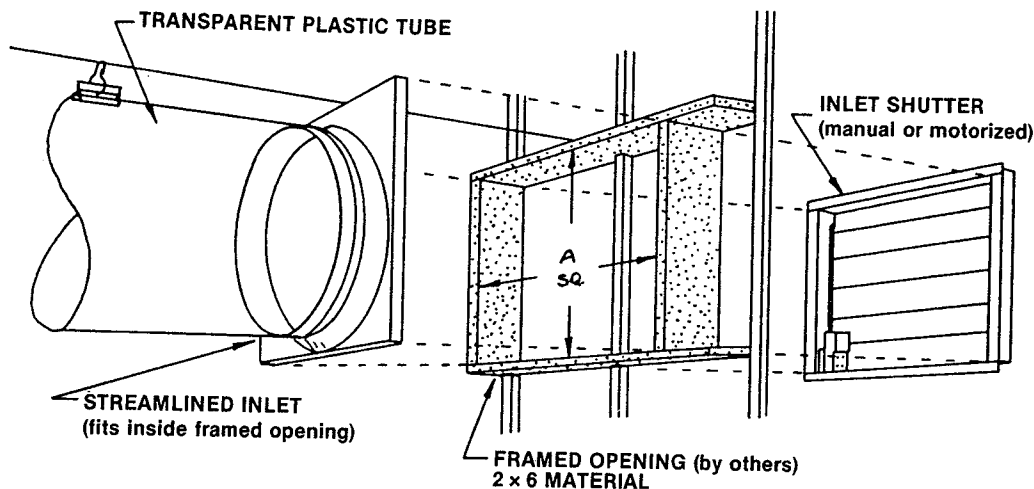




INSTALLATION INSTRUCTIONS FRESH-AIR CONVECTION TUBE SYSTEM

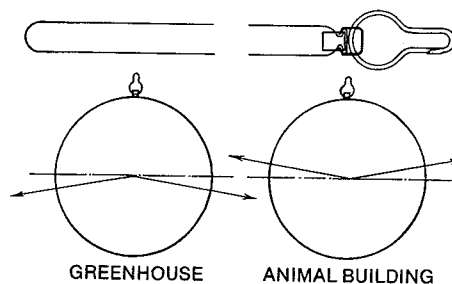


TUBE SIZE	FRAMED OPENING	SHUTTER MODEL		SHUTTER DIMENSIONS
		*MOTORIZED	MANUAL	
18"	28 1/8"	WAAC2626MT	WAAC2626ML	26" X 26"
24"	30 1/8"	WAAC3333MT	WAAC3333ML	33" X 33"
30"	37 5/8"	WAAC4040MT	WAAC4040ML	40" X 40"

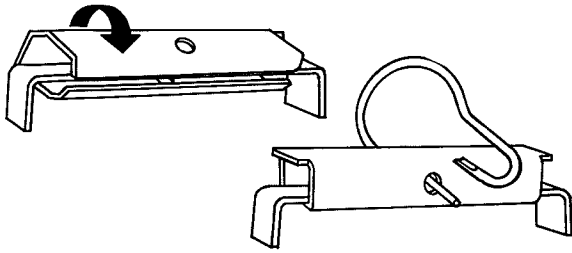
* Available voltages: 24, 115, 200, 230 and 460 Volts

- Determine the location of the tubes. They should be installed as high as reasonably possible and positioned so tubing will be straight and with a minimum of obstructions. When a single tube is used, position it at center of house unless lights or structurals interfere in which case it must be positioned off center. In such situations for east-west oriented structures, locate tube on south of center; for north-south oriented structures, position it on west of center. When two tubes are used, position each near the center of its half of the house. Avoid having tubes wedge themselves between structurals and do not support with loops of twine or wire wrapped around tubes as these may produce constrictions and restrict the air flow.
- Determine location on gable wall where streamlined inlet and inlet shutter are to be positioned.
- Construct framed opening of 2 X 6 material as shown. Drill 1" hole in bottom frame member for shutter pull chain or for electrical connection to shutter. Line up hole under shutter operator mechanism.
- Fasten streamlined inlet to wood frame.
- Remove building material or glass as required and attach framed opening securely. In greenhouses, it is not necessary to cut out the gable bars, but framed opening should be notched so that outside edge is flush with gable bars. Caulk as required.
- Fasten shutter to outside of framed opening and caulk as required.
- String tube support wire through upper section of house where tubing is to be located. Attach one end at center of top

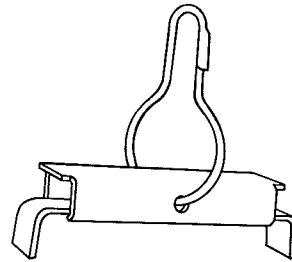
- of framed opening and other end of wire to opposite end of house.
- The tube hangers are designed to mechanically grip the plastic tubing from its top edge with a minimum of stress concentration on the tubing. A wire snaring is used to attach the tube hanger to the support wire extending the full length of the tubing.
- The tube hanger consists of two parts, an outside holder and an inside retainer. The retainer is placed inside the plastic tubing through a punched hole and brought to the top dead center of the tubing. The retainer and tubing are then placed into the holder and the metal snaring inserted to clamp the plastic tubing in place.
- Partially unroll plastic tubing on clean flat surface such as a work table and reroll other end as you proceed installing hangers.
- Insert retainer through punched hole in tubing and slide to top dead center of tubing. The holes in the tubing are punched off center and in greenhouse installations should be below center. In animal buildings, installation should be above center. Align retainer along top edge of tubing.



12. Insert the retainer into the holder with the tabs to the inside. Before inserting the snap ring, raise the holder up to prevent puncturing the tubing.



13. To disassemble the hanger from tubing, remove ring from holder and rotate holder and retainer apart. It is suggested that you assemble and disassemble a hanger at the end of plastic tubing a few times to develop your technique to avoid damaging the tubing.
14. Install remaining hangers. Recommended spacing for greenhouse installations is as follows: 18" tubing 10' apart; 24" tubing 8' apart; 30" tubing 6' apart. Due to dust collecting in the tubing in animal confinement buildings, it is recommended to double the number of hangers used.
15. Hang tubing on overhead support wire with the wire snap rings and extend to its full length.
16. Slip banding strap with buckle and tubing over inlet orifice with banding strap over tubing. Make sure tubing fits uniformly and squarely on orifice.



17. Attach short wires from roof to tube support wire as required (approximately 30' to 50') to prevent undue sagging. Restretch tube support wire if necessary.
18. Close off far end of tubing by tying with twine.
19. When using a motorized inlet shutter, connect the shutter and the exhaust fan to a common thermostat so that shutter will open when exhaust fan turns on. Thermostat setting should be approximately 5° above that of heating thermostat to avoid having the heating and cooling systems on at the same time. Install an On-Off switch in motorized shutter circuit to disengage shutter when using fan and pad system in warm weather.
20. In greenhouses, if excessive humidity control is desired, connect a humidistat (relay required) parallel with the cooling thermostat.
21. Wiring diagrams are available upon request from your Acme distributor. They show suggested methods for controlling single or two-speed exhaust fans with humidistats or thermostats in conjunction with motorized fresh air inlet shutters.

NOTICE

These instructions cover the usual installation, operation and maintenance methods for which the product(s) was designed. They do not purport to cover all details or variations in the product(s) nor to provide for every possible contingency that might be met in connection with the installation, operation and maintenance. For any departures from these instructions, or should particular problems arise which are not covered sufficiently for the purchaser's purpose, the matter should be referred to Acme Engineering and Manufacturing.

DISCLAIMER

Acme Engineering and Manufacturing Corporation has made a diligent effort to illustrate and describe the products in this literature accurately; however such illustrations and descriptions are for the sole purpose of identification and do not express or imply a warranty that the products are merchantable or fit for a particular purpose, or that the products will necessarily conform to the illustrations or descriptions or dimensions.

WARNING

Acme products are designed and manufactured to provide reliable performance, but they are not guaranteed to be 100% free of defects. Even reliable products will experience occasional failures, and this possibility should be recognized by the User. If these products are used in a life support ventilation system where failure could result in loss or injury, the user should provide adequate back-up ventilation, supplementary natural ventilation or failure alarm system, or acknowledge willingness to accept the risk of such loss or injury.

LIMITED WARRANTY

WARRANTY AND DISCLAIMER. Acme Engineering and Manufacturing Corporation extends this limited warranty to the original buyer and warrants that products manufactured by Acme shall be free from original defects in workmanship and materials for two years from date of shipment, provided same have been properly stored, installed, serviced, maintained and operated. This warranty shall not apply to products which have been altered or repaired without Acme's express authorization, or altered or repaired in any way so as in Acme's judgment to affect its performance or reliability, nor which have been improperly installed or subjected to misuse, negligence or accident, or incorrectly used in combination with other substances. The Buyer assumes all risks and liability for the results of use of the products. Warranties on purchased parts such as electric motors, pumps and controls are limited to the terms of warranty extended by our supplier.

LIMITATION OF REMEDY AND DAMAGES. All claims under this warranty must be made in writing and delivered to Acme Engineering and Manufacturing Corporation, Box 978, Muskogee, Oklahoma 74402 within 15 days after discovery of the defect and prior to the expiration of two years from the date of shipment by Acme of the product claimed defective, and Buyer shall be barred from any remedy if Buyer fails to make such claim within such period.

Within 30 days after receipt of a timely claim, Acme shall have the option either to inspect the product while in Buyer's possession or to request Buyer to return the product to Acme at Buyer's expense for

inspection by Acme. Acme shall replace, or at its option repair, free of charge, any product it determines to be defective, and it shall ship the repaired or replacement product to Buyer F.O.B., point of shipment provided, however, if circumstances are such as in Acme's judgement to prohibit repair or replacement to remedy the warranted defects, the Buyer's sole and exclusive remedy shall be a refund to the Buyer of any part of the invoice price, paid to Acme for the defective product or part.

Acme is not responsible for the cost of removal of the defective product or part damages due to removal, or any expenses incurred in shipping the product or part to or from Acme's plant, or the installation of the repaired or replaced product or part.

Implied warranties, when applicable, shall commence upon the same date as the express warranty provided above, and shall except for warranties of title, extend only the duration of the express warranty. Some states do not allow limitations on how long an implied warranty lasts, so the above limitation may not apply to you. The only remedy provided to you under an applicable implied warranty and the express warranty shall be the remedy provided under the express warranty. Subject to the terms and conditions contained therein, Acme shall not be liable for incidental and consequential losses and damages under the express warranty, any applicable implied warranty, or claims for negligence, except to the extent that this limitation is found to be unenforceable under

applicable state law. Some states do not allow the exclusion or limitation of incidental or consequential damages, so the above limitation or exclusion may not apply to you. This warranty gives you specific legal rights, and you may also have other rights which vary from state to state.

No employee, agent, dealer, or other person is authorized to give any warranties on behalf of Acme or to assume for Acme any other liability in connection with any of its products except in writing and signed by an officer of Acme.

TECHNICAL ADVICE AND RECOMMENDATIONS, DISCLAIMER. Notwithstanding any past practice or dealings or any custom of the trade, sales shall not include the furnishing of technical advice or assistance or system design. Any such assistance shall be at Acme's sole option and may be subject to additional charge.

Acme assumes no obligation or liability on account of any recommendations, opinions or advice as to the choice, installation or use of products. Any such recommendations, opinions or advice are given and shall be accepted at your own risk and shall not constitute any warranty or guarantee of such products or their performance.

GENERAL. In no event shall any claim for consequential damages be made by either party. The Company will comply with all applicable Federal, State and local laws.