	37	52	44	46	44	43	42	54	47	48	47	46	45				
	543	1150	47	38	41	37	35	33	50	42	45	41	40	38	53	46	49	46	45	44	55	49	52	49	48	47				
	684	1450	47	40	43	39	37	34	50	44	48	43	42	40	53	48	52	48	46	45	55	50	54	51	49	48				
	824	1745	48	41	45	40	38	35	51	45	50	45	43	41	54	49	54	50	48	46	56	52	56	53	50	49				
165	350	37	29	27	25	27	26	40	33	32	29	33	33	43	38	36	34	38	40	45	40	38	36	41	44					
12	401	850	44	36	36	33	33	31	47	40	40	37	38	38	50	44	44	42	44	44	52	47	47	44	47	48				
	637	1350	47	39	40	37	36	33	50	44	44	41	41	40	53	48	49	46	47	47	55	50	51	48	50	50				
	873	1850	49	42	43	40	38	35	53	46	47	44	43	41	56	50	52	49	48	48	57	53	54	51	52	52				
	1109	2350	51	43	45	42	39	36	54	48	50	47	45	43	57	52	54	51	50	49	59	55	56	53	53	53				
	1186	2513	52	44	46	43	40	36	55	48	50	47	45	43	58	53	54	51	50	50	60	55	57	54	54	54				
236	500	42	29	30	27	28	26	45	35	35	32	34	33	48	40	40	38	40	39	50	43	44	41	43	43					
14	590	1250	47	38	39	36	35	32	50	43	44	41	41	39	53	48	50	47	46	45	55	51	53	50	50	49				
	944	2000	50	42	44	41	38	36	53	47	49	46	44	42	56	52	54	51	50	48	58	55	58	54	53	52				
	1298	2750	52	44	47	44	41	38	55	50	52	49	47	44	58	55	58	54	52	50	60	58	61	57	56	54				
	1615	3421	54	46	49	46	42	39	57	51	54	51	48	45	60	57	60	56	54	52	61	59	63	60	57	55				
	283	600	51	29	27	22	19	17	51	32	30	27	24	24	52	36	33	31	29	31	52	38	35	34	32	35				
16	661	1400	52	34	36	31	27	23	52	38	40	35	32	30	53	41	43	40	37	36	53	43	45	42	40	41				
	1038	2200	52	38	42	36	31	26	53	41	45	41	36	33	53	45	49	45	41	40	53	47	51	48	44	44				
	1416	3000	53	39	45	39	33	28	53	43	48	43	39	35	53	46	52	48	44	42	54	48	54	50	47	46				
	1793	3800	41	27	23	21	20	20	44	31	27	26	26	26	46	35	32	31	32	33	48	38	34	34	35	37				
	2110	4470	44	33	30	29	26	25	46	37	35	34	31	31	49	41	39	39	37	38	50	43	42	41	40	42				
358	760	45	36	35	33	29	28	48	40	39	38	35	34	50	44	44	43	40	41	52	46	46	46	44	44					
18	835	1770	46	38	38	36	31	30	49	42	42	41	37	36	51	46	47	46	43	43	53	49	50	49	46	47				
	1311	2780	47	40	40	39	33	32	50	44	45	44	39	38	52	48	49	49	44	44	54	50	52	51	48	48				
	1792	3800	42	30	25	22	23	23	44	33	29	26	28	28	47	37	33	30	32	34	48	38	35	32	35	37				
	2264	4800	45	34	32	30	29	28	47	37	36	34	34	33	50	41	40	38	38	39	51	42	42	40	41	42				
	2665	5650	47	36	36	35	33	31	49	40	40	38	37	36	52	43	44	42	42	42	53	45	46	44	45	45				

**Performance Notes:**

1. Tested in accordance with ASHRAE Standard 130-1996: "Methods of Testing for Rating Ducted Air Terminal Units."
2. Airflow given in liters/seconds (L/s); and in cubic feet per minute (cfm).
3. Pressure given in Pascals (Pa) and inches of water gauge (in W.G.).

**Table 4. Radiated Sound Data for Exhaust Terminal. Sound Power Levels, Lw dB, re 10<sup>-12</sup> Watts.**

Unit Size	Airflow L/s    cfm		125 Pa (0.5" W.G.)							250 Pa (1.0" W.G.)							500 Pa (2.0" W.G.)							750 Pa (3.0" W.G.)						
			Octave Band							Octave Band							Octave Band							Octave Band						
			2	3	4	5	6	7	2	3	4	5	6	7	2	3	4	5	6	7	2	3	4	5	6	7				
4	35	75	46	43	45	43	43	38	51	49	50	49	49	45	56	54	55	54	55	53	58	58	58	58	58	57				
	71	150	52	50	52	50	49	43	56	56	57	56	55	50	61	61	62	61	61	58	64	65	65	64	65	62				
	106	225	55	54	56	54	53	46	60	60	61	60	59	54	65	65	67	65	65	61	67	69	70	68	68	65				
	132	279	57	56	59	56	54	48	62	62	64	62	60	55	66	67	69	67	66	63	69	71	72	71	70	67				
6	59	125	47	40	43	45	53	39	51	45	48	50	49	45	56	50	52	54	55	52	59	53	55	57	59	56				
	118	250	54	48	50	51	48	44	58	53	55	55	54	50	63	58	60	60	60	57	66	61	62	63	63	61				
	177	375	58	53	54	54	50	47	62	58	59	59	56	53	67	63	64	64	63	60	70	66	67	67	66	64				
	236	500	61	56	57	56	52	49	65	61	62	61	58	55	70	66	67	66	64	62	73	69	70	69	68	66				
	296	628	63	58	59	58	54	50	68	64	64	63	60	57	72	69	69	68	66	64	75	72	72	71	70	68				
8	83	175	43	38	40	43	45	38	48	43	45	47	51	45	53	48	50	52	57	53	56	50	53	55	66	58				
	177	375	52	47	49	50	50	44	57	52	53	54	56	52	62	57	58	59	62	59	64	59	61	62	65	64				
	271	575	57	53	53	54	53	47	61	57	58	58	59	55	66	62	63	63	64	63	69	64	66	66	68	67				
	266	775	60	56	57	57	55	49	65	61	61	61	61	57	70	65	66	66	66	65	73	68	69	69	70	70				
	527	1117	64	61	61	60	57	52	69	65	66	65	63	60	74	70	70	69	69	68	77	72	73	72	72	73				
10	118	250	45	41	42	41	41	40	50	46	47	47	47	47	54	51	51	52	52	54	57	54	54	55	56	58				
	260	550	54	50	51	48	47	45	59	55	55	53	53	52	63	59	60	59	59	59	66	62	62	62	63	63				
	401	850	59	54	55	52	51	48	64	59	60	57	57	55	68	64	65	62	63	62	71	67	67	66	66	65				
	543	1150	63	58	59	54	54	50	67	62	66	60	60	57	71	67	68	65	66	64	74	70	71	68	69	67				
	684	1450	65	60	61	56	56	52	70	65	66	62	62	58	74	70	70	67	68	65	77	72	73	70	71	69				
	824	1745	67	62	63	58	57	53	72	67	68	63	63	60	76	72	73	69	69	66	79	74	75	72	73	70				
12	165	350	46	41	41	41	42	36	50	46	46	46	48	43	55	51	50	51	54	50	57	54	53	54	57	54				
	401	850	56	51	51	49	48	43	60	56	56	54	54	50	64	61	60	59	60	57	67	63	63	62	64	61				
	637	1350	61	55	56	53	52	46	65	60	61	58	58	53	70	65	65	63	64	61	72	68	68	66	67	65				
	873	1850	65	59	59	56	54	49	69	64	64	61	60	56	73	69	69	66	66	63	76	72	71	69	70	67				
	1109	2350	67	61	62	58	56	51	72	66	67	63	62	58	76	71	71	68	68	65	78	74	74	71	71	69				
	1186	2513	68	62	63	59	57	51	72	67	67	64	62	58	77	72	72	69	68	66	79	75	75	72	72	70				
14	236	500	47	41	42	43	45	40	51	47	47	47	50	46	55	52	51	52	56	53	58	55	53	54	59	56				
	590	1250	57	51	53	52	51	47	62	57	57	56	57	53	66	62	61	60	62	59	68	65	64	63	65	63				
	944	2000	63	56	58	56	55	50	67	62	62	61	60	56	71	67	67	65	65	62	74	70	69	67	68	66				
	1298	2750	66	60	62	59	57	52	71	65	66	64	62	58	75	70	70	68	68	65	78	74	73	71	71	68				
	1615	3421	69	62	64	61	59	54	73	67	68	66	64	60	77	73	73	70	69	66	80	76	75	73	72	70				
16	283	600	47	42	43	44	46	39	51	47	47	49	52	46	56	52	51	54	58	53	58	55	54	57	61	57				
	661	1400	56	51	52	51	51	44	60	56	56	56	56	51	65	61	60	61	62	58	67	64	63	63	66	62				
	1038	2200	61	56	57	55	53	47	65	61	61	60	59	54	69	66	65	64	65	61	72	69	68	67	68	65				
	1416	3000	64	59	60	57	55	49	68	64	64	62	61	56	73	69	68	67	66	63	75	72	71	69	70	67				
	1793	3800	67	61	62	59	56	50	71	66	67	64	62	57	75	71	71	69	68	64	78	74	73	71	71	68				
	2110	4470	68	63	64	60	57	51	73	68	68	65	63	58	77	73	72	70	68	65	79	76	73	73	72	69				
18	358	760	47	42	43	44	46	39	51	47	47	49	52	46	56	52	51	54	58	53	58	55	54	57	61	57				
	835	1770	56	51	52	51	51	44	60	56	56	56	56	51	65	61	60	61	62	58	67	64	63	63	66	62				
	1311	2780	61	56	57	55	53	47	65	61	61	60	59	54	69	66	65	64	65	61	72	69	68	67	68	65				
	1792	3800	64	59	60	57	55	49	68	64	64	62	61	56	73	69	68	67	66	63	75	72	71	69	70	67				
	2264	4800	67	61	62	59	56	50	71	66	67	64	62	57	75	71	71	69	68	64	78	74	73	71	71	68				
	2665	5650	68	63	64	60	57	51	73	68	68	65	63	58	77	73	72	70	68	65	79	76	75	73	72	69				

**Performance Notes:**

1. Tested in accordance with ASHRAE Standard 130-1996: "Methods of Testing for Rating Ducted Air Terminal Units."
2. Airflow given in liters/seconds (L/s); and in cubic feet per minute (cfm).
3. Pressure given in Pascals (Pa) and inches of water gauge (in W.G.).

**Table 5. Exhaust Terminals that are AMCA 610 Certified**

Orifice Measurement		Cross Flow / Multi-Point Measurement	
Terminal Size	Model Number Example	Terminal Size	Model Number Example
6"	LGExxxxR06xA...	6"	LGExxxxR06xB...
7"	LGExxxxR07xA...	8"	LGExxxxR08xB...
8"	LGExxxxR08xA...	10"	LGExxxxR10xB...
9"	LGExxxxR09xA...	12"	LGExxxxR12xB...
10"	LGExxxxR10xA...	14"	LGExxxxR14xB...
12"	LGExxxxR12xA...	-	-
14"	LGExxxxR14xA...	-	-
16"	LGExxxxR16xA...	-	-



**Performance Notes:**

1. Siemens Industry Inc. certifies that the Laboratory Exhaust Terminals shown in Table 5 (above) are licensed to bear the AMCA Seal – Airflow Measurement Station Performance.
2. The ratings shown are based on tests and procedures performed in accordance with AMCA Publication 611 (figures 1&2) and comply with the requirements of the AMCA Certified Ratings Program.
3. Multi-Point measurement only available with sizes 6",8",10",12",14"
4. The conversion formula used is  $4005 * \text{Duct Area} * \text{Flow Coeff} * \text{SQRT}(\Delta P)$
5. Exhaust Terminals are Air Flow Measuring Stations (AFMS) with differential pressure output.

**Performance Data For 8":**

Reference Airflow & Percent Accuracy of AMS to Reference Airflow (Figure 1 Test Setup)

Results at Test Conditions:

Det.	Qams (cfm)	Qref (cfm)	Diff. (cfm)	Diff. (%)
1	717	717	0	0.00
2	552	543	9	1.61
3	373	377	-4	-1.04
4	293	293	0	-0.11
5	207	208	-1	-0.70
6	146	142	4	3.14

Reference Airflow & Percent Accuracy of AMS to Reference Airflow (Figure 2 Test Setup)

Results at Test Conditions:

Det.	Qams (cfm)	Qref (cfm)	Diff. (cfm)	Diff. (%)
1	709	722	-13	-1.74
2	537	548	-11	-1.99
3	373	379	-6	-1.70
4	293	295	-2	-0.77
5	207	210	-3	-1.40
6	146	143	4	2.49



**Performance Data For 8”:**

Airflow Resistance Test (Figure 1 Test Setup)

**Device Only Test Results at Standard Air**

Det.	$Q_{DS}$	$Q_S$	$\Delta P_S$	$\Delta P_{SC}$	$\Delta P_{DS}$	$\Delta P_D$	$V_{Face Area}$
1	726.2	721.4	0.411	0.417	0.529	0.112	2080.7
2	553.4	548.5	0.231	0.236	0.304	0.068	1585.7
3	382.7	379.0	0.113	0.115	0.152	0.037	1096.6
4	297.1	294.1	0.067	0.068	0.089	0.021	851.4
5	211.1	208.9	0.036	0.037	0.047	0.010	604.9
6	143.4	142.0	0.015	0.016	0.021	0.005	411.0

**Performance Data For 14”:**

Reference Airflow & Percent Accuracy of AMS to Reference Airflow (Figure 1 Test Setup)

Results at Test Conditions:

Det.	$Q_{AMS}$ (cfm)	$Q_{ref}$ (cfm)	Diff. (cfm)	Diff. (%)
1	3255	3259	-4	-0.13
2	2668	2665	4	0.13
3	2129	2136	-7	-0.31
4	1595	1605	-10	-0.63
5	1050	1059	-9	-0.88
6	460	453	7	1.64

Reference Airflow & Percent Accuracy of AMS to Reference Airflow (Figure 2 Test Setup)

Results at Test Conditions:

Det.	$Q_{AMS}$ (cfm)	$Q_{ref}$ (cfm)	Diff. (cfm)	Diff. (%)
1	3681	3262	419	12.85
2	3017	2667	351	13.15
3	2413	2137	276	12.93
4	1826	1605	222	13.81
5	1217	1061	156	14.74
6	514	453	62	13.62

**Performance Data For 14”:**

Airflow Resistance Test (Figure 1 Test Setup)

**Device Only Test Results at Standard Air**

Det.	$Q_{DS}$	$Q_S$	$\Delta P_S$	$\Delta P_{SC}$	$\Delta P_{DS}$	$\Delta P_D$	$V_{Face Area}$
1	3283.3	3291.5	0.873	0.868	1.184	0.315	3071.4
2	2679.8	2685.9	0.584	0.581	0.803	0.222	2506.9
3	2142.9	2148.7	0.372	0.370	0.514	0.144	2004.6
4	1606.3	1611.3	0.212	0.211	0.293	0.082	1502.7
5	1060.5	1064.4	0.093	0.092	0.128	0.036	992.0
6	452.4	454.1	0.016	0.015	0.026	0.010	423.2

# Ordering Information

Model	Package	Control Package Components				Actuator/ Shaft Orientation	Inlet Size	Casing Material & Sensor Type	End Fitting	Options
		Actuator	Transducer	Flow Transmitter	Controller					
<b>LGE</b>	E000	—	—	—	—	<b>R</b> Mounting Side not applicable to "tubular" LGE	<b>AA</b>  <b>AB</b>  <b>BA</b>  <b>CA</b>	Galvanized Steel orifice sensor.  Galvanized steel SP300 multi-port sensor. Only for sizes 6, 8, 10, 12 & 14.  Stainless steel orifice sensor.  Teflon®-coated steel orifice sensor.	<b>S</b> – Slip (Not offered for Teflon-coated steel)  <b>F</b> - Flange  <b>T</b> Transformer (120/24 CL.2) & Disconnect (Large encl. req'd for U- & V- packages)	
	E800	#3	—	—	—					
	G000	—	—	—	—					
	G504	GDE131.1P	—	OAM	—					
	G506	GMA131.1P	—	OAM	—					
	G565	L.E.A.	I/F Brd FP	OAM	—					
	G800	#3	—	—	—					
	G801	#3	AOP 0-10 Vdc	—	—					
	G803	#3	AOP 0-10 Vdc	1.0"4-20 mA	—					
	G815	#3	Lab AO-P FP	1.0"4-20 mA	—					
	G862	L.E.A.	I/F Brd FP	1.0"4-20 mA	—					
	G865	L.E.A.	I/F Brd FP	—	—					
	G904	GDE131.1P	—	—	—					
	G905	GDE161.1P	—	1.0"4-20 mA	—					
	G906	GMA131.1P	—	—	—					
	G907	GMA161.1P	—	1.0"4-20 mA	—					
	G945	GMA131.1P	—	1.0"4-20 mA	—					
	R904	GDE131.1P	—	—	TEC-CV					
R906	GMA131.1P	—	—	TEC-CV						
U945	GDE131.1P	—	—	FHC-CV2						
U862	L.E.A.	I/F Brd FP	1.0"4-20 mA	FHC-CV2						
V862	L.E.A.	I/F Brd FP	1.0"4-20 mA	FHC-VAV						

EXAMPLE: LGE565R12BAS is a 12" terminal of 316L stainless steel, with "slip" end fittings, a high-speed electric actuator and Offboard Air module mounted in-device enclosure.

### CONTROL COMPONENT LEGEND

#3	546-00020, No. 3 Pneumatic Actuator for Labs	TEC-CAV	540-104 Constant Volume TEC with Auto-Zero Module
AOP 0-10V	545-113 Voltage to Pneumatic Transducer, 0-10 Vdc input	Lab AO-P	546-00090 High-Speed pulsed pneumatic Transducer
L.E.A.	546-00437B, Lab Electric actuator with 546-00581 90 degree bracket	FHC-CV2	546-00750A Fume Hood Controller 2-state CV
I/F Brd	546-00450 Interface Board for L.E.A. "AN" = 10 Vdc, "FP" = Floating	FHC-VAV	546-00705 Fume Hood Controller Variable Volume
OAM	550-818A Offboard air Module used in LCM-OAVS controllers	1.0"4-20 mA	590-890 Differential Pressure Transmitter, 1" WC 0.4% accuracy
GDE161.1P	Fail-in-Last Position, Modulation, 44 in-lb electric actuator	GMA131.1P	Fail-safe Spring Return Floating, 62 in-lb electric actuator
GDE131.1P	Fail-in-Last Position, Floating, 44 in-lb electric actuator	GMA161.1P	Fail-safe Spring Return Modulating 62 in-lb electric actuator

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