

2009

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CORNELL

SAFE AND SECURE

EMERGENCY RESPONSE AND ENVIRONMENTAL SEPARATION

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CONSTRUCTION GUIDE FOR ROLLING DOORS



Brackets (end plates): Steel plates bolted to guide assemblies supporting counterbalance shaft and curtain. *Entire weight of door curtain and shaft transfers to guides and jamps. There is no load on the lintel as would be the case in the typical sliding door configuration.* Cornell uses 3/16" min. powder coated steel plates with pre-lubricated ball bearings to support the rotating shaft.

Curtain: Assembled of interlocking slats and bottom bar. Top is bolted to rings on counterbalance shaft.

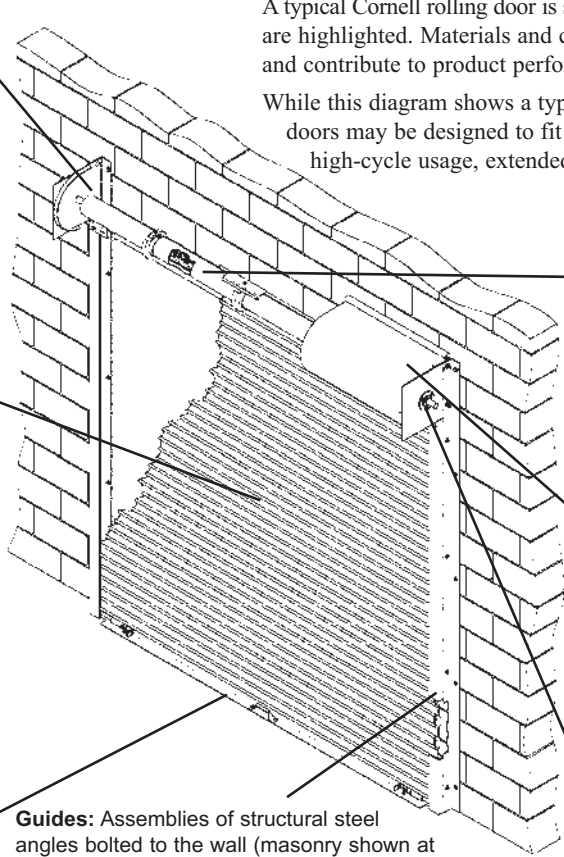
Slats are of hot-rolled steel strip with exclusive GalvaNex™ finish in light gray, tan or white.

Endlocks are high-strength nylon, cast iron, or stamped steel. They are attached to ends of alternate slats, maintaining slat alignment and preventing wear.

Doors can be configured to withstand the full range of specific wind load requirements, including missile impact ratings, based on area building codes and extreme regional weather conditions.

Bottom bar (footpiece): Assembled of two 2" x 2" x 1/8" min., structural steel angles. Can be equipped with weather-seal and lock mechanisms.

Door bottom bars are factory powder coated standard.



A typical Cornell rolling door is shown here in diagram. Construction components are highlighted. Materials and construction specifications that impact quality and contribute to product performance and durability are detailed.

While this diagram shows a typical door, Cornell offers many options so that doors may be designed to fit specific needs, including low initial cost, high-cycle usage, extended life, and others.

Counterbalance shaft (barrel drum): Carries the full weight of the door curtain and also contains counter-balancing springs. Cornell's shafts are assemblies of steel pipe or tube 4 1/2" dia. min., inner shafts of 1 1/4" dia. min. and computer-calculated springs to assure the optimum calibrated balance at every door position. Maximum deflection is 0.03" per foot of width. Permanently lubricated bearings provided at rotating shaft points. Spring cycle life design is based upon anticipated unit operation. Spring adjusting wheel provided.

Hood: Protective enclosure for the curtain, adding weather resistance at head of door and serving as a stiffener for brackets. Cornell's hoods are steel, 24 ga (.024") min. with exclusive GalvaNex™ finish. Intermediate supports provided as required to prevent excessive sag.

Guides: Assemblies of structural steel angles bolted to the wall (masonry shown at RH jamb, steel channel at LH) supporting the entire weight of the door. Appropriate jamb support is required. Guides are attached to jamps with not less than 3/8" diameter bolts spaced not more than 30" apart. Cornell uses structural steel angles for longer life. Compact design fits securely against wall and saves space at both sides of opening.

All door guides are factory powder coated standard.

Operator: Push-up operation shown. Hand chain, hand crank or motor drives available to operate door by rotating the shaft end. Shaft at opposite bracket is stationary and equipped with spring adjusting wheel.

FINISHES

STANDARD FINISH

Curtain slats	Exclusive GalvaNex™ finish in light gray
Hood	Exclusive GalvaNex™ finish in light gray
Brackets (endplates)	SpectraShield® powder coated 30-7192 Gray
Bottom bar	SpectraShield® powder coated 30-7192 Gray
Guides	SpectraShield® powder coated 30-7192 Gray

AVAILABLE MATERIAL FINISHES

See product Construction Features for available component materials.

STEEL

Exclusive GalvaNex™ Finish

Hot Dip Galvanized

ZRG: Zinc Rich Gray powder coating is smoother, more uniform and more durable than spray-on cold galvanized coatings.

ALUMINUM

Aluminum Mill Finish: Bright high-luster appearance in natural aluminum form.

Clear or Color Anodized: Electrochemical immersion process creates etched clear satin or a matte finish in colors, including champagne, gold, medium bronze, dark bronze, and black.

STAINLESS STEEL

300 Series, #4 Finish: Brushed satin finish on curtain slats, bottom bar, hood, and guides. Stainless steel resists rust and corrosion and offers superior performance in the presence of moisture, chemicals, and food products.

Structural Stainless: Pickled and annealed resulting in a toughened metal with a rough textured matte finish.

SPECTRASHIELD® POWDER COATING

A full spectrum of 32 running line colors plus an additional 200 colors are available with Cornell's in-house powder coating system. SpectraShield powder coating finishes are environmentally friendly, long lasting, cost effective, and great looking. SpectraShield out-performs field applied liquid paints in color retention, UV stability, corrosion resistance, chemical resistance and abrasion resistance.



CROSSINGGARD® Emergency Response Grille

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Model ERG10

Model ERG-IBC for Access Controlled Egress per the IBC®

The CrossingGard ERG (Emergency Response Grille) is designed to help address both the security and safety issues of public areas. The CrossingGard provides the security of a locked, rolling grille but immediately responds in an emergency situation to open automatically and allow safe escape. Available only from Cornell, the CrossingGard is always on duty to provide separation control, yet still allows for alternate means of escape should a fire, public disturbance or other emergency situation arise.

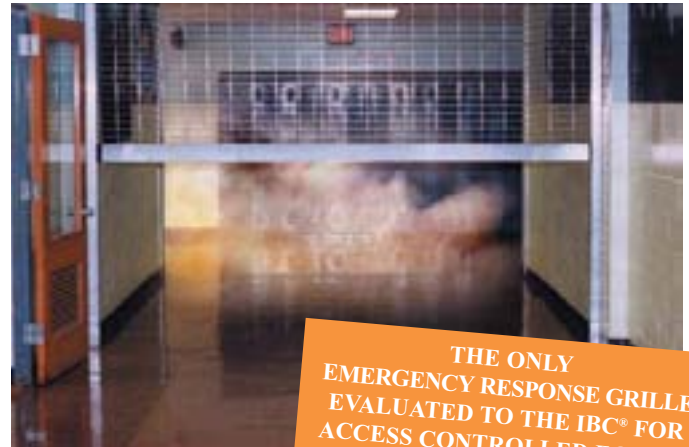
Sizes: Openings from 5' to 24' wide and 4' to 20' high.

Operation: Cornell FS M100 series motor operator supplied as standard to provide fail-safe automatic emergency opening capabilities. Mechanism can be recessed above the ceiling with no affect on operation.

AutoLock Mechanism: Concealed self-locking assemblies prevent forced opening of a closed grille. Lock mechanism will not interfere with normal electric, fail-safe or emergency response self-opening feature.

CrossingGard Benefits:

- **Model ERG-IBC is ICC-ES evaluated for access controlled egress per the International Building Code®.**
- **Fail-safe emergency response capability.** When an alarm is activated, power is lost, or if the IBC emergency exit push-button station is activated, the CrossingGard immediately clears the path by returning the grille to its full open position.
- **No manual locking or unlocking required.** AutoLock automatically secures a closed grille by engaging upon attempt of forced opening. AutoLock remains disengaged during normal and emergency operation.
- **No resetting is necessary to resume normal operation.** Following an emergency situation, the CrossingGard can be repositioned to the closed position by activating "close" at the motor control station.
- **Early Installation Option:** Early/easy self-supporting installation system allows grilles to be mounted on factory supplied tubular members before walls are built and before there is a finished opening.



THE ONLY EMERGENCY RESPONSE GRILLE EVALUATED TO THE IBC® FOR ACCESS CONTROLLED EGRESS



CrossingGard demo available on video. Please call for a free copy or view now at www.cornelliron.com

DETAILS AND CLEARANCES

CLEARANCES

H	C	P
To 3' 1"	13"	2 1/2"
3' 2" to 4' 11"	14"	2 1/2"
5' 0" to 6' 6"	15"	2 1/2"
6' 7" to 8' 7"	16"	2 1/2"
8' 8" to 10' 10"	17"	2 1/2"
10' 11" to 13' 2"	18"	2 1/2"
13' 3" to 15' 9"	19"	3 1/4"
15' 10" to 18' 5"	20"	3 1/4"
18' 6" to 20' 0"	20"	3 3/4"

No hood furnished if grille coils above ceiling. Provide ceiling access full width of grille.

COMPONENT FEATURES AND OPTIONS

CURTAIN

Open curtain, which allows air circulation, is formed with a series of horizontal rods 5/16" in diameter. Vertical separation between rods at 2" or 1 1/2" (stainless steel -2" rod spacing only). Rods are available in aluminum -mill, clear or color anodized finish of alloy 5056 H32, solid stainless steel -polished 300 series, or solid galvanized steel.

Vertical chains are formed of eyeletted aluminum or stainless steel on 9", 6", or 3" centers. End chains are held in place by double E-rings on horizontal rods on both sides of chain to retain curtain ends in guides.

BOTTOM BAR

A 2" x 3 1/2" heavy-duty mill finish, clear or color anodized aluminum tubular section. Angle bottom bar of stainless steel optional.

Sensing Edge: Optional. See page 22 for details.

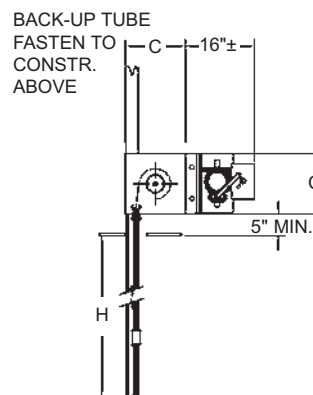
GUIDES

Heavy duty extruded aluminum sections and trim cover with mill, clear or color anodized finish. Equipped with polypropylene pile runners. Guides are supported with structural support tubes or wall mounting angles.

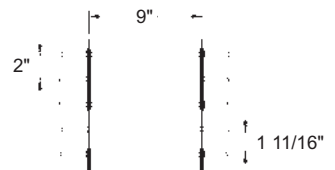
HOOD

Optional-and usually omitted when curtain stores recessed-hoods are available in 24 gauge steel with exclusive GalvaNex™ finish in light gray, 24 gauge 300 series stainless steel with a #4 finish, or aluminum in mill, clear or color anodized finish. Additional finishes, mechanism and motor covers are available.

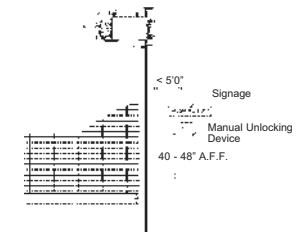
VERTICAL SECTION



CROSSINGGARD V-9

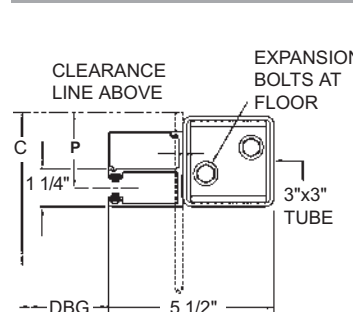


CROSSINGGARD ERG-IBC

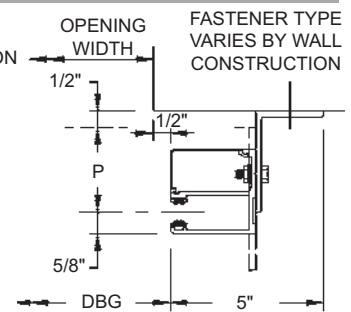


JAMB DETAILS

STANDARD TUBE MOUNTED



FACE OF WALL MOUNTED



EMERGENCY RESPONSE OPERATING SYSTEMS



CONVENTIONAL FIRE PRODUCT CLOSING SYSTEMS

Conventional fire door automatic closing systems release spring tension and require mechanical resetting by a trained door systems technician. Although these old fire door systems are available and frequently specified, the industry has evolved to address today's issues of annual door testing requirements, more frequent alarm testing, recessed installation and power outages. **Cornell strongly recommends you consider the safety and convenience advantages that our M100 Closing Systems provide to your customers.**

M100 FIREGARD™ CLOSING SYSTEMS

Cornell answers the call for reliable and simplified fire door closing options with its full line of M100 automatic resetting fire door systems. These systems close fire rated doors without releasing spring tension or disengaging the operator drive mechanism. M100 operators include electric, chain and crank operated units.

M100 FireGard Closing System Benefits:

- Elimination of mechanical spring resetting that complicates testing procedures, especially on recessed and larger doors.
- Controlled, automatic closing speed will not exceed 9" per second.
- Can be applied consistently on both fire door and counter fire door products.
- M100's can be retrofit to existing fire doors in most situations.

M100 FIREGARD ELECTRIC MOTOR OPERATED SYSTEMS

These systems respond to alarm signal or fuselink activation and are fail-safe by design, functioning even during a power failure.

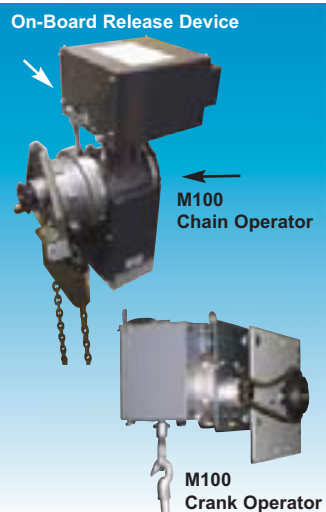
When the alarm is cleared and/or power is restored, resetting is done at floor level with a touch of the "open" button.

M100 Motor Operators can be activated by fusible link or thermal sensors, fire alarm systems or smoke detectors *without the need for a mechanical release device*. Recommended for larger size fire doors, units in recessed applications, units in areas susceptible to frequent power outages or any application where mechanical testing and resetting is impractical or not desired. A sensing edge is recommended or may be required. For doors up to 50' wide, 40' high or a maximum 1200 sq. ft.



M100 FIREGARD CHAIN OR CRANK OPERATED SYSTEMS

These systems can be fuselink activated alone, or the system can also be tied into local detectors or a central alarm system using an operator mounted release device as described on this page. Automatic closing is tested with routine close operation of the unit. Resetting spring tension or re-engaging the operator is not required! Push to close button activation in lieu of a pull cable is optional. Clearance and access to the hand chain or crank eye is required. Please consult Cornell for size availability of M100 chain and M100 crank operated units.



AUTOMATIC CLOSING CONTROL ALTERNATIVES

This chart summarizes the closing control alternatives described on this page. It presents a progression of solutions to help find the best system to meet a specific need.

	M100-Motor	M100-Chain	M100-Crank	FireGard DC, BB, BV	Fuse Link
Basic fire protection	●	●	●	●	
Control by smoke/heat detectors or central alarm system.	●	○	●		
Fail-safe operation. Fire doors can or will close during power failure.	●	○	●		
Easy, safe and economical to test and reset.	●	●			
Max. reliability, very slow closing, easily reset.	●	●			

○ Available as an option

AVAILABLE RELEASE DEVICES

Electro-mechanical devices enable automatic closing fire doors to respond to alarm signals from detection devices, such as smoke detectors, heat sensors and central alarm signals, permitting doors to close long before high temperatures melt fusible links. Fusible links should always be used as backup to the release device.

M100 CHAIN OR CRANK OPERATOR RELEASE DEVICES

Mount directly on-board the operators, require 120 volt AC input power and are fail-safe by design.

Floor Level Cable Reset Model: includes a light gauge cable that runs to floor level. Following activation and door closing, resetting of the device is done at floor level by pulling on the cable.

Automatic Reset Model: following activation and door closing, this release device automatically resets itself once the alarm is cleared and/or power is restored.

CONVENTIONAL (NON-M100) FIRE DOOR RELEASE DEVICES

FireGard DC: Designed to tie into and receive 24 volt DC power from a central alarm system that has a back-up power source. Activation of the central alarm system will cause an open fire door to close. Connection and voltage draw coordination with the alarm system provider is required. FireGard DC is UL listed with an adjustable alarm signal activation time delay. When a remote "down" limit switch is added, this device also offers Down Limit Detection, which prevents mechanical release of a fully closed fire door.



FireGard DC shown, BB, BV units similar.

FireGard BB: Includes all the features of the FireGard DC unit, but contains its own internal battery back-up management system to support the device and provide 24 volt DC power to local detectors and warning appliances for up to 72 hours during a power outage. Accepts a 120 or 24 volt AC or 24 volt DC input power. For 24 VDC FACP, use FireGard DC.

FireGard BV: Includes all the features of the FireGard BB except the battery back-up is for 24 hours and the BV adds a voice signaling board that provides two different voice warning messages upon activation.

ANNUNCIATORS

Optional Sounder/Strobe or Voice Warning Modules can be tied into FireGard BB release devices to safely pre-announce closing of the fire door.

HORN STROBE

ADA compliant, 24 volt DC warning devices are powered by the release device battery source to provide advanced fire door closing warning, even during a power failure.



SPEAKER STROBE

An ADA compliant FireGard BV warning device. 2 english field selectable voice warning messages upon activation.

SMOKE AND DRAFT CONTROL PRODUCTS

FIRE DOORS Model ERD11, INSULATED FIRE DOORS Model ERD21, COUNTER FIRE DOORS Model ERC11

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SMOKESHIELD® ASSEMBLIES PROTECT AGAINST THE LOSS OF PROPERTY AND LIFE

SmokeShield® products add tested smoke and draft control to Fire Doors and Counter Fire Doors. Use to protect interior corridors and smoke barrier openings or any opening where life safety is a priority.

Listings: UL Classified for fire protection and the loss of property, and also UL, "S" leakage rated assembly labeled for smoke and draft control.

SmokeShield products meet the requirements of the **International Building Code®, 2006, Section 715.4.3** for Smoke-and-Draft Control Door Assemblies.

Curtain Materials: Galvanized steel with exclusive GalvaNex™ finish in light gray or 300 series stainless steel with #4 finish.

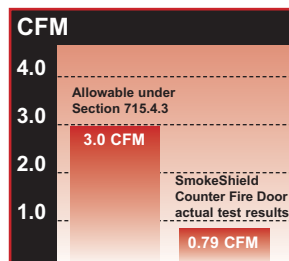
Mounting Alternatives: Approved for both face of wall or between jambs mounting conditions.

All SmokeShield units will be supplied with the following:

- UL leakage rated assembly label for smoke and draft control.
- UL listed perimeter seals applied to each guide and across the header.
- UL listed/tested bottom bar smoke seal/astragal.
- Heat resistant perimeter caulking.

All SmokeShield products are required to be signaled to close by local smoke detectors or a central alarm system. Coordinate alarm system interface with a M100 operator system or a FireGard release device. See page 4 for details.

Tested per **UL 1784**, the procedure for smoke-and-draft control door assemblies. Meets the requirements of **NFPA 105**.



SMOKESHIELD® FIRE DOORS

Model ERD11

Size: 30' wide, 25' high standard construction. **Large Openings** to 34' wide, consult factory.

For SmokeShield Fire Door operation, standard and optional features, please refer to Fire Doors on page 6, and reference the Rolling Door Product construction overview on page 2. For automatic closing control system selection, see page 4.

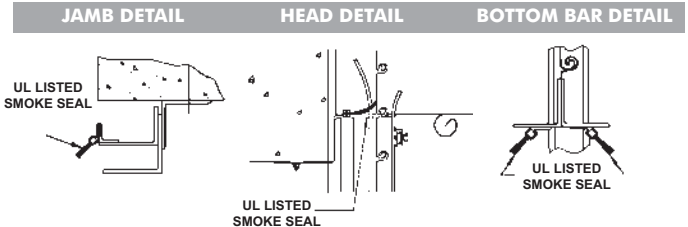
Specifications in CSI MasterFormat™ and User Dimensioned drawings in .DWG, .PDF and i-drop® at www.cornelliron.com

SMOKESHIELD® FIREMISER™ INSULATED FIRE DOORS Model ERD21

Size: Openings up to 30' wide by 22' high. **Large Openings** to 34' wide, consult factory.

For SmokeShield Firemiser Insulated Fire Door operation, standard and optional features, please refer to Insulated Fire Doors on page 6, and reference the Rolling Door Product construction overview on page 2. For automatic closing control system selection, see page 4.

SMOKESHIELD FIRE DOORS AND SMOKESHIELD INSULATED FIRE DOORS

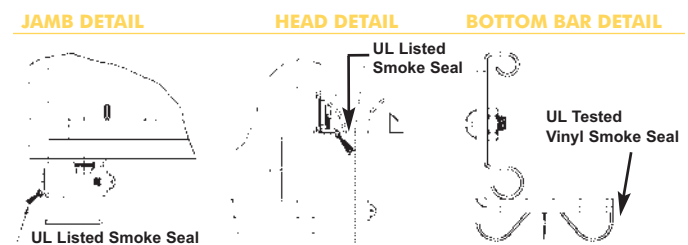


SMOKESHIELD® COUNTER FIRE DOORS Model ERC11



Size: Openings up to 16' wide when height is 7' 6" or less. Openings up to 12' wide when height is 10' or less.

For SmokeShield Counter Fire Door operation, standard and optional features, please refer to Counter Fire Doors on page 8, and reference the Rolling Door Product construction overview on page 2. For closing control system selection, see page 4.



UL tested bottom bar gasketing to be shop installed. UL listed guide and head gasketing to be provided for field installation per manufacturer's instructions.

ROLLING FIRE DOORS **Model ERD10**

INSULATED ROLLING FIRE DOORS **Model ERD20**



New York City Dept. of Buildings
MEA #476-84-M
 Rolling Steel Fire Doors
MEA #477-84-M
 Rolling Counter Fire Doors
MEA #478-84-M
 Rolling Counter Fire Doors w Frames

Rolling Fire Doors are rated physical fire barriers that protect wall openings from the spread of fire. Fire doors provide automatic closing in the event of fire detection with governed speed control. Fire doors are also designed for daily use to provide security and access control, but are for use in openings that are not part of a required means of egress.

Listings: UL Classified 4, 3, 1 1/2, 1 and 3/4 hour labels. Factory Mutual approval listing, see FM Approval Guide.

Sizes: 30' wide, 30' high standard construction. **Large Openings** to 50' wide, 40' high up to 1200 square feet, consult factory.

Operation: M100 motor, chain or crank operating systems are recommended for ease of testing and controlled automatic closing speed. Conventional mechanical drop out closing systems can be provided for push-up doors or with smaller chain, crank or motor operated units.

Cornell requires that all rated fire doors be installed by an authorized distributor in accordance with NFPA 80, which also states that (1) all fire doors shall be inspected and tested annually and (2) when a fire door receives damage, it shall be repaired with parts from the original manufacturer.

Cornell Fire Door Benefits:

- Meet insurance and building code requirements.
- Compact overhead storage of curtain coil is ideal for industrial, commercial and institutional applications.

COMPONENT FEATURES AND OPTIONS

Reference page 2 for Rolling Door Product construction overview.

CURTAIN

Fire door curtains are available in galvanized steel with exclusive GalvaNex™ finish in light gray (22, 20 and 18 gauge) or 300 series stainless steel with #4 finish (20 gauge). Stamped steel or cast iron endlocks are provided on slat ends per UL procedure.

BOTTOM BAR

Two 2" x 2" x minimum 1/8" angles of plain or stainless steel material.

Locking: Optional padlockable slide bolts or keyed cylinder locks provide locking from coil or fascia side of curtain.

GUIDES

Guides are formed of minimum 3/16" structural steel or stainless steel angles. Guides are attached to jambs with not less than 3/8" diameter bolts spaced not more than 30" apart or are welded to steel frame openings per UL procedure.

BRACKETS (END PLATES)

Minimum 1/4" steel plates. For non-M100 System Operators, **Saf-T-Gard™ Governor** included to reduce the average automatic closing speed to between 6" and 24" per second, per NFPA 80.

HOOD

24 gauge galvanized steel with exclusive GalvaNex™ finish in light gray or 24 gauge 300 series stainless steel with a #4 finish. Additional finishes, mechanism and operator covers available.

Fire Door Options Include:

SMOKE CONTROL

Whenever life safety is a concern, Cornell's UL leakage rated assembly "S" label is available for fire doors. Provided with UL listed perimeter seals and caulking for protection against smoke infiltration in addition to fire protection. For detailed information, see Smoke and Draft Control product information on page 5.

SPECIFIED WIND LOAD

Doors designed to meet specific PSF wind load requirements. See page 12.

SPECTRASHIELD POWDER COATING



Full spectrum of durable colors available with Cornell's in-house powder coating system. See pg 2.

VISION WINDOWS

Provide visibility with up to six non-wired glass window panes per door curtain. Panes are 10" x 1 5/8", spaced a minimum 5" apart and 12" in from each guide. Available on all Cornell UL rated fire doors and FM rated fire doors up to 1 1/2 hours.

FIREMISER™ INSULATED FIRE DOORS **Model ERD20**

Combines the benefits of an insulated door with a labeled fire door product. Common applications include buildings with planned expansion that will require the opening to be fire rated in the future, for exterior openings with building code required fire protection due to proximity of other structures or for interior fire doors where sound control is desired.



Fire resistant mineral wool insulated curtains provide an R value of 5.3, and a sound transmission class, STC 27 rating.

Listings: UL Classified 4, 3, 1 1/2, 1 and 3/4 hour labels. Factory Mutual approval listing, see FM Approval Guide.

Sizes: Standard construction for openings up to 30' wide, 22' high. **Large Openings** to 34' wide, consult factory.

Operation: M100 System operators standard, see page 4.

COMPONENT FEATURES AND OPTIONS

Curtain: Exterior / Interior skin - Galvanized steel with exclusive GalvaNex™ finish in light gray or 300 series stainless steel with #4 finish; 24 gauge interior and exterior slat gauge minimum. Cast iron endlock / windlocks as required per UL procedure.

For Bottom bar, guides, bracket and hood see fire door components.

Weathering Option: UL listed perimeter brush seals available for guides and head area to seal against exterior face of curtain. UL listed brush seal available for bottom bar threshold.

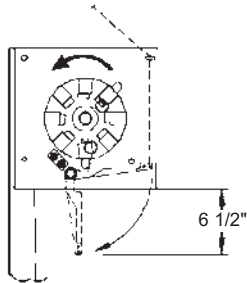
Smoke Control: UL leakage rated assembly "S" label is available. See Smoke and Draft Control product information on page 5.

ROLLING FIRE DOORS AND INSULATED FIRE DOORS DETAILS AND CLEARANCES

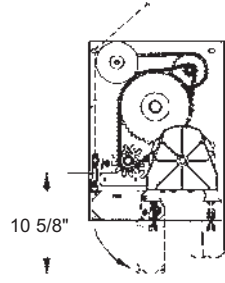
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CONVENTIONAL FIRE DOOR AUTOMATIC CLOSING MECHANISMS

The spring release mechanism and operator disconnect cause the door to close automatically. The Saf-T-Gard™ governor (right) reduces the door's average closing speed to not less than 6" per second nor more than 24" per second.



Spring Release Mechanism



Speed Governor & Operator Disconnect
(With Conventional Chain Operator)

Specifications in CSI MasterFormat™ and User Dimensioned drawings in .DWG, .PDF and i-drop® at www.cornelliron.com

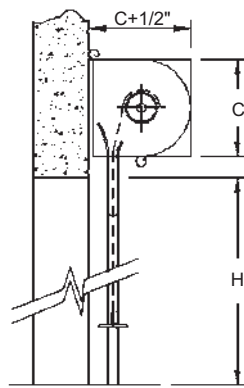
COIL DIMENSION 'C' FOR FIRE DOORS THRU 14' 0" WIDE

H (clear opening height)	C		
	Flat Slat #5F All chain, crank & motor operated doors (minimum coil for manual push-up doors)	Flat Slat #5F Manual push-up (see adjacent column if minimum coil is required)	Insulated Slat #6M
3' 0" to 5' 0" inclusive.	14"	14"	17"
Over 5' 0" to 9' 0"	14"	15"	17"
Over 9' 0" to 10' 0"	15"	16"	18"
Over 10' 0" to 12' 6"	15"	16"	20"
Over 12' 6" to 13' 0"	16"	-	20"
Over 13' 0" to 15' 0"	16"	-	22"

1. For doors with the height greater than 1.5 times the width, check with factory.
2. If coil size dimension is critical, consult with factory.
3. Consult with factory for doors over 14' 0" wide and over 15' 0" high.

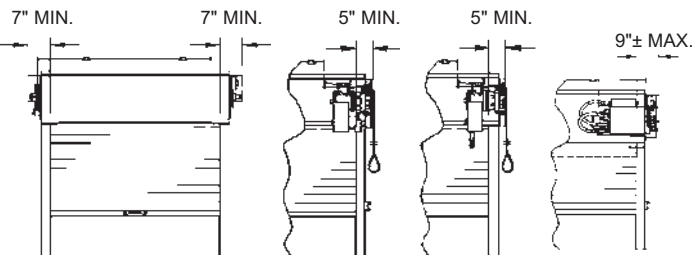
FACE MOUNTED DOORS

SECTION



3" std.-push up, chain, crank
5" std.-motor operator
NOTE: If coil is above ceiling, minimum 6"
clearance is required for push-up, 12" is
required for conventional chain, crank or
motor operation.

OPERATOR TYPES



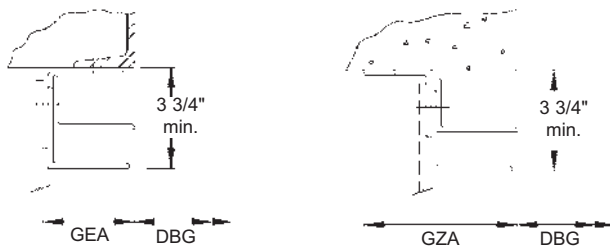
Push-up

M100 Chain Operated

M100 Crank Operated

M100 Motor Operated

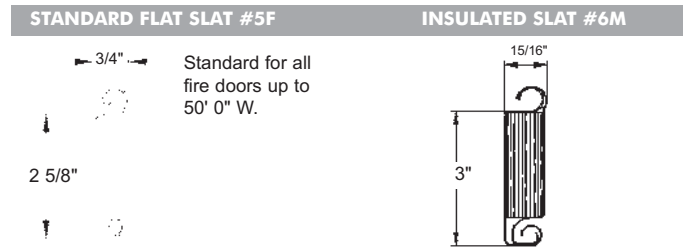
JAMB DETAILS



DBG (distance between guides)	GEA	GZA
Up to 12' 0" inclusive.	3 1/2"	5 3/4"
Over 12' 0" to 14' 0"	3 3/4"	6"
Over 14' 0" to 16' 0"	4 1/4"	7"

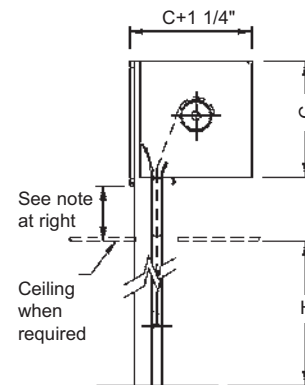
Consult factory for guide sizes of units wider than 16' 0".

SLAT SECTIONS



BETWEEN JAMBS MOUNTED DOORS

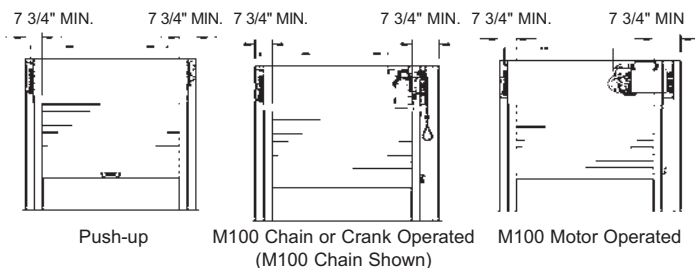
SECTION



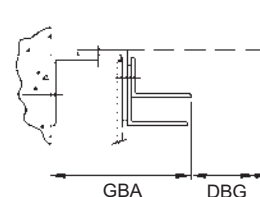
NOTE: If coil is above ceiling, minimum 6" clearance is required for push-up, 12" is required for conventional chain, crank or motor operators.

For coil above ceiling, minimum 18" x 24" access panels (by others) are required at both ends of coil.

OPERATOR TYPES



JAMB DETAIL



DBG (distance between guides)	GBA	
	Push-up & M100 Operators	Conventional Chain & Motor Op.Side Only
#5F Up to 12' 0" inclusive	7 3/4"	11"
#5F Over 12' 0" to 14' 0"	8"	11"
#6M Up to 12' 0" inclusive	8 3/4"	8 3/4"
#6M Over 12' 0" to 14' 0"	9"	9"

Consult factory for guide sizes of units wider than 14' 0".

ROLLING COUNTER FIRE DOORS **Model ERC10** COUNTER FIRE DOORS with INTEGRAL FRAMES **Model ERC20**



Rolling Counter Fire Doors With Integral Frames protect openings above counters against the spread of fire and can be used daily for security. Assembled and welded at the factory for a seamless, custom look without field assembly. Approved for mounting to rated drywall or masonry wall construction.

Listing: UL Classified 1 1/2, 1 or 3/4 hour labels.

Size: Openings up to 10' wide by 4' 9" high in walls 4 1/2" to 12" thick.

Operation: Manual push-up.

Mounting Alternatives: Between Jambs Slip-In units are set into finished walls. Between Jambs Built-In units wrap around finished walls; installation is done while wall is being constructed.



Rolling Counter Fire Doors protect openings above counters against the spread of fire and can be used daily for security. Can fully close to floor when compact components are desired over a fire door. Meet insurance and building code requirements. UL approval for mounting to rated drywall, masonry or steel walls. Not for openings that are a required means of egress.

Listings: UL Classified 3, 1 1/2, 1 and 3/4 hour labels.

Size: Fits openings up to 16' wide when height is 7' 6" or less. Fits openings up to 12' wide when height is 10' or less.

Operation: M100 motor, crank or chain operating systems are recommended for ease of testing and controlled automatic closing speed. Conventional mechanical drop out closing systems can be provided for push-up units or with crank or motor operated units. Cornell requires all rated fire products be installed by an authorized distributor in accordance with NFPA 80, see page 6 for details. Effort to operate counter fire doors will not exceed 25 lbs.

Emergency Response Operating Systems: All closing control systems available for fire doors are also available for counter fire doors, see page 4.

COMPONENT FEATURES AND OPTIONS

CURTAIN

Galvanized steel with exclusive GalvaNex™ finish in light gray, or 300 series stainless steel with #4 finish, 22 gauge. Galvanized steel endlocks are provided per UL procedure.

BOTTOM BAR

Angle of plain or stainless steel with vinyl astragal. Bottom bar provides reinforcement to bottom of curtain.

Locking: Standard padlockable slide bolts operable coil side. Optional keyed cylinder locks operable from either or both sides of curtain.

GUIDES

Formed of 12 gauge steel or stainless steel shapes. Guides are attached to jambs per UL procedure.

BRACKETS (END PLATES)

Reinforced steel plates.

For non-M100 System Operators, **Saf-T-Gard™ Governor** included to reduce the average automatic closing speed to between 6" and 24" per second, per NFPA 80.

HOOD

24 gauge galvanized steel with exclusive GalvaNex™ finish in light gray or 300 series stainless steel with a #4 finish. Additional finishes, mechanism and motor covers available.

Counter Fire Door Options Include:

- **Countertops:** see next column.
- **Labeled Smoke Protection:** see SmokeShield® page 5.
- **SpectraShield®** in-house powder coating system, see page 2.

COMPONENT FEATURES AND OPTIONS

FRAME

Integral welded head and jambs are formed of 16 gauge 300 series #4 finish stainless steel shapes or powder coated steel shapes. Guide groove is incorporated into jamb design. Integral sill, when provided, is formed of 14 gauge 300 series stainless steel with #4 finish.

BRACKETS (END PLATES)

300 series #4 finish stainless steel or reinforced powder coated steel plates mounted to the frame assembly. **Saf-T-Gard™ Governor** reduces automatic closing speed to between 6" and 24" per second, per NFPA 80.

HOOD

16 gauge 300 series #4 finish stainless steel or powder coated steel.

CURTAIN AND BOTTOM BAR

See previous column.

Counter Fire Door with Integral Frame Options Include:

- **Release Devices and Annunciators:** see page 4.
- **Countertops:** Standard countertop of #4 finish 300 series stainless steel. UL listed plastic laminate countertops, below, are also available. Or, choose our No-Countertop option for openings with an existing countertop.
- **Smoke Control:** UL leakage rated assembly "S" label is available.
- **SpectraShield®** in-house powder coating system, see page 2.

UL LABELED COUNTERTOPS

- **Plastic Laminate Countertops** have a 1 5/8" thick fire retardant core. UL 1 1/2 hour label. One piece countertops fit openings up to 10' wide, two-piece with center joint for openings up to 16' wide. **Standard** plastic laminates may be selected from Formica® or Wilsonart®. Custom designed in all shapes at right.
- **Stainless steel countertops** are 14 gauge stainless steel, #4 finish, with a refractory fiber core. UL 1 1/2 hour label. Custom designed to a maximum wall opening width of 11' 2" for face of wall units (T-Shape), and 11' 10" for between jambs (rectangular shape). Maximum length is 11' 10" wide. Maximum wall thickness is 12".



Offset H Sill
UL Classified Plastic Laminate Only



Standard H Sill
UL Classified Plastic Laminate Only



Rectangular Sill



T Sill

ROLLING COUNTER FIRE DOORS DETAILS AND CLEARANCES

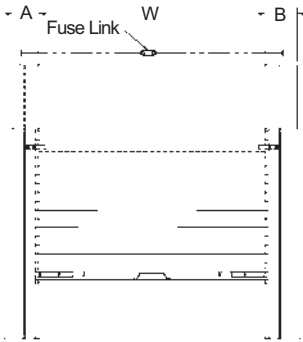
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Specifications in CSI MasterFormat™ and User Dimensioned drawings in .DWG, .PDF and i-drop® at www.cornelliron.com

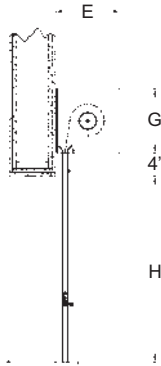
FACE OF WALL COUNTER FIRE DOORS

Details shown below are for push-up operation only. Consult with factory for details on crank and motor operator units.

ELEVATION

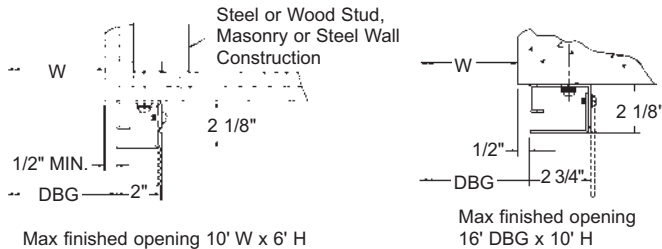


SECTION



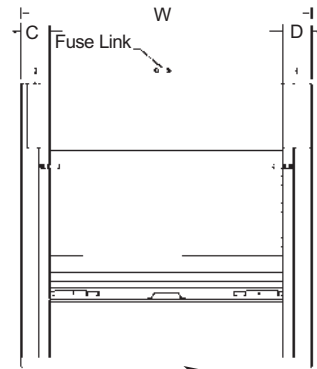
UL Labeled Plastic Laminate or Stainless Steel Sill

JAMB DETAILS

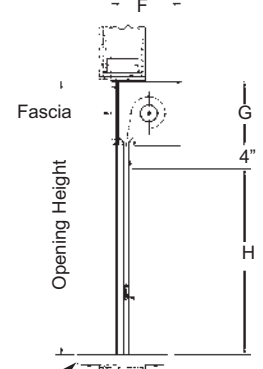


BETWEEN JAMBS MOUNTED COUNTER FIRE DOORS

ELEVATION

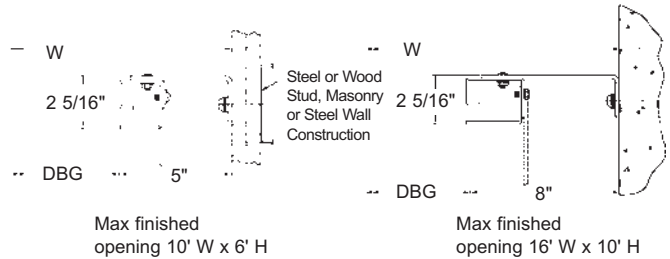


SECTION

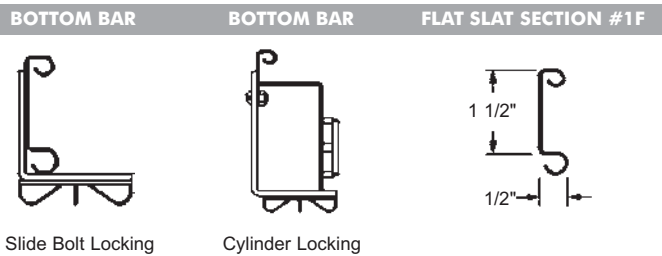


UL Labeled Plastic Laminate or Stainless Steel Sill

JAMB DETAILS



DETAILS

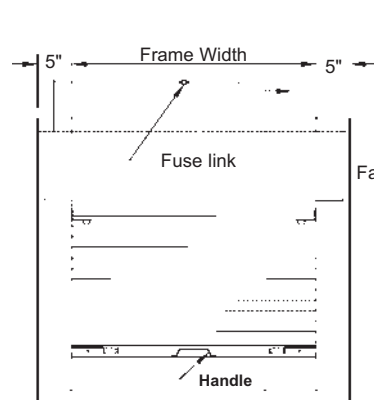


CLEARANCES for ROLLING COUNTER FIRE DOORS

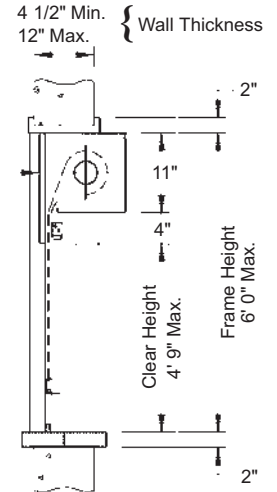
	Finished opening 10' W x 6' H	Finished opening 16' W x up to 10' H
A	4 1/2"	7 1/2"
B	5 1/2"	7 1/2"
C	5"	8"
D	5"	8"
E	11"	13 1/2"
F	11 3/4"	14 1/2"
G	11"	14"

ROLLING COUNTER FIRE DOORS with INTEGRAL FRAMES

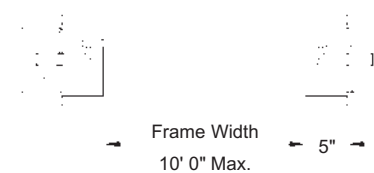
ELEVATION



SECTION



JAMB DETAILS



TRANZFORM® ACCORDION FOLDING FIRE DOORS



TRANZFORM FIRE Model ERP10



TranZform Accordion Folding Fire Doors are rated physical fire barriers that protect openings with minimal headroom from the spread of fire and smoke. TranZform Fire units provide automatic closing in the event of fire detection. For use in required means of egress openings. An alternative to banks of fire rated swing doors. Perfect for elevator lobbies and area separations. STC 41.

Ratings: UL Classified 3, 1 1/2, 1, 3/4, 1/2 hour and 20 minute labels available. UL "S" leakage rated assembly label for smoke and draft control also available. Factory Mutual approval listing.

Sizes: Virtually any width opening, 3'6" to 22' H standard construction.

Operation: Motor operation provided as standard for controlled automatic closing with emergency exit capability and ease of testing.

Stack Area: Pocket depth = 2.1" per foot of opening + 22" with 1/4 HP operator (up to 100 sq. ft.). 1/2 HP = 2.1" per foot + 30".

TranZform Fire Door Benefits:

- **Less Headroom Clearance Required** than Rolling Fire Doors.
- **For use in openings that are part of a required means of egress.**
- **ADA Compliance:** TranZform Fire units comply with the American with Disabilities Act accessibility standards.
- **Fail-safe emergency response capability.** When an alarm is activated, TranZform Fire closes automatically to prevent the spread of fire and smoke, even in the event of a power failure.
- **Quality Components:** Heavy duty roller with steel hanger pin assembly, mechanically secured hinges and drive chain configuration all ensure long life and allow for simple, cost effective service.
- **Balanced Materials Equals Minimal Hang Weight** of approximately 5.5 lbs. per ft², extended.

TranZform Options Include:

- **Single Slide or Bi-Parting Construction.** Curved track available.

COMPONENT FEATURES AND OPTIONS

PANELS AND HINGES

24 gauge, 4 1/2" wide corrugated steel panels in a double wall construction, finish coated steel. Coating process includes a flexible urethane primer followed by a high performance, medium gloss, baked-on polyester coating in standard platinum gray color. Full height metal hinges, material and finish to match door panels. Consult factory for optional SpectraShield® powder coating finish colors.

HEADER AND FLOOR SWEEPS

Continuous, fire retardant, flat black flexible seals attached to the top and bottom of the panels protect against the passage of air and smoke.

LEAD POST

24 gauge, commercial grade, coated, steel member color matched to wall panels. Lead sensing edge provided standard. Internally mounted stabilizer bar for alignment during operation and for tight door closure.

WALL MOUNTED STRIKE POST

Recessed 18 gauge coated cold rolled steel member receives the lead post. Finished to match door panels.

FLOATING JAMB

18 gauge aluminumized steel assembly that travels within the storage pocket.

TRACK

Interconnected double rail heavy duty extruded aluminum or steel shape supports and retains the roller assemblies. Multiple styles available for varying field ceiling construction. Header support construction is not by Cornell.

ROLLERS

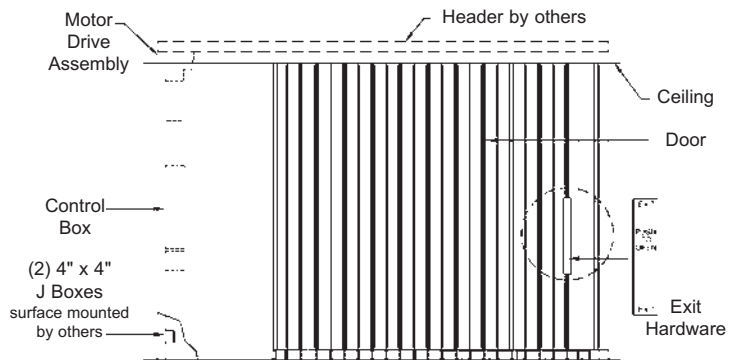
Every panel is fitted with a nylon wheel, ball bearing roller with steel hanger pin assembly for wall panel support and smooth operation. Lead post stabilizer bar assembly is suspended by a 12 wheel ball bearing trolley system.

EMERGENCY EXIT HARDWARE

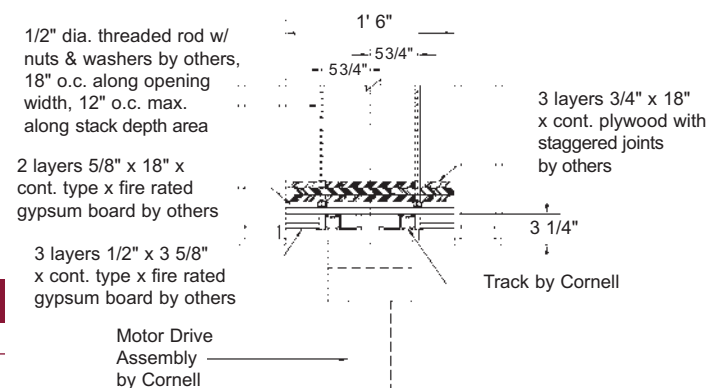
ADA compliant, clearly marked vertical exit bar provided as standard, both sides. Additional exit bars available for wide doors.

DETAILS AND CLEARANCES

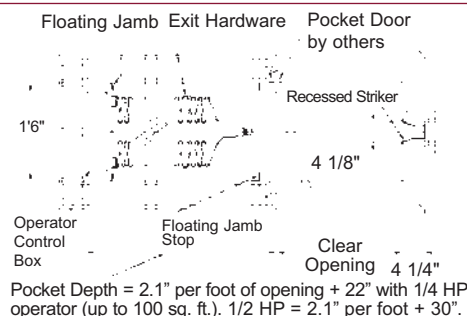
ELEVATION - TYPICAL MOTOR ASSEMBLY



HEADER DETAIL - TYPICAL POCKET MOUNTED MOTOR



PLAN VIEW - UNIT WITH STORAGE POCKET



TRANZFORM® ACCORDION FOLDING PARTITIONS

08 33 00/COR

TRANZFORM SPACE Model ESP10, TRANZFORM SOUND Model ESP20

BuyLine 0058



Tranzform Side Folding Accordion Partitions quickly, easily and cost effectively transform a large room into two or more independent spaces in religious, hospitality, health care and other multi-use facilities, maximizing the utilization of building space.

Sizes: Virtually any width opening, Sound 3'6" to 22' H standard construction, Space 3'6" to 14' H standard construction.

Operation: Manually push/pull operated standard. Motor operated Tranzform Sound units available.

Track: Heavy duty extruded aluminum or steel overhead track capable of being recessed and available in multiple styles for varying header construction.

Panels: 24 gauge corrugated steel panels are coated with a scratch resistant, permanently bonded decorative vinyl finish on public side(s).

Hinges: Full height extruded vinyl hinges color matched to wall panels.

Tranzform Partition Benefits:

- **Concealed Storage** With the track capable of being recessed into the ceiling construction and with the use of a recessed pocket opening, Tranzform units store virtually out of sight allowing full use of building space.
- **Space Saving Alignment** Curtains stack at a fraction of their width Tranzform Space stack area = 1 3/4" per foot of width + 5 1/2", Tranzform Sound stack area = 2" per foot of width + 7". (For Sound units above 14' H, minimum stack is 43" per stacking area.)
- **Balanced Materials Equals Minimal Hang Weight** Tranzform Space units have an approximate hang weight of 1.9 lbs. per ft². Tranzform Sound units are approximately 4.5 lbs. per ft², extended.
- **Smooth Glide Operation:** Nylon wheel, ball bearing rollers attach to every panel for quiet, optimum operation.
- **Modular Construction:** For simple, cost effective installation and service.

Tranzform Partitions Options Include:

- **Pocket Door:** 12 gauge steel pocket door and frame conceals stacked curtain when partition is retracted.
- **Cylinder Locking at Lead Post**
- **Header Trim and Track Types including Curved Track.**
- **Fixed or Floating Jamb, Single Slide or Bi-Parting Construction.**
- **An array of wall panel Finish Options and Colors:** including wood grain, embossed leather and embossed weave patterns.

TRANZFORM Space Model ESP10

Use in areas where convenient separation of space is desired, such as off hour pedestrian control, closets and storage areas. STC 30.

COMPONENT FEATURES AND OPTIONS

PANELS

Single wall panel construction. Vinyl finish available on one or both sides.

Specifications in CSI MasterFormat™ and User Dimensioned drawings in .DWG, .PDF and i-drop® at www.cornelliron.com

TRANZFORM Sound

Model ESP20

Offer unparalleled sound control in addition to providing privacy and security separation. Tranzform Sound units are STC 45 rated per ASTM E 90.

COMPONENT FEATURES AND OPTIONS

PANELS

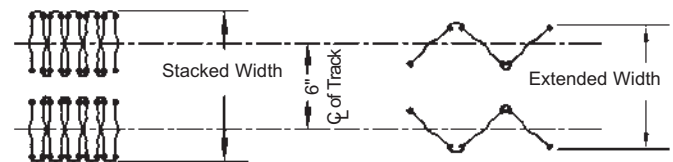
Double wall construction where both interior panel surfaces are fitted with continuous blankets of sound absorbing material attached with tear resistant fasteners for lasting retention of the sound liner.

STABILIZER BAR SUPPORT

Concealed, internally mounted diagonal support positioned from an independent track trolley to the lead post to provide reinforced vertical alignment. Provided for Sound units greater than 14'H & units over 12'H when greater than 40' W.

DETAILS AND CLEARANCES

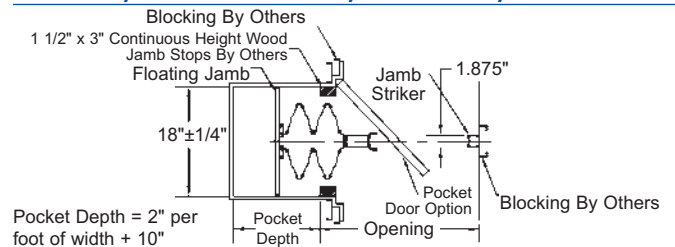
TRANZFORM SOUND, DOOR PROFILE WIDTH



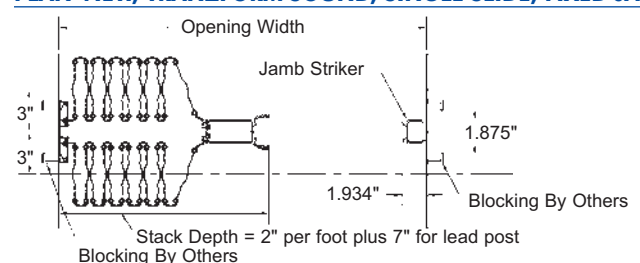
DOOR PROFILE WIDTHS:

Tranzform Sound Manual Operated Doors Below 14' 0" H:
Stacked Width: 11.56" Extended Width: 10.25" to 10.875"
Motorized Doors and Manual Operated Doors Above 14' 0" H:
Stacked Width: 13.56" Extended Width: 12.25" to 12.875"

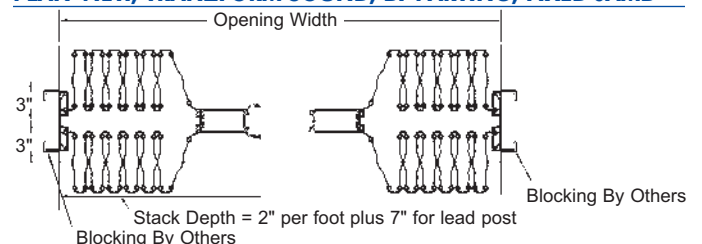
PLAN VIEW, TRANZFORM SOUND, SINGLE SLIDE, FLOATING JAMB



PLAN VIEW, TRANZFORM SOUND, SINGLE SLIDE, FIXED JAMB



PLAN VIEW, TRANZFORM SOUND, BI-PARTING, FIXED JAMB



ROLLING SERVICE DOORS

Model ESD10



Rolling Service Doors are metal slatted rolling doors used to provide security against entry and/or weather protection at exterior and interior openings in industrial, commercial, institutional and other buildings.

Sizes: 30' wide, 30' high standard construction. **Large Openings** to 50' wide, 40' high: consult factory. 24 gauge doors: openings from 5' x 5' to 12' wide x 20' high.

Operation: Motors, chain, hand-crank or push-up designs based on size, weight or frequency of operation.

Usage: Standard construction is up to 20 cycles per day. For doors expected to operate at higher cycles, consult factory.

Fast Acting Doors: For high traffic openings or where air flow or temperature control is critical, doors can be designed to operate at twice the speed of typical doors.

Wind Load: Cornell service doors can be configured to withstand the full range of specific wind load requirements, including missile impact ratings. See "Specified Wind Load" this page.

Rolling Door Benefits:

- **Design Flexibility:** Cornell doors are built to order to fit your opening size, operation and option preferences.
- **Space Saving:** Service doors roll up and store in a tight coil above the opening for fuller use of the interior space. This reduces interference with other building components.
- **Low Life Cycle Cost:** Cornell's rugged construction and quality materials assure long life and less costly maintenance.

COMPONENT FEATURES AND OPTIONS

See page 2 for Rolling Door Product construction overview.

CURTAIN



Standard door curtains are available in galvanized steel with exclusive GalvaNex™ finish in light gray (24, 22, 20 and 18 gauge. 300 series stainless steel with #4 finish (20 gauge) or aluminum with mill, clear or color anodized finish (16 B & S gauge).

Flat Slat Section #5F

CURTAIN MATERIAL AND GAUGE CHART *Standard & WeatherGard™ Service Doors*

Slat Materials	Gauges to 24' 4" W (24 ga. to 12' W)	Gauges over 24' 4" W
Flat Slat Galvanized Steel	22 std., 24 opt., 20 opt., 18 opt.	20 std., 18 opt.
ScreenGard™ Perforated Galvanized Steel	20 std.	n/a
Flat Slat Aluminum	16 B&S std.	16 B&S std.
Flat Slat Stainless Steel	20 std.	20 std.

BOTTOM BAR

Steel, stainless or aluminum angle material with astragal seal, standard. Optional tubular extruded aluminum bottom bar available with concealed cylinder or thumbturn lock assembly.

Locking: Optional padlockable slide bolts or keyed cylinder locks provide locking from coil or fascia side of curtain.



Sensing Edge: Required on bottom bar of motor operated units with automatic operation. See page 22 for details.

GUIDES

Structural angles standard in steel, aluminum or stainless steel.

Extruded aluminum guide with pile lining optional for interior mounted doors. Windlock retaining bars are provided as required to meet design wind load.

HOOD

Matching 24 gauge galvanized steel with exclusive GalvaNex™ finish in light gray, 24 gauge 300 series stainless steel with a #4 finish or aluminum with mill, clear or color anodized finish standard. Additional finishes, mechanism and motor covers available.



Service Door Options Include:

WEATHERGARD™ DOORS

Include weather seals at the guides and bottom bar with an internal hood baffle at coil housing. Lintel mounted nylon brush seal also available.

SPECTRASHIELD® POWDER COATING



Full spectrum of durable colors available with Cornell's in-house powder coating system. See pg 2.

SPECIFIED WIND LOAD

Cornell can design doors to meet your specific PSF wind load requirements. Cornell higher specified wind load designs have been performance validated through third party testing to one or more of the following performance criteria:

- ANSI/DASMA-108
- ASTM E 330
- Miami-Dade County test protocols TAS 201, TAS 202 and TAS 203
- Florida Building Code (FBC)
- Texas Department of Insurance (TDI)
- Signed and Sealed Calculations

VISION WINDOWS

Provide visibility with one or more panes incorporated in the curtain. Panes are 10" x 1 5/8" and spaced 2" apart. Minimum spacing in from each guide is 12".



Color 20-4115

SLOPING OR IRREGULAR SILLS

Cornell special bottom bar designs can address these conditions.

REMOVABLE MULLIONS

For extra wide openings that require full access on a limited basis, Cornell can provide multiple doors with removable guide sections.

ROLLING SERVICE DOORS Model ESD10

08 33 00/COR
BuyLine 0058

ADDITIONAL SERVICE DOOR OFFERINGS



GRAPHICS DOOR

Add durable, full-color images to your curtains and hoods. Great for school logos and turning unused door space into profitable sponsorship opportunities in stadiums, amusement parks and retail stores.



SCRENGARD™ PERFORATED DOOR SLAT

Achieve visibility and ventilation while maintaining security and insect control. Perforated 20 gauge steel slat provides approximately 22% open space.

MATADOOR® BREAKAWAY CURTAIN SECTION

Avoids most damage from accidents involving forklifts or other vehicles. Rugged, 25" high reinforced fabric panel in safety orange and a specially joined structural steel bottom bar allow the assembly to release from its guides upon impact.



Matadoor demo available on video. Please call for a free copy or view now at www.cornelliron.com

Specifications in CSI MasterFormat™ and User Dimensioned drawings in .DWG, .PDF and i-drop® at www.cornelliron.com

SPECIAL DESIGN APPLICATIONS

Cornell's engineered solutions solve special design needs, including:

COMBINATION DOORS

Provide year round weather control and comfort by combining the benefits of two different curtains on the same opening. Depending on your combination, dual curtains can deliver two or more of the following attributes: security, ventilation, visibility, rodent and insect control, resistance to heat, light or sound transmission.

PASS DOORS

Allow easy passage without needing to open the full door curtain by combining a 3' x 7' hollow metal man door and hinged frame assembly within a rolling door curtain. Entire man door and frame can swing out of opening to provide full opening width access.



CRANEWAYS

"T" shaped door curtain utilizes a floating bottom bar design to accommodate overhead cranes and their structural rails.



MACHINE GUARD CLOSURES

These units are designed to close off varying machine openings that possess a potential safety hazard if components are left uncovered. Mounting an operable curtain unit to the machine framing solves many safety problems while providing easy access to machine components. An option of solid, screened or open designed curtains are available to best suit the application. Units can be interlocked that the machine can only run when the opening is secured.



HORIZONTAL CLOSURES

A convenient way to close off floor and other horizontal openings of all kinds. Closures are normally motor operated and coil for compact storage at either or both ends of an opening. Common applications include escalator covers, atrium opening closures, mechanic pit covers and closures for industrial tanks.



INSULATED DOORS

Model ESD20



SAVE ENERGY & MONEY WITH THERMISER® INSULATED DOORS

Thermiser® Insulated Rolling Service Doors are recommended for exterior openings where maintaining different temperatures on each side of the door is desirable.

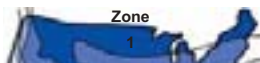
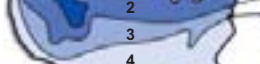


Sizes: 30' wide, 30' high standard construction. **Large Openings** to 38' wide, 40' high consult factory.

Operation: Motors, chain, or hand-crank designs based on size, weight or frequency of operation.

Usage: Standard construction is up to 20 cycles per day. For doors expected to operate at higher cycles, consult factory.

Thermiser Benefits:

- **Design Flexibility:** Cornell doors are built to order to fit your opening size, operation and option preferences.
- **Insulation:** Keeps buildings warm in winter, cool in summer. Closed cell urethane foam insulation provides the lowest thermal conductivity of any material commercially available.
- **Energy Savings:** upgrading to a Thermiser from a WeatherGard pays for itself in 17 to 23 months, depending on climatic zone.

Zone	Zone	Winter Savings	Summer Savings	Total Savings	Payback Years
	1	\$545	\$149	\$694	1.4
	2	\$409	\$223	\$632	1.5
	3	\$273	\$297	\$570	1.7
	4	\$136	\$372	\$508	1.9

COMPONENT FEATURES AND OPTIONS

Reference page 2 for Rolling Door Product construction overview.

PERIMETER WEATHERING

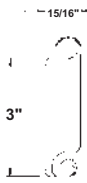


Replaceable vinyl weatherstrip at guide.

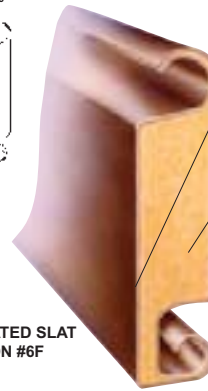
Thermiser weatherproofing at bottom bar, guides, and lintel/door header cuts air infiltration rate by 90%. Urethane foam-filled bottom bar and compressible astragal provide seal at sill. Replaceable vinyl weather-stripping at guides forms weather seal along curtain exterior. Lintel mounted nylon brush impedes air flow around coil.

CURTAIN

Door curtain slats are filled with 7/8" thick pressure-foamed-in-place urethane insulation. U factor is 0.125; R value is 8.0; both calculated using the ASHRAE Handbook of Fundamentals.



INSULATED SLAT SECTION #6F



Exterior skin available in:
Galvanized steel, with exclusive GalvaNex™ finish in light gray, 24, 22, 20 or 18 gauge. Stainless steel, #4 finish, 22 gauge. Aluminum, mill, clear or color anodized, 18 B & S gauge.

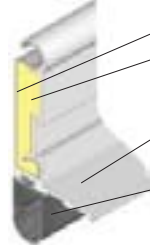
Insulation:
Minimum urethane insulation, pressure-foamed-in-place to 7/8" thickness, fills all voids and bonds to metal skins.

Interior skin available in:
Galvanized steel, with exclusive GalvaNex™ finish in light gray, 24 gauge standard. 22 gauge available with 22 or 24 gauge exterior skin. Stainless steel, #4 finish, 22 gauge. Aluminum, mill, clear or color anodized, 18 B & S gauge. Interior skin not available in 20 or 18 gauge galvanized.

Nylon endlocks eliminate metal-to-metal contact between curtain edge and guides and provide smooth, quiet operation.

Curtain options include **Windloading** and **Vision Windows** (see page 12). Thermiser Vision Windows are available with one way or two way glass and must be spaced at least 6" apart.

BOTTOM BAR



Exterior Skin Slat
Insulation extends to the full depth of bottom bar
Structurally reinforced extruded aluminum bottom bar
Compressible astragal runs full width of door for complete seal at floor

Bottom bar interlocks with exterior curtain slat and extends insulation to full depth of door. Astragal is standard.

Locking: Optional slide bolt or cylinder locking.

Sensing Edge: Vinyl coated sensing/weather edge required on bottom bar of motor operated units with automatic operation. See page 22.

ADDITIONAL COMPONENT INFORMATION

For descriptive data on **Guides** and **Hood** see page 12.

Thermiser Options Include:

SPECIFIED WIND LOAD

Doors designed to meet specific PSF wind load requirements. See page 12.

SPECTRASHIELD® POWDER COATING



Full spectrum of durable colors available with Cornell's in-house powder coating system.

Different finishes or colors may be chosen for Thermiser exterior and interior door skins. For more information on finishes, see page 2.

SPECIAL DESIGN APPLICATIONS

SOUND BARRIER DOORS

Thermiser doors muffle unwanted sound in hospitals, schools, universities, and other institutional, commercial, and industrial buildings. The Thermiser's urethane foam-filled slats and perimeter seals tested at a 26 STC rating compared to a STC 19 for non-insulated doors.



ROLLING SERVICE DOORS AND INSULATED DOORS DETAILS AND CLEARANCES

08 33 00/COR
BuyLine 0058

Specifications in CSI MasterFormat™ and User Dimensioned drawings in .DWG, .PDF and i-drop® at www.cornelliron.com

CLEARANCES

H (clear opening height)	C	
	Flat Slat #5F	Insulated Slat #6F
Up to 9' 0" inclusive	14" (15" Push-Up)	17"
Over 9' 0" to 10' 0"	15"	18"
Over 10' 0" to 11' 0"	15"	20"
Over 11' 0" to 12' 0"	15"	20"
Over 12' 0" to 13' 0"	16"	20"
Over 13' 0" to 14' 0"	16"	22"

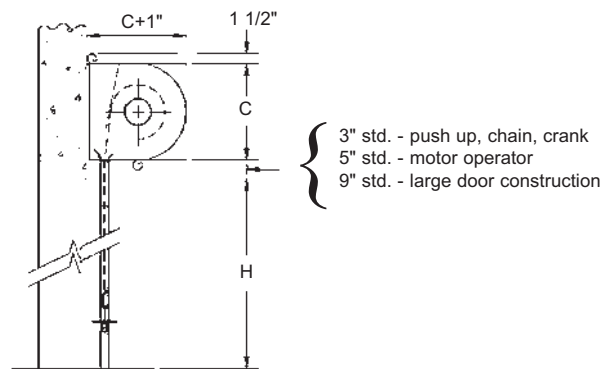
CLEARANCES

H (clear opening height)	C	
	Flat Slat #5F	Insulated Slat #6F
Over 14' 0" to 15' 0"	16"	22"
Over 15' 0" to 16' 0"	17"	22"
Over 16' 0" to 17' 0"	17"	22"
Over 17' 0" to 18' 0"	18"	24"
Over 18' 0" to 19' 0"	18"	24"
Over 19' 0" to 20' 0"	18"	24"

For doors wider than 21' 4", higher than 20' 0", heavier than standard gauge or height greater than 1.5 times width, check with factory.

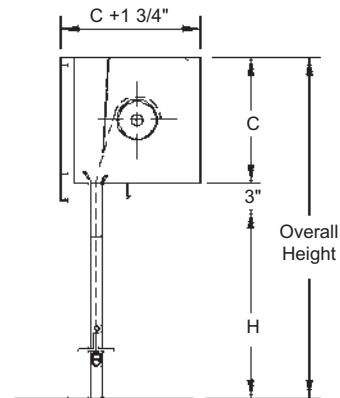
FACE MOUNTED DOORS

SECTION

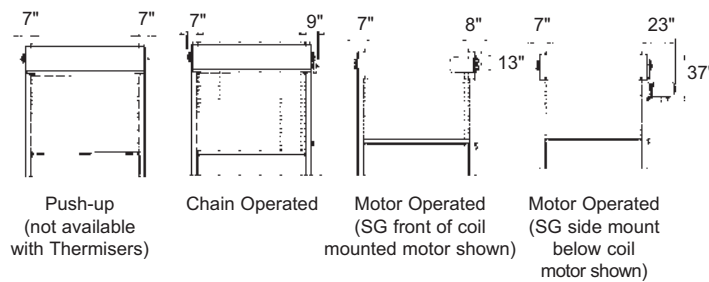


BETWEEN JAMBS MOUNTED

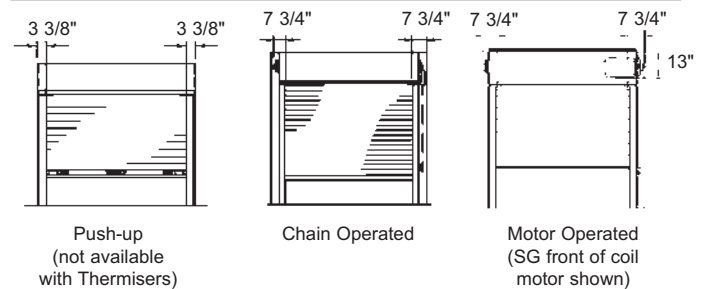
SECTION



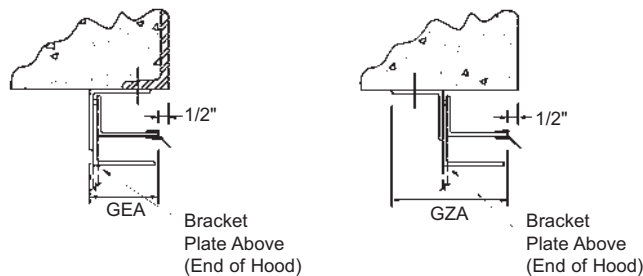
OPERATOR TYPES



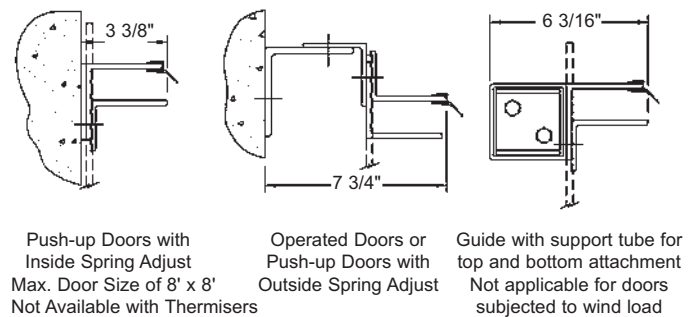
OPERATOR TYPES



JAMB DETAILS



JAMB DETAILS



DBG (distance between guides)	GEA	GZA
Up to 12' 5" (5F only)	2 3/8"	5 11/16"
Up to 14' 4"	3 1/2"	6 1/4"
Over 14' 4" to 21' 4"	3 3/4"	6 1/2"

Consult factory when DBG exceeds 21' 4"

Add 1/2" to dimensions if width exceeds 14' 4"

ROLLING COUNTER DOORS

Model ESC10

Rolling Counter Doors secure openings above counters and other similar finished openings on interior and exterior walls. Can fully close to the floor when compact door components are desired. Also called shutters.

Sizes: Standard construction for openings up to 21' wide or 10' high.

Operation: Motor, hand crank, or push-up designs available based on size and weight. Lifting the counter door requires no more than 25 lbs. of force.



WHEN COMPACT DOOR COMPONENTS ARE DESIRED, COUNTER DOORS CLOSE TO THE FLOOR

COMPONENT FEATURES AND OPTIONS

Reference page 2 for Rolling Door Product construction overview.

CURTAIN

Interlocking 1 1/2" slats in rolled #18 B & S gauge or extruded .055" aluminum with clear or color anodized finish, 22 gauge galvanized steel with exclusive GalvaNex™ finish in light gray or 22 gauge stainless steel with #4 finish.

BOTTOM BAR

On aluminum or galvanized steel curtains, bottom bars are clear anodized extruded aluminum tubular sections with continuous lift handles. On stainless steel curtains, bottom bar is a stainless steel angle. Vinyl astragal standard on counter door bottom bars.

Locking: Standard coil side lockable slide bolts. Optional master-keyable cylinder locks operable from either or both sides of the curtain.

GUIDES

Two-piece extruded aluminum guide sections with clear anodized finish and polypropylene pile runners snap together, concealing fasteners. Or choose formed stainless steel sections.



HOOD

Matching #18 B & S gauge clear anodized aluminum, 24 gauge galvanized steel with exclusive GalvaNex™ finish in light gray or 24 gauge #4 finish stainless steel. Additional finishes, mechanisms and motor covers available.

Counter Door Options Include:

FINISHES



Full spectrum of durable colors available with Cornell's in-house powder coating system. See pg 2.

COUNTERTOPS

Available in stainless steel or standard plastic laminates in a range of solid colors and other looks.

ADDITIONAL COUNTER DOOR OFFERINGS

GRAPHICS DOOR

Add durable, full-color images to your curtains and hoods. Great for school logos and turning unused door space into profitable sponsorship opportunities in stadiums, amusement parks and retail stores. For photo, see page 17 and also page 13.



SCREENGARD™ Perforated Counter Door Slat

Achieve visibility and ventilation while maintaining security and insect control. Perforated 22 gauge galvanized steel slat provides approximately 22% open space.



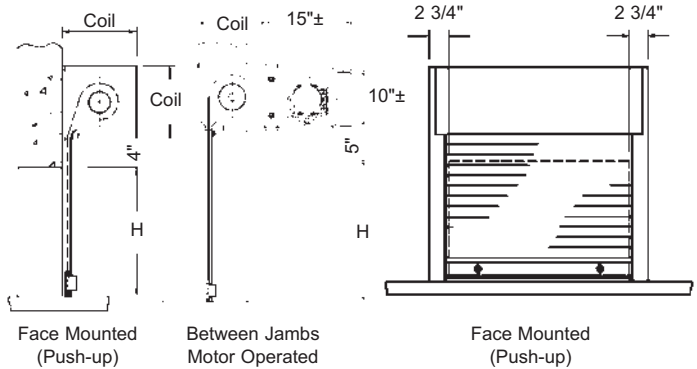
DETAILS AND CLEARANCES

CLEARANCES

Coil sizes range from 8" to 14" depending on unit size, material and operation. Please consult factory whenever coil size is critical.

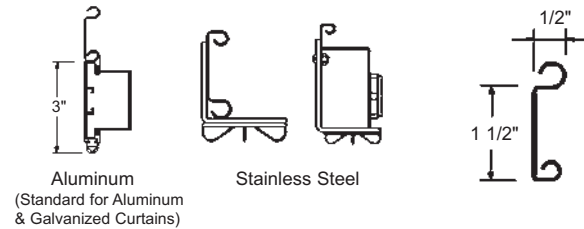
SECTION

ELEVATION



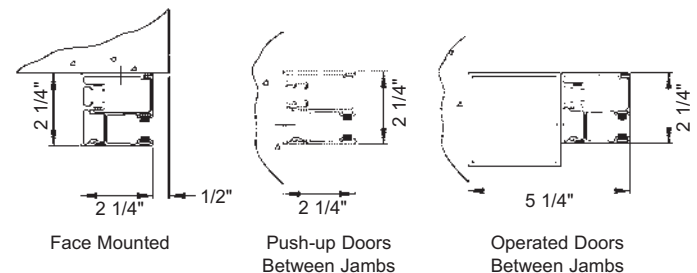
BOTTOM BAR DETAILS

FLAT SLAT SECTION #1F

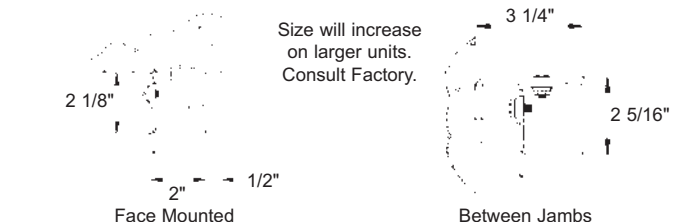


JAMB DETAILS

ALUMINUM (STANDARD FOR ALL CURTAIN MATERIALS)



STAINLESS STEEL (OPTIONAL FOR ALL CURTAIN MATERIALS)



ROLLING COUNTER DOORS with INTEGRAL FRAMES

08 33 00/COR

BuyLine 0058

Model ESC20



Counter Doors with Integral Frames are assembled and welded at the factory. They frame and secure openings above counters and other similar finished openings on interior walls.

Sizes: Openings up to 11' 7" wide by 4' 10" high in walls 4" to 13" thick.

Operation: Push-up or hand crank.

Counter Door with Integral Frame Benefits:

- **Aesthetics:** Seamless, custom built-in look.
- **Easy Installation:** Units are fitted to pass window wall openings without field assembly, so they become an important time-saver for contractors and building owners.
- **Mounting Alternatives:** Between jambs and face-of-wall units may wrap around wall if installation is done while wall is under construction. Slip-in units may be set into finished walls.

COMPONENT FEATURES AND OPTIONS

Reference page 2 for Rolling Door Product construction overview.

FRAMES

Integral welded head and jambs are formed of 16 gauge 300 series #4 finish stainless steel shapes or 16 gauge powder coated steel shapes. Guide groove is incorporated into jamb design.

COUNTERTOPS

Rolling Counter Doors with frames are available with or without countertops. Standard countertops are 300 series stainless steel with #4 finish. Plastic laminate countertops are also available.

BRACKETS (END PLATES)

Fabricated from 300 series #4 finish stainless steel or reinforced powder coated steel plates mounted to the frame assembly.

HOOD

16 gauge 300 series stainless steel with a #4 finish or 16 gauge powder coated steel.

FINISHES

On the curtain, aluminum slats are clear or color anodized; galvanized steel with exclusive GalvaNex™ finish in light gray; stainless steel is 300 series in #4 finish. Aluminum bottom bars are clear or color anodized; stainless steel is 300 series in #4 finish. Or, non-stainless components are available in any of Cornell's 200 SpectraShield® powder coating finish colors.



Specifications in CSI MasterFormat™ and User Dimensioned drawings in .DWG, .PDF and i-drop® at www.cornelliron.com

ADDITIONAL COUNTER DOOR OFFERINGS

GRAPHICS DOOR

Add durable, full-color images to your curtains and hoods. Great for school logos and turning unused door space into profitable sponsorship opportunities in stadiums, amusement parks and retail stores. Also see page 13.

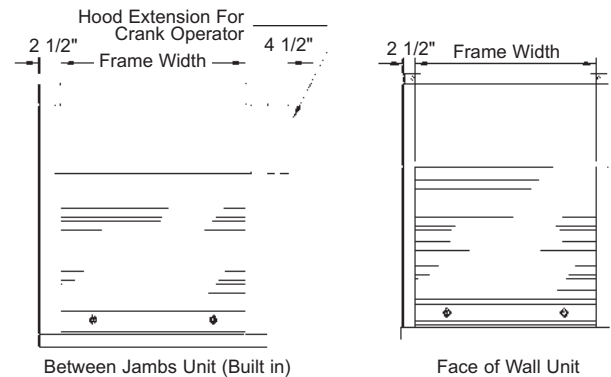


SCRENGARD™ Perforated Counter Door Slat

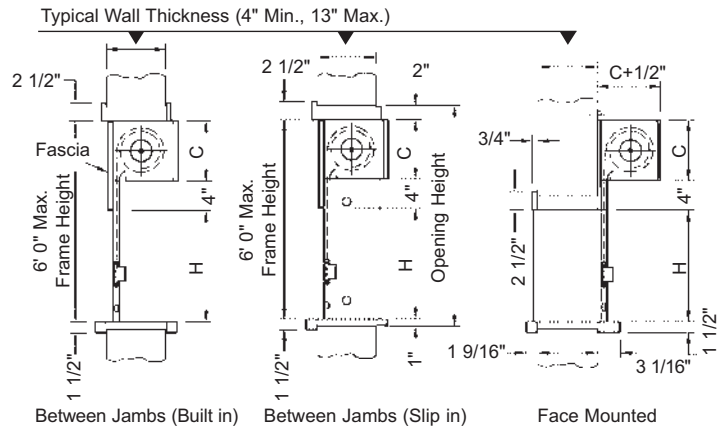
22 gauge galvanized steel perforated counter door curtain slats provide full security, ventilation and visual access. See photo page 16.

DETAILS AND CLEARANCES

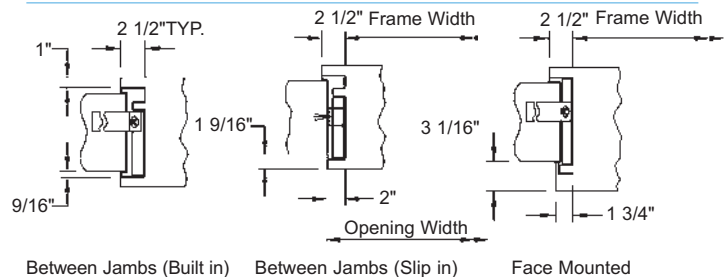
ELEVATIONS



SECTIONS



JAMB DETAILS



CLEARANCES

H (clear opening height)	C
Up to 2' 6" inclusive.	8"
Over 2' 6" to 4' 10"	10"

ROLLING GRILLES

OPEN CURTAIN Model ESG10, ESG12, GLAZED CURTAIN Model ESG11

CORNELL



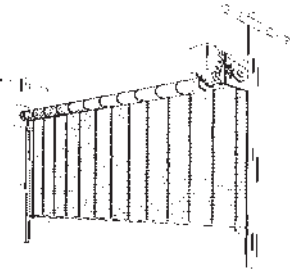
Rolling Grilles provide access control and off hour security on interior and exterior openings. Permit visual access of separated spaces.

Sizes: Openings up to 40' wide x 20' high standard construction. Contact factory for larger sizes.

Usage: Standard construction is up to 20 cycles per day. For grilles expected to operate at higher cycles, consult factory or see Brick Pattern Grilles, next column, or SentryGate®4 grilles, page 20.

Rolling Grille Benefits:

- **Security:** Grilles prevent unauthorized access and discourage forced entry at building exterior openings, storefronts or areas within buildings, such as pharmacies or parts counters. Used behind plate glass storefronts, they are a deterrent to smash-and-grab crime.
- **Aesthetics:** A variety of metal finishes from polished stainless to deep bronze are available to contribute to visual aesthetics.
- **Design Flexibility:** Cornell grilles are built to order to fit your opening size, operation and option preferences.
- **Early Installation Option:** Early/easy self-supporting installation system allows grilles to be mounted before walls are built and before there is a finished opening. Structural tubular members, factory machined and fitted for grille guides and brackets, attach directly to the slab below and joists above.
- **Space-saving:** Curtain stores in a compact coil at the head of an opening for fuller use of the interior space.
- **Low life cycle cost:** Cornell's rugged construction and quality materials assure long life and less costly maintenance.



OPERATION

Motor, hand crank, hand chain or push-up designs are available. Hand cranks are normally operated from store side. Grille operation requires no more than 25 lbs. of force.

Push-up Package for Wider Grilles: EZ Lift package extends the push-up size range for all rolling grille designs by approximately 33%. For building owners, the EZ Lift system means big savings in initial costs and long term maintenance. EZ Lift package allows push-up operation on VisionAire® aluminum grilles up to 22' wide by 10' high. Consult factory for applicable sizes for stainless, galvanized steel and Brick Pattern or VistaGard™ series. Pole with hook supplied with each push-up grille.

Motor Mounted Interlock (MMI): An overload device that prevents jamming if motor operation is attempted while the grille is locked. Interlocks are built into the motor so that field-wired, guide-mounted interlocks are unnecessary. MMI's are available on MG motor operators, which may also be retrofitted to existing grille installations.

Manual Release System: For use with motor operated grilles. A wall-mounted pull handle disengages the motor drive, which allows the grille to automatically open part way for egress. Releasing the pull handle resets the grille to normal motor operation.

VISIONAIRE® OPEN CURTAIN GRILLES Model ESG10

COMPONENT FEATURES AND OPTIONS

CURTAIN

Open curtain, which allows air circulation, is formed with a series of horizontal rods 5/16" in diameter. Vertical O.C. separation between rods may be at 2" or 1 1/2". Rods are available in aluminum -mill, clear or color anodized finish of alloy 5056 H32, solid stainless steel -polished 300 series, or solid galvanized steel.



Vertical chains are formed of eyeletted aluminum or stainless steel on 9", 6", or 3" centers. End chains are held in place by double E-rings on horizontal rods on both sides of chain to retain curtain ends in guides.

BOTTOM BAR

A 2" x 3 1/2" heavy-duty mill finish, clear or color anodized aluminum tubular section. For widths greater than 27' 4", the bottom bar is reinforced with a 3" x 2" x 3/16" aluminum angle(s).

Locking. Cylinder locks in bottom bar lock at both jambs and may be operable from either or both sides of the grille. Either standard or master-keyed cylinders may be accommodated. Interior thumbturn cylinders required with manual release system.

GUIDES

Heavy duty extruded aluminum sections with mill, clear or color anodized finish. Equipped with polypropylene pile runners. Guides are supported with structural support tubes or wall mounting angles.

HOOD

Optional-and usually omitted when curtain stores recessed-hoods are available in 24 gauge galvanized steel with exclusive GalvaNex™ finish in light gray, 24 gauge 300 series stainless steel with a #4 finish, or aluminum in mill, clear or color anodized finish. Additional finishes, mechanism and motor covers available.

VISIONAIRE® OPEN CURTAIN GRILLES BRICK PATTERN Model ESG12

Alternative open air design in Brick Pattern configuration that provides superior durability in high cycle applications or wherever a brick pattern configuration is desired.

CURTAIN

Horizontal 5/16" diameter solid aluminum rods at 2" centers. Rods supported by heavy duty aluminum links, held in staggered position by tube spacers throughout the entire curtain assembly. Available in aluminum -mill, clear or color anodized finish of alloy 5056 H32.



For **Bottom Bar, guides and hood** see VisionAire Model ESG10 components.

Brick Pattern Grille Options Include:

- **High Cycle Construction:** High cycle shaft and springs available. Consult factory with cycle requirements.

ROLLING GRILLES

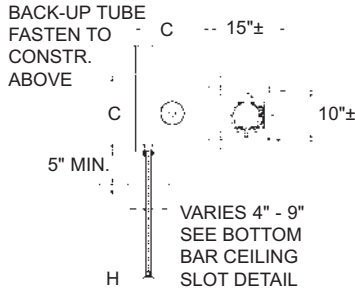
OPEN CURTAIN Model ESG10, ESG12, GLAZED CURTAIN Model ESG11

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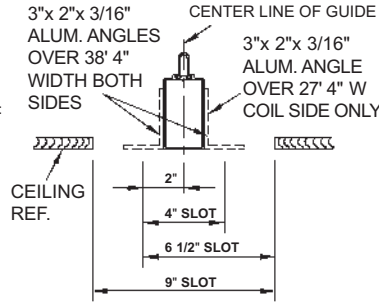
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DETAILS AND CLEARANCES

VERTICAL SECTION

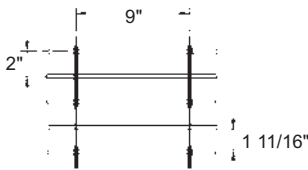


BOTTOM BAR CEILING SLOT

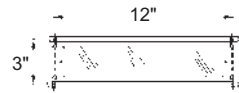


4" Slot - Width thru 27' 4" (5 1/2" Slot with thumb turn locks).
 6 1/2" Slot - Width over 27' 4" thru 38' 4".
 9" Slot - Width over 38' 4".

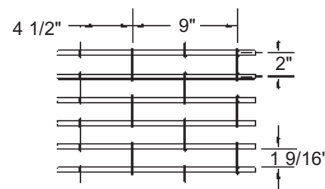
VISIONAIRE V-9



VISTAGARD VG



BRICK PATTERN



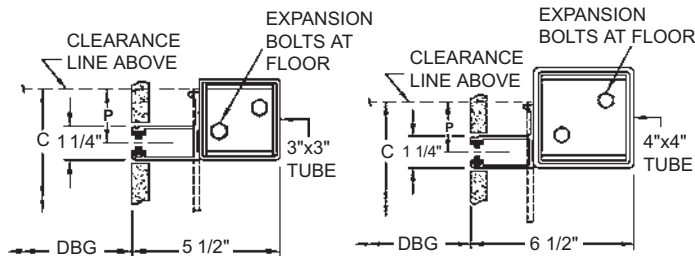
CLEARANCES

H	C	P
To 3' 1"	13"	2 1/2"
3' 2" to 4' 11"	14"	2 1/2"
5' 0" to 6' 6"	15"	2 1/2"
6' 7" to 8' 7"	16"	2 1/2"
8' 8" to 10' 10"	17"	2 1/2"
10' 11" to 13' 2"	18"	2 1/2"
13' 3" to 15' 9"	19"	3 1/4"
15' 10" to 18' 5"	20"	3 1/4"
18' 6" to 20' 0"	20"	3 3/4"

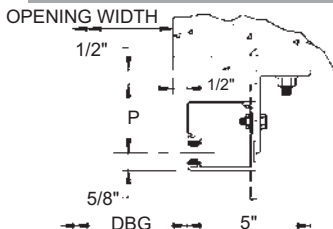
For EZ Lift grilles and all grilles wider than 30' 4" or in excess of 340 sq. ft., consult factory. No hood furnished if grille coils above ceiling. Provide ceiling access full width of grille.

JAMB DETAILS

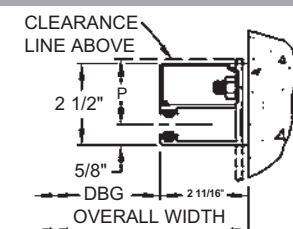
STANDARD TUBE MOUNTED



FACE OF WALL MOUNTED



BETWEEN JAMBS PUSH-UP



Specifications in CSI MasterFormat™ and User Dimensioned drawings in .DWG, .PDF and i-drop® at www.cornelliron.com

VISTAGARD™ GLAZED CURTAIN GRILLES Model ESG11



Glazed curtain provides security against theft of small articles while still offering full visual access to interior spaces. The curtain creates a barrier against refuse, odors and smoke.

COMPONENT FEATURES AND OPTIONS

CURTAIN

Horizontal rods, clear polycarbonate panel modules, and vertical nylon links. Rods are 5/16" diameter aluminum of alloy 5056 H32 set on 3" centers. Panel modules are 12" x 3", 1/8" thick, clear, flame-retardant polycarbonate material, G. E. Lexan® or equal. Panels are secured to molded nylon links.



Clear panels set within molded nylon links create see-through security barrier.

ADDITIONAL CONSTRUCTION INFORMATION

For descriptive data on Operation, Bottom Bar, Locking, Guides and Hood, please see page 18.

ROLLING GRILLES

SENTRYGATE®3 Model ESG20, SENTRYGATE®4 Model ESG21

SentryGate®, a patented* Cornell product, is an alternative to traditional rolling grilles or counter grilles featuring a unique curtain comprised of injection molded components and continuous metal rods.

Available in two configurations:

- **SentryGate3:** Model ESG20 - for countertops such as pharmacies and parts counters and smaller openings up to 14' W by 10' H.
- **SentryGate4:** Model ESG21 - for larger openings up to 23' 4" W x 14' H and where high cycling is required.



Operation: Motor, hand crank, or push-up designs are available. Operation requires no more than 25 lbs. of force.

SentryGate Benefits:

- **Quick Security Fix:** A lightweight and compact design allows the unit to bolt directly to existing wall construction, frames or mullions. Units can be easily incorporated into existing construction without the penalty of remodel downtime and cost.
- **Rugged Curtain Construction:** SentryGate curtains will maintain structural integrity and a clean look, even with high cycle use.

SentryGate Options Include:

- **High Cycle Construction:** High cycle shaft and springs available. Consult factory with cycle requirements.

COMPONENT FEATURES AND OPTIONS

Reference page 2 for Rolling Door Product construction overview.

CURTAIN

Combines high strength injection molded components with continuous metal rods spaced every two inches. Its attractive brick pattern design is 65% open for high visibility and ventilation. The smooth curtain components are safe for employees and customers, and are available in black or white matte finish.



BOTTOM BAR

The SentryGate3 bottom bar is an extruded aluminum tubular section with a continuous lift handle, clear or color anodized, equipped with a vinyl astragal/weather seal to cushion the contact point on the counter. Locking is by coil-side slide bolts or master-keyable cylinder lock operable from either or both sides of the gate. The SentryGate4 bottom bar is a 2" x 3 1/2" heavy-duty aluminum tubular section in mill, clear or color anodized finish that houses optional locking mechanisms.

GUIDES

SentryGate3 guides are box style, heavy-duty aluminum sections, clear or color anodized, with a polypropylene pile runner and a curtain retaining bar. Guides are attached to jambs with 1/4" bolts at maximum 12" intervals. 2-piece aluminum guide sections snap together, concealing fasteners. Bracket plates slip-in and tighten in place. SentryGate4 guides are heavy-duty extruded aluminum sections, mill finish, clear or color anodized, equipped with polypropylene pile runners that are supported with structural support tubes or wall mounting angles.

HOOD

Optional-and usually omitted when curtain stores recessed-hoods are available in 24 gauge galvanized steel with exclusive GalvaNex™ finish in light gray, 24 gauge 300 series stainless steel with a #4 finish, or aluminum in mill, clear or color anodized finish. Additional finishes, mechanism and motor covers available.

*SentryGate® is a patented product of Cornell Iron Works, US Patent No. 6,189,593

DETAILS AND CLEARANCES

CLEARANCES

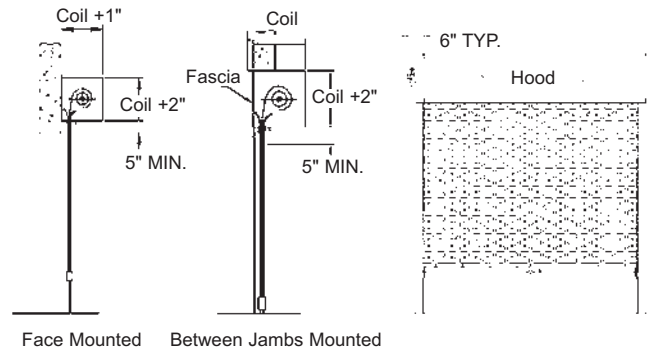
SentryGates may require less head room clearance than traditional grilles. Coil size ranges from 7" to 15" depending on unit size, operation and cycle requirements. Please consult factory whenever coil size is critical.

SentryGate demo available on video. Please call for a free copy or view now at www.cornelliron.com



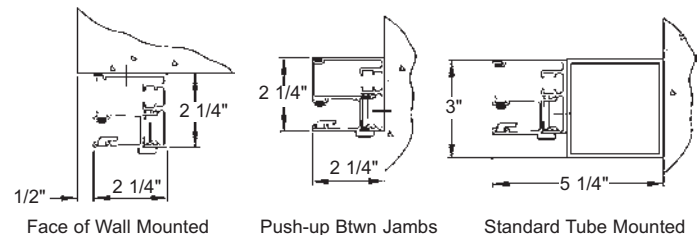
SECTION

ELEVATION

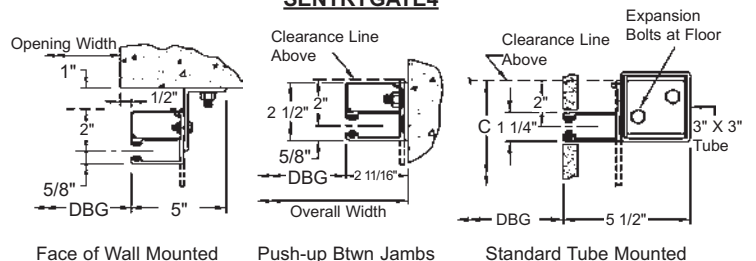


JAMB DETAILS

SENTRYGATE3



SENTRYGATE4



*SentryGate® is a patented product of Cornell Iron Works, US Patent No. 6,189,593

SIDE FOLDING GRILLES & CLOSURES

08 33 00/COR

BuyLine 0058

OPEN CURTAIN **Model ESG30**, GLAZED CURTAIN **Model ESG31**

Side Folding Grilles and Closures provide security and access control in openings to 12' high with low headroom conditions.

Track: The overhead track is an extruded heavy-duty aluminum section 1 1/2" wide, 1 7/8" high. Continuous recesses are extruded into profile to accept splice tongues and pins wherever track splices are necessary. Track required for curved openings has a standard 10" radius: 90°, 120°, 135°, and 150° curves are standard. Custom radii and angles are offered. Grilles can incorporate multiple connecting sections. No floor track required.

Operation: Manual push / pull operation.

Side Folding Grille and Closure Benefits:

- **Less Headroom Clearance** than rolling grilles.
- **Space-saving Alignment:** Curtains stack compactly (see chart) at one end of an opening or bi-part and stack at both ends, typically require stack space equal to about 25% of opening width.

Side Folding Grille and Closure Options Include:

- **Pocket Door:** Finished door and frame unit conceals stacked curtain when grille is retracted. Formed of bent steel and powder coated.
- **Locking:** Concealed cylinder-operated hook-bolt locks into full height strike channel and is operable from both sides of curtain. Cylinder-operated drop-bolt locks on intermediate members fit floor strike plates.

VISIONGLIDE™ SIDE FOLDING GRILLES

Model ESG30

COMPONENT FEATURES AND OPTIONS

CURTAIN

Open curtain, which allows free air circulation, is formed with a series of vertical 5/16" diameter aluminum tubes on 2" centers. Horizontal chains are formed of eyeletted aluminum links on 12", 9", 6" or 3" centers.



A series of 6" high continuous interlocking extruded aluminum hinged panels forms the top and bottom of the curtain. The curtain is hung from an overhead track. Continuous vertical hangers are located at every fourth vertical tube. Hangers are equipped with trolley assemblies with two 1 1/8" diameter nylon tired ball bearing rollers.

FINISHES

Aluminum rods, tube spacers and link chains may be mill finish, clear or color anodized. Track, end members, intermediate members, and hinged panels may be clear or color anodized.

VISTAGLIDE™ SIDE FOLDING CLOSURES

Model ESG31

COMPONENT FEATURES AND OPTIONS

CURTAIN

Fire-retardant glazed panels

Curtain with glazed or solid aluminum panels creates a security barrier and blocks refuse, odors and smoke. Continuous vertical interlocking aluminum pivoting sections are set on 5 1/2" centers. Interlocking sections are fitted with either glazing panels in clear, flame retardant 1/8" thick polycarbonate material, G.E. Lexan® or equal;



Specifications in CSI MasterFormat™ and User Dimensioned drawings in .DWG, .PDF and i-drop® at www.cornelliron.com

or solid aluminum panels to deny visual access. Panels run full height between 5 1/2" high extruded aluminum closure panels at top and bottom.



Solid aluminum panels

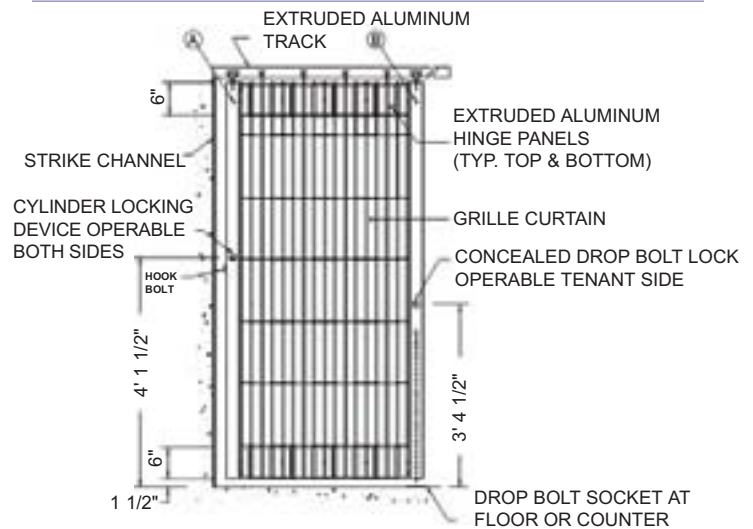
Hanger tubes at every other closure panel are fitted with trolley assemblies and nylon tired ball bearing rollers that support the curtain.

FINISHES

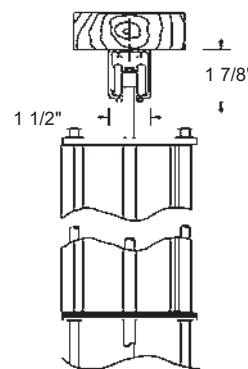
Aluminum parts may be clear or color anodized.

DETAILS AND CLEARANCES

CURTAIN DETAIL (VISIONGLIDE)



SECTION THROUGH TRACK, HANGER & ROLLER ASSEMBLY



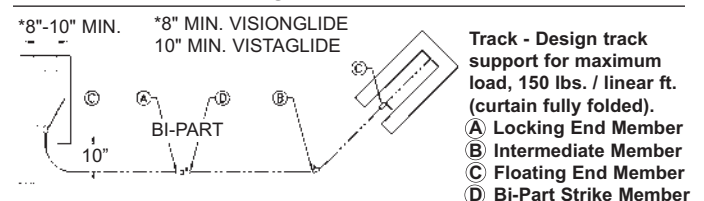
SAMPLE CURTAIN WIDTH	APPROXIMATE STACK SPACE REQUIRED	
	VisionGlide	VistaGlide
8' 0"	2' 0"	1' 6"
10' 0"	2' 7"	2' 1"
12' 0"	3' 0"	2' 3"
14' 0"	3' 4"	2' 6"
16' 0"	3' 8"	2' 8"
18' 0"	4' 0"	2' 10"
20' 0"	4' 5"	3' 10"
25' 0"	6' 0"	4' 5"
30' 0"	6' 8"	4' 10"
35' 0"	7' 8"	5' 5"
40' 0"	8' 8"	5' 10"

VisionGlide Grilles with thumbturn locks require 5" additional stack space. Consult factory whenever pocket size is critical.

PLAN VIEW - STRAIGHT SIDE



PLAN VIEW - BI-PARTING



MOTOR OPERATORS AND CONTROLS



MOTOR OPERATORS

Cornell Motor Operators are listed by Underwriters' Laboratories, Inc. for use with Cornell Fire Doors, Service Doors and Grilles. Operators to meet the requirements of UL Bulletin 325. Cornell recommends a cover to be specified for all exposed motors mounted at or below 8 ft. in height to comply with UL 325.

CORNELL MODEL MG MOTOR OPERATOR

Model MG cULus listed, industrial duty gear head operator rated for a maximum of 20 cycles per hour. Recommended for use with smaller Service Doors, Counter Doors and all but the largest Rolling Grilles. Totally Enclosed Non-Ventilated (TENV) motor. Factory pre-wired motor control terminals. Maintenance free, solenoid actuated brake. Auxiliary manual chain hoist for emergency operation or provisions for auxiliary push-up operation.



Auxiliary chain hoist safely cuts operator power when engaged: just pull to operate. Overload protection. Lubricated, heavy-duty gears. Compact operator / mounting configuration. Fully adjustable, driven linear screw type cam limit switch mechanism.

Cycle Rating: rated for a maximum of 20 cycles per hour. Recommended for units that will routinely cycle up to 20 times per day.

HP: 1/3, 1/2, and 3/4

Volts: 115/230, and 460 Single-phase capacitor start and three phase motors available.

Factory pre-wired motor control terminals.

Motor Mounted Interlock. Motor mounted interlock available to 1/2 HP.

CORNELL MODEL SG MOTOR OPERATOR

Model SG cULus listed, super duty gear head operator designed for continuous use. Recommended for use with larger size Service Doors, Fire Doors and Rolling Grilles. It is also recommended for use when units are to be operated more than 20 cycles/day. Totally Enclosed Fan Cooled (TEFC) motor. Maintenance free, solenoid actuated brake.



Auxiliary manual chain hoist for emergency operation provided up to 2 hp as standard. Auxiliary chain hoist automatically engages when motor is not energized: just pull to operate. Overload protection. Lubricated, heavy-duty gears. Compact operator / mounting configuration. Fully adjustable, driven linear screw type cam limit switch mechanism.

Cycle Rating: designed for continuous use.

HP: 1/2, 3/4, 1, 1 1/2, 2, 3, 5 and 7 1/2 HP operators are available.

Voltage: 115/230 and 460. Single-phase capacitor start to 1 1/2HP and three phase motors available.

Factory pre-wired motor control terminals.

EXPLOSION PROOF OR WEATHER RESISTANT MOTOR OPERATORS

Explosion-proof operator for environmental atmospheres requiring NEMA 7/9. Explosion-Proof modification for the following locations: Class I, Division I and II, Group D (limited availability for Group C, consult factory). UL listed intrinsically safe control circuit. Weather resistant and other operators available: consult factory.

M100 FIREGARD™ CLOSING SYSTEM OPERATORS

M100 Fire Door Operators are a part of a reliable, slow closing fire door system that may be activated by fusible link, a signal from a building alarm system or a local smoke/heat detector. Building maintenance personnel may test its readiness frequently, quickly, and easily. Testing is done from the floor and takes minutes instead of hours. M100 FireGard Systems never need to be mechanically reset. See page 4.



Range: 1/3 HP and up.

CONTROL STATIONS

ROLLING DOOR STANDARD

Surface mounted 3-button push button station-NEMA 1. 2 3/8"W x 5 3/8"H



ROLLING GRILLE STANDARD

Flush mounted 2-button push button station-NEMA 1B. Box: 2 1/8"W x 4"H Faceplate: 2 3/4"W x 4 1/2"H



CONTROL STATIONS/OPTIONAL

Surface mounted 2-button push button station-NEMA 1. 2 3/4"W x 4 1/2"H



Flush mounted 3-button push button station-NEMA 1B. Box: 2 1/8"W x 4"H Faceplate: 2 3/4"W x 4 1/2"H



Flush mounted key switch station NEMA 1B.

Box: 2 1/4"W x 4"H Faceplate: 2 3/4"W x 4 1/2"H



Flush mounted key switch station with stop button NEMA 1B.

Box: 2 1/4"W x 4"H Faceplate: 2 3/4"W x 4 1/2"H



Surface mounted key switch station NEMA 3R. 4 1/4"W x 5 1/2"H



Surface mounted key switch station with stop button NEMA 3R. 4 1/4"W x 7 1/2"H



Surface mounted 3-button push button station with keyed lock-out NEMA 4. 3 1/8"W x 8"H



Surface mounted 3-button push button station -NEMA 4X. 3 1/4"W x 5 3/4"H



Surface mounted pull cord station NEMA 3R. 5"W x 7 1/2"H



Surface mounted 3-button push button station NEMA 7/9. 3"W x 6 1/8"H



OBSTRUCTION SENSING DEVICES

To meet the requirements of UL Bulletin 325, operators utilizing convenient momentary contact activation at the control stations require an obstruction sensing device.

Sensing Edges mount to the underside of the door's bottom bar. Compression of the profile on an obstruction while the door is closing causes the operator to stop or reverse door travel. Electric or pneumatic edges are available. The most common electrical signaling connection to the motor is an electric coil cord, but an optional Reelite (automatic cord take up reel) or wireless transmission signaling device is available.



ELECTRIC SENSING EDGE

Photo Eye sensors are a transmitter and receiver mounted at each end of the door that projects a light beam across the length of the opening. Obstructions that interrupt the light beam signal the operator to stop or reverse door travel. No travelling cord required.



MOTOR OPERATORS DETAILS AND CLEARANCES

08 33 00/COR
BuyLine 0058

SERVICE DOOR MOTOR MOUNTING POSITIONS

MG and SG Motor Operators and components are now supplied and supported exclusively by Cornell Iron Works for single source accountability for your motor operated rolling steel door needs. These quality gear head operators are cost competitive with belt drive operators. Compact design and mounting allows for these in-line operators to fit within the coil height dimension, allowing for small and aesthetically fitting operator covers while eliminating headroom clearance concerns. Available from 1/3 HP industrial duty to 7 1/2 HP continuous duty.

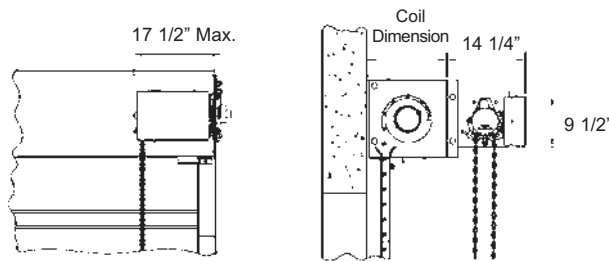
All motor mounting positions shown here, except for the FS M100 Fire Door mountings, are for Service Doors.

Several positions shown here are also applicable for Fire Doors. However, actual dimensions for Fire Door motor mounting positions will be larger than what is listed below. Detail drawings available from manufacturers.

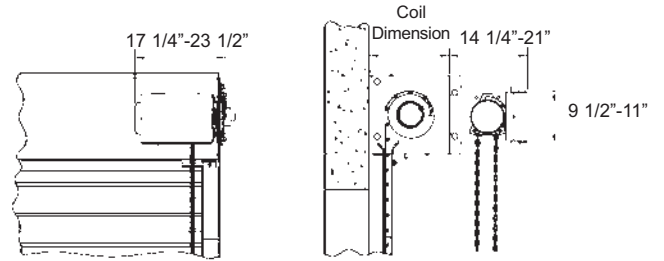
Note: for motors mounted above ceilings, a minimum 18" x 24" access panel (by others) is required.

Left hand operation is available for all units.

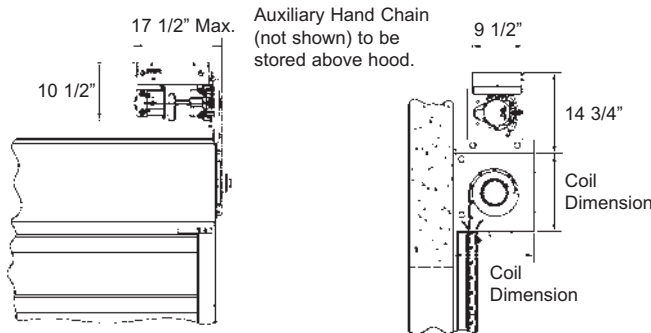
CORNELL MODEL MG OPERATOR HORIZONTAL FRONT OF COIL



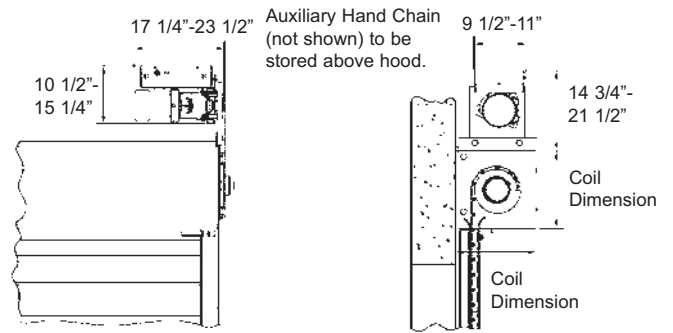
CORNELL MODEL SG OPERATOR HORIZONTAL FRONT OF COIL



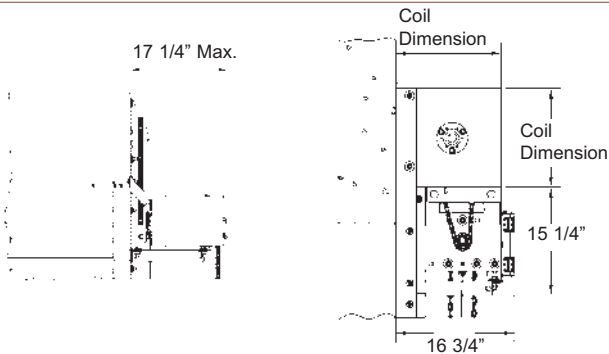
CORNELL MODEL MG OPERATOR HORIZONTAL TOP OF COIL



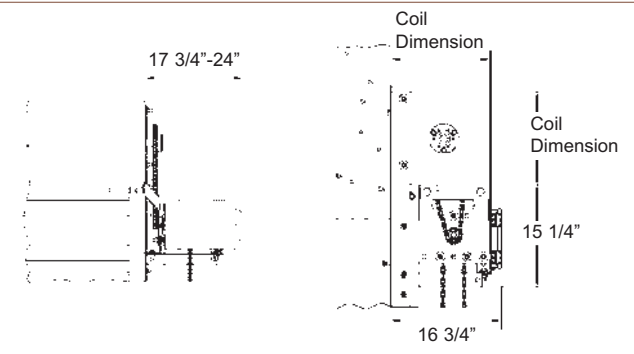
CORNELL MODEL SG OPERATOR HORIZONTAL TOP OF COIL



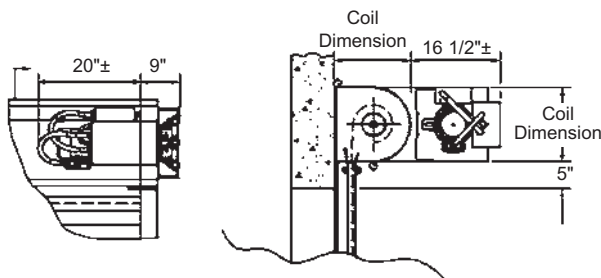
CORNELL MODEL MG SIDE MOUNT BELOW COIL



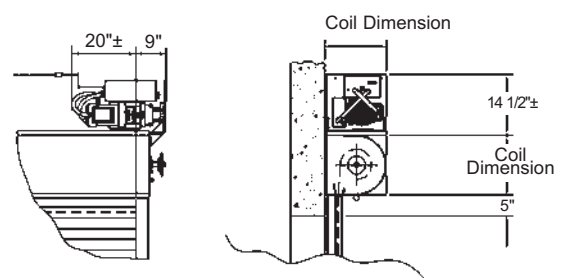
CORNELL MODEL SG SIDE MOUNT BELOW COIL



FS M100 SYSTEM OPERATOR HORIZONTAL FRONT OF COIL MOUNT



FS M100 SYSTEM OPERATOR HORIZONTAL TOP OF COIL MOUNT



ADDITIONAL RESOURCES

Contact our Architect and Design Support Department

Cornell specializes in providing superior project support. Our dedicated staff of Design Engineers is available to assist you with:

- Product design questions
- Product features and options
- LEED® project requirements
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- Engineered solutions such as high traffic doors, large opening closures, horizontal closure units, emergency egress options, fixed panel applications, etc.

Contact:

Architect and Design Support Department

Phone: 800.233.8366 ext. 551

Fax: 800.526.0841

Email: ADS@cornelliron.com

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