AMERICAN *Skylights*

Semi-Vacuum Insulated Skylights

Glass Roof Construction

Metal Ventilating Skylights

Automatic Stage Ventilators

DAYLIGHT ENGINEERS

AMERICAN 3 WAY-LUXFER PRISM CO.

431 S. Dearborn Street, Chicago 5, Ill. ★ 103 Park Avenue, New York 17, N.Y.

AMERICAN 3-Way Semi-vacuum Insulating Skylight

Reduce Heating and Air Conditioning Costs

Help Maintain Economical Even Temperatures

3-WAY GLASS SKYLIGHT BLOCKS—The 3-Way Insulating Glass Blocks are manufactured by the tried and proven process and by the same methods used in producing blocks for vertical arrangements but of special design and strength to meet the requirements of flat skylights.

They are made of water white crystal glass. Light Diffusing Lenses are incorporated in the inner horizontal surfaces leaving the top and bottom surfaces smooth and easily cleaned.

CONSTRUCTION—The 3-Way Blocks are supported by and locked to a rigid, insulated, reinforced concrete grid designed to withstand all snow and foot traffic loads. At no point is concrete exposed to the weather.

The soffit is highly ornamental.

Construction can be arranged with semi-vacuum glass block or with wired or plain glass units at the top and semi-vacuum glass block below, or with semi-vacuum glass block above and other designs of wired or plain glass units as ceiling sash.

LOW HEAT TRANSFER—Tests conducted by methods suggested by the A.S.H. and V.E. Code show that 3-Way Semi-Vacuum Insulating Skylights have about two and one-half (2½) times the insulating value of sheet metal skylights with no heat losses by "escape," since the construction is airtight.

LOW SOLAR HEAT TRANSMISSION—Tests show that total solar heat transmission per square foot of actual skylight area is under fifty per cent (50%).

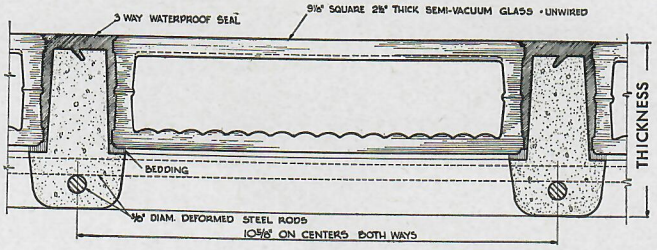
LITTLE OR NO CONDENSATION—Due to the type of construction, the insulation and the use of semi-vacuum blocks in the assembly, there is little or no tendency for condensation to form anywhere on the underside under normal conditions.

Where high humidities are essential, further insulation to prevent possible condensation is obtained by the addition on the underside of removable Light Diffusing Glass units adding a sealed air space beneath the semi-vacuum 3-Way Blocks.

EVEN LIGHT DISTRIBUTION—The Lenses cast in the horizontal inner surfaces of the hollow 3-Way Blocks distribute the sunlight evenly over wide areas below at definite diffusion angles in both directions. Due to this unique characteristic, skylight areas can be reduced to a minimum which in turn further reduce heating and air conditioning costs.

NO OBSTRUCTION ABOVE ROOF—3-Way Skylights are installed flush or but slightly above and parallel with the roof area, eliminating entirely the usual view-obstructing skylight structure, particularly objectionable above the roofs of modern setbacks, interior courts and decks.

CONSTRUCTION—3-Way Semi-Vacuum Glass Block Skylight is available with extruded non-ferrous grid arrangements anchored into two way reinforced concrete supporting structures. At no point is concrete exposed to the weather. Send for details.



3-WAY SKYLIGHT SPECIFICATION

Furnish and install where shown on plans 3-Way Semi-Vacuum Block-Skylights as manufactured by the American 3 Way-Luxfer Prism Co., Chicago, Ill. and New York, N. Y. Blocks shall be 9 in. square, 2½ in. thick over all and spaced approximately 10⅝ in. on centers. Top and bottom plates shall be not less than $\frac{11}{32}$ in. in their least section. Light diffusing lenses shall be incorporated in inner surfaces leaving exposed surfaces smooth.

The reinforced concrete supporting grid shall be designed for minimum live load of 40 lb. per sq. ft. All borders shall be flashed as per manufacturer's details. All flashings are specified under separate contract.

At option of this contractor, skylights may be furnished in precast panels or assembled and installed in place.

The manufacturer shall guarantee to maintain the construction against leakage for a period of one year from date of completion.

INSULATION VALUES

Computed and estimated values for the overall coefficient of heat transfer "U" value is 0.570 for concrete mix and 0.386 for Haydite concrete mix.

In computing heat losses through panels for design purposes, it is recommended that "U" values of 0.49 be used for glass block.

Added insulation values are obtainable.

DATA	3⅞" Thick Construction	4⅝" Thick Construction
Maximum One Way Bearing Span Not over	7'-2"	8'-0 ⅝"
Any Length the Other Way	.....	.....
Maximum Precast Panels	7 units wide by 4 units long or 28 sq. ft. overall panel	
Maximum Monolithic Panels	8 units wide by 12 units long	9 units wide by 12 units long
Minimum Pitch Required	¼" to 12"	¼" to 12"
Concrete Mix— Weight per Square Foot	35 lbs.	42 lbs.
Haydite Concrete— Weight per Square Foot	30 lbs.	35 lbs.
Live Load	40 lbs. plus	40 lbs. plus

Metal Ventilating Skylights ★ ★ ★ ★

AMERICAN

American Ventilating skylights have been used successfully for more than 25 years. They answer a definite need for a skylight that combines natural and effective ventilation with daylight.

CONSTRUCTION—Sheet metal parts formed of heavy galvanized tite-coat copper bearing steel, copper or aluminum are supported on steel trusses spaced not over 6 ft. on centers. Furnished in either putty or puttyless construction.

OPERATING DEVICE—Frictionless ball bearings support the solid hexagonal steel shafting at each truss. Pinions cored to fit the shafting assure positive operation and uniform alignment of the sash. The shafting is driven by an enclosed worm gear operator for light lifts and brake and release type operator for heavy lifts, controlled from the floor with detachable pole or endless chain.

Removable insect screens can be furnished with ventilating skylights where required as in the case of food and packing plants.

Motor operators for ventilating skylights may be used in place of manual operators. Details will be furnished on request.

AMERICAN PRESSED STEEL TOP HUNG SASH—The sash is arranged for puttyless glazing and fabricated in sizes to conform with accepted practice. Light in weight. Easily operated.

SPECIFICATIONS

Ventilating skylights shall be American 3 Way-Luxfer Prism Company's type **(specify type).** The sash, ridge and gable ends shall be formed of No. 18-gauge tite-coat galvanized copper bearing steel, die formed. Curb apron shall be No. 24 gauge tite-coat galvanized copper bearing steel. The sash shall be assembled without the use of solder and supported on steel trusses spaced not over 6 ft. on centers.

Ventilating sash shall be equipped with rack and pinion type operating mechanism using solid hexagonal steel shafting. Provide frictionless bearings at each truss to support the shafting. Racks shall be held in close contact with pinions by roller guides. Operators shall be 3-Way brake and release type controlled from the floor with detachable pole or endless chain.

All ferrous metal parts shall be given one coat of paint at the factory.

GLASS—Skylights shall be glazed with **(specify type of glass desired).**

GLAZING—The glass shall be bedded in a good grade of steel sash putty. The putty shall be protected with a cap secured to the glazing bar with brass studs and cap nuts.

NOTE: *If puttyless glazing is desired specify P-2 puttyless construction.*

NOTE: *Complete details and specifications covering types J, F, JR and JL in copper and aluminum will be furnished on request.*

TYPES OF AMERICAN VENTILATING SKYLIGHTS

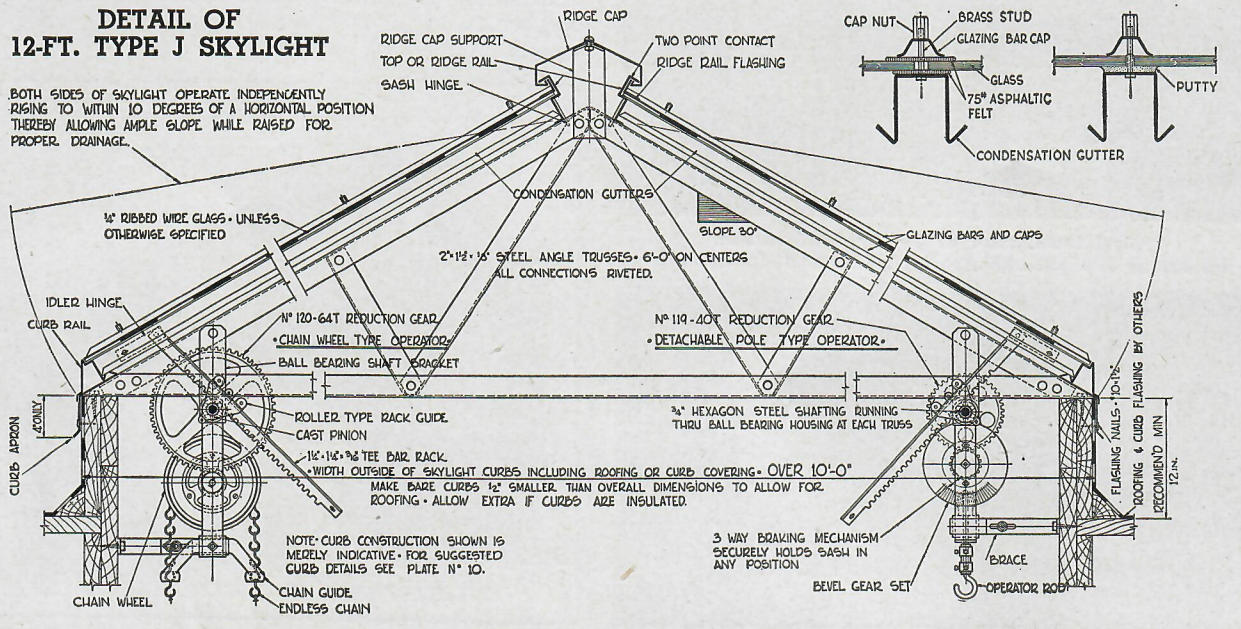
Type J—A full ventilating type, wherein the sash is hinged at the ridge and opened from the curb, thus providing a maximum vent area. Each side is controlled by a separate operator.

Type JR—A full ventilating type, designed especially for use on widths under 6 ft. Also applicable as a continuous ridge ventilator for sawtooth construction.

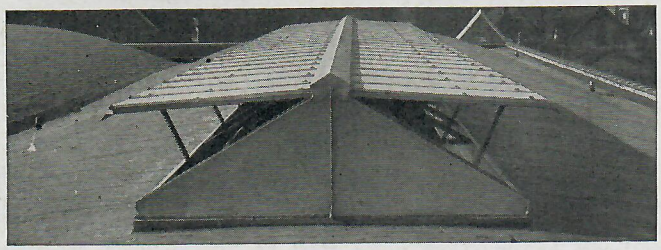
Type JL—A ridge ventilating type designed for spans over 12 ft. The upper or vent sash is in widths corresponding to the standard Type J widths. Thus continuous ridge openings of 8 and 10 ft. may be had.

Type F—A ridge ventilating type, consisting of a pair of constant sized movable sash at the ridge and fixed sash below. Vent sash may be operated independently or simultaneously by means of a single control. Provides maximum weather-tightness with efficient ventilation and day-lighting.

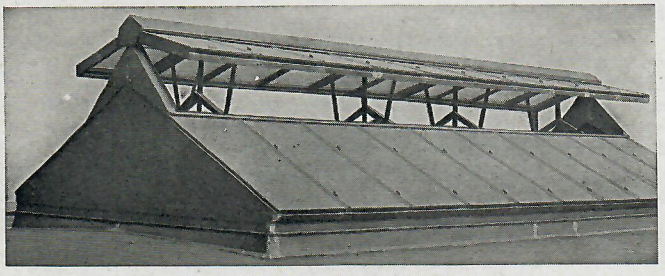
DETAIL OF 12-FT. TYPE J SKYLIGHT



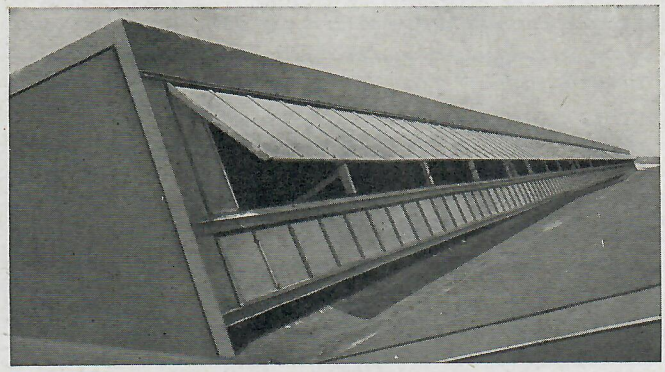
OTHER ALLIED PRODUCTS



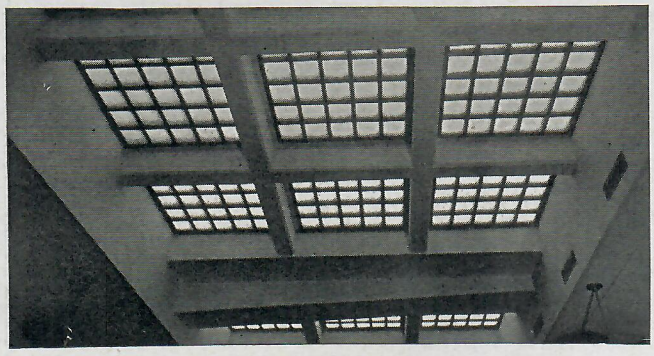
Type "J" Ventilating Skylight



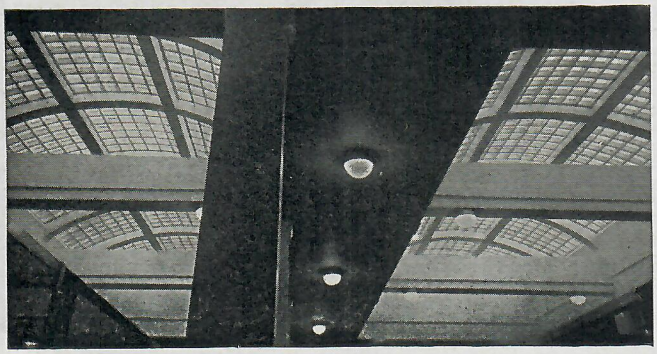
Type "F" Ventilating Skylight



American Pressed Steel Ventilating Top Hung Sash



Typical Installation of 3-Way Semi-vacuum Insulating Skylight. Below, Typical Arched Construction



SKYLIGHTS—A complete line of well designed sheet metal stationary, monitor and ventilating skylights. Special ventilating construction and arrangements, manual and power operated, for industrial building roofs are also available.

3-WAY SEMI-VACUUM INSULATING SKYLIGHT—For daylighting interiors of buildings with no heat loss by escape and low heat transfer. Added glass ceiling arrangements reduce possibilities of condensation and add further insulating values.

AUTOMATIC STAGE VENTILATORS—Made to any dimensions. Approved by fire underwriters and municipal and state authorities for theaters and auditoriums.

GLASS FLOORS—Made of ground plate glass in 8 to 18-in. units for color lighting from beneath. Supported on steel members for inside and concrete for outdoors.

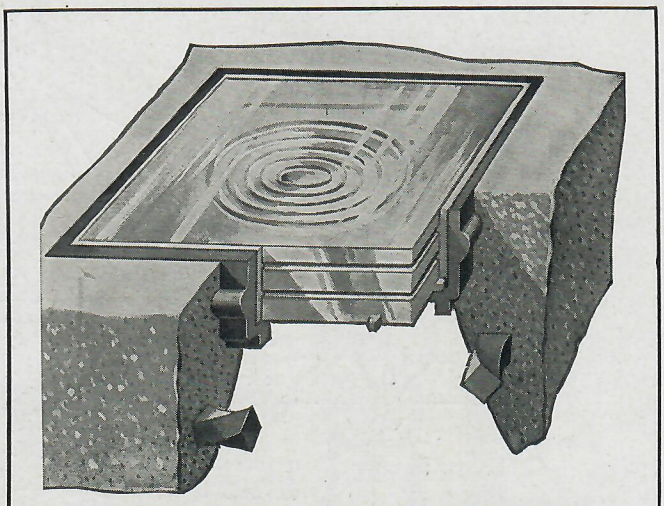
MAGNALITE DIFFUSING GLASS—A specially efficient diffusing glass. When used in skylights this double lens glass produces excellent interior vision with a minimum of glass area. The diffusion angle of Type A is 32°, Type B, 40°.

WEATHERPROOFING COMPOUNDS—Dependable compounds for expansion joints between concrete slabs or glass units.

SIDEWALK DOORS—3-Way Type "C" flush top watertight doors with draining channel frame and heavy hinges equipped for hand or elevator lift.

ARMORED SIDEWALK LIGHTS—For daylighting basements and vaults. 3-Way Armored Sidewalk Lights accomplish this with practically no maintenance cost.

CONSULTATION SERVICE—A competent staff of engineers is maintained at our headquarters to render service on modern skylight problems to architects, engineers, contractors, construction firms and plant owners.



CUT-AWAY VIEW OF 3-WAY ARMORED GLASS