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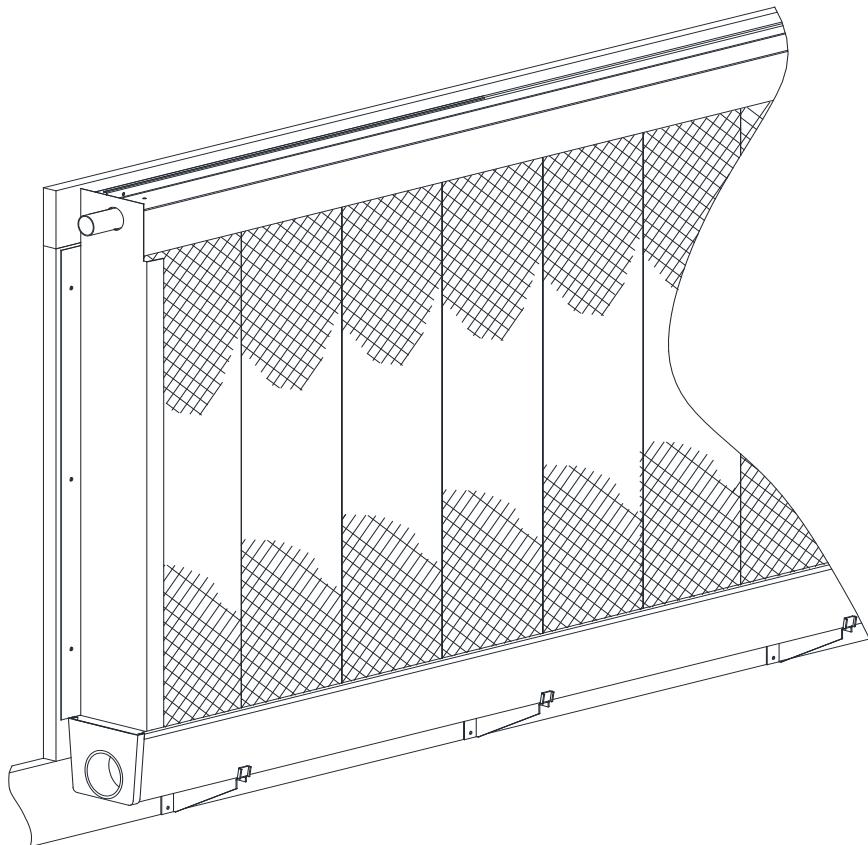
## **KOOL-CEL® BUILDING DESIGN GUIDE**

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# **MODEL OSBG6, CSBG6 and CABG4**

## **4" and 6" KOOL-CEL®**

### **Evaporative Cooling System**



### **Extruded PVC Gutter Bell Joints**

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**All stringers or the floor when floor mounting the gutter, MUST be level. Use of a laser level or water level is recommended.**

**KOOL-CEL® and other wall mounted assemblies can add significant weight to the structure. All assembly loads and the mounting system should be evaluated by the building structural engineer. All stress loads and mounting integrity are the responsibility of the building designer.**

### I. Components CABG 4"

- A. Standard Kool-Cel® components normally provided by Acme:
  - 1. KOOL-CEL® pads 4" thick x 12" wide x 24", 36", 48", 60", or 72" high.
  - 2. PVC Gutter system with stainless steel gutter supports
  - 3. Tall Pad Supports required for 6, 7, and 8 ft. tall pads.
  - 4. Flashing Tape between gutter and stringer.
  - 5. Aluminum end covers.
  - 6. Closed Top Aluminum system for water distribution.
  - 7. Transition Tank, Pump, Float Valve, and Circulation Plumbing.
- B. Provided By Others:
  - 1. Framing material.
  - 2. Isolation material between treated wood and the aluminum.
  - 3. Water Supply to float valve inlet.
  - 4. Drain for bleed-off water.
  - 5. Other Flashing material.
  - 6. Retention Tank if used.

### II. Components CSBG 6"

- A. Standard KOOL-CEL® components normally provided by Acme:
  - 1. KOOL-CEL® pads 6" thick x 12" wide x 24", 36", 48", 60" or 72" high.
  - 2. PVC Gutter system with stainless steel gutter supports
  - 3. Tall Pad Supports required for over 5' pads.
  - 4. Flashing Tape between gutter and stringer.
  - 5. Stainless steel end covers.
  - 6. **Closed** Top Stainless Steel system for water distribution.
  - 7. Transition Tank, Pump, Float Valve, and Circulation Plumbing.

- B. Provided By Others:
  - 1. Framing material.
  - 2. Water supply to float valve inlet.
  - 3. Drain for bleed-off water.
  - 4. Other flashing material.
  - 5. Retention tank if used.

### III. Components OSBG 6"

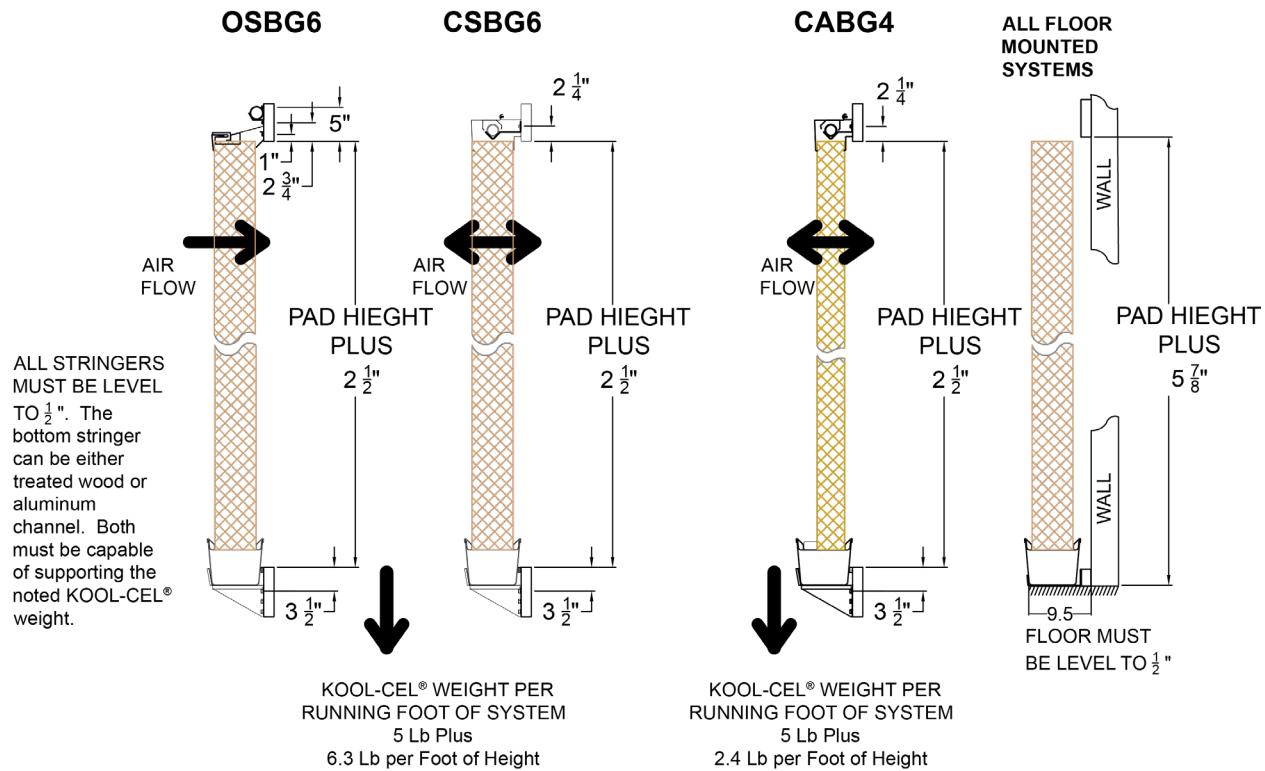
- A. Standard KOOL-CEL® components normally provided by Acme:
  - 1. KOOL-CEL® pads 6" thick x 12" wide x 24", 36", 48", 60" or 72" high.
  - 2. PVC Gutter system with stainless steel gutter supports
  - 3. Tall Pad Supports required for over 5' pads.
  - 4. Flashing Tape between gutter and stringer.
  - 5. Stainless steel end covers.
  - 6. **Open** Top Stainless Steel system for water distribution.
  - 7. Transition Tank, Pump, Float Valve, and Circulation Plumbing.
- B. Provided By Others:
  - 1. Framing material.
  - 2. Water Supply to float valve inlet.
  - 3. Drain for bleed-off water.
  - 4. Other flashing material.
  - 5. Retention tank if used.

**Because of constantly changing development research, Acme must reserve the right to change specifications without notice.**

### IV. KOOL-CEL® Rough Opening

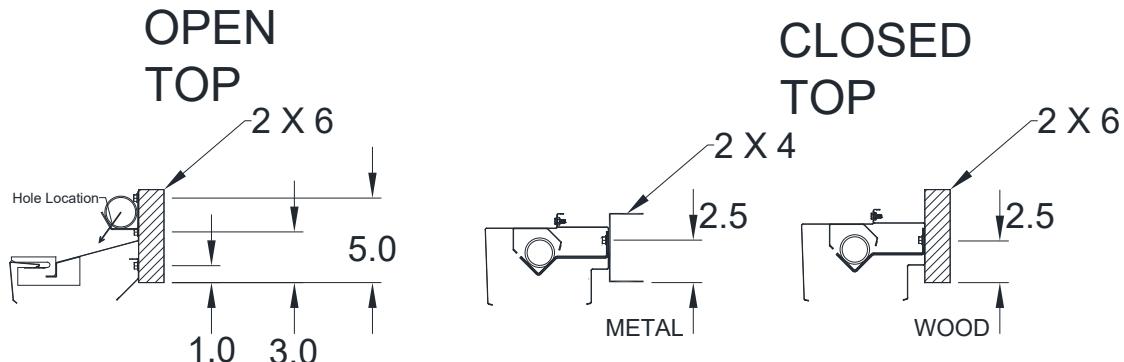
- A. **Note:** The sidewall structural members should be left intact. This document defines the structure needed for the correct mounting of the KOOL-CEL® system and does NOT include any structure needed for the support of the greenhouse or livestock buildings.
- B. In modifying an existing structure, no supporting members should be changed without consulting a qualified structural engineer.
- C. Structure inside the rough opening that is in the footprint of the building wall and kept to less than 10% of the opening should cause less than .02 in of additional static pressure.
- D. The lower stringer for wall mounted systems should be capable of carrying the following loads per running foot of system without twisting or sagging, Figure 1.
- E. The rough opening height is the pads plus 2 ½", and the opening length is the total length of the pads.
- F. The bottom stringer should be a minimum of 7 ¼". The top stringer should be a minimum 4" for the CABG4 and CSBG6 systems. The OSBG6 should be a minimum of 5 ½".
- G. The top lag bolt in the gutter brackets is 3 1/2" below the top of the lower stringer.

**FIGURE 1**



H. The locations for the top stringer bolts are:

**FIGURE 2**  
Top Configuration  
Bolt locations



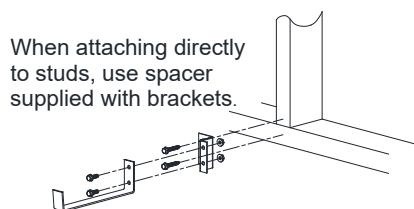
- I. The area around an evaporative cooling system is a wet area and materials that are not susceptible to corrosion are recommended. Any wood if used around the KOOL-CEL® system should be treated wood. All hardware should be stainless steel or an approved material when used with treated wood.
- J. The aluminum in the CABG system top must be isolated from contact with treated wood.
- K. The foam tape flashing supplied with the system should be placed  $\frac{1}{2}$ " below the top of the lower stringer.

L. Trim studs should be placed on each end for fastening the metal end covers.



**FIGURE 3**  
Trim Studs

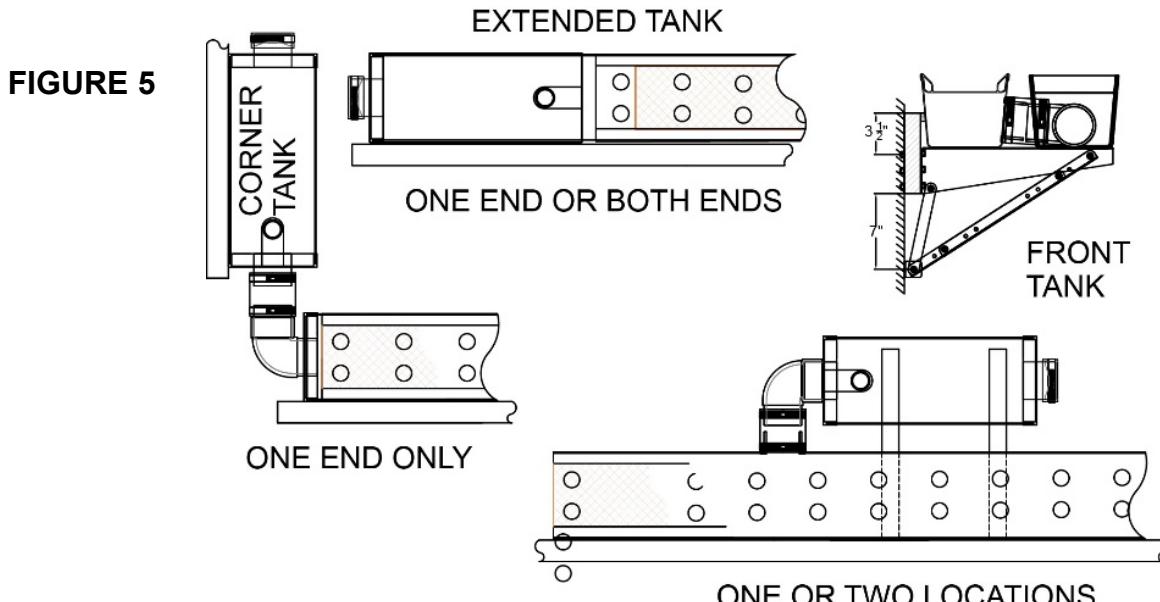
M. When mounting the system on the foundation the bottom stringer is not necessary. The side trim studs should reach the floor. The floor brackets are necessary to keep the gutter from moving away from the building. These brackets include a spacer that keeps the gutter in line with the top mounted on the top stringer. The cement base under the gutter must be level same as the stringer used with the wall mount. Small imperfections can be shimmed every 48 inches keeping the gutter level. Caulk should fill the gap under the gutter around the shims.



**FIGURE 4**  
Floor Mount

## V. Tank Mounting Space

A. The transition tank may be located in a number of locations.



B. Additional information is available in the individual gutter and tank installation instructions.  
 C. Systems can be designed for use with single or dual pumps.  
 D. The two pump systems can be joined, and each pump may drive the entire distribution pipe. In case of pump failure, the common pumps offer redundancy.

- E. The Extended Tank is the least expensive tank configuration. The Extended Tank is placed at either end. If two pumps are needed, an extended tank is at both ends.
- F. The Corner Tank allows for the tank to be placed on a side wall. This utilizes the least amount of wall space for pad system. This configuration fixes the gutter to the side wall. Only one end can use a Corner Tank. Expansion for the KOOL-CEL® must be allowed at the non-tank end.
- G. The Front Tank (one pump per tank) allows the transition tank to be placed in front of the KOOL-CEL®. For systems longer than 65 feet, two Front Tanks should be used with both tanks located in the system center area. With shorter systems, the tanks may be placed anywhere along the KOOL-CEL®. The Front tanks must be supported either to the ground or use the supplied diagonal brackets. The Front Tanks can apply up to 40 Ft Lb. of torque to the bottom stringer. The supplied diagonal brackets need 8 inches of clearance below the bottom stringer.
- H. A single pump can be used for the lengths shown in Table 1. For heights greater than 6 feet, please contact the factory.

TABLE 1 - One Pump		
CABG4 - 1 FT INCREMENTS		
		PAD HEIGHT
		2 - 6 FT
20S	LENGTH	5-46 FT
70S	LENGTH	47-95 FT

CSBG6 - 1 FT INCREMENTS		
PAD HEIGHT		
		2 - 6 FT
20S	LENGTH	5-33 FT
70S	LENGTH	34-65 FT

OSBG6 - 5 FT INCREMENTS		
PAD HEIGHT		
		2 - 6 FT
20S	LENGTH	5-30 FT
70S	LENGTH	35-65 FT

I. Two pumps can be used for the lengths shown in Table 2.

TABLE 2 - Two Pump		
CABG4 - 1 FT INCREMENTS		
		PAD HEIGHT
		2 - 6 FT
20S	LENGTH	15-92 FT
70S	LENGTH	93-150 FT

CSBG6 - 1 FT INCREMENTS		
		PAD HEIGHT
		2 - 6 FT
20S	LENGTH	15-65 FT
70S	LENGTH	66-130 FT

OSBG6 - 5 FT INCREMENTS		
		PAD HEIGHT
		2 - 6 FT
20S	LENGTH	15-65 FT
70S	LENGTH	70-130 FT

## VI. Minimum and Maximum Stringer Space

A. The minimum stringer length yields the smallest system area. The minimum pad length is based on the minimum recirculating water flow. The maximum pad system length is based on both available building space and the flow capability of the available pumps. **The building space must be an unobstructed length of inlet wall.** Many of the systems are capable of handling two or more pumps. Pad manufacturers have specified the required minimum pump flow rates:

1. 6" thick pad requires up to 0.75 GPM per foot of pad length.
2. On 4" pads the requirement is 0.50 GPM per foot of pad length.

Using two pumps doubles the length capability. A double pump system will also offer redundancy in case of one pump failure. In most cases two pumps are implemented by using two transition tanks, one at each end. This may also be done by using two front Tanks or one larger tank in the middle of the system.

### BOTTOM STRINGER LIMITS - Table 3

SINGLE PUMP SYSTEMS	
DESCRIPTION	STRINGER LENGTH = PAD LENGTH PLUS:
CORNER B TANK	20" + 0.05" X PAD LENGTH IN FT
EXTENDED TANK	37" + 0.05" X PAD LENGTH IN FT
FRONT AND CUSTOMER TANK	16" + 0.05" X PAD LENGTH IN FT

DOUBLE PUMP SYSTEMS	
DESCRIPTION	STRINGER LENGTH = PAD LENGTH PLUS:
DOUBLE EXTENDED TANK	66" + 0.05" X PAD LENGTH IN FT
TWO FRONT TANKS, MID TANK, or CUSTOMER TANK	16" + 0.05" X PAD LENGTH IN FT

### VII. Pump Power Requirements

- A. The pump electrical power should be run to the location of the transition tank or tanks.
- B. Each pump has a stainless-steel jacket that the water passed through. This water is designed to cool the pump during operation. Only the inlet portion of the pump must be kept under the water level.
- C. Two pump sizes are offered. The pump selection is based on the requirements of the KOOL-CEL® System.
- D. The pumps available for the Transition Tanks are shown in Table 4

Table 4

PUMP	VOLTAGE	HP	CURRENT	THERMAL OVERLOAD	POWER CORD
20S	991583	115 VAC	1/3 HP	2.9 AMPS	AUTOMATIC
70S	993329	115 VAC	3/4 HP	7.1 AMPS	AUTOMATIC
70S	993328	230 VAC	3/4 HP	3.5 AMPS	AUTOMATIC

### VIII. Input Water Requirements

- A. The Float Valve uses a standard 3/4" NPT pipe connection. The hose converter supplied should be used when connected with a standard hose fitting.
- B. The Water Valve must be capable of supplying the makeup water.
- C. The Gallon per Minute for the makeup water is the sum of the amount evaporated and the bleed-off water. The amount evaporated is relative to:
  1. Airflow through pads (CFM).
  2. Outside Dry Bulb (DB) temperature.
  3. Coincident Wet Bulb (WB) temperature.
  4. The pad efficiency ( $P_{eff}$ ).
  5. Wet Bulb Depression (WBD) = DB – WB
  6. Temperature drop through pad system ( $\Delta T$ ) =  $P_{eff} \times WBD$   
Evaporation Water in GPM =  $0.0221 \times CFM \times \Delta T / 10000$ .
- D. Circulating Water is proportional to the pad system length:
  1. 0.75 GPM per linear foot of 6" pad
  2. 0.5 GPM per linear foot of 4" pad.

The Bleed-Off water is around 3% of the Circulating Water.

- E. Total water usage is the sum of the Evaporation Water and the Bleed-Off water.
- F. Bleed-off is mandatory for system longevity. A drain for the bleed-off water should be placed at the location of the bleed-off tube.
- G. The water needed to operate the KOOL-CEL® system is retained in the Gutter and Transition Tank.
- H. If a floor mounted tank for water retention is desired, Acme offers a plumbing kit. This kit contains the parts needed except for the tank and 3" PVC pipe to drain the gutter into the tank. The tank size recommended by the pad manufacturers are:
  - 1. 1 Gallon (6" pads) per square foot of pad surface area.
  - 2.  $\frac{3}{4}$  Gallon (4" pads) per square foot of pad surface area.

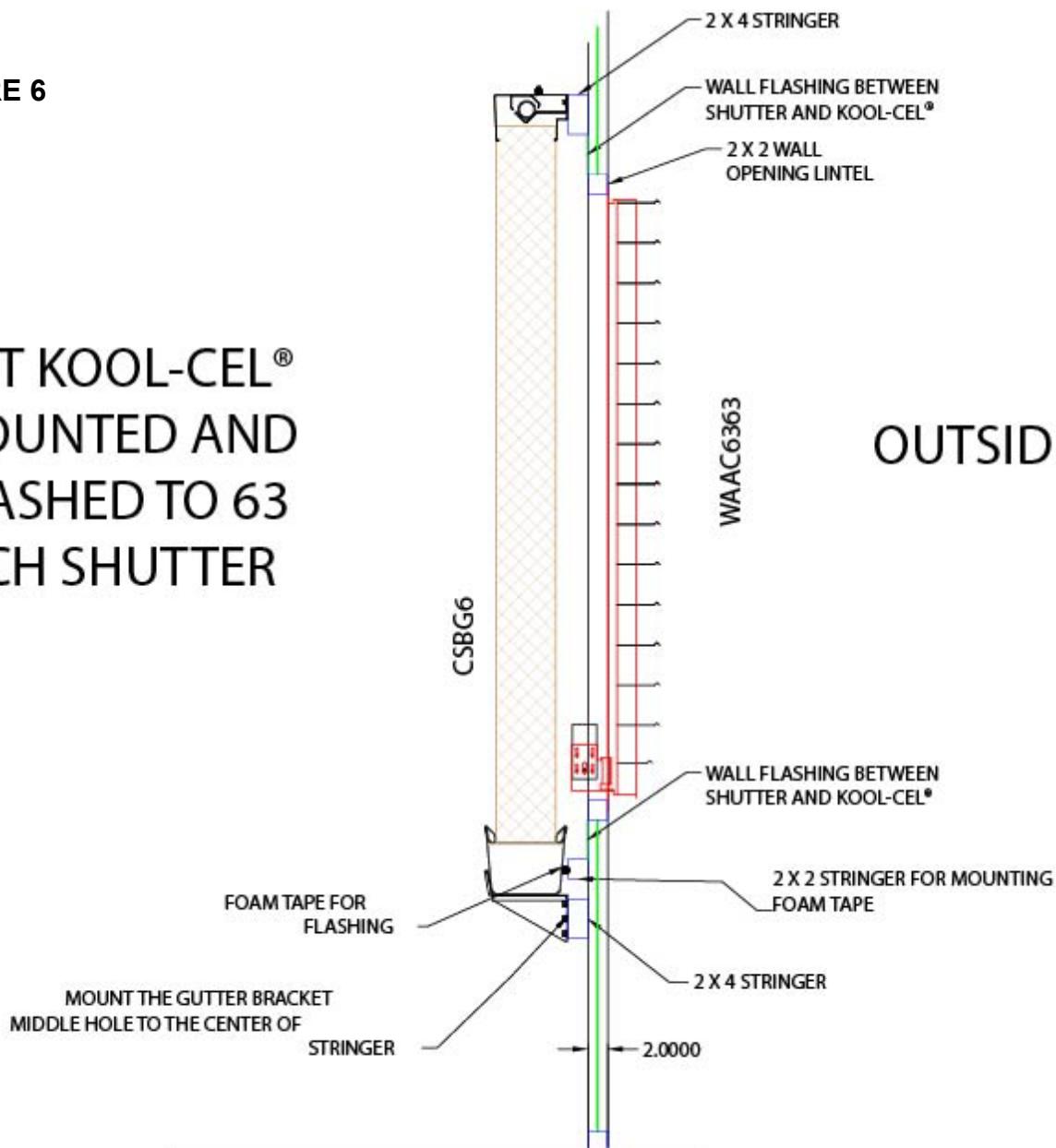
## IX. TYPICAL APPLICATIONS

### Six Foot KOOL-CEL® with WAAC63 Shutter and 2-inch Greenhouse Wall

FIGURE 6

6 FT KOOL-CEL®  
MOUNTED AND  
FLASHED TO 63  
INCH SHUTTER

OUTSIDE

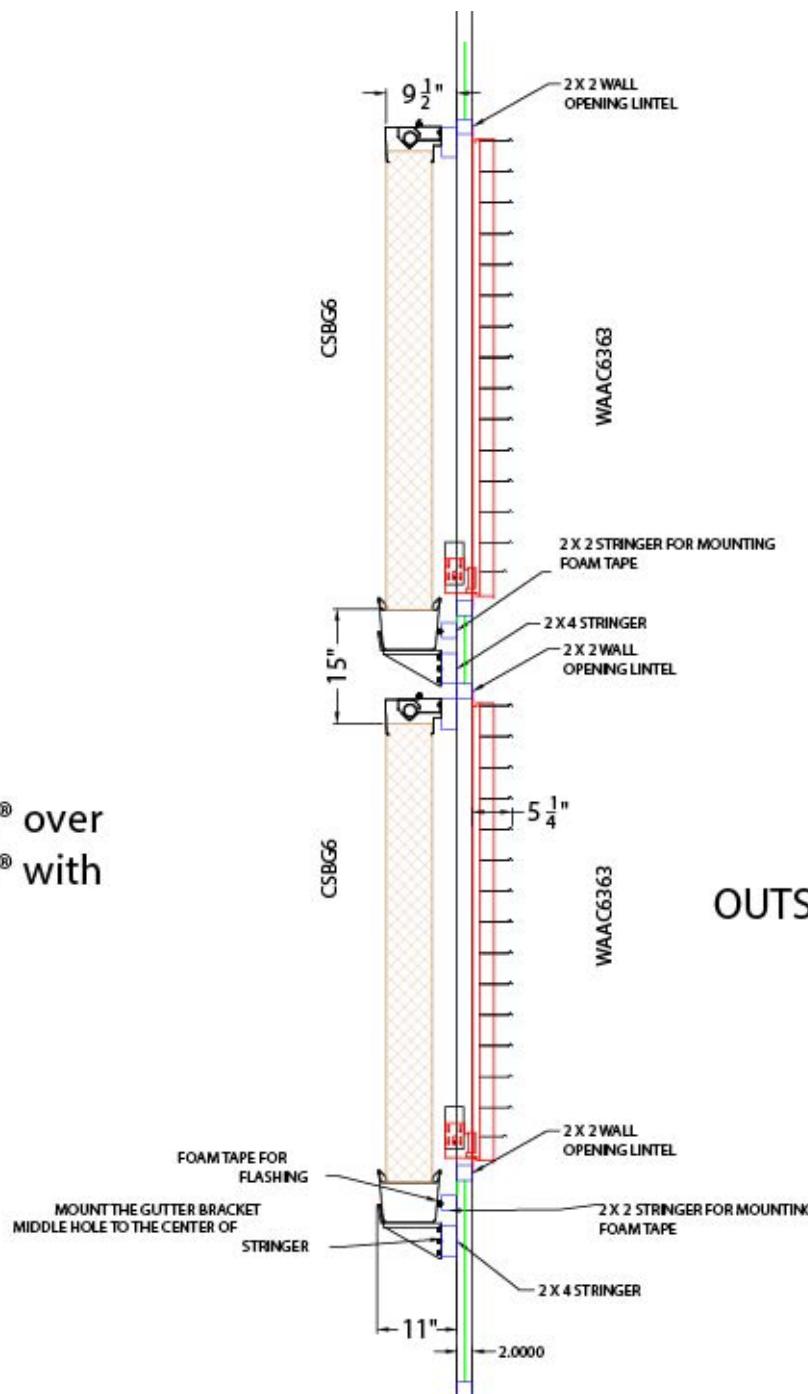


**Five Foot KOOL-CEL® over Five Foot KOOL-CEL® with Shutters  
and 2-Inch Greenhouse Wall**

**FIGURE 7**

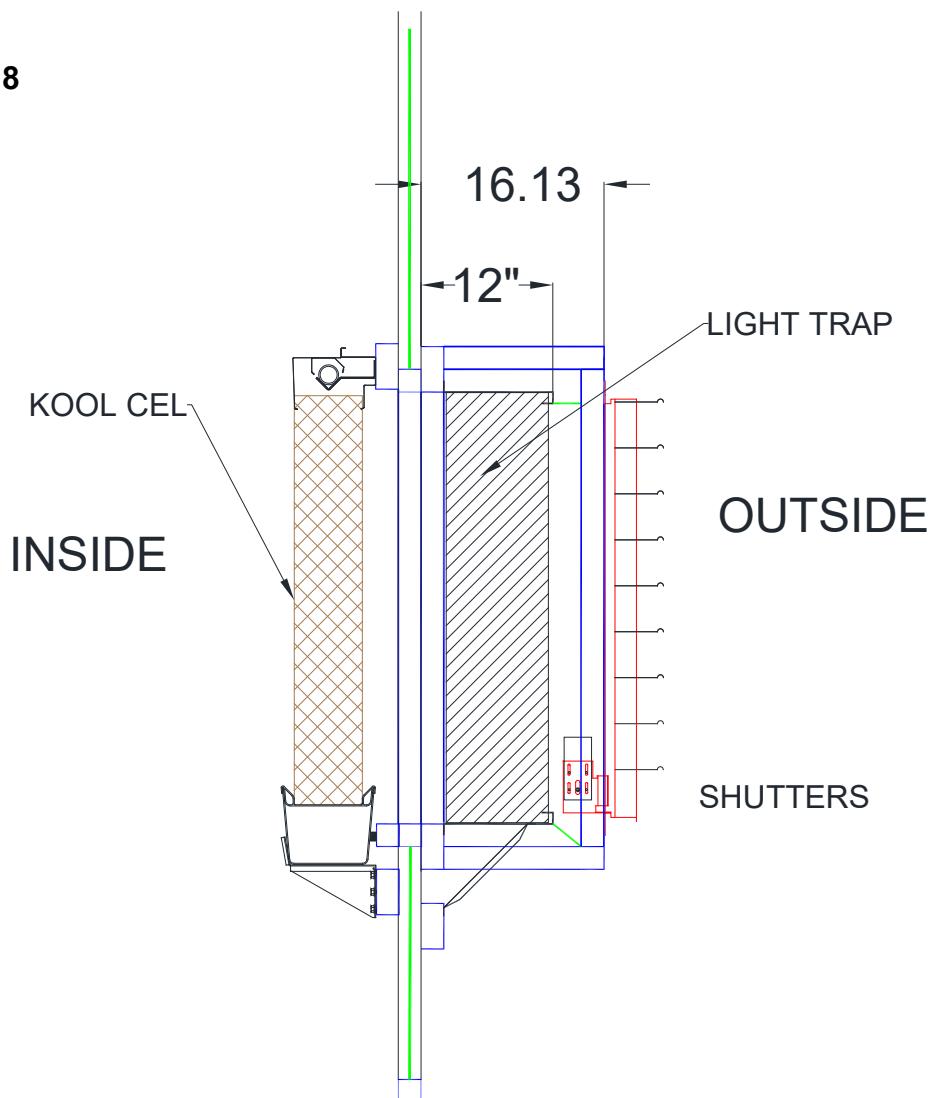
**5 FT. KOOL-CEL® over  
5 FT. KOOL-CEL® with  
Shutters**

**OUTSIDE**



## KOOL-CEL® and Light Trap Mounted on Inlet Wall

FIGURE 8



## NOTES

**ACCEPTANCE AND CANCELLATION** All orders and sales are subject to written approval and acceptance by an executive officer of Acme Engineering & Manufacturing Corporation at Muskogee, Oklahoma, (the "Company") and are not binding on the Company until so approved.

This Order Acknowledgment constitutes full acceptance of the order as stated. The Purchaser has two business days from the date of the acknowledgement of this order to make changes or cancellations.

Any contract resulting from the Purchaser's order may be canceled by the Purchaser only by negotiations and upon payments of reasonable cancellation charges which will take into account expenses already incurred and commitments made by the Company.

**DELIVERY** All shipping and delivery dates are estimated only. No delays in delivery will subject the Company to any costs, damages or fees for late delivery. Delivery of the products herein specified shall be made F.O.B. point of shipment, unless otherwise stated. The Company shall not be liable for delay due to causes beyond its reasonable control, such as Acts of God, acts of the purchaser, acts of civil or military authorities, priorities, fires, strikes, floods, epidemics, war, riots, delays in transportation, car shortages, and inability, due to reasons beyond its reasonable control, to obtain necessary labor, material, or manufacturing facilities. In the event of such a delay, the date of delivery shall be extended for a period equal to the time lost by reason of the delay.

**TERMS OF PAYMENT** If, in the judgment of the Company, the financial condition of the purchaser at any time does not justify continuation of manufacturer or shipment on the terms of payment specified, the Company may require full or partial payment in advance.

Pro rata payments shall become due as shipments are made. Each

**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 Purchaser and all End Users. If these products are used in a life support ventilation system where failure could result in loss or injury, the Purchaser and all End Users 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.

**WARNING** DO NOT use in HAZARDOUS ENVIRONMENTS where fan's electrical system could provide ignition to combustible or flammable materials unless unit is specifically built for hazardous environments. Comply with all local and national safety codes including the National Electrical Code (NEC) and National Fire Protection Act (NFPA).

**CAUTION** Guards must be installed when fan is within reach of personnel or within eight (8) feet (2.5 m) of working level or when deemed advisable for safety.

**DISCLAIMER** The Company has made a diligent effort to illustrate and describe the products accurately in all Company literature; however such illustrations and descriptions are for the sole purpose of identification and do not express or imply any warranty.

**WARRANTY AND DISCLAIMER:** the Company extends this limited warranty to the original purchaser and warrants that products supplied by the Company, shall be free from original defects in workmanship and materials for two years from date of shipment (except for the warranty periods noted for products listed below), provided same have been properly handled, stored, installed, serviced, maintained and operated. This warranty shall not apply to products which have been altered or repaired without the Company's express authorization, or altered or repaired in any way so as, in the Company'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 Purchaser assumes all risks and liability for results of use of all products.

Evaporative cooling pads are warranted to be free of defects in materials and workmanship for a period of two years from date of shipment provided same have been properly handled, stored, installed, serviced, maintained and operated; and further, not subjected to excessive heat, corrosive agents or chemicals, or mechanical abuse that may cause tearing, crushing or undue deterioration, nor used on a system or in a manner other than that for which it was designed as explained in the product literature.

The following products are warranted to be free of defects in materials and workmanship for the periods shown from date of shipment: Acme's exclusive duplex split pillow block bearings and shaft five years, belts one year. Polyethylene tubing 90 days, and DDP fan lifetime warranty on its stainless steel propeller, cone, and housing.

**LIMITATION OF REMEDY AND DAMAGES:** All claims under this warranty must be made in writing and delivered to P. O. 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 the Company of the product claimed defective, and Purchaser shall be barred from any remedy if Purchaser fails to make such claim within such period.

Within 30 days after receipt of a timely claim, the Company shall have the option either to inspect the product while in Purchaser's possession or to request Purchaser to return the product to the Company at Purchaser's expense for inspection by the Company. The Company 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 Purchaser F.O.B. point of shipment; provided, however, if circumstances are such as in the Company's judgment to prohibit repair or replacement to remedy the warranted defects, the Purchaser's sole and exclusive remedy shall be a refund to the Purchaser of any part of the invoice price, paid to the Company, for the defective product or part.

**The Company 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 the Company's plant, or the installation of the repaired or replaced product or part.**

The Company at its option, may contract out the repair of any defective product or part and/or the installation of any repaired or replaced product or part, but the Company's Quality Assurance department must approve of any such contract, prior to work beginning, and any such approval will require a quotation of labor and materials prior to work beginning.

The warranties set forth above do not apply to any components, accessories, parts or attachments manufactured by other manufacturers; such being subject to the manufacturer's warranty, if any. To the extent not prohibited by the manufacturer's warranty, the Company shall pass through to Purchaser such manufacturer's warranty.

THE COMPANY'S WARRANTY IS IN LIEU OF ALL OTHER WARRANTIES, EXPRESS OR IMPLIED, ARISING BY LAW OR OTHERWISE, INCLUDING WITHOUT LIMITATION THE IMPLIED WARRANTIES OF

## TERMS AND CONDITIONS OF SALE

shipment or delivery shall constitute a separate sale, and the default of any shipment or delivery shall constitute a separate sale, and the default of any shipment or delivery shall not vitiate the contract as to other shipments or deliveries.

**SALES AND SIMILAR TAXES** The Company's prices do not include sales, use, excise, or similar taxes. Consequently, in addition to the price specified herein, the amount of any present or future sales, use, excise, or other similar tax applicable to the sale of the product herein shall be paid by the Purchaser, or in lieu thereof the Purchaser shall provide the Company with a tax exemption certificate acceptable to the taxing authorities.

**DESIGN CHANGES** The Company reserves the right to make changes in design, improvements and additions in and to its products any time without imposing any liability or obligations to itself to apply or install the same in any product manufactured by it.

**TITLE** The title and right of possession of the products sold herein shall remain with the Company and such products shall remain personal property until all payments herein (including deferred payments whether evidenced by notes or otherwise) shall have been made in full in cash and the Purchaser agrees to do all acts necessary to perfect and maintain such right and title in the Company.

**PRICE ADJUSTMENTS** Prices are subject to change upon notice by the Company. Prices on existing orders are subject to surcharges in the event of cost increases of metals and transportation. All complete component accessory material manufactured by others and furnished with the Company's products such as motors, drives, vibration equipment, controls or other completely assembled component structures, are subject to adjustment to the price at time of shipment regardless of the date of original order entry.

**SAFETY ACCESSORIES** The Company manufactures products designed to serve multiple applications and offers a wide range of safety equipment, including guards and other devices, as may be required to meet customer specifications. Without exception, the Company recommends that all orders include applicable safety devices. Products ordered without applicable safety devices are clearly the responsibility of the Purchaser. Further, the Purchaser warrants that it has determined and acquired any and all safety devices required for products sold by the Company. Weather covers and guards for motor and V-belt drives, couplings, shafts and bearings, along with inlet and outlet screens, are optional accessories noted in the price list.

**GOVERNING LAW** The rights, obligations and remedies of Purchaser and the Company, the interpretation of these terms and conditions and the sale of products by the Company shall be governed by Oklahoma law, without regard to any principles of conflict of laws.

**ARBITRATION** Any dispute arising under or in connection with these terms and conditions or the sale of products shall be settled by binding arbitration administered by the American Arbitration Association under its Commercial Arbitration Rules, and judgment on the award rendered by the arbitrator may be entered in any court having jurisdiction thereof. The dispute shall be resolved by one neutral arbitrator who shall have no affiliation with either Purchaser or the Company and shall be selected by the American Arbitration Association office in Dallas, Texas. The arbitration proceedings shall be held in Muskogee, Oklahoma.

**APPLICABLE DOCUMENTS** The agreement between the Company and the Purchaser relating to the products includes these terms and conditions of sale, any applicable installation and maintenance instructions provided by the Company and any terms appearing on the Company's quotation, sales order acknowledgment and invoice.

## LIMITED WARRANTY

MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE, WHICH ARE HEREBY EXPRESSLY DISCLAIMED AND WAIVED. THIS WARRANTY CONSTITUTES THE COMPANY'S SOLE AND EXCLUSIVE WARRANTY FOR DEFECTIVE GOODS AND PURCHASER'S SOLE AND EXCLUSIVE REMEDY FOR DEFECTIVE PRODUCTS.

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

**WARRANTY MOTOR FAILURES AND RETURNS:** For motors failing within the Company's Limited Warranty period (2 years from date of shipment), the Company will require the following in order to provide credit for the failed motor.

1. Contact the Order Entry Department (Customer Service Department) for the Company and obtain a RMA (Return Material Authorization) number, you will also be required to provide the fan serial number or factory order number. This allows for documentation and traceability regarding any return item or label. Please contact the Company to determine if the motor's nameplate should be obtained from the motor or if the whole motor should be returned and sent to the address provided with the RMA (Return Material Authorization) number.
2. If you are required to send back the nameplate and you cannot properly remove the nameplate, please contact the Company for instruction.
3. For motors requiring a return of the entire motor which fail within the Company's Limited Warranty period, you must first contact the Customer Service Department for the Company and obtain a RMA (Return Material Authorization) number and instructions on where the motors need to be returned.

When returning the motor nameplate, or picture of the nameplate, or the motor itself, the Customer should provide a specific as possible explanation in describing the cause of the failure. "Motors Failed" is an insufficient explanation. Motor credits are not given for motors that are "dropped" or damaged in transit from our facility to the customer. In this case a freight claim needs to be filed if the motor was dropped by the freight carrier.

**FREIGHT DAMAGE:** If the customer accepts the product that is damaged, the customer is to file the freight claim.

If the customer does not accept the damaged product, the Company will file the freight claim.

Credits are only made for product that is damaged, signed for as damaged and the Company is filing the freight claim. For product that is not damaged, the customer should accept the product.

**ADDITIONAL LIMITED WARRANTY INFORMATION FOR THE MFS57 AND DXP60:** The Company warrants the MFS57 and DXP60 fans to be free from defect in material or workmanship under normal usage and conditions, for two (2) years from the date of shipment to the original purchaser. The Company provides an extended warranty for the MFS57 and DXP60 housing, cone, and butterfly doors, for a period of seven (7) years from the date of shipment to the original purchaser. The Company provides an extended warranty for the MFS57 and DXP60 shaft and bearings, for a period of five (5) years from the date of shipment to the original purchaser. This does not include items deemed as normal wear items such as belts, sheaves, and belt tensioners. As composite products are dynamic and in the weather, the extended warranty does not apply to cosmetic damage that could occur from sun fading, oxidation, or cosmetic scratches due to normal use of the product or mounting of any non-OEM component to the fan or housing.

The following circumstances shall render this warranty void:

- Product experienced malfunction or failure resulting from lack of proper preventive maintenance, neglect, misuse, mismanagement, alteration, accident, power surges, lightning strikes, interruption of power supply, high winds, snow load, or other acts of God.
- Modifications or alterations to the product not outlined in the installation manual.
- Product not installed and/or operated in accordance with the instructions provided.
- Product installed without a protective overhang to guard from excessive snow load.
- All components are not original equipment supplied by the Company, either new or replacement part(s).
- Product experienced corrosion and/or material deterioration caused by or consistent with the application of chemicals, minerals, sediments, or other foreign elements.

**REPLACEMENT PARTS** If replacement parts are ordered, purchaser warrants that the original components in which these replacement parts will be placed are in satisfactory working condition, and when said replacement parts are installed, the resultant installation will operate in a safe manner, at speeds and temperatures for which the original product was purchased.

**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 the Company's sole option and may be subject to additional charge.

The Company 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 Purchaser's and End User's risk and shall not constitute any warranty or guarantee of such products or their performance.

**LIMITATION OF LIABILITY** The cumulative liability of the Company to the Purchaser and any other persons for all claims in any way relating to or arising out of the products, including, but not limited to, any cause of action sounding in contract, tort, or strict liability, shall not exceed the total amount of the purchase price paid for those products which are the subject of any such claim. This limitation of liability is intended to apply without regard to whether other provisions of this agreement have been breached or have proven ineffective even if the Company has been advised of the possibility of such claims or demands. In no event shall the Company be liable to the Purchaser or any other person for any loss of profits or any incidental, special, exemplary, or consequential damages for any claims or demands brought by the Purchaser or such other persons.

**INDEMNITY** The Company's maximum liability to Purchaser and to any end user is as set forth above. The Company makes no warranty to anyone for any products not manufactured by the Company and shall have no liability for any use or installation of any products (whether manufactured by the Company or other manufacturers) not specifically authorized by this sale. Purchaser acknowledges various warnings by the Company regarding the products and its installation and use. If the Company incurs any claims, lawsuits, settlements, or expenses (including attorney fees) for any loss, injury, death or property damage including, but not limited to, claims arising out of the Purchaser's or any end user's installation or use of the products, the Purchaser shall indemnify and hold the Company harmless.

## ACME ENGINEERING & MANUFACTURING CORPORATION

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