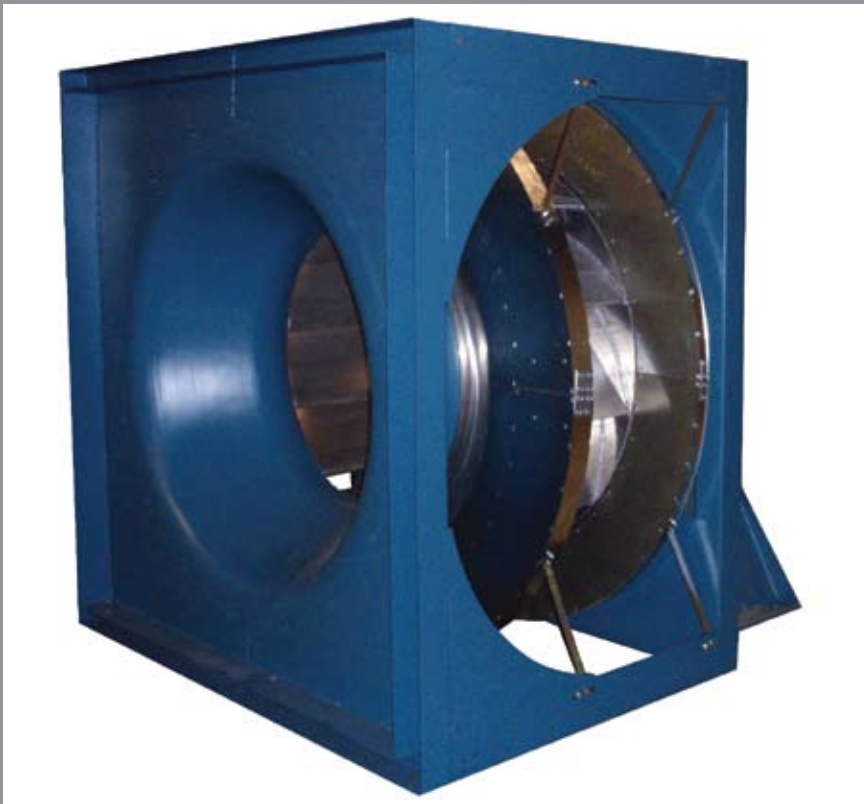


Twin City Fan & Blower

AERO ACOUSTIC DIFFUSER™ FOR E-SERIES PLENUM FANS



Aero Acoustic Diffuser™

Lowers energy costs and silences E-Series Plenum Fans more efficiently than ever before...

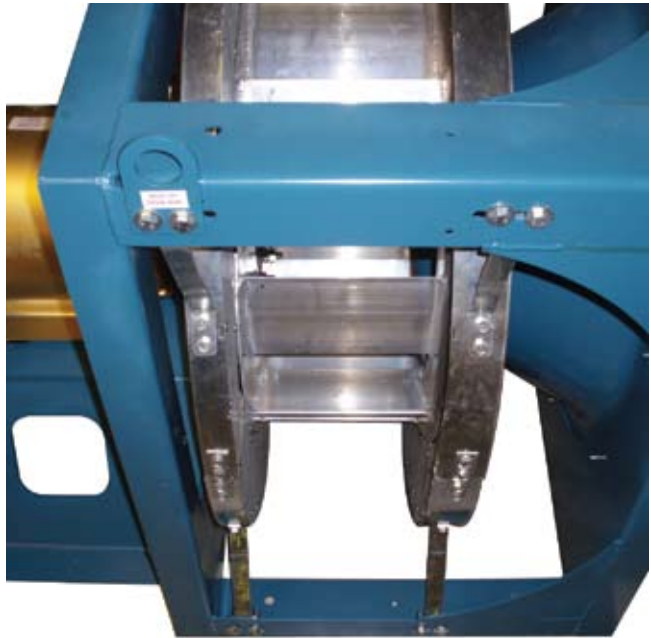
Traditional acoustic silencers attenuate sound at the expense of additional pressure drop resulting in higher power consumption and lower aerodynamic efficiencies.

Twin City Fan and Blower's patent pending Aero Acoustic Diffuser™ achieves discharge sound power reduction by up to 3dBA. Static pressure is boosted and aerodynamic static efficiency increases by up to 4%.

When used with Twin City Fan's E-Series plenum fans, static efficiency up to 80% is achieved on a size 365 (36.5" wheel diameter)...the best in the industry.

Higher air handling unit system pressure drops, equating to more coil rows or high efficiency filters, can be handled with the same size fan running at the same speed. In certain cases, a smaller size fan may be selected for a given application

Requirements for acoustic lining of cabinets is reduced as fan source noise is minimized.



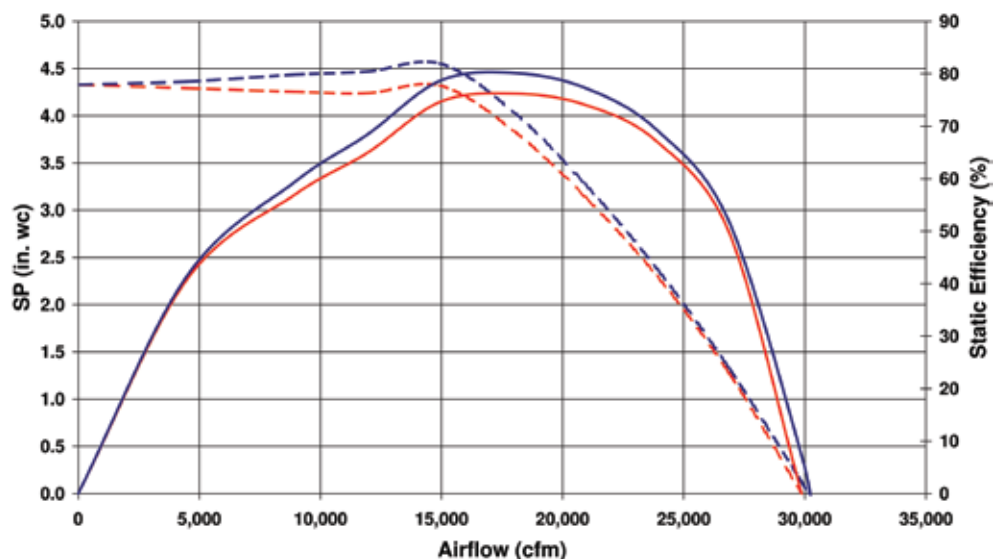
Aero Acoustic Diffuser™ Advantage

Outlet Sound Comparison - Size 365 EPFN (9-Blade)

APPROX. WOV (%)	CFM	SP (in. wg.)	FAN	OCTAVE BAND								LwA
				1	2	3	4	5	6	7	8	
90	26789	1.272	EPFN	92	100	97	92	90	88	81	71	96
			EPFN w/ Diffuser	92	100	97	92	87	84	76	69	95
75	22400	2.745	EPFN	87	92	89	86	86	81	73	67	90
			EPFN w/ Diffuser	87	91	88	86	83	76	68	64	88
60	17920	3.853	EPFN	89	91	87	83	80	76	71	66	86
			EPFN w/ Diffuser	88	90	85	82	78	72	67	64	84

Size 365 EPFN
1000 RPM
 Density = **0.075 lbm/cu.ft.**

— Static Pressure (Bare Fan)
 — Static Pressure (w/ Diffuser)
 — Static Efficiency (Bare Fan)
 — Static Efficiency (w/ Diffuser)



Design Features

Diffuser

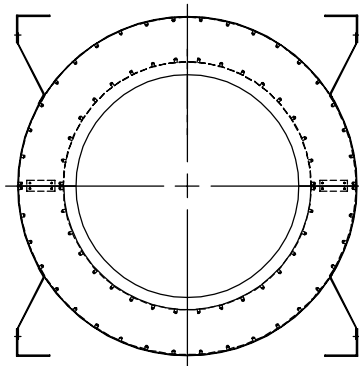
Fully-galvanized construction features two diffuser sections mounted at the front and back of the fan wheel. Acoustic attenuating material inserted within a solid housing and a perforated frontplate directs airflow across the diffuser reducing fan noise and increasing static efficiency.

Mounting Brackets

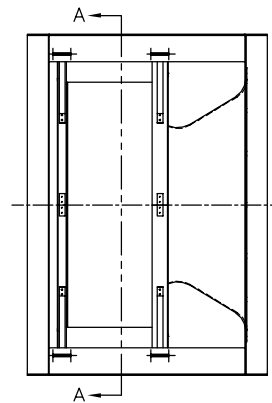
Mounting brackets constructed of galvanized steel, mount directly to the E-Series plenum fan framework allowing for ease of installation and compact design.

Availability

The Aero Acoustic Diffuser™ is available on all E-Series plenum fan sizes, both direct drive and belt drive. The compact design maintains all dimensions of the standard E-Series plenum fan and allows options such as a Piezometer Ring and protective enclosures to be utilized. The diffuser is also available as a retrofit kit for existing fans.



SECTION A-A



ASSEMBLY

E-Series Plenum Fans

E-Series plenum fans offer maximum flexibility to choose the right fan for a given application.

Twin City Fan & Blower's inlet and outlet sound and air performance ratings for their entire plenum fan line is AMCA certified in two different configurations: one with the bearing in the inlet and one without the bearing in the inlet.

Innovative options like the acoustic diffuser is designed to exceed customer expectations.

For more information, refer to Engineering Data Letter 3700: Improvements in Fan Performance Rating Methods and Bulletin 470 found on our web site at www.tcf.com.

Award

2009 AHR Expo Innovation Award Ventilation Division



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Tubeaxial Fans • Vaneaxial Fans • Propeller Roof Ventilators
Fume Hood/Smoke & Heat Exhaust Fans • Mancoolers • Fiberglass Fans

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Plug Fans • Radial Bladed Fans • Radial Tip & High Efficiency Fans
Pressure Blowers • Tubeaxial Fans • Vaneaxial Fans

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