SILENCER INSTALLATION, OPERATION AND MAINTENANCE MANUAL

Industrial Air Technology Corp.

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1.0 GENERAL INFORMATION

Industrial Air Technology Industrial Silencers are designed for continuous duty in an industrial environment. They are engineered for predictable performance and trouble free operation. Each silencer is thoroughly inspected by trained factory personnel prior to shipping. When properly installed and maintained, your silencer will provide many years of trouble free operation. This manual applies to all Industrial Air Technology silencers. (Specially engineered silencers for unique applications may require additional instructions, and will be included with the silencer.) Read and adhere to the instructions in this manual and retain for future reference.

2.0 RECEIVING AND INSPECTION

All silencers ship f.o.b. factory. Silencers are prepared for shipment according to the uniform freight classification rules of the carriers. The equipment is carefully inspected and when possible tested before shipment and it is the responsibility of the carrier that it is in perfect condition upon arrival. When the carrier accepts a shipment and signs the bill of lading, it becomes responsible for any subsequent shortages or damage, evident or concealed, and any claim must be made against the carrier.

Immediately upon receipt of a shipment, carefully inspect for damage and shortage. If any damage and/or shortage is detected or suspected, the carrier must be asked to conduct an inspection. The consignee's representative should not accept shipment without a notation on the delivery receipt indicating items not delivered or apparent extent of damage.

When a shipment is opened and damage found which was not evident externally (concealed damage), it is mandatory that the consignee request an immediate inspection by the carrier. Promptly file a claim against the final carrier.

2.1 HANDLING

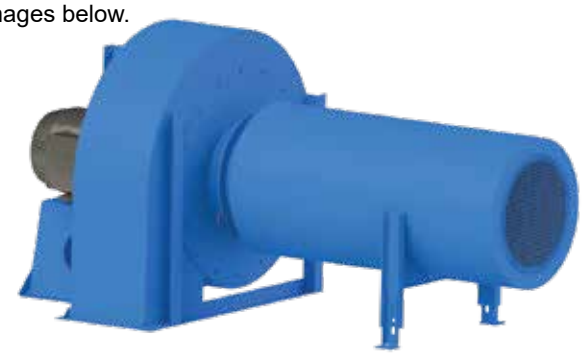
The silencer should only be lifted by the lifting eyes or mounting supports. Lifting decisions must be left to trained personnel.

2.2 STORAGE

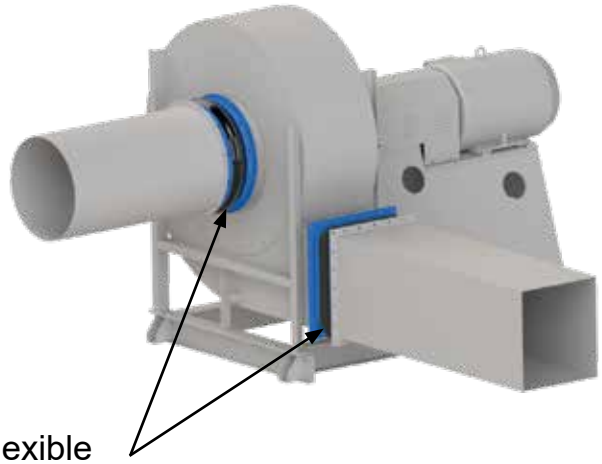
Any silencer stored for a period of time must be protected from dirt and moisture. Use of a tarp to cover the unit will aid in keeping it clean and dry. Do not use a black plastic tarp, as it will promote condensation. Preferably, silencers are kept indoors while in storage and protected from the elements.

3.0 INSTALLATION

Remove the skid, crate, and packing materials carefully. The silencer and ductwork must be adequately supported; a fan is not designed to provide support for a silencer. Reference images below.



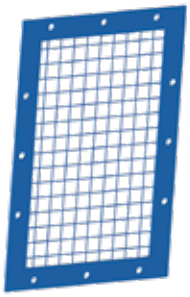
In most instances, flexible connections are recommended between the silencer and the fan to avoid loading on the fan from the weight of the silencer, and transmission of vibration. Reference image below.



Silencers installed in outdoor applications should be protected from moisture (rain, snow, etc.) entering the silencer. Moisture can cause long-term damage to the silencer and affect its performance. The use of rain hoods is recommended. Screens should also be considered to protect personnel and to keep debris from entering the air stream. Reference available accessory items below.

Gooseneck Rain Hood

Rain Hood



Screen

Screen

Most silencers are designed for a specific airflow direction. All IATC silencers will have a flow arrow applied. For proper operation, the silencer must be mounted with the direction of flow arrow in the correct orientation. Reference image below.

4.0 MAINTENANCE

To ensure proper operation over its life, a silencer should be visually inspected at least once a year to verify the following:

- Perforated acoustic internals are undamaged, remaining parallel and true.
- Airspaces between the acoustic splitters are free of any debris.
- The holes in the perforated steel are open and free of dust or other foreign material.

In the event that debris must be cleaned from the airspaces or the perforated metal, the silencer should be vacuum-cleaned or wiped clean with a cloth dampened in a mild detergent solution.

Silencers equipped with drains should have the plugs removed on a periodic basis to release accumulated water.

PROBLEM	POSSIBLE CAUSE	SOLUTION
Excessive pressure drop	Silencer installed backwards. Accumulated debris in the silencer. Rain hood causing excessive pressure drop. Screen causing excessive pressure drop.	Re-install the silencer with its flow direction arrow in the proper orientation. Remove debris and clean silencer according to section 4.0. Re-evaluate rain hood selection and installation. Install larger mesh screen or transition to a larger screened area.
Excessive noise	Gaps in flange connections. Silencer perforations plugged Breakout noise through the ductwork before or after the silencer. Noise transmitted through flexible connector between fan and silencer. Fan Noise Silencers are designed for a specific directivity and listener location	Use proper gasket material Clean according to section 4.0 Use thicker gage ductwork. Insulate ductwork. Use acoustic flexible connector Insulate fan housing Install a sound enclosure Review the silencer selection criterion
Excessive vibration	Silencer supported entirely by the fan	Install a flexible connector between the fan and silencer. Erect a support structure for the silencer and ductwork.

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